visualize2045

A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

AIR QUALITY CONFORMITY ANALYSIS OF THE 2022 UPDATE TO VISUALIZE 2045

Full Report

June 15, 2022

National Capital Region
Transportation Planning Board

AIR QUALITY CONFORMITY ANALYSIS OF THE 2022 UPDATE TO VISUALIZE 2045
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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. This report documents the 2022 Update to Visualize 2045.

Visualize 2045 was developed by the National Capital Region Transportation Planning Board (TPB), the federally designated metropolitan planning organization (MPO) for metropolitan Washington. The TPB is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the Washington metropolitan region. 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).

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EXECUTIVE SUMMARY

This report documents the air quality conformity analysis of the 2022 Update to Visualize 2045, the region's long-range transportation plan, and the FY 2023-2026 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.

For the 2022 Update to the Visualize 2045 plan, emissions for ozone season Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) were estimated for 2021, 2023, 2025, 2030, 2040, and 2045 forecast years. The Metropolitan Washington Air Quality Committee (MWAQC) developed mobile emissions 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 2022 Update to the Visualize 2045 plan and FY 2023-2026 TIP mobile emissions are within the mobile emissions budgets for ozone season VOC and NOx for all forecast years. This analysis provides a basis for a determination of conformity for the 2022 Update to the Visualize 2045 plan and the FY 2023-2026 TIP.

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ATTACHMENTS

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 (Transportation) 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
LRTP	Long Range Transportation Plan
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
$PM_{2.5}$	Particulate Matter, 2.5 micrometers in diameter and smaller
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	National Capital Region 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 R16 -2022
June 15, 2022

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

RESOLUTION FINDING THAT THE 2022 UPDATE TO THE VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN AND THE FY 2023-2026 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 December 16, 2020, the TPB staff released the Technical Inputs Solicitation Submission Guide and asked for inputs to the 2022 Update to Visualize 2045 and the FY 2023-2026 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 April 2, 2021, and approved by the TPB at its June 16, 2021 meeting; and

WHEREAS, highway and transit project inputs submitted for inclusion in the air quality conformity analysis of the 2022 Update to Visualize 2045 and the FY 2023-2026 TIP were released for public comment on April 2, 2021, and approved by the TPB at its June and July 2021 meetings; and

WHEREAS, on April 1, 2022, the draft results of the air quality conformity analysis of the 2022 Update to the Visualize 2045 transportation plan and FY 2023-2026 TIP were released for a 30-day public comment period with inter-agency consultation; and

WHEREAS, the analysis reported in the Summary Report: Air Quality Conformity Analysis of the 2022 Update to Visualize 2045, dated June 15, 2022, 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 2022 Update to Visualize 2045 and the FY 2023-2026 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 2022 Update to Visualize 2045 and the FY 2023-2026 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 2022 Update to Visualize 2045 and the FY 2023-2026 Transportation Improvement Program conform to all requirements of the Clean Air Act Amendments of 1990.

Adopted by the Transportation Planning Board at its regular meeting on June 15, 2022

Metropolitan Washington
Council of Governments

April 13, 2022

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

Dear Chair Sebesky:

Thank you for providing an opportunity to comment on the draft air quality conformity analysis for the 2022 amendment to the 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 (NAAQS) Maintenance Plan.

However, the 2022 amendment to the Visualize 2045 plan continues to require the use of Tier 2 transportation buffers for 2025 and 2030. Therefore, TPB had to use the Tier 2 MVEBs buffers for demonstrating conformity in those two years. MWAQC urges TPB and its members to give particular focus to projects that would 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 draft Design Value data for ozone for the Washington region for the period 2019 through 2021 is 70 ppb parts per billion (ppb). This shows that the region is barely in compliance with the 2015 ozone NAAQS despite the low 2020 data resulting from pandemic related restrictions. Therefore, the region needs to continue reducing its emissions to maintain this compliance in the future. The base year 2017 emissions inventory for the region submitted to EPA in 2020 shows onroad sources to be the greatest contributor (39%) of NOx emission in the region. Therefore, it is essential that the region reduce its emissions further in order to keep complying with the 2015 ozone NAAQS from all sources, including on-road mobile sources.

MWAQC notes that the region also is experiencing an increase in total VMT along with an increase in population and job growth. 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.

Thank you again for the opportunity to comment on the draft conformity analysis for the 2022 amendment to the Visualize 2045 plan.

Sincerely,

Hon. Takis Karantonis
Chair, Metropolitan Washington Air Quality Committee

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1. INTRODUCTION

The Washington region is currently designated as being in non-attainment for the federal health standards for ground-level ozone, a harmful air pollutant. 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's 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 (NAAQS) 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 2022 Update to the Visualize 2045 Long-Range Transportation Plan and the FY 2023-2026 Transportation Improvement Program (TIP) with respect to ozone season pollutants, specifically, Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx), which are precursors to ozone pollution. The results of the analysis provide a basis for a determination of conformity of the 2022 Update to Visualize 2045 and the FY 2023-2026 TIP.

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 that the area must comply with in order to meet a particular standard. The Washington region is currently designated as being in “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). 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 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 and/or environmental 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 people with asthma, children, and older adults. ***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 being in “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 being in “moderate” non-attainment for the 1997 (84 ppb) 8-hour ozone standard, with an attainment date of 2010. In 2007, the Metropolitan Washington Air Quality Committee (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 emissions 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

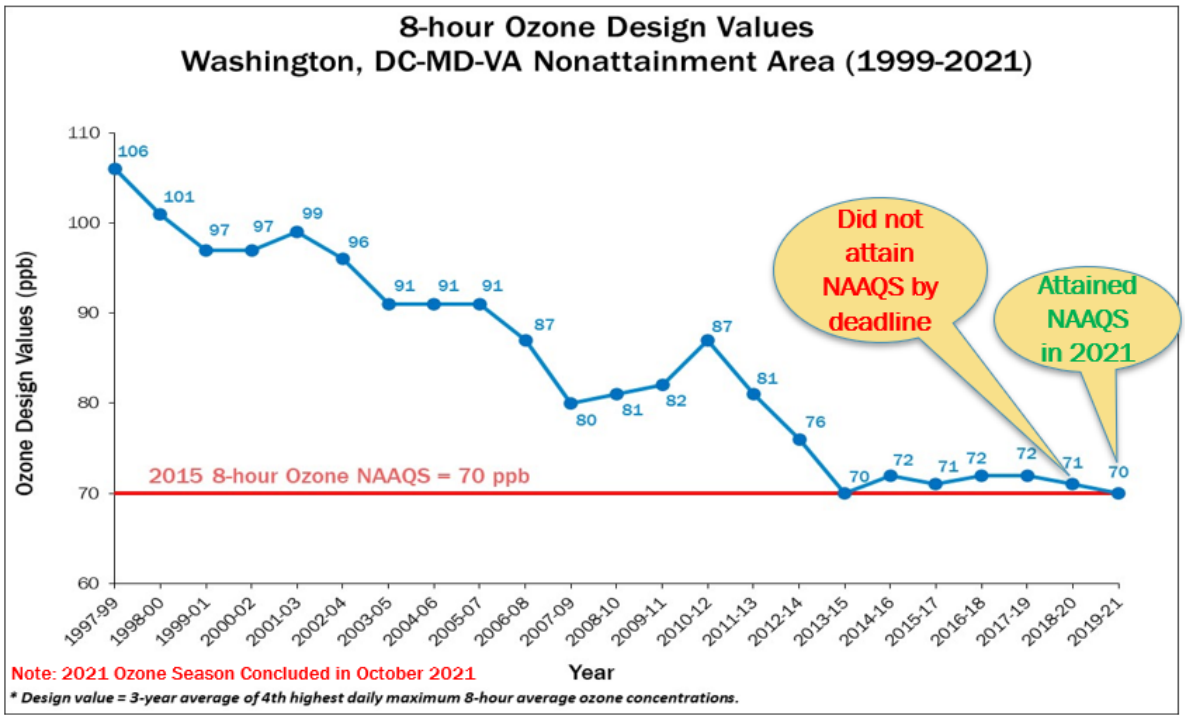
In 2012, EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as being in “marginal” non-attainment for the 2008 Ozone Standard. With this designation, EPA regulations do not require the development of MVEBs. Instead, as per EPA regulations, conformity analyses for the region’s Plan and TIP were being demonstrated to meet 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. 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 emissions budgets were first used in the conformity assessment of the Visualize 2045 plan and FY 2019-2024 TIP, adopted on October 17, 2018. Details about these budgets are discussed in the *Emissions Forecasts* (Chapter 5) section of this report.

2015 Standard

Effective August 3, 2018, EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as being in "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 2022 Update to the Visualize 2045 Plan and FY 2023-2026 TIP adhere to these MVEBs.

Marginal non-attainment areas had three years from the date of designation to achieve the 2015 Ozone Standard. Accordingly, the DC-MD-VA area had an attainment year of 2021 (i.e., three years following the August 3, 2018 designation). Because the August 2021 attainment date falls in the middle of the region's ozone season (March 1st -October 31st), the region had to achieve the standard by the end of the 2020 ozone season. The region did not achieve the 2015 Ozone Standard by the deadline, but it did achieve the 2015 Ozone Standard by the end of the 2021 ozone season. Figure 1 shows the current (2015) ozone standard (red line) compared to the actual monitored ozone levels (blue dots) through time, from 1999 to 2021.

Figure 1 8-hour Ozone Design Values (in blue)[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

[1] The "design value" is an observed metric used by the EPA to evaluate the region's attainment status for air pollutants. It is defined as the 3-year average of the 4th highest daily maximum 8-hour average ozone concentrations.

