visualize2045

A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

# Air Quality Conformity Analysis

October 17, 2018

National Capital Region
**Transportation Planning Board**

**VISUALIZE 2045 AIR QUALITY CONFORMITY ANALYSIS**
October 17, 2018

**ABOUT VISUALIZE 2045 & THE TPB**
Visualize 2045 is the federally required long-range transportation plan for the National Capital Region. It identifies and analyzes all regionally significant transportation investments planned through 2045 to help decision makers and the public "visualize" the region's future.

Visualize 2045 is developed by the National Capital Region Transportation Planning Board (TPB), the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 24 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

**CREDITS**
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**ACKNOWLEDGEMENTS**
The preparation of this report was financially aided through grants from the District of Columbia Department of Transportation, the Maryland Department of Transportation, the Virginia Department of Rail & Public Transportation, the Virginia Department of Transportation, the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration.

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# EXECUTIVE SUMMARY

This report documents the air quality conformity analysis of the financially constrained element of the Visualize 2045 long-range transportation plan and FY2019-2024 Transportation Improvement Program (TIP). The analysis is carried out under the regulations contained in the Environmental Protection Agency's final rule, published in the November 24, 1993 *Federal Register,* with subsequent amendments and additional federal guidance published by the Environmental Protection Agency (EPA), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA). The process involved consultation with affected agencies such as the EPA, the FHWA, the FTA, and the Metropolitan Washington Air Quality Committee (MWAQC), as well as with the public. The analysis is a responsibility of the National Capital Region Transportation Planning Board.

"Conformity" is a requirement of the Federal Clean Air Act to ensure that transportation plans and transportation improvement programs are consistent with air quality goals, and progress towards achieving and maintaining Federal air quality standards is being made. A conformity determination is undertaken to forecast mobile source emissions that will result from an area's transportation system. The analysis must demonstrate that those emissions are within limits outlined in state air quality implementation plans.

The Visualize 2045 long-range transportation plan includes both a financially constrained element and an aspirational element. The constrained element includes projects that the region's transportation agencies expect to be able to afford between now and 2045, and the aspirational element goes beyond financial constraints. The air quality conformity analysis only considers the financially constrained element, and any reference to the Visualize 2045 plan in this document refers only to that component.

For the Visualize 2045 plan, emissions for ozone season Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) were estimated for 2019, 2021, 2025, 2030, 2040, and 2045 forecast years. The Metropolitan Washington Air Quality Committee (MWAQC) developed mobile budgets for Volatile Organic Compound (VOC) and Nitrogen Oxides (NOx) in the 2008 Ozone Maintenance Plan. In August 2018 EPA found these budgets adequate for use in conformity determinations.

The results of this analysis show that the Visualize 2045 plan and FY2019-2024 TIP mobile emissions are within the mobile budgets for ozone season VOC and NOx for all forecast years. This analysis provides a basis for a determination of conformity for the Visualize 2045 plan and the FY2019-2024 TIP.

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# EXHIBITS

# ATTACHMENTS

# REFERENCES


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# LIST OF ACRONYMS

| | |
|---|---|
| AWDT | Average Weekday Traffic |
| BMC | Baltimore Metropolitan Council |
| CAAA | Clean Air Act Amendments of 1990 |
| CAC | Citizens Advisory Committee |
| CLRP | Constrained Long Range Plan |
| CMAQ | Congestion Mitigation & Air Quality |
| CO | Carbon Monoxide |
| C-SMMPO | Calvert-St. Mary's Metropolitan Planning Organization |
| DDOT | District of Columbia Department of Transportation |
| DTP | (COG's) Department of Transportation Planning |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| HOT | High Occupancy Toll |
| HOV | High Occupancy Vehicle |
| I/M | Inspection and Maintenance |
| LOV | Low Occupancy Vehicle |
| MDOT | Maryland Department of Transportation |
| MPO | Metropolitan Planning Organization |
| MOVES | MOtor Vehicle Emissions Simulator |
| MVEB | Motor Vehicle Emissions Budget |
| MWAQC | Metropolitan Washington Air Quality Committee |
| MWCOG | Metropolitan Washington Council of Governments |
| NAAQS | National Ambient Air Quality Standards |
| NOx | Nitrogen Oxides |
| $PM_{2.5}$ | Fine Particles |
| PNR | Park and Ride Lot |
| SIP | State Implementation Plan |
| TAZ | Transportation Analysis Zone |
| TCM | Transportation Control Measure |
| TERM | Transportation Emission Reduction Measure |
| TIP | Transportation Improvement Program |
| TPB | Transportation Planning Board |
| US DOT | United States Department of Transportation |
| US EPA | United States Environmental Protection Agency |
| VDOT | Virginia Department of Transportation |
| VMT | Vehicle Miles Traveled |
| VOC | Volatile Organic Compounds |
| WMATA | Washington Metropolitan Area Transit Authority |

TPB R4 -2019
October 17, 2018

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
777 North Capitol Street, N.E.
Washington, D.C. 20002

RESOLUTION FINDING THAT THE VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN AND THE FY 2019-2024 TRANSPORTATION IMPROVEMENT PROGRAM CONFORM WITH THE REQUIREMENTS OF THE CLEAN AIR ACT AMENDMENTS OF 1990

**WHEREAS**, the National Capital Region Transportation Planning Board (TPB) has been designated by the Governors of Maryland and Virginia and the Mayor of the District of Columbia as the Metropolitan Planning Organization (MPO) for the Washington Metropolitan Area; and

**WHEREAS**, the U.S. Environmental Protection Agency (EPA), in conjunction with the U.S. Department of Transportation (DOT), under the Clean Air Act Amendments of 1990 (CAAA), issued on November 24, 1993 "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," and, over the years, subsequently amended these regulations and provided additional guidance, which taken together provide the specific criteria for the TPB to make a determination of conformity of its financially constrained long-range transportation plan and Transportation Improvement Program (TIP) with the State Implementation Plan (SIP) for air quality maintenance within the Metropolitan Washington non-attainment area; and

**WHEREAS,** on October 18, 2017, the TPB issued a Technical Inputs Solicitation Submission Guide, which is a formal call for area transportation implementing agencies to submit technical details, including those necessary to perform the required air quality and financial analyses of the Visualize 2045 transportation plan, for projects, programs and policies to be included in Visualize 2045 and the FY 2019-2024 TIP; and

**WHEREAS**, a scope of work was developed to address all procedures and requirements, including public and interagency consultation, and the scope was released for public comment on December 14, 2017, and approved by the TPB at its January 17, 2018 meeting; and

**WHEREAS,** highway and transit project inputs submitted for inclusion in the air quality conformity analysis of the Visualize 2045 transportation plan and FY 2019-2024 TIP were released for public comment on December 14, 2017, and approved by the TPB at its January 17, 2018 meeting; and

**WHEREAS**, on September 7, 2018, the draft results of the air quality conformity analysis of the Visualize 2045 transportation plan and FY 2019-2024 TIP were released for a 30-day public comment period with inter-agency consultation; and

**WHEREAS**, the analysis reported in the Visualize 2045 transportation plan and in *Appendix C: Air Quality Conformity Analysis Summary* of the plan, dated October 17, 2018, demonstrates adherence to all mobile source emissions budgets for ground level ozone precursors Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx), and meets all regulatory, planning and interagency consultation requirements, and therefore provides the basis for a finding of conformity of the Visualize 2045 transportation plan and the TIP with the requirements of the CAAA; and

**WHEREAS**, as part of the TPB's interagency consultation process, the Metropolitan Washington Air Quality Committee (MWAQC) concurs with the regional air quality conformity determination of the Visualize 2045 transportation plan and the TIP, and provided other comments relating to the region's air quality;

**NOW, THEREFORE, BE IT RESOLVED THAT** the National Capital Region Transportation Planning Board determines that the Visualize 2045 long-range transportation plan and the FY 2019-2024 Transportation Improvement Program conform to all requirements of the Clean Air Act Amendments of 1990.

**Approved by the Transportation Planning Board at its regular meeting on October 17, 2018.**

Metropolitan Washington
Council of Governments

October 1, 2018

The Honorable Charles Allen, Chair
National Capital Region Transportation Planning Board
777 North Capitol Street, NE, Suite 300
Washington, D.C. 20002

Dear Chair Allen:

Thank you for providing an opportunity to comment on the air quality conformity analysis in the draft Visualize 2045 plan. MWAQC has reviewed the above analysis and concurs that the transportation sector emissions associated with the proposed transportation plans meet the motor vehicle emissions budgets (MVEBs) in the 2008 Ozone National Ambient Air Quality Standard Maintenance Plan.

However, the Visualize 2045 plan results in having to use Tier 2 transportation buffers for some of the future years, so MWAQC urges TPB to redouble efforts to reduce air pollution emissions from the transportation sector so that future mobile emission budgets remain within Tier 1 MVEBs to fully protect the health of our residents.

The Washington region has made significant progress in reducing emissions of ozone precursors such as, volatile organic compounds (VOC) and nitrogen oxides ($NO_x$) from both transportation and non-transportation sectors over the years. As a result, the region has been able to meet all but the 2015 ozone National Ambient Air Quality Standard (NAAQS). The region has met the 2008 ozone standard of 75 parts per billion (ppb) since 2014 and submitted a request in early 2018 to EPA to redesignate the area to attainment for the 2008 ozone standard along with a required demonstration to maintain compliance in the future (maintenance plan).

The Washington region developed two sets of MVEBs (Tier 1 and Tier 2) for VOC and $NO_x$ as part of the maintenance plan for the 2008 ozone standard using EPA's latest MOVES2014a model. The Tier 1 MVEBs together with Tier 2 MVEBs, which included a conformity buffer, were developed for 2025 and beyond. These MVEBs replaced the previously used MVEBs, which were developed earlier using Mobile6.2 model based on the 1997 ozone NAAQS. EPA, on August 21, 2018, found these budgets were adequate for transportation conformity purposes.

MWAQC notes that the air quality conformity assessment shows that transportation emissions are below the Tier 1 MVEBs for most of the analysis period. However, transportation emissions are above the Tier 1 MVEBs for 2025 and 2030. Therefore, TPB had to use the Tier 2 MVEBs buffers for demonstrating conformity in those two years.

The Tier 2 MVEBs buffers were provided for in the 2008 ozone NAAQS maintenance plan to account for conditions where the conformity analysis is based on different data, models, or planning assumptions, including, but not limited to, updates to demographic, land use, or project-related assumptions, then were used to create the MVEBs in the maintenance plan. Nevertheless, MWAQC is concerned about the use of the Tier 2 MVEBs buffers and wishes to stress that the future transportation plans should account for air emissions so that future conformity analyses would not need to use Tier 2 MVEBs buffers.

MWAQC notes that the draft Visualize 2045 plan document does not address the reliance on the Tier 2 buffers in 2025 and 2030. On pages 54 and 55, the Tier 1 MVEBs for $NO_x$ and VOCs are not included and the budget is shown to reflect solely the Tier 2 buffer. Any acknowledgement of the Tier 1 MVEBs and why emissions are projected to be above the Tier 1 MVEBs should be addressed specifically in the primary document and not relegated only to an Appendix.

This is particularly important as the Washington region faces continuing challenges related to air quality. The region needs to attain the 2015 ozone standard of 70 ppb by August 2021. The draft data for the period 2016 through 2018 shows the region's design value for ozone at 72 ppb. Additionally, the region's design value has been above the current standard since 2016. Also, the region had its first Code Red air quality day this summer since 2012. Source apportionment modeling conducted separately by the United States Environmental Protection Agency and the Ozone Transport Commission has shown that on-road mobile sources are a primary driver of ozone formation in the region. This evidence shows that even though the region has made significant progress in reducing emissions, it needs to continue its efforts to further reduce emissions to meet the 2015 ozone NAAQS, in particular from on-road mobile sources.

MWAQC is working on the "What We Can Do" scenario project to identify local actions that will help the region both attain the above ozone standard and eliminate future unhealthy air days. We pledge to work with TPB to help our members implement new measures to further reduce air pollution. Since on-road emissions play a significant role in the overall ozone problem in this region, it is important that the transportation sector plays its role in resolving this problem.

MWAQC is encouraged to learn that the region is achieving reductions in per capita VMT, even with an increase in employment. However, due to population and job growth, the region is experiencing an increase in total VMT. Therefore, we urge TPB's continued investment in VMT and emission reduction strategies such as public transit, ride-sharing, pedestrian and bike infrastructure, other travel demand management strategies, and Transportation Emission Reduction Measures (TERMS) to reduce future growth in vehicle emissions.

Our local and state efforts in the Washington region may become even more important in the future if less stringent emission standards for light-duty motor vehicles for the model years 2021-2026 are enacted as proposed, especially since the region is experiencing an increase in the market share of light and heavy-duty trucks. If these standards are approved, there will be further increase in emissions of ozone precursors which would lead to even higher ozone levels in the region, resulting in more difficult emissions reduction efforts for the region in the future. MWAQC appreciates TPB joining MWAQC in requesting continuation of the existing light-duty vehicle emission standards.

Thank you again for the opportunity to comment on the draft conformity analysis in the Visualize 2045 plan.

Sincerely,

Hon. Hans Riemer
Chair, Metropolitan Washington Air Quality Committee

## 1. INTRODUCTION

The Washington region is currently designated as non-attainment for the federal health standards for ozone. Clean air legislation in 1977 mandated that a Metropolitan Planning Organization (MPO) may not approve any transportation project that did not conform to the approved state implementation plan (SIP) for the attainment of clean air standards. This established the responsibility on the part of COG/TPB to review transportation plans and programs and affirm that they conform to air quality state implementation plans for the region.

This requirement means that TPB plans, programs, and projects must be consistent with clean air objectives. In the 1990 Clean Air Act Amendments, conformity to an implementation plan is defined as conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards. In addition, Federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions towards attainment.

This report documents the air quality conformity analysis of the Visualize 2045 long-range transportation plan and the FY2019-2024 Transportation Improvement Program (TIP) with respect to ozone season pollutants, specifically, Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx). The results of the analysis provide a basis for a determination of conformity of the Visualize 2045 plan and FY 2019-2024 TIP.

The Visualize 2045 long-range transportation plan includes both a financially constrained element and an aspirational element. The constrained element includes projects that the region's transportation agencies expect to be able to afford between now and 2045, and the aspirational element goes beyond financial constraints. The air quality conformity analysis only considers the financially constrained element, and any reference to the Visualize 2045 plan in this document refers only to that component.

## 2. BACKGROUND

### Conformity Regulations

On November 15, 1990 President Bush signed into law the Clean Air Act Amendments (CAAA) of 1990. The CAAA establishes standards and procedures for reducing human and environmental exposure to a range of pollutants generated by industry and transportation. The law allows the EPA to define the boundaries of "non-attainment" areas for various common pollutants known as "criteria pollutants". These boundaries outline geographic areas where air quality does not meet Federal air quality standards. The law also established non-attainment area classifications ranked according to the severity of the area's air pollution problem. These classifications are marginal, moderate, serious, severe, and extreme. EPA assigns each non-attainment area one of these categories, thus triggering various requirements the area must comply with in order to meet a particular standard. The Washington region is currently designated "marginal" non-attainment for the federal health standards for ozone. Once a non-attainment area attains a standard for a pollutant, the area must progress through a series of steps in order to be reclassified from "non-attainment" to "maintenance". The "maintenance" designation includes its own set of requirements that assure that the standard for that pollutant is maintained.

The concept of transportation conformity was introduced in the Clean Air Act (CAA) of 1977, which included a provision to ensure that Federal funding supports transportation improvements that are consistent with air quality goals. These goals are set in each state's air quality implementation plan (SIP). Conformity requirements were made substantially more rigorous in the CAA Amendments of 1990. The transportation conformity regulations (Reference 1) that detail implementation of the CAA

requirements were first issued in the November 24, 1993 *Federal Register*, and have been amended several times, most recently in April 2012 (federal register notice: March 14, 2012) (Reference 1). The regulations establish the criteria and procedures for transportation agencies to demonstrate that air pollutant emissions from metropolitan Transportation Plans, Transportation Improvement Programs (TIPs), and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) are consistent with ("conform to") the State's air quality goals in the SIP.

## Pollutants

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants, also known as "criteria pollutants", are found throughout the United States. The six pollutants are: particle pollution, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. EPA calls these pollutants "criteria" air pollutants because it sets standards for them based on human health-based and/or environmentally-based criteria. The Clean Air Act identifies two types of national ambient air quality standards. ***Primary standards*** provide public health protection, including protecting the health of "sensitive" populations such as asthma patients, children, and the elderly. ***Secondary standards*** provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

## Ozone Season Pollutants

### 1979 Standard

The Washington, DC-MD-VA region was originally classified in 1990 as “serious” non-attainment for the 1979 (124 parts per billion – ppb) 1-hour ozone standard, with an attainment date of 1999. The region did not attain the standard by 1999, and was subsequently reclassified as “severe” non-attainment, with a new attainment date of 2005.

### 1997 Standard

In 2004 the Washington, DC-MD-VA region was designated as “moderate” non-attainment for the 1997 (84 ppb) 8-hour ozone standard, with an attainment date of 2010. In 2007, MWAQC developed an 8-hour ozone SIP (Reference 2) to reduce ozone-causing emissions of VOCs and NOx with the goal of attaining the 1997 standard. As part of this SIP, MWAQC developed Motor Vehicle Emissions Budgets (MVEBs or “mobile budgets”) for VOC and NOx. As required by federal guidance, MWAQC established 2008 budgets to show “reasonable further progress” in addition to the 2009 and 2010 attainment year budgets. On February 7, 2013 EPA found adequate the 2009 Attainment and 2010 Contingency budgets included in the 2007 SIP, and the TPB was subsequently required to use those budgets to meet conformity requirements. These budgets were used to assess conformity of the Washington region’s transportation plans from 2013 through 2017.

### 2008 Standard

In 2012, EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as ‘marginal’ non-attainment for the 2008 Ozone Standard. With this designation EPA regulations do not require the development of MVEBs. Instead, as per EPA regulations, conformity analyses for the region’s Plan and TIP were being demonstrated to previously approved MVEBs from the older 1997 Ozone Standard.

In 2015, the region attained the 2008 Ozone Standard, based on the readings from ambient air quality monitors. The Metropolitan Washington Air Quality Committee (MWAQC) developed a Redesignation Request and Maintenance Plan (Reference 3), which the State Air Agencies submitted to the EPA in early 2018. The 2008 Ozone Maintenance Plan included MVEBs for VOC and NOx. In August 2018, EPA found these mobile emissions budgets adequate for use in the region’s conformity analyses. As such, these 2008 Ozone Maintenance Plan mobile budgets were used in the conformity assessment of the Visualize 2045 plan and FY2019-2024 TIP. Details about these budgets are discussed in the *Emissions Forecasts* (Chapter 5) of this report.

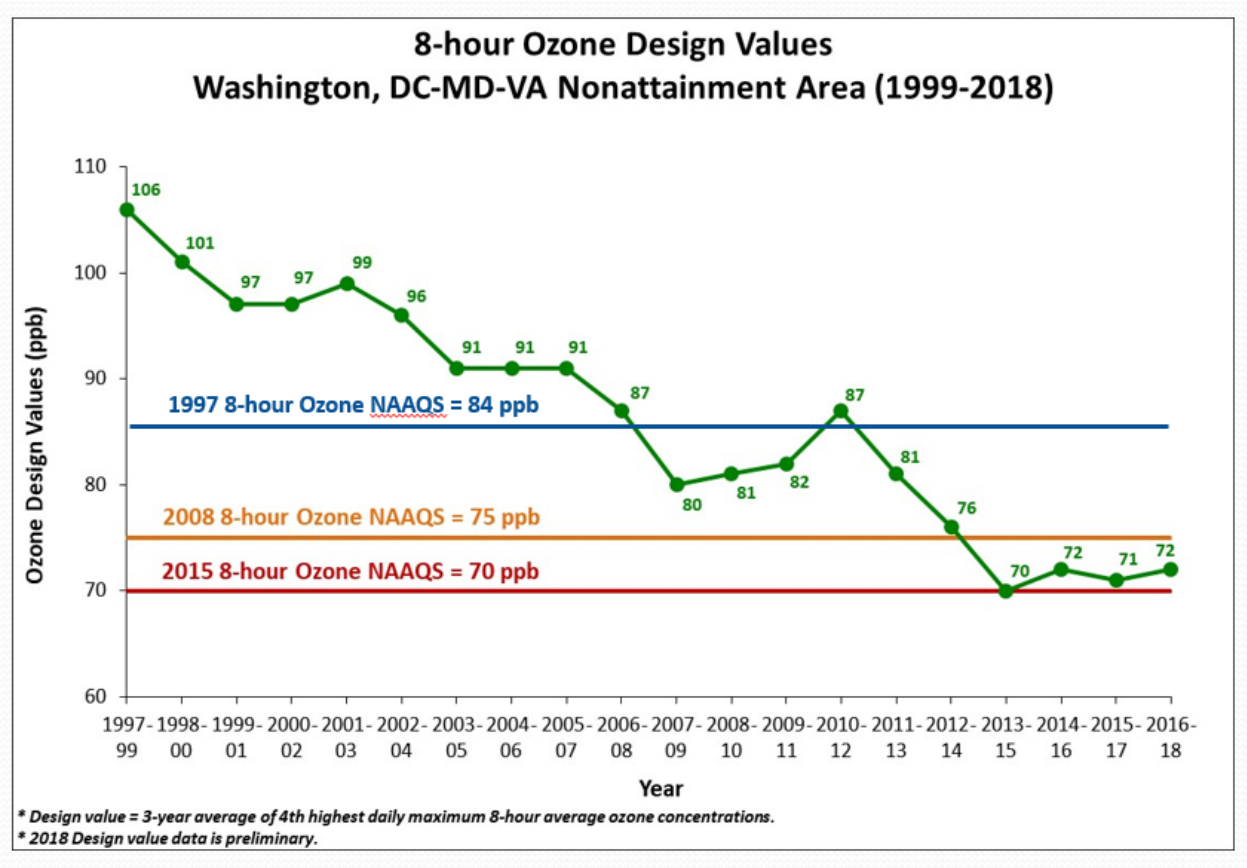
2015 Standard

Effective August 3, 2018 EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as 'marginal' non-attainment for the 2015 Ozone Standard. Under a 'marginal' designation, it is not necessary to develop MVEBs. Consequently there are no MVEBs specific to the 2015 Ozone Standard. Provisions of the conformity regulations, however, require that emissions from the Plan and TIP conform to previously approved (or "found adequate for conformity purposes") MVEBs. The current MVEBs for the DC-MD-VA non-attainment area are those developed for the Maintenance Plan for the 2008 Ozone Standard. The emissions from the Visualize 2045 Plan and FY2019-2024 TIP adhere to these MVEBs.

Marginal non-attainment areas have three years, from the date of designation, to achieve the 2015 Ozone Standard. Accordingly, the DC-MD-VA area would have an attainment year of 2021 (i.e., three years following the August 3, 2018 designation). Furthermore, non-attainment regions are required to conduct a conformity analysis of their Plan and TIP for specific years, including the attainment year, within one year of the effective date of designations (in our case by August 3, 2019). The conformity analysis for the Visualize 2045 Plan and FY2019-2024 TIP includes the 2021 attainment year and thus meets the conformity deadline for the 2015 Ozone Standard.

Exhibit 1 shows the three 8-hour ozone standards (1997, 2008, and 2015) compared to the actual monitored ozone levels through time from 1999 to 2018.

## EXHIBIT 1




Conformity to the 1997 Ozone Standard

Effective April 6, 2015 EPA revoked the 1997 Ozone Standard and eliminated conformity requirements associated with that standard. However, on February 16, 2018, the United States Court of Appeals for the District of Columbia ruled that the revocation of the 1997 Ozone Standard does not waive

transportation conformity requirements for all areas. A May 9, 2018 EPA response letter to an inquiry by American Association of State Highway and Transportation Officials (AASHTO) clarifies that areas such as ours, which are designated as non-attainment or maintenance for the 2008 ozone NAAQS, are not affected by the lawsuit.

## Fine Particles ($PM_{2.5}$) Pollutants

### 1997 Standard

In 2004 the EPA designated the Washington, DC-MD-VA region as non-attainment for the 1997 (15μg/$m^3$) fine particles ($PM_{2.5}$) standard. $PM_{2.5}$ standards refer to particulate matter less than or equal to 2.5 micrometers in diameter. In 2009 the EPA, using local monitored data, determined that the region had attained the 1997 $PM_{2.5}$ standard and issued a clean data determination for the area. The region subsequently withdrew the $PM_{2.5}$ Attainment SIP and decided to seek redesignation as a maintenance area for the 1997 $PM_{2.5}$ NAAQS.

In 2013 MWAQC approved a $PM_{2.5}$ redesignation request and a maintenance plan (Reference 4) for the Washington region. This maintenance plan includes forecast year mobile budgets for $PM_{2.5}$ direct and $PM_{2.5}$ Precursor NOx for 2017 and 2025. On April 28, 2014, EPA found these mobile budgets adequate for use in conformity analyses, with an effective date of May 13, 2014. These budgets were subsequently used for the first time officially in the conformity analysis of the 2014 CLRP. On October 6, 2014 EPA approved the requests from the District of Columbia, Maryland, and Virginia to redesignate to attainment the Washington DC-MD-VA area for the 1997 NAAQS with an effective date of November 5, 2014.

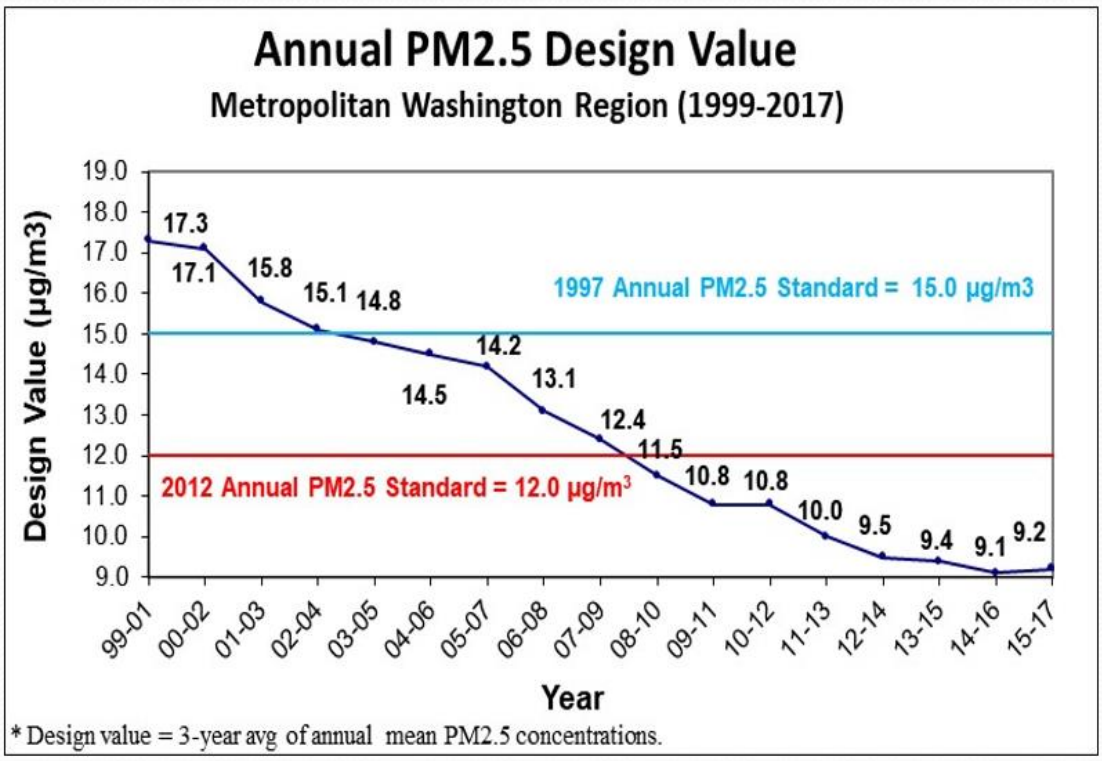
The maintenance plan included two tiers of mobile budgets. Tier 1 budgets were based on mobile emission inventory projections for 2017 and 2025, and were applicable with EPA's adequacy finding. Tier 2 budgets were developed by adding a 20% buffer to the mobile emission inventory projections for 2017 and 2025. The Tier 2 mobile budgets would become effective if it was determined that technical uncertainties primarily due to model changes and vehicle fleet turnover, which may affect future motor vehicle emissions inventories, lead to motor vehicle emissions estimates above the Tier 1 budgets. The determination to use the Tier 2 budgets would be made through the interagency consultation process. Tier 1 mobile budgets were 1,787 tons/year for 2017 $PM_{2.5}$ direct, 1,350 tons/year for 2025 $PM_{2.5}$ direct, 41,709 tons/year for 2017 $PM_{2.5}$ Precursor NOx, and 27,400 tons/year for 2025 $PM_{2.5}$ Precursor NOx. Tier 2 mobile budgets were 2,144 tons/year for 2017 $PM_{2.5}$ direct, 1,586 tons/year for 2025 $PM_{2.5}$ direct, 50,051 tons/year for 2017 $PM_{2.5}$ Precursor NOx, and 32,880 tons/year for 2025 $PM_{2.5}$ Precursor NOx.

### 2012 Standard

In 2012 the EPA set a new, tougher, annual $PM_{2.5}$ Standard of 12 μg/$m^3$. The Washington region, with its steadily downward trend in the level of fine particles pollutants based on the readings from ambient air quality monitors, was already in attainment of that standard at the time it was set. Therefore, there were no new requirements for the Washington region related to the 2012 Standard.

Exhibit 2 shows the two fine particles standards (1997 and 2012) compared to the actual monitored $PM_{2.5}$ levels through time from 1999 to 2017.

# EXHIBIT 2




Revocation of 1997 Standard

On August 24, 2016, EPA published a final rule (Reference 5) that resulted in the region no longer being required to demonstrate transportation conformity for any fine particles standard. As part of the rule, EPA revoked the 1997 fine particles standard since more stringent 2012 standard had been put in place. The revocation, combined with the decreasing levels of fine particles in our region always remaining below the 2012 standard, resulted in our region no longer being required to analyze fine particles in the air quality conformity determinations of our transportation plans and TIPs. Since the region is no longer required to demonstrate transportation conformity for the $PM_{2.5}$ standard, there will no longer be any charts or graphs associated with $PM_{2.5}$–related pollutants in this, or any future, air quality conformity reports, as long as the region remains in attainment of EPA's standard.

## Wintertime CO

The Metropolitan Washington DC-MD-VA region attained the federal carbon monoxide standard in the 1990s and submitted a CO maintenance plan covering the 1996-2007 period. The maintenance plan included a mobile budget of 1671.5 tons/day. EPA approved this maintenance plan effective March 16, 1996. The region was required to submit a second maintenance plan within eight years of its redesignation as an attainment area. This revised plan (Reference 6) was completed on February 19, 2004, and provided for attainment of the CO standard in the Washington DC-MD-VA attainment area through March 16, 2016. After March, 2016 the region no longer has to include Wintertime CO in any conformity analysis as long as it remains in attainment of EPA's standard.

## 3. WORK ACTIVITIES AND TECHNICAL INPUTS

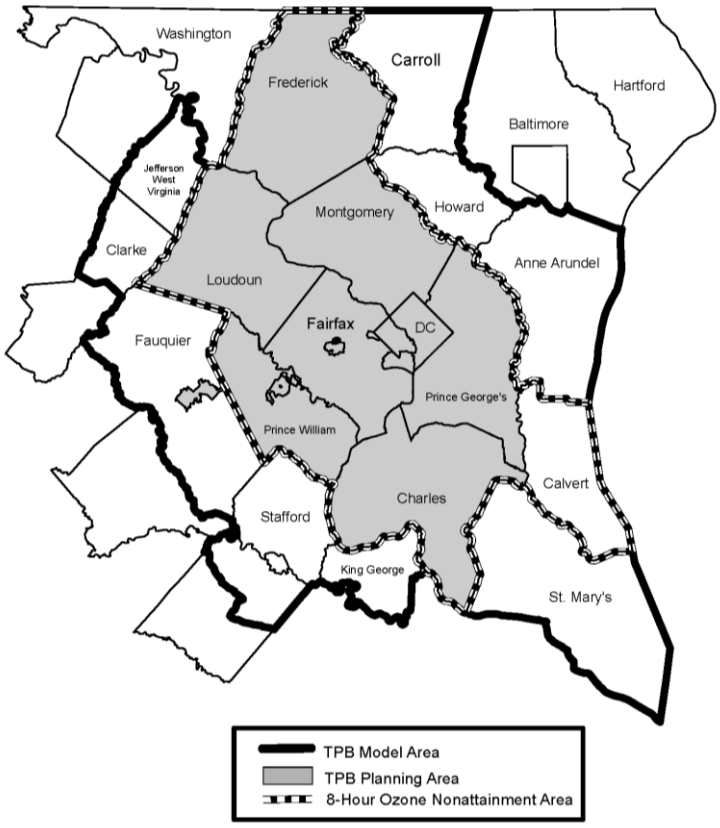
In developing the work program for this year's conformity analysis, contained as Attachment A of this report, staff identified latest planning assumptions and modeling techniques, and considered requirements of the conformity regulations, as well as requirements associated with, and comments received upon, past conformity analyses. Staff presented the work program to regional technical and policy committees starting in December 2017. Staff also coordinated the draft work program with EPA, FHWA, FTA, and the state and local air management agencies through the TPB consultation procedures (Reference 7). This scope was adopted by the TPB on January 17, 2018.

Key technical planning assumptions and methods include:

- New Cooperative Land Activity Forecasts- Round 9.1
- New December 2016 Vehicle Registration Data
- New Projects and Updates to Existing Project Submissions
- Removal of the "core" Metrorail capacity constraint assumption within the travel demand model
- Version 2.3.75 Travel Demand Model including a 3,722 Transportation Analysis Zones (TAZ) area system
- EPA's MOVES 2014a Mobile Emissions Model

Mobile emissions inventories were developed for ozone season VOC and NOx for six forecast years (2019, 2021, 2025, 2030, 2040, and 2045). These inventories address a primary conformity requirement to demonstrate that emissions associated with the Visualize 2045 plan do not exceed the EPA-approved mobile budgets. Exhibit 3 depicts the geographic areas for travel modeling and for emissions reporting.

**EXHIBIT 3**
**TPB Transportation Planning Areas Map**



## Cooperative Forecasts

The COG Board approved the draft Round 9.1 Cooperative Forecasts for use in the air quality conformity analysis of the Visualize 2045 Plan and FY2019-2024 TIP in January 2018. The Round 9.1 projections reflect not only the forecast small area land use distributions throughout the Washington area, but also the latest planning assumptions for areas outside the Washington region. For example, the Metropolitan Baltimore jurisdictions land use input to Round 9.1 reflects the Baltimore Metropolitan Council's current 'Round 8B' adopted figures.

Round 9.1 shows a steady growth in households and jobs through the 2045 out-year of the Plan. When comparing Round 9.1 to the previous Round 9.0, Round 9.1 includes more population for all forecast years, and more jobs for all years through 2030. Exhibit 4 presents Round 9.1 household data for each of the years in the conformity analysis. Exhibit 5 presents similar data for the employment assumptions, and Exhibit 6 presents population assumptions. The employment data reflect census adjustments (References 13 & 14).

### EXHIBIT 4
### Household Data

| TPB PLANNING AREA: | 2019 | 2021 | 2025 | 2030 | 2040 | 2045 |
|---|---|---|---|---|---|---|
| | | | | | | |
| DISTRICT OF COLUMBIA | 314,851 | 323,641 | 341,019 | 362,524 | 396,233 | 411,872 |
| MONTGOMERY | 387,908 | 394,058 | 405,654 | 422,320 | 450,916 | 461,916 |
| PRINCE GEORGE'S | 331,644 | 336,187 | 343,865 | 355,494 | 370,023 | 376,787 |
| ARLINGTON | 110,386 | 113,207 | 117,866 | 123,857 | 135,599 | 141,843 |
| ALEXANDRIA | 74,769 | 76,687 | 80,779 | 84,118 | 92,898 | 107,082 |
| FAIRFAX | 427,945 | 435,212 | 454,799 | 482,927 | 529,819 | 549,768 |
| LOUDOUN | 134,528 | 140,323 | 150,085 | 157,982 | 166,952 | 168,671 |
| PRINCE WILLIAM | 170,729 | 175,919 | 187,128 | 197,449 | 212,999 | 218,599 |
| FAUQUIER | 26,081 | 26,809 | 28,270 | 30,096 | 33,748 | 35,574 |
| FREDERICK | 97,099 | 100,797 | 107,934 | 115,066 | 126,539 | 131,167 |
| CHARLES | 58,985 | 61,336 | 65,529 | 72,911 | 83,426 | 92,163 |
| HOWARD | 120,579 | 124,507 | 131,398 | 136,343 | 139,697 | 140,434 |
| ANNE ARUNDEL | 212,087 | 214,920 | 220,565 | 227,626 | 241,542 | 245,924 |
| CALVERT | 33,500 | 34,262 | 35,703 | 36,946 | 37,650 | 37,912 |
| CARROLL | 63,825 | 64,576 | 65,980 | 67,600 | 70,668 | 72,174 |
| FREDERICKSBURG (VA) & N. SPOTSYLVANIA | 49,501 | 52,147 | 57,446 | 67,424 | 72,598 | 75,188 |
| CLARKE&JEFFERSON | 28,782 | 29,558 | 31,078 | 32,892 | 36,249 | 37,868 |
| KING GEORGE | 10,188 | 10,800 | 12,015 | 13,955 | 14,561 | 14,867 |
| ST. MARY'S | 42,950 | 44,345 | 47,217 | 51,768 | 57,956 | 61,060 |
| STAFFORD | 56,826 | 62,071 | 72,548 | 76,208 | 96,560 | 106,723 |
| TOTAL | 2,753,163 | 2,821,362 | 2,956,878 | 3,115,506 | 3,366,633 | 3,487,592 |

SOURCE:

-MWCOG Round 9.1 Cooperative Forecasts

-Baltimore Metropolitan Council, Round 8B. Year 2045 (Howard and Carroll Counties) is a MWCOG estimate based on the rate of change between 2035 and 2040

-George Washington Regional Commission / Fredericksburg Area MPO, July - October 2017 GWRC/FAMPO 2045 Long-Range Transportation Plan Update Control Estimates and Forecasts for City of Fredericksburg, King George, Spotsylvania and Stafford Counties

-Maryland Department of Planning, Historical and Projected Households, August 2017 for Calvert and St. Mary's Counties

-COG/TPB Staff used Updated COG Round 9.1 for Clark and Fauquier Counties

# EXHIBIT 5
## Employment Data

| TPB PLANNING AREA: | 2019 | 2021 | 2025 | 2030 | 2040 | 2045 |
|---|---|---|---|---|---|---|
| | | | | | | |
| DISTRICT OF COLUMBIA | 836,693 | 856,048 | 895,120 | 937,854 | 1,011,806 | 1,045,390 |
| MONTGOMERY | 538,814 | 549,269 | 572,497 | 604,516 | 653,865 | 678,753 |
| PRINCE GEORGE'S | 346,951 | 352,507 | 366,326 | 375,746 | 393,335 | 402,145 |
| ARLINGTON | 215,429 | 218,200 | 223,539 | 238,379 | 260,975 | 269,064 |
| ALEXANDRIA | 109,348 | 112,445 | 121,772 | 127,266 | 142,735 | 155,095 |
| FAIRFAX | 728,824 | 747,995 | 784,676 | 827,977 | 899,356 | 931,892 |
| LOUDOUN | 189,580 | 200,024 | 219,395 | 243,375 | 277,790 | 291,165 |
| PRINCE WILLIAM | 191,815 | 200,648 | 217,578 | 237,589 | 276,260 | 293,261 |
| FAUQUIER | 31,098 | 31,861 | 33,377 | 35,278 | 39,080 | 40,984 |
| FREDERICK | 116,205 | 118,471 | 123,176 | 128,627 | 141,075 | 145,526 |
| CHARLES | 46,912 | 47,437 | 49,227 | 52,196 | 58,762 | 61,505 |
| HOWARD | 183,379 | 188,663 | 199,221 | 212,422 | 229,082 | 236,651 |
| ANNE ARUNDEL | 336,309 | 342,716 | 353,530 | 367,845 | 398,615 | 407,101 |
| CALVERT | 36,236 | 37,342 | 39,500 | 40,900 | 43,100 | 44,300 |
| CARROLL | 70,226 | 71,219 | 72,936 | 75,225 | 79,376 | 81,569 |
| FREDERICKSBURG (VA) & N. SPOTSYLVANIA | 86,910 | 89,882 | 95,819 | 103,082 | 122,694 | 132,515 |
| CLARKE&JEFFERSON | 28,751 | 29,563 | 31,272 | 33,289 | 37,287 | 39,226 |
| KING GEORGE | 19,057 | 19,679 | 20,917 | 22,506 | 25,678 | 27,270 |
| ST. MARY'S | 65,351 | 66,911 | 69,844 | 71,917 | 76,907 | 79,435 |
| STAFFORD | 57,333 | 59,674 | 64,337 | 70,768 | 84,366 | 91,156 |
| TOTAL | 4,235,221 | 4,340,554 | 4,554,059 | 4,806,757 | 5,252,144 | 5,454,003 |

SOURCE:

-MWCOG Round 9.1 Cooperative Forecasts

-Baltimore Metropolitan Council, Round 8B. Year 2045 (Howard and Carroll Counties) is a MWCOG estimate based on the rate of change between 2035 and 2040.

-George Washington Regional Commission / Fredericksburg Area MPO, July - October 2017 GWRC/FAMPO 2045 Long-Range Transportation Plan Update Control Estimates and Forecasts for City of Fredericksburg, King George, Spotsylvania and Stafford Counties

-Maryland Department of Planning, Historical and Projected Total Jobs By Place of Work, January 2015 for Calvert and St. Mary's Counties

-COG/TPB Staff used Updated COG Round 9.1 for Clark and Fauquier Counties

Note: Includes Census Adjustment

# EXHIBIT 6
## Population Data

| MODELED AREA: | 2019 | 2021 | 2025 | 2030 | 2040 | 2045 |
|---|---|---|---|---|---|---|
| | | | | | | |
| DISTRICT OF COLUMBIA | 718,047 | 741,027 | 787,116 | 842,154 | 940,687 | 987,213 |
| MONTGOMERY | 1,044,630 | 1,059,047 | 1,087,292 | 1,128,792 | 1,197,147 | 1,223,345 |
| PRINCE GEORGE'S | 919,398 | 926,110 | 938,023 | 952,955 | 982,767 | 995,874 |
| ARLINGTON | 234,818 | 240,530 | 249,462 | 261,792 | 287,563 | 301,167 |
| ALEXANDRIA | 156,868 | 160,836 | 167,515 | 172,781 | 190,824 | 208,451 |
| FAIRFAX | 1,193,756 | 1,212,350 | 1,255,535 | 1,319,169 | 1,424,946 | 1,469,595 |
| LOUDOUN | 412,891 | 431,085 | 459,579 | 480,173 | 502,398 | 507,398 |
| PRINCE WILLIAM | 522,395 | 535,065 | 564,961 | 592,938 | 635,785 | 652,038 |
| FAUQUIER | 71,833 | 73,842 | 77,845 | 82,853 | 92,871 | 97,881 |
| FREDERICK | 263,527 | 271,960 | 288,690 | 303,583 | 332,151 | 344,138 |
| CHARLES | 163,787 | 169,277 | 178,238 | 194,671 | 218,575 | 236,479 |
| HOWARD | 331,870 | 340,474 | 354,149 | 363,674 | 371,621 | 373,639 |
| ANNE ARUNDEL | 575,933 | 582,721 | 593,594 | 606,688 | 628,047 | 638,133 |
| CALVERT | 93,812 | 95,148 | 97,350 | 99,200 | 100,450 | 100,850 |
| CARROLL | 174,833 | 176,611 | 179,437 | 183,258 | 189,574 | 192,968 |
| FREDERICKSBURG (VA) & N. SPOTSYLVANIA | 145,425 | 154,761 | 173,433 | 192,459 | 209,159 | 217,510 |
| CLARKE&JEFFERSON | 76,037 | 77,995 | 81,872 | 86,469 | 95,030 | 99,145 |
| KING GEORGE | 28,227 | 30,040 | 33,653 | 37,086 | 43,680 | 46,982 |
| ST. MARY'S | 118,558 | 121,958 | 129,199 | 140,749 | 155,349 | 162,899 |
| STAFFORD | 161,601 | 171,200 | 190,375 | 210,142 | 248,664 | 267,925 |
| TOTAL | 7,408,246 | 7,572,037 | 7,887,318 | 8,251,586 | 8,847,288 | 9,123,630 |

SOURCE:

-MWCOG Round 9.1 Cooperative Forecasts

-Baltimore Metropolitan Council, Round 8B. Year 2045 (Howard and Carroll Counties) is a MWCOG estimate based on the rate of change between 2035 and 2040

-George Washington Regional Commission / Fredericksburg Area MPO, July - October 2017 GWRC/FAMPO 2045 Long-Range Transportation Plan Update Control Estimates and Forecasts for City of Fredericksburg, King George, Spotsylvania and Stafford Counties

-Maryland Department of Planning, Historical and Projected Total Population, August 2017 for Calvert and St. Mary's Counties

-COG/TPB Staff used Updated COG Round 9.1 for Clark and Fauquier Counties

Note: Includes Household and Group Quarters Population

### Vehicle Registration Data

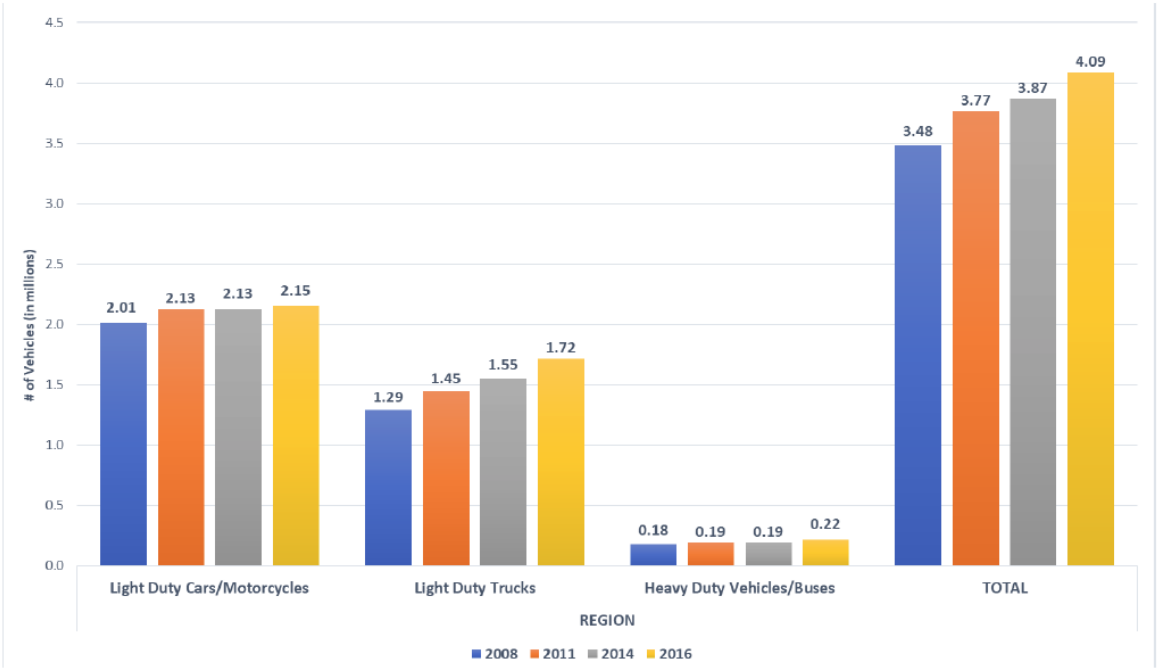
The Visualize 2045 analysis includes newly updated vehicle fleet information. TPB staff has analyzed the region's vehicle fleet inventory on a regular basis since 2005. This information is used to understand the vehicle type composition and vehicle age distributions, which are important determinants of mobile emissions. Periodic inventory reviews enable staff to refresh mobile emissions modeling inputs with the most currently available information. The current data are from December 2016 (January 2017 for DC). TPB staff analyzed the December 2016 VIN data and the analysis was

reviewed by the MWCOG/TPB technical oversight committees prior to being approved for use in transportation planning applications.

Exhibits 7 and 8 show characteristics of the region's vehicle fleet through time. The exhibits indicate that the fleet is continuing to grow, and that light duty trucks (SUVs) are growing at the fastest rate relative to other vehicle types. Light duty trucks have a higher emissions rate than light duty cars. Also, for the first time since the TPB has collected fleet data, the average vehicle fleet age has decreased, as seen when comparing 2014 to 2016 statistics in Exhibit 8. Typically, such trends favor reduced emissions because of better emissions controls on newer vehicles.

**EXHIBIT 7**

## Historical growth in vehicles by type




* Based on Decoded Records

**EXHIBIT 8**

### Average Age of Regional Vehicle Fleet by Year

| Year | Light Duty Cars* (LDC) | Light Duty Trucks (LDT) | Heavy Duty Vehicles (HDV) | All Vehicle Types |
|---|---|---|---|---|
| **2008** | 8.51 | 7.53 | 9.21 | 8.18 |
| **2011** | 9.25 | 8.55 | 10.56 | 9.05 |
| **2014** | 9.62 | 9.09 | 11.30 | 9.49 |
| **2016** | **9.33** | **8.69** | **11.29** | **9.17** |

*Motorcycles are included

## Project Inputs

Attachment B contains a complete list of highway and transit projects analyzed in the Visualize 2045 and FY2019-2024 TIP conformity analysis. It also displays significant changes to the project list since the last update to the regional transportation plan (the 2016 Constrained Long-Range Plan). The list contains transit, highway, and HOV/HOT projects, all summarized by state, agency, project characteristics and completion date.

The listed projects are coded in highway and transit networks which are used as inputs to the travel model in the analysis. The Visualize 2045 plan and FY2019-2024 TIP include other projects which are not included in the list. These other projects are not included in the regional networks since they do not involve changes in capacity (e.g., transit operating assistance, highway rehabilitation, bridge reconstruction) or were too small to influence the modeling results at the regional level (e.g., intersection improvements, improvements to a facility which is not contained in the regional networks). Exhibit 9 presents mileage summaries for the rail and highway system.

### EXHIBIT 9

# RAIL AND ROAD MILES

(modeled area)

| | LOV<br>LANE MILES<br>TOTAL | HOV/HOT<br>LANE MILES<br>TOTAL | METRORAIL<br>MILES<br>TOTAL | COMMUTER RAIL *<br>MILES<br>TOTAL | BRT **<br>LANE MILES<br>TOTAL | STREETCAR, LIGHTRAIL ***<br>MILES<br>TOTAL |
|---|---|---|---|---|---|---|
| 2019 | 22,967 | 304 | 119 | 220 | 5 | 2 |
| 2021 | 23,241 | 349 | 119 | 220 | 18 | 18 |
| 2025 | 23,996 | 387 | 131 | 231 | 27 | 23 |
| 2030 | 24,105 | 387 | 131 | 231 | 49 | 23 |
| 2040 | 24,363 | 414 | 131 | 231 | 62 | 23 |
| 2045 | 24,472 | 414 | 131 | 231 | 95 | 23 |

* Includes MARC & VRE
** Includes Metroway, US29, CCT, US1, Veirs Mill, Randolph Rd, Bethesda, MD 355, and New Hampshire Ave
*** Includes Purple Line & DC Streetcar (Benning Road, H St./Benning Rd., and Union Station/Georgetown)

NOTE: If a lane operates as HOV/HOT during any part of the day, it is counted in the HOV/HOT column

The COG travel model area includes counties outside the non-attainment area to enable better simulation results within the non-attainment area. Project inputs from these outer counties are provided by their respective MPOs, state DOTs, or county DOTs, and are coded, when appropriate, into the highway and transit networks. While travel demand estimates include all counties in the modeled area, emissions estimates are only tabulated for the defined non-attainment area for Ozone season pollutants.

### Metrorail Capacity Constraint

In March 2018, lawmakers from the District of Columbia, Maryland, and Virginia agreed to jointly provide an additional $500 million annually for regional transit service operated by the Washington Metropolitan Area Transit Authority (WMATA). All three governments passed legislation to provide dedicated funding sources to support the transit agency. This money will fund WMATA's capital improvements to ensure the system is in a state of good repair, which will include investments such as the infrastructure and equipment needed to support a 100% 8-car train system.

Since 2000, due to the lack of such a funding commitment for WMATA's capital needs, the TPB's air quality conformity analysis has included a technical adjustment to travel forecasts to account for the expectation that future peak period Metrorail ridership in the region's "core" downtown area will be subject to capacity limitations of the Metrorail system. This so-called "Metrorail transit constraint" was used to account for WMATA's expressed concern that the Metrorail ridership would exceed peak period capacity in the regional core unless the rail fleet and station infrastructure were expanded to allow for 8-car trains. The recent legislation establishing stable long-term funding will now support WMATA's plans to implement all 8-car trains during peak periods in the Visualize 2045 Plan. Consequently, the transit constraint was removed from the travel model process.

## 4. TRAVEL FORECASTS

### Travel Model

The preparation of travel forecasts for each of the conformity alternatives was carried out using the Version 2.3.75 travel modeling process. The 2.3 travel model operates on a 3722-zone area system. It was initially calibrated using the 2007/08 Household Travel Survey (Reference 8). It was subsequently validated using 2010 data including traffic counts, Metrorail electronic counts, the American Community Survey, and the Geographically Focused Household Travel Survey (Reference 9).

In addition to existing toll facilities, the Visualize 2045 plan includes portions of I-95, I-395, I-66, and the northern part of the Capital Beltway in Virginia, the entire Beltway in Maryland, and I-270 as managed facilities. These facilities have time-of-day tolls used to ensure that an acceptable level of service is maintained throughout the day. The Version 2.3 travel model Calibration Report and a HOT Lanes Modeling memo (Reference 11) document these procedures.

Changes to the travel model since the previous version used in an analysis (Version 2.3.70) include enhancements of managed lanes modeling to account for the operational nature of facilities in MDOT's Traffic Relief Plan (TRP).

### Networks

Highway and transit networks, incorporating all project inputs, were coded for each analysis year. Transit fares include the latest assumptions for all coded transit service and reflect policies such as price differentials for those riders who use SmarTrip versus those who use cash. Highway tolls reflect current costs for tolled facilities.

### Travel Model Forecasts

Travel demand forecasts were developed for each of the analysis years. Summary mode choice results are shown in Exhibits 10A and 10B. VMT summaries are shown in Exhibit 11.

# EXHIBIT 10A

VISUALIZE 2045 AND THE FY2019-2024 TIP AIR QUALITY CONFORMITY
DAILY REGIONAL HOME BASED WORK PURPOSE MODE ANALYSIS BY YEAR
(Based on Mode Choice Output - 4th Iteration)

| YEAR | HBW MOTORIZED PERSON | TOTAL HBW AUTO PSN | HBW SINGLE OCCUPANT AUTO PSN | HBW MULTIPLE OCCUPANT AUTO PSN | TOTAL HBW AUTO DRV | HBW CAR OCC. | HBW TRANSIT | HBW TRANSIT (%) |
|---|---|---|---|---|---|---|---|---|
| 2019 | 4,164,360 | 3,315,692 | 2,836,393 | 479,298 | 3,053,006 | 1.09 | 848,668 | 20.38% |
| 2021 | 4,256,902 | 3,352,361 | 2,870,162 | 482,200 | 3,085,579 | 1.09 | 904,541 | 21.25% |
| 2025 | 4,438,715 | 3,491,432 | 2,950,765 | 540,668 | 3,186,302 | 1.10 | 947,283 | 21.34% |
| 2030 | 4,649,152 | 3,632,624 | 3,056,723 | 575,901 | 3,304,013 | 1.10 | 1,016,527 | 21.86% |
| 2040 | 4,991,487 | 3,871,327 | 3,240,441 | 630,886 | 3,507,181 | 1.10 | 1,120,161 | 22.44% |
| 2045 | 5,149,227 | 3,982,319 | 3,328,591 | 653,728 | 3,603,782 | 1.11 | 1,166,908 | 22.66% |

# EXHIBIT 10B

VISUALIZE 2045 AND THE FY2019-2024 TIP AIR QUALITY CONFORMITY
DAILY REGIONAL ANALYSIS BY YEAR FOR ALL TRIP PURPOSES
(Based on Mode Choice Output - 4th Iteration)

| YEAR | TOTAL MOTORIZED PERSON | TOTAL AUTO PSN | SINGLE OCCUPANT AUTO PSN | MULTIPLE OCCUPANT AUTO PSN | TOTAL AUTO DRV | TOTAL CAR OCC. | TOTAL TRANSIT | TRANSIT (%) |
|---|---|---|---|---|---|---|---|---|
| 2019 | 20,173,377 | 19,002,435 | 9,844,675 | 9,157,761 | 13,533,417 | 1.40 | 1,170,941 | 5.80% |
| 2021 | 20,564,685 | 19,301,568 | 9,971,068 | 9,330,500 | 13,723,461 | 1.41 | 1,263,117 | 6.14% |
| 2025 | 21,315,188 | 19,978,014 | 10,240,287 | 9,737,726 | 14,146,997 | 1.41 | 1,337,174 | 6.27% |
| 2030 | 22,146,393 | 20,733,921 | 10,566,248 | 10,167,673 | 14,636,806 | 1.42 | 1,412,472 | 6.38% |
| 2040 | 23,476,869 | 21,927,062 | 11,062,925 | 10,864,137 | 15,398,851 | 1.42 | 1,549,808 | 6.60% |
| 2045 | 24,075,898 | 22,462,077 | 11,296,432 | 11,165,645 | 15,748,075 | 1.43 | 1,613,820 | 6.70% |

# EXHIBIT 11

**VISUALIZE 2045 AND THE FY2019-2024 TIP AIR QUALITY CONFORMITY**
**MODELED AREA TRIPS AND VEHICLE MILES TRAVELED**
**AVERAGE WEEKDAY TRAFFIC (AAWDT)**
**(Based on Final Iteration)**

| YEAR | WORK AND NON-WORK AUTO DRV | TRUCKS (Med + Hvy) | MISC + THRU TRIPS | COMMERCIAL VEHICLES | TOTAL VEH. TRIPS | TOTAL VMT |
|---|---|---|---|---|---|---|
| 2019 | 14,588,713 | 705,169 | 898,581 | 1,438,755 | 17,631,218 | 173,227,597 |
| 2021 | 14,809,385 | 718,417 | 922,317 | 1,467,657 | 17,917,776 | 176,875,154 |
| 2025 | 15,298,216 | 745,389 | 970,684 | 1,528,704 | 18,542,993 | 184,701,381 |
| 2030 | 15,846,127 | 775,722 | 1,027,753 | 1,599,979 | 19,249,581 | 191,512,001 |
| 2040 | 16,723,431 | 827,227 | 1,130,033 | 1,720,046 | 20,400,737 | 204,290,216 |
| 2045 | 17,128,849 | 852,647 | 1,180,166 | 1,774,510 | 20,936,172 | 210,273,755 |

Mobile Budgets

When the region achieved the 2008 Ozone Standard, MWAQC developed a Redesignation Request and Maintenance Plan, which the State Air Agencies submitted to the EPA in early 2018. The 2008 Ozone Maintenance Plan included MVEBs for VOC and NOx. In August 2018, EPA found these mobile emissions budgets adequate for use in the region's conformity analyses.

The 2008 Ozone Maintenance Plan established VOC and NOx emissions budgets for three specific periods: the attainment year (2014), an intermediate year (2025), and for the final year (2030) of the Maintenance Plan. The plan includes two sets of mobile budgets for each pollutant. The first set of budgets, referred to as "Tier 1 budgets", were based on projected emissions developed as part of the Maintenance Plan, and were set at the inventory level for each year. The second set of budgets, referred to as "Tier 2 budgets", were developed by adding a 20% transportation buffer to the mobile emissions inventories for VOC and NOx in 2025 and 2030. Tier 1 and Tier 2 mobile budgets for VOC and NOx are shown in Exhibit 12 and Exhibit 13, below.

The maintenance plan provides for using the Tier 2 budgets in situations "where the conformity analysis must be based on different data, models, or planning assumptions, including but not limited to updates to demographic, land use, or project-related assumptions, than were used to create the [mobile budgets] in the Maintenance Plan".

**Exhibit 12: Tier 1 Mobile Budgets[1]**

| Year | NOx On-Road Emissions (tpd) | VOC On-Road Emissions (tpd) |
|---|---|---|
| **Attainment Year 2014 Emission & Budget** | 136.8 | 61.3 |
| **Intermediate Year 2025 Emission & Budget** | 40.7 | 33.2 |
| **Final Year 2030 Emission & Budget** | 27.4 | 24.1 |

**Exhibit 13: Tier 2 Mobile Budgets[1]**

| Year | NOx On-Road Emissions (tpd) | VOC On-Road Emissions (tpd) |
|---|---|---|
| **Attainment Year 2014 Emission & Budget** | **136.8** | **61.3** |
| Predicted 2025 Emission | 40.7 | 33.2 |
| Transportation Buffer | 8.1 | 6.6 |
| **Intermediate Year 2025 Budget** | **48.8** | **39.8** |
| Predicted 2030 Emission | 27.4 | 24.1 |
| Transportation Buffer | 5.5 | 4.8 |
| **Final Year 2030 Budget** | **32.9** | **28.9** |

Note:
[1]The MVEBs with transportation buffers will be used only as needed in situations where the conformity analysis must be based on different data, models, or planning assumptions, including but not limited to updates to demographic, land use, or project-related assumptions, than were used to create the first set of MVEBs in the maintenance plan.

## Budget Setting versus Conformity

An air quality conformity analysis is conducted to formally demonstrate that projected motor vehicle emissions associated with the regional transportation plan and TIP are less than or equal to the mobile budgets for each analysis year. The conformity regulations require the use of the "latest planning assumptions", which means that each conformity analysis must incorporate the most up-to-date planning inputs and technical methods available at the beginning of the process. Therefore, the inputs used in regional air quality conformity analyses change with time. Mobile budgets in air quality plans are established based on analyses that incorporate the "latest planning assumptions" when the air quality plan is developed, and do not change with time.

Changes to inputs used in air quality conformity analysis are not limited to transportation projects. They include other assumptions such as vehicle fleet mix and demographics. Such changes to inputs in conformity analysis relative to inputs used to establish mobile emissions will inevitably yield mobile emissions differences that are not strictly attributable to the transportation plan itself.

Anticipating such situations, federal air quality conformity regulations allow air quality (Attainment and Maintenance) plans to provide a "conformity buffer" while establishing MVEBs. Accordingly, the DC-MD-VA 2008 Ozone Maintenance Plan established the Tier 2 mobile emissions budgets with a 20% buffer to address uncertainty that is introduced when inconsistent assumptions are used between budget-setting and the conformity analysis.

Exhibit 14 below lists the contrasting assumptions used in the development of the mobile budgets and in the more recent air quality conformity analysis of the Visualize 2045 plan and FY2019-2024 TIP. Details related to these inputs were discussed in the Work Activities and Technical Inputs section earlier in this report.

**EXHIBIT 14**
**INPUT ASSUMPTIONS**

| | Maintenance SIP Mobile Budgets | Visualize 2045 Conformity Emissions |
|---|---|---|
| Cooperative Forecasts | Round 9.0 | Round 9.1 |
| Vehicle Fleet | 2014 VIN | 2016 VIN |
| Travel Demand Model | Version 2.3.66 | Version 2.3.75 |
| Project Inputs | 2016 CLRP | Visualize 2045 |
| Metrorail Constraint | Yes | No |

## MOVES Inputs

Emissions estimates were developed using the MOVES2014a model which was released by EPA in November 2015. Input data from ten broad categories were used in the MOVES County Manager in order to generate the mobile emissions inventories for each analysis year. Five of these categories are travel-related (i.e., derived from the regional travel demand model), and the remaining five are obtained either directly from state agencies (i.e., air agencies and Department of Motor Vehicles), or developed based on actual meteorological data. Exhibit 15 summarizes these categories, and indicates the methodology used to develop these data.