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, an EPA response letter to an inquiry by the 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 Particle ($PM_{2.5}$) Pollutants

1997 Standard

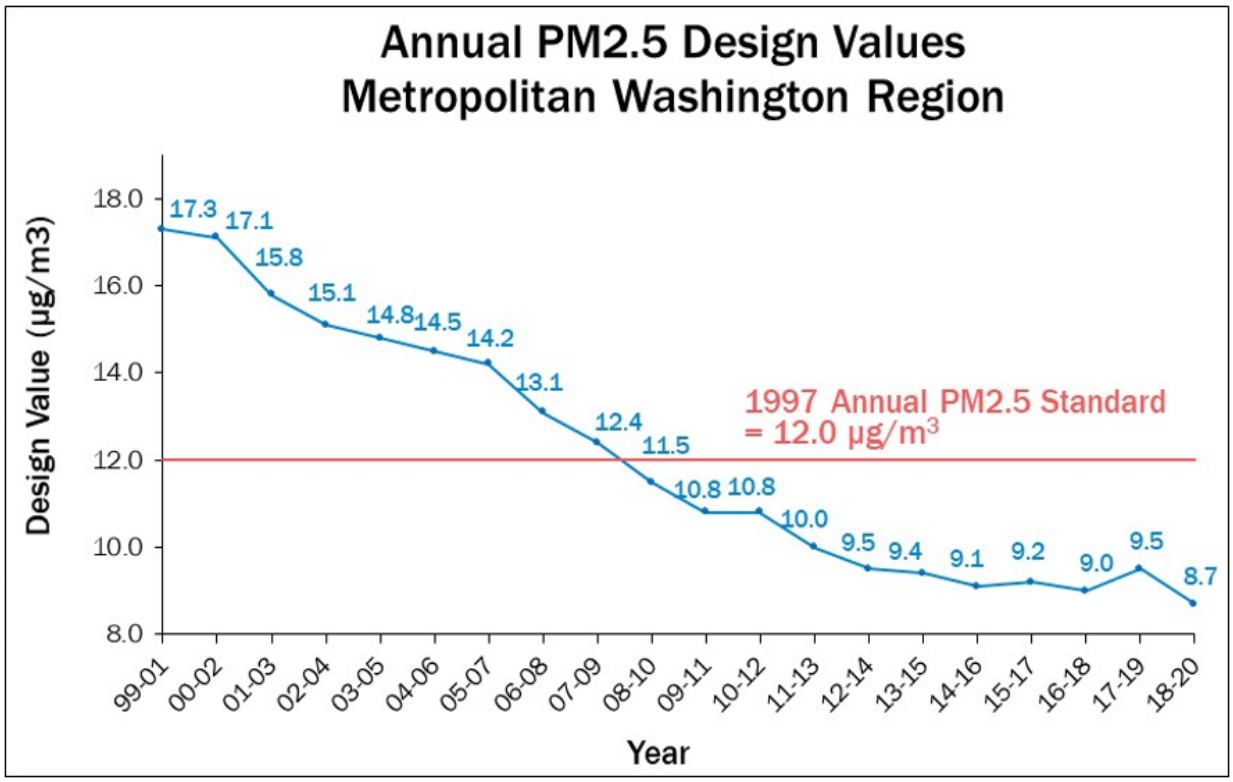
In 2004 the EPA designated the Washington, DC-MD-VA region as being in non-attainment for the 1997 (15 $\mu g/m^3$) fine particles ($PM_{2.5}$) standard. $PM_{2.5}$ standards refer to particulate matter less than or equal to 2.5 micrometers in diameter. In 2009, the EPA, using local monitored data, determined 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 emissions budgets for $PM_{2.5}$ direct and $PM_{2.5}$ Precursor NOx for 2017 and 2025. On April 28, 2014, EPA found these mobile emissions 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 Constrained Long-Range Plan (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.

2012 Standard

In 2012, the EPA set a new, tougher, annual $PM_{2.5}$ Standard of 12 $\mu g/m^3$. The Washington region, with its steadily downward trend in the level of fine particle 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. Figure 2 shows the two fine particles standards (1997 and 2012) compared to the actual monitored $PM_{2.5}$ levels through time from 1999 to 2018.

Figure 2 Annual PM2.5 Design Values (In Blue)



NOTE: The "design value" is an observed metric used by the EPA to evaluate the region's attainment status for air pollutants. It is defined as the 3-year average of the 4th highest daily maximum 8-hour average ozone concentrations.

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 the more stringent 2012 standard had been put in place. The revocation, combined with the decreasing levels of fine particles in our region, which was 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 (CO) standard in the 1990s and submitted a CO maintenance plan covering the 1996-2007 period. The maintenance plan included a mobile emissions budget of 1,671.5 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 the latest planning assumptions and modeling techniques, and considered requirements of the conformity regulations, as well as requirements associated with, and comments received about, past conformity analyses. Staff presented the work program to regional technical and policy committees starting in April 2021. 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 June 16, 2021.

Key technical planning assumptions and methods include:

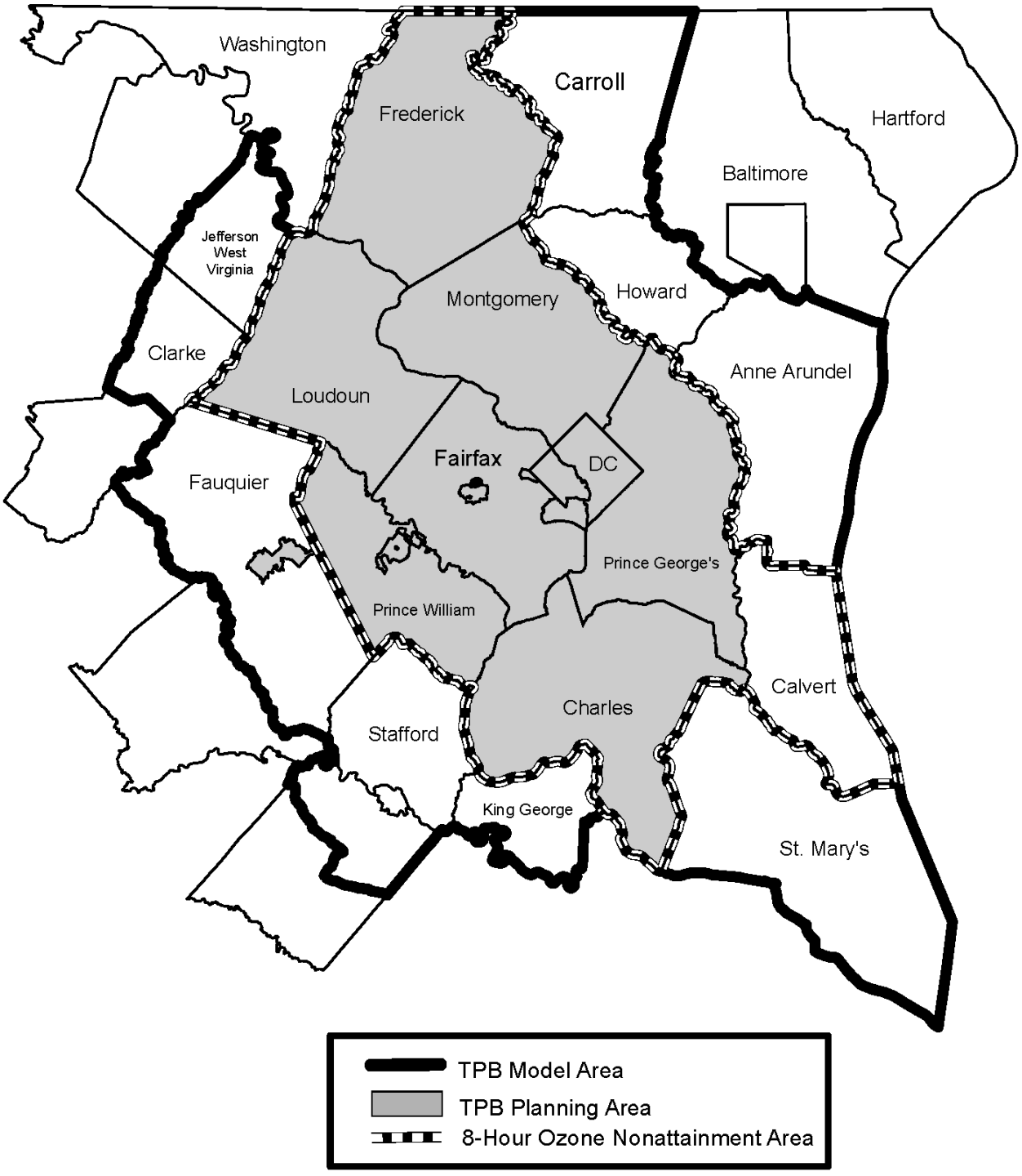
- New Cooperative Land Activity Forecasts - Round 9.2
- July 2020 (DC)[2] and December 2020 (MD & VA) Vehicle Registration Data
- New Projects and Updates to Existing Project Submissions
- No "core" Metrorail capacity constraint assumption within the travel demand model
- Gen2/Version 2.4 Travel Demand Model including a 3,722 Transportation Analysis Zone (TAZ) area system
- EPA's MOVES 2014b Mobile Emissions Model

Mobile emissions inventories were developed for ozone season VOC and NOx for six forecast years (2021, 2023, 2025, 2030, 2040, and 2045). These inventories address a primary conformity requirement to demonstrate that emissions associated with the long-range transportation plan do not exceed the EPA-approved mobile emissions budgets.

Figure 3 depicts the geographic areas for travel modeling and for emissions reporting.

[2] Due to the backlogs in processing new District of Columbia vehicle registrations resulting from COVID related restrictions, the District of Columbia Department of Energy and Environment (DOEE) staff estimate that the July 2020 dataset is more representative of the number of registered vehicles in December 2020 than the December 2020 dataset.

Figure 3 TPB Transportation Planning Areas Map



Cooperative Forecasts

The Metropolitan Washington Council of Governments (COG) Board of Directors approved the draft Round 9.2 Cooperative Forecasts of households, population, and employment for use in the air quality conformity analysis of the Visualize 2045 Plan and FY 2019-2024 TIP in June 2021. In addition to forecasts from the TPB Planning Area, the Round 9.2 Cooperative Forecasts include the Baltimore Metropolitan Council's (BMC) Round 9A (endorsed July 28, 2020), the George Washington Regional Commission (GWRC)/Fredericksburg Area Metropolitan Planning Organization's (FAMPO) 2050 Socioeconomic Data Projections (revised November 2018), and the Maryland Department of Planning's Historical and Projected Total Population for Calvert and St. Mary's Counties (August 2017). TPB staff revised employment definition adjustment factors to assure a consistent definition of employment is used for all jurisdictions in the modeled area. The Round 9.2 data were used for the conformity analysis of the 2022 Update to the Visualize 2045 plan and are summarized in Figure 5.