# EXHIBIT 15
## Local Input Data Categories

| No | Data Category | Data Table Name | Locality | Methodology |
|---|---|---|---|---|
| 1 | Age Distribution | **sourceTypeAgeDistribution** | County | based on VIN |
| 2 | Average Speed Distribution | **avgSpeedDistribution** | County | based on travel demand model's post-processor outputs + school bus/refuse truck data from Fairfax Co. + transit bus from WMATA |
| 3 | Road Type Distribution | **roadTypeDistribution** | County | based on travel demand model's post-processor outputs |
| 4 | Source Type Population | **sourceTypeYear** | County | based on CLRP Vehicle Projection & VIN |
| 5 | Vehicle Type VMT | **HPMSVTypeYear** | County | based on TDM's post-processor outputs |
| | | **monthVMTFraction** | Region | based on Regional Data |
| | | **dayVMTFraction** | Region | based on Regional Data |
| | | **hourVMTFraction** | Region | based on Regional Data |
| 6 | Ramp Fraction | **roadType** | Region | 8% of the urban/rural restricted access roads |
| 7 | Fuel | **FuelSupply** | State | from state air agency (state-wide data) |
| 8 | | **FuelFormulation** | State | from state air agency (state-wide data) |
| 9 | I/M Programs | **IMCoverage** | State | from state air agency (state-wide data) |
| 10 | Meteorology Data | **zoneMonthHour** | State | from DEP (region-wide data) |

Age Distribution and Source Type Population refer to vehicle fleet characteristics, and are developed using regional vehicle registration (VIN) data. Age Distribution refers to the age of the vehicle fleet by vehicle type. For Age Distribution, registered vehicles are divided into 13 vehicle classes and 31 age categories in a series of steps, using a commercial decoding software program and an EPA-developed converter. Source Type Population refers to the specific types of vehicles in the fleet. Trendlines (Reference 15) derived from actual vehicle population data from the 1975-2016 analysis timeframe serve as the basis for developing total vehicle population projections by jurisdiction for each analysis year. For each forecast year, the population is then converted into 13 vehicle types using a population mapping table included in EPA's technical guidance.

Average Speed Distribution refers to average vehicle speeds stratified by vehicle type, road type, time of day, and type of day (i.e., weekday vs. weekend). Average vehicle speed data are used to derive Vehicle Hours of Travel (VHT). Speed data from the travel demand model are stratified, using a post processor, into hourly VHT for each jurisdiction by 3 vehicle types, 4 road types, and 16 speed bins. VHT distribution for trash trucks, school buses, and transit buses is derived using locally observed data.

Road Type Distribution is the percentage of VMT allocated to each road type by vehicle type. The VMT by road type is stratified into 13 vehicle types and 4 road types.

The average annual weekday VMT by five HPMS vehicle types from the travel demand model is input into the EPA-provided annual VMT converter with local monthly adjustment factors and weekend-day adjustment factors. The converter develops annual VMT for five HPMS vehicle types as required for MOVES and provides two additional outputs, "monthVMTfraction" and "dayVMTfraction". The local "hourlyVMTfraction" is also provided as part of the annual VMT input.

With the MOVES model, local data are used to provide bus VMT estimates. Local bus VMT is substituted for heavy duty vehicle VMT from the travel model. With the MOVES model, auto access to transit VMT is added to the travel model VMT. In order to develop auto access VMT, TPB staff gathered capacity information for current and future parking lots. Parking lot capacities were kept constant through all forecast years because quality historic data is not currently available to develop future growth trends. However, in subsequent conformity analyses this assumption may change if reliable

data become available. A regional average home-to-transit travel distance of 4.5 miles was assumed for most parking lots. This assumption was based on findings from Commuter Connections surveys and a 2012 Geographically Focused Travel Survey. An average home-to-transit travel distance of 7.5 miles was used for certain parking lots where longer commuting distances apply. The parking capacity was multiplied by twice the average travel distance to provide auto access to transit VMT.

Ramp Fraction is the percentage of driving time on ramps by road type. Local data indicate that ramp time represents 8 percent of VHT. This, coincidentally, is the same as the national default value.

Attachment E includes a detailed description of how the MOVES inputs were developed. TPB staff developed the travel-related MOVES inputs based on the regional travel demand model (Version 2.3.75). COG's Department of Environmental Programs (DEP) staff provided inputs related to Fuel Supply and Formulation and Inspection and Maintenance (I/M) programs, as well as Meteorology Data. Fuel and I/M program data were supplied directly from DC, Maryland, and Virginia air agencies in MOVES ready formats. Meteorology data were developed by DEP staff and supplied as hourly records of temperature and relative humidity in MOVES format.

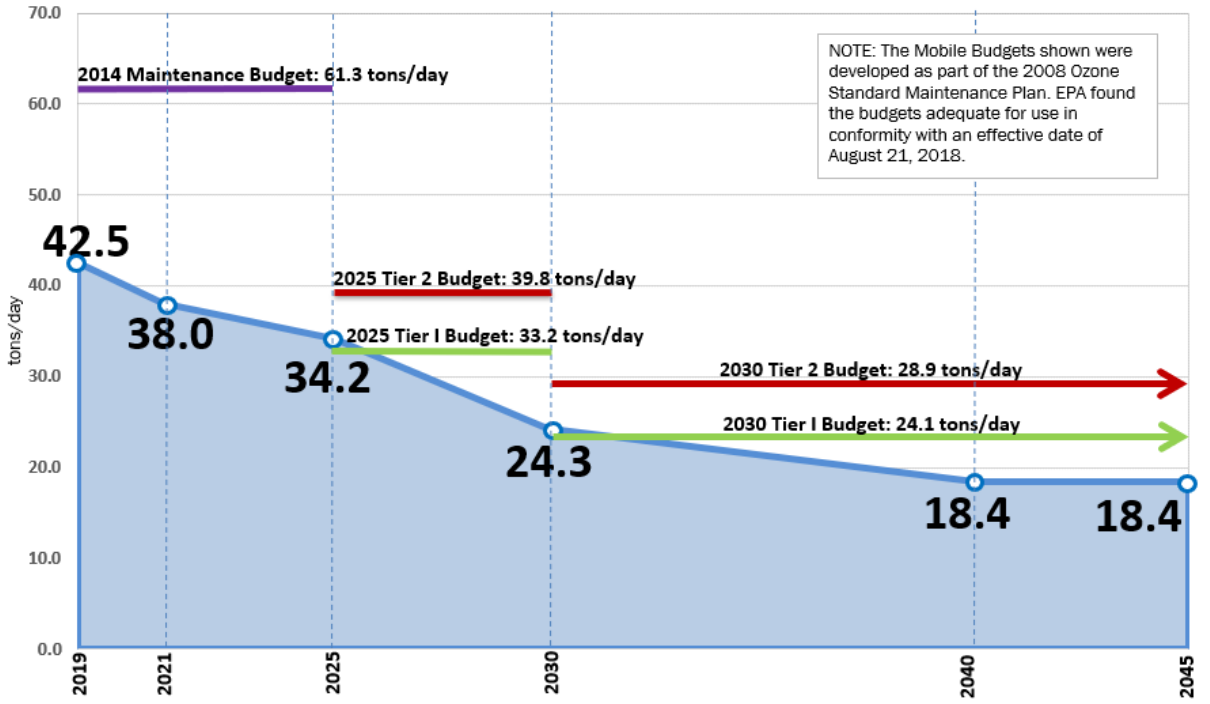
Mobile Emissions Inventories

The estimates for ozone season pollutants are summarized in Exhibits 16 and 17, and indicate total VOC and NOx mobile emissions for each analysis year. The emissions are shown in relation to the Tier 1 and Tier 2 mobile budgets for each pollutant. Ozone season emissions show reductions through time despite steady increases in vehicle trips and VMT in the forecast years. The emissions reductions are attributed to cleaner vehicles and fuel standards, including Tier 2 and Tier 3 federal standards, and related emissions reductions/control programs. As programs are put into place, emissions reductions are realized, and decreases continue through time as fleet turnover replaces older vehicles.

Emissions levels for VOC and NOx are slightly above the Tier 1 mobile budgets for the 2025 and 2030 analysis years. For the 2025 analysis year, the VOC emissions level is 1 ton/day above the 34.2 tons/day Tier 1 budget, and the NOx emissions level is 1.6 tons/day above the 40.7 tons/day Tier 1 budget. For the 2030 analysis year, the VOC emissions level is 0.2 tons/day above the 24.1 tons/day Tier 1 budget, and the NOx emissions level is 0.5 tons/day above the 27.4 tons/day Tier 1 budget. These emissions are marginally higher than Tier 1 budget levels due to the differences in the inputs and methods used in this conformity analysis relative to those used in the 2008 Ozone Maintenance Plan.

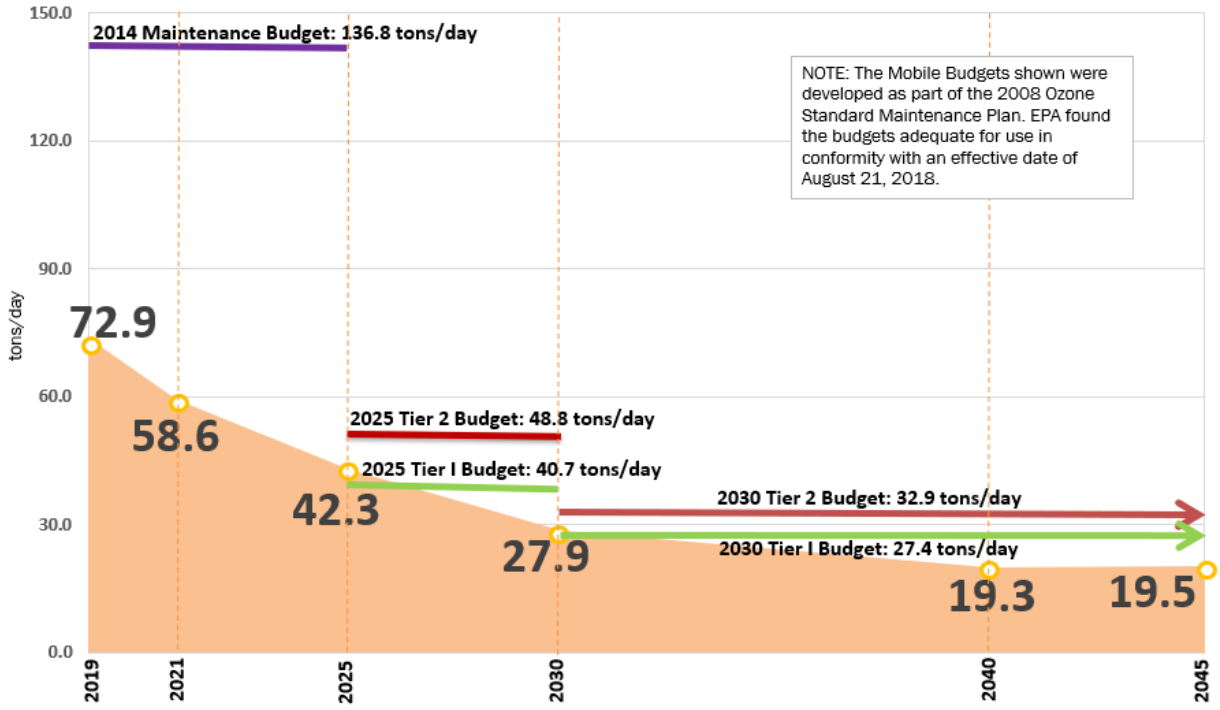
The transportation buffers established in the Tier 2 Mobile Budgets were implemented to account for changes in data, models, or planning assumptions used in the conformity analysis. As outlined earlier in this report, there were numerous input changes between the conformity analysis and the analysis used to set the mobile budgets. Therefore, the Tier 2 budgets are used to demonstrate conformity of the Visualize 2045 transportation plan and FY2019-2024 TIP with respect to VOC and NOx. Emissions levels for VOC and NOx are well below the Tier 2 mobile budgets for all analysis years, as shown in Exhibits 16 and 17.

# EXHIBIT 16
# Mobile Source Emissions
# OZONE SEASON VOC




TCM and TERMS are not included in totals.

# EXHIBIT 17
# Mobile Source Emissions
# OZONE SEASON NOx




TCM and TERMS are not included in totals.

## TERMs

Transportation Emission Reduction Measures (TERMs) are strategies or actions that the TPB can employ to further reduce emissions from mobile sources. TERMs are generally intended to reduce either the number of vehicle trips (VT), vehicle miles traveled (VMT), or both. These strategies may include ridesharing and telecommuting programs, improved transit and bicycling facilities, clean fuel vehicle programs or other possible actions. These types of considerations, while not explicitly accounted for in the travel demand model, will continue to reduce the emissions levels in the region.

TERMs were analyzed using emissions rates generated in a post-processing environment using MOVES outputs from the conformity analysis. This approach ensured consistency of assumptions, inputs, and methodologies with conformity. Only projects put into place after 2010, or projects with improvements since 2010, were included in this analysis.

TERMs analyzed for the Visualize 2045 plan and FY2019-2024 TIP conformity analysis were grouped into four broad categories. Each category consisted of a grouping of several similar and related activities:

- TPB Commuter Connections Program
- Regional Incident Management Program
- Pedestrian Facilities Expansions & Enhancements
- Freeform Carpooling (Slug Lots)

Exhibit 18 lists the emission reduction potential of these TERMs, by pollutant, for each analysis year. The benefits of these projects are not included in the emissions totals in this report, but are available, if necessary, to offset future growth in mobile emissions. Attachment F contains detailed information about the updated TERMs analysis.

EXHIBIT 18
TRANSPORTATION EMISSIONS REDUCTION MEASURES

| ADDITIONAL EMISSIONS REDUCTIONS: ALL TERMS COMBINED | | |
|---|---|---|
| Years/Pollutants | Ozone - VOC (tons/day) | Ozone - NOx (tons/day) |
| 2019 | 0.228 | 0.214 |
| 2021 | 0.223 | 0.191 |
| 2025 | 0.229 | 0.162 |
| 2030 | 0.177 | 0.106 |
| 2040 | 0.162 | 0.074 |
| 2045 | 0.172 | 0.076 |

NOTE: Benefits from these TERMs are not included in the emissions totals in this conformity analysis.

## Transportation Control Measures (TCMs)

A Transportation Control Measure, or TCM, is any measure that is specifically identified in a SIP for the purpose of reducing emissions or concentrations of air pollutants from transportation sources. These on-road mobile source measures typically reduce vehicle use or change traffic flow or congestion conditions. A few examples of TCMs are: programs for improved public transit, employer-based transportation management plans, trip-reduction ordinances, programs to control extended idling of vehicles, reducing emissions from extreme cold-start conditions, employer-sponsored programs to permit flexible work schedules, programs to encourage removal of pre-1980 vehicles.

Section 93.113 of the conformity regulations requires the timely implementation of TCMs. All adopted TCMs for this region were included in the 1-Hour Ozone SIP and the 8-Hour Ozone Attainment SIP. The 1-Hour Ozone SIP was adopted by MWAQC on February 19, 2004. The 8-Hour Ozone Attainment SIP was adopted by MWAQC on May 23, 2007, and replaced the 1-Hour Ozone SIP when EPA found the Reasonable Further Progress (RFP) mobile budgets adequate for use in conformity in September, 2009. All TCMs included in these SIPs were implemented in a timely manner, as documented in Attachment G of this report.

# 6. CONFORMITY CRITERIA AND PROCEDURES

EPA's conformity regulations identify criteria and procedures for the determination of conformity. The April 2012 amendments to EPA's regulations represent the current transportation conformity requirements. The following sections indicate: (1) the appropriate sections of the regulations which must be adhered to in this conformity analysis, and (2) the manner in which the regulations have been met.

## Conformity Criteria

This section identifies the criteria (sections of the regulations) which the CLRP must meet in order to conform to current implementation plans in the District of Columbia, Maryland and Virginia. Exhibit 19 lists the sections of the regulations relevant for the analysis of the Visualize 2045 plan and FY2019-2024 TIP. The following discussion indicates the manner in which each criterion was met.

**EXHIBIT 19**

Conformity Criteria

| | |
|---|---|
| All Actions at all times: | |
| Sec. 93.110 | Latest planning assumptions. |
| Sec. 93.111 | Latest emissions model. |
| Sec. 93.112 | Consultation. |
| Transportation Plan: | |
| Sec. 93.113(b) | TCMs. |
| Sec. 93.118 and/or | Emissions budget and /or Interim |
| Sec. 93.119 | emissions. |
| TIP: | |
| Sec. 93.113(c) | TCMs. |
| Sec. 93.118 and/or | Emissions budget and /or Interim |
| Sec. 93.119 | emissions. |
| Project (From a Conforming Plan and TIP): | |
| Sec. 93.114 | Currently conforming plan and TIP. |
| Sec. 93.115 | Project from a conforming plan and TIP. |
| Sec. 93.116 | CO, $PM_{10}$, and $PM_{2.5}$ hot spots. |
| Sec. 93.117 | $PM_{10}$ and $PM_{2.5}$ control measures. |
| Project (Not From a Conforming Plan and TIP): | |
| Sec. 93.113(d) | TCMs. |
| Sec. 93.114 | Currently conforming plan and TIP. |
| Sec. 93.116 | CO, $PM_{10}$, and $PM_{2.5}$ hot spots. |
| Sec. 93.117 | $PM_{10}$ and $PM_{2.5}$ control measures. |
| Sec. 93.118 and/or | Emissions budget and/or Interim |
| Sec. 93.119 | emissions |

### Sec. 93.110 Criteria and procedures: Latest planning assumptions.

The conformity analysis is based upon the most current planning assumptions available for the Washington region. Round 9.1 Cooperative Forecasts were approved for use in the conformity analysis of the Visualize 2045 plan and FY2019-2024 TIP. These forecasts were developed and reviewed taking into consideration transportation and land use interaction.

Travel demand modeling methods incorporating the latest available data were used in this study. The refinements include development and use of a comprehensive set of transit and HOV networks. As with previous conformity analyses, transit fares are modeled explicitly in the modal choice process. The analysis includes actual fares for the base year simulation, with forecast year fares based on current (January 2018) fares with increases through time as a function of increases in the consumer price index. Base year fares are modeled to reflect the WMATA tariff and other actual charges levied by each transit provider; the updated fare tariffs provided the basis for future analysis years. Transit operating policies, such as hours and frequency of service, are updated annually and modeled explicitly to reflect actual conditions in the peak and off-peak hours. The overall travel demand modeling process is continually monitored and refined as new data become available.

### Sec. 93.111 Criteria and procedures: Latest emissions model.

The current analysis used MOVES2014a, the latest emission factor model specified by EPA for use in preparation of state implementation plans and conformity assessments.

### Sec. 93.112 Criteria and procedures: Consultation.

The TPB offers many opportunities for public comment. Since the initial consultation procedures were developed, TPB has expanded the opportunities for public involvement through a series of initiatives. Examples include: the public comment period at the start of each TPB meeting; regular public forums and workshops on major topics; and the institution of the Citizens Advisory Committee and the Access For All Committee, website posts, and Twitter and Facebook postings. Details relating to public involvement for this conformity analysis are included above, and in Attachment C of this document. General information is summarized in a report called the TPB Participation Plan (Reference 16).

### Sec. 93.113 Criteria and procedures: Timely implementation of TCMs.

Transportation Control Measures were included in both the 1-Hour Ozone SIP, the 8-Hour Ozone Attainment SIP, and the $PM_{2.5}$ SIP. Documentation regarding the timely implementation of each project is included as Attachment G of this document.

### Sec. 93.114 Criteria and procedures: Currently conforming transportation plan and TIP.

There is a currently conforming plan and program in the Washington region. This current conformity analysis is designed to update and supersede the (conforming) 2016 CLRP Amendment, adopted by the TPB in October, 2017 and approved by the FHWA on December 19, 2017.

### Sec. 93.115 Criteria and procedures: Projects from a plan and TIP.

All projects advanced for implementation come from a conforming plan and program.

### Sec. 93.116 Criteria and procedures: Localized CO and $PM_{10}$ violations (hot spots).

Projects advancing to the current TIP have met this criterion as an element of their environmental study prior to being included in the TIP. (The Washington area is now in attainment for both carbon monoxide and $PM_{10}$.)

### Sec. 93.117 Criteria and procedures: Compliance with $PM_{10}$ and $PM_{2.5}$ control measures.

The Washington area is in attainment for $PM_{10}$. Prior to the region attaining the 1997 $PM_{2.5}$ NAAQS, a SIP for the Washington non-attainment area was developed and submitted to EPA in April, 2008. That SIP was never approved. After attaining the 1997 $PM_{2.5}$ NAAQS, MWAQC submitted, and EPA approved, a $PM_{2.5}$ Redesignation Request and Maintenance Plan for the Washington region. The On-Road control measures in that Maintenance Plan include only measures directly impacting vehicles and fuels which would not be pertinent for project level conformity determinations. These are: the 2007 heavy duty engine rule, Tier 1 federal motor vehicle emissions standards, Tier 2 vehicle and gasoline sulfur program, and enhanced motor vehicle emissions and maintenance programs.

### 93.118 Motor vehicle emissions budget

As discussed earlier in this report, this analysis includes use of the existing budgets developed as part of the 8-hour ozone maintenance SIP that were found adequate for use in conformity analyses by EPA in August 2018. Approved budgets exist for ozone season VOC and NOx. The mobile emissions inventories for all analysis years were compared to these budgets. Total VOC and NOx emissions for all plan milestone analysis years are within their respective emissions budgets.

### Sec. 93.119 Criteria and procedures: Interim emissions in areas without motor vehicle budgets

All assessed pollutants have motor vehicle budgets.

**NOTE:** See EPA's conformity regulations for the full text associated with each section's requirements.

## 7. CONSULTATION AND PUBLIC PARTICIPATION

**Consultation**

The conformity regulations require that Metropolitan Planning Organizations (MPOs) make Transportation Plans, TIPs, and conformity determinations available to the public, and accept and respond to public comment. The Transportation Planning Board (TPB) staff went through a lengthy process involving EPA and state and local air quality agencies to develop the region's transportation and air quality conformity consultation procedures. These procedures have been organized into a report, Transportation Planning Board Consultation Procedures with Respect to Transportation Conformity Regulations Governing TPB Plans and Programs (Reference 7). They were adopted by the Board initially on September 21, 1994 and subsequently updated in response to EPA's August 15, 1997 amendments, and formally adopted by the TPB on May 20, 1998. The procedures seek early involvement of the air agencies in the transportation planning process through concurrent mailings to the TPB and consultation agencies of all material relevant to transportation conformity, including announcements of work sessions and public forums in which the materials will be discussed.

**Public Participation**

Public participation is a federal requirement initially outlined in the Intermodal Surface Transportation Efficiency Act of 1991, included in subsequent legislation, and most recently reaffirmed in the federal transportation reauthorization bill, Fixing America's Surface Transportation (FAST) Act, signed into law in 2015. Public participation is recognized as an integral part of the planning process.

The Region's fourth *Participation Plan* (Reference 16), adopted by the TPB on September 17, 2014, provides an overall framework for participation in the TPB process. The *Participation Plan* describes the policies of the TPB regarding public involvement activities relating to the development of TPB Plans and Programs, including the air quality conformity analysis. The *Participation Plan* ensures that the TPB follows federal requirements for public involvement, by including the following procedures:

- A public comment period of at least 30 days precedes the approval of documents
- Consideration is given and written responses are prepared to comments received
- TPB provides an additional opportunity for public comment, if the final Plan or TIP differs significantly from the version that was made available for public comment by the TPB and raises new material issues, which interested parties could not reasonably have foreseen from the public involvement efforts
- When significant written and oral comments are received on the draft Plan and TIP (including financial plans) as a result of the participation process in the interagency consultation process required under the transportation conformity regulations (40 CFR part 93), a summary, analysis, and report on the disposition of comments shall be made as part of the final Plan and TIP
- A period of time at the beginning of each TPB meeting is provided for public comment by interested citizens and groups on transportation issues under consideration by the TPB, and provide follow-up acknowledgement and response (as appropriate)
- Opportunities for public comment are offered on the TPB website
- Access to the technical and policy activities of the TPB is offered through open attendance at meetings of the TPB, and its Technical Committee and Subcommittees
- All publicly available TPB documents are posted on the TPB website, and otherwise opportunities are sought to make reports and technical information widely available through the website
- Reports and technical information material are distributed at TPB, technical committee and subcommittee' meetings free of charge
- At least one formal public meeting is provided during the TIP development process.

The TPB maintains and supports two public advisory committees, The Citizens Advisory Committee (CAC) and the Access for All Advisory Committee (AFA). These committees are intended to promote public involvement and represent the opinions of a variety of communities and interests. The CAC includes individual citizens and representatives of environmental, business, and civic interests concerned with regional transportation matters. The AFA advises the TPB on transportation issues, programs, policies, and services that are important to low-income communities, minority communities, and people with disabilities. Participants in the AFA include individuals and organizations that represent traditionally unrepresented populations.

The TPB also maintains a comprehensive website as well as Facebook and Twitter accounts. In addition to the main transportation section of the MWCOG website, there are new pages specifically related to the Visualize 2045 plan- https://www.mwcog.org/visualize2045/. The website covers planning activities, including online meeting calendars of the TPB, technical committees and subcommittees with links to the corresponding meeting agendas and support materials. The Visualize 2045 pages provide information specific to the plan and outline public outreach. It also offers online public comment opportunities. Staff uses Facebook and Twitter to announce meetings, events, public comment periods, and release of key publications and reports.

Since 2015 TPB has live-streamed audio of each TPB and TPB Technical Committee meeting, and provides audio recordings at www.mwcog.org/TPBmtgLIVE.

The TPB uses and e-newsletter, *TPB News*, to deliver important TPB news and information to the public. The *TPB News* is delivered directly to recipients via email twice a month. The e-newsletter contains key upcoming board actions and recaps the previous month's board meeting. It announces important events, funding opportunities, and public comment periods. It also contains articles that highlight and summarize recent TPB research, analysis, outreach, and planning.

TPB's public outreach for Visualize 2045 was extensive. In addition to the Facebook, Twitter, and *TPB News* announcements, staff hosted 13 public forums held around the region, conducted postcard surveys, and organized three open houses to share information and get feedback about the plan. Details about the Visualize 2045 public outreach can be found in Appendices H, I, and J of the Visualize 2045 plan document (Reference 17).

The TPB held a TIP Forum on July 12, 2018. At the TIP Forum planners presented highlights from the FY2019-2024 TIP, and representatives from the state-level Departments of Transportation were available to answer questions. The event was streamed on Facebook Live.

The TPB provided two 30-day comment periods associated with this conformity analysis. The first was for a review of inputs and the conformity scope of work, and the second was for a review of the conformity analysis results and the Plan and TIP documents. The TPB websites announced the comment opportunities. The *Washington Post*, the *Afro-American*, and the *Washington Hispanic* posted ads publicizing the comment period information. The TPB provides a comment opportunity at the beginning of each monthly meeting. The Visualize 2045 schedule in Exhibit 20 lists these opportunities.

EXHIBIT 20
CONFORMITY SCHEDULE

## SCHEDULE FOR DEVELOPMENT & ADOPTION OF VISUALIZE 2045

| | | |
|---|---|---|
| 2017 | September 20* | TPB is briefed on the draft Solicitation of Technical Inputs document. |
| | October 18* | TPB releases final Solicitation Document. Transportation agencies begin submitting project information through online database. |
| | November 17 | **DEADLINE:** Transportation agencies complete online submission of draft inputs. |
| | December 1 | Technical Committee reviews draft Visualize 2045 inputs and draft Scope of Work for the Air Quality Conformity Analysis. |
| | December 14 | Visualize 2045 inputs and draft Scope of Work released for **30-day comment period**. |
| | December 12 | TPB staff briefs Metropolitan Washington Air Quality Committee Technical Advisory Committee (MWAQC TAC) on inputs and Scope of Work. |
| 2018 | December 20* | TPB is briefed on inputs and draft Scope of Work. |
| | January 13 | Comment period ends. |
| | January 17* | TPB reviews comments and is asked to approve inputs and draft Scope of Work. |
| | March 2 | **DEADLINE:** Transportation agencies finalize forms (including Congestion Management Documentation forms where needed) and inputs to the FY 2019-2024 TIP. Submissions must not impact conformity inputs. Note that the deadline for changes affecting conformity inputs was December 14, 2017. |
| | May 10 | Public Forum on the development of the FY 2019-2024 TIP. |
| | September 7 | Technical Committee reviews draft Visualize 2045 and Conformity Analysis. |
| | September 7 | Draft Visualize 2045 Plan, TIP, and Conformity Analysis are released for **30-day comment period** at Citizens Advisory Committee (CAC) meeting. |
| | September 19* | TPB is briefed on the draft Visualize 2045 Plan, TIP, and Conformity Analysis. |
| | October (TBD) | TPB staff briefs MWAQC TAC on the draft Visualize 2045 Plan, TIP, and Conformity Analysis. |
| | October 7 | Comment period ends. |
| | October 17* | TPB reviews comments and responses to comments, and is presented with the draft Visualize 2045 Plan, TIP, and Conformity Analysis for approval. |

* Regularly scheduled TPB meeting.

Additional materials including a sample consultation letter, website announcements, Twitter and Facebook postings, and copies of the newspaper notifications are contained in Attachment C. Additional information about public comment procedures as well as a detailed listing of all TPB consultation and public comment opportunities associated with the conformity assessment of the Visualize 2045 Plan and FY2019-2024 TIP are also included in Attachment C.

Coordination with Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO)

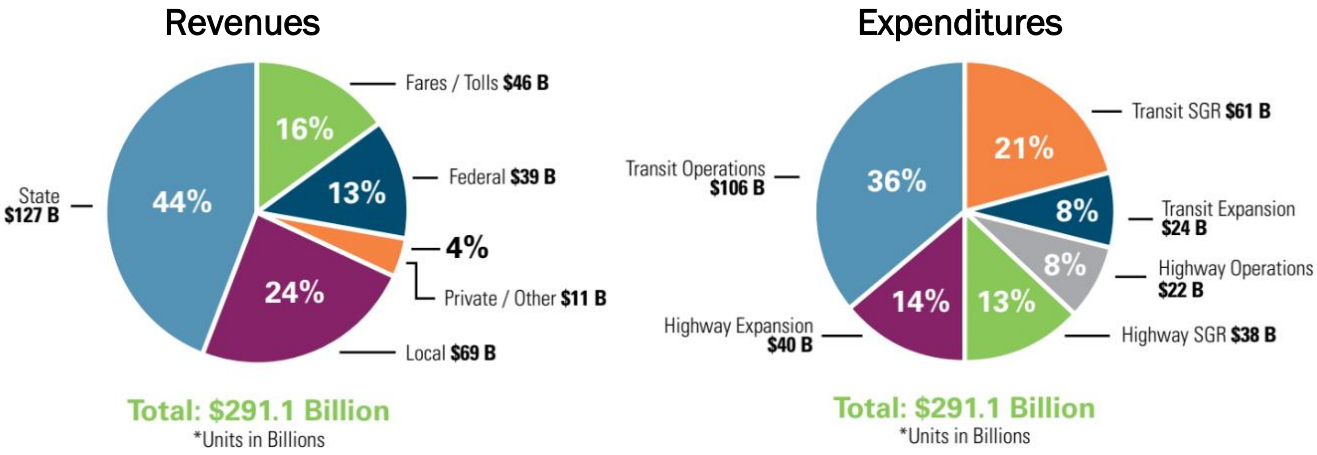
Calvert County, Maryland is in the Washington D.C. region's ozone non-attainment area, and is also a member of the southern Maryland MPO, C-SMMPO. Projects in Calvert County have always been included in the TPB's conformity analysis, but with the establishment of the C-SMMPO, it was necessary to formalize coordination between the TPB and the C-SMMPO. On January 20, 2016 the TPB approved a resolution with the C-SMMPO and Calvert County where all parties agreed upon procedures for ensuring that transportation plans, programs, and projects in Calvert County are assessed for regional air quality conformity. The TPB/C-SMMPO agreement, and documentation about how each task in the agreement was completed, is included in Attachment D.

## 8. FISCAL CONSTRAINT

EPA's conformity regulations require that transportation plans and TIPs must be fiscally constrained in order to be found in conformity. The Visualize 2045 plan represents the "major" update which occurs every four years. As mentioned earlier, the Visualize 2045 plan includes both a financially constrained element and an aspirational element. The conformity analysis presented in this report pertains to the constrained element only. Visualize 2045 includes a full financial analysis of the constrained regional transportation plan and program. Appendix A of the Visualize 2045 report (Reference 17), which documents this financial plan, is available on the COG website. The financial plan demonstrates that the Visualize 2045 plan, covering the period from 2019 through 2045, is financially constrained. The plan is fiscally realistic, balancing all proposed new project investments and system maintenance and operating costs with reasonable revenue expectations. The plan demonstrates that the forecast revenues reasonably expected to be available cover the estimated costs of expanding and adequately maintaining and operating the highway and transit system in the region.

A total of $291 billion in transportation expenditures is projected for the Washington Metropolitan Region for the 27-year period from 2019 to 2045. Transit expenditures constitute 65 percent and highway expenditures constitute 35 percent of funds in the Visualize 2045 plan. The majority of future transportation revenues will be devoted to the operations and maintenance of the current transit and highway systems. However, funding is identified for significant capital projects, including the South Capitol Street Corridor project and the DC Streetcar East-West line in the District of Columbia; the I-270 and I-495 Traffic Relief Plan, the replacement of the Nice Bridge, the construction of the Purple Line, and the MARC Growth and Investment Plan for commuter rail in Maryland; and construction of the I-66 HOT lanes, the I-395 HOT lanes, the US 1 BRT, and Phase two of the Metrorail Silver Line in Virginia. The plan also demonstrates full funding for WMATA's forecast needs for both Operations and State of Good Repair through 2045. Exhibit 21 shows the balanced revenue and expenditures graphs for the Visualize 2045 plan.

EXHIBIT 21
VISUALIZE 2045 TRANSPORTATION PLAN
REVENUES & EXPENDITURES




## 9. CONCLUSION

The analytical results described above provide a basis, in relation to US EPA conformity regulations, for a determination by the TPB of conformity of the Visualize 2045 long-range transportation plan and the FY2019-2024 Transportation Improvement Program for the National Capital Region, with requirements of the Clean Air Act Amendments of 1990. The process also satisfies the requirements of the 2015 Ozone Standard to complete a conformity analysis within one year of EPA's designation of marginal non-attainment for that Standard.

# ATTACHMENT A

## Scope of Work

National Capital Region
**Transportation Planning Board**

## MEMORANDUM

**TO:** Transportation Planning Board

**FROM:** Jane Posey, TPB Transportation Engineer

**SUBJECT:** Amendments to the Visualize 2045 Air Quality Conformity Scope of Work

**DATE:** May 16, 2018

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The Transportation Planning Board (TPB) will be asked to amend the Visualize 2045 Air Quality Conformity Scope of Work to respond to two developments that have occurred since the TPB approved the Scope on January 17, 2018. The first update satisfies a requirement related to the 2015 Ozone National Ambient Air Quality Standards (NAAQS), and the second update addresses new financial information related to Washington Metropolitan Area Transit Authority (WMATA) funding.

### 2015 OZONE NAAQS

Earlier this month the Environmental Protection Agency (EPA) announced final non-attainment designations for the 2015 Ozone NAAQS. The Washington DC-MD-VA region was designated "marginal" non-attainment, which is the lowest level of non-attainment. Marginal non-attainment areas have three years to achieve the standard, which means that our region would have an attainment date of 2021. Non-attainment regions are required to conduct a conformity analysis within one year of the effective date of the designations. The conformity analysis of Visualize 2045 will meet the requirement, but with a requirement to analyze the attainment year, TPB staff will have to add 2021 as a forecast year in the Visualize 2045 conformity analysis.

### WMATA FUNDING

In March, lawmakers from the District of Columbia, Maryland, and Virginia agreed to jointly provide $500 million annually for WMATA funding. All three governments have passed legislation to provide dedicated funding sources to support the transit agency. This money will fund WMATA's capital improvements to ensure the system is in a state of good repair, which will include investments such as the infrastructure and equipment needed to run 8-car trains.

Since 2000, the TPB travel demand model has included a technical adjustment to account for the expectation that future peak period Metrorail ridership in the region's "core" downtown area will be subject to capacity limitations of the Metrorail system. This so-called "Metrorail transit constraint" was used to account for WMATA's expressed concern that the Metrorail ridership would exceed peak period capacity in the regional core unless the rail fleet and station infrastructure were expanded to allow for 8-car trains. The recent legislation establishing stable long-term funding will now support WMATA's plans to implement all 8-car trains during peak periods in the Visualize 2045 Plan. Consequently, TPB staff recommends that the transit constraint be removed from the travel model process.

## SCOPE OF WORK AMENDMENT

In order to add the new 2021 analysis year, and to remove the transit constraint, the TPB must amend the Visualize 2045 Air Quality Conformity Scope of Work to reflect these updates. The Scope currently lists a 2020 analysis year, which is included to provide the transit constraint levels for future forecast years. With the removal of the transit constraint, the 2020 analysis year will no longer be necessary, and will be replaced with the 2021 analysis year. This substitution will allow for adherence to the original conformity schedule. The updated Scope, with changes highlighted, is attached.

National Capital Region
**Transportation Planning Board**

May 16, 2018

# AIR QUALITY CONFORMITY ANALYSIS: VISUALIZE 2045

# AMENDED SCOPE OF WORK

## I. INTRODUCTION

Projects solicited for the quadrennial update of the region's transportation plan, Visualize 2045, and the FY2019-2024 Transportation Improvement Program (TIP) are scheduled to be finalized at the January 17, 2018 TPB meeting. This work effort addresses requirements associated with attainment of the ozone standard (volatile organic compounds (VOC) and nitrogen oxides (NOx) as ozone precursor pollutants).

The amended plan must meet air quality conformity regulations: (1) as originally published by the Environmental Protection Agency (EPA) in the November 24, 1993 Federal Register, and (2) as subsequently amended, most recently on March 14, 2012, and (3) as detailed in periodic FHWA / FTA and EPA guidance. These regulations specify both technical criteria and consultation procedures to follow in performing the assessment.

This scope of work provides a context in which to perform the conformity analyses and presents an outline of the work tasks required to address all regulations currently applicable.

## II. FEDERAL REQUIREMENTS

As described in the 1990 Clean Air Act Amendments, conformity is demonstrated if transportation plans and programs:

1. Are consistent with most recent estimates of mobile source emissions
2. Provide expeditious implementation of TCMs
3. Contribute to annual emissions reductions

The federal requirements governing air quality conformity compliance are contained in §93.110 through §93.119 of the Transportation Conformity Regulations (printed April 2012), as follows:

| CONFORMITY CRITERIA & PROCEDURES | |
|---|---|
| All Actions at all times | |
| §93.110 | Latest Planning Assumptions |
| §93.111 | Latest Emissions Model |
| §93.112 | Consultation |
| §93.113 | TCMs |
| §93.114 | Currently conforming Plan and TIP |
| §93.115 | Project from a conforming Plan and TIP |
| §93.116 | CO, PM10 and PM2.5 hot spots |
| §93.117 | PM10 and PM2.5 Control Measures |
| §93.118 and/or §93.119 | Emissions Budget and/or Interim Emissions |

**§ 93.110 Criteria and procedures: Latest planning assumptions** - The conformity determination must be based upon the most recent planning assumptions in force at the time of the conformity determination.

**§ 93.111 Criteria and procedures: Latest emissions model** - The conformity determination must be based on the latest emission estimation model available.

**§ 93.112 Criteria and procedures: Consultation** – The Conformity must be determined according to the consultation procedures in this subpart and in the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450.

**§ 93.113 Criteria and procedures: Timely implementation of TCMs** - The transportation plan, TIP, or any FHWA/FTA project which is not from a conforming plan and TIP must provide for the timely implementation of TCMs from the applicable implementation plan.

**§93.114 Criteria and procedures: Currently conforming transportation plan and TIP** - There must be a currently conforming transportation plan and currently conforming TIP at the time of project approval.

**§93.115 Criteria and procedures: Projects from a plan and TIP** - The project must come from a conforming plan and program.

**§93.116 Criteria and procedures: Localized CO, PM10, and PM2.5 violations (hot spots)** -The FHWA/FTA project must not cause or contribute to any new localized CO, PM10, and/or PM2.5 violations or increase the frequency or severity of any existing CO, PM10, and /or PM2.5 violations in CO, PM10, and PM2.5 nonattainment and maintenance areas.

**§93.117 Criteria and procedures: Compliance with PM10 and PM2.5 control measures** -The FHWA/FTA project must comply with PM10 and PM2.5 control measures in the applicable Implementation Plan.

**§93.118 Criteria and procedures: Motor vehicle emissions budget** - The transportation plan, TIP, and projects must be consistent with the motor vehicle emissions budget(s).

**§93.119 Criteria and procedures: Interim emissions in areas without motor vehicle budgets** - The FHWA/FTA project must satisfy the interim emissions test(s).

Assessment Criteria:

Ozone season pollutants will be assessed by comparing the forecast year pollutant levels to the mobile budgets most recently approved or found adequate by the EPA. For the Visualize 2045 conformity assessment there are two possible sets of mobile budgets: 1) the 2009 attainment and 2010 contingency budgets found adequate for use in conformity by EPA in Feb. 2013; or 2) the 2008 Ozone National Ambient Air Quality Standards (NAAQS) Maintenance Plan mobile budgets scheduled to be approved by MWAQC in December and submitted to EPA in early 2018. The budgets found adequate by EPA in 2013 are the most recently approved budgets at the time of the development of this scope of work. However, when the EPA approves or finds adequate the mobile budgets in the 2008 Ozone NAAQS Maintenance Plan, the TPB will immediately be required to use those new budgets. The 2008 Ozone NAAQS Maintenance Plan includes mobile budgets for 2014 (attainment year), 2025 (intermediate year), and 2030 (out year). The 2014 budgets will be used for any analysis year between 2014 and 2024, the 2025 budgets will be used for any analysis year between 2025 and 2029, and the 2030 budgets will be used for any analysis year beyond 2029.

## III. POLICY AND TECHNICAL APPROACH

The table below summarizes the key elements of the Policy & Technical Approach:

| | |
|---|---|
| **Pollutants** | Ozone Season VOC and NOx |
| **Emissions Model** | MOVES2014a |
| **Conformity Test** | Budget Test: Using mobile budgets most recently approved by EPA. Two possibilities: 1) 2009 attainment and 2010 contingency budgets found adequate for use in conformity by EPA in Feb. 2013; or 2) 2008 Ozone NAAQS Maintenance Plan mobile budgets scheduled to be approved by MWAQC in December and submitted to EPA in early 2018 |
| **Vehicle Fleet Data** | December 2016 vehicle registration data for all jurisdictions |
| **Geography** | 8-hour ozone non-attainment area |
| **Network Inputs** | Regionally significant projects |
| **Land Activity** | Cooperative Forecasts Round 9.1 |
| **HOV/HOT** | VA: All HOV 2+/HOT 2+ facilities become HOV 3+/HOT 3+ in 2020 and beyond except I-66 inside the Beltway, which will convert to HOT3+ when I-66 outside the Beltway opens<br>MD: All HOV facilities remain HOV2+ through 2045 |
| **Transit Constraint** | NO Metrorail "capacity constraint" procedures |
| **Analysis Years** | 2019, 2021, 2025, 2030, 2040, 2045 |
| **Modeled Area** | 3,722 TAZ System |
| **Travel Demand Model** | Version 2.3.70 or latest |

## IV. CONSULTATION

The TPB adheres to the specifications of the consultation procedures (as outlined in the consultation procedures report adopted by the TPB on May 20, 1998). The TPB will participate in meetings of MWAQC, its Technical Advisory Committee, and its Conformity Subcommittee to discuss the Scope of Work, project inputs, and other elements as needed. The TPB will discuss at meetings or forums, as needed, the following milestones:

- Visualize 2045 Technical Inputs Solicitation
- Scope of Work
- Project submissions: documentation and comments
- Conformity analysis: documentation and comments
- Visualize 2045 Performance
- Process: comments and responses

## V. WORK TASKS

The work tasks associated with the Visualize 2045 air quality conformity analysis are as follows:

1. Receive project inputs from programming agencies and organize into conformity documentation listings by:
   - Project type, limits, etc.
   - Phasing with respect to forecast years
   - Transit operating parameters, e.g., schedules, service

2. Update Travel Model Base Transit Service to reflect:
   - Service current to Fall 2017
   - Fares current to Fall 2017

3. Prepare 2016 Vehicle Registration Data (VIN data)
   - Coordinate with States to receive raw VIN data
   - Explore updated VIN decoder software options and procure the software that best suits the agency's needs
   - Convert raw VIN data into MOVES input categories/format

4. Review and Update Land Activity files to reflect Round 9.1 Cooperative Forecasts with respect to:
   - Zonal data files
   - Employment Data Census Adjustment
   - Households by auto ownership, size and income
   - Coordination with agencies outside the MWCOG Cooperative Forecast area (BMC, FAMPO, C-SMMPO etc.)
   - Exogenous Travel (external, through trips etc.)

5. Prepare forecast year highway, HOV, and transit networks including regionally significant projects, as follows:
   - 2019, 2021, 2025, 2030, 2040, and 2045 highway networks
   - 2019, 2021, 2025, 2030, 2040, and 2045 transit network input files
   - Update highway tolls, as necessary

6. Execute travel demand modeling for years 2019, 2021, 2025, 2030, 2040, and 2045

7. Derive Mobile Emissions Estimates for years 2019, 2021, 2025, 2030, 2040, and 2045 using inputs from both 2008 Ozone NAAQS attainment SIP mobile budgets and 2008 Ozone NAAQS Maintenance Plan mobile budgets (2 runs per year)

8. Provide emissions reductions estimates for TERMs

9. Summarize key inputs and outputs (VMT, mode share, emissions, etc.) of the conformity determination for use in the Visualize 2045 Performance Analysis

10. Assess conformity and document results in a report

    - Document methods
    - Draft conformity report
    - Forward to technical committees, policy committees
    - Make available for public and interagency consultation
    - Receive comments
    - Respond to comments and present to TPB for action
    - Finalize report and forward to FHWA, FTA, and EPA

# SCHEDULE FOR DEVELOPMENT & ADOPTION OF VISUALIZE 2045

| | | |
|---|---|---|
| 2017 | September 20* | TPB is briefed on the draft Solicitation of Technical Inputs document. |
| | October 18* | TPB releases final Solicitation Document. Transportation agencies begin submitting project information through online database. |
| | November 17 | **DEADLINE:** Transportation agencies complete online submission of draft inputs. |
| | December 1 | Technical Committee reviews draft Visualize 2045 inputs and draft Scope of Work for the Air Quality Conformity Analysis. |
| | December 14 | Visualize 2045 inputs and draft Scope of Work released for **30-day comment period**. |
| | December 12 | TPB staff briefs Metropolitan Washington Air Quality Committee Technical Advisory Committee (MWAQC TAC) on inputs and Scope of Work. |
| 2018 | December 20* | TPB is briefed on inputs and draft Scope of Work. |
| | January 13 | Comment period ends. |
| | January 17* | TPB reviews comments and is asked to approve inputs and draft Scope of Work. |
| | March 2 | **DEADLINE:** Transportation agencies finalize forms (including Congestion Management Documentation forms where needed) and inputs to the FY 2019-2024 TIP. Submissions must not impact conformity inputs. Note that the deadline for changes affecting conformity inputs was December 14, 2017. |
| | May 10 | Public Forum on the development of the FY 2019-2024 TIP. |
| | September 7 | Technical Committee reviews draft Visualize 2045 and Conformity Analysis. |
| | September 7 | Draft Visualize 2045 Plan, TIP, and Conformity Analysis are released for **30-day comment period** at Citizens Advisory Committee (CAC) meeting. |
| | September 19* | TPB is briefed on the draft Visualize 2045 Plan, TIP, and Conformity Analysis. |
| | October (TBD) | TPB staff briefs MWAQC TAC on the draft Visualize 2045 Plan, TIP, and Conformity Analysis. |
| | October 7 | Comment period ends. |
| | October 17* | TPB reviews comments and responses to comments, and is presented with the draft Visualize 2045 Plan, TIP, and Conformity Analysis for approval. |

* Regularly scheduled TPB meeting.

# APPENDIX B

## Project Inputs
## (significant changes & input table)

## Key to the Air Quality Conformity Table:

**COLUMN 1:**

Con ID – conformity identification number

**COLUMN 2:**

Project ID - project identification number (for reference purposes)

**COLUMN 3:**

Agency ID – agency project identification number (for reference purposes)

**COLUMN 4:**

Type of improvement - defined as follows:

| | | |
|---|---|---|
| Construct | = | build a new facility |
| Close | = | facility cease operation |
| Demolish | = | facility cease operation |
| Downgrade | = | reduce the number of lanes on an existing facility |
| Expansion | = | increase the number of lanes on an existing facility |
| Widen | = | increase the number of lanes on an existing facility |
| Upgrade | = | improve the facility type of a roadway |
| Reduce Capacity | = | reduce the number of lanes on an existing facility |
| Relocate | = | construct an existing facility on a new right-of-way |
| Reconstruct | = | modify an existing facility with no capacity increase i.e., shoulder paving, geometric improvements |
| Rehabilitate | = | repair existing structures - no capacity increase |
| Remove | = | facility cease operation |
| Revise Operations | = | facility changed operation restriction |
| Study | = | to review alternative transportation improvements- project planning or preliminary engineering only |

**COLUMN 5:**

Facility - name of facility to be studied or improved

**COLUMNS 6 and 7:**

From and To - limits of the project

**COLUMN 8:**

Facility Type - defined as follows:

1 = Interstate
2 = Major Arterial
3 = Minor Arterial
4 = Collector
5 = Expressway or Freeway with at-grade intersections

If a facility is being upgraded, the old facility type is in the "from" column, and the new facility type is in the "to" column. If the facility is not being upgraded, the "from" and "to" columns are the same.

**COLUMN 9:**

Number of Lanes - same explanation of "from" and "to " columns as above

**COLUMN 10:**

Project Completion Date or Status - date project will be open for use.
"not coded" indicates that project is not included in the conformity analysis

National Capital Region
**Transportation Planning Board**

## MEMORANDUM

**TO:** Transportation Planning Board

**FROM:** Lyn Erickson, TPB Plan Development and Coordination Program Director

**SUBJECT:** Projects Proposed for Inclusion in the Air Quality Conformity Analysis of the Constrained Element of Visualize 2045 and the and the FY 2019-2024 Transportation Improvement Program

**DATE:** January 11, 2018

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The project submissions for inclusion in the Air Quality Conformity Analysis of the Constrained Element of Visualize 2045 and the FY 2019-2024 Transportation Improvement Program were released for public comment on December 14, 2017. The attached materials summarizing the major new projects and changes to existing major projects included in this year's submissions were presented to the board at its December 20 meeting. The board will be asked to approve the project submissions for inclusion in the Air Quality Conformity Analysis of the Constrained Element of Visualize 2045 and the FY 2019-2024 Transportation Improvement Program on January 17.

The public comment period ends on January 13. The board will be presented with a summary and compilation of the comments received and the responses provided by the implementing agencies and TPB staff. The comments and responses will be included in the formal documentation of Visualize 2045. Comments can be submitted and reviewed online at www.mwcog.org/TPBcomment

### CHANGES AND CORRECTIONS MADE TO PROJECT INPUTS

During the course of the 30-day comment and inter-agency review period, several implementing agencies have provided updates to project information and technical corrections to the Air Quality Conformity Network Inputs table:

- Benning Rd. Streetcar extension in DC (CONID 613) Change completion date from 2020 to 2023
- Union Station/Georgetown Streetcar in DC (CONID 610) – change completion date from 2028 to 2025
- DC Circulator Route Union Station to Georgetown- remove extension to National Cathedral
- DC Circulator Route Navy Yard – change project limits from "Union Station to Navy Yard Route" to "Navy Yard Route Realignment" and change completion date from 2017 to 2018
- DC Circulator route Rosslyn to Dupont Circle ext to U St/Howard University (CONID 794) – change completion date from 2017 to 2018
- DC Circulator Route Potomac Ave to Skyland- add realignment in 2018
- 16th St. Bus Priority Improvements in DC – change completion date from 2021 to 2020
- Monocacy Blvd widening in Frederick County (CONID 651) Change project completion date from 2017 to 2019
- 3 segments of MD 180 in Frederick (CONID 924 648 857) Change in project limits and completion dates
- Widen VA 638 Rolling Rd. in Fairfax County (CONID 302 | Project ID VSF10a) - change completion date from 2020 to 2025

- VA 7 interchange at VA 690 west of Leesburg (CONID 653) – change project from "study/ not coded" to "construct in 2025"

More information on these projects can be found in the Air Quality Conformity Network Inputs table.

## SUMMARY OF PROJECT SUBMISSIONS

This memo highlights fourteen new or updated significant projects with "at a glance" profiles and matrices detailing how the projects support regional transportation goals and federal planning factors. This memo also lists significant projects that have been reduced in scope or are proposed for removal from the Constrained Element. Complete project description forms and the Visualize 2045 Air Quality Conformity Network Inputs tables can be found online at www.mwcog.org/TPBcomment.

In the **District of Columbia**, DDOT is proposing to expand its bicycle lane network with six additional segments. DDOT has also requested that three segments of the planned streetcar network be removed from the Constrained Element: the Anacostia Initial Line, Anacostia Extension and the M St. SE/SW line.

In **Maryland**, MDOT is proposing to add two elements of its Traffic Relief Plan which would add managed toll lanes to I-495 and I-270. MDOT has also proposed reconstruction and widening projects on US 301, MD 201, and MD 97. MDOT has also requested that the widening of MD 29 be reduced in scope and that a widening of MD 27 be removed from the Constrained Element. Montgomery County is proposing to add four segments to its Bus Rapid Transit (BRT) network on Randolph Road, a North Bethesda Transitway, MD 355, and Veirs Mill Road.

In **Virginia**, VDOT is proposing to add a southbound auxiliary lane on I-95 and to widen US 15. VDOT is also proposing changes to the I-495 HOT Lanes project which has been in the long-range plan since 2005. The proposed changes would advance the completion date to 2025 and increase the number of HOT lanes in each direction between the George Washington Parkway and the American Legion Bridge from one to two to complement MDOT's project over the bridge. VDOT has proposed to remove the planned Virginia Railway Express extension to Gainesville and Haymarket.

The **Washington Metropolitan Area Transit Authority** has submitted a set of improvements that would add significant capacity to the Metrorail system by running 100% 8-car trains during the peak travel periods. This would require additional improvements to be made to stations in the core and some supporting infrastructure upgrades and facilities.

## REGIONAL POLICY FRAMEWORK FOR DEVELOPMENT OF VISUALIZE 2045

The Technical Inputs Solicitation document encouraged agencies to consider regional goals, priorities and needs as they developed and selected projects to submit for inclusion in the Constrained Element of Visualize 2045. The project description form asked agencies to explain how their new projects support the goals laid out in the Regional Transportation Priorities Plan (RTPP).

The agencies' responses to those questions have been compiled in Table 1 on page 9 of the attachment, along with the agencies' responses to how projects support the federal Planning Factors on Table 2. Additionally, staff developed individual project profile sheets that provide readers with "at a glance" information, as well as a narrative describing how the proposed major project supports the RTPP and other regional goals. A Project Profile has been created for each of the fourteen major projects proposed for inclusion or updating in the air quality analysis.

## MATERIALS FOR PUBLIC COMMENT

The following materials were released for public comment on December 14, 2017:

- Summary of RTPP Goals and Visualize 2045 project description form questions*
- Table 1: Visualize 2045 Constrained Element Projects and the RTPP Goals*
- Table 2: Visualize 2045 Constrained Element Projects and federal Planning Factors*
- Profiles for the following projects:*
    - DC Dedicated Bicycle Lanes on Multiple Street Segments Throughout City
    - I-270 Toll Lanes from I-495 to I-70/US 40
    - I-495 Toll Lanes from American Legion Bridge to Woodrow Wilson Bridge
    - US 301 Widening from Harry Nice Bridge to US 50/I-595
    - MD 201 Widening from I-495 to US 1 north of Muirkirk Road
    - MD 97 Reconstruction from 16th Street to Forest Glen Road
    - Randolph Road BRT from US 29 to MD 355
    - North Bethesda Transitway BRT from Montgomery Mall Transit Center to White Flint Metrorail Station
    - MD 355 BRT from Bethesda to Clarksburg
    - Veirs Mill Road BRT from MD 355 to MD 97
    - I-495 HOT Lanes Northern Extension from Old Dominion Drive to American Legion Bridge
    - I-95 Southbound construction of auxiliary lane from VA 123 to VA 294
    - US 15 Widening from Battlefield Parkway to VA 661
    - Metro Capacity Improvements
- Complete CLRP Project Description Forms for each project listed above†
- Draft Visualize 2045 Air Quality Conformity Network Inputs Table†
- Scope of Work for Air Quality Conformity†

    - * Attached to this document
      † Found online at: www.visualize2045.org.

## NEXT STEPS

Following the TPB approval of the project inputs on January 17, the Air Quality Conformity Analysis will be conducted between February and August. Draft results will be published along with a plan performance analysis and assessment of regional goals in September at the commencement of a second public comment period. After that comment period, the TPB will be asked to approve the Air Quality Conformity Analysis and the Constrained Element of Visualize 2045, and the FY 2019-2024 Transportation Improvement Program in October 2018.

# Assessing Visualize 2045 Constrained Element Project Submissions against the Regional Transportation Priorities Plan and FAST Act

The Visualize 2045 constrained element project description form includes a set of questions under the Regional Policy Framework section. These questions are intended to examine how projects support the goals set forth in the Regional Transportation Priorities Plan (RTPP). The six RTPP goals are described here and are matched up with the corresponding questions from the project description form. The responses provided by the submitting agencies for all new projects proposed for inclusion in the constrained element of Visualize 2045 have been summarized in the attached table, along with their responses as to how the projects support the federal planning factors prescribed under the FAST Act.

## Goal 1

**Provide a Comprehensive Range of Transportation Options**

Question **22**

- Please identify all travel mode options that this project provides, enhances, supports, or promotes.
- Does this project improve accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low-incomes, and/or limited English proficiency?)

## Goal 2

**Promote a Strong Regional Economy, Including a Healthy Regional Core and Dynamic Activity Centers**

Question **23**

- Does this project begin or end in an Activity Center?
- Does this project connect two or more Activity Centers?
- Does this project promote non-auto travel within one or more Activity Centers?

## Goal 3

**Ensure Adequate System Maintenance, Preservation, and Safety**

Question **24**

- Does this project contribute to enhanced system maintenance, preservation, or safety?

## Goal 4

**Maximize Operational Effectiveness and Safety of the Transportation System**

Question **25**

- Does this project reduce travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)?
- Does this project enhance safety for motorists, transit users, pedestrians, and/or bicyclists?

## Goal 5

**Enhance Environmental Quality, and Protect Natural and Cultural Resources**

Question **26**

- Is this project expected to contribute to reductions in emissions of criteria pollutants?
- Is this project expected to contribute to reductions in emissions of greenhouse gases?

## Goal 6

**Support Inter-Regional and International Travel and Commerce**

Question **27**

- Please identify all freight carrier modes that this project enhances, supports, or promotes.
- Please identify all passenger carrier modes that this project enhances, supports, or promotes.

# TABLE 1
# VISUALIZE 2045 TECHNICAL INPUTS AND THE REGIONAL TRANSPORTATION PRIORITIES PLAN GOALS

This matrix provides a visual summary of the responses provided by the relevant implementing agencies as to how their proposed projects support the goals identified in the RTPP.

| MAJOR PROJECTS* | Estimated Cost | Projected Completion | Goal 1 | | | | | | | | | | | | Goal 2 | | | Goal 3 | | | Goal 4 | | Goal 5 | | Goal 6 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SOV | HOV | MetroRail | Commuter Rail | Streetcar/Lt. Rail | BRT | Exp. Bus | Metrobus | Local Bus | Bicycling | Walking | Other | Disadvantaged Groups | Begin/End in AC | Connect ACs | Non-Auto w/in AC | Maintenance | Reduce Time w/o Capacity | Enhance Safety | Criteria Pollutants | Greenhouse Gases | Long Haul Truck | Local Delivery | Freight Rail | Freight Air | Air Passenger | Amtrak | Intercity Bus |
| 1. Dedicated Bike Lanes | $28 million | 2018, 2023 | | | | | | | | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | | | |
| 2. I-270 Toll Lanes | $350 million | 2030 | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ |
| 3. I-95/I-495 Toll Lanes | $4.3 billion | 2025 | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ |
| 4. US 301 | $4.6 billion | 2045 | ✓ | ✓ | | | | | ✓ | | ✓ | | | | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ |
| 5. MD 201 | $1 billion | 2045 | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | |
| 6.MD 97 | $52 million | 2025 | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | | | | | |
| 7. Randolph Road BRT | $102 million | 2040 | | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 8.North Bethesda BRT | $115 million | 2035 | | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 9. MD 355 BRT | $1.08 billion | 2045 | | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 10. Veirs Mill Road BRT | $80 million | 2030 | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| 11. I-495 HOT Lanes (North) | $500 million | 2025 | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | | ✓ | ✓ | | | | | |
| 12. I-95 Southbound | $33 million | 2025 | ✓ | | | | | ✓ | ✓ | ✓ | | | | | ✓ | | | | | | ✓ | | | ✓ | ✓ | | | | | ✓ |
| 13. US 15 | $33 million | 2025 | ✓ | | | | | | | | ✓ | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |

* Major projects are defined as changes to interstates, major arterials, and expressways or freeways with at-grade intersections, as well as dedicated transit facilities.

# TABLE 2
# VISUALIZE 2045 PROJECT SUBMISSIONS AND THE FEDERAL PLANNING FACTORS

**This matrix provides a visual summary of the responses provided by the relevant implementing agencies as to how their proposed projects support the planning factors set forth in the FAST Act**

| MAJOR PROJECTS* | Estimated Cost | Projected Completion | Economic Vitality | Safety | Homeland Security | Accessibility/Mobility People | Accessibility/Mobility Freight | Environment | Integration/Connectivity | Management & Operation | Preservation | Resiliency & Stormwater Impact | Tourism |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Dedicated Bike Lanes | $28 million | 2018, 2023 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | ☑ | ☑ |
| 2. I-270 Toll Lanes | $3.4 billion | 2030 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | | |
| 3. I-495 Toll Lanes | $4.2 billion | 2025 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | | |
| 4. US 301 | $4.6 billion | 2045 | ☑ | | ☑ | ☑ | ☑ | | ☑ | ☑ | | | |
| 5. MD 201 | $1 billion | 2045 | ☑ | | ☑ | ☑ | ☑ | ☑ | ☑ | | | | |
| 6. MD 97 | $52 million | 2025 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | | | |
| 7. Randolph Road BRT | $102 million | 2040 | ☑ | ☑ | | ☑ | ☑ | ☑ | ☑ | | | ☑ | |
| 8.North Bethesda BRT | $115 million | 2035 | ☑ | ☑ | | ☑ | ☑ | ☑ | ☑ | | | ☑ | |
| 9. MD 355 BRT | $1.08 billion | 2045 | ☑ | ☑ | | ☑ | ☑ | ☑ | ☑ | | | | |
| 10. Veirs Mill Road BRT | $80 million | 2030 | ☑ | ☑ | | ☑ | ☑ | ☑ | ☑ | | | | |
| 11. I-495 HOT Lanes (North) | $500 million | 2025 | ☑ | | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | ☑ | |
| 12. I-95 | $27.5 million | 2025 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | |
| 12. US 15 | $33 million | 2025 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | ☑ |
| 12. Metro Capacity Improv. | $5.4 billion | 2045 | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | ☑ | | ☑ |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

### Federal Planning Factors

- Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the **safety** of the transportation system for all motorized and non-motorized users.
- Increase the ability of the transportation system to support **homeland security** and to safeguard the personal security of all motorized and non-motorized users.
- Increase accessibility and mobility of **people**.
- Increase accessibility and mobility of **freight**.
- Protect and enhance the **environment**, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the **integration and connectivity** of the transportation system, across and between modes, for people and freight.
- Promote efficient system **management and operation**.
- Emphasize the **preservation** of the existing transportation system.
- Improve the **resiliency** and reliability of the transportation system and reduce or **mitigate** stormwater impacts of surface transportation
- Enhance travel and **tourism**

*** Major projects are defined as changes to interstates, major arterials, and expressways or freeways with at-grade intersections, as well as dedicated transit facilities.**

# DC BICYCLE LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## Various Locations Districtwide

## Basic Project Information

Project Length.....**6 Miles**

Anticipated Completion.....**2018, 2023**

Estimated Cost of Construction.....**$28 million**

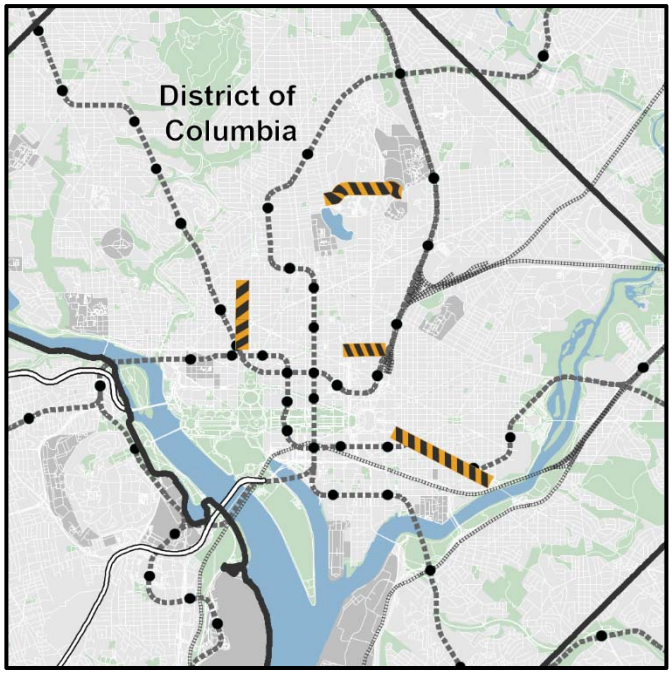
Submitting Agency.....**District DOT**

Anticipated Funding Sources.....

☐ Federal ☐ State ☒ Local ☐ Private ☐ Bonds ☐ Other

CEID.....**multiple**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

DDOT is proposing adding six new segments to its existing bicycle path network. The following projects will remove one or more traffic lanes to allow for separated bicycle lanes.

- Pennsylvania Ave. SE from 2nd St./Independence Ave. to Barney Circle (1.3 miles)
- 17th St. NW from New Hampshire Ave. to K St. (<1 mile)
- K St. from 7th St. NW to 1st St. NE (<1 mile)
- K St. from 1st St. NE to Florida Ave. NE (<1 mile)
- Irving St. from Warder St. NW to Michigan Ave. NE (1 mile)
- New York Ave. NE from Florida Ave. to Bladensburg Rd. (2.3 miles)

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Move DC

See official Visualize 2045 Project Description Forms for more information about these projects.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# DC BIKE LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

Making bicycling safer and easier represents an expansion of transportation options (Goal 1). This will be advanced by implementing six bike-lane projects in the District. These projects are particularly supportive of the Priorities Plan's call for improved non-motorized circulation within Activity Centers (Goal 2) to make bicycle travel more efficient and safer (Goals 3 and 4). The project further supports emissions reductions (Goal 5).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☐ Single Driver (SOV) ☐ Carpool/HOV ☐ Metrorail ☒ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☐ Express/Commuter Bus ☐ Metrobus ☐ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☒ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel & Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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777 North Capitol St. NE, Suite 300, Washington, DC 20002

## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☐ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☐ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☒ Improve Resiliency or Mitigate Stormwater
☒ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 12, 2017.

# I-270 TOLL LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From I-495, Capital Beltway to I-70/US 40

## Basic Project Information

Project Length.....**34 Miles**

Anticipated Completion.....**2020-2025***

Estimated Cost of Construction.....**$4 billion**

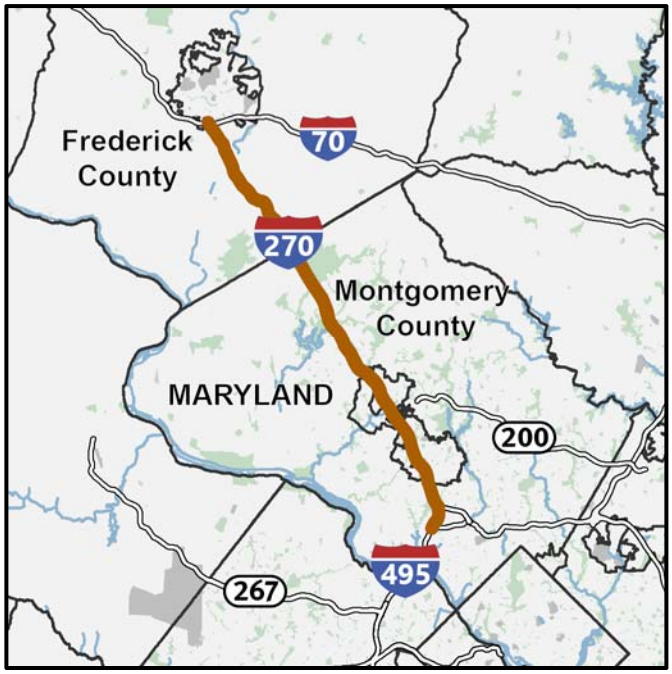
Submitting Agency.....**Maryland DOT**

Anticipated Funding Sources.....

☐ Federal ☐ State ☐ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**1186**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

The I-270 component of MDOT's "Traffic Relief Plan" project will add two new managed toll lanes in each direction along I-270 between the Capital Beltway (I-495) and I-70/US 40.

*Actual completion year will depend on awarded contract. For air quality conformity modeling purposes, the completion date is presumed to be 2025.

## Existing Support for this Project

This project has undergone review at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Montgomery County 2017 Transportation Priority Letter

☒ MDOT/SHA Traffic Relief Plan

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# I-270 TOLL LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan called upon the region to use tolling and pricing mechanisms to manage road congestion and raise revenue. This project adds a key corridor to the region's express lane network and will expand transportation choices (Goal 1) by adding toll lanes that will be dynamically managed to ensure free-flowing travel for drivers and express bus services. The 34-mile project connects numerous Activity Centers, which are the region's primary engines for economic growth and opportunity (Goal 2).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☒ Carpool/HOV ☐ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☐ Bicycling ☐ Walking ☐ Other
☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☒ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel & Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☒ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☒Transportation demand management measures (including growth management and congestion pricing)
☒ Traffic operational improvements
☒ Public transportation improvements
☒Intelligent Transportation Systems (ITS) technologies
☒ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.

*See the Congestion Management Documentation form for more information.*

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 14, 2017.

# I-495 TOLL LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From the American Legion Bridge to the Woodrow Wilson Bridge

## Basic Project Information

Project Length.....**22 Miles**

Anticipated Completion.....**2020-2025***

Estimated Cost of Construction.....**$4.3 billion**

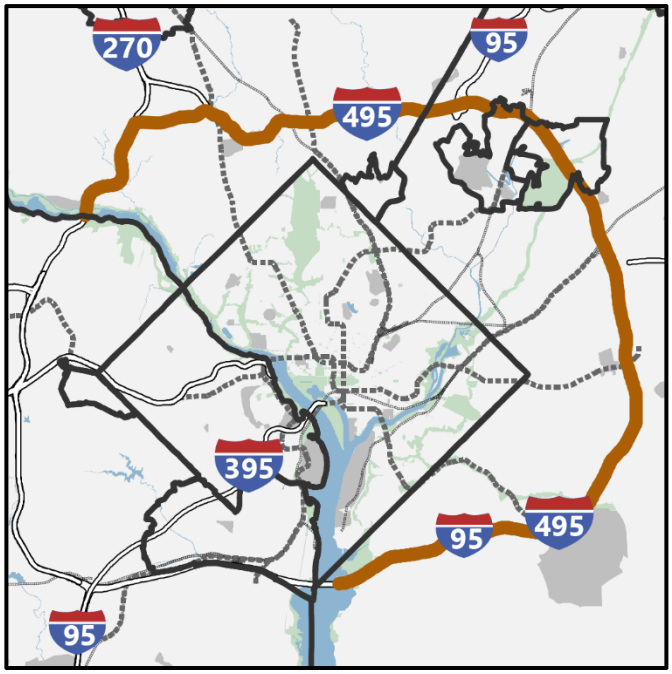
Submitting Agency.....**Maryland DOT**

Anticipated Funding Sources.....

☐ Federal ☒ State ☐ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**1182, 3281**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

The I-495 component of MDOT's "Traffic Relief Plan" project will add two new managed toll lanes in each direction along the Capital Beltway between the Virginia end of the American Legion Bridge to the Maryland end of the Woodrow Wilson Bridge.

*Actual completion year will depend on awarded contract. For air quality conformity modeling purposes, the completion date is presumed to be 2025.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Montgomery County 2017 Transportation Priority Letter

☒ 2009 Prince George's County Master Plan of Transportation (MPO

☒ 1990 Heights Sector Plan

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# I-495 TOLL LANES

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

New toll lanes on the entire 42-mile length of Maryland's Capital Beltway will dramatically expand transportation choices (Goal 1) in the region by adding dynamically managed lanes to ensure free-flowing travel for drivers and for express bus services. Along with the I-270 Toll Lanes, this project significantly expands the region's network of recent and forthcoming priced-lane projects. The project will connect numerous Activity Centers (Goal 2), the region's focal points for economic growth.

### Goal 1: Provide a Range of Transportation Options

Provides, enhances, supports, or promotes the following travel mode options:

☒ Single Driver (SOV) ☒ Carpool/HOV ☐ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☐ Bicycling ☐ Walking ☐ Other

☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

### Goal 2: Promote Dynamic Activity Centers

☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

### Goal 3: Ensure System Maintenance, Preservation, and Safety

☒ Contributes to enhanced system maintenance, preservation, or safety

### Goal 4: Maximize Operational Effectiveness and Safety

☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

### Goal 5: Protect and Enhance the Natural Environment

Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

### Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air

Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☒ Intercity Bus

## Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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777 North Capitol St. NE, Suite 300, Washington, DC 20002

## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☒Transportation demand management measures (including growth management and congestion pricing)
☒ Traffic operational improvements
☒ Public transportation improvements
☒Intelligent Transportation Systems (ITS) technologies
☒ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.

*See the Congestion Management Documentation form for more information.*

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 14, 2017.

# US 301 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From the Governor Harry Nice Bridge to US 50/I-595

### Basic Project Information

Project Length.....**48 Miles**

Anticipated Completion.....**2045**

Estimated Cost of Construction.....**$4.6 billion**

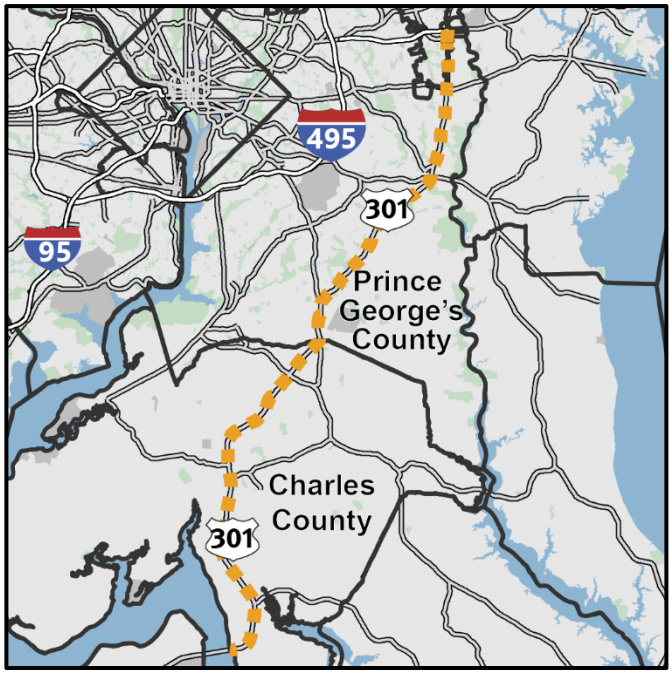
Submitting Agency.....**Maryland DOT**

Anticipated Funding Sources.....

☒ Federal ☒ State ☐ Local ☒ Private ☐ Bonds ☐ Other

CE ID.....**1004**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

### Project Description

Widen Crain Highway, US 301 from 4 to 6 lanes between the Governor Harry Nice Bridge at the Potomac River to the John Hanson Highway, US 50/I-595.

### Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Pending

See official CLRP Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# US 301 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

This 48-mile road widening project will expand transportation options for drivers, carpoolers and transit riders (Goal 1). The project will connect three Activity Centers (Bowie, Waldorf, and La Plata) (Goal 2) and will enhance freight movement (Goal 6).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☒ Carpool/HOV ☐ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☐ Metrobus ☒ Local Bus
☐ Bicycling ☐ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☐ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☐ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☒ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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777 North Capitol St. NE, Suite 300, Washington, DC 20002

## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☐ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☐ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 5, 2017.

# MD 201 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From I-495, Capital Beltway to US 1 North of Muirkirk Road

### Basic Project Information

Project Length.....**4.5 Miles**

Anticipated Completion.....**2045**

Estimated Cost of Construction.....**$1 billion**

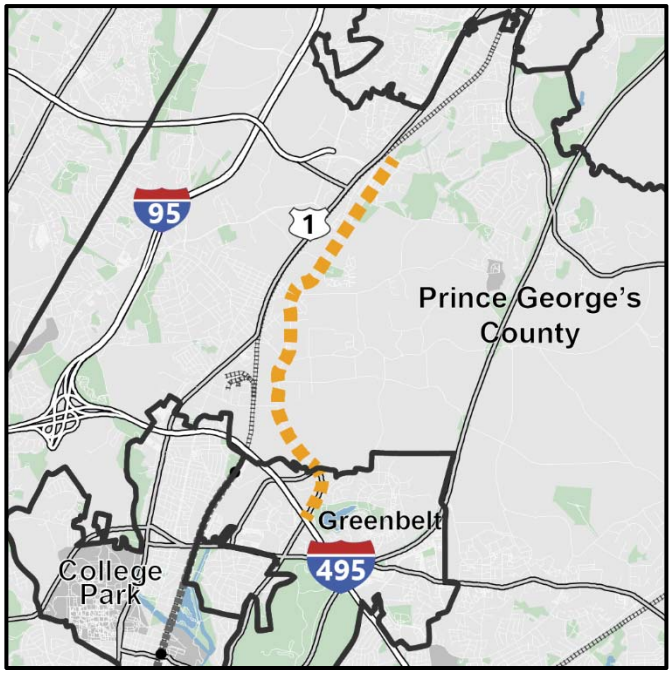
Submitting Agency.....**Maryland DOT**

Anticipated Funding Sources.....

☐ Federal ☒ State ☐ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**1204**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

### Project Description

This project will widen MD 201 to four lanes between north of I-495, Capital Beltway to Ammendale Way. It will also extend the Maryland Route 201 designation from its current end-point at Powder Mill Road to continue along Edmonston Road and Old Baltimore Pike. Additionally, it will construct a four-lane extension from Muirkirk Road to US 1. Bicycle and pedestrian access will be considered as part of this project.

### Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ 2017 Prince George's County Priority Letter

☒ 2009 Prince George's County Master Plan of Transportation

☒ 1993 Subregion I Sector Plan

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# MD 201 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

This four-mile road widening of Edmonston Road/Old Baltimore Pike will expand travel options (Goal 1) by enhancing the facility for drivers and buses, while expanding options for walking and biking. It will connect the Greenbelt Activity Center to the Konterra Activity Center (Goal 2) and will promote local freight movement (Goal 6).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☐ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☐ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☐ Criteria Pollutants (NOx, VOCs, PM2.5) ☐ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

## Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☐ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☐ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 14, 2017.

# MD 97 RECONSTRUCTION

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From 16th Street to Forest Glen Road

## Basic Project Information

Project Length.....**<1 Mile**

Anticipated Completion.....**2025**

Estimated Cost of Construction.....**$52 million**

Submitting Agency.....**Maryland DOT**

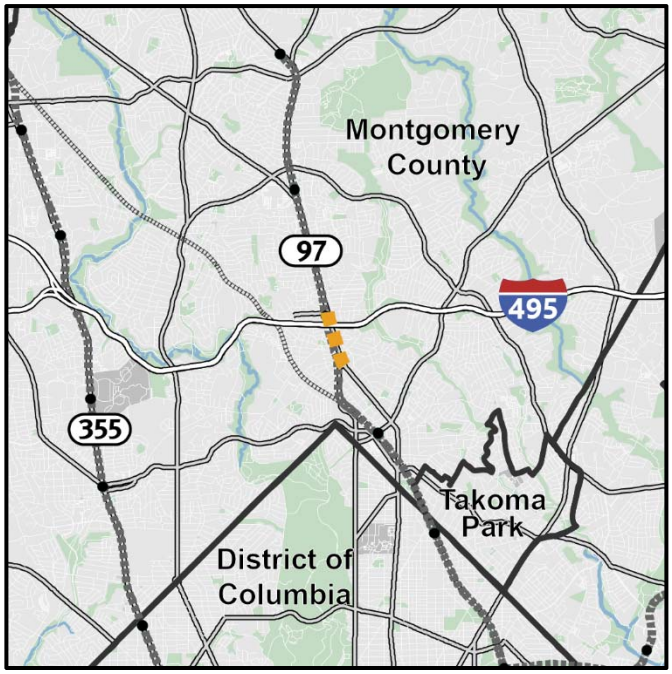
Anticipated Funding Sources.....

☐ Federal ☒ State ☒ Local ☒ Private ☐ Bonds ☐ Other

CLRP ID.....**2618**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN

**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*




## Project Description

This project will reconstruct and widen MD 97, Georgia Avenue from six or seven lanes to seven or eight lanes on either side of I-495, Capital Beltway between 16th Street and Forest Glen Road. Sidewalks and accommodations for bicycles will be included where appropriate.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Montgomery County 2017 Transportation Priority Letter

See official CLRP Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# MD 97 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

Motivated by safety considerations (Goal 3), this project will widen approximately one mile of this heavily trafficked portion of Georgia Avenue crossing under the Beltway. It will provide pedestrian accommodations where feasible to promote access for all transportation modes (Goal 1), promote better circulation in the Silver Spring Activity Center (Goal 2), and facilitate local goods movement (Goal 6).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☒ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☐ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 before final TPB adoption.

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☐ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017.

# RANDOLPH ROAD BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From US 29 to MD 355

## Basic Project Information

Project Length.....**10 Miles**

Anticipated Completion.....**2040**

Estimated Cost of Construction.....**$102 million**

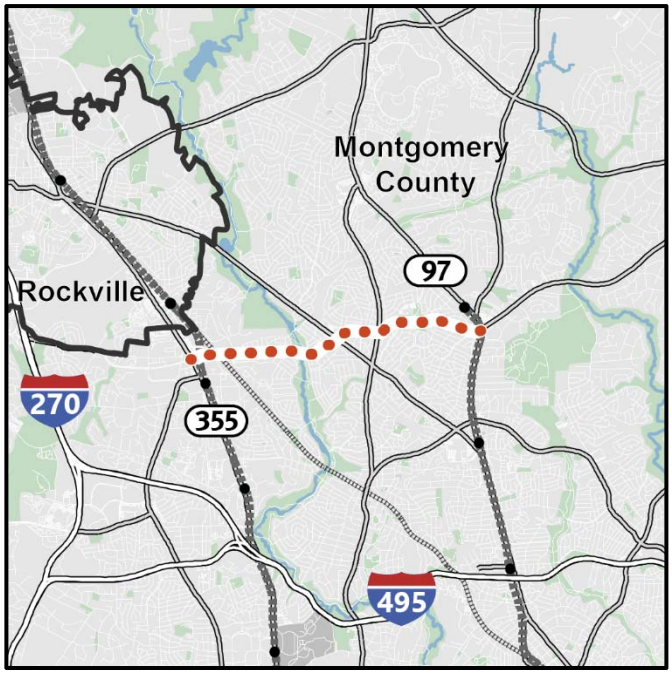
Submitting Agency.....**Montgomery County**

Anticipated Funding Sources.....

☒ Federal ☐ State ☒ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**3662**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

This project will implement a Bus Rapid Transit (BRT) route on Randolph Road between the White Flint Metro Station to US 29, Columbia Pike. The buses will run in mixed-traffic.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Countywide Transit Corridors Functional Master Plan

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# Randolph Road BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan specifically called for cost-effective transit alternatives, like bus rapid transit (BRT), that approach the speed, frequency and reliability of heavy rail but at a fraction of the cost. This project is a component of a wider BRT network planned for Montgomery County that will expand travel options (Goal 1), connect Activity Centers (Goal 2), maximize the use of existing infrastructure without adding new capacity (Goal 4), and reduce emissions (Goal 5).

### Goal 1: Provide a Range of Transportation Options

Provides, enhances, supports, or promotes the following travel mode options:

☐ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☒ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

### Goal 2: Promote Dynamic Activity Centers

☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

### Goal 3: Ensure System Maintenance, Preservation, and Safety

☒ Contributes to enhanced system maintenance, preservation, or safety

### Goal 4: Maximize Operational Effectiveness and Safety

☒ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

### Goal 5: Protect and Enhance the Natural Environment

Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

### Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

## Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☒ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017

# NORTH BETHESDA BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## Montgomery Mall Transit Center to White Flint Metrorail Station

### Basic Project Information

Project Length.....**3.5 Miles**

Anticipated Completion.....**2035**

Estimated Cost of Construction.....**$115 million**

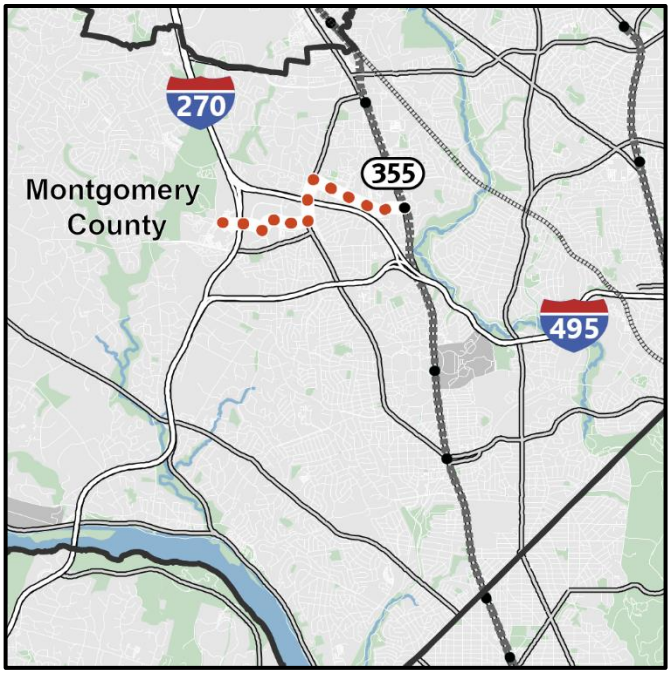
Submitting Agency.....**Montgomery County**

Anticipated Funding Sources.....

☒ Federal ☐ State ☒ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**3663**

HIGHWAY **TRANSIT** BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

### Project Description

This project will implement a Bus Rapid Transit (BRT) route on Rock Spring Drive and Old Georgetown Road connecting the White Flint Metro Station with the Montgomery Mall Transit Center and the Rock Spring office park area. The buses will run on a dedicated transitway.

### Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Countywide Transit Corridors Functional Master Plan

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# North Bethesda BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan specifically called for cost-effective transit alternatives, like bus rapid transit (BRT), that approach the speed, frequency and reliability of heavy rail but at a fraction of the cost. This project is a component of a wider BRT network planned for Montgomery County that will expand travel options (Goal 1), connect Activity Centers (Goal 2), maximize the use of existing infrastructure without adding new capacity (Goal 4), and reduce emissions (Goal 5).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☐ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☒ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☐ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☒ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☒ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☒ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017.

# MD 355 BRT

## From Bethesda to Clarksburg

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## Basic Project Information

Project Length.....**22 Miles**

Anticipated Completion.....**2045**

Estimated Cost of Construction.....**$1.08 billion**

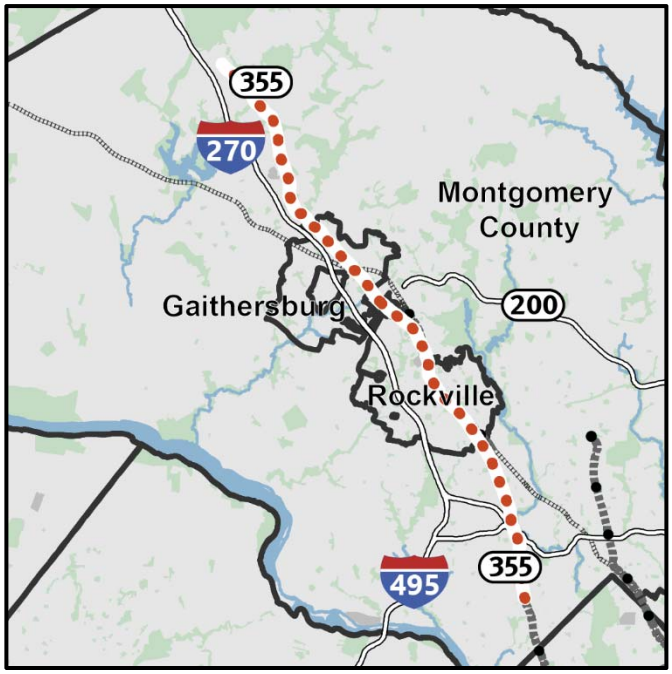
Submitting Agency.....**Montgomery County**

Anticipated Funding Sources.....

☒ Federal ☐ State ☒ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**3424**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

This project will implement a Bus Rapid Transit (BRT) route on MD 355 between Bethesda and Clarksburg. The buses will run in a combination of dedicated transitway and mixed traffic.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ MD 355 BRT Corridor Planning Study

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# MD 355 BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan specifically called for cost-effective transit alternatives, like bus rapid transit (BRT), that approach the speed, frequency and reliability of heavy rail but at a fraction of the cost. This project is a component of a wider BRT network planned for Montgomery County that will expand travel options (Goal 1), connect Activity Centers (Goal 2), maximize the use of existing infrastructure without adding new capacity (Goal 4), and reduce emissions (Goal 5).

### Goal 1: Provide a Range of Transportation Options

Provides, enhances, supports, or promotes the following travel mode options:

☐ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☒ Commuter Rail
☐ Streetcar/Light Rail ☒ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

### Goal 2: Promote Dynamic Activity Centers

☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

### Goal 3: Ensure System Maintenance, Preservation, and Safety

☒ Contributes to enhanced system maintenance, preservation, or safety

### Goal 4: Maximize Operational Effectiveness and Safety

☒ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

### Goal 5: Protect and Enhance the Natural Environment

Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

### Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☒ Intercity Bus

## Comment on this project or on Visualize 2045

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017.

# VEIRS MILL ROAD BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From MD 355, Rockville Pike to MD 97, Georgia Avenue

## Basic Project Information

Project Length.....**6 Miles**

Anticipated Completion.....**2030**

Estimated Cost of Construction.....**$80 million**

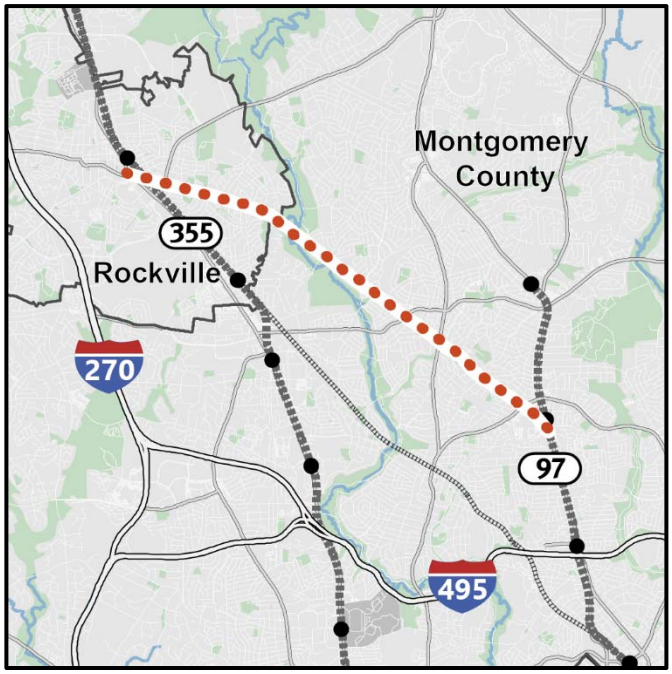
Submitting Agency.....**Montgomery County**

Anticipated Funding Sources.....

☒ Federal ☐ State ☒ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**3103**

HIGHWAY **TRANSIT** BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

This project will implement a Bus Rapid Transit (BRT) line on Veirs Mill Road between the Rockville and Wheaton Metrorail stations. The project includes constructing queue jumps and installing transit signal priority at key intersections. The project also adds new transit service using articulated BRT vehicles, BRT stations with level boarding and off-board fare collection, and pedestrian and bike improvements.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Corridor Study Report, October 2017

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# VEIRS MILL ROAD BRT

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan specifically called for cost-effective transit alternatives, like bus rapid transit (BRT), that approach the speed, frequency and reliability of heavy rail but at a fraction of the cost. This project is a component of a wider BRT network planned for Montgomery County that will expand travel options (Goal 1), connect Activity Centers (Goal 2), maximize the use of existing infrastructure without adding new capacity (Goal 4), and reduce emissions (Goal 5).

### Goal 1: Provide a Range of Transportation Options

Provides, enhances, supports, or promotes the following travel mode options:

☐ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☒ Commuter Rail
☐ Streetcar/Light Rail ☒ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☐ Bicycling ☒ Walking ☐ Other

☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

### Goal 2: Promote Dynamic Activity Centers

☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

### Goal 3: Ensure System Maintenance, Preservation, and Safety

☒ Contributes to enhanced system maintenance, preservation, or safety

### Goal 4: Maximize Operational Effectiveness and Safety

☒ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

### Goal 5: Protect and Enhance the Natural Environment

Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

### Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air

Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

## Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

**September 13-October 13, 2018** Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☐ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017.

# I-495 HOT LANES

**PROPOSED MAJOR CHANGE**
VISUALIZE 2045

## From Old Dominion Drive to the American Legion Bridge

## Basic Project Information

Project Length.....**2 Miles**

Anticipated Completion.....**2025**

Estimated Cost of Construction.....**$500 million**

Submitting Agency.....**Virginia DOT**

Anticipated Funding Sources.....

☒ Federal ☒ State ☐ Local ☒ Private ☐ Bonds ☐ Other

CEID.....**2069**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN


**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

The I-495 HOT Lanes project has been included in the long-range transportation plan since 2005, and improvements between Old Dominion Drive and the Springfield Interchange were completed in 2012. The existing project includes extension of two HOT lanes in each direction from Old Dominion Drive to George Washington Parkway by 2025, and extension of one HOT Lane in each direction from George Washington Parkway to the American Legion Bridge by 2030. This proposed change would extend two HOT lanes in each direction from the George Washington Parkway to the American Legion Bridge by 2025. As a result of the collaboration between VDOT and MDOT, Maryland's toll lanes project, which includes improving the capacity of the American Legion Bridge, will connect to an equivalent managed lane system at the Virginia state line.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Pending

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# I-495 HOT LANES

**PROPOSED MAJOR CHANGE**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

This two-mile link connecting Virginia's existing Capital Beltway HOT lanes and the forthcoming managed lanes on Maryland's Capital Beltway will help to create a seamless regional network of express toll lanes, which was a key objective of the TPB's Priorities Plan. The project will expand travel options in the region (Goal 1) for vehicles and for express bus services.

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☒ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☒ Bicycling ☒ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☐ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☐ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☐ Criteria Pollutants (NOx, VOCs, PM2.5) ☐ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☐ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☒ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 13, 2017.

# I-95 SB AUXILIARY LANE

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From VA 123 to VA 294

## Basic Project Information

Project Length.....**1.5 Miles**

Anticipated Completion.....**2028**

Estimated Cost of Construction.....**$27.5 million**

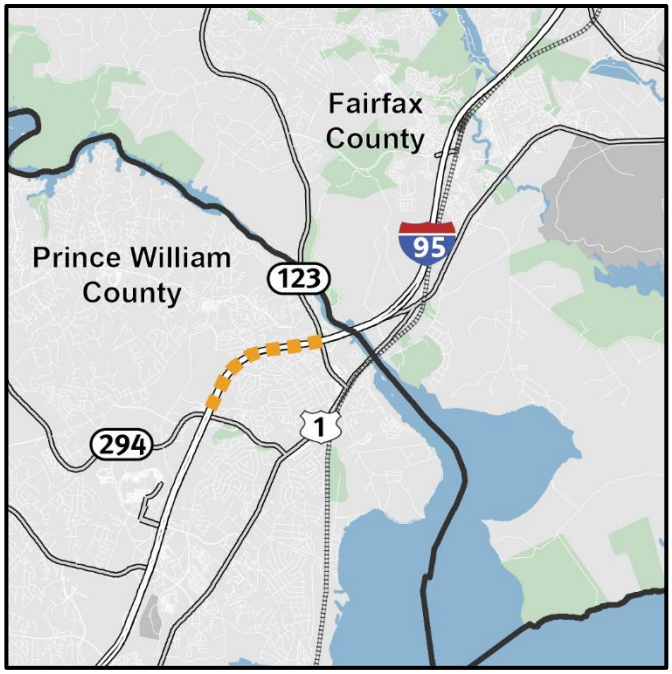
Submitting Agency.....**Virginia DOT**

Anticipated Funding Sources.....

☒ Federal ☒ State ☐ Local ☐ Private ☐ Bonds ☐ Other

CEID.....**3664**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN




**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*

## Project Description

This project will add one auxiliary lane to southbound I-95 between the Route 123 on-ramp and the Route 294 exit ramp.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Pending

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# I-95 SB AUXILIARY LANE

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

Enhancing safety (Goal 3) is the primary motivation for the addition of a southbound auxiliary lane on I-95 in Prince William County. The project will expand travel options (Goal 1) for drivers and bus riders, support freight movement (Goal 6), and enhance a connection to Woodbridge, which is an Activity Center (Goal 2).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☐ Carpool/HOV ☐ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☒ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☐ Bicycling ☐ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☐ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☐ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☐ Criteria Pollutants (NOx, VOCs, PM2.5) ☐ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☒ Intercity Bus

### Comment on this project or on Visualize 2045

**December 14, 2017-January 13, 2018** Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☐ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☐ Protect and Enhance the Environment
☐ Enhance Integration and Connectivity
☐ Promote Efficient System Management and Operation
☐ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☐ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 13, 2017.

# US 15 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## From Battlefield Parkway to VA 661 Montresor Road

## Basic Project Information

Project Length.....**3.6 Miles**

Anticipated Completion.....**2025**

Estimated Cost of Construction.....**$33 million**

Submitting Agency.....**Virginia DOT**

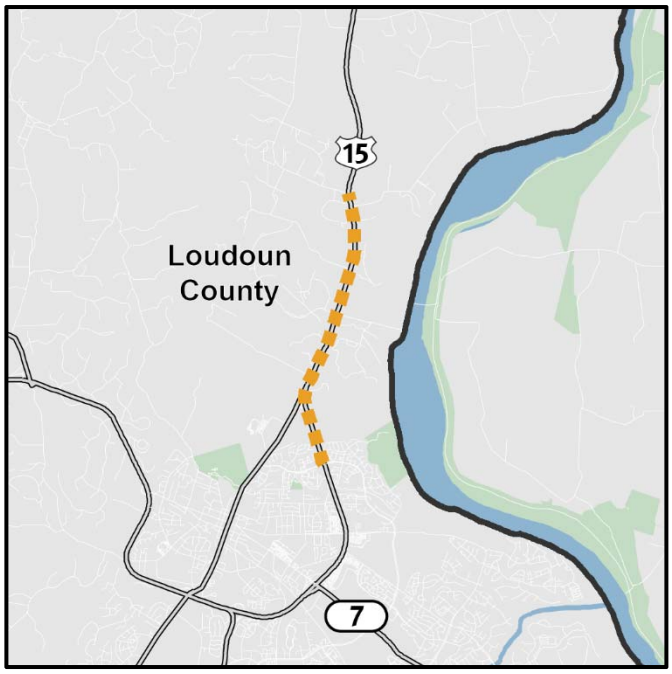
Anticipated Funding Sources.....

☒ Federal ☒ State ☒ Local ☐ Private ☐ Bonds ☐ Other

CEID.....**3608**

HIGHWAY TRANSIT BICYCLE OR PEDESTRIAN

**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*




## Project Description

This project will widen US Route 15, James Madison Highway from two to four lanes between the northern interchange with Battlefield Parkway and VA 661, Montresor Road.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Pending

See official CLRP Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# US 15 WIDENING

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The James Madison Highway widening north of Leesburg will accommodate a variety of users (Goal 1) including drivers, bus riders, and bicyclists. The project will enhance safety (Goal 3) and support freight movement (Goal 6).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☒ Single Driver (SOV) ☐ Carpool/HOV ☐ Metrorail ☒ Commuter Rail
☐ Streetcar/Light Rail ☐ BRT ☐ Express/Commuter Bus ☐ Metrobus ☐ Local Bus
☒ Bicycling ☐ Walking ☐ Other
☐ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☐ Begins or ends in an Activity Center
☐ Connects two or more Activity Centers
☐ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☒ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☐ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☐ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☒ Long-haul Truck ☒ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☐ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☒ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☒ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☐ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☐ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☒ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 13, 2017.

# METRORAIL CAPACITY

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## 8-Car Trains and Core Station Improvements

## Basic Project Information

Project Length.....**Entire System**

Anticipated Completion.....**2045**

Estimated Cost of Construction.....**$5.4 billion**

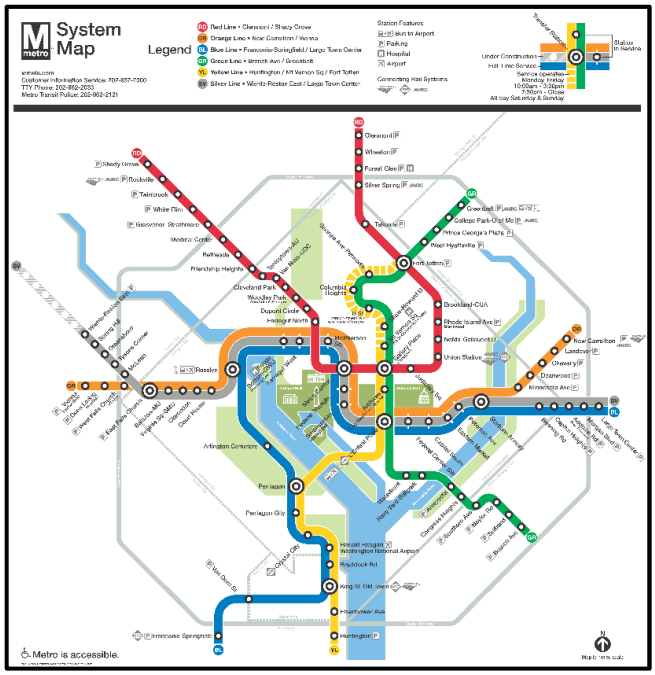
Submitting Agency.....WMATA

Anticipated Funding Sources.....

☒ Federal ☒ State ☒ Local ☐ Private ☐ Bonds ☐ Other

HIGHWAY **TRANSIT** BICYCLE OR PEDESTRIAN

**NOW AVAILABLE FOR COMMENT**
December 14, 2017-January 13, 2018
*See reverse for details, or visit www.mwcog.org/TPBcomment.*




## Project Description

This project will implement all 8-car trains running on the system during peak periods. Capacity improvements will be made to stations in the core to accommodate the trains. Supporting power infrastructure will be added to support the expansion.

## Existing Support for this Project

This project has been reviewed at the local, state, and/or sub-regional levels and is included in the following approved plans:

☒ Momentum

See official Visualize 2045 Project Description Form for more information about this project.

**Goal 1:** *Provide a Range of Transportation Options*

**Goal 2:** *Promote Dynamic Activity Centers*

**Goal 3:** *Ensure System Maintenance, Preservation, and Safety*

**Goal 4:** *Maximize Operational Effectiveness and Safety*

**Goal 5:** *Protect and Enhance the Natural Environment*

**Goal 6:** *Support Interregional and International Travel and Commerce*

See reverse side for more information about how this project advances regional goals and addresses certain federal planning requirements.

# METRORAIL CAPACITY

**PROPOSED MAJOR ADDITION**
VISUALIZE 2045

## How this project supports or advances goals in the Regional Transportation Priorities Plan

The Priorities Plan urged the region to expand capacity on the existing transit system, and eight-car trains and core capacity improvements for Metrorail were among the few projects that the plan specifically identified. This project will help fulfill Metro's pivotal role in providing transportation options in our region (Goal 1). It will help ensure Activity Centers are connected, the system is safe and maintained (Goal 3), existing infrastructure is effectively used (Goal 4), and our environment is protected (Goal 5).

**Goal 1: Provide a Range of Transportation Options**
Provides, enhances, supports, or promotes the following travel mode options:
☐ Single Driver (SOV) ☐ Carpool/HOV ☒ Metrorail ☐ Commuter Rail
☐ Streetcar/Light Rail ☒ BRT ☐ Express/Commuter Bus ☒ Metrobus ☒ Local Bus
☐ Bicycling ☐ Walking ☐ Other
☒ Improves accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)

**Goal 2: Promote Dynamic Activity Centers**
☒ Begins or ends in an Activity Center
☒ Connects two or more Activity Centers
☒ Promotes non-auto travel within one or more Activity Centers

**Goal 3: Ensure System Maintenance, Preservation, and Safety**
☒ Contributes to enhanced system maintenance, preservation, or safety

**Goal 4: Maximize Operational Effectiveness and Safety**
☒ Reduces travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)
☒ Enhances safety for motorists, transit users, pedestrians, and/or bicyclists

**Goal 5: Protect and Enhance the Natural Environment**
Expected to contribute to reductions in emissions of:
☒ Criteria Pollutants (NOx, VOCs, PM2.5) ☒ Greenhouse Gases

**Goal 6: Support Interregional and International Travel and Commerce**
Enhances, supports, or promotes the following freight carrier modes:
☐ Long-haul Truck ☐ Local Delivery ☐ Rail ☐ Air
Enhances, supports, or promotes the following passenger carrier modes:
☐ Air ☐ Amtrak Intercity Passenger Rail ☐ Intercity Bus

### Comment on this project or on Visualize 2045

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## Addressing Federal Planning Factors

This project addresses the following federal planning factors designed to guide development of Visualize 2045:

☒ Support Economic Vitality
☒ Increase Safety for All Users
☒ Support Homeland and Personal Security
☒ Increase Accessibility and Mobility of People and/or Freight
☒ Protect and Enhance the Environment
☒ Enhance Integration and Connectivity
☒ Promote Efficient System Management and Operation
☒ Emphasize System Preservation
☐ Improve Resiliency or Mitigate Stormwater
☒ Enhance Travel and Tourism

## Consideration of Alternatives to Adding SOV Capacity

The agency or agencies submitting this project considered the following congestion-mitigation measures before proposing to significantly increase capacity for single-occupant vehicles (SOVs):

☐ Transportation demand management measures (including growth management and congestion pricing)
☐ Traffic operational improvements
☐ Public transportation improvements
☒ Intelligent Transportation Systems (ITS) technologies
☐ Other congestion management strategies
☒ Not applicable – This project does not increase SOV capacity or is exempt from consideration of alternatives.
☐ Not yet Available – Agencies have until March 2, 2018 to complete the required Congestion Management Documentation.

Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.

The information on this form was last updated on December 8, 2017.

# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (transit)



| Con ID | Scenario | Improvement | Facility | From | To | Project Complete |
|---|---|---|---|---|---|---|
| **DDOT** | | | | | | |
| ~~614~~ | ~~DCSTCARA~~ | ~~Construct~~ | ~~Anacostia Streetcar Extension~~ | ~~Howard Road Firth Sterling~~ | ~~Good Hope Road SE~~ | ~~2017~~ |
| 613 | DCSTHST2 | Construct | Benning Road Streetcar Extension | Oklahoma Avenue NE | 45th Street/Benning Road Metro | ~~2020~~ 2023 |
| ~~664~~ | ~~CATHEXT~~ | ~~Implement~~ | ~~DC Circulator Expansion~~ | ~~Union Station to Georgetown Route~~ | ~~Extension to National Cathedral~~ | ~~2017~~ |
| 793 | WATEREXT | Implement | DC Circulator Expansion | ~~Union Station to~~ Navy Yard Route Realignment | ~~Extension to Waterfront~~ | ~~2017~~ 2018 |
| 794 | UHOWEXT | Implement | DC Circulator Expansion | Rosslyn to Dupont Circle Route | Extension to U St./Howard University | ~~2017~~ 2018 |
| | | Implement | DC Circulator Realignment | Potomac Ave. | Skyland | 2018 |
| ~~616~~ | ~~DCSTCARA~~ | ~~Construct~~ | ~~DC Streetcar - Anacostia Initial Line (AIL)~~ | ~~Defense Blvd. and S. Capitol St. SE~~ | ~~Howard Rd. and Firth Sterling~~ | ~~2017~~ |
| 822 | | Study | H St. NW Peak Period Bus-Only Lanes | 17th St. NW | New York Ave. NW | Not Coded |
| 544 | DCSTHST1 | Construct | H Street/Benning Road Streetcar | 3rd Street NE (near Union Station) | Oklahoma Avenue, NE | COMPLETE |
| 823 | | Study | I St. NW Peak Period Bus Only Lanes | 13th St. NW | Pennsylvania Ave. NW | Not Coded |
| ~~612~~ | ~~DCSTMST~~ | ~~Construct~~ | ~~M Street SE/SW Streetcar~~ | ~~Good Hope Road SE~~ | ~~Maine Avenue SW~~ | ~~2020~~ |
| 610 | DCSTGTWN | Construct | Union Station/Georgetown Streetcar | K Street/34th Street NW | 3rd Street/H Street NE | ~~2022~~ 2025 |
| | | Implement | 16th St. Bus Priority Improvements | H St. NW | Arkansas Ave NW | ~~2021~~ 2020 |
| 812 | TIGER16TH | Implement | 16th St. Bus Priority Improvements (TIGER GRANT) | | | COMPLETE |
| 813 | TIGERGA | Implement | Georgia Ave. Bus Priority Improvements (TIGER GRANT) | | | COMPLETE |
| 814 | TIGERWI | Implement | Wisconsin Ave. Bus Priority Improvements (TIGER GRANT) | Friendship Heights Metro Station | Naylor Road Metro Station | COMPLETE |
| 815 | TIGERTRK | Implement | Roosevelt Bridge to K St. Bus Priority Improvements (TIGER GRANT) | | | COMPLETE |
| 816 | TIGER14TH | Implement | 14th St. Bus Priority Improvements (TIGER GRANT) | | | COMPLETE |
| 550 | | Study | Long Bridge | Alexandria | L'Enfant | Not Coded |

NOTE: Shaded areas represent changes from the VDOT/MDOT off-cycle amendment to the 2016 CLRP.

# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (transit)



| Con ID | Scenario | Improvement | Facility | From | To | Project Complete |
|---|---|---|---|---|---|---|
| **MDOT/MTA** | | | | | | |
| 588 | | Implement | Brunswick - New Station | | | not coded |
| 617 | MARCFRQ | Implement | Brunswick Line Service Improvements | | | 2029 |
| 618 | MARCFRQ | Implement | Camden Line Service Improvements | | | 2029 |
| 481 | CCTBRT | Construct | Corridor Cities BRT | Shady Grove | Comsat | ~~2020~~ 2022 |
| 619 | MARCFRQ | Implement | Penn Line Service Improvements | | | 2029 |
| 479 | PURPLE | Construct | Purple Line Transitway | Bethesda | New Carrollton | 2020 |
| 480 | SSTCTR | Construct | Silver Spring Transit Center | Phase II | | 2017 |
| | TIGERADD | Implement | Addison Rd. Bus Improvements (TIGER GRANT) | | | **COMPLETE** |
| **Montgomery County** | | | | | | |
| 669 | | Study | Countywide BRT | various corrirors | | Not Coded |
| | **RANDBRT** | **Implement** | **Randolph Road BRT** | **US 29** | **MD 355** | **2040** |
| | **NBETHBRT** | **Implement** | **North Bethesda Transitway BRT** | **Montgomery Mall Transit Center** | **White Flint** | **2035** |
| | **MD355BRT** | **Implement** | **MD 355 BRT** | **MD 410 East-West Highway** | **Clarksburg Rd.** | **2045** |
| | **VIERSBRT** | **Implement** | **Viers Mill Road BRT** | **MD 355 Rockville Pike** | **MD 97 Georgia Ave.** | **2030** |
| | **NHBRT** | **Implement** | **New Hampshire Ave. BRT** | **Colesville Park and Ride** | **Takoma Metro Station** | **2045** |
| | **29BRT** | Implement | US 29 BRT | Burtonsville | Silver Spring Transit Center | 2020 |
| 483 | MCT7 | Construct | Olney Transit Center | adjacent to or north of MD 108 | | ~~2015~~ **2045** |
| 487 | TIGERVIER | Construct | Veirs Mill Road Bus Enhancement | Rockville | Wheaton | 2020 |
| **WMATA** | | | | | | |
| ~~**514**~~ | | ~~**Modify**~~ | ~~**Revised Metrorail Operating Plan**~~ | | | |
| **VDOT** | | | | | | |
| 795 | US1VABUS | Widen | US 1 (bus/right-turn lanes) | VA 235 North | SCL Alexandria (I-95 Capital Beltway) | 2035 |
| 511 | MWAYBRT | Construct | Crystal City/Potomac Yard Busway (2 lane- dedicated) | Vicinity of Glebe Road Extended (City/County Line) | Pentagon City Metro Station | 2016 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (transit)

7/30/2018

| Con ID | Scenario | Improvement | Facility | From | To | Project Complete |
|---|---|---|---|---|---|---|
| 861 | | Construct | Crystal City Transitway: Northern Extension - complete dedicated lanes | Crystal City Metro Station | ~~Pentagon City Metro Station~~ Army Navy Drive Transit Station (Army Navy Dr halfway between Hayes St and Joyce St) | ~~2023~~ 2021 |
| 677 | | Study | US 1 Corridor Streetcar Conversion | Four Mile Run | Braddock Road | Not Coded |
| 489 | POTYDS | Construct | Metro Station (Proposed) | Potomac Yard | | 2021 |
| 493 | | Construct | Park-and-Ride Lot | Springfield CBD | vic. I-95 & Old Keene Mill Road | ~~2015~~ 2022 |
| 670 | | Construct | Park-and-Ride Lot | Dulles Town Center | 300 Spaces | 2014 |
| 495 | | Construct | Park-and-Ride Lot | US 50 at Stone Ridge 150 spaces | | COMPLETE |
| 671 | | Construct | Park-and-Ride Lot | US 50 Dulles at East Gate | 200 Spaces | COMPLETE |
| 498 | | Construct | Park and Ride Lot | Brambleton 100 space expansion | | COMPLETE |
| 499 | | Construct | Park and Ride Lot | Arcola Center 300 spaces | | 2015 |
| 500 | | Construct | Park and Ride Lot | at EPG | | COMPLETE |
| 503 | SILVER 2 | Construct | Dulles Corridor Metrorail | Wiehle-Reston East Station | VA 772 | 2020 |
| | ~~VREGHX~~ | ~~Construct~~ | ~~VRE Gainesville-Haymarket Extension~~ | ~~Manassas VRE Station~~ | ~~Haymarket~~ | ~~2022~~ |
| 629 | POTSHRS | Construct | VRE - Potomac Shores Commuter Rail Station | Potomac Shores | Prince William County | ~~2017~~ 2018 |
| 504 | VREFREQ | Implement | VRE Service Improvements (Reduce Headways) | Fredericksburg and Manassas lines | | 2020 |
| 506 | TIGERVAN | Implement | West End Transitway (TIGER Grant) | Van Dorn Street Metro | Pentagon | COMPLETE |
| 505 | VANDBRT | Construct | West End Transitway (City Funded) | Van Dorn Street Metro | Pentagon | ~~2019~~ 2024 |
| 508 | ALEXBUS | Implement | DASH Service Expansion | citywide | | ~~2019~~ 2020 |
| 820 | BELTHOT | Implement | Beltway HOT lanes transit service | | | 2020 |
| 821 | BELTHOT | Implement | Beltway HOT lanes transit service | | | 2030 |
| 819 | TIGERVA7 | Implement | VA 7 Bus Priority Improvements (TIGER GRANT) | Alexandria | Tyson's Corner | COMPLETE |
| 509 | DUKEBUS | Construct | Duke Street Transitway | King Street Metro | Fairfax County Line | 2024 |
| 672 | | Construct | Leesburg Park and Ride Lot (new location) | Crosstrails Blvd (approx) | 300 Spaces | 2018 |
| 673 | | Construct | Sterling Park and Ride Lot | | 200 Spaces | 2014 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (transit)



| Con ID | Scenario | Improvement | Facility | From | To | Project Complete |
|---|---|---|---|---|---|---|
| 674 | | Construct | One Loudoun Park and Ride Lot | VA 7 & Loudoun County Parkway | 200 Spaces | 2019 |
| 675 | | Study | Western Loudoun Park and Ride Lot | | 250 Spaces | Not Coded |
| 797 | I66HOTI | Implement | I-66 Corridor Enhanced Bus Service (details shown with project description sheet) | Inside the beltway | | 2025 |
| 798 | I66HOTI | Implement | I-66 Corridor Enhanced Bus Service (details shown with project description sheet) | Inside the beltway | | 2040 |
| 799 | I66HOTO | Implement | I-66 Corridor Enhanced Bus Service (details shown with project description sheet) | Outside the beltway | | 2021 |
| 800 | I66HOTO | Implement | I-66 Corridor Enhanced Bus Service (details shown with project description sheet) | Outside the beltway | | **2030 & 2040** |
| 801 | | Construct | I-66 Corridor Park and Ride lot | Haymarket | | 2021 |
| 802 | | Construct | I-66 Corridor Park and Ride lot | University Blvd. in Gainesville | | 2021 |
| 803 | | Construct | I-66 Corridor Park and Ride lot | Balls Ford Road in Manassas | | 2021 |
| 804 | | Expand | I-66 Corridor Park and Ride lot | Prince William Pkwy (Cushing Rd) | | 2021 |
| 806 | | Expand | I-66 Corridor Park and Ride lot | Fairfax County Government Center/Monument Drive | | 2021 |
| 807 | FFXBUS | Expand | Fairfax Connector Bus Service Expansion | Countywide | | 2021 |
| | LOUDBUS | Update | Loudoun County Local Bus Service | | | **COMPLETE** |
| 808 | US1BRT | Construct | Bus Rapid Transit (BRT) | US 1 Richmond Highway | Huntington Metro to Hybla Valley to Ft. Belvoir to Woodbridge VRE | 2030 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
## (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DDOT** | | | | | | | | | | | |
| 539 | DI10 | | Downgrade | Southeast Boulevard | 11th Street SE | Pennsylvania Ave. SE Barney Circle | 1 | 3 | 5 | 4 | **COMPLETE** |
| ~~**600**~~ | | | ~~**Study**~~ | ~~**I 395 14th Street/Rochambeau Bridge**~~ | ~~**conversion to HOV/HOT**~~ | | | | | | ~~**Not Coded**~~ |
| ~~**601**~~ | | | ~~**Study**~~ | ~~**I 395 Southeast/Southwest Freeway managed lanes (convert or construct HOV/HOT lanes)**~~ | ~~**Case Bridge**~~ | ~~**11th Street Bridge**~~ | | | | | ~~**Not Coded**~~ |
| ~~**602**~~ | | | ~~**Study**~~ | ~~**I 295 managed lanes (convert or construct HOV/HOT lanes)**~~ | ~~**11th Street Bridge**~~ | ~~**Maryland state line**~~ | | | | | ~~**Not Coded**~~ |
| 605 | DI9 | | Reconstruct | I 295 Interchange at Malcolm X Blvd. | Add above grade ramp connection from NB I-295 off ramp to new St. Elizabeth's Access Road | | | | | | ~~**2014**~~ **2018** |
| 603 | | | Remove/Close | I 395 SB Exit Ramp | SB to the 400 block of 3rd St. NW | | | | 1 | 0 | **COMPLETE** |
| 604 | | | Construct | F Street NW | 2nd Street NW | 3rd Street NW | | | 0 | 2 | ~~**2016**~~ **2018** |
| 541 | DP9A | AW011, AW024 | Widen | South Capitol Street Corridor: Frederick Douglas Bridge | Independence Avenue (East) | Martin Luther King, Jr. Blvd. | 2 | 2 | 5 | 6 | ~~**2015**~~ **2021** |
| 542 | DP9C | | Construct | South Capitol Street Intersection | at Potomac Avenue | | | | | | ~~**2015**~~ **2021** |
| 543 | DP9D | | Construct | Suitland Parkway interchange | at Martin Luther King, Jr. Boulevard to complete movements | | | | | | ~~**2016**~~ **2021** |
| 606 | DP10 | | Construct | St. Elizabeth's Access Road (along West Campus Boundary) | Firth Sterling | Malcolm X | | | 0 | 3 | **COMPLETE** |
| 584 | DS3 | | Construct | Southern Ave. SE | Branch Ave. SE | Naylor Rd. SE | | | 0 | 2 | ~~**2018**~~ **2019** |
| 639 | DS5 | | Reduce Capacity | M Street NW - add bike lane | Connecticut Avenue NW | 14th Street NW | | | 4 | 3 | **COMPLETE** |
| 638 | DS5A | | Reduce Capacity | M Street NW - add bike lane | 29th Street NW | Connecticut Avenue NW | | | 5 | 4 | **COMPLETE** |
| 546 | DP11 | | Widen | Wisconsin Ave. NW | Garfield Street NW | 34th St. NW | | | 4 | 4/6 | **COMPLETE** |
| 449 | DP12 | SR071A | Reduce Capacity | 17th Street NE/SE | Benning Avenue NE | Potomac Avenue SE | | | 2 | 1 | **COMPLETE** |
| 582 | | | Study | H St. NW Peak Period Bus-Only Lanes | 17th St. NW | New York Ave. NW | | | 5 | 4 | Not Coded |
| 583 | | | Study | I St. NW Peak Period Bus Only Lanes | 13th St. NW | Pennsylvania Ave. NW | | | | | Not Coded |
| 558 | | ED0C2A | Reduce Capacity | C Street/N. Carolina Avenue | Oklahoma Avenue | 14th Street NE | | | 5 | 3 | ~~**2016**~~ **2019** |
| 567 | DP16 | | Reduce Capacity | East Capitol Street | 40th Street | Southern Ave | | | 6 | 4 | ~~**2015**~~ **2019** |
| 585 | DS6 | | Reduce Capacity | Maryland Ave. NE | 6th St. NE | 15 St. NE | | | 4 | 2 | ~~**2015**~~ **2019** |
| 608 | | | Reconstruct | New Jersey Avenue NW 1-way to 2-way | H Street NW | N Street NW | | | | | ~~**2015**~~ **2019** |
| 609 | | | Reduce Capacity | South Capitol Street | Firth Sterling Ave. | Southern Ave Maryland state line | | | 5 | 4 | 2015 |
| 663 | | | Reduce Capacity | Adams Mill Rd. NW | Kenyon | Klingle | | | 3 | 2 | 2016 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 637 | DP19 | | Reduce Capacity | 4th Street SW | Pennsylvania Avenue SW | Virginia Avenue SW | | | 4 | 2 | **COMPLETE** |
| 636 | DP20 | | Reduce Capacity | Reno Road NW | 36th Street NW | Tilden Street NW | | | 4 | 2 | **COMPLETE** |
| 701 | DS8 | | Reduce Capacity | 6th Street NE | Florida Avenue | K Street | | | 2 | 1 | 2016 |
| 702 | DS9 | | Reduce Capacity | 7th Street NW | New York Avenue | N Street | | | 4 | 2 | 2016 |
| 704 | DS11 | | Reduce Capacity | 14th Street NW | Florida Avenue | Columbia Road | | | 4 | 2 | 2016 |
| 705 | DS12 | | Reduce Capacity | Brentwood Parkway NE | 6th Street/Penn Street | 9th Street | | | 2 | 1 | 2016 |
| 717 | DS13 | | Reduce Capacity | Florida Avenue NE | 3rd Street | West Virginia Avenue | | | 6 | 4 | 2015 |
| 710 | | | Reduce Capacity | Florida Avenue NE | 2nd Street | 3rd Street | | | 6 | 5 | 2017 |
| 707 | NRS | | Reduce Capacity | New Jersey Avenue NW | H Street | Louisiana Ave | | | 4 | 2 | 2016 |
| 713 | DS14 | | Reduce Capacity | Pennsylvania Avenue NW | 18th Street | 20th Street | | | 5 | 4 | 2017 |
| 712 | DS15 | | Reduce Capacity | Pennsylvania Avenue NW | 17th Street | 18th Street | | | 6 | 4 | 2017 |
| 715 | DS16 | | Reduce Capacity | Pennsylvania Avenue NW | 26th Street | 28th Street | | | 5 | 4 | 2017 |
| 716 | DS17 | | Reduce Capacity | Pennsylvania Avenue NW | 28th Street | 29th Street | | | 4 | 2 | 2017 |
| 714 | DS18 | | Reduce Capacity | Pennsylvania Avenue NW | 20th Street | 26th Street | | | 6 | 4 | 2017 |
| 709 | DS19 | | Reduce Capacity | Wheeler Road SE | Alabama Avenue | Southern Avenue | | | 4 | 2 | 2016 |
| 837 | DS20 | | Reduce Capacity - bike lanes | 4th Street NE | Lincoln Rd. NE | Harewood Rd. NE | | | 4 | 2 | 2016 |
| 829 | DS21 | | Reduce Capacity - bike lanes | 6th Street NW | Constitution Avenue | Massachusetts Avenue | | | 6 peak- 4 offpeak | 4 peak - 2 offpeak | ~~**2016**~~ **2019** |
| 830 | DS22 | | Reduce Capacity - bike lanes | 6th Street NW | Massachusettes Avenue | Florida Ave NW | | | 4 | 2 | ~~**2016**~~ **2019** |
| 832 | in base | | Reduce Capacity - bike lanes | Blair Road NW | Peabody St. NW | Aspen St. NW | | | 3 | 2 | ~~**2016**~~ **2019** |
| 833 | DP21 | | Reduce Capacity - bike lanes | Constitution Avenue | 1st Street NW | Pennsylvania Avenue NW | | | 6 | 4 | 2016 |
| | DS23 | | Reduce Capacity - bike lanes | Harewood Road NW | Rock Creek Church Road NW | North Capitol Street | | | 2 | 1 | 2016 |
| 834 | DS24 | | Reduce Capacity - bike lanes | Klingle Road NW | Adams Mill Road NW | Porter Street NW | | | 4 | 2 | 2016 |
| 835 | DP22 | | Reduce Capacity - bike lanes | Louisana Avenue NW | Columbus Circle NE/ Mass Ave NE | Constitution Avenue NW | | | 4 | 3 | ~~**2016**~~ **2020** |
| 836 | DS25 | | Reduce Capacity - bike lanes | Piney Branch Road NW | Georgia Avenue NW | Underwood Street NE | | | 4 | 2 | ~~**2016**~~ **2018** |
| | **DP32** | | **Reduce Capacity - bike lanes** | **17th Street NW** | **New Hampshire Avenue** | **Massachussetts Avenue NW** | **3** | **3** | **2** | **1** | **2018** |
| | **DP33** | | **Reduce Capacity - bike lanes** | **17th Street** | **Massachusetts Avenue NW** | **K Street** | **3** | **3** | **6** | **4** | **2018** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
## (highway)

| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| | **DP34** | | **Reduce Capacity - bike lanes** | **K Street NW** | **3rd Street NW** | **1st Street NE** | | | **6** | **4** | **2018** |
| | **DP35** | | **Reduce Capacity - bike lanes** | **Pennsylvania Ave** | **2nd Street SE** | **14th Street SE** | **2** | **2** | **6** | **4** | **2019** |
| | **DP36** | | **Reduce Capacity - bike lanes** | **Pennsylvania Ave SE** | **14th Street SE** | **Barney Circle** | | | **8** | **6** | **2019** |
| | **DP37** | | **Reduce Capacity - bike lanes** | **Irving Street NE/NW** | **Michigan Avenue NE** | **Warder Street NW** | | | **6** | **4** | **2019** |
| 839 | DP23 | | Reduce Capacity - Bus Priority | 16th Street NW | Arkansas Avenue NW | Columbia Road NW | | | 6 | 4 | 2021 |
| 840 | DP24 | | Reduce Capacity - Bus Priority | 16th Street NW | Columbia Road NW | W Street NW | | | 5 | 4 | 2021 |
| 841 | DP25 | | Reduce Capacity - Streetcar | H Street NE/NW | 3rd Street NE | New Jersey Ave NW | | | 6 | 4 | 2022 |
| 842 | DS26 | | Reduce Capacity - Streetcar | New Jersey Avenue NW | H St NW | K Street NW | | | 3 lanes 1-way | 1 lane each 2-way | 2022 |
| 844 | DP26 | | Reduce Capacity - Streetcar | K Street NW | New Jersey Avenue NW | 7th Street NW | | | 3 | 2 | 2022 |
| 845 | DP27 | | Reduce Capacity - Streetcar | K Street NW | 9th Street NW | 12th St NW | | | 4 | 2 | 2022 |
| 846 | DP28 | | Reduce Capacity - Streetcar | K Street NW | 12th St NW | 21St St NW | | | 6 | 4 | 2022 |
| 847 | DP29 | | Reduce Capacity - Streetcar | K Street NW | 21st Street NW | 25th Street NW | | | 4 | 2 | 2022 |
| 848 | DP30 | | Reduce Capacity - Streetcar | K Street NW | 25th Street NW | 29th Street NW | | | 6/4 | 4 | 2022 |
| 849 | DP31 | | Reduce Capacity - Streetcar | K Street NW | 29th Street NW | Wisconsin Avenue NW | | | 4 | 2 | 2022 |
| **MDOT** | | | | | | | | | | | |
| **Interstate** | | | | | | | | | | | |
| 126 | MI2Q | MO839 | Construct | I 270 Interchange | at Watkins Mill Road | | 1 | 1 | 8 | ~~8+2~~ 8 | ~~2018~~ 2020 |
| ~~125~~ | ~~MI2SHOV-MI2S~~ | ~~FR1921~~ | ~~Construct~~ | ~~I 270 /US 15~~ | ~~Shady Grove Metro Station~~ | ~~North of Biggs Ford Road~~ | ~~1~~ | ~~1~~ | | ~~Varies~~ | ~~2030~~ |
| 125 | **MI2U1** | **AW0731** | **Construct/Widen** | **I 270 Toll Lanes** | **I 495** | **I 270Y** | **1** | **1** | **4 + 2 HOV** | **4 + 2 HOV + 4 ETL** | **2025** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| **892** | **MI2U2** | **AW0731** | **Construct/Widen** | **I 270 Toll Lanes** | **I 270Y** | **I 370** | **1** | **1** | **10 + 2 HOV** | **10 + 2 HOV + 4 ETL** | **2025** |
| **893** | **MI2U3** | **AW0731** | **Construct/Widen** | **I 270 Northbound Toll Lanes** | **I 370** | **Middlebrook Road** | **1** | **1** | **3 + 1 HOV NB** | **3 + 1 HOV + 2 ETL NB** | **2025** |
| **893** | **MI2U4** | **AW0731** | **Construct/Widen** | **I 270 Southbound Toll Lanes** | **Middlebrook Road** | **I-370** | **1** | **1** | **4 SB** | **4 + 2 ETL SB** | **2025** |
| **894** | **MI2U5** | **AW0731** | **Construct/Widen** | **I 270 Northbound Toll Lanes** | **Middlebrook Road** | **MD 121** | **1** | **1** | **2 + 1 HOV NB** | **2 + 1 HOV NB +2 ETL** | **2025** |
| **894** | **MI2U6** | **AW0731** | **Construct/Widen** | **I 270 Southbound Toll Lanes** | **MD 121** | **Middlebrook Road** | **1** | **1** | **3 SB** | **3 + 2 ETL SB** | **2025** |
| **895** | **MI2U7** | **AW0731** | **Construct/Widen** | **I 270 Toll Lanes** | **MD 121** | **I 70 / US 40** | **1** | **1** | **4** | **4+4 ETL** | **2025** |
| 202 | NRS | | Reconstruct | I 270 | at MD 121 | | 1 | 1 | 1 | 2 | **COMPLETE** |
| ~~**697**~~ | | | ~~**Study**~~ | ~~**I 270**~~ | ~~**at Gude Drive**~~ | | ~~**1**~~ | ~~**1**~~ | | | ~~**Not Coded**~~ |
| | MI2TSB6 | | Construct | I270 southbound auxiliary lane (innovative congestion management) | South of Shady Grove Rd local slip ramp | South of Shady Grove Rd express lanes slip ramp | 1 | 1 | | | 2019 |
| | MI2TSB7 | | Construct | I270 southbound auxiliary lane (innovative congestion management) | Md 28 on-ramp | MD 189 off-ramp | 1 | 1 | | | 2019 |
| | MI2TSB8 | | Construct | I270 southbound (innovative congestion management) | MD 189 on-ramp | Montrose Road off-ramp | 1 | 1 | | | 2019 |
| | MI2TSB12 | | Construct | I270 southbound (innovative congestion management) | North of Montrose Road | Democracy Boulevard | 1 | 1 | | | 2019 |
| | MI2TNB1 | | Construct | I270 northbound (innovative congestion management) | Democracy Boulevard on-ramp | North of Montrose Road slip ramp to local lanes | 1 | 1 | | | 2019 |
| | MI2TNB2 | | Construct | I270 northbound auxiliary lane (innovative congestion management) | MD 189 on-ramp | MD 28 off-ramp | 1 | 1 | | | 2019 |
| | MI2TNB2 | | Construct | I270 northbound auxiliary lane (innovative congestion management) | South of MD 28 slip ramp to express lanes | North of MD 28 slip ramp to local lanes | 1 | 1 | | | 2019 |
| | MI2TNB3 | | Construct | I270 northbound (innovative congestion management) | Shady Grove Road | I-370 off-ramp | 1 | 1 | | | 2019 |
| | MI2TNB4 | | Construct | I270 northbound (innovative congestion management) | MD 124 on-ramp | Watkins Mill Road off-ramp | 1 | 1 | | | 2019 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)