Round 9.2 shows a steady growth in households and jobs through the 2045 out-year of the Plan. Table 1 presents Round 9.2 forecasted households for each of the years in the conformity analysis for the non-attainment area (BMC, GWRC/FAMPO, and St. Mary's Counties totals are not shown).

Table 2 presents forecasted employment, and Table 3 presents forecasted population. The employment forecasts reflect adjustments to ensure that a consistent definition is used for employment throughout the modeled area. These adjustment factors were recently updated for this analysis (References 8 & 9).

Table 1 Forecasted Households

NONATTAINMENT AREA	2021	2023	2025	2030	2040	2045
DISTRICT OF COLUMBIA	323,641	332,292	341,019	362,524	396,233	411,872
MONTGOMERY COUNTY	394,058	399,854	405,654	422,320	450,916	461,916
PRINCE GEORGE'S COUNTY	336,187	340,032	343,865	355,494	370,023	376,787
ARLINGTON COUNTY	110,965	114,415	117,855	123,837	135,788	141,401
CITY OF ALEXANDRIA	77,073	79,898	82,725	88,238	97,085	103,662
FAIRFAX COUNTY[1]	438,396	445,889	453,323	477,072	527,631	547,558
LOUDOUN COUNTY	140,419	146,041	151,668	165,451	177,020	180,495
PRINCE WILLIAM COUNTY[2]	172,519	179,231	185,954	196,234	211,878	217,482
FREDERICK COUNTY	99,968	103,120	106,256	115,404	128,064	132,076
CHARLES COUNTY	61,336	63,419	65,529	72,911	83,426	92,163
CALVERT COUNTY	34,262	34,980	35,703	36,946	37,650	37,912
TOTAL	2,188,824	2,239,171	2,289,551	2,416,431	2,615,714	2,703,324

SOURCE:

-MWCOG Round 9.2 Cooperative Forecasts

[1]Includes the cities of Fairfax and Falls Church

[2]Includes the cities of Manassas and Manassas Park

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

Table 2 Forecasted Employment

NONATTAINMENT AREA	2021	2023	2025	2030	2040	2045
DISTRICT OF COLUMBIA	856,048	875,581	895,120	937,854	1,011,806	1,045,390
MONTGOMERY COUNTY	549,269	560,897	572,496	604,514	653,865	678,752
PRINCE GEORGE'S COUNTY	355,909	362,882	369,867	379,379	397,152	406,041
ARLINGTON COUNTY	224,582	228,751	232,928	250,398	278,863	282,090
CITY OF ALEXANDRIA	109,091	112,663	116,229	117,403	128,408	132,408
FAIRFAX COUNTY[1]	747,156	766,746	786,119	832,957	906,844	933,548
LOUDOUN COUNTY	193,555	199,285	204,959	224,434	252,469	260,933
PRINCE WILLIAM COUNTY[2]	200,269	208,759	217,246	238,111	276,579	293,465
FREDERICK COUNTY	117,321	119,652	121,981	127,370	139,696	144,103
CHARLES COUNTY	48,351	49,265	50,177	53,207	59,906	62,708
CALVERT COUNTY	29,504	30,353	31,206	32,318	34,050	34,996
TOTAL	3,431,055	3,514,834	3,598,328	3,797,945	4,139,638	4,274,434

SOURCE:

-MWCOG Round 9.2 Cooperative Forecasts

[1]Includes the cities of Fairfax and Falls Church

[2]Includes the cities of Manassas and Manassas Park

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

Note: Employment in non-COG member counties is affected by Employment Definition Adjustment Factors

Table 3 Forecasted Population

NONATTAINMENT AREA	2021	2023	2025	2030	2040	2045
DISTRICT OF COLUMBIA	741,011	764,027	787,045	842,090	940,684	987,210
MONTGOMERY COUNTY	1,059,041	1,073,165	1,087,286	1,128,786	1,197,141	1,223,339
PRINCE GEORGE'S COUNTY	926,110	932,066	938,023	952,955	982,767	995,874
ARLINGTON COUNTY	234,837	242,027	249,218	261,629	287,217	299,526
CITY OF ALEXANDRIA	172,720	179,129	185,536	197,722	217,265	231,802
FAIRFAX COUNTY[1]	1,221,900	1,238,652	1,255,349	1,308,102	1,421,197	1,465,542
LOUDOUN COUNTY	431,811	449,331	466,860	508,362	539,245	548,211
PRINCE WILLIAM COUNTY[2]	534,526	549,944	565,351	592,841	634,259	648,923
FREDERICK COUNTY	268,009	276,144	284,269	304,452	334,566	346,640
CHARLES COUNTY	169,277	173,750	178,238	194,671	218,575	236,479
CALVERT COUNTY	95,148	96,250	97,350	99,200	100,450	100,850
TOTAL	5,854,390	5,974,485	6,094,525	6,390,810	6,873,366	7,084,396

SOURCE:

-MWCOG Round 9.2 Cooperative Forecasts

[1]Includes the cities of Fairfax and Falls Church

[2]Includes the cities of Manassas and Manassas Park

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

Note: Includes Household and Group Quarters Population

Vehicle Registration Data

TPB staff has analyzed the region's vehicle fleet on a regular basis since 2005. Vehicle registration data, also known as Vehicle Identification Number (VIN) data, 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 2020 (July 2020 for DC and December 2020 for VA and MD). TPB staff analyzed the 2020 VIN data (Reference 10), and the analysis was reviewed by the MWCOG/TPB technical oversight committees prior to being used in transportation planning applications.

Figure 4 and Table 4 show characteristics of the region's vehicle fleet through time. The graphs indicate that the fleet is continuing to grow, and that light-duty trucks (sport utility vehicles, or SUVs) are growing at the fastest rate relative to other vehicle types. In general, light-duty trucks have a higher emissions rate than light-duty cars. The vehicle fleet has also continued to age, with more people holding on to vehicles for a longer period. These two recent trends are estimated to have a negative impact on emissions.

Figure 4 Historical Growth in Vehicles by Type

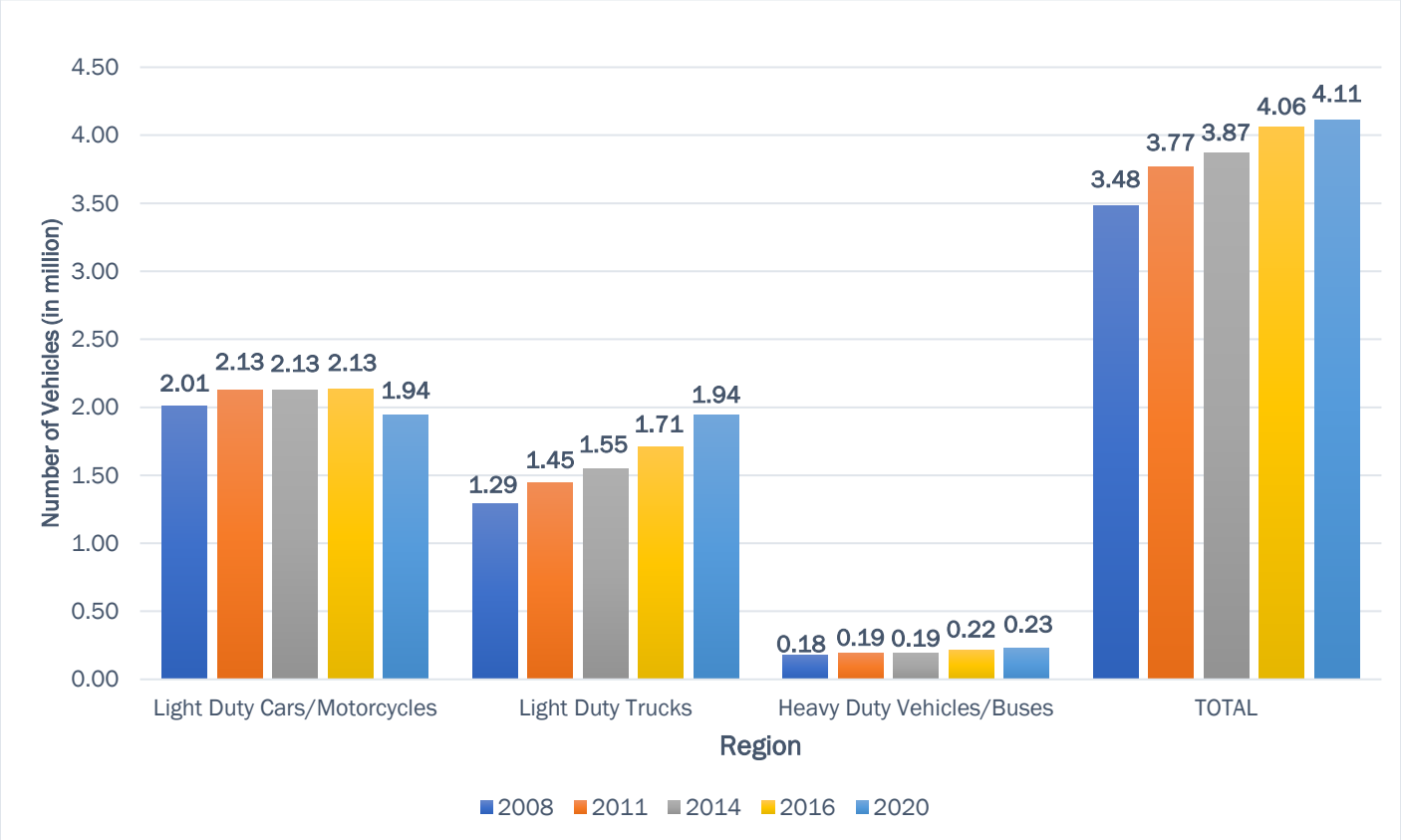


Table 4 Average Age of Regional Vehicle Fleet by Year

Year	Light Duty Vehicles* (LDV)	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	9.32	8.68	11.29	9.16
2020	**10.05**	**8.74**	**11.51**	**9.51**

*Motorcycles are included

Project Inputs

Attachment B contains a complete list of highway and transit projects analyzed in the 2022 Update to the Visualize 2045 Plan and the FY 2023-2026 TIP conformity analysis. It highlights changes to the project list that have occurred since the 2020 Amendment to Visualize 2045. The list contains transit, highway, and HOV/HOT projects, all summarized by state, agency, project characteristics and completion date. The projects are also displayed on an online interactive map on the COG website here: https://www.mwcog.org/maps/map-listing/visualize-2045-project-map/

The listed projects are coded in digital highway and transit networks which are used as inputs to the travel model that was used in the analysis. The 2022 Update to the Visualize 2045 Plan and FY 2023-2026 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).