7/30/2018

| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MI2TNB 4 | | Construct | I270 northbound auxiliary lane (innovative congestion management) | Watkins Mill Road on-ramp | Middlebrook Road westbound off-ramp | 1 | 1 | | | 2019 |
| | MI2TNB 5 | | Construct | I270 northbound (innovative congestion management) | MD 121 | Comus Road Bridge | 1 | 1 | | | 2019 |
| 210 | MI4 | | Widen | I 70 | Mt. Phillip Road | West of I 270 | 1 | 1 | 4 | 6 | ~~2020~~ 2035 |
| 151 | MI4a | FR5801 | Reconstruct | I 70 | at MD 144FA, Meadow Road, and Old National Pike | | 1 | 1 | 6 | 6 | ~~2020~~ 2025 |
| | | | Study | I-295 Toll Lanes- planning study | US 50 | I-95 (in Baltimore) | | | | | Not Coded |
| 108 | MI1P MI1PR | PG3331 | Construct | I-95/I-495 | at Greenbelt Metro Station | | 1 | 1 | 8 | ~~8+2~~ 8 | ~~2020~~ 2030 |
| 696 | MI1Q | AW0731 | Construct/Widen | I 495 Toll Lanes | Virginia State line/Potomac River (including American Legion Bridge) | I 270Y | 1 | 1 | 8/10 | 8/10+4 ETL | 2025 |
| 856 | MI1R | AW0731 | Construct/Widen | I 495 Toll Lanes | I 270Y | MD 355 | 1 | 1 | 6 | 6+4 ETL | 2025 |
| 905 | MI1S | AW0731 | Construct/Widen | I 495 Toll Lanes | MD 355 | I 95 | 1 | 1 | 8 | 8+4 ETL | 2025 |
| 906 | MI1T | AW0731 | Construct/Widen | I 95 / I 495 Toll Lanes | I 95 | Baltimore Washington Parkway | 1 | 1 | 8 | 8+4 ETL | 2025 |
| 907 | MI1U | AW0731 | Construct/Widen | I 95 / I 495 Toll Lanes | Baltimore Washington Parkway | Glenarden Parkway | 1 | 1 | 8 | 8+4 ETL | 2025 |
| 908 | MI1V | AW0731 | Construct/Widen | I 95 / I 495 Toll Lanes | Glenarden Parkway | MD 202F | 1 | 1 | 10 | 10+4 ETL | 2025 |
| 909 | MI1W | AW0731 | Construct/Widen | I 95 / I 495 Toll Lanes | MD 202F | Potomac River (not including Wilson Bridge) | 1 | 1 | 8 | 8+4 ETL | 2025 |
| ~~856~~ | | | ~~Study~~ | ~~I270~~ | ~~I 495~~ | ~~I 70~~ | | | | | ~~Not Coded~~ |
| ~~696~~ | | | ~~Study~~ | ~~I 495~~ | ~~Virginia HOT Lanes (northern terminus)~~ | ~~I 270~~ | | | | | ~~Not Coded~~ |
| **Primary** | | | | | | | | | | | |
| 139 | MP10A | PG2531 | Reconstruct | US 1 | College Avenue | MD 193 | 2 | 2 | 4 | 4 | ~~2030~~ 2021 |
| 935 936 | NRS | PG2531 | Reconstruct | US 1 | MD 193 | I 95 / I 495 | 2 | 2 | 4 | 4 | 2030 |
| 370 | MP9 | CA4131 | Widen | MD 2/4 Solomons Island Road | North of Stoakley Road/Hospital Drive | South of MD 765A (south junction) just south of Parkers Creek | 2 | 2 | 4 | 6 | 2040 |
| 913 | NRS | CA4131 | Construct | MD 2 / MD 4 Interchange | at Stoakley Road/Hospital Drive and at MD 765A (south junction) | | 2 | 5 | 4 | 6 | 2040 |
| 645 | NRS | | Reconstruct | MD 4 Interchange | at MD 235 | | 2 | 2 | 2 | 2 | 2031 |
| 127 | MP2C | AT1981 | Widen | MD 3 Robert Crain Highway | I595/US 50/US 301 | Anne Arundel County Line | 2 | 2 | 4 | 6 | ~~2030~~ 2035 |
| 355 | NRS | PG9171 | Construct | MD 4 | at Westphalia Road | | 2 | 5 | 4 | 6 | ~~2035~~ 2040 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 393 | NRS | PG6181 | Construct | MD 4 Pennsylvania Avenue | at Suitland Parkway | | 5 | 5 | 4 | 4 | ~~2022~~ 2020 |
| **933** | **NRS** | **PG9171** | **Construct** | **MD 4 Interchange** | **at Dower House Road** | | **5** | **5** | **4** | **6** | **2040** |
| 212 | MP3A | PG9171 | Widen | MD 4 Pennsylvania Avenue | I-95/I-495 | MD 223 | 5 | ~~5~~ | 4 | 6 | ~~2035~~ 2040 |
| 394 | MI1K | PG4941 | Construct | MD 5 | I-95/I-495 | Branch Ave. Metro Station | 1 | 1 | 8 | 8 | COMPLETE |
| 440 | NRS | | Construct | MD 5 | at Earnshaw/Burch Hill Roads | | 2 | 5 | 4 | 6 | 2030 |
| 205 | MP4F | PG3916 | Widen/Upgrade | MD 5 Branch Avenue | US 301 at T.B. | North of I95 /I 495 | 2 | 5 | 4 | 6 | 2030 |
| 354 | NRS | PG1751 | Construct | MD 5 | at MD 373 and Brandywine Road | | 2 | 5 | 4 | 6 | ~~2017~~ 2019 |
| 441 | NRS | | Construct | MD 5 | at Surratts Road | | 2 | 5 | 4 | 6 | 2030 |
| **914** | ~~MI2S~~ **MP15B** | **FR1881** | Construct/Widen | US 15 | MD 26 | North of Biggs Ford Road | 5 | 5 | 4 | 6 | ~~2030~~ 2045 |
| **915** | ~~MI2S~~ **MP15A** | **FR1881** | Construct/Widen | US 15 | US 340 / South Jefferson Street | MD 26 | 5 | 5 | 4 | 6 | 2030 |
| 358 | MP15 | FR5711 | Construct | US 15 Catoctin Mountain Highway | at Monocacy Blvd. | | 2 | 2 | 6 | 6 | ~~2017~~ 2018 |
| 211 | NRS | MO8911 | Construct | US 29 Columbia Pike | at Musgrove/Fairland Road | | | | 6 | 6 | ~~2025~~ 2035 |
| 551 | | | Construct | US 29 Columbia Pike | at Tech Road / Industrial Road | | 5 | 5 | 6 | 6 | 2030 |
| **552, 919, 918** | **MP19A MP19B MP19C** | | **Construct** | **US 29 Columbia Pike Interchange** | **at Stewart Lane, Greencastle Road, & Blackburn Road** | | **5** | **5** | **6** | **6** | ~~Not Coded~~ 2045 |
| **647** | ~~MP5e~~ **NRS** | | ~~**Study**~~ | **US 29 Columbia Pike** | **North of MD 650 New Hampshire Avenue** | **Howard County Line** | ~~2~~ 5 | **5** | **6** | **6** | ~~Not Coded~~ 2045 |
| ~~111~~ | | | ~~Construct~~ | ~~MD 75 Relocated~~ | ~~South of MD 80~~ | | ~~0~~ | ~~4~~ | ~~0~~ | ~~4~~ | ~~2020~~ |
| **941** | **NRS** | **PG0641** | **Reconstruct** | **US 50** | **District of Columbia line** | **I 95 / I 495** | **2** | **2** | **4** | **4** | **2035** |
| 858 | FP2B | | Widen | MD 85 | English Muffin Way | Crestwood Boulevard | 2 | 2 | 2/4 | 4 | ~~2025~~ 2035 |
| 391 | FP2A | FR3881 | Widen | MD 85 Buckeystown Pike | Crestwood Drive | Spectrum Drive | 2 | 2 | ~~4~~ | ~~4/6~~ 6 | ~~2020~~ 2021 |
| 387 | MP14 | PG6191 | Reconstruct | MD 202 | at Brightseat Road | | 2 | 2 | 6 | 6 | ~~2025~~ 2045 |
| 353 | NRS | PG7001 | Upgrade | MD 210 | at Kerby Hill Road/Livingston Road | | 2 | 5 | 6 | 6 | ~~2019~~ 2020 |
| 124 | MP6D | PG2211 | Upgrade | MD 210 Indian Head Highway | I-95/495 | MD 228 | 2 | 5 | 6 | 6 | ~~2030~~ 2040 |
| 384 | MP18 | | Construct | US 301 Gov. Nice Bridge | Charles County, MD | King George County, VA | 2 | 2 | 2 | 4 | 2023 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| ~~110~~ 940 | MP8E | ~~PG2881~~ | ~~Study~~ Widen | US 301 | ~~North of Mount Oak Road —~~ Harry Nice Bridge | I-595 / US 50 | 2 | 5 | 4/6 | 6 | ~~Not Coded~~ 2045 |
| 939 | NRS | CH2031 | Reconstruct | US 301 Interchange | at MD 5 Business/MD 228 | | 2 | 5 | 6 | 6 | 2030 |
| 938 | NRS | CH2031 | Reconstruct | US 301 | at MD 5 (south junction) | | 2 | 5 | 6 | 6 | 2030 |
| 937 | NRS | | Construct | US 301 Interchange | at MD 197 | | 5 | 5 | 6 | 6 | 2030 |
| **Secondary** | | | | | | | | | | | |
| ~~209~~ | ~~MS33~~ | | ~~Widen~~ | ~~MD 27~~ | ~~MD 355~~ | ~~Snowden Farm Parkway~~ | ~~2~~ | ~~2~~ | ~~4~~ | ~~6~~ | ~~2020~~ |
| 206 | MS2F | MO8861 | Widen | MD 28 Norbeck Road ~~/MD 198 Spencerville Road~~ | MD 97 | ~~I 95~~ MD 182 | 2 | 2 | ~~2/4~~ 2 | ~~4/6~~ 2/4 | ~~2025~~ 2045 |
| 925 | NRS | MO8861 | Reconstruct | MD 28 Norbeck Road | MD 182 | Norwood Road | 2 | 2 | 4 | 4 | 2045 |
| 857 | ~~FP3~~ MS36B | | Construct/Widen | MD 180 | 600 ft north of I-70 | Structure 10140 | 4 | 4 | 2 | 4 | ~~2022~~ 2020 |
| 926 | NRS | MO8861 | Reconstruct | MD 198 | Norwood Road | MD 650 | 2 | 2 | 2 | 2 | 2045 |
| 927 | NRS | MO8861 | Reconstruct | MD 198 | MD 650 | Old Columbia Pike | 2 | 2 | 2 | 2 | 2045 |
| 928 | NRS | MO8861 | Reconstruct | MD 198 | Old Columbia Pike | US 29A | 2 | 2 | 4 | 4 | 2045 |
| 929 | NRS | MO8861 | Reconstruct | MD 198 | US 29A | I 95 | 2 | 2 | 4 | 4 | 2045 |
| 137 | MP12C | MO7461 | Construct | MD 97 Brookeville Bypass | Gold Mine Road | North of Brookville | 0 | 2 | 0 | 2 | ~~2018~~ 2021 |
| 931 | | MO2241 | Widen | MD 97 | MD 390 | MD 192 / Forest Glen Road | 2 | 2 | 6/7 | 7/8 | 2025 |
| 392 | NRS | MO852 | Upgrade | MD 97 Georgia Avenue Interchange | at MD 28 Norbeck Road | | 2 | 2 | 6 | 6 | ~~2030~~ 2035 |
| 135 | NRS | MO854 | Upgrade | MD 97 Georgia Avenue Interchange | at Randolph Road | | 2 | 2 | 6 | 6 | ~~2017~~ 2018 |
| 115 | MS32 | | Widen | MD 117 Clopper Road | I270 | ~~West of Grame Preserve Road~~ Metropolitan Grove Road | 2 | 2 | 2/4 | 4 | ~~2025~~ 2030 |
| 921 | NRS | | Reconstruct | MD 117 Clopper Road | Metropolitan Grove Road | West of Game Preserve Road | 3 | 3 | 2/4 | 2/4 | 2030 |
| ~~698~~ | | | ~~Study~~ | ~~MD 119~~ | ~~at Sam Eig Highway~~ | | | | | | ~~Not Coded~~ |
| ~~665~~ | ~~MS34~~ | | ~~Study~~ | ~~MD 121~~ | ~~I 270~~ | ~~West Old Baltimore Road~~ | ~~3~~ | ~~3~~ | ~~4~~ | ~~6~~ | ~~Not Coded~~ |
| 118 | MS6B | MO632 | Widen | MD 124 Woodfield Road | Midcounty Highway | South of Airpark Drive | 3 | 3 | 2 | 6 | ~~2020~~ 2035 |
| 1 | MS6D | MO6323 | Widen | MD 124 Woodfield Road | North of Fieldcrest Road | Warfield Road | 3 | 3 | 2 | 6 | ~~2020~~ 2035 |
| 356 | MS35 | PG6911 | Widen | MD 197 Collington Road | MD 450 | Kenhill Drive | 2 | 2 | 2 | ~~4/5~~ 4 | 2025 |
| 924 | MS36A | FR5491 | Construct/Widen | MD 180 | I 70 (west junction) | Greenfield Drive | 4 | 4 | 2 | 4 | 2030 |
| 648 | MS36C | FR5491 | ~~Study~~ Widen | MD 180 ~~/MD 351~~ Ballenger Creek Pike | Greenfield Drive | Corporate Drive | 4 | 4 | 2 | 4 | ~~Not Coded~~ 2030 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **359** | **MS10B** | **PG9491** | **~~Study~~ Widen** | **MD 201 Edmonston Rd. / Old Baltimore Pike** | **Cherrywood Lane** | **Ammendale Way** | **3** | **3** | **2/3** | **4** | **~~Not Coded~~ 2045** |
| **965** | **MS10E** | **PG9491** | **~~Study~~ Construct/Widen** | **MD 201 Extended (Cedarhurst Dr.)** | **Muirkirk Road** | **US 1** | **3** | **3** | **0/2** | **4** | **~~Not Coded~~ 2045** |
| **942** | **NRS** | **PG5811** | **Reconstruct** | **MD 223** | **MD 4** | **Steed Road** | **3** | **3** | **2** | **2** | **2045** |
| 175 | MS18D | PG6541 | Widen | MD 450 Annapolis Road | Stonybrook Drive | west of MD 3 | 2 | 2 | 2 | 4 | 2020 |
| 516 | same as MC15B | MO3441 | Construct | Montrose Parkway | Randolph Road | East of Parklawn Drive | 0 | 2 | 0 | 4 | 2020 |
| 152 | BRAC nrs | MO5931 | Reconstruct | BRAC Intersection Improvements near the National Naval Medical Center, Bethesda | | | 2 | 2 | | | 2020 |
| **Frederick County** | | | | | | | | | | | |
| **Secondary** | | | | | | | | | | | |
| **880** | **FS3** | | **Expansion** | **Christopher's Crossing** | **Walter Martz Road** | **Thomas Johnson Drive** | **3** | **3** | **0 to 2** | **4** | **2021** |
| **879** | **NRS** | | **Construct** | **Christopher's Crossing** | **Shookstown Road** | **Rocky Springs Road** | **3** | **3** | **0** | **4** | **2020** |
| 651 | FS2a | | Widen | Monocacy Boulevard | Schifferstadt Boulevard | Gas House Pike | 3 | 3 | 2 | 4 | ***~~2017~~ 2019*** |
| 691 | | F3 | Study | Spectrum Drive | Technology Way | MD 85 Buckeystown Pike | 4 | 4 | 0 | 2 | Not Coded |
| **Montgomery County** | | | | | | | | | | | |
| **Secondary** | | | | | | | | | | | |
| 170 | MC11C | | Construct | A 305 Snowden Farm Parkway | MD 355 | MD 27 Stringtown Road | 0 | 3 | 0 | 4 | **COMPLETE** |
| 208 | NRS | | Construct | Burtonsville Access Road | MD 198 Spencerville Road | School Access Road in Burtonsville | 0 | 4 | 0 | 2 | 2025 |
| 597 | NRS | | Construct | Century Boulevard | Current terminus south of Oxbridge Tract | Intersection with future Dorsey Mill Road | 0 | 3 | 0 | 4 | 2020 |
| 198 | NRS | | Construct | Chapman Avenue | Randolph Road | Old Georgetown Road | | | 0 | 2 | **COMPLETE** |
| 199 | MC43 | | Construct | Dorsey Mill Road Bridge over I-270 | Century Blvd. | Milestone Center Dr. | 0 | 3 | 0 | 4 | 2020 |
| 112 | MC7A | | Widen | Goshen Road South | South of Girard Street | 1000 feet north of Warfield Road | 3 | 3 | 2 | 4 | 2025 |
| 172 | MC11A | | Construct | M 83 MidCounty Highway Extended | MD 27 Ridge Road | Middlebrook Road | 0 | 2 | 0 | 4-6 | 2025 |
| 204 | MC11D | 509337-1 | Construct | M 83 Midcounty Highway Extended | Middlebrook Road | Montgomery Village Avenue | 0 | 2 | 0 | 4-6 | 2025 |
| 113 | MC12F | | Widen | MD 118 Germantown Road Extended | MD 355 | M 83 at Watkins Mill Road | 2 | 2 | 3 | 4 | 2020 |
| 161 | MC14G | | Widen | Middlebrook Road Ext. | MD 355 | M 83 | 2 | 2 | 3 | 4 | 2025 |
| 214 | MC15B | | Construct | Montrose Parkway East | Eastern Limit of MD 355/Montrose Interchange | Veirs Mill Road/Parkland Road Intersection | 0 | 2 | 0 | 4 | 2022 |
| 428 | | | Construct | Platt Ridge Drive Extended | Its terminus at Jones Bridge Road | Montrose Driveway | | | 0 | 2 | ***~~2016~~ 2018*** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 119 | MC34 | | Widen | Snouffer School Road | MD 124 Woodfield Road | Centerway Road | 3 | 3 | 2 | 4 | ~~2016~~ 2019 |
| **Urban** | | | | | | | | | | | |
| 421 | | 501204-1 | Construct | Executive Blvd Extended East | MD 355 Rockville Pike | New Nebel Street Extended | | | 0 | 4 | 2020 |
| 422 | | | Construct | Executive Blvd Extended West | MD 187 Old Georgetown Road | Marinelli Road | | | 0 | 4 | 2020 |
| 424 | | 501116-6 | Construct | Hoya Street | Executive Blvd | Montrose Parkway | | | 0 | 4 | 2020 |
| 425 | | 501116-1 | Construct | Main Street / Market Street | MD 187 Old Georgetown Road | MD 355 Rockville Pike | | | 0 | 2 | 2020 |
| 423 | | 501116-5 | Construct | MD 187 Old Georgetown Road | MD 187 Old Georgetown Road | Nicholson Lane/Tilden Lane | | | 0 | 6 | 2020 |
| **Prince George's County** | | | | | | | | | | | |
| **Secondary** | | | | | | | | | | | |
| 361 | PGS3a | | Widen | Addison Road | Walker Mill Road | MD 214 Central Avenue | 3 | 3 | 2 | 4 | 2023 |
| 362 | NRS | | Reconstruct | Addison Road | Sherieff Road | MD 704 | 4 | 4 | 2 | 2 | 2025 |
| 386 | PGS5 | | Construct | Allentown Road Relocated | MD 210 Indian Head Highway | Brinkley Road | | 3 | | 4 | 2025 |
| 365 | PGS73 | PGS73 | Widen | Ardwick-Ardmore Road | MD 704 | 91st Ave. | 4 | 4 | 2 | 4 | 2025 |
| 388 | PGS9a | | Widen | Bowie Race Track Road | MD 450 Annapolis Road | Old Chapel Road | 4 | 4 | 2 | 4 | 2025 |
| 389 | PGS9b | | Widen | Bowie Race Track Road | MD 197 Laurel-Bowie Road | Old Chapel Road | 4 | 4 | 2 | 4 | 2025 |
| 390 | PGS10 | | Widen | Brandywine Road | Piscataway Road (north of) | Thrift Road | 4 | 4 | 2 | 4 | 2020 |
| 418 | PGS12 | | Widen | Brinkley Road | MD 414 St. Barnabas Road | MD 337 Allentown Road | 3 | 3 | 4 | 6 | 2020 |
| 134 | PGS13 | | Construct | Brooks Drive Extended | Marlboro Pike | Rollins Avenue | 0 | 3 | 0 | 4 | 2020 |
| 140 | PGS16a | | Construct | Campus Way North | Lake Arbor Way | south of Lottsford Road | 0 | 4 | 0 | 4 | 2023 |
| 138 | PGS16b | | Construct | Campus Way North Extended | south of Lottsford Road | Evarts Drive | 0 | 4 | 0 | 4 | 2020 |
| 141 | PGS17 | | Widen | Cherry Hill Road | Powder Mill Road | Selman Road | 3 | 3 | 2 | 4 | 2019 |
| 142 | PGS18 | | Widen | Church Road | Woodmore Road | Central Ave. (MD 214) | 4 | 4 | 2 | 4 | 2021 |
| 144 | PGS20b | | Widen | Columbia Park Road | US 50 | Cabin Branch Road | 4 | 4 | 2 | 4 | 2020 |
| 143 | PGS20a | | Widen | Columbia Park Road | Cabin Branch Road | Columbia Terrace | 4 | 4 | 2 | 4 | 2020 |
| 145 | PGS21a | | Widen | Contee Road | US 1 | MD 201 Virginia Manor Road | 4 | 4 | 2 | 4 | 2018 |
| 146 | PGS22 | | Widen | Dangerfield Road | Cheltenham Avenue | MD 223 Woodyard Road | 4 | 4 | 2 | 4 | 2020 |
| 147 | PGS24b | | Widen | Dower House Road | Foxley Road | MD 4 Pennsylvania Avenue | 4 | 4 | 2 | 6 | 2025 |
| 155 | PGS24a | | Widen | Dower House Road | MD 223 Woodyard Road | Foxley Road | 4 | 4 | 2 | 4 | 2025 |
| 156 | PGS25 | | Widen | Fisher Road | Brinkley Road | Holton Lane | 4 | 4 | 2 | 4 | 2025 |
| 157 | PGS26 | | Construct | Forbes Boulevard Extended | south of Amtrak | MD 193 Greenbelt Road | 0 | 4 | 0 | 4 | 2020 |
| 158 | PGS27 | | Widen | Forestville Road | MD 337 Allentown Road | MD 4 Pennsylvania Avenue | 4 | 4 | 2 | 2 | 2021 |
| 159 | PGS29 | | Widen | Fort Washington Road | Riverview Road | MD 210 Indian Head Highway | 4 | 4 | 2 | 4 | 2025 |
| 160 | PGS30b | | Widen | Good Luck Road | Cipriano Road | MD 193 Greenbelt Road | 4 | 4 | 2 | 4 | 2025 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 162 | PGS30a | | Widen | Good Luck Road | MD 201 Kenliworth Avenue (east of) | Cipriano Road | 4 | 4 | 2 | 4 | 2025 |
| 415 | NRS4 | | Widen | Governor Bridge Road | US 301 | Anne Arundel County | 4 | 4 | 2 | 4 | 2020 |
| 164 | PGS34a | | Widen | Hill Road | MD 214 Central Avenue | MD 704 ML King Jr Highway | 4 | 4 | 2 | 4 | 2018 |
| 163 | PGS34b | | Construct | Hill Road | MD 704 ML King Jr Highway | Sheriff Road | 0 | 4 | 0 | 2 | 2025 |
| 416 | PGS88 | | Construct | Iverson Street Extended | Wheeler Road | 19th Avenue | 0 | 4 | 0 | 4 | 2018 |
| 666 | PGS35 | | Widen | Karen Boulevard | Walker Mill Road | MD 214 Central Avenue | 4 | 4 | 2 | 4 | 2020 |
| 165 | PGS38b | | Widen | Livingston Road | Piscataway Creek | Farmington Road | 4 | 4 | 2 | 4 | 2020 |
| 417 | PGS38a | | Widen | Livingston Road | MD 210 Indian Head Highway at Eastover | Kerby Hill Rd. | 4 | 3 | 2 | 4 | 2025 |
| 213 | PGS40a | | Widen | Lottsford Road | Archer Lane | MD 193 Enterprise Road | 3 | 3 | 2 | 4 | 2021 |
| 166 | PGS39b | | Widen | Lottsford Vista Road | MD 704 ML King Jr Highway | Ardwick-Ardmore Road/Relocated | 4 | 4 | 2 | 4 | 2020 |
| 360 | PGP4a | | Construct | MD 193 Greenbelt Road | Baltimore-Washington Parkway (ramp to) | | 0 | 5 | 0 | 4 | 2025 |
| 167 | PGS42 | | Widen | MD 223 Woodyard Road | Rosaryville Road | Dower House Road | 2 | 2 | 2 | 4 | 2020 |
| 2 | PGS42C | | Widen | MD 223 Woodyard Road Relocated | Piscataway Creek/Floral Park Road | MD 4 /Livingston Road | 3 | 3 | 2 | 4 | 2017 |
| 169 | PGS44b | | Widen | Metzerott Road | Adelphi Road | MD 193 University Boulevard | 4 | 4 | 2 | 4 | 2020 |
| 168 | PGS44a | | Widen | Metzerott Road | MD 650 New Hampshire Avenue | Adelphi Road | 4 | 4 | 2 | 4 | 2020 |
| 171 | PGS46 | | Widen | Murkirk Road | US 1 Baltimore Avenue (west of) | Odell Road | 4 | 4 | 2 | 4 | 2020 |
| 173 | PGS47 | | Widen | Oak Grove and Leeland Roads | MD 193 Watkins Park Road | US 301 Robert Crain Highway | 4 | 4 | 2 | 4 | 2020 |
| 174 | PGS48 | | Widen | Old Alexandria Ferry Road | MD 223 Woodyard Road | MD 5 Branch Avenue | 4 | 4 | 2 | 4 | 2025 |
| 649 | PGS50 | | Widen | Old Branch Avenue | MD 223 Piscataway Road (north of) | MD 337 Allentown Road | 4 | 4 | 2 | 4 | 2020 |
| 395 | PGS90 | | Construct | Old Fort Road Extended | MD 223 Piscataway Road | Old Fort Road | 4 | 4 | 0 | 4 | 2020 |
| 369 | PGS51a | | Widen | Old Gunpowder Road | Powder Mill Road | Greencastle Road | 3 | 3 | 2 | 4 | 2018 |
| 364 | PGS52 | | Reconstruct | Oxon Hill Road | Fort Foote Road North | MD 210 @ Livingston Sq.Shopping Center | 4 | 4 | 2 | 2 | 2025 |
| 193 | PGS81 | | Construct | Presidential Parkway | Suitland Parkway | Melwood Road | 0 | 3 | 0 | 6 | 2025 |
| 150 | PGS54 | | Reconstruct | Rhode Island Avenue | MD 193 | US Route 1 | 4 | 4 | 2 | 2 | 2025 |
| 176 | PGS56a | | Widen | Ritchie Road/Forestville Road | Alberta Drive | MD 4 Pennsylvania Avenue | 3 | 3 | 2 | 4 | 2020 |
| 153 | PGS55b | | Widen | Ritchie-Marlboro Road | White House Road | Old Marlboro Pike | 2 | 2 | 2 | 4 | 2020 |
| 177 | PGS57 | | Widen | Rollins Avenue | MD 214 Central Avenue | Walker Mill Road | 4 | 4 | 2 | 4 | 2020 |
| 178 | PGS58 | | Widen | Rosaryville Road | US 301 | MD 223 Woodyard Road | 3 | 3 | 2 | 4 | 2020 |
| 179 | PGS60B | | Widen | Spine Road | MD 5 Branch Avenue / US 301 | MD 381 Brandywine Road | 3 | 3 | 2 | 4 | 2025 |
| 109 | PGS61 | | Widen | Springfield Road | Lanham-Severn Road | Good Luck Road | 4 | 4 | 2 | 4 | 2020 |
| 122 | PGP2 | | Construct | Suitland Parkway Interchange at | Rena/Forestville Roads | | 5 | 5 | | | 2025 |
| 180 | PGS62a | | Widen | Suitland Road | MD 337 Allentown Road | Suitland Parkway | 3 | 3 | 2 | 4 | 2018 |
| 123 | PGS62b | | Widen | Suitland Road | Suitland Parkway | MD 458 Silver Hill Road | 3 | 3 | 2 | 4 | 2018 |
| 181 | PGS63 | | Widen | Sunnyside Avenue | US 1 | MD 201 Kenilworth Avenue | 4 | 4 | 2 | 4 | 2020 |
| 182 | PGS64 | | Widen | Surratts Road | Beverly Ave. | Brandywine Road | 4 | 4 | 2 | 4 | 2025 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 183 | PGS65 | | Widen | Temple Hill Road | MD 223 Piscataway Road | MD 414 St. Barnabas Road | 3 | 3 | 2 | 4 | 2020 |
| 185 | PGP5a | | Construct | US 50 Columbia Park Road Ramp | wb ramp to Columbia Park Rd | | | | | | 2025 |
| 187 | PGS67a | | Widen | Van Dusen Road | Contee Road | MD 198 Sandy Springs Road | 3 | 3 | 2 | 4 | 2020 |
| 186 | PGS67b | | Construct | Van Dusen Road Interchange at | Contee Road | | | | | | 2025 |
| 188 | PGS68 | | Widen | Virginia Manor Road | Muirkirk Road | Old Gunpowder Road | 4 | 4 | 2 | 4 | 2014 |
| 429 | PGS69a | | Widen | Walker Mill Road | Silver Hill Road | I 95 | 3 | 3 | 2 | 4 | 2020 |
| 154 | PGS91 | | Widen | Westphalia Road | MD 4 Pennsylvania Avenue | Ritchie-Marlboro Road | 2 | 2 | 2 | 4 | 2020 |
| 189 | PGS70 | | Widen | Wheeler Road | DC Limits | St. Barnabas Road | 3 | 3 | 2 | 4 | 2018 |
| 437 | PGS71 | | Widen | White House Road | Ritchie-Marlboro Road | MD 202 Largo-Landover Road | 3 | 3 | 2 | 6 | 2020 |
| 190 | PGS72 | | Widen | Whitfield Chapel Road | MD 450 Annapolis Road | Ardwick-Ardmore Road | 4 | 4 | 2 | 4 | 2020 |
| 436 | PGS40b | | Construct | Woodmore Road | MD 193 Enterprise Road | Church Road | 3 | 3 | 2 | 4 | 2025 |
| **Anne Arundel County** | | | | | | | | | | | |
| | ~~AA35~~ **AA14C** | | Widen | US 50 EB only | MD 70 | MD 2 NB | 1 | 1 | 6 | 7 | 2019 |
| | ~~AA1d~~ | | ~~Widen~~ | ~~I-97~~ | ~~US 50/301~~ | ~~MD 32/3~~ | ~~1~~ | ~~1~~ | ~~4~~ | ~~6~~ | ~~2025~~ |
| | AA15a | | Widen | I-295 | I-195 | MD 100 | 1 | 1 | 4 | 6 | 2030 |
| | AA15c | | Widen | I-295 | I-695 | I-195 | 1 | 1 | 4 | 6 | complete |
| | ~~AA15b~~ | | ~~Construct~~ | ~~I-295 (New Interchange)~~ | ~~Hanover Road~~ | | | | | | ~~2015~~ |
| | ~~AA4e~~ | | ~~Widen~~ | ~~MD 3~~ | ~~MD 32~~ | ~~St. Stephen's Church Rd.~~ | ~~2~~ | ~~2~~ | ~~4~~ | ~~6~~ | ~~2025~~ |
| | AA6e | | Widen | MD 100 | Howard Co. Line | I-97 | | 5/1 | 4 | 6 | 2035 |
| | AA8b | | Widen | MD 175 | MD 170 | BW Parkway | | 2 | 4 | 6 | 2025 |
| | AA30 | | Widen | MD 198 | MD 32 | BW Parkway | 2 | 2 | 2 | 4 | 2030 |
| | AA34a | | Widen | MD 713 | MD 175 | Arundel Mills Boulevard | | 2 | 2 | 4 | 2040 |
| | AA34b | | Widen | MD 713 | Arundel Mills Boulevard | MD 176 | | 2 | 4 | 6 | 2040 |
| **Carroll County** | | | | | | | | | | | |
| | CA1B | | Widen | MD 140 | Sullivan Road | Market St. | | 1 | 4/6 | 8 | 2035 |
| | CA1C | | reconstruct | MD 140 (w/ intchg @ MD ~~1~~91) | Baltimore County Line | Kays Mill Rd. | | | 4 | 4 | 2035 |
| | CA2a | | Widen | MD 26 | MD 32 | Reservoir | | | 4 | 6 | 2025 |
| | CA4A | | widen | MD 32 | MD 26 | Howard County Line | | 2 | 2 | 4 | 2040 |
| | CA5 | | Widen | MD 97 | MD 140 | Bachmans Valley Rd. | | 2 | 2 | 4 | 2035 |
| **Howard County** | | | | | | | | | | | |
| | HW1b | | Widen | I-70 | US 29 | US 40 | 1 | 1 | 4 | 6 | 2025 |
| | HW20 | | Widen | US 1 | MD 100 | Montevido Rd. | | | 4 | 6 | 2030 |
| | HW10b | | Widen | US 29 NB | Middle Patuxent River | Seneca Dr. | | 5 | 4 | 6 | ~~2035~~ 2030 |
| | HW10F | | Widen | US 29 NB | Seneca Dr. | MD 100 | 5 | 5 | 5 | 6 | 2017 |
| | ~~HW3c~~ | | ~~Widen~~ | ~~MD 32~~ | ~~Cedar Lane~~ | ~~Anne Arundel County Line~~ | - | ~~1~~ | ~~4/6~~ | ~~8~~ | ~~2025~~ |
| | HW3B | | Widen | MD 32 | MD 108 | I-70 | | 2 | 2 | 4 | ~~2035~~ 2021 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | HW6c | | Widen | MD 108 | Trotter Rd. | Guilford Rd. | 2 | 2 | 2 | 4 | 2030 |
| | HW8b | | Widen | MD 216 | High School Access Rd. | Maple Lawn Blvd. | | 3 | 2 | 4 | 2015 |
| | HW14c | | Widen | Snowden River Parkway | Oakland Mills Road | Broken Land Parkway | | 3 | 4 | 6 | ~~2022~~ 2020 |
| | NRS | | Widen | Dorsey Run Rd. | MD 175 | CSX RR spur | | | 2 | 4 | 2021 |
| | nrs | | Widen | Guilford Rd. | US 1 | Dorsey Run Road | | | 2 | 4 | ~~2017~~ 2020 |
| **Calvert-St.Mary's MPO** | | | | | | | | | | | |
| 644 | MP9B | C-SMMPO | Construct | Thomas Johnson Bridge replacement | over the Patuxent River | | 2 | 2 | 2 | 4 | ~~2027~~ **2031** |
| | MP9C | C-SMMPO | Widen | MD 4 (in St. Mary's County) | Thomas Johnson Bridge | MD 235 | 2 | 2 | 2 | 4 | ~~2023~~ **2031** |
| | nrs | C-SMMPO | Construct | MD 4/ MD 235 Interchange | in Lexington Park | | 2 | 2 | -- | -- | 2028 |
| | MP9D | C-SMMPO | Widen | MD 4 (in Calvert County) | Thomas Johnson Bridge | Patuxent Point Parkway | 2 | 2 | 2 | 4 | 2031 |
| **VDDOT** | | | | | | | | | | | |
| **Federal Lands** | | | | | | | | | | | |
| 433 | FED3a | | Construct | Manassas Battlefield Bypass | US 29 West of Centreville | East of Gainesville, via 234 | 0 | 1 | 0 | 4 | 2035 |
| 243 | VP1A | VP1A - 103073 | Widen | US 1 Jefferson Davis Highway | Telegraph Road | VA 235 South | 2 | 2 | 4 | 6 | 2016 |
| 434 | FED3b | | Remove/Close | US 29 Lee Highway | Pageland Lane | Bridge over Bull Run | 2 | 2 | 2/4 | 0 | 2035 |
| 435 | FED3c | | Remove/Close | VA 234 Sudley Road | Southern Park Boundary | Sudley Springs (north of park) | | | 2 | 0 | 2030 |
| **Interstate** | | | | | | | | | | | |
| 426 268 | VI1w | 93577 100566 | Widen | I 66 HOV-2 and SOV | US 29 0.8 miles east of | US 15 (1.2 miles west of) (includes interchange reconstruction) | 1 | 1 | 4 | 8 | **COMPLETE** |
| 399 | VI1AJ | 81009 | Construct | I 66 Vienna Metro Station bus ramp (duplicate project with ConID 759, below) | Transit Ramps- from EB & to WB | Saintsbury Dr. | 1 | 1 | 0 | 2 | 2021 |
| ~~47~~ | ~~VI1AH~~ | | ~~Widen~~ | ~~I 66 EB Auxiliary Lanes~~ | ~~Cedar Lane~~ | ~~Gallows Road (west of)~~ | ~~1~~ | ~~1~~ | ~~3+1~~ | ~~3+1+1~~ | ~~2030~~ |
| ~~48~~ | ~~VI1AI~~ | | ~~Widen~~ | ~~I 66 WB Auxiliary Lanes~~ | ~~Gallows Road (west of)~~ | ~~Cedar Lane~~ | ~~1~~ | ~~1~~ | ~~3+1~~ | ~~3+1+1~~ | ~~2030~~ |
| 271 | VI1AF | 78828 | Reconstruct | I 66 WB Operational/Spot Improvements | Westmoreland Dr. / Washington Blvd Exit | Haycock Rd /Dulles Access Highway | 1 | 1 | 3 | 4 | 2020 |
| 350 | VI1AG | 78827 | Reconstruct | I 66 WB Operational/Spot Improvements | Lee Highway/Spout Run On-Ramp | Glebe Road Off-Ramp | 1 | 1 | 2 | 3 | 2020 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 718 | VI1Y | 105500 | Widen / Revise Operations | I-66 | I-495 | US 50 | 1 | 1 | 3 general purpose in each direction + 1 HOV in peak direction during peak period | **3 general purpose + 1 Auxiliary + 2 HOT each direction** | **2021 ~~2022~~** |
| 851 | VI1Z | 105500 | Widen / Revise Operations | I-66 | US 50 | US 29 Centreville | 1 | 1 | 4 general purpose in each direction off-peak, 3 general purpose + 1 HOV in peak direction during peak period | 3 general purpose + 1 Auxiliary + 2 HOT in each direction (2 Aux per direction btwn VA 286 & VA 28 only) | **2021 ~~2022~~** |
| 852 | VI1ZA | 105500 | Widen / Revise Operations | I-66 | US 29 Centreville | University Boulevard Ramps (new interchange for HOT only) | 1 | 1 | 4 general purpose in each direction off-peak, 3 general purpose + 1 HOV in peak direction during peak period | 3 general purpose + 2 HOT in each direction | **2021 ~~2022~~** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 852 | VI1ZA1 | 105500 | Widen / Revise Operations | I-66 | VA 234 Bypass | University Blvd. | 1 | 1 | 4 general purpose in each direction off-peak, 3 general purpose + 1 HOV in peak direction during peak period | 3 general purpose+ 2 HOT in each direction (+1 Auxiliary each direction between US 29 and VA 234 Bypass only) | **2021** |
| 853 | VI1ZB | 105500 | Widen / Revise Operations | I-66 | University Boulevard Ramps (new interchange for HOT only) | US 15 (1.2 miles west of) | 1 | 1 | 4 general purpose in each direction off-peak, 3 general purpose + 1 HOV in peak direction during peak period | 3 general purpose+ 2 HOT in each direction (+1 Auxiliary each direction between US 29 and VA 234 Bypass only) | **2040** |
| 740 | VI1X | 97586 | Revise Operations | I-66 | I-495 | US 29 near Rosslyn | 1 | 1 | HOV 2 in peak direction during peak period | HOT 2 in peak direction during peak period | 2017 |
| 862 | VI1X1 | | Revise Operations | I-66 | I-495 | US 29 near Rosslyn | 1 | 1 | HOT 2 in peak direction during peak period | HOT 3 in peak direction during peak period | 2021 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 863 | VI1X2 | | Revise Operations | I-66 | I-495 | US 29 near Rosslyn | 1 | 1 | HOT 3 in peak direction during peak period | HOT 3 in both directions during peak period | 2040 |
| 788 | VI1XB | | Construct/Widen | I 66 Eastbound | VA 267 DTR | Washington Blvd. Off-Ramp | 1 | 1 | 3 | 4 | **2020** |
| 789 | VI1XC | | Construct/Widen | I 66 Eastbound | Washington Blvd. Off-Ramp | North Fairfax Drive | 1 | 1 | 2 | 3 | **2020** |
| 786 | VI1XD | | Construct/Widen | I 66 Westbound | Sycamore Street | Washington Blvd. On-Ramp | 1 | 1 | 2 | 3 | **2040** |
| 752 | I66R31<br>I66R32<br>I66R34 | | Construct | I-66 Express Lanes Interchange Ramps | EB Expr to SB GP<br>NB GP to WB Expr<br>SB Expr to WB Expr<br>EB Expr to NB GP<br>SB GP to WB Expr | I-495 Interchange (Capital Beltway GP and Express Lanes) | 0 | 1 | 0 | 1 | 2022 |
| 753 | I66R37 | | Construct | I-66 General Purpose Lanes Interchange Ramp | NB Expr to WB GP (modification of existing loop ramp) | I-495 Interchange (Capital Beltway GP and Express Lanes) | 0 | 1 | 0 | 1 | 2022 |
| 754 | | | Relocate / Reconstruct | I-66 Interchange | Dual-lane loop ramp from NB I-495 GP to I-66 GP relocated to dual-lane flyover & existing ramp modified to NB I-495 GP to I-66 WB HOT | @ I-495 | 1 | 1 | 2 | 2 | 2022 |
| 755 | | | Reconstruct | I-66 Interchange | EB GP to SB GP<br>WB GP to SB GP<br>WB GP to SB Expr<br>NB GP to EB GP<br>SB GP to WB GP | @ I-495 | 1 | 1 | — | — | 2022 |
| 756 | I66R29 | | Construct | I-66 flyover ramp | EB general purpose to EB express lanes | .5 mile east of VA 243 | 0 | 1 | 0 | 1 | 2022 |
| 757 | NRS | | Reconstruct | I-66 Interchange | Cloverleaf interchange converted to diverging diamond interchange | @ Nutley Street (VA 243) | 1 | 1 | — | — | 2022 |
| 759 | I66R27<br>I66R28 | | Construct | I-66 Express Lanes Interchange Ramps (duplicate project with ConID 399, above) | EB off-ramp, WB on-ramp to/from I-66 Express lanes BUS /HOV-3/HOT ONLY | @ Vaden Drive / Vienna Metro Station | 1 | 1 | | Bus / HOV-3 / HOT from proposed Express Lanes | 2022 |
| | I66R43 | | Remove | I-66 ramp | remove existing EB on-ramp from Saintsbury Dr. at Vaden Dr. | | | | | | 2022 |
| 762 | VI1YA | | Reconstruct | I-66 Interchange | **Reconfigured interchange to eliminate C-D roads & replacemodify EB to NB loop ramp with flyover& WB to SB flyover** | @ Chain Bridge Road (VA 123) | 1 | 1 | — | — | 2022 |
| 763 | I66R25<br>I66R26 | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp, EB off-ramp, WB on-ramp, WB off-ramp to/from I-66 Express Lanes | @ Chain Bridge Road (VA 123) | 0 | 1 | 0 | 1 | 2022 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 765 | I66R23<br>I66R24 | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp, WB off-ramp to/from I-66 Express lanes | @ Lee Jackson Mem Highway (US 50) | 0 | 1 | 0 | 1 | 2022 |
| | I66R62 | | **Construct** | **I-66 Express Lanes Interchange ramps** | **EB Express Lanes on-ramp from NB US 50** | **@ Lee Jackson Mem Highway (US 50)** | **0** | **1** | **0** | **1** | **2040** |
| 767 | I66R19A<br>I66R20A<br>I66R21A<br>I66R22A | | Relocate / Reconstruct | I-66 Interchange | Reconfigure interchange with Express lanes ramps shifted to the north of I-66; ; Construct new EB off-ramp, WB on-ramp to/from I-66 Express lanes | @ Monument Drive (US 50) | 1 | 1 | Bus / HOV-2 Reversible by time of day | Bus / HOV-3 / HOT Movements in both directions 24 hrs/day | **2040** |
| 768 | I66R19<br>I66R20<br>I66R21<br>I66R22 | | Reconstruct / Revise Operations / Construct | I-66 Interchange | Conversion of existing HOV ramps to HOT; Construct new EB off-ramp, WB on-ramp to/from I-66 Express lanes | @ Monument Drive (US 50) | 1 | 1 | Bus / HOV-2 Reversible by time of day | Bus / HOV-3 / HOT Movements in both directions 24 hrs/day | **2022** |
| 769 | I66R17<br>I66R18 | | Revise Operations | I-66 Express Lanes Interchange Ramps | Existing reversible HOV ramp converted to HOT EB on-ramp only, 24 hrs/day; Construct new flyover ramp for HOT WB off-ramp from I-66 Express Lanes, operating 24 hrs/day | @ Stringfellow Road | 1 | 1 | Bus / HOV-2 Reversible by time of day | Bus / HOV-3 / HOT both directions 24 hrs / day ~~Reversible by time of day~~ | **2022** |
| ~~770~~ | ~~I66R17A~~ | | ~~Relocate / Revise Operations~~ | ~~I-66 Express Lanes Interchange Ramps~~ | ~~Construct new flyover ramp for HOT EB on-ramp, WB off-ramp to/from I-66 Express lanes, relocated north of I-66, operating 24 hrs/day~~ | ~~@ Stringfellow Road~~ | ~~1~~ | ~~1~~ | ~~Bus / HOV-2 Reversible by time of day~~ | ~~Bus / HOV-3 / HOT Movements in EB both directions 24 hrs/day~~ | ~~2040~~<br>2022 |
| 771 | I66R16 | | Construct | I-66 flyover ramp | EB express lanes to EB general purpose | 1.5 miles west of VA 286 | 0 | 1 | 0 | 1 | 2022 |
| 772 | I66R41 | Prfd Alt ~~B~~ | Construct | I-66 slip ramp | EB general purpose to EB express lanes | 2.5 miles west of VA 286 | 0 | 1 | 0 | 1 | 2022 |
| 773 | I66R15 | | Construct | I-66 flyover ramp | WB express lanes to WB general purpose | 1 mile west of VA 286 | 0 | 1 | 0 | 1 | 2022 |
| 774 | I66R42 | | Construct | I-66 slip ramp | WB general purpose to WB express lanes | 2.0 miles west of VA 286 | 0 | 1 | 0 | 1 | 2022 |
| 776 | I66R11<br>I66R12<br>I66R13<br>I66R14<br>I66R40 | | Construct | I-66 Express Lanes Interchange Ramps | EB Expr to NB GP<br>WB Expr to NB GP<br>SB GP to EB Expr<br>SB GP to WB Expr<br>NB GP to EB Expr | Route 28 Interchange | 0 | 1 | 0 | *1* | 2022 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| | **I66R61** | | **Construct** | **I-66 Express Lanes Interchange ramps** | **SB HOV to WB Expr** | **Route 28 Interchange** | **0** | **1** | **0** | **1** | **2040** |
| | | | Construct | I-66 flyover ramp | EB general purpose to EB Express Lanes | .65 miles east of VA Bus 234 | 0 | 1 | 0 | 1 | 2022 |
| | | | Construct | I-66 flyover ramp | WB Express Lanes to WB general purpose | .65 miles east of VA Bus 235 | 0 | 1 | 0 | 1 | 2022 |
| 778 | I66R9 I66R10 | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp, WB off-ramp to/from I-66 Express lanes | @ Balls Ford Road / Ashton Avenue Connector 1.25 mile west of VA Bus 234 | 0 | 1 | 0 | *1* | **2022** |
| 779 | I66R7 I66R8 | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp, WB off-ramp to/from I-66 Express lanes | @ Cushing Road Park-Ride Lot .5 mile east of VA 234 Bypass | 0 | 1 | 0 | *1* | 2040 |
| 855 | I66R38 I66R39 | | Construct | I-66 Express Lanes Interchange Ramps | EB off-ramp, WB on-ramp to/from I-66 Express lanes | @ VA 234 Bypass to/from south of I-66 | 0 | 1 | 0 | *1* | 2040 |
| 781 | I66R5 I66R6 | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp, WB off-ramp to/from I-66 Express lanes | @ University Bloulevard .75 mile east of US 29 | 0 | 1 | 0 | *1* | 2022 |
| *784* | I66R1 I66R1A I66R2 I66R2A | | Construct | I-66 Express Lanes Interchange Ramps | EB on-ramp & off-ramp, WB on-ramp & off-ramp to/from I-66 Express lanes | @ New connector road between Heathcote Boulevard and VA 55 approx .5 mile west of US 15 | 0 | 1 | 0 | *1* | 2040 |
| *785* | VSP49C | | Construct | I-66 Express Lanes Access Connector Road | Heathcote Boulevard Extension | John Marshall Highway (VA 55) | 0 | 1 | 0 | *1* | 2040 |
| 444 | VI2T | | Widen | I 395 southbound | VA 236 Duke Street (north of) | VA 648 Edsall Road (south of) | 1 | 1 | 3 | 4 | 2018 |
| 854 | VI2V | | Widen/Revise Operations | I-395 reversible HOV lanes | Turkeycock Run | vicinity of Eads Street | 1 | 1 | 2 reversible HOV 3+ lanes during peak periods | 3 reversible HOT-3+ lanes operating nb in am and sb in pm | 2019 |
| | | | Revise Operations | I-395 Flyover Ramp South of Duke Street (NB) | I-395 NB GP lanes | I-395 HOV lanes | 1 | 1 | HOV-3+ in am peak period | HOT-3+ in morning hours | 2019 |
| | | | Revise Operations | I-395 HOV nb on-ramp at Seminary | Seminary Road | I-395 HOV lanes | 1 | 1 | HOV-3+ in am peak | HOT-3+ in morning hours | 2019 |
| | | | Revise Operations | I-395 HOV sb off-ramp at Seminary | I-395 HOV lanes | Seminary Road | 1 | 1 | HOV-3+ in pm peak | HOT-3+ in evening hours | 2019 |
| | | | Revise Operations | I-395 HOV nb on-ramp at Shirlington Circle | Shirlington Circle | I-395 HOV lanes | 1 | 1 | HOV-3+ in am peak | HOT-3+ in morning hours | 2019 |
| | | | Revise Operations | I-395 HOV sb off-ramp at Shirlington Circle | I-395 HOV lanes | Shirlington Circle | 1 | 1 | HOV-3+ in pm peak | HOT-3+ in evening hours | 2019 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| | | | Revise Operations | I-395 HOV sb off-ramp near Edsall Rd. | I-395 HOV lanes | I-395 SB GP lanes | 1 | 1 | HOV-3+ in pm peak | HOT-3+ in evening hours | 2019 |
| | | | Revise Operations | I-395 NB HOV Ramp to Washington Blvd. | I-395 NB HOV lanes | Washington Blvd. NB | 1 | 1 | HOV-3+ in am peak | HOT-3+ in morning hours | 2019 |
| | | | Revise Operations | I-395 SB HOV Ramp from Washington Blvd. | Washington Blvd. SB | I-395 SB HOV lanes | 1 | 1 | HOV-3+ in pm peak | HOT-3+ in evening hours | 2019 |
| | | | Revise Operations | I-395 HOV nb off ramp at Eads Street | | | 1 | 1 | HOV-3+ in am peak | HOT-3+ in morning hours | 2019 |
| | | | Revise Operations | I-395 sb HOV on-ramp at Eads Street | | | 1 | 1 | HOV-3+ in pm peak period | HOT3+ in evening hours | 2019 |
| 270 | VI2AC | | Reconstruct | I 95 Interchange | VA 613 Van Dorn Street | | 1 | 1 | | | ~~2015~~ 2030 |
| | | | Construct | I-95 HOT lanes ramp | .25 miles south of Russell Road (Exit 148) | Russell Road | 0 | 1 | 0 | 1 | 2022 |
| 6 | NRS | | Reconstruct | Boundary Chanel Drive | Old Jefferson Davis Highway (off of I-395 Boundary Chanel Interchange) | | | | | | 2020 |
| 378 | BRAC | BRAC0005 | Construct | I 95 NB Off Ramp at Newington | I-95 NB | Fairfax County Parkway NB | 1 | 1 | 0 | 1 | 2020 |
| 8 | BRAC0004 / VI2ra | | Construct | I 95 Reversible Ramp (Colocated w/ existing slip ramp from HOV to GP lanes) | I 95 ~~NB~~ HOV/BUS/HOT Lanes (Located N of Rte. 7100/I 95 I/C Phase II DAR) | EPG Southern Loop Road AM Only | 0 | 1 | 0 | 1 | 2025 |
| 16 | VI2r43a | | Construct | I 95 HOV/Bus/HOT Ramp SB Gen Purpose Lanes to SB HOV/Bus/HOT lanes | Between Dumfries Rd. and Joplin Rd. | | 0 | 1 | 0 | 1 | 2018 |
| 18 | VI2r45a | | Construct | I 95 HOV/Bus/HOT Ramp NB HOV/Bus/HOT lanes to NB Gen Purpose Lanes | Between Joplin Rd. and Russell Rd. | | 0 | 1 | 0 | 1 | 2018 |
| **969** | **VI2X** | | **Construct** | **I-95 Auxiliary Lane SB** | **VA 123** | **VA 294** | **1** | **1** | **0** | **1** | **2028** |
| 20 | VI4Iaux1 | | Widen | I 495 Capital Beltway NB Auxiliary Lane | North of Hemming Ave. Underpass | Braddock Road Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 21 | VI4Iaux2 | | Widen | I 495 Capital Beltway SB Auxiliary Lane | Braddock Road On Ramp | North of Hemming Ave. Underpass | 1 | 1 | 4+2 | 5+2 | 2030 |
| 22 | VI4Iaux3 | | Widen | I 495 Capital Beltway NB Auxiliary Lane | Braddock Road On Ramp | VA 236 Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 24 | VI4Iaux5 | | Widen | I 495 Capital Beltway NB Auxiliary Lane | VA 236 On Ramp | Gallows Road Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 25 | VI4Iaux6 | | **Widen** | I 495 Capital Beltway SB Auxiliary Lane | Gallows Road On Ramp | VA 236 Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 29 | VI4Iaux10 | | Widen | I 495 Capital Beltway NB Auxiliary Lane | US 50 On Ramp | I 66 Off Ramp | 1 | 1 | 5+2 | 6+2 | 2030 |
| 32 | VI4Iaux13 | | Widen | I 495 Capital Beltway SB Auxiliary Lane | VA 7 On Ramp | I 66 Off Ramp to WB | 1 | 1 | 4+2 | 5+2 | 2030 |
| 35 | VI4Iaux16 | | Widen | I 495 Capital Beltway SB Auxiliary Lane | VA 123 On Ramp | VA 7 Off Ramp | 1 | 1 | 5+2 | 6+2 | 2030 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 38 | VI4Iaux19 | | Widen | I 495 Capital Beltway NB Auxiliary Lane | VA 267 On Ramp | VA 193 Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 39 | VI4Iaux20 | | Widen | I 495 Capital Beltway SB Auxiliary Lane | VA 193 On Ramp | VA 267 Off Ramp | 1 | 1 | 4+2 | 5+2 | 2030 |
| 40 | VI4K | | Construct | I 495 Capital Beltway HOT Lanes | American Legion Bridge | George Washington Parkway (south of) | 1 | 1 | 8 | ~~8+2~~ 8+4 | ~~2030~~ 2025 |
| 41 | VI4KA | | Construct | I 495 Capital Beltway HOT Lanes | George Washington Parkway (south of) | Old Dominion Drive (south of) | 1 | 1 | 8 | 8+4 | 2025 |
| 49 | Part VI4IHOTa | | Relocate | I 495 Capital Beltway Interchange Flyover Ramp (Phase 4) | EB Dulles Airport Access Highway to NB General Purpose | at VA 267 Dulles Toll Road | 1 | 1 | 1 | 1 | 2030 |
| 519 | Part VI4IHOTa | | Construct | I 495 Capital Beltway Interchange (Phase IV) | Provide SB HOT to EB HOV & EB DTR to NB HOT movements | at VA 267 Dulles Toll Road | 1 | 1 | | | 2030 |
| 517 | Part VI4IHOTa | | Widen | I 495 Capital Beltway Interchange Ramp (Phase III DTR) | Widen EB DTR ramp to 2 NB lanes | NB GP Lanes | 1 | 1 | 1 | 2 | 2030 |
| 520 | VI4Irmp1 | | Construct | I 495 Capital Beltway Interchange Flyover Ramp (Phase 4) | I 495 Capital Beltway NB GP lanes | Dulles Airport Access Highway (DAAH) WB | 0 | 1 | 0 | 1 | 2030 |
| 50 | VI4IHOTb | | Construct | I 495 Capital Beltway Interchange Ramp (Phase II, Ramp 3 DAAH) | I 495 Capital Beltway SB | Dulles Airport Access Highway WB | 0 | 1 | 0 | 1 | 2020 |
| 536 | VP21F | | Construct | Dulles Greenway Egress Ramp | at Hawling Farm Boulevard (Future) | | 0 | 1 | 0 | 1 | **COMPLETE** |
| | | | **Widen** | **Dulles Greenway - eastbound only** | **Toll Plaza** | **Dulles Toll Road** | **1** | **1** | **2** | **3** | **2019** |
| | | | **Widen** | **VA 267 Dulles Toll Road - eastbound only** | **Dulles Greenway** | **Centreville Rd. off-ramp** | **1** | **1** | **4** | **5** | **2019** |
| 534 | VP15E | | Construct | VA 267 Dulles Toll Road Ramp | New Boone Boulevard Extension at Ashgrove | | 0 | 1 | 0 | 2 | 2037 |
| 535 | VP15B | | Construct | VA 267 Dulles Toll Road Ramp | Greensboro Drive @ Tyco Road | | 0 | 1 | 0 | 2 | 2036 |
| 236 | MW1 | MW1 | Widen | Dulles Airport Access Road | Dulles Airport | VA 123 | 1 | 1 | 4 | 6 | ~~2017~~ 2030 |
| **Primary** | | | | | | | | | | | |
| 549 | VP1AH | 90339 | Widen | US 1 Jefferson Davis Highway | Fuller Road | Stafford County Line | 2 | 2 | 4 | 6 | ~~2030~~ 2040 |
| 631 | VP1AD | 90339 | Widen | **US 1 ~~Jefferson Davis Highway~~ Fraley Blvd. (Town of Dumfries)** | Brady's Hill Road | VA 234 Dumfries Road | 2 | 2 | 4 | 6 | ~~2024~~ 2025 |
| 632 | VP1ADA | | Widen | US 1 Jefferson Davis Highway | VA 234 Dumfries Road | Cardinal Drive/Neabsco Road | 2 | 2 | 4 | 6 | 2030 |
| 383 | VP1AE | PWC0013/ UPC# 100426 | Widen | US 1 | VA 638 Blackburn Dr/Neabsco Mills Rd | VA 636 Featherstone Rd | 2 | 2 | 4 | 6 | **COMPLETE** |
| 84 | VP1AF | 104303 | Widen | US 1 Jefferson Davis Highway | Featherstone Road | Mary's Way | 2 | 2 | 4 | 6 | ~~2021~~ 2022 |
| 239 | VP1P | 94102 | Widen | **US 1 Jefferson Davis Highway (~~part~~ phase 1 of 1/123 interchange)** | Mary's Way | Annapolis Way | 2 | 2 | 4 | 6 | 2019 |
| 633 | NRS | 100938 | Reconstruct | US 1 Jefferson Davis Highway | at VA 123 Gordon Boulevard (Interchange) | | | | | | ~~2022~~ 2025 |
| 634 | VSP63 | 100938 | Construct | Belmont Bay Drive Extension | US 1 Jefferson Davis Highway | Heron's View Way | | | 0 | 4 | ~~2022~~ 2025 |
| 85 | VP1AG | | Widen | US 1 Jefferson Davis Highway | Annapolis Way | Lorton Road | 2 | 2 | 4 | 6 | 2035 |
| 322 | VP1U | | Widen | US 1 Jefferson Davis Highway | VA 235 North | VA 235 South | 2 | 2 | 4 | 6 | 2025 |
| 653 | **VP2P** | | ***~~Study~~ Construct*** | VA 7 Interchange | At VA 690 | | 2 | 2 | 0 | 4 | ***~~Not Coded~~ 2025*** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 86 | VP2JA | 16006 | Widen | VA 7 Bypass | VA 7 West | US 15 South King Street South | 5 | 1 | 4 | 6 | 2040 |
| 299 | VP2J | 16006 | Widen | VA 7 Bypass | US 15 South King Street | VA7/US 15 East | 5 | 1 | 4 | 6 | 2040 |
| 221 | VP2M | | Widen | VA 7 | Reston Avenue | West Approach to Bridge over Dulles Toll Road | 2 | 2 | 4 | 6 | 2025 |
| 626 | NRS | 82135 | Construct | VA 7 Leesburg Pike | Bridge over Dulles Toll Road | | 2 | 2 | 4 | 6 | 2030 |
| 628 | VP2Lb | | Widen | VA 7 Leesburg Pike | VA 123 Chain Bridge Road | I 495 Capital Beltway | 2 | 2 | 6 | 8 | 2021 |
| 87 | VP2N | | Widen | VA 7 Leesburg Pike | I 495 | I 66 | 2 | 2 | 4 | 6 | 2021 |
| 347 | VP2B | TBD | Widen | VA 7 | Seven Corners | Bailey's Crossroads | 2 | 2 | 4 | 6 | 2025 |
| 682 | NRS | 105584 | Construct | VA 7 Overpass at | George Washington Boulevard | | 0 | 4 | 0 | 4 | 2022 |
| 621 | nrs | 99481 | Construct | VA 7 Interchange | at VA 659 Belmont Ridge Road | | 2 | 2 | 6 | 6 | 2017 |
| 253 | VP4EA | | Widen | US 15 James Madison Highway | US 29 Lee Highway | ~~I-66 Thoroughfare Road~~ Haymarket Drive | 3 | 3 | 2 | 4 | 2040 |
| | VP4EC | | Widen | US 15 James Madison Highway Overpass | 1200' S of RR tracks | 1000' N. of RR tracks | 3 | 3 | 2 | 4 | ~~2024~~ 2030 |
| | VP4ED | 100566 | Widen | US 15 James Madison Highway | 1000' N. of RR tracks | Heathcote Blvd. | 3 | 3 | 2 | 4 | COMPLETE |
| **881** | **VP4G** | | **Widen** | **US 15** | **Battlefield Parkway** | **Montresor Road** | **2** | **2** | **2** | **4** | **2022** |
| 88 | VP6H | | Widen | VA 28 | Fauquier County Line | VA 652 Fitzwater Drive | 3 | 3 | 2 | 4 | 2040 |
| 309 | VP6kA | 105198 | Widen | VA 28 | VA 652 Fitzwater Drive | VA 215 Vint Hill Road | 3 | 3 | 2 | 4 | ~~2018~~ 2019 |
| 90 | VP6KB | 92080 | Widen | VA 28 Nokesville Road | VA 215 Vint Hill Road ~~Relocated~~ | VA 619 Linton Hall Road | 3 | 3 | 2 | 6 | COMPLETE |
| 326 | VP6MA | 96721 | Widen | VA 28 | Godwin Drive | Manassas City limits ~~(west)~~ | 3 | 2 | 4 | 6 | ~~2018~~ 2019 |
| 89 | VP6K | 105428 | Widen | VA 28 Nokesville Road | ~~Prince William Parkway~~ Manassas City Limits | VA 619 Linton Hall Road | 3 | 3 | 4 | 6 | ~~2020~~ 2022 |
| | VP6EDD | | Convert | VA 28 PPTA Phase II- HOV | I-66 | Westfields Blvd | 5 | 5 | 8+ 2 aux | 6 + 2aux + 2 HOV | 2040 |
| | VP6EDE | | Convert | VA 28 PPTA Phase II- HOV | Westfields Blvd | Dulles Toll Road | 5 | 5 | 8 | 6 + 2 HOV | 2040 |
| 310 | VP6EAA | | Widen | VA 28 PPTA Phase II | I 66 | Westfields Blvd | 5 | 5 | 6 | 8+ 2 aux | 2021 |
| | VP6EAB | | Widen | VA 28 PPTA Phase II | Westfields | US 50 | 5 | 5 | 6 | 8 | 2025 |
| | VP6EBB | | Widen | VA 28 PPTA Phase II | US 50 | Sterling Blvd. | 5 | 5 | 6 | 8 | 2016 |
| 310 | VP6ECC | 106651 | Widen | VA 28 PPTA Phase II | Sterling Blvd. | VA 7 | 5 | 5 | 6 | 8 | 2025 |
| 344 | VP6EB | 78906 | Construct | VA 28 Interchange at | VA 209 Innovation Avenue | | 5 | 5 | -- | -- | COMPLETE |
| 656 | | | Study | VA 28 Manassas Bypass /VA 411 | VA 234 Sudley Road | I 66 Proposed Interchange | | | | | Not Coded |
| 737 | VP6N | | Widen | VA 28 Centreville Road | VA 898 Old Cntreville Road | Prince William County Line | 2 | 2 | 4 | 6 | 2025 |
| 730 | | 105482 | Study | VA 28 | US 29 | Liberia Avenue | | | | | Not Coded |
| 620 | VP7s | | Widen | US 29 (add NB lane) | I 66 | Entrance to Conway Robinson MSF | 3 | 2 | 4 | 5 | 2030 |
| 622 | VP7AG | | Widen | US 29 (add NB lane) | Legato Road | Shirley Gate/Waples Mill Rd. | 2 | 2 | 2 | 3 | 2017 |
| 349 | VP7AA | | Widen | US 29 | ECL City of Fairfax (vic. Nutley St.) | Espana Court | 2 | 2 | 4 | 6 | 2025 |
| 625 | VP7AB | | Widen | US 29 | Espana Court | I 495 Capital Beltway | 2 | 2 | 4 | 6 | 2025 |
| | | | | | | | | | | | |
| 731 | VP7T | | Widen | US 29 Lee Highway | VA 659 Union Mill Road | Buckleys Gate Drive | 2 | 2 | 4 | 6 | 2024 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 305 | VP8Q | LDN0015 VP8Q | Widen | US 50 | VA 659 Relocated | VA 742 Poland Road | 2 | 2 | 4/5 | 6 | ~~2025~~ completed |
| 319 | VP8H | | | US 50 | ECL City of Fairfax | Arlington County Line | 2 | 2 | 4 | 6 | 2025 |
| 94 | NRS | | Construct | US 50 Interchange | VA 606 Loudoun County Parkway | | 2 | 2 | 6 | 6 | 2025 |
| 657 | NRS | | Construct | US 50 Interchange | West Spine/Gum Springs Road | | 2 | 2 | 6 | 6 | 2035 |
| 658 | NRS | | Construct | US 50 Interchange | South Riding Boulevard | | 2 | 2 | 6 | 6 | 2035 |
| 659 | NRS | | Construct | US 50 Interchange | Tall Cedars Parkway | | 2 | 2 | 6 | 6 | 2035 |
| **885** | **NRS** | | **Upgrade/ Intersection** | **Route 50 & Everfield Drive** | | | **2** | **2** | **2** | **2** | **2022** |
| 245 | VP10G | 100938 | Widen | VA 123 | US 1 | Annapolis Way | 2 | 2 | 4 | 6 | ~~2022~~ 2025 |
| 235 | VP10H | | Widen | VA 123 Ox Road | Hooes Rd. | Fairfax Co. Parkway | 2 | 2 | 4 | 6 | 2025 |
| 337 | VP10F | 1784 | Widen | VA 123 Ox Road | Fairfax Co. Parkway | Burke Center Parkway | 2 | 2 | 4 | 6 | 2025 |
| 300 | VP10R | | Widen | VA 123 | Burke Center Parkway | Braddock Road | 2 | 2 | 4 | 6 | 2025 |
| 95 | VP10S | | Widen | VA 123 | VA 677 Old Courthouse Road | VA 7 Leesburg Pike | | | 4 | 6 | 2025 |
| 595 | VP10T | | Widen | VA 123 Chain Bridge Road | VA 7 Leesburg Pike | I 495 Capital Beltway | 2 | 2 | 6 | 8 | 2021 |
| 92 | VP24A | 92080 | Construct | VA 215 Vint Hill Road Relocated | VA 28 Nokesville Road | Schaefer Lane | 0 | 3 | 0 | 4 | COMPLETE |
| 590 | VP24B | | Widen | VA 215 Vint Hill Road | ~~VA 655 Schaeffer Lane~~ **Kettle Run Drive** | VA 1566 Sudley Manor Drive | 4 | 4 | 2 | 4 | ~~2018~~ 2020 |
| 678 | | 105420/ T143 | Construct | VA 234 Bypass Interchange | Balls Ford Road Relocated | | | | | | ~~2025~~ 2022 |
| 660 | | T5665 | Construct | VA 234 Bypass Interchange | Dumfries Road/Brentsville Road | | | | | | 2025 |
| 727 | NRS | | Construct | VA 234 Prince William Parkway Interchange at | VA 1566 Sudley Manor Dr. | | | | | | 2030 |
| 311 | VP13A | | Widen | VA 236 | Pickett Road | I 395 | 2 | 2 | 4 | 6 | 2025 |
| 264 | VSF25aa | 57167 | Convert | VA 286 Fairfax County Parkway HOV | VA 267 Dulles Toll Road | Sunrise Valley Drive | 5 | 5 | 6 | 4+2 | 2035 |
| 96 | VSF25ea | 57167 | Widen | VA 286 Fairfax County Parkway HOV | Sunrise Valley | West Ox Road | 5 | 5 | 4 | 4+2 | 2035 |
| 97 | VSF25e | 57167 | Convert | VA 286 Fairfax County Parkway HOV | West Ox Road | US 50 | 5 | 5 | 6 | 4+2 | 2035 |
| 98 | VSF25y | | Upgrade | VA 286 Fairfax County Parkway HOV | US 50 | VA 7735 Fair Lakes Parkway | 2 | 5 | 6 | 4+2 | 2035 |
| 101 | VSF25z | | Widen/Upgrade | VA 286 Fairfax County Parkway HOV | VA 7735 Fair Lakes Parkway | I 66 | 2 | 5 | 6 | 6+2 | 2035 |
| 320 | VSF25g | | Widen | VA 286 Fairfax County Parkway | US 29 | VA 123 Ox Road | 5 | 5 | 4 | 6 | 2025 |
| 728 | | | Study | VA 286 Fairfax County Parkway | US 29 Lee Highway | Rolling Road | | | | | Not Coded |
| 729 | | | Study | VA 286 Fairfax County Parkway | VA 267 Dulles Toll Road | Rugby Road | | | | | Not Coded |
| 304 | VSF26 | | Construct | VA 289 Franconia-Springfield Parkway HOV | VA 286 Fairfax County Parkway | VA 2677 Frontier Drive | 5 | 5 | | 2 | 2025 |
| 104 | VSF26a | | Construct | VA 289 Franconia-Springfield Parkway HOV Interchange | Neuman Street | | 1 | 1 | | | 2025 |
| 105 | VSF26b | | Upgrade | VA 289 Franconia-Springfield Parkway HOV | VA 638 Rolling Road | VA 617 Backlick Road | 5 | 1 | 6+2 | 6+2 | 2025 |
| 408 | VSP23d | | Widen | VA 294 Prince William County Parkway | VA 776 Liberia Avenue | VA 642 Hoadly Road | 2 | 2 | 4 | 6 | 2040 |
| 739 | | | Construct | VA 234 Byp-Prince William Parkway Interchange at | VA 840 University Boulevard | | | | | | 2030 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | VP15CD | | Construct | Collector-Distributor Rd Eastbound (parallels Dulles Toll Rd.) | VA 828 Wiehle Avenue | VA 684 Spring Hill Road | 0 | | 0 | ~~2~~ 1 | 2036 |
| 106 | VP15CD | | Construct | Collector-Distributor Rd Westbound (parallels Dulles Toll Rd.) | VA 684 Spring Hill Road | VA 828 Wiehle Avenue | 0 | | 0 | ~~2~~ 1 | 2037 |
| 286 | VP12O | 99482 | Construct | **VA 234 ~~Manassas~~ Bypass Extension North** | VA 234 Bypass@I-66 (Prince Wm. Co.) | US 50 (Loudoun Co.) | | 5 | | 4 | ~~2030~~ 2040 |
| **Urban** | | | | | | | | | | | |
| 313 | VU28B | 100518 | Construct | Battlefield Parkway | US 15 south of Leesburg | Dulles Greenway | 0 | 2 | 0 | 4 | 2020 |
| 52 | VU30F | 50100 | Widen/Reconstruct | East Elden Street | Monroe Street | Fairfax County Parkway | 3 | 2 | 4 | 6 | 2020 |
| 328 | VU52 | 77378 | Widen | Eisenhower Avenue | Mill Road | Holland Lane | 3 | 3 | 4 | 6 | ~~2016~~ 2019 |
| 553 | VU55 | 106976 | Widen | Evergreen Mills Road | US 15 S. King Street | South City Limits of Leesburg | 4 | 4 | 2 | 4 | 2022 |
| 681 | VU56 | | Construct | Farrington Aveneue | Van Dorn Street at Eisenhower Avenue | Edsall Road | 0 | 4 | 0 | 2 | 2035 |
| 267 | VU10B | 105521 | Widen/Reconstruct | Spring Street | Herndon Parkway (East)/Spring Street | Fairfax County Parkway Interchange | 3 | 2 | 4 | 6 | 2021 |
| 232 | VU33 | 102895 | Widen | Sycolin Road | VA7/US 15 Bypass | SCL of Leesburg | 4 | 4 | 2 | 4 | 2020 |
| 398 554 | VU32 | 17687 103999 | Widen | US 15 South King Street | Evergreen Mills Road | SCL of Leesburg | 3 | 2 | 2 | 4 | **COMPLETE** |
| 382 | NRS | 89890/LEES0001 | Construct | US 15 Bypass Interchange | At Fort Evans Road and Edwards Ferry Road | | 5 | 2 | 4 | 4 | 2025 |
| 290 | VU45 | 15960 (PE & RW Only) | Widen | VA 234 Dumfries Road Business | South Corporate Limits | Hastings Drive | 3 | 3 | 2 | 4 | ~~2018~~ 2040 |
| 594 | NRS | | Reconstruct | VA 234 Grant Avenue | Lee Avenue | Wellington Road | 3 | 3 | 4 | ~~4~~ 2 | 2020 |
| 53 | nrs | 8645 | Construct | Intersection Improvement | King Street | Beauregard Street | | | | | ~~2016~~ 2018 |
| 54 | nrs | | Construct | Ellipse | Seminary Road | Beauregard Street | | | | | 2020 |
| 56 | NRS | 104328 and 106986 | Reconstruct | Herndon Parkway (East): Transit Drop-off/Pick-Up Access to Herndon Metrorail Station | East of Rte 666/Van Buren Street (at 593 Herndon Parkway) | West of Rte 675 / Spring Street (at 575 Herndon Parkway | 2 | 2 | 4 | 4 | 2018 |
| 725 | NRS | 89889 | Reconstruct | Herndon Parkway/Van Buren Street (south) intersection | Herndon Parkway/Van Buren Street (south) | Worldgate Drive/Van Buren Street (south) | 2 | 2 | 4 | 4 | ~~2017~~ 2019 |
| 687 | NRS | 76408 | Reconstruct | VA 17 Intersection Improvements in Warrenton | South of Frost Ave. | South of Winchester St. | | | | | 2021 |
| **Secondary** | | | | | | | | | | | |
| **Arlington County** | | | | | | | | | | | |
| 411 | AR17a | | Widen | Washington Boulevard | Wilson | Kirkwood | 3 | 3 | 3 | 4 | ~~2017~~ 2019 |
| | NRS | | **Construct** | **12th Street South** | **VA-120 (South Glebe Rd.)** | **South Monroe St** | **4** | **4** | **0** | **2** | **2019** |
| | AR30 | | **Convert to 2-way** | **27th Street South** | **US-1** | **Crystal Drive** | **4** | **4** | **4** | **4** | **2019** |
| | AR31 | | **Demolish** | **South Clark Street** | **12th Street South** | **18th Street South** | **4** | **0** | **2** | **0** | **2019** |
| **Fairfax County** | | | | | | | | | | | |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 336 | FFX2a | FFX2a | Construct | VA 602 Reston Pkwy. | VA 5320 Sunrise Valley Dr. | VA 606 Baron Cameron Avenue | 2 | 2 | 4 | 6 | 2020 |
| 732 | VSF44 | | Widen | VA 608 Frying Pan Road | VA 28 Sulley Road | VA 657 Centreville Road | 3 | 3 | 2 | 4 | 2025 |
| 241 | VSF4f | VSF4f | Widen | VA 611 Furnace Road | VA 123 Ox Road | VA 642 Lorton Road | 3 | 3 | 2 | 4 | 2016 |
| 218 | VSF4ca | | Widen | VA 611 Telegraph Road | Leaf Road North | VA 635 Hayfield Road | 3 | 3 | 2 | 4 | 2025 |
| 298 | VSF4i | | Widen | VA 611 Telegraph Road | VA 635 Hayfield Road | VA 613 (Van Dorn St.) | 3 | 3 | 2 | 4 | 2025 |
| 62 | VSF4h | 11012 | Widen | VA 611 Telegraph Road | VA 613 S. Van Dorn | VA 644 Franconia Road | 3 | 3 | 2 | 3 | 2025 |
| 63 | VSF15b | | Construct | VA 613 Van Dorn Interchange | VA 644 Franconia Road | | 0 | 0 | 0 | 0 | 2025 |
| 301 | VSF8g | VSF8g | Widen | VA 620 Braddock Road | ~~VA 7100~~ VA 286 Fairfax County Parkway | VA 123 Ox Road | 3 | 3 | 4 | 6 | 2025 |
| 334 | VSF8j | | Construct/Widen | VA 620 New Braddock Rd. | VA 28 | US 29 @ VA 662 (Stone Rd.) | 0/4 | 3 | 0/2 | 4 | 2025 |
| 736 | VSF45 | | Widen | VA 636 Hooes Road | VA 286 Fairfax County Parkway | VA 600 Silverbrook Road | 3 | 3 | 2 | 4 | 2025 |
| 427 | BRAC | 10091 | Widen | VA 638 Rolling Road NB off-ramp | NB Rolling Rd. | NB Fairfax Co. Pkway | 3 | 3 | 2 | 4 | **COMPLETE** |
| 302 | VSF10a | | Widen | VA 638 Rolling Road | VA 286 Fairfax County Parkway | VA 644 Old Keene Mill Road | 3 | 3 | 2 | 4 | ***~~2020~~ 2025*** |
| 586 | VSF10E | 102905 | Widen | VA 638 Rolling Road | Rt 5297 DeLong Drive | Fullerton Drive | 3 | 3 | 2 | 4 | 2022 |
| 377 | VSF10c | 16505 | Widen | VA 638 Pohick Road | VA 1 | I 95 | 3 | 3 | 2 | 4 | 2025 |
| 269 | VSF13d | 16505 | Widen | VA 642 Lorton Road | VA 123 (Ox Road) | VA 600 Silverbrook Road | 3 | 3 | 2 | 4 | **COMPLETE** |
| 217 | FFX11a | | Widen | VA 645 Stringfellow Road | US 50 | VA 286 Fairfax County Parkway | 3 | 3 | 2 | 4 | 2020 |
| 64 | VSF37a | | Widen | VA 650 Gallows Road | VA 7 Leesburg Pike | VA ~~299~~ 699 Prosperity Ave. | 2 | 2 | 4 | 6 | 2038 |
| 65 | VSF33a | | Widen | VA 651 Guinea Road | VA 6197 Roberts Parkway | VA 4807 Pommeroy Drive | 3 | 3 | 2 | 4 | 2025 |
| 255 | FFX12a | | Construct | VA 651 New Guinea Road | VA 123 Ox Road | Roberts Road | 0 | 3 | 0 | 4 | 2025 |
| 688 | VSF17b | | Construct | VA 655 Shirley Gate Road | VA 286 Fairfax County Parkway | VA 620 Braddock Road | 0 | 3 | 0 | 4 | 2025 |
| 346 | VSF18C | 74749 | Widen | VA 657 Centreville Road | VA 8390 Metrotech Dr. | VA 668 McLearen Road | 3 | 3 | 4 | 6 | 2040 |
| 66 | VSF42 | | Construct | Boone Boulevard Extension | VA 123 Chain Bridge Road | Ashgrove Lane | | | 0 | 4 | 2036 |
| 724 | VSF46 | | Construct | VA 2677 Frontier Drive | Franconia-Springfield Transportation Center | VA 789 Loisdale Road | 0 | 4 | 0 | 2 | 2024 |
| 69 | NRS | | Construct | Greensboro Drive WB | Spring Hill Road | Tyco Road | 0 | 4 | 0 | 2 | 2034 |
| 68 | VSF43 | | Widen | Magarity Road | VA 7 Leesburg Pike | VA 694 Great Falls Street | | | 2 | 4 | 2037 |
| 67 | **VSF47** | | Construct | New Bridge/Road Crossing | Tysons Corner Center Ring Road | Old Meadow Road | | | 0 | 4 | 2036 |
| **882** | **VSF48** | | **Construct** | **Rock Hill Road Overpass** | **VA 5320 (Sunrise Valley Dr.)** | **VA 209 (Innovation Avenue)** | **0** | **4** | **0** | **4** | **2030** |
| **722** | **VSF49** | | **Construct** | **Soapstone Drive 4-Lane Overpass** | **Sunrise Valley Drive** | **Sunset Hills Road** | **0** | **4** | **0** | **4** | **2027** |
| 442 | VSF41 | 103907 | Construct/Widen | VA 8102 Scotts Crossing Rd | VA 123 Dolly Madison Blvd | Jones Branch Dr | | | 0/2 | 4 | 2018 |
| **Loudoun County** | | | | | | | | | | | |
| 661 | NRS | | Construct | VA 606 Ramp | VA 606 Eastbound | VA 789 Lockridge Road Northbound | | | 0 | 2 | 2020 |
| 330 | VSL1B | 97529, 105064 | Widen/Upgrade | VA 606/607 Old Ox Rd/Loudoun County Parkway | VA 634 Moran Rd | VA 621 Evergreen Mills Rd | 4 | 3 | 2 | 4 | ***~~2017~~ 2018*** |
| 566 | VSL10E | | Widen | VA 607 Loudoun County Parkway | US 50 | VA 606 at new Arcola Blvd. | 3 | 3 | 4 | 6 | 2030 |
| 329 | VSL10C | | Construct | VA 607 Loudoun County Parkway | VA 606 Old Ox Rd / VA 842 Arcola Rd | VA 607 Ryan Rd / Loudoun County Parkway | 0 | 3 | 0 | 4 | **COMPLETE** |
| 275 | VSL10bb | | Widen/Upgrade | VA 607 Loudoun County Parkway | W&OD Trail | Redskin Park Drive | 4 | 3 | 4 | 6 | 2025 |
| **890** | **VSL2C** | | **Widen** | **VA 620 Braddock Rd** | **VA 659** | **Fairfax County Line** | **3** | **3** | **2** | **4** | **2025** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| **889** | **VSL2D** | | **Widen** | **VA 620 Braddock Rd** | **VA 659** | **Royal Hunter Drive** | **4** | **4** | **2** | **4** | **2025** |
| **884** | **NRS** | | **Reconstruct** | **Braddock/Summerall/Supreme Intersection Improvements** | | | **4** | **4** | **2** | **2** | **2020** |
| 683 | NRS | | Construct | VA 625 Waxpool Road/ VA 607 Loudoun County Parkway Interchange | | | 3 | 3 | 0 | 4 | 2019 |
| 689 | VSL54 | 106996 | Widen | VA 640 Farmwell Road | VA 1950 Smith Switch Road | VA 641 Ashburn Road | 4 | 4 | 4 | 6 | 2020 |
| 335 | VSL45 | VSL45 | Widen | VA 643 | Leesburg Town Limits | Crosstrails Boulevard | 3 | 3 | 2 | 4 | 2035 |
| 827 | VSL65 | | Construct | VA 643 Shellhorn Extended | VA 606 Loudoun County Parkway | Moran Road | 0 | 4 | 0 | 4 | 2020 |
| 825 | VSL64 | | Construct | VA 645 Westwind Blvd | VA 607 Loudoun County Parkway | VA 606 Old Ox Rd. | 0 | 4 | 0 | 4 | 2020 |
| 72 | VSL4ac | 76244 & 99481 | Widen | VA 659 Belmont Ridge Road | VA 7 Leesburg Pike | VA 267 Dulles Greenway ~~Croson Lane~~ | 4 | 3 | 2 | 4 | 2018 |
| 746 | VSL4AD | | Widen/Upgrade | VA 659 Belmont Ridge Road | VA 645 Croson Lane | VA 267 Dulles Greenway | 4 | 3 | 2 | 4 | 2025 |
| 297 | VSL4f | | Widen | VA 659 Gum Spring Rd. | Prince William County Line | VA 620 Braddock Road | 4 | 4 ~~3~~ | 2 | 4 | 2035 |
| 641 | VSL58 | | Construct | Ashburn Silver Line Station Connector Bridge | VA 267 Dulles Greenway | Ashburn Silver Line Station | 4 | 4 | 0 | 4 | 2019 |
| 573 574 575 | VSL61 | | Construct | VA 842 Arcola Boulevard (Southern Segment) | US 50 | VA 607 Loudoun County Parkway | 0 | 4 | 0 | 4 | 2022 |
| 76 | VSL40F | 102858 | Construct | VA 901 Clairborne Parkway | VA 645 Croson Lane | VA 772 Ryan Road | 0 | 4 | 0 | 4 | 2019 |
| 576 | VSL63 | | Construct | VA 774 Creighton Road (completion of eastern end) | VA 659 Belmont Ridge Road | VA 621 Evergreen Mills Road | 0 | 4 | 0 | 4 | ~~2016~~ **2025** |
| **883** | **VSL66** | | **Widen** | **Croson Ln Widening** | **Clairborn** | **Mooreview Pkwy** | **4** | **4** | **2** | **4** | **2025** |
| 577 | VSL56 | | Construct | Crosstrail Boulevard | VA 625 Sycolin Road | Kincaid Boulevard | 0 | 4 | 0 | 4 | 2019 |
| 662 | NRS | 69870 | Construct | VA 868 Davis Drive | VA 606 Old Ox Road | VA 846 Sterling Boulevard | 0 | 4 | 0 | 4 | 2025 |
| **888** | **NRS** | | **Reconstruct** | **Elk Lick Rd Intersections** | **US 50** | **Tall CedarsPkwy** | **4** | **4** | **2** | **2** | **2020** |
| **887** | **NRS** | | **ReAlign Intersections** | **Evergreen Mills Rd** | **Watson Road** | **Reservoir Road** | **3** | **3** | **2** | **2** | **2020** |
| 578 580 | VSL62 | | Widen | VA 621 Evergreen Mills Road (Eastern Segment) | VA 607 Loudoun County Parkway | VA 659 Belmont Ridge Road | 4 | 4 | 2 | 4 | 2025 |
| 564 | NRS | | Construct | Glascock Road (Eastern Segment) | VA 842 Arcola Boulevard | VA 607 Loudoun County Parkway | 0 | 4 | 0 | 4 | 2023 |
| 565 | NRS | | Construct | Glascock Road (Western Segment) | VA 842 Arcola Boulevard | VA 3171 Northstar Boulevard | 0 | 4 | 0 | 4 | 2023 |
| 74 | VSL52 | 104418 | Construct | Gloucester Parkway | VA 607 Loudoun County Parkway | VA 1036 Pacific Boulevard | 0 | 4 ~~3~~ | 0 | 4 | **COMPLETE** |
| **886** | **NRS** | | **Construct** | **Moorefield Boulevard** | **Mooreview Parkway** | **Moorefield Station** | **0** | **4** | **0** | **3** | **2020** |
| 568 | VSL57 | | Construct | VA 2298 Mooreview Parkway (Missing Link) | VA 2773 Amberleigh Farm Drive | VA 772 Old Ryan Road | 0 | 4 | 0 | 4 | 2019 |
| 570 | VP12R | 106994 | Construct | VA 3171 Northstar Boulevard (Missing Link #79) | Shreveport Drive | US 50 | 0 | 3 ~~2~~ | 0 | 4 | 2022 |
| 333 | VSL46 | 68767, | Construct | VA 1036 Pacific Boulevard | VA 846 Sterling Boulevard | VA 1060 Richfield Way | 0 | 4 | 0 | 4 | **COMPLETE** |
| 572 | VSL59 | | Construct | VA 1071 Prentice Drive (Western Segment) | VA 607 Loudoun County Parkway | Loudoun Station Drive | 0 | 4 | 0 | 4 | 2019 |
| 556 | VSL59 | | Construct | VA 1071 Prentice Drive Eastern Segment | VA 789 Lockridge Road | VA 607 Loudoun County Parkway | 0 | 4 | 0 | 4 | 2019 |