Table 5 presents mileage summaries for the fixed-guideway transit (rail and BRT) and the highway system for the non-attainment area.

Table 5 Fixed guideway transit centerline and road lane miles for the non-attainment area

	LOV LANE MILES TOTAL	HOV/HOT LANE MILES TOTAL	METRORAIL MILES TOTAL	COMMUTER RAIL * MILES TOTAL	BRT ** MILES TOTAL	STREETCAR, LIGHT RAIL *** MILES TOTAL
2021	17,170	216	117	173	21	2
2023	17,260	280	129	173	22	18
2025	17,373	343	129	173	28	18
2030	17,602	432	129	173	69	20
2040	17,848	489	129	173	94	23
2045	17,954	489	129	173	103	23

* Includes MARC & VRE

** Includes Metroway, US29, Corridor Cities Transit, US1 (VA), Veirs Mill, Randolph Rd, Bethesda, New Hamp. Av., MD355 BRT

(MD355 has three alignments. For calculation purpose only largest alignment is considered)

*** Includes Purple Line, & DC Streetcar (Benning Road, H St., 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.

Metrorail Capacity Constraint

In March 2018, lawmakers from the District of Columbia, Maryland, and Virginia jointly agreed to 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 had included a technical adjustment to travel forecasts to account for the expectation that future peak-period Metrorail ridership to and through the region's "core" downtown area would 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. As noted above, there is now legislation establishing stable long-term funding that should support WMATA's plans to implement all 8-car trains during peak periods in the Visualize 2045 Plan and subsequent plans and amendments. Consequently, the Metrorail constraint to and through the regional core was removed from the travel modeling procedures

4. TRAVEL FORECASTS

Travel Model

The preparation of travel forecasts for each of the conformity alternatives was carried out using the Gen2/Version 2.4 Travel Model (Reference 11). The Gen2/Version 2.4 Travel Model operates on a 3722-zone area system. It was initially calibrated to year-2007 conditions using the 2007/08 Household Travel Survey and many other data sources, including numerous transit on-board surveys, 2007 American Community Survey data, and the 2007 Air Passenger Survey (Reference 12). The model was subsequently validated to year-2010 conditions using 2010 data including traffic counts, Metrorail electronic counts, the American Community Survey, and the Geographically Focused Household Travel Survey (Reference 13). Most recently, the model was re-validated to year-2014 conditions using 2014 data that included traffic counts and Metrorail boardings (Reference 14).

In addition to existing toll facilities, the 2022 Update to the Visualize 2045 plan includes portions of I-95, I-66, and the northern part of the Capital Beltway in Virginia, part of the 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 Gen2/Version 2.3 Travel Model Calibration Report and two HOT Lanes modeling memos (References 15 & 16) document these procedures which did not change with the Gen2/Version 2.4 Travel Model.

Networks

Digital highway and transit networks, incorporating all regionally significant 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. All prices in the model are brought to a common base year (currently 2007) using inflation factors.

Travel Model Forecasts

Travel demand forecasts were developed for each of the analysis years. Summary mode choice results are shown in Table 6 and Table 7. VMT summaries are shown in Table 8.

Table 6 Mode Choice Summary: Home-Based Work Trip Purpose

NON-ATTAINMENT AREA DAILY 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 (%)
2021	3,358,215	2,551,081	2,147,026	229,204	2,321,877	1.10	807,134	22.90
2023	3,429,272	2,586,526	2,170,445	240,678	2,345,849	1.10	842,746	23.40
2025	3,496,458	2,619,701	2,197,493	244,996	2,374,706	1.10	876,757	23.80
2030	3,671,653	2,730,650	2,269,061	272,561	2,458,089	1.11	941,004	24.20
2040	3,943,110	2,888,421	2,389,101	297,387	2,591,034	1.11	1,054,689	25.10
2045	4,061,663	2,967,607	2,450,262	308,911	2,658,696	1.12	1,094,056	25.30

Table 7 Mode Choice Summary: All Trip Purposes

NON-ATTAINMENT AREA DAILY ALL TRIP PURPOSES MODE ANALYSIS BY YEAR
(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 (%)
2021	15,793,133	14,606,621	7,416,478	4,317,755	10,288,866	1.42	1,186,512	6.60
2023	16,074,378	14,832,244	7,491,252	4,416,730	10,415,514	1.42	1,242,134	6.80
2025	16,328,596	15,037,003	7,567,448	4,497,752	10,539,252	1.43	1,291,593	6.90
2030	16,991,969	15,599,994	7,780,753	4,717,669	10,882,325	1.43	1,391,975	7.10
2040	17,960,546	16,414,460	8,081,353	5,038,902	11,375,558	1.44	1,546,086	7.40
2045	18,388,682	16,796,615	8,249,935	5,169,962	11,626,653	1.44	1,592,067	7.40

Table 8 Vehicle Miles Traveled (VMT) Summary

NON-ATTAINMENT AREA TRIPS AND VEHICLE MILES TRAVELED
AVERAGE WEEKDAY TRAFFIC (AAWDT)
(Based on Final Iteration)

YEAR	WORK AND NON-WORK AUTO DRV	TRUCKS (Med + Hvy)	COMMERCIAL VEHICLES	TOTAL VEH. TRIPS	TOTAL VMT
2021	11,716,283	558,393	1,208,276	13,482,952	121,021,194
2023	11,875,245	567,300	1,232,995	13,675,540	123,253,168
2025	12,032,005	576,273	1,257,943	13,866,221	125,623,574
2030	12,449,606	598,550	1,315,718	14,363,874	130,611,178
2040	13,071,124	633,587	1,410,381	15,115,092	138,430,063
2045	13,381,900	652,731	1,449,556	15,484,187	142,272,410

5. EMISSIONS FORECASTS

Mobile Emissions 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 emissions 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 emissions budgets for VOC and NOx are shown in Table 9 and Table 10 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 emissions budgets] in the Maintenance Plan."

Table 9 Tier 1 Mobile Emissions Budgets

Year	NO_x 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

Table 10 Tier 2 Mobile Emissions Budgets

Year	NO_x 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 emissions 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 emissions 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 the 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 the 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. Input assumptions are summarized in Table 11.

Anticipating such situations, federal air quality conformity regulations (Reference 1) 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. While conformity buffers are commonly used in non-attainment areas throughout the U.S., the use of two Tiers ("Tier 1" and "Tier 2") of buffers is unique to the metropolitan Washington region.

Table 11 Input Assumptions

	Maintenance SIP Mobile Emissions Budgets	2020 Amendment to the Visualize 2045 Conformity Emissions
Cooperative Forecasts	Round 9.0	Round 9.2
Vehicle Fleet	2014 VIN	2020 VIN
Travel Demand Model	Gen2/Version 2.3.66	Gen2/Version 2.4
Project Inputs	2016 CLRP	2022 Update
Metrorail Constraint	Yes	No

MOVES Inputs

Emissions estimates were developed using the MOVES2014b model which was released by EPA in 2018. Input data from ten broad categories were used in the MOVES County Manager 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 or its associated speed post processor model), and the remaining five are obtained either directly from state agencies (i.e., air agencies and Departments of Motor Vehicles), or developed based on actual meteorological data.

Table 12 summarizes these categories, and indicates the methodology used to develop these data. The entries in the table are described following the table.

Table 12 MOVES 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/identification number (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 17) derived from actual vehicle population data from the 1975-2020 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 (Reference 18), into hourly VHT for each jurisdiction by 3 vehicle types, 4 road types, and 16 speed bins. The 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. 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 high-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 the 2012 Geographically Focused Household Travel Survey.[3] An average home-to-transit travel distance of 7.5 miles was used for certain parking lots where longer commuting distances were assumed to 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 (Gen2/Version 2.4). 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.

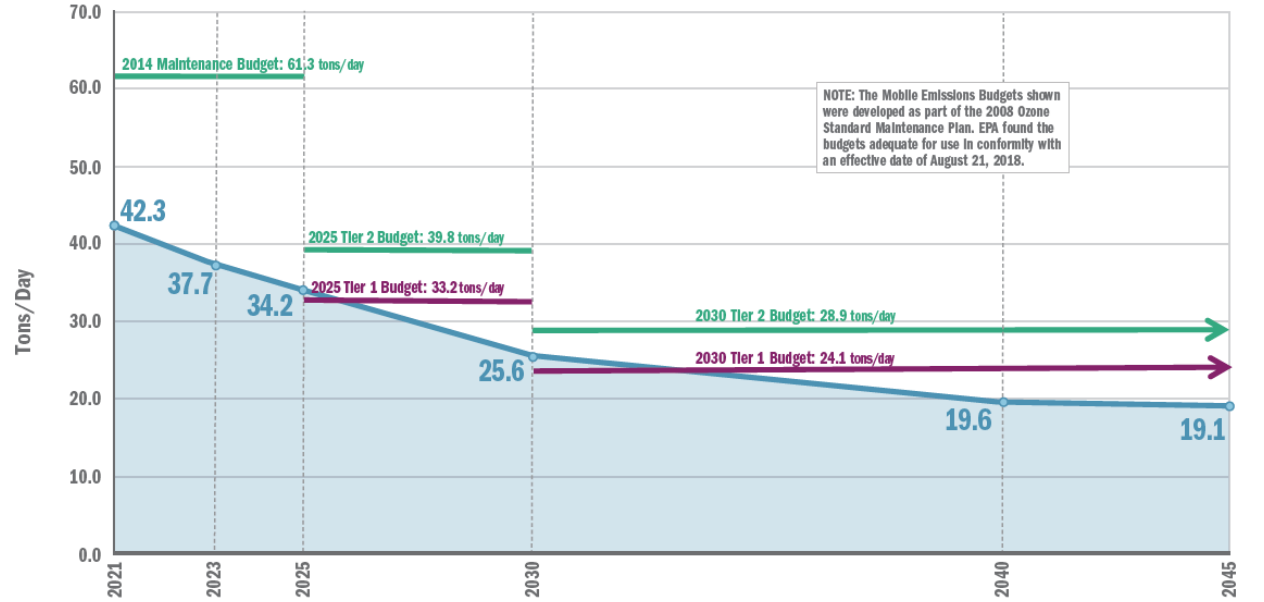
Mobile Emissions Inventories

The estimates for ozone season pollutants are summarized in Figures 6 and 7 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 emissions budgets for each pollutant. Estimated ozone season emissions show reductions through time despite steady increases in vehicle trips and VMT in the forecast years. The estimated emissions reductions are attributed to cleaner vehicles and fuel standards, including Tier 2 and Tier 3 federal standards (not to be confused with region's Tier 1 and Tier 2 conformity emissions budgets), and related emissions reductions/control programs. As programs are put into place, emissions reductions are realized, and decreases continue through time as fleet turnover results in the replacement of older vehicles.

Emissions levels for VOC and NOx are slightly above the Tier 1 mobile emissions budgets for the 2025 and 2030 analysis years. For the 2025 analysis year, the VOC emissions level is 1 ton/day above the 33.2 tons/day Tier 1 budget, and the NOx emissions level is 1.9 tons/day above the 40.7 tons/day Tier 1 budget. For the 2030 analysis year, the VOC emissions level is 1.5 tons/day above the 24.1 tons/day Tier 1 budget, and the NOx emissions level is 0.1 tons/day above the 27.4 tons/day Tier 1 budget. These emissions are slightly higher than the 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 Emissions 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 emissions budgets. **Therefore, the Tier 2 budgets are used to demonstrate conformity** of the 2022 Update to the Visualize 2045 transportation plan and FY 2023-2026 TIP with respect to VOC and NOx. Emissions levels for VOC and NOx are well below the Tier 2 mobile emissions budgets for all analysis years, as shown in Figure 5 and Figure 6.

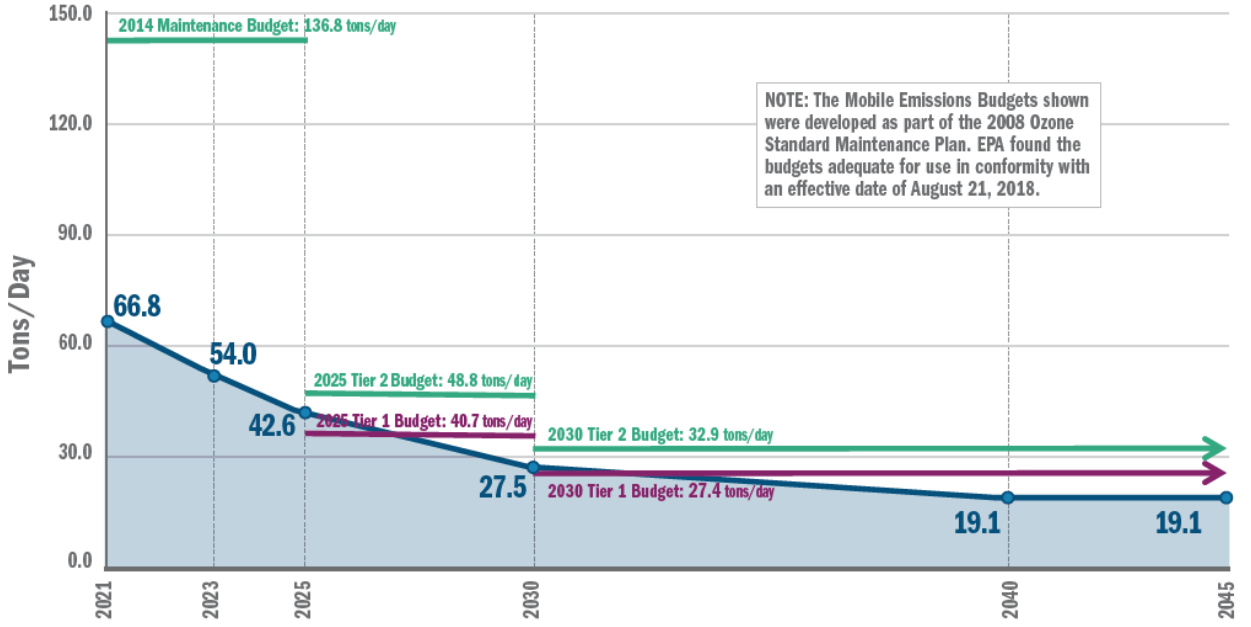
[3] Robert E. Griffiths, "2012 TPB Geographically-Focused Household Travel Surveys: Initial Results" (National Capital Region Transportation Planning Board, held at the Metropolitan Washington Council of Governments, Washington, D.C., March 20, 2013), https://www.mwcog.org/events/2013/?F_committee=196.

Figure 5 Estimated Mobile Source Emissions, Ozone Season VOC



TCMs and TERMS are not included in totals.

Figure 6 Estimated Mobile Source Emissions, Ozone Season NOx



TCMs 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 motor 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. Also, the benefits of these projects are not included in the emissions totals in this report, but they are available, if necessary, to offset future growth in mobile emissions.

TERMs 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
- Free-form Carpooling (Slug Lots)

Table 13 lists the emission reduction potential of these TERMs, by pollutant, for each analysis year. Attachment F contains detailed information about the TERMs analysis.

Table 13 Transportation Emissions Reduction Measures

ADDITIONAL EMISSIONS REDUCTIONS: ALL TERMS COMBINED		
Years/Pollutants	Ozone - VOC (tons/day)	Ozone - NOx (tons/day)
2021	0.195	0.249
2023	0.187	0.212
2025	0.181	0.172
2030	0.148	0.113
2040	0.135	0.083
2045	0.137	0.082

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 (Reference 19) 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 emissions 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.

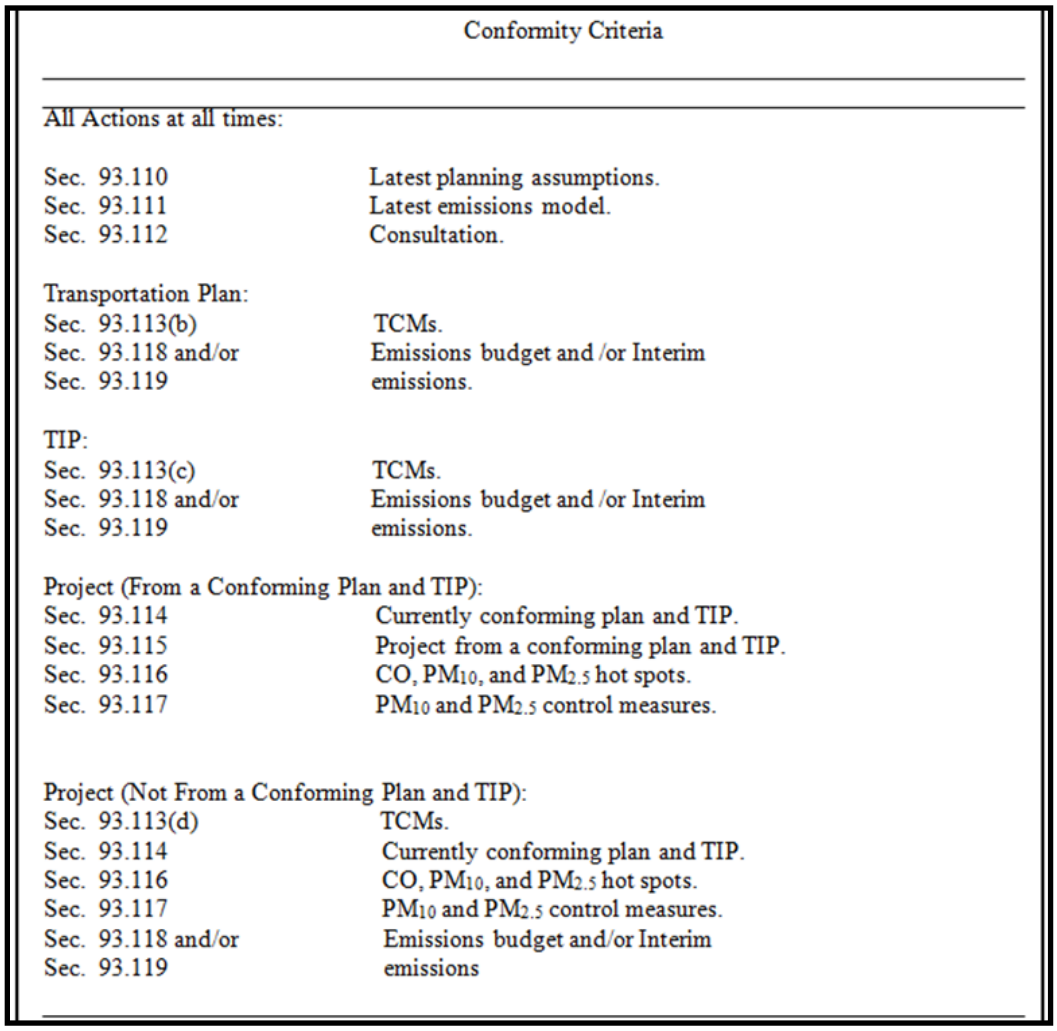
6. CONFORMITY CRITERIA AND PROCEDURES

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 way the regulations have been met.

Conformity Criteria

This section identifies the criteria (sections of the regulations) which the LRTP must meet to conform to current state implementation plans in the District of Columbia, Maryland and Virginia. Figure 7 lists the sections of the regulations relevant for the analysis of the 2022 Update to the Visualize 2045 Plan and FY 2023-2026 TIP. The following discussion indicates the way each criterion was met.