NOTE: Shaded areas represent changes from the VDOT/MDOT off-cycle amendment to the 2016 CLRP.

# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)

| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility | | Lanes | | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | From | To | From | To | |
| 826 | VSL48B | | Construct | VA 2401 RIverside Parkway | VA 607 Loudoun County Parkway | VA 2020 Ashburn Village Boulevard Extension | 0 | 4 | 0 | 4 | 2018 |
| 561 | VSL49A | | Construct | VA 1061 Russell Branch Parkway (Eastern Segment) | VA 2020 Ashburn Village Road | VA 641 | 0 | 4 | 0 | 4 | **COMPLETE** |
| 559 | VSL49B | | Construct | VA 1061 Russell Branch Parkway (Western Segment) | VA 659 Belmont Ridge Road | Tournament Parkway | 0 | 4 | 0 | 4 | 2017 |
| 560 | VSL55 | | Construct | Shreveport Drive (Eastern Segment) | VA 659 Belmont Ridge Road | VA 607 Loudoun County Parkway | 0 | 4 | 0 | 4 | **COMPLETE** |
| 563 | VSL55A | | Construct | Shreveport Drive (Western Segment) | VA 621 Evergreen Mills Road | VA 659 Belmont Ridge Road | 0 | 4 | 0 | 4 | ~~**2017**~~ **2025** |
| 562 | VSL60 | 105783 | Construct | VA 846 Sterling Boulevard Extension | VA 1036 Pacific Boulevard | VA 634 Moran Road | 0 | 4 | 0 | 4 | ~~**2019**~~ **2025** |
| 77 | VSL53 | | Construct | VA 2020 Tall Cedars Parkway | VA 827 Pinebrook Road | VA 659 Gum Springs Road` | | | 0 | 4 | **COMPLETE** |
| 555 | | 87106 | Widen | VA 2119 Waxpool Road | VA 2070 Demott Road | VA 2020 Ashburn Village Boulevard | 4 | 4 | 2 | 4 | ~~**2016**~~ **2018** |
| **Prince William County** | | | | | | | | | | | |
| 257 | VSP25c | | Widen | VA 1781 Telegraph Rd. | VA 294 (Prince William Pkwy) | VA 849 (Caton Hill Rd.) | 4 | 4 | 2 | 4 | ~~**2020**~~ **2025** |
| 81 | VSP2h | | Widen | VA 619 Joplin Road eastbound | I 95 ramp | US 1 | | | 2 | 3 | **COMPLETE** |
| ~~**367**~~ | ~~**VSP3a**~~ | | ~~**Widen/Upgrade**~~ | ~~**VA 621 Balls Ford Road**~~ | ~~**Miramar Drive**~~ | ~~**Bethlehem Road**~~ | ~~**4**~~ | ~~**3**~~ | ~~**2**~~ | ~~**4**~~ | ~~**2030**~~ |
| 79 | VSP3b | 80347 | Widen/Upgrade | VA 621 Balls Ford Road | ~~**Bethlehem Road**~~ **Sudley Rd** | Doane Drive | 4 | 3 | 2 | 4 | ~~**2030**~~ **2022** |
| 690 | VSP64 | | Construct | VA 621 Balls Ford Road Relocated | Doane Drive | Devlin Road | 0 | 3 | 0 | 4 | ~~**2025**~~ **2022** |
| ~~**596**~~ | ~~**VSP3C**~~ | | ~~**Widen**~~ | ~~**VA 621 Balls Ford Road**~~ | ~~**VA 1600 Ashton Avenue**~~ | ~~**VA 622 Groveton Drive**~~ | ~~**3**~~ | ~~**3**~~ | ~~**2**~~ | ~~**4**~~ | ~~**2025**~~ |
| 376 | VSP5e | 103484 | Widen | VA 640 Minnieville Road | VA 643 Spriggs Road | VA 234 Dumfries Road | 3 | 3 | 2 | 4 | 2018 |
| 646 581 | VSP17ba | | Widen | VA 674 Wellington Road | VA 621 Devlin Road/Balls Ford Road | VA 234 Prince William Parkway Bypass | 3 | 3 | 2 | 4 | 2025 |
| 338 589 | VSP17b | | Widen | VA 674 Wellington Road | VA 234 Bypass Prince William Parkway | VA 668 Rixlew Lane | 3 | 3 | 2 | 4 | 2035 |
| 308 | VSP18 | VSP18 | Widen | VA 676 Catharpin Rd. | VA 55 John Marshall Highway | Heathcote Blvd. | 3 | 3 | 2 | 4 | 2040 |
| 325 | VSP20C | VSP20c | Widen/Upgrade | VA 1392 Rippon Boulevard Extension | West of Wigeon Way | Rippon VRE Station | 4 | 3 | 2 | 4 | 2040 |
| 83 | VSP47e | | Construct | **University Boulevard/**~~**Devlin**~~ | Sudley Manor Drive | Wellington Rd/Progress Ct. | 0 | 3 | 0 | 4 | ~~**2025**~~ **2035** |
| 82 | VSP2i | 92999 | Widen | VA 619 Fuller Road | US 1 | VA 619 Fuller Heights Road Relocated | | | 2 | 4 | ~~**2017**~~ **2025** |
| 593 | VSP65 | | Widen | VA 638 Neabsco Mills Road | US 1 Jefferson Davis Highway | ~~**VA 784 Dale Boulevard**~~ **Smoke Ct.** | | | 2 | 4 | ~~**2022**~~ **2023** |
| 642 | VSP62a | | Construct | Rollins Ford Road | Wellington Road | Linton Hall Road | 0 | 3 | 0 | 4 | ~~**2020**~~ **2040** |
| 591 | VSP66 | | Construct | VA 627 Van Buren Road | VA 234 Dumfries Road | VA 610 Cardinal Drive | 0 | 4 | 0 | 4 | ~~**2022**~~ **2040** |
| 401 | NRS | | Construct | **McGraws Corner Dr. / Thoroughfare Rd.** | **US 29 Lee Highway @ Virginia Oaks Dr.** | **US 15 @ Thoroughfare Dr.** | 0 | 4 | 0 | 4 | **2040** |
| 219 | VSP25b | 104802 | Widen | VA 1781 New Telegraph Road/Summit School Road | Horner Road/Park'n'Ride Lot Access | VA 2190 Summit School Road Extension | 4 | 4 | 2 | 4 | ~~**2022**~~ **2025** |
| 745 | NRS | | Construct | VA 234 Potomac Shores Parkway | US 1 Jefferson Davis Highway | VA 4700 River Heritage Boulevard | 0 | 4 | 0 | 4 | 2020 |
| 743 | NRS | | Widen | VA 4700 River Heritage Boulevard | VA 234 Potomac Shores Parkway | Dominica Drive | 4 | 4 | 2 | 4 | 2020 |
| 744 | NRS | | Construct | VA 4700 River Heritage Boulevard | Dominica Drive | VA 234 Potomac Shores Parkway | 0 | 4 | 0 | 2 | 2020 |
| 742 | VSP68 | | Construct | VA 4700 River Heritage Boulevard | US 1 Jefferson Davis Highway | VA 234 Potomac Shores Parkway / Harbor Station | 0 | 4 | 0 | 4 | **COMPLETE** |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 643 | VSP67 | 104802 | Construct | VA 2190 Summit School Road Extension | Telegraph Road | VA 2190 Summit School Road (south end of existing) | 4 | 4 | 2 | 4 | ~~2022~~ 2025 |
| **FAMPO** | | | | | | | | | | | |
| | VI2RFA | | Construct/revise operations | I-95 :HOV/Bus/HOT Lanes- single reversible lane | north of Garrisonville Road (south of Aquia Creek) at flyover | south of Garrisonville Road | 1 | 1 | 0 | 1 | 2018 |
| | VI2RFB | | Construct | I 95 : HOV / Bus / HOT Lanes: Southbound Ramp | South of Garrisonville Road | SB HOT Lanes to SB GP Lanes | 1 | 1 | 0 | 1 | 2018 |
| | VI2RFC | | Construct | I 95 : HOV / Bus / HOT Lanes: Northbound Ramp | South of Garrisonville Road | NB GP Lanes to NB HOT Lanes | 1 | 1 | 0 | 1 | 2018 |
| | VI2rf | | Construct | I 95 : HOV / Bus / HOT Lanes | Rte. 610 (Garrisonville Rd. ) in Stafford County | ~~VA 17 in Spotsylvania County (exit 126)~~ VA 17 Warrenton Rd. (exit 133) | 1 | 1 | 0 | 2 | ~~2025~~ 2022 |
| | | | Study | I 95 : HOV / Bus / HOT Lanes | VA 17 Warrenton Road (exit 133) | VA 17 in Spotsylvania County (exit 126) | 1 | 1 | 0 | 2 | not coded |
| | | | Construct | I 95 : HOV / Bus / HOT Lanes: Ramp | South of Telegraph Road (North of Aquia Creek) | SB GP Lanes to SB HOT Lanes | 1 | 1 | 0 | 1 | ~~2025~~ 2022 |
| | | | Construct | I 95 : HOV / Bus / HOT Lanes: Ramp | South of Telegraph Road (North of Aquia Creek) | NB HOT Lanes to NB GP Lanes | 1 | 1 | 0 | 1 | ~~2025~~ 2022 |
| | | | Construct | I 95 : HOV / Bus / HOT Lanes: Ramp | North of Garrisonville Road (south of Aquia Creek) | NB GP Lanes to NB HOT Lanes | 1 | 1 | 0 | 1 | ~~2025~~ 2022 |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Garrisonsville Road and Courthouse Road~~ | ~~SB GP Lanes to SB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Garrisonsville Road and Courthouse Road~~ | ~~NB HOT Lanes to NB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | VI2RFD | | Construct | I 95 : HOV / Bus / HOT Lanes: Ramp | ~~Between Garrisonsville Road and Courthouse Road~~ At Courthouse Rd. | ~~SB HOT Lanes to SB GP Lanes~~ NB AM on-ramp | 1 | 1 | 0 | 1 | ~~2025~~ 2022 |
| | VI2RFE | | Construct | I 95 : HOV / Bus / HOT Lanes: Ramp | ~~Between Garrisonsville Road and Courthouse Road~~ at Courthouse Rd. | ~~NB GP Lanes to NB HOT Lanes~~ SB PM off-ramp | 1 | 1 | 0 | 1 | ~~2025~~ 2022 |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~South of Rt 628 (North of Stafford Regional Airport)~~ | ~~SB HOT Lanes to SB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~South of Rt 628 (North of Stafford Regional Airport)~~ | ~~NB GP Lanes to NB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Centerpoint Road (St.Co.Airport Access Rd.) and Rt 652~~ | ~~SB GP Lanes to SB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Centerpoint Road (St.Co.Airport Access Rd.) and Rt 652~~ | ~~NB HOT Lanes to NB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Centerpoint Road (St.Co.Airport Access Rd.) and Rt 652~~ | ~~SB HOT Lanes to SB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Centerpoint Road (St.Co.Airport Access Rd.) and Rt 652~~ | ~~NB GP Lanes to NB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~South of Rt 17 (North of Rappahannock River)~~ | ~~NB HOT Lanes to NB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Just South of Rappahannock River~~ | ~~SB HOT Lanes to SB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Just north of Rt 3~~ | ~~NB GP Lanes to NB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I 95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Rt 620 and Rt 208~~ | ~~NB GP Lanes to NB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ~~Construct~~ | ~~I-95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Rt 620 and Rt 208~~ | ~~SB HOT Lanes to SB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I-95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Rt 1 and Rt 17~~ | ~~NB GP Lanes to NB HOT Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | ~~Construct~~ | ~~I-95 : HOV / Bus / HOT Lanes: Ramp~~ | ~~Between Rt 1 and Rt 17~~ | ~~SB HOT Lanes to SB GP Lanes~~ | ~~1~~ | ~~1~~ | ~~0~~ | ~~1~~ | ~~2025~~ |
| | | | Reconstruct | I-95 interchange | at Courthouse Rd. (exit #140) | | | | | | 2025 |
| | ~~FAI1E~~ | | ~~Upgrade~~ | ~~Inside I-95 shoulders for use as travel lanes in peak periods~~ | ~~1.3 mi. n. of Garrisonville Rd.~~ | ~~.4 mi. n. of Amleg Rd.~~ | | | | | ~~2020~~ |
| | **FAI1F** | | Widen | I-95 northbound | Exit 126 (US 1/VA17) | Exit 130 (VA 3 Plank Rd.) | 1 | 1 | 3 | 4 | 2045 |
| | **FAI1G** | | Construct | I-95 northbound collector distributor road | Exit 130 (VA 3 Plank Rd.) | Exit 133 (VA 17 Warrenton Rd.) | 1 | 1 | 3 | 5 | 2030 |
| | FAI1H | | Widen | I-95 northbound | Exit 133 (VA 17 Warrenton Rd.) | Exit 136 (Centerport Parkway) | 1 | 1 | 3 | 4 | 2045 |
| | FAI1J | | Widen | I-95 southbound | 1.3 miles south of Exit 130 | Exit 126 (US 1/VA17) | 1 | 1 | 3 | 4 | 2030 |
| | | | Study | I-95 interchange near Celebrate Virginia South (milepoint 131) | to and from NB I-95 and from NB I-95 to Carl D. Silver Pkwy | | 1 | 1 | | | not coded |
| | ~~FAP5F~~ | | ~~Widen~~ | ~~US-1~~ | ~~Prince William County Line~~ | ~~VA-637, Telegraph Rd. (Northern Intersection)~~ | | | ~~4~~ | ~~6~~ | ~~2025~~ |
| | | | Reconstruct | US-1/US-17/PR-218 Intersection | | | | | | | 2020 |
| | ~~FAP5I~~ | | ~~Widen~~ | ~~US 1(Bridge Replacement)~~ | ~~US 17 (Butler Rd.)~~ | ~~Princess Anne St.~~ | ~~2~~ | ~~2~~ | ~~4~~ | ~~6~~ | ~~2025~~ |
| | FAS22A | | Widen | VA-3 (William St) | Gateway Blvd. | William St./Blue Gray Parkway | | | 4 | 6 | 2030 |
| | FAS22 | | Widen | VA 3 (Spotsylvania) | Chewing Lane | VA 627 (Gordon Rd.) | 2 | 2 | 4 | 6 | 2013 |
| | ~~FAP6A~~ | | ~~Widen~~ | ~~US 17 Bypass (Mills Dr.)~~ | ~~I-95~~ | ~~Caroline County Line~~ | ~~2~~ | ~~2~~ | ~~2~~ | ~~4~~ | ~~2030~~ |
| | FAP6E | | Widen | Tidewater Trail US 17 Business/VA 2 | SCL Frederickburg | US 17 Bypass (Mills Dr.) | 2 | 2 | 2 | 4 | 2040 |
| | FAP6C | | Widen | US 17 (Warrenton Rd.) | McLane Drive | Stafford Lakes Parkway | 2 | 2 | 4 | 6 | 2020 |
| | ~~FAP6D~~ | | ~~Widen~~ | ~~US 17 (Warrenton Rd.)~~ | ~~Stafford Lakes Parkway~~ | ~~VA 612 (Hartwood Road)~~ | ~~2~~ | ~~2~~ | ~~4~~ | ~~6~~ | ~~2040~~ |
| | ~~FAP7~~ | | ~~Widen~~ | ~~VA 218 (Butler Rd)~~ | ~~US 1~~ | ~~VA 212 (Chatham Heights Rd)~~ | ~~4~~ | ~~4~~ | ~~2~~ | ~~4~~ | ~~2030~~ |
| | ~~FAS40~~ | | ~~Widen~~ | ~~VA 208 (Courthouse Road)~~ | ~~US 1 (Jefferson Davis Hwy)~~ | ~~Smith Station Road~~ | ~~3~~ | ~~3~~ | ~~4~~ | ~~6~~ | ~~2040~~ |
| **Fredericksburg** | | | | | | | | | | | |
| | FAU1 | | | Fall Hill Ave./ Mary Washington Blvd. Extension | Mary Wash. Blvd. | Gordon Shelton Blvd. | | | 2 | 4 | 2020 |
| | | | | Lafayette Blvd. (Phase 1) | Sophia St | VA-3 (Blue & Gray Parkway) | | | | | 2025 |
| | FAU2 | | | Gateway Blvd. Extended | William St. (PR-3) | Fall Hill Ave (UR-3965) | | | 0 | 4 | 2030 |
| **Stafford County Secondary** | | | | | | | | | | | |
| | ~~FAS43~~ | | | ~~VA 606 (Ferry Rd)~~ | ~~VA 3 (Kings Highway)~~ | ~~VA 608 (Brook Rd)~~ | ~~4~~ | ~~3~~ | | | ~~2035~~ |
| | FAS5b | | | VA 630 (Courthouse Rd) | Winding Creek Dr. | VA 648 (Shelton Shop Rd) | 4 | 4 | 2 | 4 | 2030 |
| | FAS13 | | | VA 648 (Shelton Shop Rd.) | VA 610 (Garrisonville Rd) | VA 627 (Mountainview Rd) | 4 | 4 | 2 | 4 | 2035 |
| | FAS3E | | Widen | Garrisonville Rd. | Eustace Rd. | Shelton Shop Rd. | | | 4 | 6 | 2045 |

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# VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
# (highway)



| Con ID | Project ID | Agency ID | Improvement | Facility | From | To | Facility From | Facility To | Lanes From | Lanes To | Completion Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Spotsylvania County Secondary** | | | | | | | | | | | |
| | ~~FAS18c~~ | | | ~~VA 620 (Harrison Rd)~~ | ~~VA 610 (old Plank Rd.)~~ | ~~VA 627 (Gordon Rd.)~~ | ~~4~~ | ~~4~~ | ~~2~~ | 4 | ~~2025~~ |
| | FAS18B | | | VA-620 (Harrison Rd.) | US-1 BUS (Lafayette Blvd.) | VA-639 (Salem Church Rd.) | | | 2 | 4 | 2025 |
| | ~~FAS28~~ | | | ~~VA 628 (Smith Station Rd)~~ | ~~VA 608 (Massaponax Church Rd.)~~ | ~~VA 627 (Gordon Rd.)~~ | ~~4~~ | ~~4~~ | ~~2~~ | 4 | ~~2035~~ |
| | FAS19 | | | VA 636 (Mine Rd./ Hood Dr.) | VA 208 (Courthouse Rd.) | US 1 | 4 | 4 | 2 | 4 | 2025 |
| | FAS19B | | Widen | VA 636 (Mine Rd.) | Falcon Dr./Spotsylvania Ave. | Lansdowne Rd. | 4 | 4 | 2 | 4 | 2030 |
| | ~~FAS20b~~ | | | ~~VA 639 (Leavells Rd.)~~ | ~~VA 208 (Courthouse Rd.)~~ | ~~VA 628 (Smith Station Rd.)~~ | ~~4~~ | ~~4~~ | ~~2~~ | 4 | ~~2035~~ |

NOTE: Shaded areas represent changes from the VDOT/MDOT off-cycle amendment to the 2016 CLRP.

# ATTACHMENT C

## Interagency Consultation and Public Involvement Process

# TPB Public Comment Procedures and Opportunities Related the Air Quality Conformity Planning Process

As described in the 2014 TPB *Participation Plan*, it is the policy of the TPB to carry out the following public involvement activities with respect to air quality conformity regulations governing TPB plans and programs.

- Ensure that the TPB follows federal requirements for public involvement, including a public comment period of at least 30 days prior to the approval of air quality conformity determinations that are part of the Financially Constrained Long-Range Transportation Plan (CLRP), Transportation Improvement Program (TIP) and other major documents, and the development and consideration of written responses to comments received.

    - Provide notification of the opportunity to comment during the public comment period through a variety of means, including:
        - Direct email notifications that the public comment period has begun;
        - Paid advertisements in local newspapers;
        - Notices in the TPB's monthly newsletter the *TPB News;*
        - Information in other publications, including the TPB *Weekly Report;*
        - Announcements on TPB websites including the COG Transportation homepage http://www.mwcog.org/transportation, the TPB Transportation Planning Information Hub http://www.transportationplanninghub.org, and pages specific to the CLRP http://www.mwcog.org/clrp.
        - Agenda items on key TPB committee's including the Citizens Advisory Committee, Access for All Advisory Committee and Technical Committee;
        - At least one formal public meeting during the development process for the TIP.

    - Comments from the public can be submitted on the TPB's web site, by email, postal mail, or in person at the beginning of TPB meetings. All comments are posted on the web site and are grouped according to whether the comment was submitted by a private citizen, a business or non-profit organization, or a government official or representative body. Comments can also be sorted according to the nature of the comment.

    - The TPB shall provide an additional opportunity for public comment, if the final CLRP or TIP differs significantly from the version that was made available for public comment by the TPB and raises new material issues which interested parties could not reasonably have foreseen from the public involvement efforts.

    - When significant written and oral comments are received on the draft CLRP and

TIP (including the financial plans) as a result of the participation process in this section or the interagency consultation process required under the EPA transportation conformity regulations (40 CFR part 93), a summary, analysis, and report on the disposition of comments shall be made as part of the final metropolitan transportation plan and TIP.

- In addition to the formal public comment process described above, the following ongoing public involvement opportunities are in place and can be used to provide comment on air quality conformity determinations related to the TPB's plans and programs, and to learn about the conformity process:
    - A period of time for public comment is provided at the beginning of each TPB meeting.
    - The TPB website provides online opportunities for public comment.
    - All meetings of the TPB's committees are open to public.
    - The TPB strives to provide reasonable public access to technical and policy information through its website, distribution of paper documents, and through telephone and email communications.
    - Information about the planning process, including air quality conformity issues, is provided through a variety of ad hoc meetings and presentations that regularly occur throughout the region.

## TPB Consultation and Public Comment Opportunities for the Air Quality Conformity Analysis of the Visualize 2045 and the FY 2019-2024 TIP

The following lists TPB consultation and public comment opportunities during the air quality conformity analysis:

- September 8th, 2017 the TPB Technical Committee presentation on the Visualize 2045 constrained element for solicitation of inputs and air quality conformity analysis. Federal law requires that this collection of projects and programs be analyzed to ensure that future vehicle-related emissions remain below approved regional limits. The committee was briefed on the process, schedule, and requirements for the Air Quality Conformity Analysis
- September 14th, 2017 – TPB Citizens Advisory Committee (CAC) presentation on the Visualize 2045 public input survey designed to collect general attitudes and opinions about transportation in the region. The committee was briefed on outreach activities undertaken over the summer to promote the survey and encourage participation
- September 15th, 2017 – Monthly conformity consultation letter referenced the process, schedule and requirements for the Air Quality Conformity Analysis of the constrained element of the Visualize 2045 transportation plan. The TPB Board was asked for feedback on a draft solicitation document (previously known as the Call for Projects) asking agencies to submit projects, programs, and policy updates for inclusion in the Constrained Element of the plan and the federally required Air Quality Conformity Analysis
- September 20th, 2017 – Opportunity for the public comment at the TPB meeting
- September 20th, 2017 – TPB presentation on the Visualize 2045 Constrained Element that identified all regionally significant transportation investments the region can demonstrate we can afford between now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure that future vehicle -related emissions remain below approved regional limits
- September 26th, 2017 – Article on the Visualize 2045 outreach to collect public input survey on general attitudes and opinions about transportation in the region was in the online *TPB News* website (http://www.tpbne.ws/)
- October 6th, 2017 – TPB Technical Committee presentation on the Visualize 2045 Constrained Element which was used to identify significant transportation investments the region can demonstrate that the region could afford between now and 2045. Federal law requires that this

collection of projects and programs be analyzed to ensure that future vehicle-related emissions remain below approved regional limits

- October 12th, 2017 – TPB CAC presentation on the Visualize 2045 technical inputs solicitation and public input survey preliminary findings. The committee was asked to comment on the findings and offer suggestions for further analysis
- October 13th, 2017 – Monthly conformity consultation letter referenced the Visualized 2045 Constrained Element would identify all regionally significant transportation investments the region can demonstrate the region can afford now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure the future vehicle-related emissions remain below approved regional limits
- October 19th,2017 – Opportunity for the public comment at the TPB meeting
- October 19th, 2017 – TPB presentation on the Visualize 2045 Constrained Element would identify all regionally significant transportation investments the region can demonstrate the region can afford now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure the future vehicle-related emissions remain below approved regional limits
- October 24th, 2017 – Article on now is the time for agencies to submit or update projects, programs and policies for inclusion in Visualize 2045 was in the online *TPB News* website ((http://www.tpbne.ws/)
- November 3rd, 2017 – TPB Technical Committee presentation on the Visualize 2045 Constrained Element will identify all regionally significant transportation investments the region can demonstrate we can afford between now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure that future vehicle-related emissions remain below approved regional limits
- December 1th, 2017 – TPB Technical Committee presentation on the draft scope of work for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 Transportation Improvement Program (TIP)
- December 12th, 2017 – Article on TPB's Long Range Plan Task Force group recommendation for five transportation initiatives that demonstrated from their analysis to improve the performance of the region's transportation system was in the online *TPB News* website (http://www.tpbne.ws/)
- December 12th, 2017 – MWAQC Technical Advisory Committee (TAC) presentation on the technical inputs and scope of work for air quality conformity analysis for the Visualize 2045 and FY2019-2024 TIP
- December 14th, 2017 – Beginning of 30 day public comment period
- December 14th, 2017 – Paid advertisement posted in the ***Afro-American***, ***Washington Hispanic*** and ***Washington Post*** announcing a 30-day public comment period for project inputs and draft scope of work

- December 15th, 2017 – Monthly conformity consultation letter referenced the Visualize 2045 Constrained Element and on the draft scope of work for air quality conformity analysis for the FY2019-2024 TIP
- December 20th, 2017 – Opportunity for the public comment at the TPB meeting
- December 20th, 2017 – TPB prestation on project submissions for the Constrained Element and on the draft scope of work for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP
- January 5th, 2018 – TPB Technical Committee review of comments received and approval of the project submissions for the Constrained Element and the scope of work for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP
- January 8th, 2018 – Air and Climate Public Advisory Committee prestation on describing Visualize 2045 as a different kind of long range plan for the region. Visualize 2045 is the constrained element that is federally required and will include all the projects, programs and policies that are expected to be funded through 2045
- January 9th, 2018 – Article on new projects proposed for Visualize 2045 constrained element was in the online *TPB News* website (http://www.tpbne.ws/)
- January 11th, 2018 – TPB CAC presentation on the project submissions for the constrained element for Visualize 2045 and the FY2019-2024TIP
- January 12th, 2018 Monthly conformity consultation letter referenced comments received and recommended responses, and asked to approve the project submissions for inclusion in the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP. The Board was asked to approved the scope of work for the air quality conformity analysis for Visualize 2045 and FY2019-2024 TIP
- January 17th, 2018 – Opportunity for the public comment at the TPB meeting
- January 17th, 2018 – TPB prestation on review of comments received and approval of the Constrained Element project submissions for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP. Second prestation on approval of the scope of work for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP
- February 2nd, 2018 –TPB Technical Committee prestation on review of comments received and approval of the additional Montgomery County project submission into the constrained element for the air quality conformity analysis for Visualize 2045 and FY2019=2024 TIP
- February 15th, 2018 – TPB CAC had a briefing that covered the description of the plan and an overview of the schedule for Visualize 2045
- February 16th, 2018 – Monthly conformity consultation letter referenced comments received and recommended responses and asked to approve

additional project submissions from Montgomery County for inclusion in the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP

- February 21th, 2018 – Opportunity for the public comment at the TPB meeting
- February 21th, 2018 – TPB presentation on comments received and approval of the additional Montgomery County project submission into the constrained element for the air quality conformity analysis for Visualize 2045 and the FY2019-2024 TIP
- March 8th, 2018 – TPB Technical Committee was brief on public outreach activities that were plan in 2018 for Visualize 2045 that included public forums in the spring and open houses in the fall
- March 15th, 2018 TPB CAC was given an overview of plans for public outreach and engagement for Visualize 2045 and discussion about the CAC's role
- March 16th, 2018 – Monthly conformity consultation letter referenced the Board was brief on public outreach activities that were plan in 2018 for Visualize 2045
- March 21st, 2018 – Opportunity for the public comment at the TPB meeting
- March 21st, 2018 – TPB was brief on public outreach activities that were plan in 2018 for Visualize 2045 that include public forums in the spring and open houses in the fall. The Board was asked to provide suggestions for how this outreach can best solicit useful input and how turnout can be maximized
- April 6th, 2018 – TPB Technical Committee was brief on nine public forums that were plan in April and May to obtain input for Visualize 2045. The committee was asked to help spread the word and provided other assistance for these events, which will be held throughout the region
- April 12th, 2018 – TPB CAC was given an overview of Phase 2 Public Outreach for Visualize 2045 that covered the outreach schedule and details about the forums
- April 13th, 2018 – Monthly conformity consultation letter referenced the Board was brief on nine forums that are planned in April and May to obtain input for Visualize 2045
- April 18th, 2018 – Opportunity for the public comment at the TPB meeting
- April 18th, 2018 – TPB was briefed on nine forums that were planned in April and May to obtain input for Visualize 2045. The TPB gathered feedback at the forums that help decision makers better understand the universe of needs and potential projects and how they can affect the region's transportation future
- May 4th, 2018 – TPB Technical Committee was inform a status report will be provided on nine public forums that are planned in April and May to obtain input for Visualize 2045. The committee was asked to help spread the word and provide other assistance for these events

- May 10th, 2018 – TPB CAC conducted a Visualize 2045 forum consisting of a presentation covering the seven initiatives endorsed by the TPB and they had small group discussions on select initiatives. This session mirrors the forums that the TPB was holding throughout the region
- May 11th, 2018 – Monthly conformity consultation letter referenced TPB needed to amend the Visualize 2045 Air Quality Conformity Scope Work to respond to two developments that have occurred since the TPB approved the Scope on January 17, 2018
- May 16th, 2018 – Opportunity for the public comment at the TPB meeting
- May 16th, 2018 – TPB was asked to amend the Visualize 2045 Air Quality Conformity Scope of Work to respond to two developments that have occurred since the TPB approved the Scope on January 17, 2018. The first update satisfies a requirement related to the 2015 Ozone National Ambient Air Quality Standards (NAAQS), and the second update addresses new financial information related to Washington Metropolitan Area Transit Authority (WMATA) funding
- June 1st, 2018 – TPB Technical Committee was provided an update on the 9 evening sessions for Visualize 2045 public forum activity that have taken place throughout the region. An online forum was conducted on June 6th that invited as many tech committee members as possible to attend
- June 14th, 2018 – TPB CAC was provided an update on Visualize 2045: Phase 2 Outreach
- July 6th, 2018 – TPB Technical Committee was briefed on Visualize 2045 twelve public forums throughout the region that included an online forum to build awareness among members of the public about the TPB's purpose and expectations for the endorsed transportation improvement initiatives
- August 30th, 2018 –TPB website provided a notice informing the public of three open house meetings in the region this fall to learn about what is in Visualize 2045
- September 7th, 2018 – Beginning of 30 day public comment period
- September 7th, 2018 – Paid advertisement posted in the ***Afro-American, Washington Hispanic*** and ***Washington Post*** announcing a 30-day public comment period for the Washington Region's proposed Visualize 2045 Long-Range Transportation Plan, FY2019-2024 TIP, and air quality conformity analysis
- September 7th, 2018 – TPB Technical Committee was briefed on financially constrained element of Visualize 2045 demonstrates that future emissions under the plan are consistent –"in conformity"- with emissions levels set forth in air quality plans adopted by the states
- September 11th, 2018 – MWAQC-TAC discussed a summary of mobile emissions developed for the draft Visualize 2045 transportation conformity analysis, and the use of Tier 2 mobile budgets for VOC and NOx for years 2025 and 2030

- September 13th, 2018 – TPB CAC reviewed their involvement in Visualize 2045. CAC participated in a public opinion survey in 2017 and attended Open House forums in 2018 that ended with three Open Houses during September. CAC provided feedback on the Visualize 2045 engagement process to identify what went well, what could be improved, and ideas for the future
- September 14th, 2018 – Monthly conformity consultation letter referenced the draft Visualize 2045 plan, announced public comment period, public participation, and draft FY2019-2024 TIP
- September 21st, 2018 – Opportunity for public comment at the TPB meeting
- September 21st, 2018 – TPB briefed on the draft Visualize 2045 plan, the TPB's new long-range transportation plan for the National Capital Region
- September 26th, 2018 – MWAQC–and–Climate, Energy, and Environment Policy Committee briefed on the air quality conformity analysis of the Visualize 2045 Long Range Plan and FY2019-2024 TIP, and asked to approve a comment letter that was submitted to the TPB in October 2018
- October 5th, 2018 – TPB Technical Committee reviewed the public comments received to date for Visualize 2045, the FY2019-2024 TIP, and the Air Quality Conformity Analysis. Comments were summarized, and a description of the sequence of TPB actions was presented
- October 9th, 2018 – Article on how a million more people get around in 2045 in the region based on performance analysis and air quality analysis was in the online *TPB News* website (http://www.tpbne.ws/2018/10/)
- October 11th, 2018 – TPB CAC was briefed on the performance analysis for the financially constrained element of Visualize 2045, and the differences between three scenarios
- October 12th, 2018 – Monthly consultation letter referenced results for the air quality conformity analysis for the Visualize 2045 plan and FY2019-2024 TIP
- October 17th, 2018 – Opportunity for public comment at the TPB meeting
- October 17th, 2018 – TPB responded to comments received during the public comment period and approved the air quality conformity analysis of the Visualize 2045 plan and FY2019-2024 TIP.

National Capital Region
**Transportation Planning Board**

January 12, 2018

**TO:** Transportation Planning Board
(United States Environmental Protection Agency, Federal Highway Administration, Federal Transit Administration, Metropolitan Washington Air Quality Committee, Air Quality Public Advisory Committee, and Transportation Planning Board Citizens Advisory Committee)

**FROM:** Kanti Srikanth, COG Transportation Planning Director

**SUBJECT:** Consultation with respect to TPB Plans and Programs

**Enclosure:**
1) Agenda for January 17, 2018777 TPB meeting

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This memo transmits the agenda for the January TPB meeting, which is relevant to TPB consultation with respect to air quality conformity. Materials associated with each agenda item are available on the TPB web site www.mwcog.org under Transportation and Meeting & Events. As always, you are welcome to attend the TPB meetings (and/or any meetings of the TPB committees and their subcommittee). A schedule of monthly meetings is listed on the TPB web site under Transportation and Meeting & Events.