Figure 7 Conformity Criteria



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 Sec. 93.119	Emissions budget and /or Interim emissions.
TIP:	
Sec. 93.113(c)	TCMs.
Sec. 93.118 and/or Sec. 93.119	Emissions budget and /or Interim 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 Sec. 93.119	Emissions budget and/or Interim emissions

Source: EPA Transportation Conformity Regulations, April 2012, EPA-420-B-12-013

Sec. 93.110 Criteria and procedures: Latest planning assumptions.

The conformity analysis is based upon the current planning assumptions available for the Washington region. Round 9.2 Cooperative Forecasts were approved for use in the conformity analysis of the 2022 Update to the Visualize 2045 plan and FY 2023-2026 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 mode choice process. The analysis includes current fares (excluding free fares related to COVID discounts, since it has not been determined that such discounts will persist in the long term), with increases through time as a function of historical 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. 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 periods. 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 EPA's MOVES2014b emissions estimation model, which is the same model used in the development of the mobile emissions budgets.

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; COG's Community Advisory Committee and its Access For All Committee; website posts, and postings on social media (e.g., Twitter and Facebook). Since the last update of Visualize 2045, TPB staff updated the region's participation plan. The document, TPB Participation Plan (Reference 20), was completed in Spring 2020.

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) 2020 Amendment to Visualize 2045 plan, adopted by the TPB in March 2020 and approved by the FHWA on May 27, 2020.

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

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

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 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 emissions 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

Federal law and regulations require all MPOs in the U.S. (such as the TPB) to conduct public participation activities as part of the development of their LRTP. Public participation is recognized as an integral part of the planning process.

The region's fifth *TPB Participation Plan* (Reference 20), adopted by the TPB on October 21, 2020, 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 comment periods and comment policies:

- The provision of a 30-day comment period prior to approval of federally required plans and programs, with the ability for the public to comment via mail, email, and on the TPB website.
- The posting of all publicly available TPB documents on the TPB website.
- The development and consideration of written responses to comments received.
- The provision of an additional opportunity for public comment if the final Long- Range Transportation 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 Long-Range Transportation Plan 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 Long-Range Transportation Plan and TIP.
- The provision of a period of time at the beginning of each TPB meeting for public comment on transportation issues under consideration by the TPB and provide follow-up acknowledgement and response as appropriate.
- The distribution of relevant reports and technical information free of charge at the TPB meetings and meeting of its committees and sub-committees.
- The scheduling of at least one formal public meeting during the TIP development process

The TPB maintains and supports two public advisory committees: The Community 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 members of the public 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 considered underrepresented and underserved.

The TPB also maintains a comprehensive website as well as Facebook and Twitter accounts. 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 and video of each TPB and TPB Technical Committee meeting, and provides audio/video recordings at www.mwcog.org/TPBmtgLIVE.

The 2022 Update to Visualize 2045 provided extensive public outreach including:

- A public opinion survey, Voices of the Region, which was a representative and statistically significant regional survey of residents in the metropolitan Washington region. The purpose of the survey was to gather information on attitudes and behaviors related to transportation topics to inform the Visualize 2045 update and other regional planning efforts.
- In the winter of 2021, the TPB conducted 11 virtual focus groups with 112 residents from around the Washington region. The purpose of the focus groups was to gather qualitative and in-depth data that contextualizes and informs how different population groups understand and experience transportation equity, safety, and climate change.
- In the summer of 2021, the TPB conducted a public engagement campaign called Aspiration to Implementation to solicit input for the 2022 Update to Visualize 2045. The campaign, which was conducted virtually, used posters and signs with QR codes to obtain comments from the public about ways in which regional transportation projects, programs, and policies have affected their daily lives.
- TPB staff conducted two public comment periods, the first before the TPB approved the project inputs and conformity scope of work and the second before the TPB approved the air quality conformity analysis and Plan and TIP.
- TPB staff conducted multiple open houses with presentations and opportunities for questions and answers.

- TPB Staff developed a website specific to Visualize 2045, sharing information about the Plan update. The website is Visualize2045.org.
- The TPB held a virtual TIP Forum on April 14, 2022. At the TIP Forum planners presented highlights from the FY2023-2026 TIP and representatives from the state-level Departments of Transportation were available to answer questions.
- The TPB provided 30-day comment periods before approval of the conformity scope of work and project inputs, and also before the TPB approval of the conformity analysis, the 2022 Update to the Visualize 2045 plan, and the FY 2023-2026 TIP. The TPB website announced the comment opportunities. The *Washington Post*, the *Afro-American*, and the *Washington Hispanic* posted ads publicizing the comment period information.

Details related to the extensive public outreach for the 2022 Update to Visualize 2045 can be found in Appendix H of the Plan document on the Visualize 2045 website and details relating to public involvement specific to the conformity analysis are included in Attachment C of this document.

Table 14 shows the schedule for the conformity analysis of the LRTP and TIP.

Table 14 Conformity Schedule

Plan and TIP Update Schedule

2020	12/16/20	The TPB will be asked to approve the Technical Input Solicitation document to initiate the Call for Projects.
2021	2/12/21	Project inputs for the LRTP and Air Quality Conformity (AQC) analysis due to TPB staff.
	3/5/21, 4/2/21	The TPB Technical Committee will review the conformity project inputs table in March and the draft inputs to the Plan and the draft AQC scope of work in April.
	4/2/21-5/3/21	Public comment period on inputs to the Plan/AQC analysis, and AQC scope of work. MWAQC TAC will review this information during the April meeting.
	4/21/2021	TPB will receive a briefing on the draft inputs to the Plan/AQC analysis and the draft AQC scope of work.
	5/19/21	The TPB will receive a summary of the public comments on the draft inputs to the Plan and AQC analysis. The TPB and the agencies sponsoring the projects will have the opportunity to discuss and advise staff on responses.
	6/16/21	The TPB will review responses to comments and updates to inputs to the Plan and scope of work for the AQC analysis. The TPB will be asked to approve the inputs and scope, authorizing staff to begin analysis.
2022	3/11/22	Transportation Improvement Program (TIP) inputs due for the FY 2023-2026 TIP
	4/1/22	The TPB Technical Committee will review the draft results of AQC analysis for the updated Plan and FY 2023-2026 TIP.
	4/1/22 - 5/1/22	Public comment period on the results of AQC analysis Determination for the updated Plan and FY 2023-2026 TIP.
	4/2022	MWAQC and MWAQC TAC will review the draft results of the AQC analysis during their meetings.
	4/20/22	The TPB will review the draft Plan, draft TIP, and AQC analysis and Determination.
	5/18/22	The TPB will review the draft results of the AQC analysis for the Plan and FY 2023-2026 TIP. The TPB will also receive a summary of the comments received on the analysis. The TPB and the agencies sponsoring the projects will have the opportunity to discuss and advise staff on responses to comments.
	6/15/22	The TPB will review the responses to the comments and the results of the AQC analysis. The TPB will be asked to approve the results of the AQC analysis and adopt the updated Plan and the FY 2023-2026 TIP.

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

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

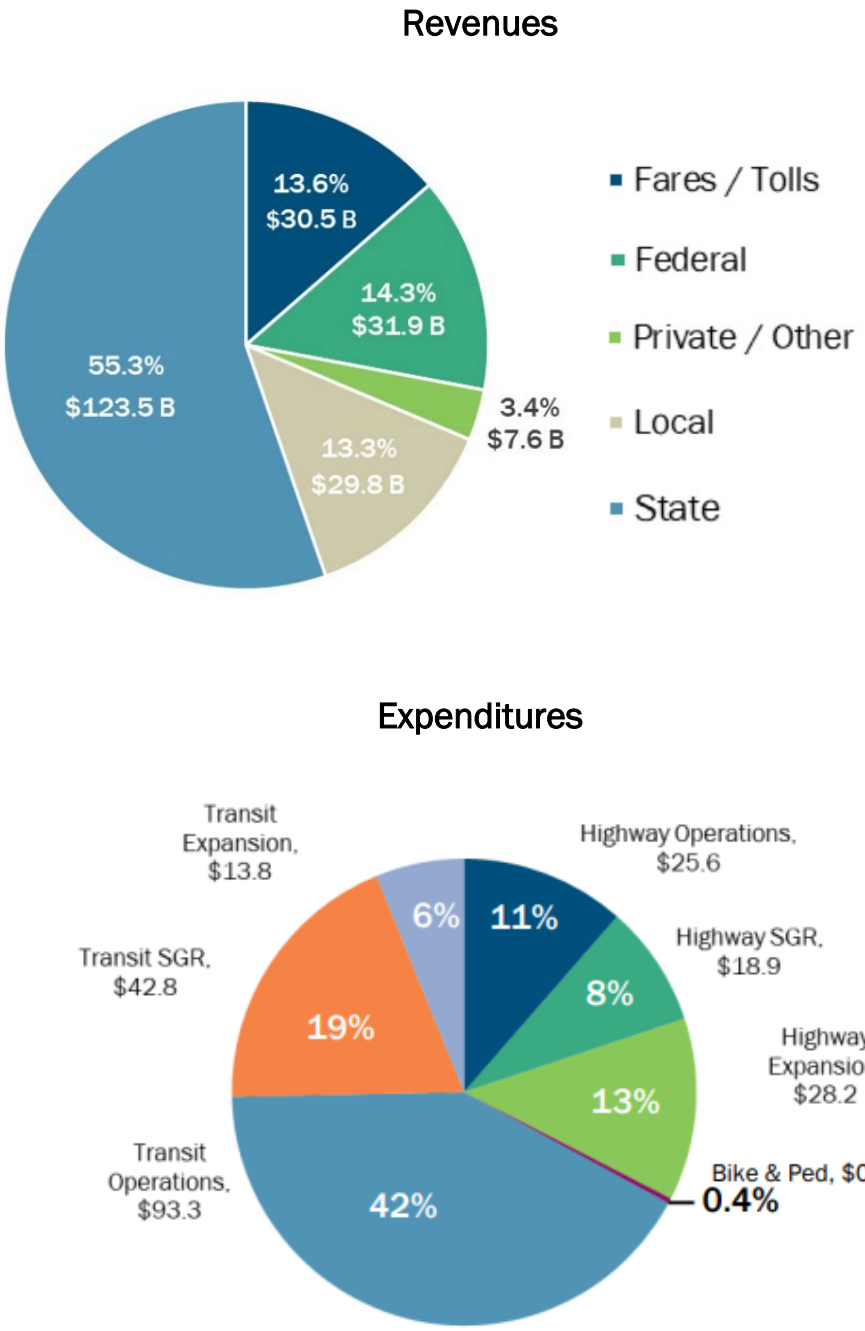
EPA's conformity regulations require that transportation plans and TIPs must be fiscally constrained in order to be found in conformity. The 2022 Update to Visualize 2045 plan represents the "major" update which occurs every four years. As mentioned earlier, the Visualize 2045 plan includes both a financially constrained element and an aspirational element. The conformity analysis presented in this report pertains to the constrained element only. The 2022 Update to Visualize 2045 includes a full financial analysis of the constrained regional transportation plan and program. Appendix A of the Visualize 2045 report (Reference 21), which documents this financial plan, is available on the COG website. The financial plan demonstrates that the Visualize 2045 plan, covering the period from 2023 through 2045, is financially constrained.