The January TPB agenda items relevant for transportation conformity and consultation are identified below.

Item 8 is action item in which the Board will be briefed on comments received and recommended responses, and asked to approve the project submissions for inclusion in the air quality conformity analysis for Visualize 2045 and the FY 2019-2024 Transportation Improvement Plan (TIP). Maryland Department of Transportation (MDOT) and State Highway Administration (SHA) will brief the Board on their major project submissions. The constrained element of Visualize 2045 identifies all regionally significant transportation investments the region can demonstrate to afford between now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure that future vehicle-related emissions remain below approved regional limits. At the December 20 meeting, the Board was briefed on the project submissions and the draft scope of work, which were released for a 30-day public comment period that ended January 13, 2018.

Item 9 is an action item in which the Board will be asked to approve the scope of work for the air quality conformity analysis for Visualize 2045 and the FY 2019-2024 TIP. At the December 20 meeting, the Board was briefed on the project submissions and the draft scope of work, which were released for a 30-day public comment period that ended January 13, 2018.

Item 13 is an information item in which the Board will be briefed on an outline and preliminary budget for the Unified Planning Work Program (UPWP) for FY 2019 (July 1, 2018 through June 30, 2019). A complete draft of the FY 2019 UPWP will be presented to the Board for review at its February 21 meeting.

National Capital Region
**Transportation Planning Board**

# TRANSPORTATION PLANNING BOARD

Wednesday, January 17, 2018
12:00 - 2:00 P.M.
Walter A. Scheiber Board Room

## AGENDA

**12:00 P.M.** **1. PUBLIC COMMENT ON TPB PROCEDURES AND ACTIVITIES**
*Charles Allen, TPB Chair*

Interested members of the public will be given the opportunity to make brief comments on transportation issues under consideration by the TPB. Each speaker will be allowed up to three minutes to present his or her views. Board members will have an opportunity to ask questions of the speakers, and to engage in limited discussion. Speakers are encouraged to bring written copies of their remarks (65 copies) for distribution at the meeting.

**12:20 P.M.** **2. APPROVAL OF THE MINUTES OF THE DECEMBER 20, 2017 MEETING**
*Charles Allen, TPB Chair*

- Minutes from the December 20, 2017 Meeting

**12:25 P.M.** **3. REPORT OF THE TECHNICAL COMMITTEE**
*Robert Brown, TPB Technical Committee Chair*

- Technical Committee Highlights

**12:30 P.M.** **4. REPORT OF THE CITIZENS ADVISORY COMMITTEE**
*Jeremy Martin, TPB Citizens Advisory Committee Chair*

**12:40 P.M.** **5. STEERING COMMITTEE ACTIONS AND REPORT OF THE DIRECTOR**
*Kanti Srikanth, TPB Staff Director*

This agenda item includes Steering Committee actions, letters sent/received, and announcements and updates.

- Steering Committee Actions and Report of the Director

**12:45 P.M.** **6. CHAIRMAN'S REMARKS**
*Charles Allen, TPB Chair*

## ACTION ITEMS

12:50 P.M. **7. APPROVAL OF 2018 APPOINTMENTS TO THE TPB CITIZENS ADVISORY COMMITTEE**

*Charles Allen, TPB Chair*
*Bryan Hayes, TPB Transportation Planner*

The TPB Participation Plan calls for the appointment of 15 individuals to serve as members of the CAC for each calendar year: Six members designated by the current CAC and nine members nominated by the TPB officers. In December, the 2017 CAC elected six individuals to serve on the 2018 CAC. On January 17, 2018, the three TPB officers will each nominate three individuals to serve as CAC members. The TPB officers will also nominate individuals to serve as alternate members. In addition, Chairman Allen will announce the appointment of the 2018 CAC chairman.

**Action: Appoint members and alternates to the 2018 CAC.**

12:55 P.M. **8. VISUALIZE 2045: REVIEW OF COMMENTS RECEIVED AND APPROVAL OF THE CONSTRAINED ELEMENT PROJECT SUBMISSIONS FOR THE AIR QUALITY CONFORMITY ANALYSIS FOR VISUALIZE 2045 AND THE FY 2019-2024 TRANSPORTATION IMPROVEMENT PROGRAM**

*Lyn Erickson, TPB Plan Development and Program Coordination Director*
*R. Earl Lewis, Maryland Department of Transportation*
*Andrew Austin, TPB Transportation Planner*

The constrained element of Visualize 2045 identifies all regionally significant transportation investments the region can demonstrate to afford between now and 2045. Federal law requires that this collection of projects and programs be analyzed to ensure that future vehicle-related emissions remain below approved regional limits.

At the December 20 meeting, the board was briefed on the project submissions and the draft scope of work, which were released for a 30-day public comment period that ended January 13, 2018.

MDOT/SHA will brief the board on their major project submissions.

The board will also be briefed on the comments received and recommended responses, and asked to approve the project submissions for inclusion in the air quality conformity analysis for Visualize 2045 and the FY 2019-2024 TIP.

**Action: Adopt Resolution R9-2018 to approve the project submissions for inclusion in the Air Quality Conformity Analysis for Visualize 2045 and the FY 2019-2024 TIP.**

- Visualize 2045 and FY 2019-2024 TIP: Approve Project Submissions for Inclusion in the Air Quality Conformity Analysis
- Presentation - Visualize 2045 and FY 2019-2024 TIP: Approve Project Submissions for Inclusion in the Air Quality Conformity Analysis

1:20 P.M. **9. VISUALIZE 2045: APPROVAL OF THE SCOPE OF WORK FOR THE AIR QUALITY CONFORMITY ANALYSIS FOR VISUALIZE 2045 AND THE FY 2019-2024 TRANSPORTATION IMPROVEMENT PROGRAM**
*Jane Posey, TPB Transportation Engineer*

At the December 20 meeting, the board was briefed on the project submissions and the draft scope of work, which were released for a 30-day public comment period that ended January 13, 2018.

**Action: Approve the scope of work for the Air Quality Conformity Analysis for Visualize 2045 and the FY 2019-2024 TIP.**

- Visualize 2045 and FY 2019-2024 TIP: Approve the Scope of Work for the Air Quality Conformity Analysis
- Presentation - Visualize 2045 and FY 2019-2024 TIP: Approve the Scope of Work for the Air Quality Conformity Analysis

1:25 P.M. **10. PERFORMANCE BASED PLANNING AND PROGRAMMING: HIGHWAY SAFETY TARGETS**
*Jon Schermann, TPB Transportation Planner*

The board will be asked to approve regional highway safety targets for 2018 for the National Capital Region, which are consistent with the target setting approaches of Maryland, Virginia, and the District of Columbia. A draft set of highway safety targets for the region was presented in December.

**Action: Adopt Resolution R10-2018 to approve regional highway safety targets.**

- Approve Regional Highway Safety Targets

1:40 P.M. **11. APPROVAL OF FUNDING RECOMMENDATIONS FOR THE SECTION 5310 ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES PROGRAM AND AN AMENDMENT OF THE FY 2017-2022 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) TO INCLUDE THE PROJECTS**
*Charles Allen, Enhanced Mobility Grant Selection Committee Chair*
*Wendy Klancher, TPB Transportation Planner*

COG is the designated recipient of the Federal Transit Administration's (FTA) Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program funding for the Washington DC-VA-MD Urbanized Area. A grant solicitation for Enhanced Mobility funds was conducted from August 14 to November 3, 2017. A selection committee, chaired by Mr. Allen, reviewed the grant applications and recommended projects to be presented to the TPB for approval. The board will be briefed on the solicitation and selection process and asked to approve the projects for funding and inclusion in the TIP.

**Action: Approve Resolution R11-2018 to approve funding recommendations for the Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program and to approve an amendment of the FY 2017-2022 Transportation Improvement Program (TIP) to include these projects.**

- Approve Funding Recommendations for the Section 5310 Enhanced Mobility Program and Amend FY 2017-2022 TIP

1:50 P.M. **12. NON-MOTORIZED PRIORITY PROJECTS**
*John Swanson, TPB Transportation Planner*

The board will be briefed on a package of pedestrian and bicycle initiatives that have been identified for inclusion in the unfunded aspirational element of Visualize 2045. The package will feature two components: 1) the National Capital Trail and 2) high-capacity transit station access improvements.

**Action: Approve Resolution R12-2018 to endorse the Non-Motorized Priority Projects initiatives.**

- Visualize 2045: Endorse the Non-Motorized Priority Projects
- Presentation - Visualize 2045: Endorse the Non-Motorized Priority Projects

## INFORMATION ITEMS

1:55 P.M. **13. REVIEW OF OUTLINE AND PRELIMINARY BUDGET FOR THE FY 2019 UNIFIED PLANNING WORK PROGRAM (UPWP)**
*Lyn Erickson, TPB Plan Coordination and Program Director*

The board will be briefed on an outline and preliminary budget for the Unified Planning Work Program (UPWP) for FY 2019 (July 1, 2018 through June 30, 2019). A complete draft of the FY 2019 UPWP will be presented to the board for review at its February 21 meeting.

- Outline and Preliminary Budget for the FY 2019 UPWP

2:00 P.M. **14. ADJOURN**

The next meeting is scheduled for February 21, 2018.

### MEETING AUDIO

Stream live audio of TPB meetings and
listen to recorded audio from past meetings at:
www.mwcog.org/TPBmtg

*TPB* News On-Line October 24, 2017

TPB NEWS

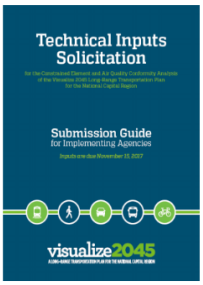
## Now is the time for agencies to submit or update projects, programs, and policies for inclusion in Visualize 2045

Oct 24, 2017

(VaDOT/Flickr)

An important phase in the development of the region's Visualize 2045 long-range transportation plan kicked off October 18 with the Transportation Planning Board's approval of the Technical Inputs Solicitation—a call for area transportation agencies to submit or update all regionally significant projects, programs, and policies they expect to implement between now and 2045.

**Why is the Technical Inputs Solicitation important?**

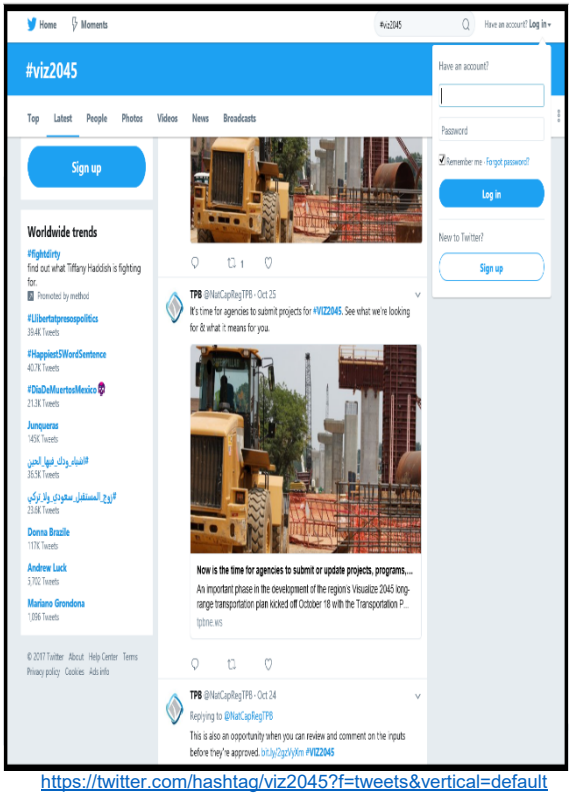



The Technical Inputs Solicitation is a key step in the development of Visualize 2045 because it gathers together all of the inputs necessary for the TPB to test the Constrained Element of Visualize 2045 for "fiscal constraint" and "air quality conformity"—two federal requirements designed to ensure that the region's long-range plans are financially feasible and that they support long-term air quality improvement goals. These inputs also allow the TPB to perform analyses of future travel patterns and conditions to help decision makers and the public "visualize" the region's future under current plans.

The stage of the process also provides an important opportunity for board members, stakeholders, and members of the public to review and comment on the inputs before they are approved for use in the air quality and other analyses. This includes commenting on whether and how the inputs support or advance shared regional goals and priorities, like expanding travel options and supporting compact, mixed-use communities known

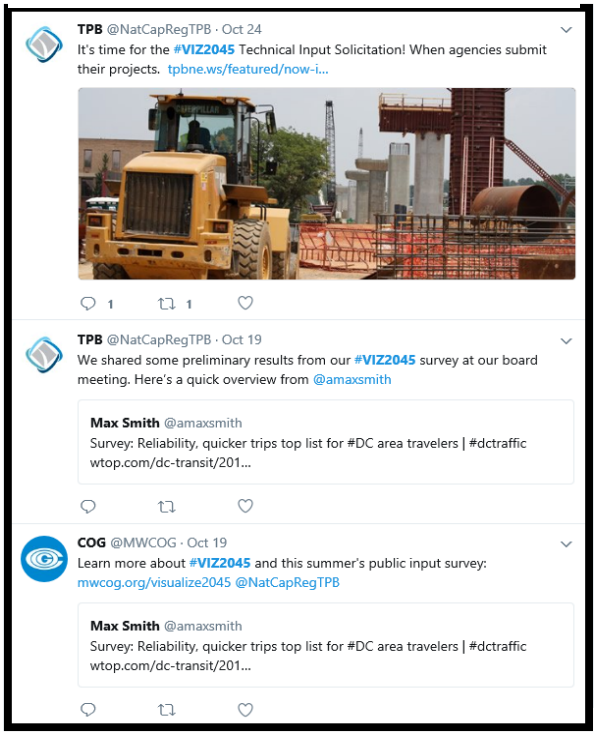
http://www.tpbne.ws/

TPB Twitter October 2017 Public Comments




https://twitter.com/hashtag/viz2045?f=tweets&vertical=default

TPB Twitter October 2017 Public Comments

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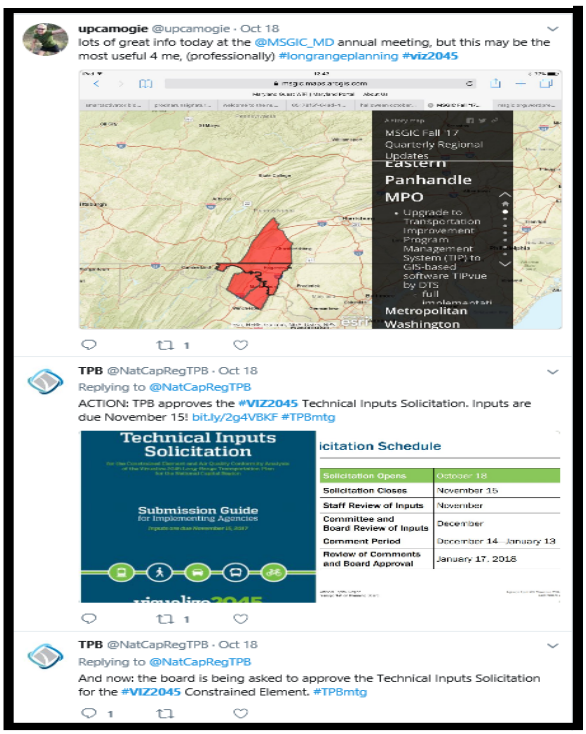
TPB Twitter October 2017 Public Comments




https://twitter.com/hashtag/viz2045?f=tweets&vertical=default

TPB Visualize 2045 CLRP Projects

visualize2045
A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

## We've started work on the Visualize 2045 Constrained Element

On October 18, the TPB kicked off an important phase in the development of the Visualize 2045 long-range transportation plan: the Technical Inputs Solicitation for the Constrained Element and Air Quality Conformity Analysis.

The solicitation is a call for our region's transportation agencies to submit or update all regionally significant projects, programs, and policies they expect to implement and be able to afford between now and 2045. These make up the plan's Constrained Element, which was previously known as the Constrained Long-Range Transportation Plan, or CLRP.

Read more about the Technical Inputs Solicitation

http://www.tpbne.ws//2017/10/

*TPB* **News** On-Line December 12, 2017

# The Long-Range Plan Task Force recommends 5 ideas

*Posted by* TPB NEWS *on* DECEMBER 12, 2017

Share

At the final meeting of the TPB's Long Range Plan Task Force, the group recommended that five of 10 transportation initiatives, analyzed for their ability to improve the performance of the region's transportation system, be sent to the TPB for endorsement on December 20.

The task force worked hard to come to consensus around these five initiatives; the group met 10 times over 9 months and participated in hours of discussion.

Their work began less than a year ago, and started with first identifying the region's biggest transportation challenges.

The analysis indicated that each of the ten initiatives had some potential to improve the regional transportation system's performance and to address one or more of the region's major transportation challenges. The analysis also demonstrated that none of the 10 initiatives would address all the region's transportation challenges.

RELATED: Many great ideas could help us overcome our transportation challenges

Armed with this information, the task force next identified which of the 10 initiatives to recommend to the TPB for endorsement. As it selected initiatives for its recommendation, the task force considered several factors in addition to the technical results of the analysis. These included public support and implementation feasibility, ability to address mobility and accessibility disparities between the eastern and western parts of the region, and implementation costs.

The final meeting began with a straw poll to see which initiatives rose to the top for the group. Five initiatives clearly had the most support.

http://www.tpbne.ws/2017/12/

*TPB* **News** On-Line January 9, 2018

# These are the new (or changed) projects proposed for Visualize 2045's constrained element

Posted by TPB News on January 9, 2018

Share

The first public comment period for Visualize 2045 is now underway. Now that the agencies have submitted their projects, programs, and policies for inclusion in the constrained element of the plan, the public may comment on these inputs. The comment period kicked off on December 14 and will close on January 13. People who wish to submit a comment may use the online comment form, mail, or appear in person at the beginning of the January 17 TPB meeting.

**What's in the plan?**

Visualize 2045 will be a different kind of long-range plan for the region. One piece, the constrained element, is federally required and will include all the projects, programs and policies that are expected to be funded through 2045. Visualize 2045 will also include unfunded projects and priority aspirational elements including the five initiatives identified by the TPB's Long-Range Plan Task Force, plus bicycle and pedestrian, freight elements, and more.

The first step is to develop the constrained element. The projects, programs, and policies submitted by the agencies must also be analyzed for their effect on the region's air quality. To allow time for staff to conduct the analysis, all these inputs must be submitted at this time.

**What are the new projects, programs, or policies?**

The new submissions build on hundreds of other projects contained in the 2016 amendment to the Constrained Long-Range Transportation Plan (CLRP). The public is welcome to comment on any of the projects submitted for air quality analysis.

Here is what is new or changed for Visualize 2045:

In the **District of Columbia**, six new miles of bicycle lanes throughout the District were submitted. The District is also removing three segments of its streetcar line. Learn more about these and other project changes.

http://www.tpbne.ws/featured/these-are-the-new-or-changed-projects-proposed-for-visualize-2045s-constrained-element/

*TPB* **News** On-Line January 9, 2018

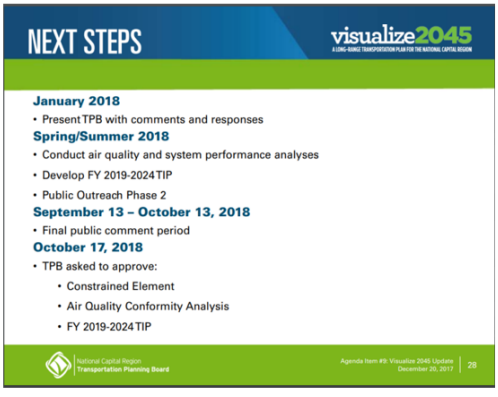
In **Maryland** there are a range of new proposals from new toll lanes on I-270 and I-495 to a network of Bus Rapid Transit (BRT) in Montgomery County. Also included in MDOT's submissions are road widening, and reconstruction projects for Prince George's County and Charles County. Learn more about these and other projects.

In **Virginia**, submissions include a two-mile extension of the I-495 toll lanes to the American Legion Bridge, an auxiliary lane for southbound I-95 in Prince William County, and a road widening project for US 15 in Loudoun County. Learn more about these and other projects.

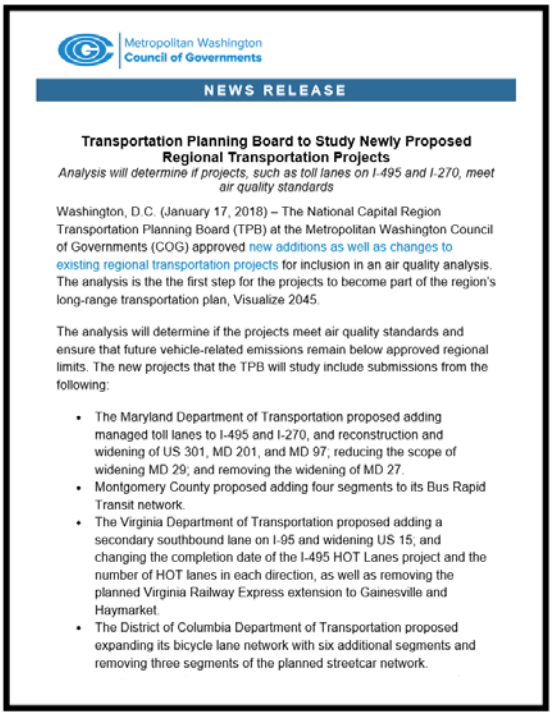
**Washington Metropolitan Area Transit Authority** has also submitted projects for inclusion in Visualize 2045. WMATA has submitted a proposal to run all eight-car trains throughout the system during peak periods. The proposal also includes upgrades to accommodate the higher capacity trains. Learn more about these and other projects.

**What happens next?**

The public comment period runs until January 13, 2018. At the TPB's January 17 meeting, staff will present the comments received and the board will consider what is in the plan and how the air quality analysis will be performed. Staff will conduct the air quality and performance analysis during the spring and summer of 2018. In September, the public will have another chance to comment on the plan before the board considers it for final adoption in October.



TPB Approved to Study Newly Proposed Regional Transportation Projects for Air Quality Standards



Metropolitan Washington Council of Governments

NEWS RELEASE

**Transportation Planning Board to Study Newly Proposed Regional Transportation Projects**

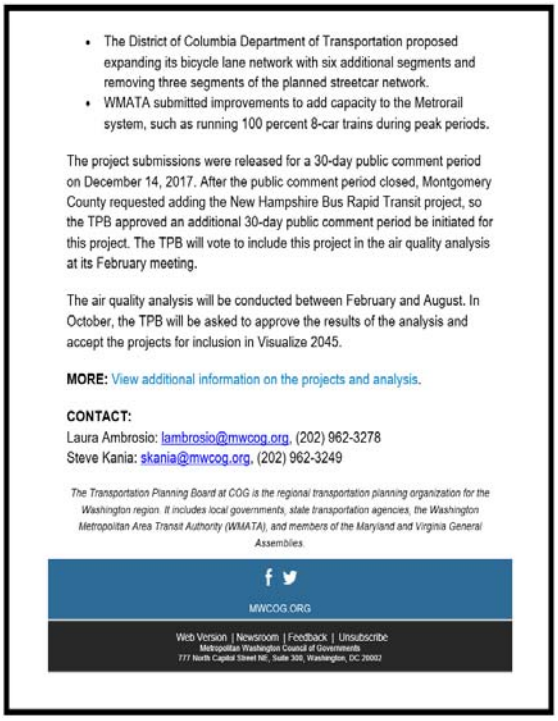
*Analysis will determine if projects, such as toll lanes on I-495 and I-270, meet air quality standards*

Washington, D.C. (January 17, 2018) – The National Capital Region Transportation Planning Board (TPB) at the Metropolitan Washington Council of Governments (COG) approved new additions as well as changes to existing regional transportation projects for inclusion in an air quality analysis. The analysis is the the first step for the projects to become part of the region's long-range transportation plan, Visualize 2045.

The analysis will determine if the projects meet air quality standards and ensure that future vehicle-related emissions remain below approved regional limits. The new projects that the TPB will study include submissions from the following:

- The Maryland Department of Transportation proposed adding managed toll lanes to I-495 and I-270, and reconstruction and widening of US 301, MD 201, and MD 97; reducing the scope of widening MD 29; and removing the widening of MD 27.
- Montgomery County proposed adding four segments to its Bus Rapid Transit network.
- The Virginia Department of Transportation proposed adding a secondary southbound lane on I-95 and widening US 15; and changing the completion date of the I-495 HOT Lanes project and the number of HOT lanes in each direction, as well as removing the planned Virginia Railway Express extension to Gainesville and Haymarket.
- The District of Columbia Department of Transportation proposed expanding its bicycle lane network with six additional segments and removing three segments of the planned streetcar network.

TPB Approved to Study Newly Proposed Regional Transportation Projects for Air Quality Standards



- The District of Columbia Department of Transportation proposed expanding its bicycle lane network with six additional segments and removing three segments of the planned streetcar network.
- WMATA submitted improvements to add capacity to the Metrorail system, such as running 100 percent 8-car trains during peak periods.

The project submissions were released for a 30-day public comment period on December 14, 2017. After the public comment period closed, Montgomery County requested adding the New Hampshire Bus Rapid Transit project, so the TPB approved an additional 30-day public comment period be initiated for this project. The TPB will vote to include this project in the air quality analysis at its February meeting.

The air quality analysis will be conducted between February and August. In October, the TPB will be asked to approve the results of the analysis and accept the projects for inclusion in Visualize 2045.

**MORE:** View additional information on the projects and analysis.

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Laura Ambrosio: lambrosio@mwcog.org, (202) 962-3278
Steve Kania: skania@mwcog.org, (202) 962-3249

*The Transportation Planning Board at COG is the regional transportation planning organization for the Washington region. It includes local governments, state transportation agencies, the Washington Metropolitan Area Transit Authority (WMATA), and members of the Maryland and Virginia General Assemblies.*

MWCOG.ORG

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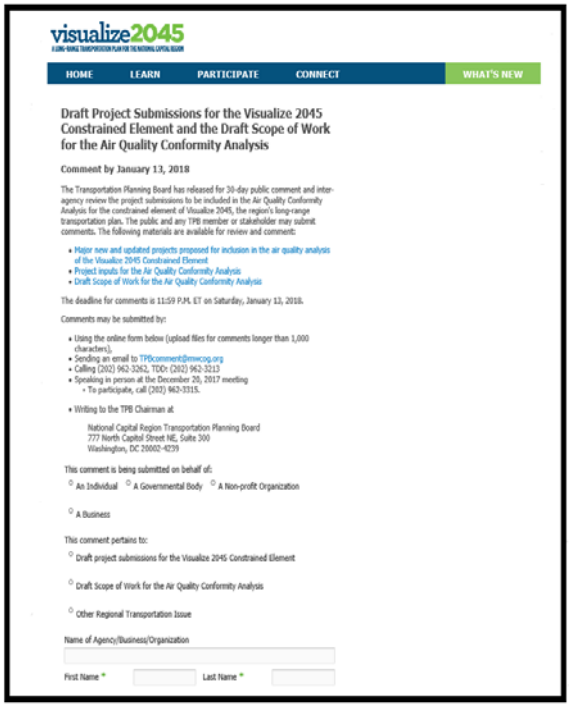
Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300, Washington, DC 20002

Public Comments for Draft Project Submissions for Visualize 2045 Constrained Element & Draft Scope of Work for Air Quality Conformity Analysis



visualize2045

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**Draft Project Submissions for the Visualize 2045 Constrained Element and the Draft Scope of Work for the Air Quality Conformity Analysis**

**Comment by January 13, 2018**

The Transportation Planning Board has released for 30-day public comment and inter-agency review the project submissions to be included in the Air Quality Conformity Analysis for the constrained element of Visualize 2045, the region's long-range transportation plan. The public and any TPB member or stakeholder may submit comments. The following materials are available for review and comment:

- Major new and updated projects proposed for inclusion in the air quality analysis of the Visualize 2045 Constrained Element
- Project Inputs for the Air Quality Conformity Analysis
- Draft Scope of Work for the Air Quality Conformity Analysis

The deadline for comments is 11:59 P.M. ET on Saturday, January 13, 2018.

Comments may be submitted by:

- Using the online form below (upload files for comments longer than 1,000 characters),
- Sending an email to TPBcomment@mwcog.org
- Calling (202) 962-3262, TDD: (202) 962-3213
- Speaking in person at the December 20, 2017 meeting
  - To participate, call (202) 962-3315.
- Writing to the TPB Chairman at:

  National Capital Region Transportation Planning Board
  777 North Capitol Street NE, Suite 300
  Washington, DC 20002-4239

This comment is being submitted on behalf of:

○ An Individual ○ A Governmental Body ○ A Non-profit Organization
○ A Business

This comment pertains to:

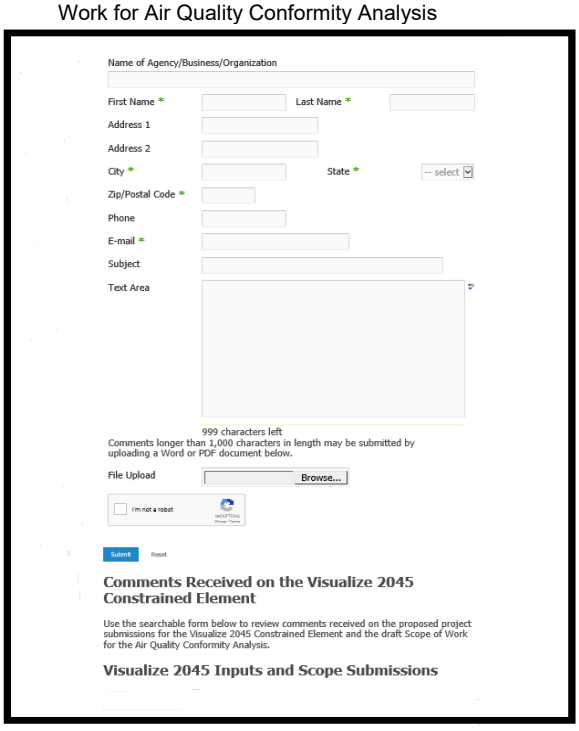
○ Draft project submissions for the Visualize 2045 Constrained Element
○ Draft Scope of Work for the Air Quality Conformity Analysis
○ Other Regional Transportation Issue

Name of Agency/Business/Organization

First Name * Last Name *

http://www.mwcog.org/visualize2045/comment-form/

Public Comments for Draft Project Submissions for Visualize 2045 Constrained Element & Draft Scope of Work for Air Quality Conformity Analysis



Name of Agency/Business/Organization

First Name * Last Name *

Address 1

Address 2

City * State * -- select

Zip/Postal Code *

Phone

E-mail *

Subject

Text Area

999 characters left

Comments longer than 1,000 characters in length may be submitted by uploading a Word or PDF document below.

File Upload Browse...

I'm not a robot

Submit Reset

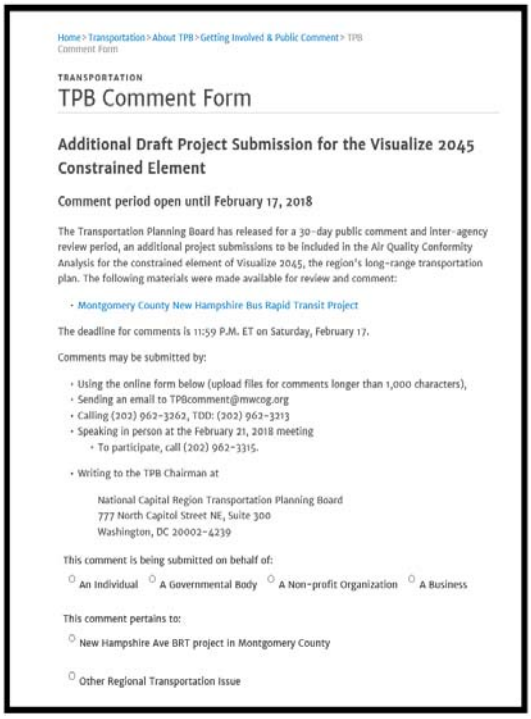
**Comments Received on the Visualize 2045 Constrained Element**

Use the searchable form below to review comments received on the proposed project submissions for the Visualize 2045 Constrained Element and the draft Scope of Work for the Air Quality Conformity Analysis.

**Visualize 2045 Inputs and Scope Submissions**

http://www.mwcog.org/visualize2045/comment-form/

Public Comment Period Closes February 17, 2018 for Additional Draft Project Submission for the Visualize 2045 Constrained Element



Home > Transportation > About TPB > Getting Involved & Public Comment > TPB Comment Form

TRANSPORTATION

## TPB Comment Form

### Additional Draft Project Submission for the Visualize 2045 Constrained Element

**Comment period open until February 17, 2018**

The Transportation Planning Board has released for a 30-day public comment and inter-agency review period, an additional project submissions to be included in the Air Quality Conformity Analysis for the constrained element of Visualize 2045, the region's long-range transportation plan. The following materials were made available for review and comment:

- Montgomery County New Hampshire Bus Rapid Transit Project

The deadline for comments is 11:59 P.M. ET on Saturday, February 17.

Comments may be submitted by:

- Using the online form below (upload files for comments longer than 1,000 characters),
- Sending an email to TPBcomment@mwcog.org
- Calling (202) 962-3262, TDD: (202) 962-3213
- Speaking in person at the February 21, 2018 meeting
  - To participate, call (202) 962-3315.
- Writing to the TPB Chairman at

  National Capital Region Transportation Planning Board
  777 North Capitol Street NE, Suite 300
  Washington, DC 20002-4239

This comment is being submitted on behalf of:

○ An Individual ○ A Governmental Body ○ A Non-profit Organization ○ A Business

This comment pertains to:

○ New Hampshire Ave BRT project in Montgomery County

○ Other Regional Transportation Issue

http://www.mwcog.org/TPBcomment/

TPB Visualize 2045 Frederick Meeting

Frederick, Rockville, La Plata, we're headed your way!

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A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

**First up is Frederick on April 11!**

We're launching the first of 9 public forums focused on the seven initiatives that will be highlighted in Visualize 2045.

These seven initiatives include the five that were developed through the TPB's Long-Range Plan Task Force plus two bicycle and pedestrian initiatives.

Join us in Frederick for our first forum on April 11 at 7pm.

Gov. Thomas Johnson High School
1501 N. Market St
Frederick, MD

Learn more and plan to join us on April 11!

**Rockville and La Plata you're on deck**

Be sure the save the dates for our second and third forums in Rockville and La Plata.

On April 19 at 7pm we'll be in Montgomery County.
Executive Office Building
101 Monroe St
Rockville, MD 20850

On April 25 at 7pm we'll be in Charles County.
Charles County Government Building
200 Baltimore St
La Plata, MD 20646

These are just the beginning, keep a look out for more locations across the region throughout the spring.

Learn more and plan to join us in your community!

**Stay connected**

Learn about key public input opportunities, decision points, and new data and analysis as it becomes available. Sign up for email updates and follow #V2Z2045 on Twitter.

Visualize 2045 is being developed by the National Capital Region Transportation Planning Board, the federally designated metropolitan planning organization (MPO) for metropolitan Washington. The TPB is housed at and staffed by the Metropolitan Washington Council of Governments (COG).

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http:www.mwcog.org/visualize2045/participate/

TPB Visualize 2045 Public Forums Explore Seven Big Transportation Ideas for the Region

# Visualize the future: Public forums explore seven big transportation ideas for the region

Posted by TPB NEWS on APRIL 24, 2018

Share

Back in December and January, the TPB endorsed seven initiatives for a better transportation future. Now, we're holding nine public forums across the region to get people talking about not only their opinions about the initiatives but also how they imagine the future of transportation in the region.

**Where did the seven initiatives come from?**

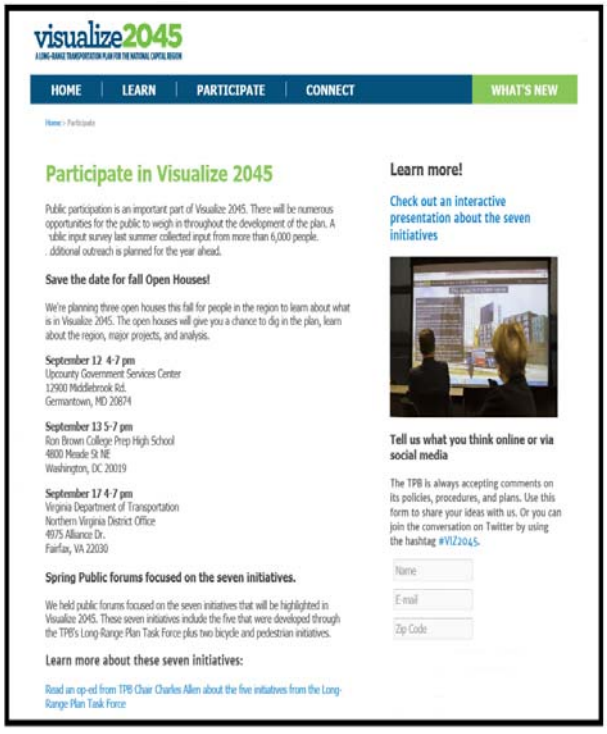
The TPB endorsed these ideas after working through a year-long process with its Long-Range Plan Task Force. The task force deliberated and considered 80 ideas before coming to consensus around five big initiatives. The TPB endorsed these ideas in December for future concerted action. In January, the TPB endorsed two other initiatives focused on bicycle and pedestrian travel and access to transit.

Together these seven ideas will be included in the aspirational or unfunded element of Visualize 2045, the TPB's new long-range transportation plan.

Though some of these ideas are being implemented now—like Bus Rapid Transit or express toll lanes—most are concepts that could be expanded throughout the region. They can only come to fruition when local jurisdictions decide how they plan to implement projects, programs, or policies that will support these ideas. At the public forums, the region's residents have a chance to start shaping those conversations.

http://www.tpbne.ws/2018/04/

TPB – Participate in Visualize 2045



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A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

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Home > Participate

## Participate in Visualize 2045

Public participation is an important part of Visualize 2045. There will be numerous opportunities for the public to weigh in throughout the development of the plan. A public input survey last summer collected input from more than 6,000 people. Additional outreach is planned for the year ahead.

**Save the date for fall Open Houses!**

We're planning three open houses this fall for people in the region to learn about what is in Visualize 2045. The open houses will give you a chance to dig in the plan, learn about the region, major projects, and analysis.

**September 12 4-7 pm**
Upcounty Government Services Center
12900 Middlebrook Rd.
Germantown, MD 20874

**September 13 5-7 pm**
Ron Brown College Prep High School
4800 Meade St NE
Washington, DC 20019

**September 17 4-7 pm**
Virginia Department of Transportation
Northern Virginia District Office
4975 Alliance Dr.
Fairfax, VA 22030

**Spring Public forums focused on the seven initiatives.**

We held public forums focused on the seven initiatives that will be highlighted in Visualize 2045. These seven initiatives include the five that were developed through the TPB's Long-Range Plan Task Force plus two bicycle and pedestrian initiatives.

**Learn more about these seven initiatives:**

Read an op-ed from TPB Chair Charles Allen about the five initiatives from the Long-Range Plan Task Force

**Learn more!**

Check out an interactive presentation about the seven initiatives



**Tell us what you think online or via social media**

The TPB is always accepting comments on its policies, procedures, and plans. Use this form to share your ideas with us. Or you can join the conversation on Twitter by using the hashtag #V2Z2045.

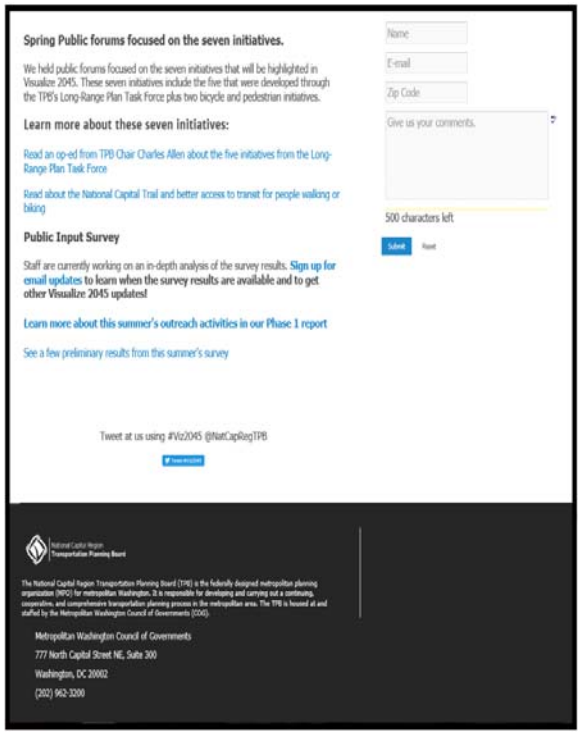
Name

E-mail

Zip Code

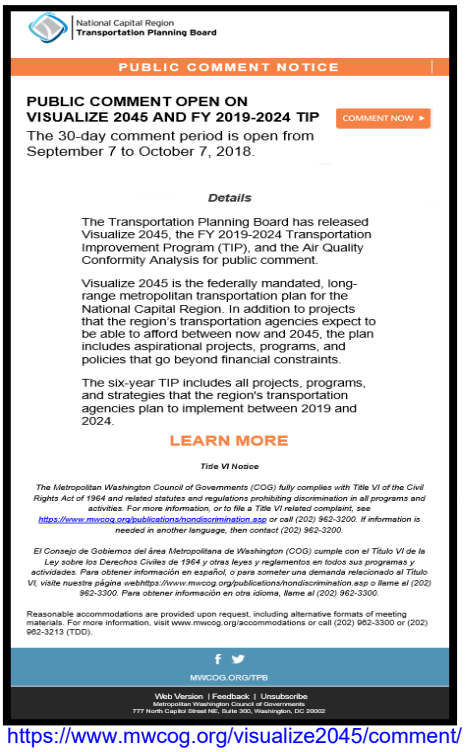
http://www.mwcog.org/visualize2045/participate/

TPB – Participate in Visualize 2045



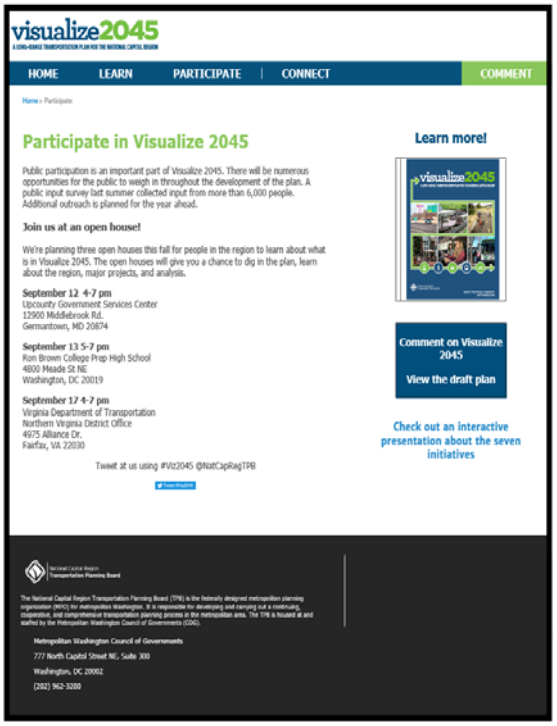

http://www.mwcog.org/visualize2045/participate/

Public Comment Period Open for Visualize 2045 and FY 2019-2024 TIP on September 7, 2018 to October 7, 2018



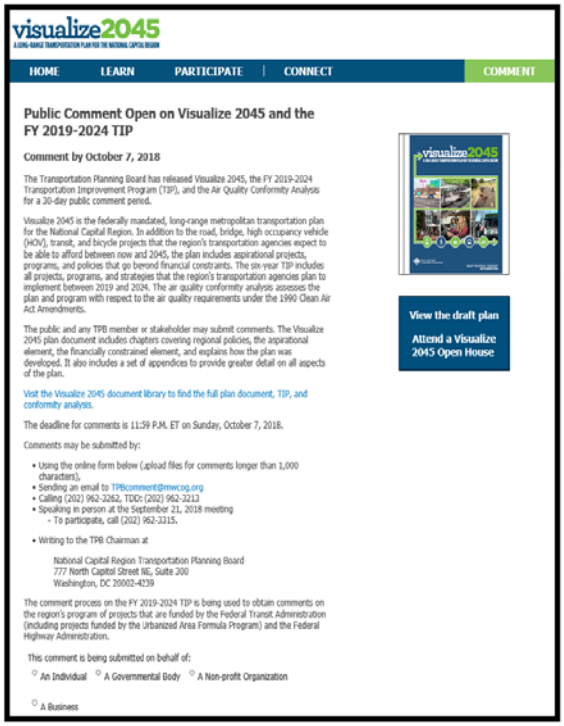

https://www.mwcog.org/visualize2045/comment/

Public Participation in Visualize 2045 Open House Forums for Three Venues in the Region



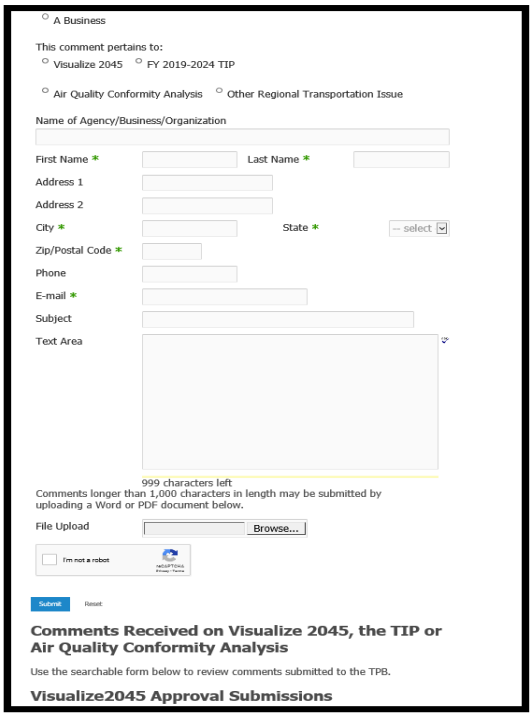

https://www.mwcog.org/visualize2045/participate/

On-Line Public Comment for Visualize 2045, FY 2019-2024 TIP and conformity analysis



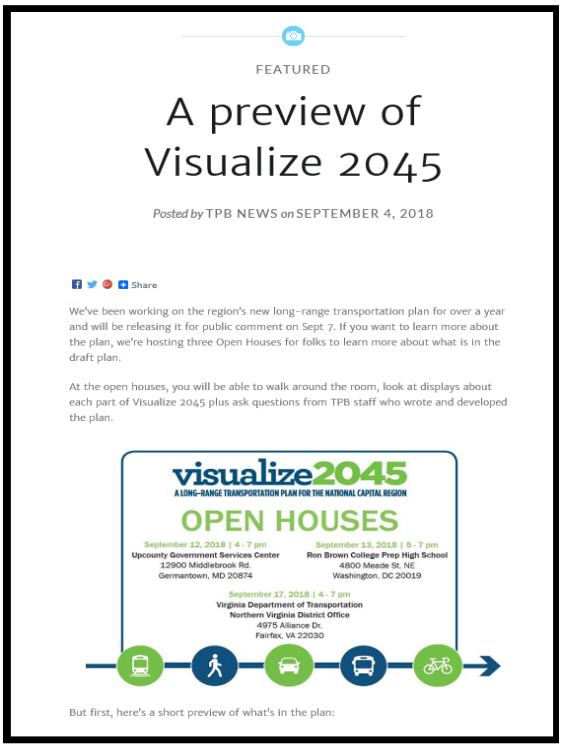

https://www.mwcog.org/visualize2045/comment/

On-Line Public Comment for Visualize 2045, FY 2019-2024 TIP and conformity analysis




https://www.mwcog.org/visualize2045/comment/

*TPB* **News** On-Line September 4, 2018




http://www.tpbne.ws/2018/09/

On-Line Visualize 2045 Document Library


https://www.mwcog.org/visualize2045/document-library/

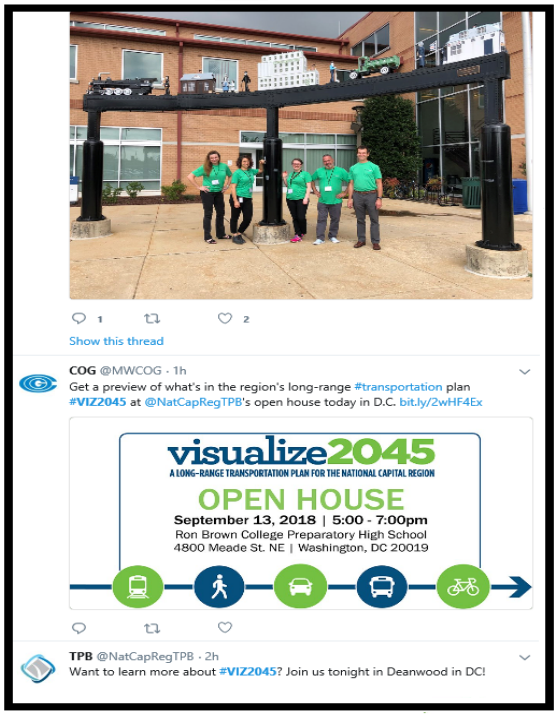
Visualize 2045 Public Comment Period Open
September 7, 2018 to October 7, 2018


http://www.tpbne.ws/featured/a-preview-of-visualize-2045/

TPB Twitter Visualize 2045 Open House Public Comments


https://twitter.com/hashtag/VIZ2045?src=hash

TPB Twitter Visualize 2045 Open House Public Comments

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TPB Twitter Visualize 2045 Open House Public Comments


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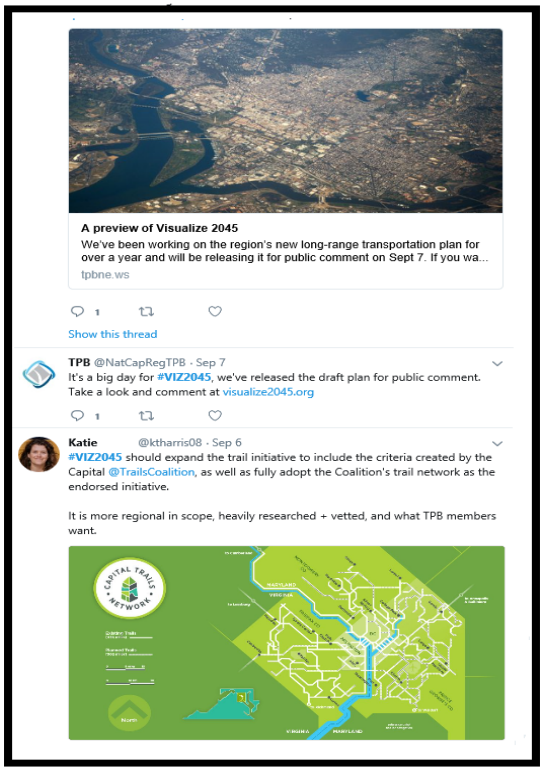
TPB Twitter Visualize 2045 Open House Public Comments

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TPB Twitter Visualize 2045 Open House Public Comments


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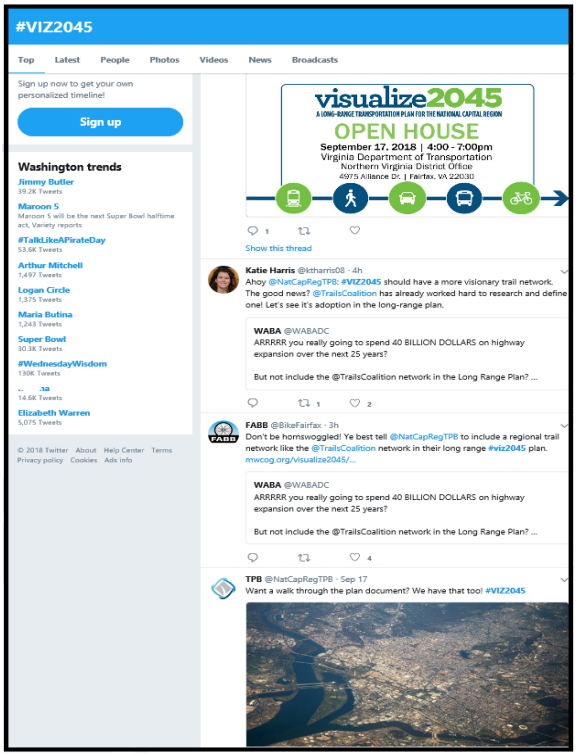
*TPB* **News** On-Line September 11, 2018


http://www.tpbne.ws/

TPB Twitter Visualize 2045 September 17, 2018 Open House Public Comments

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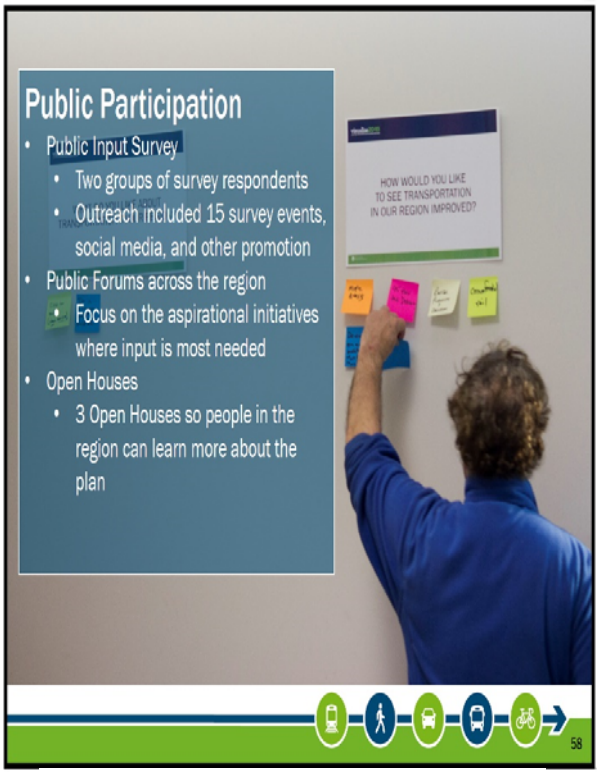
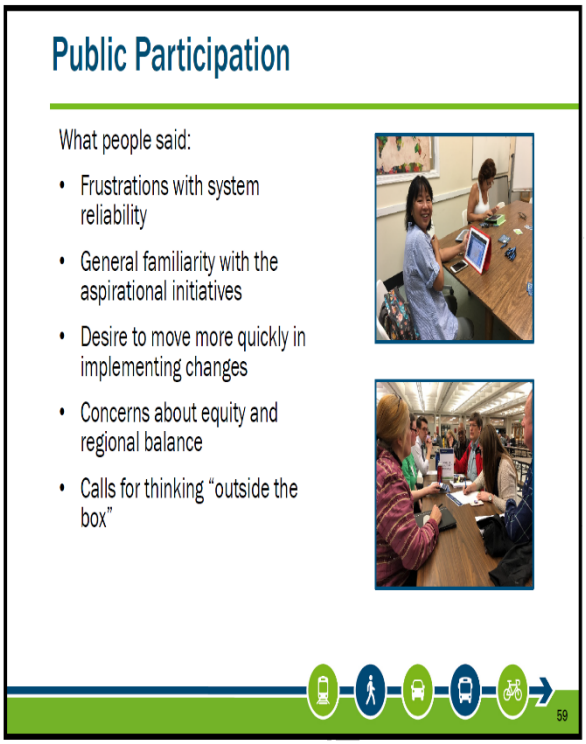
TPB Visualize 2045 Draft Plan Document




https://www.mwcog.org/events/2018/9/19/transportation-planning-board/

TPB Visualize 2045 Draft Plan Document

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TPB Visualize 2045 Draft Plan Document


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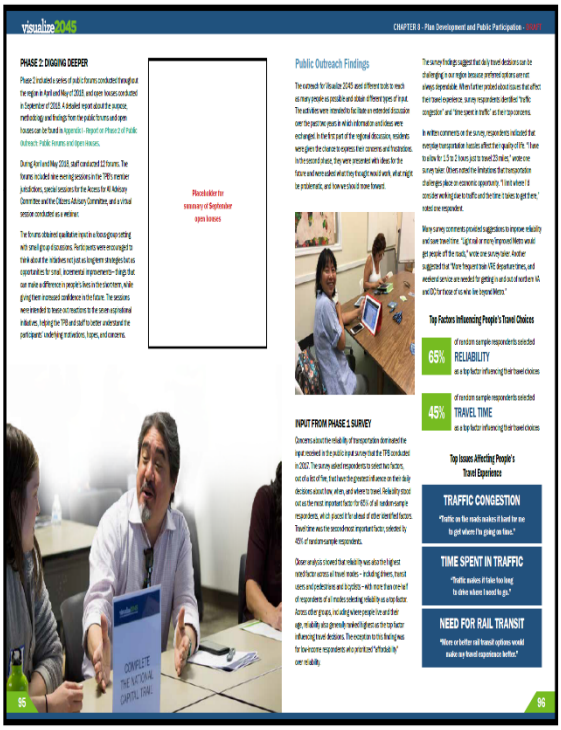
TPB Visualize 2045 Draft Plan Document




https://www.mwcog.org/events/2018/9/19/transportation-planning-board/

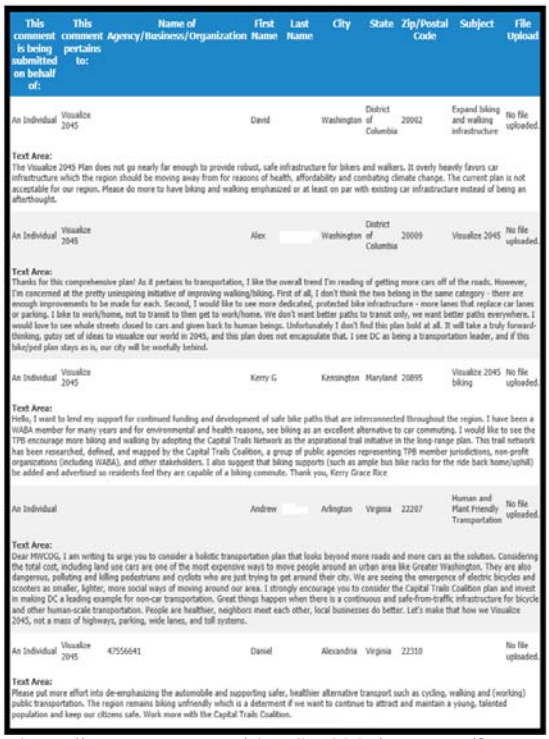
TPB Visualize 2045 Draft Plan Document


https://www.mwcog.org/events/2018/9/19/transportation-planning-board/

TPB News Visualize 2045 Draft Plan


http://www.tpbne.ws/

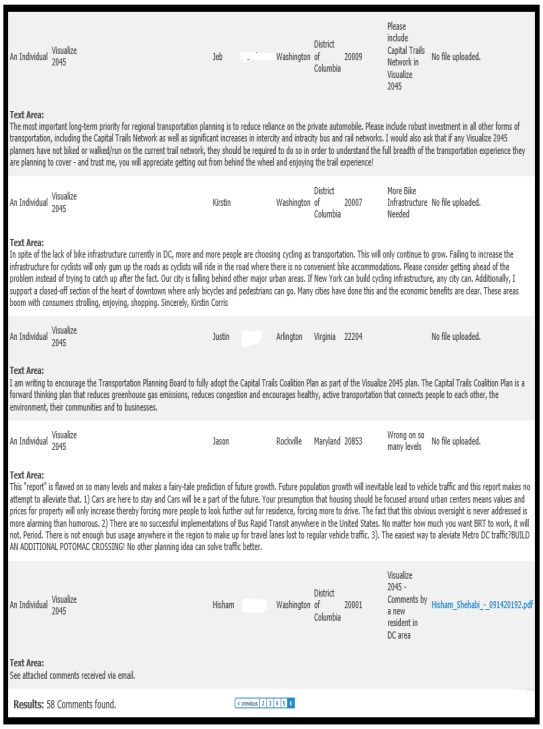
Visualize 2045 Public Comments
September 7, 2018 to October 7, 2018



| This comment is being submitted on behalf of: | This comment pertains to: | Name of Agency/Business/Organization | First Name | Last Name | City | State | Zip/Postal Code | Subject | File Upload |
|---|---|---|---|---|---|---|---|---|---|
| An Individual | Visualize 2045 | | David | | Washington | District of Columbia | 20002 | Expand biking and walking infrastructure | No file uploaded. |
| **Text Area:** The Visualize 2045 Plan does not go nearly far enough to provide robust, safe infrastructure for bikers and walkers. It overly heavily favors car infrastructure which the region should be moving away from for reasons of health, affordability and combating climate change. The current plan is not acceptable for our region. Please do more to have biking and walking emphasized or at least on par with existing car infrastructure instead of being an afterthought. | | | | | | | | | |
| An Individual | Visualize 2045 | | Alex | | Washington | District of Columbia | 20009 | Visualize 2045 | No file uploaded. |
| **Text Area:** Thanks for this comprehensive plan! As it pertains to transportation, I like the overall trend I'm reading of getting more cars off of the roads. However, I'm concerned at the pretty uninspiring initiative of improving walking/biking. First of all, I don't think the two belong in the same category - there are enough improvements to be made for each. Second, I would like to see more dedicated, protected bike infrastructure - more lanes that replace car lanes or parking. I bike to work/home, not to transit to then get to work/home. We don't want better paths to transit only, we want better paths everywhere. I would love to see whole streets closed to cars and given back to human beings. Unfortunately I don't find this plan bold at all. It will take a truly forward-thinking, gutsy set of ideas to visualize our world in 2045, and this plan does not encapsulate that. I see DC as being a transportation leader, and if this bike/ped plan stays as is, our city will be woefully behind. | | | | | | | | | |
| An Individual | Visualize 2045 | | Kerry G | | Kensington | Maryland | 20895 | Visualize 2045 biking | No file uploaded. |
| **Text Area:** Hello, I want to lend my support for continued funding and development of safe bike paths that are interconnected throughout the region. I have been a WABA member for many years and for environmental and health reasons, see biking as an excellent alternative to car commuting. I would like to see the TPB encourage more biking and walking by adopting the Capital Trails Network as the aspirational trail initiative in the long-range plan. This trail network has been researched, defined, and mapped by the Capital Trails Coalition, a group of public agencies representing TPB member jurisdictions, non-profit organizations (including WABA), and other stakeholders. I also suggest that biking supports (such as ample bus bike racks for the ride back home/uphill) be added and advertised so residents feel they are capable of a biking commute. Thank you, Kerry Grace Rice | | | | | | | | | |
| An Individual | | | Andrew | | Arlington | Virginia | 22207 | Human and Plant Friendly Transportation | No file uploaded. |
| **Text Area:** Dear MWCOG, I am writing to urge you to consider a holistic transportation plan that looks beyond more roads and more cars as the solution. Considering the total cost, including land use cars are one of the most expensive ways to move people around an urban area like Greater Washington. They are also dangerous, polluting and killing pedestrians and cyclists who are just trying to get around their city. We are seeing the emergence of electric bicycles and scooters as smaller, lighter, more social ways of moving around our area. I strongly encourage you to consider the Capital Trails Coalition plan and invest in making DC a leading example for non-car transportation. Great things happen when there is a continuous and safe-from-traffic infrastructure for bicycle and other human-scale transportation. People are healthier, neighbors meet each other, local businesses do better. Let's make that how we Visualize 2045, not a mass of highways, parking, wide lanes, and toll systems. | | | | | | | | | |
| An Individual | Visualize 2045 | 47556641 | Daniel | | Alexandria | Virginia | 22310 | | No file uploaded. |
| **Text Area:** Please put more effort into de-emphasizing the automobile and supporting safer, healthier alternative transport such as cycling, walking and (working) public transportation. The region remains biking unfriendly which is a determent if we want to continue to attract and maintain a young, talented population and keep our citizens safe. Work more with the Capital Trails Coalition. | | | | | | | | | |

https://www.mwcog.org/visualize2045/comment/?pg=5

Visualize 2045 Public Comments
September 7, 2018 to October 7, 2018

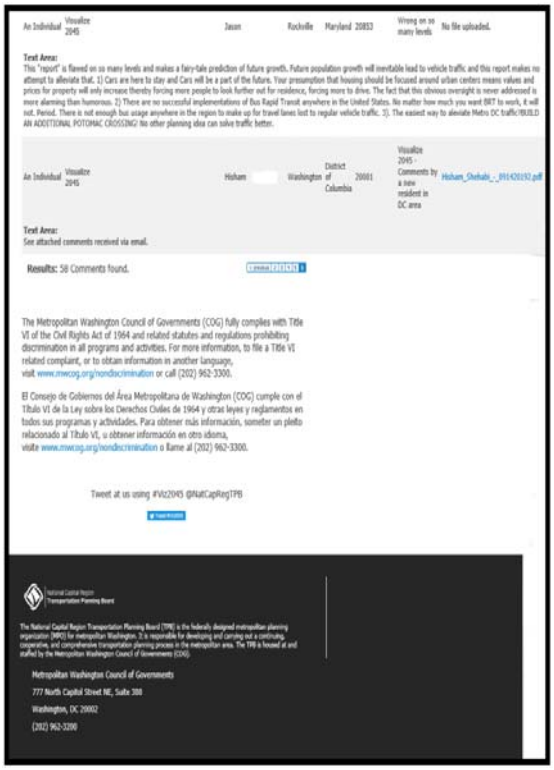


| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| An Individual | Visualize 2045 | Jeb | | Washington | District of Columbia | 20009 | Please include Capital Trails Network in Visualize 2045 | No file uploaded. | |
| **Text Area:** The most important long-term priority for regional transportation planning is to reduce reliance on the private automobile. Please include robust investment in all other forms of transportation, including the Capital Trails Network as well as significant increases in intercity and intracity bus and rail networks. I would also ask that if any Visualize 2045 planners have not biked or walked/run on the current trail network, they should be required to do so in order to understand the full breadth of the transportation experience they are planning to cover - and trust me, you will appreciate getting out from behind the wheel and enjoying the trail experience! | | | | | | | | | |
| An Individual | Visualize 2045 | Kirstin | | Washington | District of Columbia | 20007 | More Bike Infrastructure Needed | No file uploaded. | |
| **Text Area:** In spite of the lack of bike infrastructure currently in DC, more and more people are choosing cycling as transportation. This will only continue to grow. Failing to increase the infrastructure for cyclists will only gum up the roads as cyclists will ride in the road where there is no convenient bike accommodations. Please consider getting ahead of the problem instead of trying to catch up after the fact. Our city is falling behind other major urban areas. If New York can build cycling infrastructure, any city can. Additionally, I support a closed-off section of the heart of downtown where only bicycles and pedestrians can go. Many cities have done this and the economic benefits are clear. These areas boom with consumers strolling, enjoying, shopping. Sincerely, Kirstin Corris | | | | | | | | | |
| An Individual | Visualize 2045 | Justin | | Arlington | Virginia | 22204 | | No file uploaded. | |
| **Text Area:** I am writing to encourage the Transportation Planning Board to fully adopt the Capital Trails Coalition Plan as part of the Visualize 2045 plan. The Capital Trails Coalition Plan is a forward thinking plan that reduces greenhouse gas emissions, reduces congestion and encourages healthy, active transportation that connects people to each other, the environment, their communities and to businesses. | | | | | | | | | |
| An Individual | Visualize 2045 | Jason | | Rockville | Maryland | 20853 | Wrong on so many levels | No file uploaded. | |
| **Text Area:** This "report" is flawed on so many levels and makes a fairy-tale prediction of future growth. Future population growth will inevitable lead to vehicle traffic and this report makes no attempt to alleviate that. 1) Cars are here to stay and Cars will be a part of the future. Your presumption that housing should be focused around urban centers means values and prices for property will only increase thereby forcing more people to look further out for residence, forcing more to drive. The fact that this obvious oversight is never addressed is more alarming than humorous. 2) There are no successful implementations of Bus Rapid Transit anywhere in the United States. No matter how much you want BRT to work, it will not. Period. There is not enough bus usage anywhere in the region to make up for travel lanes lost to regular vehicle traffic. 3). The easiest way to aleviate Metro DC traffic?BUILD AN ADDITIONAL POTOMAC CROSSING! No other planning idea can solve traffic better. | | | | | | | | | |
| An Individual | Visualize 2045 | Hisham | | Washington | District of Columbia | 20001 | Visualize 2045 - Comments by a new resident in DC area | Hisham_Shehabi_-_091420192.pdf | |
| **Text Area:** See attached comments received via email. | | | | | | | | | |

**Results:** 58 Comments found.

https://www.mwcog.org/visualize2045/comment/?pg=5

Visualize 2045 Public Comments
September 7, 2018 to October 7, 2018



Text Area:
This "report" is flawed on so many levels and makes a fairy-tale prediction of future growth. Future population growth will inevitable lead to vehicle traffic and this report makes no attempt to alleviate that. 1) Cars are here to stay and Cars will be a part of the future. Your presumption that housing should be focused around urban centers means values and prices for property will only increase thereby forcing more people to look further out for residence, forcing more to drive. The fact that this obvious oversight is never addressed is more alarming than humorous. 2) There are no successful implementations of Bus Rapid Transit anywhere in the United States. No matter how much you want BRT to work, it will not. Period. There is not enough bus usage anywhere in the region to make up for travel lanes lost to regular vehicle traffic. 3). The easiest way to alleviate Metro DC traffic/BUILD AN ADDITIONAL POTOMAC CROSSING! No other planning idea can solve traffic better.