The plan is financially 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 public transportation system in the region.

A total of $223.3 billion in transportation expenditures is projected for the metropolitan Washington region for the 23-year period of 2023 to 2045. The majority, $180.8 billion (81 percent), of future transportation revenues will be devoted to the operations and maintenance of the public transportation and highway systems. Funding for expansion of the transportation system makes up the remainder: $42.5 billion (19 percent). Evaluating expenditures by mode, WMATA expenditures constitute 45 percent and other public transportation 22 percent of the total through 2045. Expenditures on highways constitute 32.5 percent of the total. Expenditures for pedestrian and bicycle systems included in the LRTP are 0.4 percent; however most such projects in the region take place at the local level and are not included in the LRTP. Funding is identified for significant capital projects, including the K Street Transitway in the District of Columbia (CE3081), the I-270 and I-495 Traffic Relief Plan (Ops Plan) in Maryland (CE6432), and implementation of the Transforming Rail initiative in Virginia including construction of a new span of the Long Bridge across the Potomac River (T6727). The financial plan also demonstrates full funding for WMATA's forecast needs for both operations and state of good repair through 2045.

Figure 8 shows a **graphic** of revenues and expenditures for the 2022 Update to Visualize 2045.

Figure 8 Visualize 2045 Transportation Plan Revenues & Expenditures in Billions



9. CONCLUSION

The analytical results described in this report provide a basis, in relation to US EPA conformity regulations, for a determination by the TPB of conformity of the 2022 Update to the Visualize 2045 long-range transportation plan and the FY 2023-2026 Transportation Improvement Program for the National Capital Region, with requirements of the Clean Air Act Amendments of 1990.

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ATTACHMENT A

Scope of Work

National Capital Region
Transportation Planning Board

June 4, 2021

AIR QUALITY CONFORMITY ANALYSIS: 2022 UPDATE TO VISUALIZE 2045 & FY 2023-2026 TIP

SCOPE OF WORK

I. INTRODUCTION

The list of projects solicited for the 2022 Update to the Visualize 2045 Long-Range, Transportation Plan (LRTP) and FY 2023-2026 Transportation Improvement Program (TIP) is scheduled to be finalized at the June 16, 2021 meeting of the National Capital Region Transportation Planning Board (TPB). This work effort addresses requirements associated with attainment of the ozone National Ambient Air Quality Standards (NAAQS). Volatile organic compounds (VOC) and nitrogen oxides (NOx) are 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 Federal Highway Administration (FHWA) / Federal Transit Administration (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 budgets
2. Provide expeditious implementation of Transportation Control Measures (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 emissions budgets in the 2008 Ozone NAAQS[1] Maintenance Plan. In August 2018 EPA found these budgets adequate for use in conformity analyses, and the budgets were used in the 2020 Amendment to Visualize 2045 conformity analysis. The 2008 Ozone NAAQS Maintenance Plan includes mobile emissions 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.

[1] The region did not develop mobile emissions budgets for the 2015 ozone NAAQS when the region was designated as "marginal" non-attainment because marginal non-attainment areas are not required to develop mobile emissions budgets. Therefor the current mobile emissions budgets are from the 2008 Ozone NAAQS Maintenance Plan.

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	MOVES2014b
Conformity Test	Budget Test: Using mobile emissions budgets most recently approved by EPA: 2008 Ozone NAAQS Maintenance Plan mobile budgets found adequate by EPA in August 2018.
Vehicle Fleet Data	July 2020 (DC)[2] and December 2020 (MD & VA) vehicle registration data
Geography	8-hour ozone non-attainment area
Network Inputs	Regionally significant projects
Land Activity	Cooperative Forecasts Round 9.2
HOV/HOT	VA: I-95, I-395, and I-495 are all HOT3+; I-66 inside the Beltway will convert from HOT2+ to HOT3+ when I-66 outside the Beltway opens as HOT3+; the Dulles Toll Road will convert from HOV2+ to HOV3+ in 2023; all other HOV facilities will be HOV2+ through 2045 MD: HOV facility on US 50 will remain HOV2+ through 2045; HOV facility on I-270 will convert from HOV2+ to HOT3+ when an additional HOT lane is added; planned additional Capital Beltway express toll lanes will be HOT3+ when added
Roadway Restrictions	Roadway restrictions, such as truck prohibitions, are reflected in the travel model network using information supplied by the Departments of Transportation
Transit Constraint	NO Metrorail "capacity constraint" (removed with March 2018 passage of annual funding for WMATA agreement)
Analysis Years	2021 and/or 2023 or 2024[3], 2025, 2030, 2040, and 2045
Modeled Area	6,800 square mile area with 3,722 Transportation Analysis Zones (TAZs)
Travel Demand Model	Gen2/Version 2.4 or latest

[2] Due to the backlogs in processing new District of Columbia vehicle registrations resulting from COVID-related restrictions, the District of Columbia Department of Energy and Environment (DOEE) staff estimate that the July 2020 dataset is more representative of the number of registered vehicles in December 2020 than the December 2020 dataset.

[3] Staff will analyze the region's attainment date for the 2015 Ozone Standard. It is currently 2021 but may be changed to 2023 or 2024 if the region's non-attainment designation is changed from "marginal" to "moderate".

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 the Metropolitan Washington Air Quality Committee (MWAQC), its Technical Advisory Committee (MWAQC-TAC), and its Conformity Subcommittee to discuss the Scope of Work, project inputs, and other elements as needed.

V. WORK TASKS

The work tasks associated with the 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 December 2019 (most recent available transit service prior to COVID restrictions)
   - Fares current to March 1, 2021

3. Determine Characteristics of the Motor Vehicle Fleet by Preparing 2020 Vehicle Registration/Vehicle Identification Number (VIN) Data
   - Purchase VIN decoding software
   - Set up and test VIN decoding software
   - Collect and decode VIN data for the District, Maryland, and Virginia

4. Review and Update Land Activity files to reflect Round 9.2 Cooperative Forecasts:
   - Develop zonal data files
   - Ensure consistent definition of employment throughout the modeled area by applying the “employment definition adjustment factors” to the land activity forecasts.
   - Estimate households by auto ownership, size and household income (done as part of the travel model)
   - Coordinate with agencies outside the MWCOG Cooperative Forecast area, e.g., the Baltimore Metropolitan Council (BMC), the Fredericksburg Area Metropolitan Planning Organization (FAMPO), and the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO).

- Develop trip tables for exogenous/residual travel: 1) through vehicle trips; 2) external-to-internal and internal-to-external vehicle trip ends; 3) taxi, visitor/tourist and school vehicle trips; and 4) airport-passenger auto-driver trips.

5. Prepare forecast-year highway and transit networks including regionally significant projects, as follows:
   - 2021 (and/or 2023 or 2024), 2025, 2030, 2040, and 2045 highway networks
   - 2021 (and/or 2023 or 2024), 2025, 2030, 2040, and 2045 transit network input files
   - Update highway tolls and transit fares as necessary

6. Execute travel demand modeling for years 2021 (and/or 2023 or 2024), 2025, 2030, 2040, and 2045

7. Derive mobile emissions estimates for years 2021 (and/or 2023 or 2024), 2025, 2030, 2040, and 2045 using inputs from the 2008 Ozone NAAQS Maintenance Plan mobile budgets

8. Summarize key inputs and outputs (VMT, mode share, emissions, etc.) of the conformity determination

9. Assess conformity and document results in a report

   - Document methods
   - Draft conformity report
   - Forward to technical and 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

Plan and TIP Update Schedule

2020	12/16/20	The TPB will be asked to approve the Technical Input Solicitation document to initiate the Call for Projects.
2021	2/12/21	Project inputs for the LRTP and Air Quality Conformity (AQC) analysis due to TPB staff.
	3/5/21, 4/2/21	The TPB Technical Committee will review the conformity project inputs table in March and the draft inputs to the Plan and the draft AQC scope of work in April.
	4/2/21-5/3/21	Public comment period on inputs to the Plan/AQC analysis, and AQC scope of work. MWAQC TAC will review this information during the April meeting.
	4/21/2021	TPB will receive a briefing on the draft inputs to the Plan/AQC analysis and the draft AQC scope of work.
	5/19/21	The TPB will receive a summary of the public comments on the draft inputs to the Plan and AQC analysis. The TPB and the agencies sponsoring the projects will have the opportunity to discuss and advise staff on responses.
	6/16/21	The TPB will review responses to comments and updates to inputs to the Plan and scope of work for the AQC analysis. The TPB will be asked to approve the inputs and scope, authorizing staff to begin analysis.
2022	3/11/22	Transportation Improvement Program (TIP) inputs due for the FY 2023-2026 TIP
	4/1/22	The TPB Technical Committee will review the draft results of AQC analysis for the updated Plan and FY 2023-2026 TIP.
	4/1/22 - 5/1/22	Public comment period on the results of AQC analysis Determination for the updated Plan and FY 2023-2026 TIP.
	4/2022	MWAQC and MWAQC TAC will review the draft results of the AQC analysis during their meetings.
	4/20/22	The TPB will review the draft Plan, draft TIP, and AQC analysis and Determination.
	5/18/22	The TPB will review the draft results of the AQC analysis for the Plan and FY 2023-2026 TIP. The TPB will also receive a summary of the comments received on the analysis. The TPB and the agencies sponsoring the projects will have the opportunity to discuss and advise staff on responses to comments.
	6/15/22	The TPB will review the responses to the comments and the results of the AQC analysis. The TPB will be asked to approve the results of the AQC analysis and adopt the updated Plan and the FY 2023-2026 TIP.