Text Area:
See attached comments received via email.

Results: 58 Comments found.

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Tweet at us using #Viz2045 @NatlCapReg TPB

Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002
(202) 962-3200

https://www.mwcog.org/visualize2045/comment/?pg=5

*TPB* **News** On-Line October 9, 2018

FEATURED

How will a million more people get around in 2045?

*Posted by* TPB NEWS *on* OCTOBER 9, 2018

Share

Our region is forecasted to have more than a million new people and a million new jobs by 2045. How will they all get around? What are the plans to provide for their mobility and what might we expect from the plans?

**What is the performance analysis?**

The performance analysis takes the inputs—the forecasts for jobs and population in the region—and the projects planned with the funding we believe to have to improve the transportation system and models how well people would get around in 2045 if those inputs came to be. That analysis is then compared to how things are today to assess the planned investments and transportation projects.

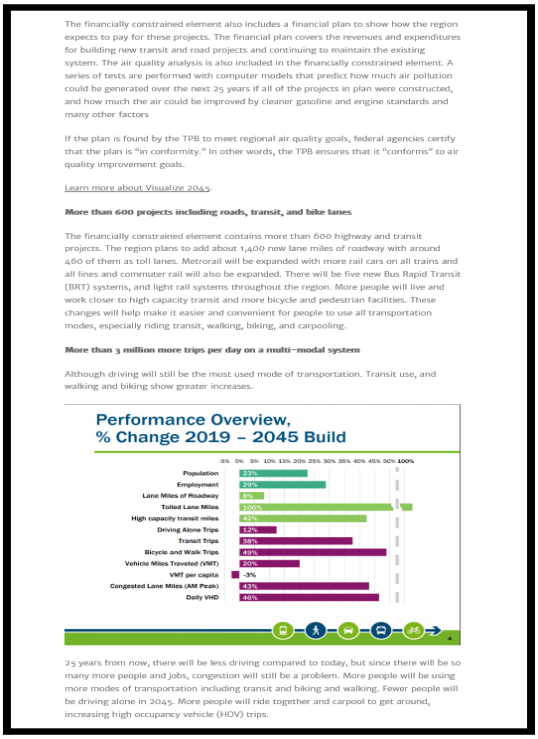
What is the Performance Analysis?

Constrained Element Projects
Land-Use Forecasts
Travel Demand Model
Emissions and Performance Data

- Round 9.1 Cooperative Land-Use Forecasts
- Version 2.3.75 Travel Demand Model
- Analysis of TPB Planning Area
- 2016 Vehicle Registration Data
- EPA's MOVES 2014a Mobile Emissions Model

http://www.tpbne.ws/2018/10/

*TPB* **News** On-Line October 9, 2018



The financially constrained element also includes a financial plan to show how the region expects to pay for these projects. The financial plan covers the revenues and expenditures for building new transit and road projects and continuing to maintain the existing system. The air quality analysis is also included in the financially constrained element. A series of tests are performed with computer models that predict how much air pollution could be generated over the next 25 years if all of the projects in plan were constructed, and how much the air could be improved by cleaner gasoline and engine standards and many other factors

If the plan is found by the TPB to meet regional air quality goals, federal agencies certify that the plan is "in conformity." In other words, the TPB ensures that it "conforms" to air quality improvement goals.

Learn more about Visualize 2045.

**More than 600 projects including roads, transit, and bike lanes**

The financially constrained element contains more than 600 highway and transit projects. The region plans to add about 1,400 new lane miles of roadway with around 460 of them as toll lanes. Metrorail will be expanded with more rail cars on all trains and all lines and commuter rail will also be expanded. There will be five new Bus Rapid Transit (BRT) systems, and light rail systems throughout the region. More people will live and work closer to high capacity transit and more bicycle and pedestrian facilities. These changes will help make it easier and convenient for people to use all transportation modes, especially riding transit, walking, biking, and carpooling.

**More than 3 million more trips per day on a multi-modal system**

Although driving will still be the most used mode of transportation. Transit use, and walking and biking show greater increases.

Performance Overview, % Change 2019 – 2045 Build

| | |
|---|---|
| Population | 23% |
| Employment | 29% |
| Lane Miles of Roadway | 8% |
| Tolled Lane Miles | 100% |
| High capacity transit miles | 42% |
| Driving Alone Trips | 12% |
| Transit Trips | 38% |
| Bicycle and Walk Trips | 49% |
| Vehicle Miles Traveled (VMT) | 20% |
| VMT per capita | -3% |
| Congested Lane Miles (AM Peak) | 43% |
| Daily VHD | 46% |

25 years from now, there will be less driving compared to today, but since there will be so many more people and jobs, congestion will still be a problem. More people will be using more modes of transportation including transit and biking and walking. Fewer people will be driving alone in 2045. More people will ride together and carpool to get around, increasing high occupancy vehicle (HOV) trips.

http://www.tpbne.ws/2018/10/

*TPB* **News** On-Line October 9, 2018

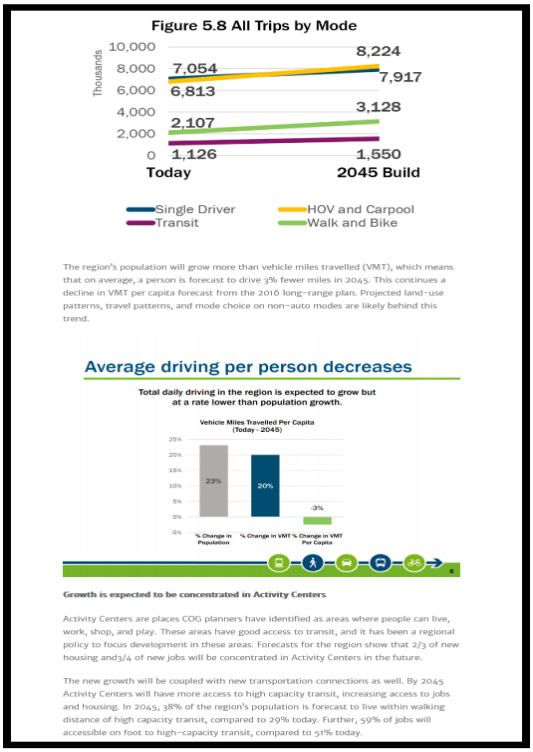


Figure 5.8 All Trips by Mode

| | Today | 2045 Build |
|---|---|---|
| Single Driver | 7,054 | 8,224 |
| HOV and Carpool | 6,813 | 7,917 |
| Transit | 2,107 | 3,128 |
| Walk and Bike | 1,126 | 1,550 |

Thousands

The region's population will grow more than vehicle miles travelled (VMT), which means that on average, a person is forecast to drive 3% fewer miles in 2045. This continues a decline in VMT per capita forecast from the 2016 long-range plan. Projected land-use patterns, travel patterns, and mode choice on non-auto modes are likely behind this trend.

Average driving per person decreases

Total daily driving in the region is expected to grow but at a rate lower than population growth.

Vehicle Miles Travelled Per Capita (Today - 2045)

| | |
|---|---|
| % Change in Population | 23% |
| % Change in VMT | 20% |
| % Change in VMT Per Capita | -3% |

**Growth is expected to be concentrated in Activity Centers**

Activity Centers are places COG planners have identified as areas where people can live, work, shop, and play. These areas have good access to transit, and it has been a regional policy to focus development in these areas. Forecasts for the region show that 2/3 of new housing and3/4 of new jobs will be concentrated in Activity Centers in the future.

The new growth will be coupled with new transportation connections as well. By 2045 Activity Centers will have more access to high capacity transit, increasing access to jobs and housing. In 2045, 38% of the region's population is forecast to live within walking distance of high capacity transit, compared to 29% today. Further, 59% of jobs will accessible on foot to high-capacity transit, compared to 51% today.

http://www.tpbne.ws/2018/10/


http://www.tpbne.ws/2018/10/

## PUBLIC COMMENT PERIOD

## FOR THE NATIONAL CAPITAL REGION´S VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN AND DRAFT SCOPE OF WORK FOR THE AIR QUALITY CONFORMITY ANALYSIS

On Thursday, December 14, 2017 the National Capital Region Transportation Planning Board (TPB) will release for public comment the draft project submissions for the Air Quality Conformity Analysis of the financially constrained element of Visualize 2045, the region's long-range transportation plan. The TPB will also release the draft Scope of Work for the Air Quality Conformity Analysis. The 30-day public comment period will close at midnight on Saturday, January 13, 2018.

The TPB will be asked to approve the project inputs and the scope of work for the Air Quality Conformity Analysis at their meeting on January 17, 2018.These materials are available for review online at www.mwcog.org/visualize2045 and at the offices of the Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Washington, DC 20002.

The financially constrained element of Visualize 2045 includes the road, bridge, high-occupancy vehicle (HOV), transit, bicycle and pedestrian projects that are anticipated to be funded through the year 2045. The air quality conformity analysis assesses the constrained element with respect to the air quality requirements under the 1990 Clean Air Act Amendments.

Comments may be submitted by any of the following means:

Write: National Capital Region Transportation Planning Board
777 North Capitol Street NE Suite 300
Washington, DC 20002-4239

Online: www.mwcog.org/TPBcommentEmail: TPBComment@mwcog.org
In Person: Interested citizens may make a statement during the public comment period at the beginning of each TPB meeting, at 12 noon on the third Wednesday of every month, except August. To participate, call (202) 962-3315.

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# PERIODO DE COMENTARIO PÚBLICO

## PARA EL PLAN DE TRANSPORTACIÓN VISUALIZE 2045 PARA LA REGIÓN DE LA CAPITAL NACIONAL

El jueves, 14 de diciembre, 2017, el Consejo de Planificación de Transportación de la Región Capital Nacional (TPB), presentará para comentario público la presentación del borrador del proyecto del Análisis de Conformidad de la Calidad del Aire del elemento financiero obligatorio de Visualize 2045, el plan de transportación a largo plazo de la región. El TPB también presentará el borrador del Ámbito de Trabajo para el Análisis de Conformidad de la Calidad del Aire. El periodo para comentario público cerrará a media noche del sábado, 13 de enero, 2018. Se le pedirá al TBP que apruebe los aportes del proyecto y del ámbito de trabajo para el Análisis de Conformidad de la Calidad del Aire en su reunion del 17 de enero, 2018.

Estos materiales están disponibles para ser revisados en línea en www.mwcog.org/visualize2045 y en las oficinas del Consejo de Gobiernos de Washington (COG), 777 N. Capitol St. NE, Washington, DC 20002.

El elemento financiero obligatorio de Visualize 2045 incluye los proyectos de carreteras, puentes, vehículos de alta ocupación (HOV), de tránsito, bicicletas y peatonal que se anticipa que serán financiados hasta el año 2045. El Análisis de Conformidad de la Calidad del Aire evalúa el elemento obligatorio con respecto a los requisitos de calidad del aire bajo las Enmiendas de la Acta de Aire Limpio de 1990.

Los Comentarios pueden ser sometidos por cualquiera de los siguientes medios:

Escriba: National Capital Region Transportation Planning Board
777 North Capitol Street ,NE Suite 300
Washington, DC 20002-4239

En Línea: www.mwcog.org/TPBcomment

Correo Electrónico: TPBComment@mwcog.org

En Persona: Ciudadanos interesados pueden hacer sus declaraciones durante el periodo de comentario público al comienzo de cada reunion TPB, al medio día, el tercer miércoles de cada mes, excepto agosto. Para participar, llame al (202) 962-3315.

El Consejo Metropolitano de Gobiernos de Washington (COG) cumple con el Título VI de la Ley sobre los Derechos Civiles de 1964 y otras leyes y reglamentos en todos sus programas y actividades. Para obtener información en español, o para someter una demanda relacionado al Título VI, visite nuestra pági-na web:
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# Washington Post December 14, 2017

## PUBLIC COMMENT PERIOD

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# Afro-American September 7, 2018

**PUBLIC COMMENT PERIOD
FOR THE WASHINGTON REGION´S
PROPOSED VISUALIZE 2045
LONG-RANGE TRANSPORTATION PLAN, FY 2019-2024
TRANSPORTATION IMPROVEMENT PROGRAM, AND AIR QUALITY
CONFORMITY ANALYSIS**

The National Capital Region Transportation Planning Board (TPB) is the region?s designated metropolitan planning organization (MPO), with responsibility for federally-required metropolitan transportation planning for the District of Columbia, Suburban Maryland, and Northern Virginia. The TPB will initiate a 30-day public comment period for the Visualize 2045 long-range transportation plan, the draft FY2019-2024 Transportation Improvement Program (TIP), and the accompanying air quality conformity analysis, on September 7, 2018. This public comment period will extend through Sunday, October 7, 2018. These documents are scheduled to be approved at the October 17, 2018 TPB meeting. Members of the public are invited to review and comment on these draft documents on the Visualize 2045 website, www.visualize2045.org/comment/. These materials may also be reviewed at the Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

Visualize 2045 is the federally mandated, long-range metropolitan transportation plan for the National Capital Region. In addition to the road, bridge, high occupancy vehicle (HOV), transit, and bicycle projects that the region's transportation agencies expect to be able to afford between now and 2045, the plan includes aspirational projects, programs, and policies that go beyond financial constraints. The six-year TIP includes all projects, programs, and strategies that the region's transportation agencies plan to implement between 2019 and 2024. The air quality conformity analysis assesses the plan and program with respect to the air quality requirements under the 1990 Clean Air Act Amendments. The comment process on the TIP is being used to obtain comments on the region's program of projects that are funded by the Federal Transit Administration (including projects funded by the Urbanized Area Formula Program) and the Federal Highway Administration.

Members of the public are invited to submit comments on the draft documents on-line at www.mwcog.org/TPBcomment/ or by email to TPBcomment@mwcog.org. Written comments can also be mailed to TPB Chairman Charles Allen, Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

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# Washington Hispanic September 7, 2018

## PERÍODO DE COMENTARIO PÚBLICO

## PARA LO PROPUESTO PLAN VISUALIZE 2045 DE TRANSPORTE A LARGO PLAZO, PROGRAMA FY2019-2045 DE MEJORAMIENTO DE TRANSPORTACIÓN Y ANÁLISIS DE CALIDAD DE AIRE DE LA REGIÓN DE WASHINGTON

El Consejo de Planificación de Transporte de la Región Capital (TPB)" es la organización regional designada de planficación metropolitana (MPO), con la responsabilidad de la planificación de transportación metropolitana, requerida por el gobierno federal, para el Distrito de Columbia, el área suburbana de Maryland y el norte de Virginia. El TPB iniciará un periódo de comentario público de 30 días para el plan a largo plazo Visualizar 2045, el borrador FY2019-2024 del Programa de Mejoramiento de Transportación (TIP) y acompañado del análisis de calidad del aire, el 7 de septiembre, del 2018. Este periódo de comentario público se extenderá hasta el 7 de octubre del 2018. Estos documentos están programados para ser aprobados en la reunión TPB del 17 de octubre del 2018. Miembros del público están invitados a revisar y comentar estos documentos en borrador en la página web de Visualizar 2045, www.visualize2045.org/comment/. Estos materiales también pueden ser revisados en el Consejo Nacional de Gobiernos de Washington (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

Visualizar 2045 es el plan de transportación metropolitana a largo plazo por orden del gobierno federal. Además de los proyectos de carreteras, puentes, High Occupancy Vehicles(HOV), tránsito y de bicicletas, que las agencias de transportación de la region esperan poder financiar entre ahora y el 2045, el plan incluye proyectos, programas y políticas con aspiraciones que van más allá de las limitaciones financieras. El TIP de seis años incluye todos los proyectos, programas y estrategias que las agencias de transportación regional planifican implementar entre el 2019 y 2024. El analísis de conformidad de la calidad del aire evalúa el plan y programa con respeto a los requisitios de calidad del aire bajo las enmiendas de el acta de Aire Limpio de 1990. El proceso de comentarios sobre el TIP se está usando para obtener comentarios sobre el programa de proyectos de la region que están financiados por la Administración Federal de Tránsito (incluyendo proyectos financiados por el programa Área Urbanizada Formulada) y por la Administración Federal de Carreteras.

Miembros del público están invitados para presenter sus comentarios sobre los documentos de borrador en línea en www.mwcog.org/TPBcomment/ o por correo electrónico a TPBcomment@mwcog.org. Comentarios por escrito pueden ser enviados a TPB Chairman Charles Allen, Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

El Consejo Nacional de Gobiernos de Washington (COG) cumple completamente con el Título VI de la Acta de Derechos Civiles de 1964 y sus estatutos y regulaciones relacionados prohibiendo la discriminación en todos los programas y actividades. Para más información, para presenter una queja relacionada al Título VI o para obtener más información en otro idioma, visite www.mwcog.org/TitleVI o llame al (202) 962-3300.

# Washington Post September 7, 2018

## PUBLIC COMMENT PERIOD FOR THE WASHINGTON REGION'S PROPOSED VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN, FY 2019-2024 TRANSPORTATION IMPROVEMENT PROGRAM, AND AIR QUALITY CONFORMITY ANALYSIS

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# ATTACHMENT D

## TPB C-SMMPO Agreement

TPB R6-2016
January 20, 2016

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
777 North Capitol Street, N.E.
Washington, D.C. 20002

RESOLUTION ON AGREEMENT BETWEEN THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD AND THE CALVERT-ST. MARY'S METROPOLITAN PLANNING ORGANIZATION AND CALVERT COUNTY, MARYLAND

**WHEREAS,** the National Capital Region Transportation Planning Board (TPB) is the officially designated Metropolitan Planning Organization (MPO) for the Metropolitan Washington area; and

**WHEREAS,** the TPB's planning area is part of the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area, as shown on the map in Attachment A, and as such, is subject to regional air quality conformity analysis of its Transportation Plans and Transportation Improvement Programs (TIPs); and

**WHEREAS,** the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area also includes Calvert County, and transportation projects within Calvert County have been included in TPB's regional air quality conformity analysis as appropriate; and

**WHEREAS,** the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) is the newly officially designated MPO for Southern Maryland, whose planning area includes Calvert County, as shown on the map in Attachment B; and

**WHEREAS,** under federal surface transportation legislation (23 U.S.C. § 134 and 49 U.S.C. § 5303) related to MPO Consultation in Plan and TIP Coordination for Nonattainment areas, "If more than one metropolitan planning organization has authority within a metropolitan area or an area which is designated as a nonattainment area for ozone or carbon monoxide under the Clean Air Act (42 U.S.C. § 7401 et seq.), each metropolitan planning organization shall consult with the other metropolitan planning organizations designated for such area and the State in the coordination of plans and TIPs" and

**WHEREAS,** the TPB and the C-SMMPO have agreed to consult with the Maryland Department of Transportation (MDOT) in the coordination of their respective plans and TIPS; and

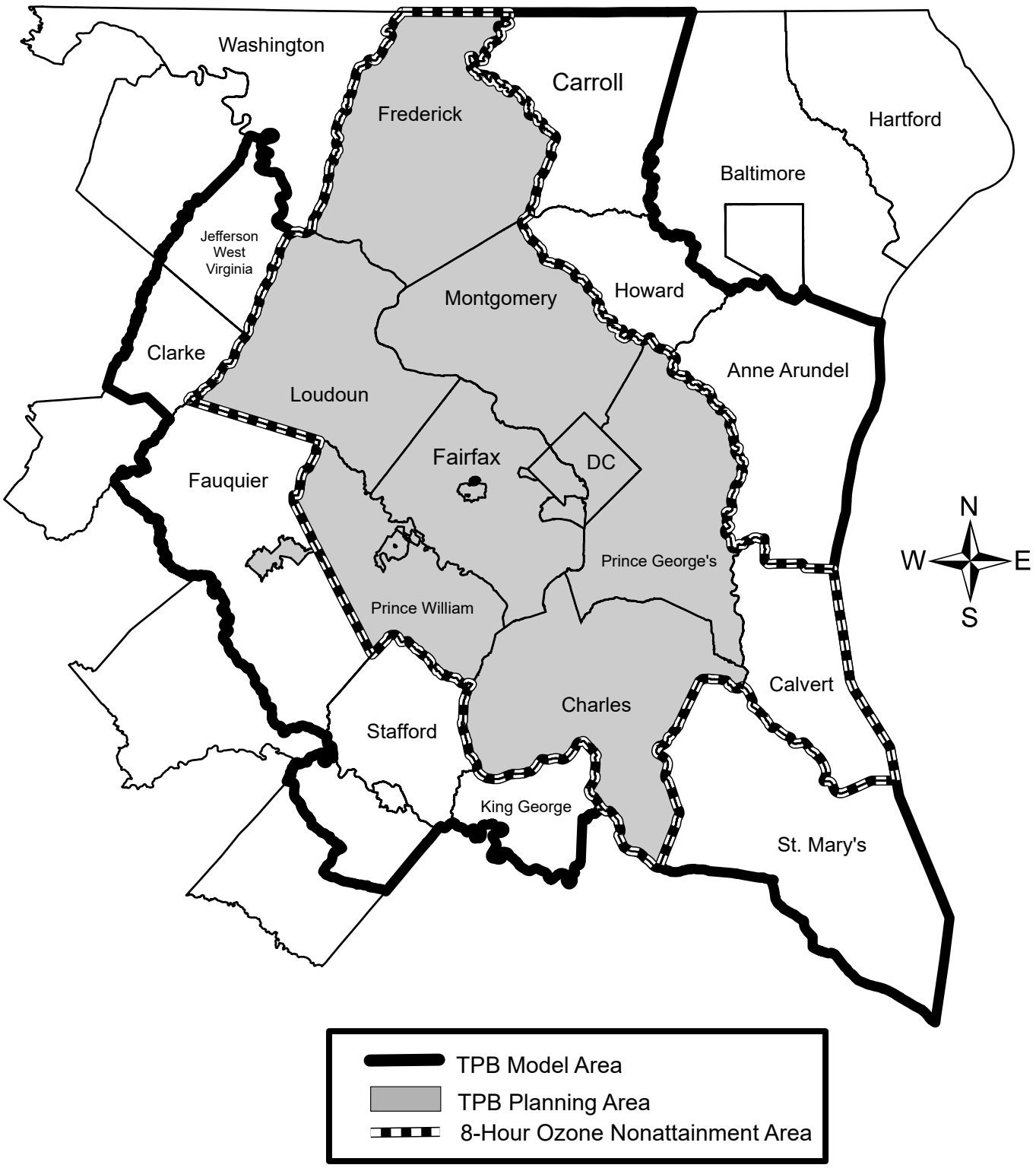
**WHEREAS,** the TPB, the C-SMMPO, and Calvert County have agreed to a process where C-SMMPO will develop Plans and TIPs to include Calvert County projects, and the TPB will continue to include these Calvert County projects in its regional air quality conformity analysis;

**NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD** approves execution, by its Chairman, of the attached ***Agreement between the National Capital Region Transportation Planning Board (TPB) and the Calvert-St. Mary's***

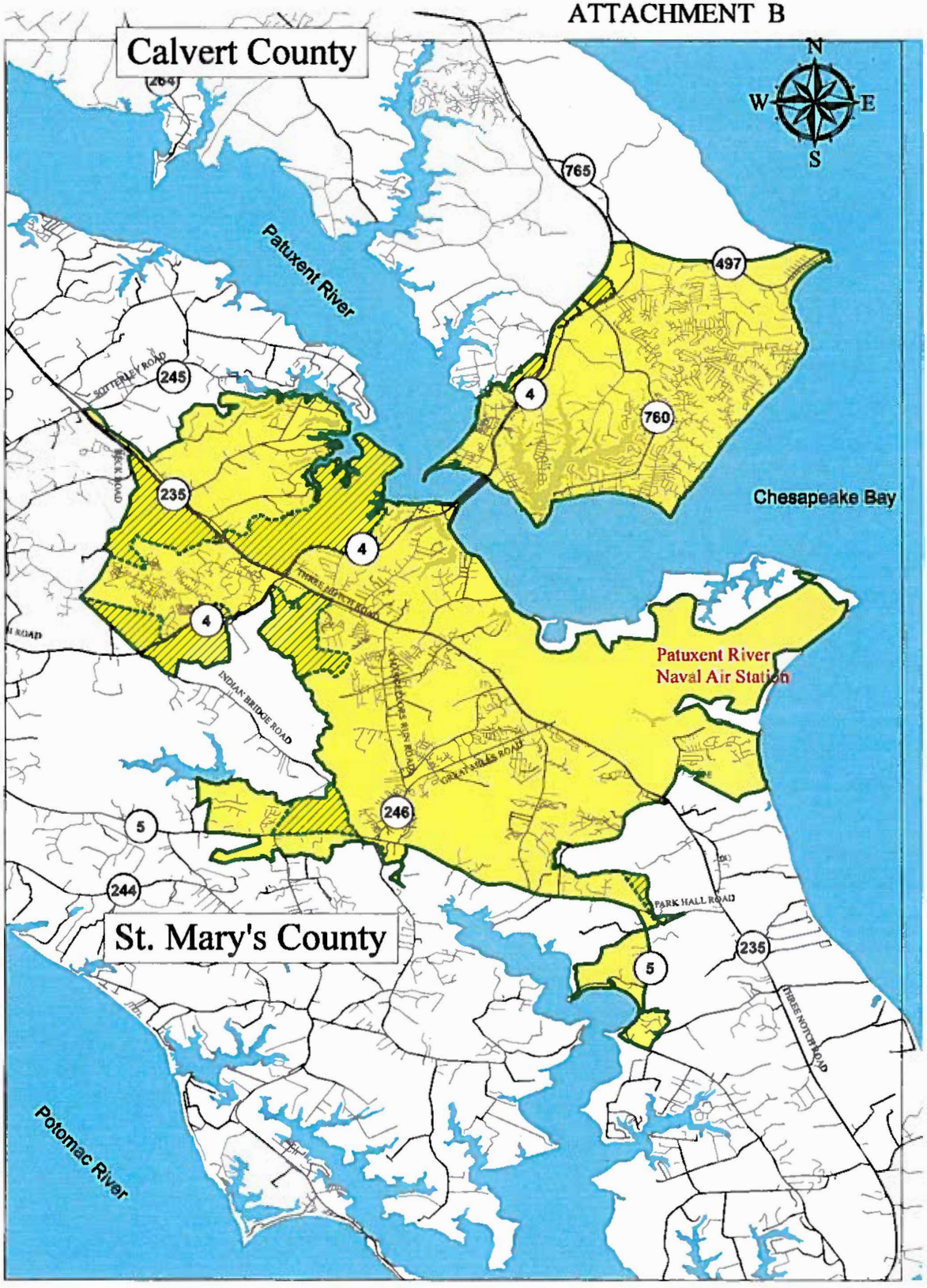
*Metropolitan Planning Organization (C-SMMPO) and Calvert County, Maryland on the conformity analysis and determination of transportation plans, programs, and projects in Calvert County, Maryland* document to ensure that transportation plans, programs, and projects in Calvert County are assessed for regional air quality conformity as is required in the Clean Air Act Amendments of 1990 (with subsequent amendments).

**Adopted by the Transportation Planning Board at its regular meeting on January 20, 2016**

# TPB Transportation Planning Areas



ATTACHMENT B




## Legend

- Boundary Line
- Urbanized Area Boundary Incorporated into Adjusted Urbanized Area
- Adjusted Urbanized Area
- Metropolitan Planning Area

# Calvert - St. Mary's Metropolitan Planning Organization Adjusted Urbanized Area and Metropolitan Planning Area



April 2015

# Agreement between the National Capital Region Transportation Planning Board (TPB) and the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) and Calvert County, Maryland on the conformity analysis and determination of transportation plans, programs, and projects in Calvert County, Maryland

Recognizing that Calvert County, Maryland, is a member of the C-SMMPO and is included in the Washington DC-MD-VA 8-hour Ozone Nonattainment area, TPB and C-SMMPO and Calvert County agree upon the following procedures for ensuring that transportation plans, programs, and projects in Calvert County are assessed for regional air quality conformity as is required in the Clean Air Act Amendments of 1990 (with subsequent amendments):

1. Transportation plans, programs, and projects in the C-SMMPO Metropolitan Planning Area (MPA) of Calvert County will be included in the Long Range Transportation Plan and Transportation Improvement Program developed by the C-SMMPO.

2. The C-SMMPO and Calvert County, in consultation with the Maryland Department of Transportation (MDOT), will submit the plan, program, and project inputs for Calvert and for the C-SMMPO MPA to the TPB for inclusion in each update of the TPB's regional air quality conformity analysis and determination for the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area.

3. The timeframe for analysis and coordination will be outlined by the schedule in the TPB's *Call For Projects* document for each cycle.

4. The TPB's *Air Quality Conformity Scope of Work* will provide details regarding the steps taken to ensure compliance with the Federal Transportation Conformity Rule (40 CFR 51 and 93). For example, the TPB will coordinate with Calvert County and the State of Maryland to obtain all necessary analysis inputs and latest planning assumptions (e.g., land activity, vehicle registration data, etc.).

5. Project level conformity analyses will continue to be performed by the State, and assessed through the interagency consultation process, as is currently done for all state projects.

6. Calvert County will be involved in all aspects of the TPB's air quality conformity analysis and determination including its interagency consultation process:

    - Formal involvement for Calvert County on the TPB will be provided through MDOT, and through Calvert County's membership on the


777 NORTH CAPITOL STREET NE, SUITE 300, WASHINGTON, DC 20002
MWCOG.ORG/TPB (202) 962-3200

Metropolitan Washington Air Quality Committee (MWAQC) and on the MWAQC Technical Advisory Committee.

- Informal involvement by Calvert County will be provided through participation by representatives of Calvert County in TPB committees and processes concerned with regional air quality conformity, including receipt of all materials and participation in all meetings, discussions, and reviews.

7. The TPB will provide copies of the conformity report to C-SMMPO and Calvert County at the completion of each conformity cycle. As relevant, portions of the TPB conformity report will be included in the C-SMMPO Plan and TIP documentation to demonstrate conformity.

This agreement will remain in effect for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) and all future NAAQS applicable to Calvert County.

Executed by the undersigned this _____day of_____2016:

Tim Lovain, Chair
National Capital Region Transportation
Planning Board

Steven R. Weems, Chairperson
Calvert – St. Mary's Metropolitan
Planning Organization

Evan K. Slaughenhoupt Jr, President
Board of County Commissioners
Calvert County, Maryland

Approved for legal sufficiency
on January 27, 2016 by

County Attorney

Department of Community Planning and Building
**INTEROFFICE MEMORANDUM**

**TO:** Board of County Commissioners
**VIA:** Terry Shannon, County Administrator TLS
**VIA:** Thomas Barnett, Director of Community Planning and Building
**FROM:** Patricia Haddon, Principal Planner
**DATE:** January 27, 2016
**SUBJECT:** Agreement between the National Capital Region Transportation Planning Board and the Calvert-St. Mary's Metropolitan Planning Organization and Calvert County, Maryland on the conformity analysis and determination to transportation plans, programs, and projects in Calvert County, Maryland

**Background:**

In their letter of July 24, 2015, to Dr. Kwame Arhin, Planning & Program Manager of the Federal Highway Administration, Maryland Division, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) advised that they were coordinating the required air quality conformity analysis with the MPO for the National Capital Region, Transportation Planning Board (TPB), as Calvert County's portion of the C-SMMPO was within the non-attainment area for the 2008 8-Hour Ozone area within the National Capital Region.

Transportation plans, programs and projects in Calvert County must be included in the conformity analysis and determination carried out by the TPB for the Washington Metropolitan Statistical Area, as per a Proposal for Satisfying Federal Metropolitan Planning Requirements for Charles and Calvert Counties (Attachment A) and TPBs current resolution, adopted in 1993 (Attachment B.)

The TPB resolution (R23-93, Resolution Responding to Governor Schaefer's Letter Concerning the Metropolitan Planning Boundary in Maryland) which includes Calvert county in the TPB's air quality conformity analysis was the result of coordination between the State transportation air agencies and the Federal Highway Administration (FHA) and the Federal Transit Administration (FTA), in response to requirements in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

**Discussion**

Since the establishment and inclusion of Calvert County in the C-SMMPO, the TPB staff has initiated discussions with the Maryland Department of Transportation to review and update the 1993 resolution. Updates have resulted in the attached agreement between TPB, the C-SMMPO, and Calvert County to address analysis issues related to inclusion of C-SMMPO and Calvert County transportation plans, projects and programs in TPB's regional air quality conformity analysis. The agreement has been reviewed by the TPB, MDOT, the C-SMMPO, FHA and FTA, and the County Attorney, John Norris. The agreement requires BOCC approval and signature.

**Conclusion/Recommendation:**

Staff requests the BOCC review and authorize signature of the attached agreement by the President of the County Commissioners, Evan Slaughenhoupt.

Attachments: 3

ATTACHMENT A

Proposalfor Satisfying Federal Metropolitan Planning Requirements
for Charles and Calvert Counties

The TPB proposes the conformity procedures defined in parts 1-4 below. These procedures affirm the practices that have been used for the past two years for the Metropolitan Washington Region non-attainment area as a means for assuring conformity in Charles and Calvert Counties.

1. The TPB agrees with Governor Schaefer that Charles and Calvert Counties not be a part of the planning area covered by the TPB.

2. Transportation plans, programs and projects in Charles and Calvert Counties will be excluded from the TPB's Long-Range Transportation Plan and six-year Transportation Improvement Program (TIP). and included in the statewide Long-Range Transportation Plan and state-wide Transportation Improvement Program (STIP) developed by the State of Maryland.

3. Transportation plans, programs and projects in Charles and Calvert Counties will be included in the conformity analysis and determination carried out by the TPB for the Washington Metropolitan Statistical Area (MSA). Conformity determinations concerning proposed added projects will be based on a system level analysis for the non-attainment area.

4. Charles and Calvert Counties will be involved in all aspects of the conformity analysis and determinations.

   Formal involvement for Charles and Calvert Counties will be provided through the Maryland Department of Transportation on the TPB, and through Charles and Calvert Counties' membership on MWAQC and its Technical Staff Coordination Committee (TSCC).

- Informal involvement by Charles and Calvert Counties will be provided through participation by their representatives in COG and TPB committees and processes concerned with conformity, including receipt of all materials and participation in all meetings, discussions, and reviews.

These procedures are subject to amendment should they be found in conflict with the final rule on conformity promulgated by the U.S. Environmental Protection Agency.

ATTACHMENT B

TPB R23-93
December 16, 1993

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
777 North Capitol Street, N.E.
Washington, D. C. 20002

RESOLUTION RESPONDING TO GOVERNOR SCHAEFER'S LETTER CONCERNING THE METROPOLITAN PLANNING BOUNDARY IN MARYLAND

WHEREAS, the National Capital Region Transportation Planning Board (TPB) is the officially designated Metropolitan Planning Organization (MPO) for the Metropolitan Washington area; and

WHEREAS, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires MPO boundaries to "at least include the boundaries of the non-attainment area, except as otherwise provided by agreement between the metropolitan planning organization and the Governor;" and

WHEREAS, in a letter of April 16, 1992, the Governor of Maryland presented a proposal to the TPB under which "the Washington area MPO boundaries should not be expanded to encompass Charles and Calvert Counties;" and

WHEREAS, on September 16, 1992, the Transportation Planning Board (TPB) requested that the Metropolitan Washington Air Quality Committee (MWAQC) consider and provide comments to the TPB on the implications of Governor Schaefer's request for air quality planning and conformity findings in the Metropolitan Washington Area; and

WHEREAS, there has been extensive coordination with the State Transportation Agencies and the State Air Quality Agencies, who are members of MWAQC, and with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA); and

WHEREAS, on December 9, 1992, the MWAQC adopted a set of recommendations to the TPB on responding to Governor Schaefer's request; and has transmitted those recommendations to the TPB; and

WHEREAS, the "Interim Guidance on the ISTEA Metropolitan Planning Requirements" issued by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) of April 6, 1992, contains the following guidance on Metropolitan boundaries:

"In non attainment areas, if the MPO and the Governor agree to exclude a portion of the nonattainment area, they must be able to demonstrate how conformity will be ensured in the excluded portion. Such proposals should be coordinated with FHWA, FTA, EPA, the state transportation agency.and the state air quality agency before a final decision is made".

NOW, THEREFORE, BE IT RESOLVED THAT: The National Capital Region Transportation Planning Board endorses the MWAQC recommendations as defined in Attachment A, agrees to respond favorably to the April 16, 1992 request of the Governor of Maryland, and also to transmit copies to the Federal Highway Administration, the Federal Transit Administration, and the Environmental Protection Agency.

Adopted by the Transportation Planning Board at its regular meeting on December 16, 1992.

National Capital Region
**Transportation Planning Board**

**MEMORANDUM**

**TO:** Files

**FROM:** Jane Posey, TPB Transportation Engineer

**SUBJECT:** TPB Coordination with C-SMMPO for 2016 CLRP conformity analysis

**DATE:** November 16, 2016

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Calvert County, Maryland is in the Washington, DC-MD-VA 8-hour ozone non-attainment area, and is also a member of the new southern Maryland Metropolitan Planning Organization (MPO), Calvert-Saint Mary's MPO (C-SMMPO). Projects in Calvert County have always been included in the Transportation Planning Board's air quality conformity analyses, but with the creation of the new MPO, it was necessary to formalize coordination between the TPB and C-SMMPO to ensure that Calvert County's transportation plans, programs, and projects are assessed for regional air quality conformity.

In January 2016, the TPB adopted Resolution TPB R6-2016, approving a coordination agreement between the TPB, the C-SMMPO, and Calvert County, MD. The agreement outlines a process where C-SMMPO will develop Plans and Transportation Improvement Programs (TIPs) to include Calvert County projects, and the TPB will continue to include these Calvert County projects in its regional air quality conformity analysis. The agreement lists the seven tasks, below, to be followed for each conformity cycle. Following each task is a record (in italics) of the steps taken, or procedures used, to complete the task during the TPB's air quality conformity analysis of the 2016 Constrained Long Range Plan (CLRP).

1. Transportation plans, programs, and projects in the C-SMMPO Metropolitan Planning Area (MPA) of Calvert County will be included in the Long Range Transportation Plan and Transportation Improvement Program developed by the C-SMMPO.

   ***Transportation plans, programs, and projects in the C-SMMPO Metropolitan Planning Area (MPA) of Calvert County have been included in the 2016 Long Range Transportation Plan (LRTP) and 2015 Transportation Improvement Program (TIP) developed by the C-SMMPO. The C-SMMPO adopted its Plan (http://www.calvert-stmarysmpo.com/156/Long-Range-Transportation-Plan-LRTP) in March 2016, and its TIP (http://www.calvert-stmarysmpo.com/155/Transportation-Improvement-Program-TIP) in in June 2015 with amendments in January and February 2016.***

2. The C-SMMPO and Calvert County, in consultation with the Maryland Department of Transportation (MDOT), will submit the plan, program, and project inputs for Calvert and for the C-SMMPO MPA to the TPB for inclusion in each update of the TPB's regional air quality conformity

analysis and determination for the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area.

*The C-SMMPO, Calvert County, and MDOT submitted projects in February 2016 to the TPB for the update to the TPB's regional air quality conformity analysis and determination for the Washington, DC-MD-VA 8-Hour Ozone non-attainment area. The TPB approved project inputs for the air quality conformity analysis of the 2016 CLRP and FY2017-2022 TIP in March 2016. Inputs from the C-SMMPO included: 1) a replacement of the Thomas Johnson Bridge over the Patuxent River with a 4-lane structure, 2) a widening of MD 4 from the Thomas Johnson Bridge to MD 235, 3) the construction of an interchange at MD 4/MD 235, and 4) a widening of MD 4 from the Thomas Johnson Bridge to Patuxent Point Parkway.*

3. The timeframe for analysis and coordination will be outlined by the schedule in the TPB's *Call For Project*s document for each cycle.

   *The TPB released the final "Call For Projects" document in December 2015. The document included a schedule for the air quality conformity analysis of the 2016 CLRP and FY2017-2022 TIP. The schedule called for project inputs to be approved by the TPB in March 2016 and for the approval of the completed conformity analysis by the TPB in November 2016. MDOT shared the schedule, including the project input deadline, with C-SMMPO staff.*

4. The TPB's *Air Quality Conformity Scope of Work* will provide details regarding the steps taken to ensure compliance with the Federal Transportation Conformity Rule (40 CFR 51 and 93). For example, the TPB will coordinate with Calvert County and the State of Maryland to obtain all necessary analysis inputs and latest planning assumptions (e.g., land activity, vehicle registration data, etc.).

   *The TPB's Scope of Work for the air quality conformity analysis of the 2016 CLRP and FY2017-2022 called for coordination with C-SMMPO and the use of updated inputs and the latest planning assumptions. TPB coordinated with various Maryland agencies and with C-SMMPO to get the latest planning assumptions for Calvert County. The Council of Governments' (COG) Department of Community Planning and Services obtained land activity (household, population, and employment) data for Calvert and St. Mary's Counties from the Maryland Department of Planning. The Maryland Department of the Environment provided vehicle registration data, and other data, such as fuel and inspection/maintenance information, for use as input to the Motor Vehicle Emissions (MOVES2014a) model.*

5. Project level conformity analyses will continue to be performed by the State, and assessed through the interagency consultation process, as is currently done for all state projects.

*At this time there is no requirement for project level conformity analyses in Calvert County, as the county is not a non-attainment or maintenance area for fine particles ($PM_{2.5}$) or CO pollutants.*

6. Calvert County will be involved in all aspects of the TPB's air quality conformity analysis and determination including its interagency consultation process:

   - Formal involvement for Calvert County on the TPB will be provided through MDOT, and through Calvert County's membership on the Metropolitan Washington Air Quality Committee (MWAQC) and on the MWAQC Technical Advisory Committee.

     *MDOT representatives are active members of the TPB and are members of the TPB's subcommittees. Calvert County is a member of the Metropolitan Washington Air Quality Committee (MWAQC) and is represented on the MWAQC Technical Advisory Committee (TAC). All aspects of the conformity analysis (inputs, analysis, results) were presented to the TPB Technical Committee, the TPB, and MWAQC TAC at various times throughout the interagency consultation process.*

   - Informal involvement by Calvert County will be provided through participation by representatives of Calvert County in TPB committees and processes concerned with regional air quality conformity, including receipt of all materials and participation in all meetings, discussions, and reviews.

     *MDOT and representatives of C-SMMPO are included on the mailing list for the TPB's monthly consultation letter, which announced all items related to the conformity analysis and provided links to all related documents.*

7. The TPB will provide copies of the conformity report to C-SMMPO and Calvert County at the completion of each conformity cycle. As relevant, portions of the TPB conformity report will be included in the C-SMMPO Plan and TIP documentation to demonstrate conformity.

   *The TPB will provide hard copies, and access to the electronic copies, of the final air quality conformity report after the Board approves the conformity analysis in November 2016.*

# ATTACHMENT E

## Documentation of Data Development Process for Mobile Source Emissions Calculations

**MEMORANDUM**

**TO:** Files

**FROM:** Jinchul (JC) Park, Principal Transportation Engineer

**SUBJECT:** Mobile Source Emissions Process and Data Development for the Air Quality Conformity Analysis of Visualize 2045

**DATE:** July 13, 2018

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## 1.0 BACKGROUND

This technical appendix documents four categories of data preparation executed for MOVES model: (1) post processing of travel demand results; (2) development of travel-related inputs based on travel demand results of MWCOG/TPB's Version 2.3.75 travel demand model and local data; (3) non-travel related inputs such as meteorology, fuel supply and formulation, and inspection/maintenance (I/M) programs and state-specific policy programs; and (4) 2016 vehicle registration data obtained from agencies in the District of Columbia, the Commonwealth of Virginia, and the state of Maryland. MOVES model requires two broad sets of data (i.e., travel and non-travel related data) and policy programs specific to each state's requirements. Travel related data were created through data development methods established and recommended by the MOVES Task Force. Post processing of travel demand results is a pre-requisite for developing travel related data.

Emissions calculations are composed of mainly four tasks to be executed in order: (1) creation of travel and non-travel related data; (2) conversion of the data into MOVES format using XML batch processing built in MOVES2014a; (3) execution of MOVES with modeling characteristics; and (4) summary of MOVES input using MySQL summary scripts. The overall modeling processes are illustrated in Figure 1.

The data inputs are obtained from a variety of sources as shown in Table 1. Local data are applied in emissions calculations where available; otherwise, MWCOG/TPB uses MOVES default data. Table 1 exhibits MOVES input data by locality and supplies sources of the data.

## 2.0 POST PROCESSING OF TRAVEL DEMAND RESULTS

Travel demand results are post processed to create vehicle hours of travel (VHT) and vehicle miles of traveled (VMT) distributions, which later will be used to create travel related MOVES data. An emissions post processor had been used to calculate emissions in the Mobile 6.2 model, but with MOVES, post processing is tailored to only create VHT and VMT distributions for each vehicle type.

For each analysis year, travel demand results are post processed to obtain hourly jurisdictional VHT and VMT distributions by Mobile's 14 speed bins and three vehicle types (i.e., passenger vehicles, commercial vehicles and trucks) for two facility types. In post processing six travel markets from the travel demand model results are grouped into three vehicle types as follows:

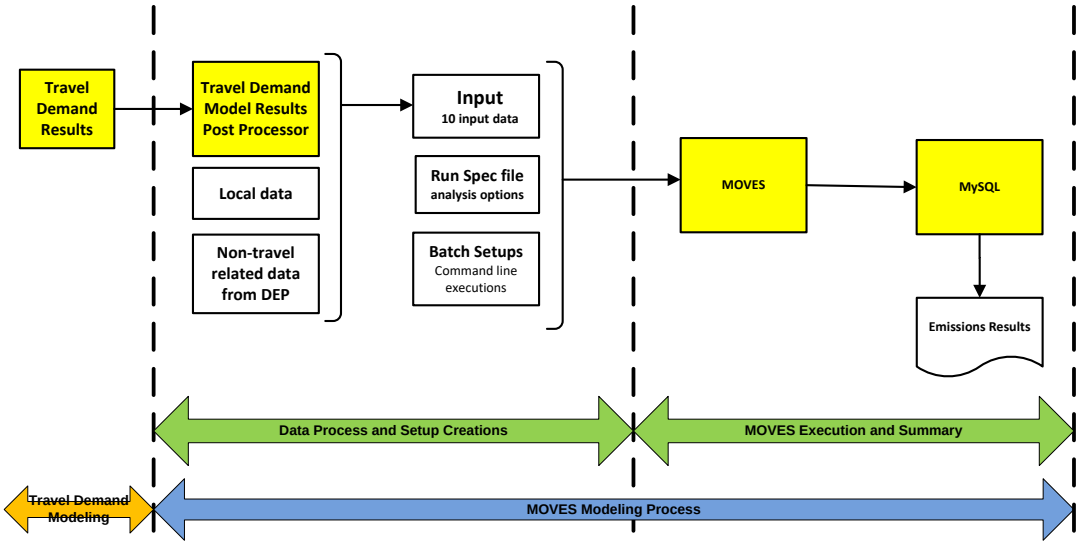

Figure 1. MOVES Modeling Process

| Data Type | No | Data Category | Data Table Name | Locality | Data Source |
|---|---|---|---|---|---|
| Travel | 1 | Age Distribution | **sourceTypeAgeDistribution** | County | based on VIN |
| | 2 | Average Speed Distribution | **avgSpeedDistribution** | County | based on TDM's post-processor outputs + school bus/refuse truck data from Fairfax Co. + Transit bus from WMATA |
| | 3 | Road Type Distribution | **roadTypeDistribution** | County | based on TDM's post-processor outputs |
| | 4 | Source Type Population | **sourceTypeYear** | County | based on CLRP Vehicle Projection & VIN |
| | 5 | Vehicle Type VMT | **HPMSVTypeYear** | County | based on TDM's post-processor outputs |
| | | | **monthVMTFraction** | Region | based on Regional Data |
| | | | **dayVMTFraction** | Region | based on Regional Data |
| | | | **hourVMTFraction** | Region | based on Regional Data |
| | 6 | Ramp Fraction | **roadType** | Region | 8% of the urban/rural restricted access roads |
| Non Travel | 7 | Fuel | **FuelSupply** | State | from state air agency (state-wide data) |
| | 8 | | **FuelFormulation** | State | from state air agency (state-wide data) |
| | 9 | I/M Programs | **IMCoverage** | State | from state air agency (state-wide data) |
| | 10 | Meteorology Data | **zoneMonthHour** | Jurisdiction | from DEP (by each jurisdiction) |

Table 1. MOVES Input Data

- Passenger Vehicles (PVs) = SOV + HOV2 + HOV3 or more + Airport Passenger Trips;
- Commercial Vehicles (CVs) = Commercial Vehicles; and
- Heavy Duty Vehicles (HDVs) = Trucks;

And six facility types are grouped into two as follows:

- Freeway = freeway + expressway + freeway ramp; and
- Arterials = major arterial + minor arterial + collector.

The post processor is then executed four times for each analysis year: one for each vehicle type and another for all vehicles combined. A successful post processing of travel demand results give users hourly jurisdictional VMT and VHT distributions by Mobile's 14 speed bins and two facility types. Figure 2 illustrates the post processing of travel demand results, and Figure 3 exhibits an example of post processing passenger vehicles.

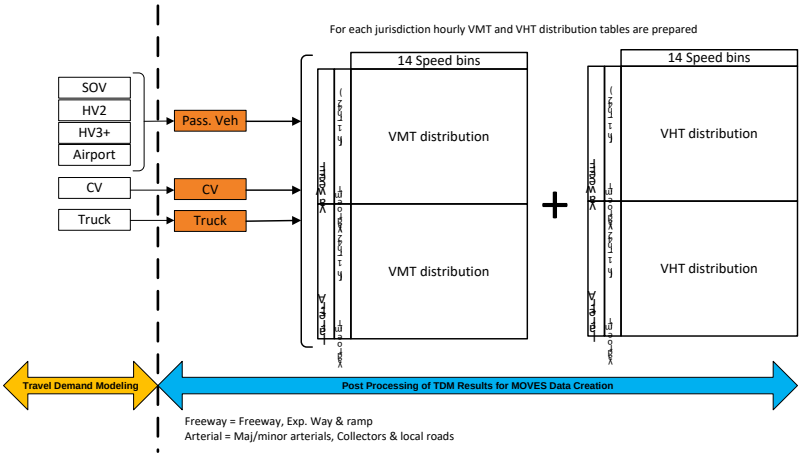


Figure 2. Post Processing Process of Travel Demand Results

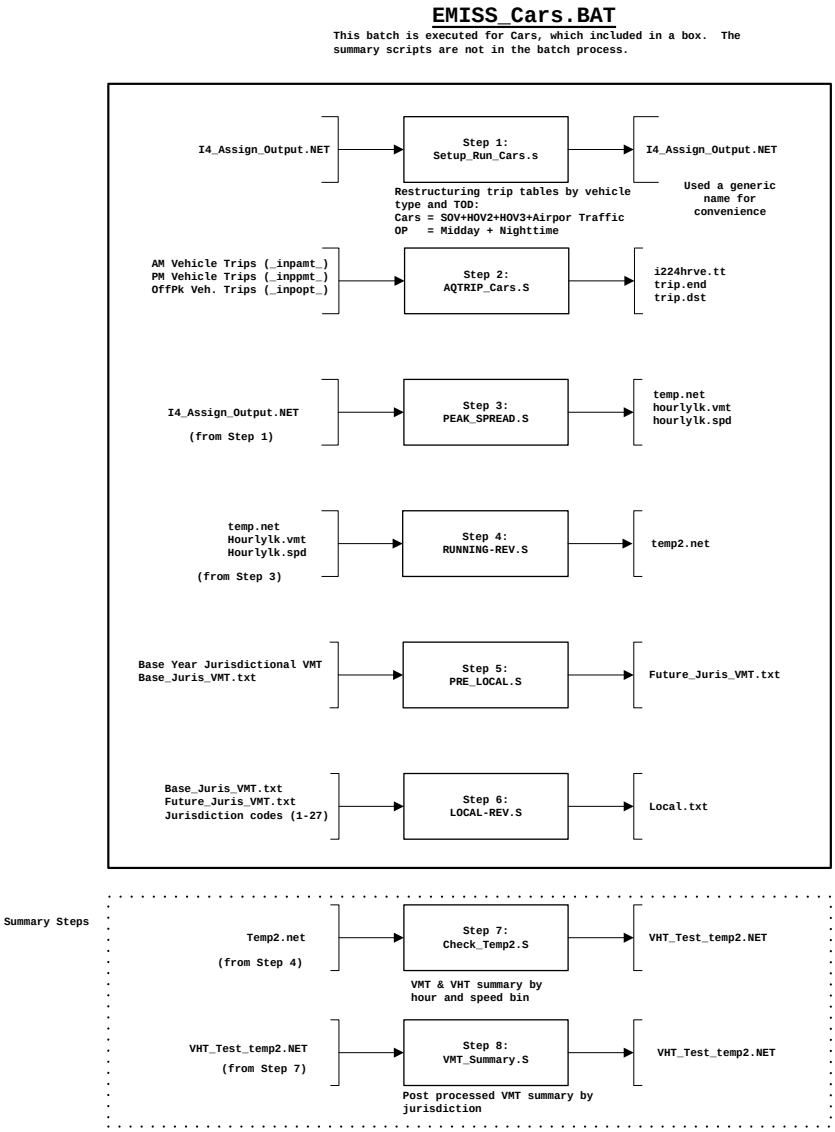


Figure 3. Sample Post Processing flowchart for Passenger Vehicles

## 3.0. TRAVEL RELATED INPUTS

A. Age Distribution

Every three years since 2005, Departments of Motor Vehicles of the District of Columbia, Maryland, and Virginia have been supplying MWCOG/TPB with vehicle registration data for use in Air Quality Conformity (AQC) Determinations and State Implementation Plan (SIP) updates. However, the most recent vehicle registration data were collected in December 2016, which is a snapshot of vehicle registrations by year, collected by Departments of Motor Vehicles in each state at that time. The most recent VIN data contain a broad range of attributes of the vehicles registered in the jurisdictions of the Metropolitan Washington DC non-attainment area. The latest data are used in the development of future year vehicle population profiles (i.e., vehicle age and vehicle type distribution) for all the analysis years in the air quality conformity analysis of Visualize 2045.

Prior to using the VIN data as input to MOVES, the 'raw' vehicle registration data are decoded using a commercial decoding software program[1]. Following EPA's guidelines, the data are decoded in two steps: (1) the 'raw' data are decoded to a Mobile 6.2 format; and (2) the Mobile 6.2 format vehicle population distributions are converted to a MOVES format using an EPA converter[2]. Thus, 16 Mobile vehicle types and 25 vehicle age categories are mapped into MOVES' 13 vehicle and 31 vehicle age categories. The vehicle population mapping process is shown in greater detail in Table AS1 in the Appendix Supplement section. The vehicle population of the 2016 VIN data was reviewed by the MWCOG/TPB technical oversight committees prior to becoming approved for transportation planning applications. The VIN data were formally approved by MWCOG/TPB to be used for Visualize 2045 in February 2018.

B. Average Speed Distribution

The MWCOG/TPB regional travel demand model calculates link-level traffic volumes, not average link-level speed estimates. Vehicle Hours of Travel (VHT) distributions were selected as a suitable proxy for average speed distribution. MWCOG/TPB's regional travel demand model results are first processed to derive VHT distributions by six vehicle categories:

- Single Occupancy Vehicles (SOV);
- High Occupancy Vehicles 2 (HOV2);
- High Occupancy Vehicles 3+ (HOV3 or more);
- Commercial Vehicles;
- Trucks; and
- Airport Passenger Trips.

Through post-processing, six VHT distributions are first classified by three vehicle types, Mobile's 14 speed bins, hour of the day, and two facility types (i.e., freeways and arterials); and later reclassified

[1] VinPower, Copyright; ESP Data Solutions Inc., Product version 4.0.0.16

[2] RegistrationDistributionConverter_Veh16

into MOVES's 16 speed bins, hour of the day, day of the week (i.e., weekdays and weekend days), and four facility types for Ozone non-attainment jurisdictions in MWCOG/TPB planning area. Six vehicle types from the travel demand model are reclassified into three vehicle types as follows:

- Passenger Vehicles (PVs) = SOV + HOV2 + HOV3 or more + Airport Passenger Trips;
- Commercial Vehicles (CVs) = Commercial Vehicles; and
- Heavy Duty Vehicles (HDVs) = Trucks.

MOVES requires: (1) 16 speed bins from 2.5 mph to 75 mph in increments of 5 mph; and (2) four road types, which are a combination of two facility types (i.e., restricted and unrestricted) and two environmental settings (i.e., urban and rural settings). The restricted facilities include freeways, expressways and freeway ramps, while the unrestricted facilities include major/minor arterials, collectors, and local roads. The following assumptions are used to develop average speed distributions fulfilling MOVES requirements stated above:

1. VHT Distribution to Restricted Facilities:

    a. All vehicle types:
        - Weekday VHT Distribution:
            - All Day: Hourly distribution for all vehicles
        - Weekend VHT Distribution:
            - 11:00 am – 7:00 pm: Distribution across the 13 MOVES vehicle type categories reflecting the 3:00 pm hour on a weekday
            - 7:01 pm – 10:59 am: Distribution across the 13 MOVES vehicle type categories reflecting the 12:00 am hour on a weekday

2. VHT Distribution to Unrestricted Facilities:

    a. All vehicle types exclusive of refuse trucks, school buses and transit buses:
        - Weekday VHT Distribution:
            - All Day: Hourly distribution for all vehicles
        - Weekend VHT Distribution:
            - 11:00 am – 7:00 pm: Distribution reflecting the 3:00 pm hour on a weekday
            - 7:01 pm – 10:59 am: Distribution reflecting the 12:00 am hour on a weekday

    b. Refuse trucks: Refuse trucks operate on a 3-phase cycle: Phase 1 is the period of driving from the dispatch garage to trash collection sites; Phase 2 is the period of the actual trash/recycle collection; Phase 3 is the period of driving back to transfer stations. Using local data from Fairfax County, VA, the average speed of Phases 1 and 3 were assumed to be in the range of 22.5-27.5 miles per hour (i.e., MOVES Speed Bin 6), and the average speed of Phase 2 was assumed to be in the range of 2.5-7.5 miles per hour (i.e., MOVES Speed Bin 2). Based on the above assumptions the refuse truck vehicle type VHT distributions were as follows:

        - Weekday VHT Distribution (Table 2):
            - 5:00 am–5:00 pm (Trash Collection): VHT hourly distributions according to Phases 1, 2 and 3.

- 5:01 pm–5:00 am (On Road Phase): VHT hourly distribution consists of Phase 2.

- Weekend VHT Distribution:
  - All Day: VHT distribution made up of Phase 1 and Phase 3 (on road phases)

c. School buses:
   - Weekday VHT Distribution:
     - 6:00 am – 6:00 pm: VHT distribution per Table 3
     - 6:00 pm – 6:00 am: VHT distribution of heavy duty vehicles

   - Weekend VHT Distribution:
     - 11:00 am–7:00 pm: VHT Distribution of heavy duty vehicles at 3:00 pm on a weekday
     - 7:00 pm – 11:00 am: VHT Distribution of heavy duty vehicles at 12:00 am on a weekday

d. Transit buses:
   - Weekday VHT Distributions (Table 4):
     - 6:00 – 9:00 am: Per WMATA's bus speed distribution of the AM peak period
     - 9:00 am–3:00 pm: Per WMATA's bus speed distribution of the off-peak period
     - 3:00 - 6:00 pm: Per WMATA's bus speed distribution of the PM peak period
     - 6:00pm-6:00 am: Per WMATA's bus speed distribution of the off-peak period

   - Weekend VHT Distribution (Table 4):
     - All Day: Per WMATA's bus speed distribution of the off-peak period.

C. Road Type Distribution

Road type distribution develops Vehicle Miles Traveled (VMT) distribution by MOVES 13 vehicle types and four facility types. The method of developing VMT distribution is as follows:

1. Through post-processing of travel demand results, jurisdictional VMT distributions of six vehicle types are reclassified to VMT distributions by three vehicle types as follows:

   - Passenger Vehicles (PVs) = SOV + HOV2 + HOV3 or more + Airport Passenger Trips;
   - Commercial Vehicles (CVs) = Commercial Vehicles; and
   - Heavy Duty Vehicles (HDVs) = Trucks.

2. VMT percentages by three vehicle types are allocated to MOVES vehicle types as follows:

   - Passenger Vehicles (PVs): VMT percentages by facility type are applied to motorcycles, passenger cars and passenger trucks;
   - Commercial Vehicles (CVs): VMT percentages by facility type are applied to commercial trucks;
   - Heavy Duty Vehicles (HDVs): VMT percentages by facility type are applied to single unit short-haul and long-haul trucks, and combination short-haul and long-haul trucks;
   - Refuse Trucks and Motor Homes: MOVES default percentage values;

- School, Transit and Intercity Buses: Local network percentages from local data sources (i.e., local bus operators); and
- Urban and rural percentage split factors are used to further allocate facility type VMT between urban and rural facilities. These factors vary by jurisdiction, and are based on the latest Highway Performance Monitoring System (HPMS) VMT data provided by the three state transportation agencies. Figure 4 illustrates the process of allocating VMT by vehicle type, facility type, and urban/rural split.

| Speed Bins | Speed Range | 5:00 AM - 5:00 PM | 5:01 PM - 4:59 AM |
|---|---|---|---|
| 1 | speed < 2.5mph | 0.00% | 0.00% |
| 2 | 2.5mph <= speed < 7.5mph | 62.65% | 0.00% |
| 3 | 7.5mph <= speed < 12.5mph | 0.00% | 0.00% |
| 4 | 12.5mph <= speed < 17.5mph | 0.00% | 0.00% |
| 5 | 17.5mph <= speed <22.5mph | 0.00% | 0.00% |
| 6 | 22.5mph <= speed < 27.5mph | 37.35% | 100.00% |
| 7 | 27.5mph <= speed < 32.5mph | 0.00% | 0.00% |
| 8 | 32.5mph <= speed < 37.5mph | 0.00% | 0.00% |
| 9 | 37.5mph <= speed < 42.5mph | 0.00% | 0.00% |
| 10 | 42.5mph <= speed < 47.5mph | 0.00% | 0.00% |
| 11 | 47.5mph <= speed < 52.5mph | 0.00% | 0.00% |
| 12 | 52.5mph <= speed < 57.5mph | 0.00% | 0.00% |
| 13 | 57.5mph <= speed < 62.5mph | 0.00% | 0.00% |
| 14 | 62.5mph <= speed < 67.5mph | 0.00% | 0.00% |
| 15 | 67.5mph <= speed < 72.5mph | 0.00% | 0.00% |
| 16 | 72.5mph <= speed | 0.00% | 0.00% |

Table 2. Average Weekday VHT Distribution for Refuse Trucks (source: Fairfax Co, VA)

D. Source Type Population

Source type population, or vehicle population, is acquired from the vehicle registration data. The VIN decoding software outputs vehicle population totals by Mobile 6.2 vehicle types. The vehicle population from the VIN data is then used to estimate vehicle population for each analysis year. Methods of estimating vehicle population vary by analysis year and availability of VIN data. For example:

- Case 1: If a VIN data year is the same as an analysis year, vehicle population total of the VIN data is used without any change;
- Case 2: If an analysis year is historical and is between any two VIN data years, vehicle population total of the analysis year is calculated using an interpolation method based on the two sets of VIN data; and
- Case 3: If an analysis year is a future year, regression analysis is used to project future vehicle population totals based on available VIN data (collected from 1975 to 2014), which draws the 'best fitting' line among scattered VIN data points.

Table 5 exhibits vehicle population forecasts based on this method using new 2016 VIN data. Vehicle profiles of the 2016 VIN data are used to develop future year vehicle profiles by jurisdiction. Vehicle profiles are prepared in a Mobile format in this data processing first, and then are converted to a MOVES vehicle type using a vehicle mapping table provided by EPA (see Table AS1 in the Appendix). Figure 5 shows the process of calculating source type population.

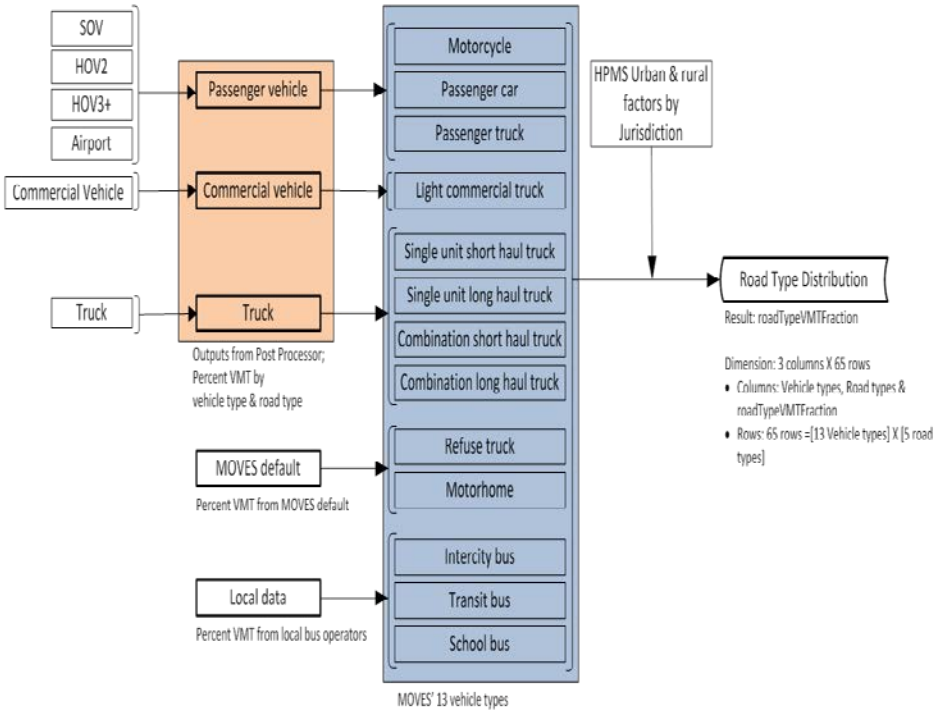


Figure 4. Road Type Distribution Development Process

| Speed Bins | Speed Range | Bus Trip 1 | Bus Trip 2 | Bus Trip 3 | Bus Trip 4 | Bus Trip 5 | Bus Trip 6 | Bus Trip 7 | Bus Trip 8 | Bus Trip 9 | Bus Trip 10 | Bus Trip 11 | Weighted Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | speed < 2.5mph | 35.20% | 24.30% | 17.58% | 14.65% | 7.90% | 16.11% | 6.65% | 18.30% | 25.76% | 16.18% | 17.67% | **19.21%** |
| 2 | 2.5mph <= speed < 7.5mph | 10.87% | 11.57% | 6.45% | 11.04% | 29.89% | 20.20% | 44.83% | 11.01% | 9.68% | 6.49% | 9.12% | **14.39%** |
| 3 | 7.5mph <= speed < 12.5mph | 10.90% | 9.35% | 12.89% | 6.50% | 26.31% | 17.69% | 3.34% | 9.12% | 9.52% | 6.69% | 8.69% | **10.92%** |
| 4 | 12.5mph <= speed < 17.5mph | 8.81% | 9.18% | 8.59% | 9.45% | 6.00% | 11.13% | 23.76% | 10.12% | 9.98% | 8.46% | 10.32% | **10.37%** |
| 5 | 17.5mph <= speed <22.5mph | 5.01% | 10.15% | 5.18% | 14.04% | 3.04% | 5.94% | 4.09% | 10.36% | 7.57% | 9.74% | 12.02% | **8.30%** |
| 6 | 22.5mph <= speed < 27.5mph | 8.91% | 8.55% | 11.62% | 12.59% | 6.18% | 5.30% | 3.54% | 7.29% | 7.11% | 8.87% | 11.73% | **8.13%** |
| 7 | 27.5mph <= speed < 32.5mph | 8.79% | 7.97% | 14.36% | 11.28% | 5.86% | 13.33% | 6.35% | 9.43% | 5.37% | 10.06% | 10.20% | **9.41%** |
| 8 | 32.5mph <= speed < 37.5mph | 5.33% | 9.10% | 5.86% | 13.43% | 7.62% | 3.32% | 6.36% | 13.79% | 8.68% | 12.04% | 6.81% | **7.81%** |
| 9 | 37.5mph <= speed < 42.5mph | 3.43% | 6.89% | 8.69% | 7.02% | 4.80% | 3.76% | 1.07% | 7.94% | 9.79% | 13.81% | 8.16% | **7.22%** |
| 10 | 42.5mph <= speed < 47.5mph | 1.72% | 2.44% | 8.79% | 0.00% | 2.40% | 2.87% | 0.00% | 1.31% | 5.83% | 5.15% | 4.75% | **3.42%** |
| 11 | 47.5mph <= speed < 52.5mph | 0.68% | 0.00% | 0.00% | 0.00% | 0.00% | 0.36% | 0.00% | 0.67% | 0.31% | 2.27% | 0.36% | **0.59%** |
| 12 | 52.5mph <= speed < 57.5mph | 0.34% | 0.50% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.67% | 0.41% | 0.24% | 0.18% | **0.23%** |
| 13 | 57.5mph <= speed < 62.5mph | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | **0.00%** |
| 14 | 62.5mph <= speed < 67.5mph | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | **0.00%** |
| 15 | 67.5mph <= speed < 72.5mph | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | **0.00%** |
| 16 | 72.5mph <= speed | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | **0.00%** |

*Source: Fairfax Co. VA*

Table 3. VHT Distribution of School Buses (6:00 am – 6:00 pm)

| avgSpeedBinID | avgBinSpeed | avgSpeedBinDesc | 6:00AM-9:00AM | 3:00PM-6:00PM | 9:01AM-2:59PM/6:01PM-5:59AM |
|---|---|---|---|---|---|
| 1 | 2.5 | speed < 2.5mph | **9.94%** | **9.10%** | **7.92%** |
| 2 | 5 | 2.5mph <= speed < 7.5mph | **13.79%** | **18.95%** | **14.49%** |
| 3 | 10 | 7.5mph <= speed < 12.5mph | **34.07%** | **37.86%** | **31.36%** |
| 4 | 15 | 12.5mph <= speed < 17.5mph | **28.52%** | **23.97%** | **29.17%** |
| 5 | 20 | 17.5mph <= speed <22.5mph | **10.02%** | **5.92%** | **10.77%** |
| 6 | 25 | 22.5mph <= speed < 27.5mph | **1.88%** | **1.84%** | **3.91%** |
| 7 | 30 | 27.5mph <= speed < 32.5mph | **0.92%** | **0.85%** | **1.04%** |
| 8 | 35 | 32.5mph <= speed < 37.5mph | **0.34%** | **0.60%** | **0.72%** |
| 9 | 40 | 37.5mph <= speed < 42.5mph | **0.14%** | **0.50%** | **0.35%** |
| 10 | 45 | 42.5mph <= speed < 47.5mph | **0.05%** | **0.15%** | **0.15%** |
| 11 | 50 | 47.5mph <= speed < 52.5mph | **0.31%** | **0.28%** | **0.06%** |
| 12 | 55 | 52.5mph <= speed < 57.5mph | **0.00%** | **0.00%** | **0.06%** |
| 13 | 60 | 57.5mph <= speed < 62.5mph | **0.00%** | **0.00%** | **0.00%** |
| 14 | 65 | 62.5mph <= speed < 67.5mph | **0.00%** | **0.00%** | **0.00%** |
| 15 | 70 | 67.5mph <= speed < 72.5mph | **0.00%** | **0.00%** | **0.00%** |
| 16 | 75 | 72.5mph <= speed | **0.00%** | **0.00%** | **0.00%** |

*Source: Washington Metropolitan Area Transit Authority (WMATA)*

Table 4. VHT Distribution of Transit Buses

| State | Jurisdiction | 2019 | 2021 | 2025 | 2030 | 2040 | 2045 |
|---|---|---|---|---|---|---|---|
| DC | District of Columbia | 330,981 | 341,228 | 361,724 | 387,343 | 438,581 | 464,200 |
| MD | Calvert County | 94,962 | 98,398 | 105,272 | 113,863 | 131,046 | 139,638 |
| | Charles County | 144,828 | 149,442 | 158,670 | 170,206 | 193,277 | 204,813 |
| | Frederick County | 237,344 | 244,741 | 259,533 | 278,025 | 315,007 | 333,498 |
| | Montgomery County | 793,978 | 811,491 | 846,518 | 890,302 | 977,870 | 1,021,653 |
| | Prince George's County | 654,417 | 665,308 | 687,090 | 714,318 | 768,773 | 796,001 |
| | **Sub total** | **1,925,528** | **1,969,380** | **2,057,084** | **2,166,713** | **2,385,973** | **2,495,602** |
| VA | City of Alexandria | 132,750 | 135,228 | 140,185 | 146,382 | 158,774 | 164,970 |
| | Arlington County | 151,884 | 153,975 | 158,157 | 163,385 | 173,841 | 179,068 |
| | Fairfax County | 999,761 | 1,026,611 | 1,080,310 | 1,147,434 | 1,281,681 | 1,348,805 |
| | Loudoun County | 308,308 | 322,507 | 350,905 | 386,403 | 457,398 | 492,896 |
| | Prince William County | 431,262 | 448,445 | 482,810 | 525,768 | 611,682 | 654,640 |
| | **Sub total** | **2,023,965** | **2,086,766** | **2,212,368** | **2,369,371** | **2,683,376** | **2,840,379** |
| | **Total** | **4,280,474** | **4,397,375** | **4,631,176** | **4,923,427** | **5,507,930** | **5,800,182** |

Table 5. Vehicle Population Forecasts (Source Type Population)

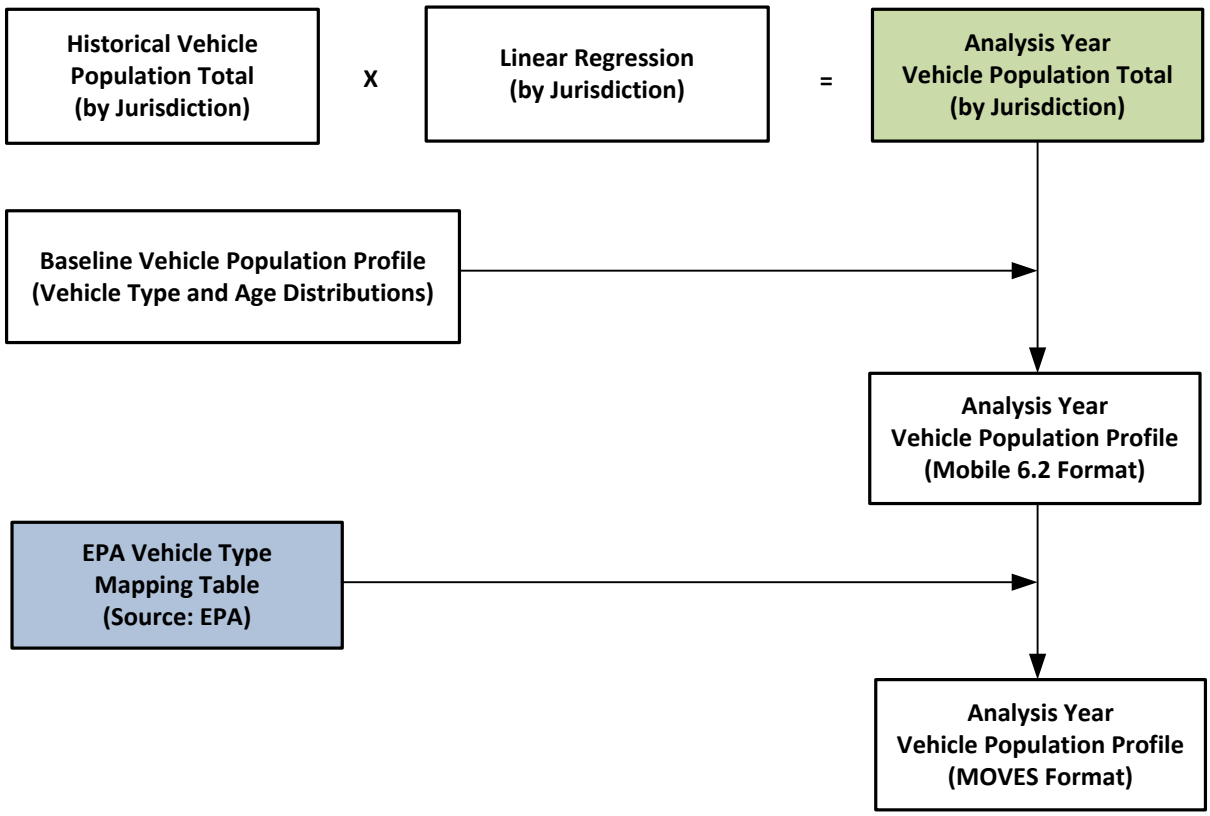


Figure 5. Source Type Population Development Process of Future Analysis Year

E. Vehicle Type VMT and VMT Percent by Hour, Day, and Month

MOVES2014a, the most recent MOVES version, requires annual VMT by five Highway Performance Monitoring System (HPMS) vehicle types. These are:

- Motorcycle (sourceTypeID = 10);
- Light duty vehicle (sourceTypeID = 25);
- Buses (sourceTypeID = 40);
- Single unit trucks (sourceTypeID = 50); and
- Combination trucks (sourceTypeID =60).

Average annual weekday VMT estimates include data from the travel demand model as well as VMT estimates from local streets, which are not included in the travel model. VMT from travel demand model is divided into three vehicle types: passenger vehicles, commercial vehicles, and heavy duty vehicles. Local VMT is developed by using a combination of observed and simulated data in post processing.

The local VMT shares are added to VMT from the travel model to produce total VMT. The resulting total VMT for the three vehicle types are classified by five MOVES vehicle types using jurisdictional HPMS VMT percent. Auto access VMT for transit riders is calculated by multiplying available transit parking spaces by maximum connect length (in miles) to transit stations. The VMT then is added to the VMT of Light Duty Vehicles (sourceTypeID = 25). Figure 6 illustrates the process of developing annual VMT.

The average annual weekday VMT total by five HPMS vehicle types is then fed into an EPA converter, AAD VMT Calculator HPMS.XLS, with local monthly adjustment factors and weekend-day adjustment factors. The converter generates three VMT fractions, 'monthVMTfraction,' 'dayVMTfraction' and 'hourlyVMTfraction' as outputs.

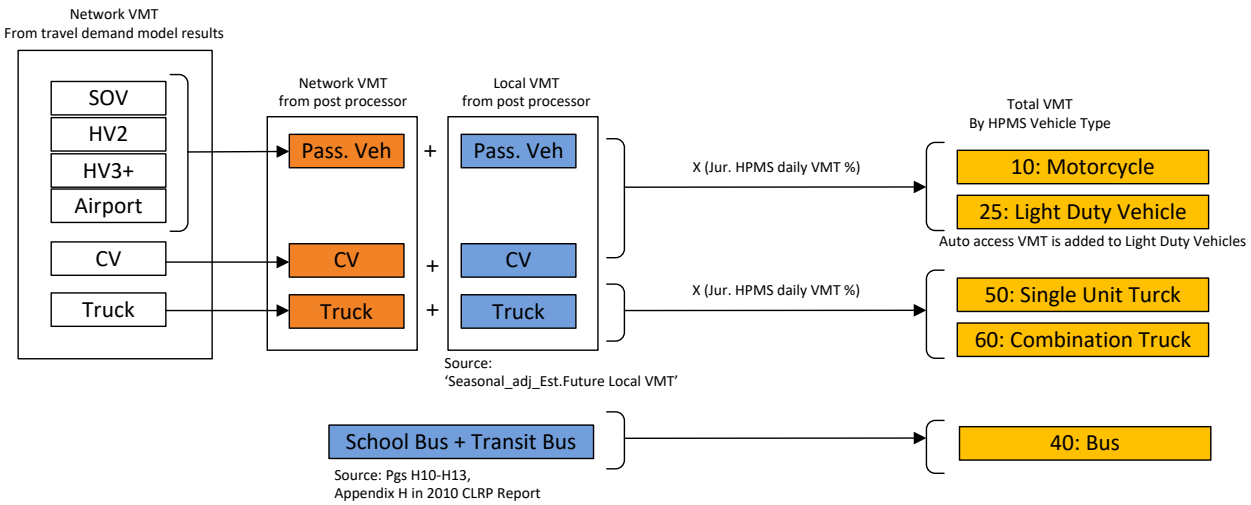


Figure 6. Annual VMT Calculation Process

F. Ramp Fraction

Local data are used to estimate the local ramp fraction using a method approved by the MOVES Task Force. The locally-derived percentage is equal to 8 percent of VHT, which, coincidentally, is the same as the MOVES default value.

## 4.0 DEP Inputs - 2016 CLRP Analysis

### A. METEOROLOGY

Meteorology data used in the conformity analysis vary by pollutant. For each pollutant they match the data used in the appropriate State Implementation Plan (SIP) or Maintenance Plan demonstrating attainment or maintenance of the national ambient air quality standard (NAAQS) for the pertinent pollutant. The meteorology data used are as follows:

- Ozone: Meteorology data are from a 2007 Ozone attainment SIP (submitted to EPA in May 2007) for the 1997 ozone NAAQS. The data, while unchanged in content, were reformatted from the original format, Mobile6.2-compatible, the prevailing emissions estimating model in 2007, to MOVES2010a ready format for the 2014 CLRP analysis[3]. Since there is no difference in meteorology data format for MOVES2014a and MOVES2010a, data used for the 2014 CLRP analysis were also used for the 2016 CLRP analysis in the same format.

### B. FUEL SUPPLY, FORMULATION, & FUEL USAGE FRACTION

The state air agencies of the District of Columbia, the state of Maryland, and the Commonwealth of Virginia provided fuel characteristics data for the analysis years in a MOVES2014a ready format.

For analysis year 2016, the gasoline sulfur content was 30 ppm or lower. For analysis year 2017 and beyond, the gasoline sulfur content used was 10 ppm, which is an assumption that is consistent with the 2014 Tier 3 rule of EPA.

### C. INSPECTION/MAINTENANCE (I/M) PROGRAMS

The District of Columbia, Maryland, and Virginia provided details of I/M programs for all analysis years in MOVES2014a ready format.

In addition to the above inputs there are state-specific programs that were taken into account in the analyses:

### D. STATE SPECIFIC CONTROL PROGRAMS

1. Early NLEV: The District of Columbia, Maryland, and Virginia adopted an Early NLEV program, which is reflected in all analysis years. Early NLEV input database file – MOVES2014_early_NLEV

2. Stage II: Varies by jurisdiction as follows:
   - District of Columbia: 1999 onwards - Refueling vapor program adjustment- 0.9, Refueling spill program adjustment- 0.5 (MOVES2014a defaults)

[3] Sunil Kumar, "Development of Meteorology Inputs for Existing Conformity Analyses (Ozone & PM2.5 – 1997 Standards, CO – 1971 Standard", July 20, 2013.

- Maryland: 1999 onwards - Refueling vapor program adjustment- 0.7, Refueling spill program adjustment- 0.7, MOVES2014 Stage II database file - md_stageii_yy

- Virginia: 2015 onwards - Refueling vapor program adjustment- 0, Refueling spill program adjustment- 0, MOVES2014 Stage II database file - va_stage2_input_20140507

3. CAL-LEV /ZEV Programs: Since 2011 Maryland adopted CAL-LEV program and as such it is reflected in all analysis years. The following auxiliary files, provided by the Maryland Department of the Environment (MDE), were used to model these programs in the Maryland jurisdictions:

   MOVES2014a Cal-Lev Database File - MOVES2014_caleviii2011;
   MOVES2014a ZEV Program Information - Included in all MD MS-Excel input files as a tab (ZEV_AVFT_MD_moves2014a)

# APPENDIX SUPPLEMENT

**TABLE AS1** - Population Mapping from MOBILE6.2 Vehicle Types to MOVES Source Types

| MOBILE6.2 Vehicle | | MOVES Source Type | | |
|---|---|---|---|---|
| **ID** | **Name** | **ID** | **Name** | **Fraction** |
| 1 | LDGV | 21 | Passenger Car | 1.00 |
| 2 | LDGT1 | 31 | Passenger Truck | 0.78 |
| | | 32 | Light Commercial Truck | 0.22 |
| 3 | LDGT2 | 31 | Passenger Truck | 0.78 |
| | | 32 | Light Commercial Truck | 0.22 |
| 4 | LDGT3 | 31 | Passenger Truck | 0.78 |
| | | 32 | Light Commercial Truck | 0.22 |
| 5 | LDGT4 | 31 | Passenger Truck | 0.78 |
| | | 32 | Light Commercial Truck | 0.22 |
| 6 | HDGV2B | 31 | Passenger Truck | 0.63 |
| | | 32 | Light Commercial Truck | 0.37 |
| 7 | HDGV3 | 31 | Passenger Truck | 0.63 |
| | | 32 | Light Commercial Truck | 0.37 |
| 8 | HDGV4 | 31 | Passenger Truck | 0.06 |
| | | 32 | Light Commercial Truck | 0.94 |
| 9 | HDGV5 | 31 | Passenger Truck | 0.06 |
| | | 32 | Light Commercial Truck | 0.94 |
| 10 | HDGV6 | 43 | School Bus | 0.04 |
| | | 52 | Single Unit Short-haul Truck | 0.69 |
| | | 53 | Single Unit Long-haul Truck | 0.03 |
| | | 54 | Motor Home | 0.23 |
| | | 61 | Combination Short-haul Truck | 0.01 |
| 11 | HDGV7 | 43 | School Bus | 0.04 |
| | | 52 | Single Unit Short-haul Truck | 0.69 |
| | | 53 | Single Unit Long-haul Truck | 0.03 |
| | | 54 | Motor Home | 0.23 |
| | | 61 | Combination Short-haul Truck | 0.01 |
| 12 | HDGV8A | 52 | Single Unit Short-haul Truck | 0.90 |
| | | 53 | Single Unit Long-haul Truck | 0.08 |
| | | 61 | Combination Short-haul Truck | 0.02 |
| 13 | HDGV8B | 52 | Single Unit Short-haul Truck | 0.90 |
| | | 53 | Single Unit Long-haul Truck | 0.08 |
| | | 61 | Combination Short-haul Truck | 0.02 |
| 14 | LDDV | 21 | Passenger Car | 1.00 |

**TABLE AS1** - Population Mapping from MOBILE6.2 Vehicle Types to MOVES Source Types

| MOBILE6.2 Vehicle Type | | MOVES Source Type | | |
|---|---|---|---|---|
| **ID** | **Name** | **ID** | **Name** | **Fraction** |
| 15 | LDDT12 | 31 | Passenger Truck | 0.42 |
| | | 32 | Light Commercial Truck | 0.58 |
| 16 | HDDV2B | 31 | Passenger Truck | 0.43 |
| | | 32 | Light Commercial Truck | 0.57 |
| 17 | HDDV3 | 31 | Passenger Truck | 0.43 |
| | | 32 | Light Commercial Truck | 0.57 |
| 18 | HDDV4 | 31 | Passenger Truck | 0.10 |
| | | 32 | Light Commercial Truck | 0.90 |
| 19 | HDDV5 | 31 | Passenger Truck | 0.10 |
| | | 32 | Light Commercial Truck | 0.90 |
| 20 | HDDV6 | 51 | Refuse Truck | 0.01 |
| | | 52 | Single Unit Short-haul Truck | 0.72 |
| | | 53 | Single Unit Long-haul Truck | 0.06 |
| | | 54 | Motor Home | 0.07 |
| | | 61 | Combination Short-haul Truck | 0.11 |
| | | 62 | Combination Long-haul Truck | 0.03 |
| 21 | HDDV7 | 51 | Refuse Truck | 0.01 |
| | | 52 | Single Unit Short-haul Truck | 0.72 |
| | | 53 | Single Unit Long-haul Truck | 0.06 |
| | | 54 | Motor Home | 0.07 |
| | | 61 | Combination Short-haul Truck | 0.11 |
| | | 62 | Combination Long-haul Truck | 0.03 |
| 22 | HDDV8A | 51 | Refuse Truck | 0.02 |
| | | 52 | Single Unit Short-haul Truck | 0.30 |
| | | 53 | Single Unit Long-haul Truck | 0.02 |
| | | 61 | Combination Short-haul Truck | 0.35 |
| | | 62 | Combination Long-haul Truck | 0.31 |
| 23 | HDDV8B | 51 | Refuse Truck | 0.02 |
| | | 52 | Single Unit Short-haul Truck | 0.30 |
| | | 53 | Single Unit Long-haul Truck | 0.02 |
| | | 61 | Combination Short-haul Truck | 0.35 |
| | | 62 | Combination Long-haul Truck | 0.31 |
| 24 | MC | 11 | Motorcycle | 1.00 |
| 25 | HDGB | 43 | School Bus | 1.00 |
| 26 | HDDBT | 41 | Intercity Bus | 0.62 |
| | | 42 | Transit Bus | 0.38 |
| 27 | HDDBS | 43 | School Bus | 1.00 |
| 28 | LDDT34 | 31 | Passenger Truck | 0.42 |
| | | 32 | Light Commercial Truck | 0.58 |

# ATTACHMENT F

## Transportation Emissions Reduction Measures (TERMS)

# TRANSPORTATION EMISSIONS REDUCTION MEASURES (TERMs) ANALYSIS

## for the Visualize 2045 and FY2019-2024 TIP

## TECHNICAL DOCUMENTATION

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## BACKGROUND

Mobile emissions forecasts are developed on the basis of modeled travel demand. The TPB's travel model takes into account the key influences on trip making such as where future development will occur and what future transportation projects will be built. The model, however, does not explicitly account for other programs that are much smaller in scale but are nonetheless expected to influence trip-making in the future. These strategies or actions are known as Transportation Emission Reduction Measures, or TERMs. TERMs may be considered to offset forecasted mobile emission levels by reducing the number of vehicle trips, reducing vehicle miles traveled (VMT) or by reducing delay. Common examples of TERMs typically include ridesharing and telecommuting programs, improved bike and pedestrian facilities and clean fuel vehicle programs. As these programs generally affect a small segment of the regional population, the mobile emissions impacts resulting from individual TERM may be estimated using relatively simple spreadsheet-based techniques. Analysis of TERMs impacts has been undertaken to demonstrate the amount of emission reductions that would be expected from TERMs actions if such a need was warranted.

This document presents an evaluation of emission reductions that might be expected from four TERMs categories:

A. MWCOG/TPB Commuter Connections Program: The Commuter Connections Program has been a cornerstone for regional travel demand management (TDM) and emissions reductions since its inception in 1999. The program encourages the use of alternatives to the single occupant driver mode. The program currently serves a substantial geographic area that extends well beyond the TPB member jurisdictions.

B. Regional Incident Management Program (MATOC): The Metropolitan Area Transportation Operations Coordination (MATOC) promotes communication and timely information sharing among the region's 'first-responders' to emergency incidents that occur on the region's transportation system. Effective responses to incidents reduce fuel consumption attributed to delay which in turn yields emissions reduction benefits.

C. Pedestrian and Bicycle Facilities Expansions/Enhancements: The FY2019-2024 Transportation Improvement Program (TIP) includes pedestrian and bicycle facility improvements in the form of trails, bicycle paths, dedicated bicycle lanes and sidewalks. These types of projects are considered a TERM strategy as they encourage the use of non-motorized modes.

D. Informal Carpool Lots (Slugging): 'Slugging' is a term that refers to an informal carpooling practice that has evolved in the I-95 and I-395 corridor for decades. I-95 and I-395 HOV lanes provide substantial travel time savings in the corridor, and thus provide a clear incentive for travelers to form carpools during peak periods. Slugging is essentially an informal arrangement by which prospective carpooling passengers queue up at designated locations to be paired with auto drivers searching for passengers. This arrangement for forming multi-occupant vehicles reduces single occupant driving and serves to reduce the overall delay of the system.

The emissions reductions estimated in this document are intended to provide an approximate estimate of the emissions reductions that might be expected from each TERM category using emission rates derived from the most recent MOVES2014a modeling conducted by TPB staff. Emission reductions are calculated for Ozone criteria pollutants such as VOC and NOX (in short tons/day) and analyzed for the TPB's conformity assessment. Emission reduction results are provided by the specific analysis years of Visualize 2045 Air Quality Conformity assessment: 2019, 2021, 2025, 2030, 2040 and 2045.

## A. EMISSIONS REDUCTIONS FROM MWCOG/TPB COMMUTER CONNECTIONS PROGRAMS

Mobile emissions reductions attributed to the Commuter Connections Program were estimated as follows: Staff obtained historical daily VMT reductions documented in the Commuter Connections' TERMs analysis reports[1] as a basis for developing future VMT estimates as shown in Table 1. The table indicates that for Audit #7 in year 2017, the Commuter Connections programs helped reduce about 3 million vehicle miles from the highway system. Next, the reported reductions were extrapolated into the future based on rates implied by the travel demand model VMT. The growth rates are shown in Table 2. Table 3 shows the resulting historical VMT reductions and the extrapolated reductions.

### Table 1. Historical VMT Reductions from Commuter Connections

| Program Year | Audit #1 1999 | Audit #2 2002 | Audit #3 2005 | Audit #4 2008 | Audit #5 2011 | Audit #6 2014 | Audit #7 2017 |
|---|---|---|---|---|---|---|---|
| Telework Resource Center | 606,908 | 279,692 | 226,913 | 413,703 | 241,834 | 205,511 | 370,563 |
| Guaranteed Ride Home | 13,069 | 202,058 | 334,088 | 227,428 | 208,346 | 212,834 | 181,335 |
| Expanded Telecommuting | 0 | 0 | 36,859 | 0 | 0 | 0 | 0 |
| Integrated Rideshare | 6,977 | 117,940 | 146,612 | 199.079 | 51,589 | 66,442 | 51,340 |
| Employer Outreach | 90,000 | 1,107,698 | 1,339,818 | 968,047 | 1,656,726 | 1,327,044 | 1,841,429 |
| Employer Outreach– Bicycling | 0 | 1,225 | 3,431 | 0 | 0 | 0 | 0 |
| Mass Marketing | 0 | 0 | 132,861 | 69,274 | 78,297 | 173,269 | 163,250 |
| Commuter Operations Center | 0 | 0 | 279,055 | 575,237 | 180,409 | 488,226 | 401,327 |
| TOTAL | 716,964 | 1,708,613 | 2,499,637 | 2,453,895 | 2,418,264 | 2,473,326 | 3,009,244 |

### Table 2. Average Annual VMT Growth

| Year | VMT* | Annual Growth |
|---|---|---|
| 2019 | 173,227,597 | 0.00% |
| 2021 | 176,875,154 | 1.05% |
| 2025 | 184,701,381 | 1.11% |
| 2030 | 191,512,001 | 0.74% |
| 2040 | 204,290,216 | 0.67% |
| 2045 | 210,273,755 | 0.59% |
| Avg. Annual Growth | | 0.89% |

Note: *Annual average weekday VMT from travel demand forecasts

[1] *"Transportation Emission Measure (TERM) Analysis Report", which has been published in September 1999 (Audit #1 of the FY1997-FY1999 period), March 2003 (Audit#2 of the FY2000-FY2002 period), January 2006 (Audit#3 of the FY2003-FY2005 period), January 2009 (Audit#4 of the FY2006-FY2008 period), January 2012 (Audit#5t of the FY2009-FY2011 period), November 2014 (Audit #6 of the FY2012-FY2014 period), and November 2017 (Audit #7 of the FY2014-2017).*

Table 3. Projection of Commuter Connections VMT Reduction

| Analysis Year | VMT Reductions |
|---|---|
| 1999 | 716,954 |
| 2002 | 1,708,613 |
| 2005 | 2,499,637 |
| 2008 | 2,453,895 |
| 2011 | 2,418,264 |
| 2014 | 2,473,326 |
| 2017 | 3,009,244 |
| ,2019 | 3,063,332 |
| 2021 | 3,118,392 |
| 2025 | 3,231,500 |
| 2030 | 3,378,671 |
| 2040 | 3,693,425 |
| 2045 | 3,861,633 |

*Note: 1999 to 2017: Historical VMT from Commuter Connections; and 2019 and beyond: Forecasted VMT

.

As the TPB travel model was calibrated with 2007/08 data, the 'affect' of the Commuter Connections Program was already reflected in the travel behavior data used to calibrate the travel model. Thus, to avoid 'double-counting' in this regard, the estimated VMT reductions shown in Table 4 were adjusted by subtraction, so that VMT reductions would begin after a 2008 'base year.' For example, the year 2016 adjusted VMT reduction was calculated as:

3,063,332 (2019 reduction) – 2,453,895 (2008 reduction) = 609,437

The adjusted reductions per day are shown in Table 4.

Table 4. Projection of Adjusted VMT Reductions (in VMTs/day)

| Year | Ozone (VOC and $NO_x$) |
|---|---|
| 2008 | 0 |
| 2019 | 609,437 |
| 2021 | 664,497 |
| 2025 | 777,605 |
| 2030 | 924,776 |
| 2040 | 1,239,530 |
| 2045 | 1,407,738 |

The VMT reductions in Table 4 were next multiplied by emission rates reflecting passenger cars and passenger trucks to arrive at mobile emissions reductions. The emission rates were derived by dividing year-specific passenger car/truck emissions by passenger car/truck vehicle miles as developed by the MOVES2014a (see Table 5). The projected daily VMT in Table 4 are multiplied to corresponding emission rates in Table 5 to calculate emission reductions of Commuter Connections in Table 6.

Table 5. Emission Rates of Commuter Connections Programs (in grams/mile)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.272 | 0.245 |
| 2021 | 0.241 | 0.201 |
| 2025 | 0.209 | 0.144 |
| 2030 | 0.141 | 0.082 |
| 2040 | 0.099 | 0.043 |
| 2045 | 0.096 | 0.041 |

Table 6. Emission Reductions by Commuter Connections Programs (in short tons/year)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.183 | 0.165 |
| 2021 | 0.177 | 0.147 |
| 2025 | 0.179 | 0.123 |
| 2030 | 0.144 | 0.084 |
| 2040 | 0.135 | 0.058 |
| 2045 | 0.149 | 0.063 |

## B. EMISSIONS REDUCTIONS FROM THE REGIONAL INCIDENT MANAGEMENT PROGRAM

The Metropolitan Area Transportation Operations Coordination (MATOC) Program – a jointly funded program by the state of Maryland, the District of Columbia, and the Commonwealth of Virginia - monitors, gathers and communicates timely incident information, so that transportation agencies may better coordinate their respective response activities in order to reduce travel delay and fuel consumption and better inform the public. The information allows travelers to make informed travel decisions by deferring/delaying trip making, taking an alternate route, or switching modes of travel.

Mobile emissions reductions from the MATOC program were estimated by calculating the differences in delay that result with and without the MATOC program. A methodology was developed especially for this analysis based on published data[2] and the following assumptions:

- Fairfax County, VA, was selected for developing emissions rates by speed bin from the MOVES model as it has a balanced mix of restricted-access facilities (i.e., highways and expressways) and unrestricted-access facilities (i.e., arterials, collectors and local roads).
- Queue travel speeds after a highway/expressway incident typically fall in the 12.5 - 17.5 mph speed bin in the MOVES2014a model.
- '.....MATOC is typically involved in approximately 20 minor incidents and one major incident on arterials and freeway, respectively, of regional significance per month....'

[2] *MATOC Benefit-Cost Analysis White Paper", June 2010 authored by Sabra, Wang & Associates, Inc., on behalf of MWCOG and under the guidance of the MATOC Steering Committee.*

Methodology

The methodology is composed of three elements: (1) development of speed specific emission rates; (2) development of regional emission rates; and (3) development of mobile emission savings:

(1) Speed specific emission rates development: An adjustment factor, $\mathrm{Rate_{adj}}$, was developed to align 'non-speed sensitive' mobile emission rates developed as part of the conformity assessment from MOVES Inventory Approach with a low speed range, 12.5-17.5 mph, which is a typical queue speed after incident occurrences:

$$\mathrm{Rate_{adj}} = \frac{\mathrm{P\_Rate_e}}{\mathrm{P\_Rate_i}}$$

Where:

$\mathrm{P\_Rate_e}$ (grams per mile) was derived using MOVES' Emission Rate Approach for Fairfax County, for year 2015 based on the 2012 CLRP Air Quality Conformity Assessment, and applicable to the 4th MOVES Speed Bin (i.e., 12.5-17.5 mph); and

$\mathrm{P\_Rate_i}$ (grams per mile) was derived using MOVES' Inventory Approach for Fairfax County, for year 2015 based on the 2012 CLRP Air Quality Conformity Assessment as follows:

$$\mathrm{P\_Rate_i} = \frac{\text{Total Emissions FFX Co., 2012 CLRP, Yr 2015}}{\text{Total VMT FFX Co., 2012 CLRP, Yr 2015}}$$

For Ozone (VOC and NOx) daily emissions the corresponding rate was 1.30.

(2) Regional emission rates development: Total regional emissions by pollutant and analysis year were divided by the corresponding VMT from the Visualize 2045 Air Quality Conformity Analyses, as follows:

$$\mathrm{Rate_i\ (grams\ per\ mile)} = \frac{\text{Total Regional Emissions by Analysis Year}}{\text{Total Regional VMT by Analysis Year}}$$

The resulting regional emission rates were developed in Table 7.

(3) Mobile emissions savings development attributable to MATOC:

$$\text{Emissions Savings (grams per mile)} = \text{Queue VMT Savings} * \mathrm{Rate_i} * \mathrm{Rate_{adj}}$$

Based on the MATOC report[2],
assumed Major Incident Queue VMT Savings = 452,120 (vehicle miles) and
assumed Minor Incident Queue VMT Savings = 19,040 (vehicle miles).

Assumed Daily Emissions Savings (grams per mile) by Pollutant =
1/30 (1 major incident per month) X Emissions Savings from Major Incident +
20/30 (20 minor incidents per month) X Emissions Saving from Minor Incident

Based on assumptions above total emissions savings from the MATOC program are calculated as in Table 8.

Table 7. Mobile Emissions Rates (in grams/mile)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.376 | 0.592 |
| 2021 | 0.330 | 0.468 |
| 2025 | 0.283 | 0.324 |
| 2030 | 0.192 | 0.205 |
| 2040 | 0.136 | 0.133 |
| 2045 | 0.133 | 0.131 |

Table 8. Mobile Emissions Reductions from Regional Incident Management Program (in short tons/day)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.011 | 0.018 |
| 2021 | 0.010 | 0.014 |
| 2025 | 0.009 | 0.010 |
| 2030 | 0.006 | 0.006 |
| 2040 | 0.004 | 0.004 |
| 2045 | 0.004 | 0.004 |

## C. EMISSIONS REDUCTIONS FROM THE PEDESTRIAN AND BIKE FACILITIES EXPANSIONS & ENHANCEMENTS

A methodology was developed to estimate mobile emissions reductions from VMT savings realized from travelers choosing non-motorized modes of travel instead of driving. It is assumption-driven[3], so that the resulting emission reductions are dependent on the following assumptions:

- Facility construction/expansions/enhancements were post-2007/2008;
- Baseline Year 2010 Pedestrian Facilities Length = 634 miles[4]. VMT estimates were based only on Home-Based-Work (HBW) trips from the regional travel demand model;
- Average trip length (ATL) = 2.46 miles[5]; and
- Non-motorized HBW trips percentage = 3% of the regional total HBW trips[5].

[3] *Caltrans/Air Resources Board analysis, dated December, 1995, which was developed by COMSIS Corporation, for FHWA & FTA, and which was previously used by MWCOG/DTP staff for TERMs analyses starting in 1993*

[4] *"2015 Bicycle and Pedestrian Plan for the National Capital Region Report", TPB, January 2015*

[5] *"2016 State of the Commute Survey Report," June 2017*

Methodology:

Baseline (Year 2010) VMT reductions from use of the pedestrian and bike facilities are as a function of non-motorized HBW trips percentage, HBW trips (regional total), and average trip length:

Baseline VMT Reductions = [HBW Ped & Bike Trips %] x [Avg. Weekday HBW Trips] x [ATL]
= 3% x 3,659,233 trips x 2.46 miles
= 270,117

Baseline (Year 2010) VMT reductions per mile are estimated as follows:

VMT Reductions per mile = [Baseline VMT reductions]/[Baseline length of ped + bike facilities]
= 270,117/634
= 426.05

VMT reductions per mile were estimated based on the mileage of new or expanded pedestrian and bike facilities included in Visualize 2045 & FY2019-2024 TIP beyond 2007/2008 according to their forecasted completion years. Facilities without adequate numerical data not allowing computations or financial support were omitted. The following pedestrian and bike facilities expansions were assumed such as:

Year 2019: 24.9 lane miles,
Year 2021: 75.9 lane miles and
Year 2025 - 2045: 178.0 lane miles.

Future average weekday VMT reductions due to the lane mile additions above are:

Year 2019: 24.9 miles x 426.05 = 10,609 vehicle miles,
Year 2021: 75.9 miles x 426.05 = 33,352 vehicle miles and
Year 2025 - 2045: 178.0 miles x 426.05 = 75,839 vehicle miles.

The emissions rates previously used in the Commuter Connections calculations (Table 5) were multiplied by the above VMT reductions by analysis year to yield mobile emission reductions from pedestrian and bike facilities expansions (Table 9).

**Table 9. Mobile Emissions Reductions from Pedestrian and Bike Facilities Expansion (in short tons/day)**

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.003 | 0.003 |
| 2021 | 0.009 | 0.007 |
| 2025 | 0.017 | 0.012 |
| 2030 | 0.012 | 0.007 |
| 2040 | 0.012 | 0.007 |
| 2045 | 0.008 | 0.003 |

## D. EMISSIONS REDUCTIONS FROM INFORMAL CARPOOLING

'Slugging' is an informal carpooling arrangement that occurs at several locations in the I-95 and I-395 corridors in Virginia which offers dedicated HOV lanes. Park and Ride lots without transit service were assumed as an informal carpool lot and inventoried in 2018 shown in Table 10. Capacities of the parking lots were obtained from several sources such as Commuter Connections Program, state DOTs and local jurisdictions.

Average travel distance estimates, 15.50 miles, from such facilities to work were derived from the weighted average Home-Based Work (HBW) trip lengths of traffic analysis zones (TAZs) containing slug lots. The estimates were derived directly from the TPB regional travel demand model for year 2019. Furthermore, the following assumptions were made:

1. TAZs containing each slug lot were considered as the origin of each HBW trip for this exercise because it is the starting point of the 'slugged' trip to work.
2. TAZs containing work trip destinations were considered as the destination of each HBW trip for this exercise, so that the methodology assumes the spatial distribution of slugged trips is the same as that of HBW trips in the region.
3. The slugged trips are made along the shortest path during AM peak period.
4. The average slugged trip distance was calculated as the weighted average trip distances for each slug lot, so that the computations take into account the size/utilization of each lot.
5. TAZ 2022 was used as a proxy for TAZ 2018 because no household population is associated with TAZ 2018.
6. Average vehicle mile calculations are based on trip productions which include both 'to work' and 'from work' direction.

According to the paper of 'Methods to find the Cost-Effectiveness of Funding Air Quality Projects, May 2005' by Caltrans/Air Resources Board, a default 16 mile is suggested as the length of auto trips eliminated for Ridesharing programs. According to the paper of 'Reasonably Available Control Measure (RACM) Analysis for the Baltimore Region, July 2001' by Maryland Department of Environment (MDE), an estimated 13 miles were reduced for one-way travel by people who rideshare in Guaranteed Ride Home Program based on Baltimore Metropolitan Council (BMC) Travel Demand Model Validation Report. The resulting weighted average distance of 15.5 miles (Table 10) was calculated from local data, which is within the range of the average distances reported by the other sources.

Average weekday VMT reductions were derived by multiplying capacities of the lots – reduced by 1/3 to account for less-than-full lots – by average weekday travel distances to/from these lots. The capacity reduction assumption is consistent with Washington Metropolitan Area Transit Authority (WMATA) observations (in Washington Examiner article on March 19, 2013), earlier TPB TERMs analyses, and literature research from metropolitan areas in California.

Table 10. 2018 Informal Carpool Lots Capacity and Trip Length to Work

| Slug Lots Summaries | TAZ ID | 2018 Parking spaces | Avg HBW Trip Length (in miles) |
|---|---|---|---|
| American Legion* | 2018 (2022) | 100 | 12.80 |
| Baron Cameron Park | 1733 | 50 | 12.30 |
| Beltway | 925 | 265 | 10.10 |
| Bethel United Methodist Church | 2745 | 49 | 16.70 |
| Calvert County Fairgrounds (SHA Lot) | 3291 | 20 | 17.00 |
| Cherrydale Road | 2732 | 30 | 17.80 |
| Dumfries Shopping Center | 2804 | 55 | 16.80 |
| Frederick Armory | 2914 | 230 | 15.90 |
| Frederick Lot 1 | 2940 | 37 | 20.50 |
| Frederick Lot 2 | 2940 | 46 | 20.50 |
| Good Shepherd United Methodist Church | 2732 | 62 | 17.80 |
| Hechinger's | 2664 | 591 | 14.90 |
| Huntingtown | 3299 | 35 | 24.20 |
| Jefferson | 2826 | 99 | 27.60 |
| Kirkdale Drive | 2738 | 41 | 19.40 |
| K-Mart Dale City | 2732 | 85 | 17.80 |
| K-Mart Sudley Manor Square | 2536 | 200 | 15.10 |
| Kutner Park | 1796 | 35 | 12.00 |
| La Plata Armory | 3153 | 20 | 18.70 |
| Lusby | 3324 | 16 | 27.50 |
| Manassas Mall | 2592 | 206 | 7.30 |
| Monocacy Boulevard | 2917 | 110 | 17.30 |
| Myersville | 2848 | 63 | 32.30 |
| New Market | 2888 | 54 | 26.50 |
| North Forestdale Avenue | 2734 | 20 | 18.20 |
| Oakwood Drive | 2669 | 44 | 18.70 |
| Old Bridge Festival Shopping Center | 2671 | 130 | 17.90 |
| On-Street Parking, Dale Blvd & Ashdale Ave | 2751 | 12 | 17.80 |
| Oxbridge Center | 2763 | 50 | 14.10 |
| Portsmouth Road Commuter Lot | 2537 | 652 | 14.20 |
| Prince William Stadium | 2678 | 190 | 18.00 |
| Princedale | 2712 | 75 | 21.30 |
| Rosemont | 2820 | 46 | 27.80 |
| Solomons (Creston Lane) | 3325 | 16 | 21.30 |
| South Laurel Fringe Parking | 1195 | 684 | 12.30 |
| Sudley Road | 2631 | 50 | 14.80 |
| Sudley Town Plaza | 2533 | 200 | 14.90 |
| Tackett's Mill Specialty Center | 2667 | 250 | 16.00 |
| Triangle Commuter Lot | 2803 | 31 | 17.50 |
| Woodbridge Church of the Brethren | 2760 | 21 | 15.40 |
| Woodsboro | 2879 | 20 | 27.00 |
| **Weighted Average Trip Length (Lots to work)** | | | **15.50** |

* This slug lot has an initial TAZ ID 2018 w/ no populations, and nearest TAZ ID of 2022 was applied.

Base Year 2018 lot capacities were kept constant for all the analysis years because: (1) no reliable historical data were available to allow the development of trend lines (where such data were available, the data were fragmented and deemed not reliable for extrapolation); (2) prospects for Park & Ride lot expansions were considered, but the expansions could be limited as most of these facilities are located in developed areas. As data become available, the zero-growth assumption may be revisited and revised. Based on these assumptions the average weekday VMT estimate was equal to 103,127 miles. Using the emission rates in Table 5, emission reductions from the informal carpool lots were derived in Table 11.

Table 11. Mobile Emissions Reductions from Informal Carpool Lots (in short tons/day)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.031 | 0.028 |
| 2021 | 0.027 | 0.023 |
| 2025 | 0.024 | 0.016 |
| 2030 | 0.016 | 0.009 |
| 2040 | 0.011 | 0.005 |
| 2045 | 0.011 | 0.005 |

## E. TOTAL MOBILE EMISSIONS REDUCTIONS FROM TERMS

The mobile emissions reductions attributed to all the TERMs described above are summarized in Table 12.

Table 12. Mobile Emissions Reductions from All TERMs Combined (in short tons/day)

| Years | Ozone VOC | Ozone NOx |
|---|---|---|
| 2019 | 0.228 | 0.214 |
| 2021 | 0.223 | 0.191 |
| 2025 | 0.229 | 0.162 |
| 2030 | 0.177 | 0.106 |
| 2040 | 0.162 | 0.074 |
| 2045 | 0.172 | 0.076 |

# ATTACHMENT G

## Transportation Control Measures (TCMs) Implementation

**MEMORANDUM**

**September 11, 2014**

**To:** **Files**

**From:** **Jane Posey**
**Senior Transportation Engineer**

**Subject:** **TCM Reporting: All TCMs Completed**

The transportation conformity rule and the Clean Air Act require that Transportation Control Measures (TCMs) in approved State Implementation Plans (SIPs) be implemented in a timely manner according to the schedules in the SIP. If a nonattainment or maintenance area cannot determine that TCMs are meeting the timely implementation requirement, the Long Range Plan or Transportation Improvement Program does not conform.

Table F-1 lists all TCMs included in the Washington DC- Maryland-Virginia Region's 1-Hour Ozone SIP (adopted by the Metropolitan Washington Air Quality Committee-- MWAQC on 2/19/04), the 8-Hour Ozone SIP (adopted by MWAQC on 5/23/07), and the $PM_{2.5}$ SIP (adopted by MWAQC on 3/7/2008). Following the table are TCM implementation status letters from the agencies responsible for the completion of each project. These letters confirm that all of the TCM's in Table F-1 were completed in a timely manner.



777 North Capitol Street NE, Suite 300, Washington, DC 20002-4290
Web: www.mwcog.org/tpb Phone: (202) 962-3315 Fax: (202) 962-3202

# TABLE F-1
# DC-MD-VA Region State Implementation Plan
# TRANSPORTATION CONTROL MEASURES (TCMs)

| ID | Description | Responsible Agency |
|---|---|---|
| | | |
| DC-1 | Bicycle Lane in D. C. (8 miles) | DDOT |
| DC-2 | New CNG Powered Trash Trucks (2 Vehicles) | DDOT |
| DC-3 | Bicycle Racks in D.C. (150 Racks) | DDOT |
| | | |
| MD-1 | Maryland Suburban Bus Replacements | MCG, PG |
| MD-2 | Transit Parking Facilities (at Lake Forest, Tulagi, Germantown) | MDOT |
| MD-3 | MARC Replacement/Expansion Coaches | MARC |
| MD-4 | Bicycle Facilities | MDOT |
| MD-5 | Park and Ride Facilities (at MD5/MD205, MD210/MD 373, I-270/MD 80) | MDOT |
| MD-6 | Grosvenor Metro Garage (1300 spaces) | MDOT |
| MD-7 | Maryland Park & Ride Lots ( at MD 210/MD 373, I-270/ MD 124, MD 2/MD 4, MD 231/ Fairgrounds, MD 117/I-270, MD 2/MD 4) | MDOT |
| | | |
| NV-1 | Northern Virginia Districtwide Park-And-Ride Spaces (1872 spaces) | VDOT |
| NV-2 | Transit Access Improvements (200 VRE Parking Spaces) | VDOT |
| NV-3 | Purchase Of New Transit Buses (52 WMATA buses) | VDOT |
| NV-4 | Improved Pedestrian Access | VDOT |
| NV-5 | Construction of Bus Shelters (12 shelters) | City of Fairfax |
| NV-6 | Park & Ride Spaces (3200 spaces) | VDOT |
| NV-7 | Bicycle Lanes/Trails in Northern Virginia (12 miles) | VDOT |
| NV-8 | Bicycle Lockers in Northern Virginia (100 lockers) | VDOT |
| NV-9 | Hybrid Light Duty Vehicles (25 vehicles) | Fairfax County |
| NV-10 | Bicycle Trails/Lanes in Northern Virginia (29 miles) | Arlington County<br>P.W. County |
| NV-11 | Sidewalk improvements in Northern Virginia (1.5 miles) | VDOT |
| NV-12 | 11 New CNG Buses in place of Diesel Buses | Arlington County |
| WM-1 | Bicycle Racks on Buses (1458 racks) | WMATA |
| WM-2 | ULSD; CRT Filters (886 buses) | WMATA |
| WM-3 | CNG Buses (164 buses) | WMATA |

NOTE: The projects in this list include all TCMs in the 1-Hour Ozone SIP (adopted by MWAQC 2/19/04), the 8-Hour Ozone SIP (adopted by MWAQC 5/23/07), and the $PM_{2.5}$ SIP (adopted by MWAQC on 3/7/2008).

**GOVERNMENT OF THE DISTRICT OF COLUMBIA**
**DEPARTMENT OF TRANSPORTATION**

**d. Policy, Planning and Sustainability Administration**

August 11, 2014

Mr. Kanti Srikanth, Director
Department of Transportation Planning
Metropolitan Washington Council of Governments
777 North Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4239

RE: Confirmation of Transportation Control Measures (TCMs) Completion

Dear Mr. Srikanth:

The Transportation Control Measures (TCMs) commitments made by the District Department of Transportation (DDOT) as a part of a regional coordinated effort to mitigate ozone emissions from on-road mobile sources have been completed as demonstrated in pervious conformity determinations. The summary of the status remains unchanged in that all TCMs committed by DDOT have been completed. Listed below are the TCM projects in our jurisdiction, completion years, and reference to the provided documentation.

| ID | Description | Completion Year | Reference |
|---|---|---|---|
| DC-1 | Bicycle Lanes (8 miles) | 2004 | DDOT internal documents |
| DC-2 | CNG Powered Refuse Haulers (2) | 2004 | DDOT Letter 6/6/2004 |
| DC-3 | Bicycle Racks (150) | 2004 | DDOT Letter 6/6/2004 |

Should you have any questions, please contact Mark Rawlings at (202) 671-2234 or mark.rawlings@dc.gov.

Sincerely,

Sam Zimbabwe
Associate Director

**Maryland Department of Transportation**
**The Secretary's Office**

**Martin O'Malley**
Governor

**Anthony G. Brown**
Lt. Governor

**James T. Smith, Jr.**
Secretary

August 6, 2014

Mr. Gerald Miller
Co-Director of Transportation Planning (Acting)
Transportation Planning Board
Metropolitan Washington Council of Governments
777 N. Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4239

Re: Confirmation of Transportation Control Measures (TCMs) Completion

Dear Mr. Miller,

The Transportation Control Measures (TCMs) commitments made by the Maryland Department of Transportation (MDOT) as part of a regional coordinated effort to mitigate ozone emissions from on-road mobile sources have been completed as demonstrated in previous conformity determinations. The summary of the status remains unchanged in that all of the TCMs that have been committed to by MDOT have been duly completed/implemented. Listed below are the TCM projects in our jurisdictional area, their completion years, and the reference to the documentation that had been provided:

| ID | Description | Completion Year | Reference |
|---|---|---|---|
| **MD-1** | Maryland Suburban Bus Replacements | 2003 | MDOT letter 7/29/2003 |
| **MD-2** | Transit Parking Facilities (@ Lake Forest, Tulagi, Germantown) | 2003 | MDOT letter 7/29/2003 |
| **MD-3** | MARC Replacement/Expansion Coaches | 2004 | MDOT letter 7/29/2003 |
| **MD-4** | Bicycle Facilities | 2003 | MDOT letter 7/29/2003 |
| **MD-5** | Park & Ride Facilities (@ MD5/MD205, MD210/MD373, I-270/MD80 | 2003 | MDOT letter 8/25/2004 |
| **MD-6** | Grosvenor Metro Garage (1,300 spaces) | 2004 | Montgomery County email 7/30/2004 |
| **MD-7** | Park & Ride Facilities (@ MD210/MD373, I-270/MD124, MD2/MD4, MD231/Fairgrounds, MD117/I-270, MD2/MD4) | 2001 | MDOT letter 9/3/2003 |

My telephone number is _____
Toll Free Number 1-888-713-1414 TTY Users Call Via MD Relay
7201 Corporate Center Drive, Hanover, Maryland 21076

We appreciate your cooperation in this matter. If you have any questions or comments, please do not hesitate to me at 410-865-1279, toll-free at 888-713-1414 or via email at lerickson@mdot.state.md.us.

Thank You,

Lyn Erickson, Manager
Office of Planning and Capital Programming

Attachment
cc: Mr. Donald A. Halligan, Director, Office of Planning and Capital Programming
Maryland Department of Transportation
Ms. Heather Murphy, Deputy Director, Office of Planning and Capital Programming
Maryland Department of Transportation
Michael W. Nixon, Manager, Office of Planning and Capital Programming
Maryland Department of Transportation
Mr. Howard Simons, Air Quality Specialist, Office of Planning and Capital Programming
Maryland Department of Transportation

# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
4975 Alliance Drive
Fairfax, VA 22030

CHARLES A. KILPATRICK, P.E.
COMMISSIONER

August 21, 2014

Mr. Kanathur Srikanth
Director of Transportation Planning
Transportation Planning Board
Metropolitan Washington Council of Governments
777 N. Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4239

Re: Confirmation of Transportation Control Measures (TCMs) Completion

Dear Mr. Srikanth,

The Transportation Control Measures (TCMs) commitments made by our agency as part of a regional coordinated effort to mitigate ozone emissions from on-road mobile sources have been completed in a timely manner and consistent with the agreed upon schedule. Listed below are the TCM projects in our jurisdictional area and their completion years:

| ID | Description | Completion Year |
|---|---|---|
| VA-1 | Northern Virginia Districtwide Park & Ride Facilities (1,872 Parking Spaces) | 1996-1999 |
| VA-2 | Transit Access Improvements (200 VRE Parking Spaces) | 1994 & 2002 |
| VA-3 | Purchase of New Transit Buses (52 WMATA Buses) | 1995-1996 |
| VA-4 | Improved Pedestrian Access | 2001-2004 |
| VA-5 | Construction of Bus Shelters (12 Shelters) | 2000-2004 |
| VA-6 | Park & Ride Facilities (3,200 Parking Spaces) | 2000-2002 |
| VA-7 | Northern Virginia Bicycle Lanes/Trails (12 miles) | 1999-2003 |
| VA-8 | Northern Virginia Bicycle Lockers (100 Lockers) | 1997-2002 |
| VA-9 | Hybrid light Duty Vehicles purchase (25 Vehicles) | 2002-2003 |
| VA-10 | Northern Virginia Bicycle Lanes/Trails (29 miles) | 2000-2003 |
| VA-11 | Northern Virginia Sidewalk Improvements (1.5 miles) | 2001-2003 |
| VA-12 | CNG Bus Replacements for Diesel Buses (11 Vehicles) | 2002-2003 |

Thank you for the TPB's cooperation assistance and cooperation. Please contact me if you need any additional information.

Sincerely,

Norman Whitaker, AICP
Transportation Planning Manager
C: Maria Sinner, P.E.

August 5, 2014

Mr. Gerald Miller
Co-Director of Transportation Planning (Acting)
Transportation Planning Board
Metropolitan Washington Council of Governments
777 N. Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4239

Re: Confirmation of Transportation Control Measures (TCMs) Completion

Dear Mr. Miller,

The Transportation Control Measures (TCMs) commitments made by our agency as part of a regional coordinated effort to mitigate ozone emissions from on-road mobile sources have been completed in a timely manner and consistent with the agreed upon schedule. Listed below are the TCM projects in our jurisdictional area and their completion years:

| ID | Description | Completion Year |
|---|---|---|
| **WM-1** | Bicycle Racks on Buses (1,458 Racks) | 2004 |
| **WM-2** | Ultra Low Sulfur Diesel Fuel with CRT Filters (886 Buses) | 2004 |
| **WM-3** | CNG Buses Purchase (164 Buses) | 2004 |

Sincerely,

Shyam Kannan
Managing Director
Office of Planning

**Washington Metropolitan Area Transit Authority**

600 Fifth Street, NW
Washington, D.C. 20001
202/962-1234

*By Metrorail:*
*Judiciary Square-Red Line*
*Gallery Place-Chinatown*
*Red, Green and Yellow Lines*

*A District of Columbia Maryland and Virginia Transit Partnership*