ATTACHMENT B

Project Inputs

Key to the Air Quality Conformity Table:

COLUMN 1:

PIT ID – project identification number

COLUMN 2:

Con ID – conformity identification number

COLUMN 3:

Project ID - project identification number (for reference purposes)

COLUMN 4:

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

COLUMN 5:

Type of improvement - defined as follows:

Construct	=	build a new facility
Close	=	facility cease operation
Convert to 2-way	=	two lanes in each direction
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
Re-Align Intersection	=	improve the alignment for intersection
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 6:

Facility - name of facility to be studied or improved

COLUMNS 7 and 8:

From and To - limits of the project

COLUMN 9:

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 10:

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

COLUMN 11:

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

2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
(transit)

1/10/2022

	PIT Project ID	ConID	Scenario	Improvement	Facility	From	To	Projected Completion Date
DDOT								
1	5754	613	DCSTHST2	Construct	Benning Road Streetcar Extension	Oklahoma Avenue NE	45th Street/Benning Road Metro	~~2023~~ 2026
2	6103	793	WATEREXT	Implement	DC Circulator Expansion	Navy Yard Route Realignment	36th St.	2018 Complete
3	6103	794	UHOWEXT	Implement	DC Circulator Expansion	Rosslyn to Dupont Circle Route	Extension to U St./Howard University	~~2018~~ 2026
4	6103			Implement	DC Circulator Realignment	Potomac Ave.	Skyland	2018 Complete
5	CE3196	822	HIBUS	Implement	H St. NW Peak Period Bus-Only Lanes Pilot Project	19th St NW	14th St NW	2019 Complete
6	CE3196	823	HIBUS	Implement	I St. NW Peak Period Bus Only Lanes Pilot Project	13th St. NW	Pennsylvania Ave. NW	2019 Complete
7	CE3081			Construct	K St. NW Transitway	9th St. NW	21st St. NW	~~2021~~ 2025
8	CE3081	610	DCSTGTWN	~~Construct~~ Implement	Union Station/Georgetown Streetcar	K Street/34th Street NW	3rd Street/H Street NE	~~2030~~ 2040
9	6638	989		Implement	16th St. Bus Priority Improvements	H St. NW	Arkansas Ave NW	~~2020~~ 2022
10	3212			Implement	H St. and I St Bus lanes Phase 2	13th St. NW	Pennsylvania Ave NW	2021
11	3212	7823		Study	7th St. NW Bus Improvements	Massachusetts Avenue	Pennsylvania Ave.	Not Coded
12	3212	7835		Study	H St. NW Bus Improvements	14th St. NW	North Capitol St.	Not Coded
13	3212	7834		Study	Minnesota Avenue SE Bus Improvements	Pennsylvania Avenue SE	East Capitol Street	Not Coded
14	3212	10614		Study	MLK Ave SE Bus Improvements	Good Hope Road	Redwood Street	Not Coded
MDOT/MTA								
15	CE3427	617	MARCFRQ	Implement	Brunswick Line Service Improvements			2029
16	CE3427	618	MARCFRQ	Implement	Camden Line Service Improvements			2029
17	CE1649	481	CCTBRT	Construct	Corridor Cities BRT	Shady Grove	Comsat	~~2028~~ 2035

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (transit)

1/10/2022

	PIT Project ID	ConID	Scenario	Improvement	Facility	From	To	Projected Completion Date
18	CE3427	619	MARCFRQ	Implement	Penn Line Service Improvements			2029
19	2795	479	PURPLE	Construct	Purple Line Transitway	Bethesda	New Carrollton	~~2020~~ 2023
20		480	SSTCTR	Construct	Silver Spring Transit Center	Phase II		2017 complete
Montgomery County								
21		669		Study	Countywide BRT	various corrirors		Not Coded
22	CE3662		RANDBRT	Implement	Randolph Road BRT	US 29	MD 355	2040
23	CE3663	5062	NBETHBRT	Implement	North Bethesda Transitway BRT	Montgomery Mall Transit Center	White Flint	~~2035~~ 2030
24	CE3424		MD355BRT	Implement	MD 355 BRT	MD 410 East-West Highway	Clarksburg Rd.	~~2045~~ 2030
25	CE3103		VEIRSBRT	Implement	Veirs Mill Road BRT	MD 355 Rockville Pike	MD 97 Georgia Ave.	~~2030~~ 2025
26	CE3672	982	NHBRT	Implement	New Hampshire Ave. BRT	Colesville Park and Ride	Takoma Metro Station	2045
27	CE3423		29BRT	Implement	US 29 BRT	Burtonsville	Silver Spring Transit Center	2020 Complete
28	CE1249	483	MCT7	Construct	Olney Transit Center	adjacent to or north of MD 108		2045
29	CE1253	487	TIGERVEIR	Construct	Veirs Mill Road Bus Enhancement	Rockville	Wheaton	~~2020~~ 2021
VDOT								
30		1028		Construct	Long Bridge	Control Point RO (Arlington) Rosslyn (RO) Interlocking near Long Bridge Park in Arlington, Virginia	L'Enfant (LE) Interlocking near 10th Street SW in the District of Columbia	~~Not Coded~~ 2030
31	CE3758	3680		Construct	VRE 4th Track Project	L'Enfant Interlocking	Virginia Interlocking	2028
32		1029		Construct	Alexandria 4th Track Project	Control Point Rosslyn (CFP RO) near milepost 110.1 south of the George Washington Parkway	Control Point Alexandria (CFP AF) near milepost 104.3 south of Telegraph Road	~~2025~~ 2028

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
(transit)

	PIT Project ID	ConID	Scenario	Improvement	Facility	From	To	Projected Completion Date
33		1030		Construct	Franconia to Occoquan 3rd Track Project	One mile north of the Franconia-Springfield VRE station (CFP 98.8)	Approximately 400 feet north of Furnace Road, just north of the Occoquan River (CFP 90.08)	2028
34	CE2420			Construct	Broad Run Expansion- 3rd Track Project	Broad Run	Manassas (Wellington Road)	2025
35	CE2832	504	VREFREQ	Implement	VRE Service Improvements (Reduce Headways) - associated with 3rd and 4th Track Projects	Fredericksburg and Manassas lines		~~2028~~ 2035
36	CE1942	795	US1VABUS	Widen	US 1 (bus/right-turn lanes)	VA 235 North	SCL Alexandria (I-95 Capital Beltway)	2035
37	CE3521	861		Construct	Crystal City Transitway: Northern Extension - complete dedicated lanes	Crystal City Metro Station	Army Navy Drive Transit Station (Army Navy Dr halfway between Hayes St and Joyce St)	2022
38			MWAYEXT2	Construct	Crystal City Transitway: Southern Extension - complete dedicated lanes	South Glebe Road	Alexandria city line	2025
39			MWAYROW	Construct	Crystal City/Potomac Yard Transitway-realign with dedicated right-of-way	East Glebe Road	Evans Lane	2030
40	CE2685	~~677~~		~~Study~~	~~US 1 Corridor Streetcar Conversion~~	~~Four Mile Run~~	~~Braddock Road~~	~~Not Coded~~
41	CE3013	489	POTYDS	Construct	Metro Station	Potomac Yard		~~2021~~ 2022
42	CE2188	493		Construct	Park-and-Ride ~~Lot~~ Garage	Springfield CBD	vic. I-95 & Old Keene Mill Road	~~2022~~ 2023
43	CE2871	670		Construct	Park-and-Ride Lot	Dulles Town Center	300 Spaces	~~2014~~ 2019 complete
44		499		Construct	Park and Ride Lot	Arcola Center 300 spaces		~~2015~~ 2024
45	CE1981	503	SILVER 2	Construct	Dulles Corridor Metrorail	Wiehle-Reston East Station	Ashburn Station	~~2020~~ 2022

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
(transit)

1/10/2022

	PIT Project ID	ConID	Scenario	Improvement	Facility	From	To	Projected Completion Date
46	CE3700	1018	SILVER 2	Construct	Park-and-Ride Garage	Herndon-Monroe Station		2020
47	CE3700	1019	SILVER 2	Construct	Park-and-Ride Garage	Innovation Station	2000+ parking spaces	2020
48	CE2831	629	POTSHRS	Construct	VRE - Potomac Shores Commuter Rail Station	Potomac Shores	Prince William County	~~2020~~ 2022
49	CE2930	505	VANDBRT	Construct	West End Transitway (City Funded)	Van Dorn Street Metro	Pentagon ~~& Landmark~~	2026 & 2035
50	CE2930	1034	VANDBRT2	Construct	West End Transitway Phase II (Southern Segment)	Van Dorn Street Metro	Landmark Mall	2026
51	CE3071	507	NRS	Construct	Landmark Transit Center	Duke Street and Van Dorn Street		2023
52	CE2933	508	ALEXBUS	Implement	DASH Service Expansion	citywide		~~2020~~ 2030
53		820	BELTHOT	Implement	Beltway HOT lanes transit service			2020
54		821	BELTHOT	Implement	Beltway HOT lanes transit service			2030
55	CE2932	509	DUKEBUS	Construct	Duke Street Transitway	King Street Metro	Fairfax County Line	~~2024~~ 2027
56	CE2695	672		Construct	Leesburg Park and Ride Lot (new location)	Crosstrails Blvd (approx)	300 Spaces	2018
57	CE3357	673		Construct	Sterling Park and Ride Lot		200 Spaces	~~2014~~ 2019 complete
58		674		Construct	One Loudoun Park and Ride Lot	VA 7 & Loudoun County Parkway	200 Spaces	2019
59	CE3359	675		Study	Western Loudoun Park and Ride Lot		250 Spaces	Not Coded
60	CE3484	797	I66HOTI	Implement	I-66 Corridor Enhanced Bus Service (details shown with project description sheet)	Inside the beltway		2025
61	CE3484	798	I66HOTI	Implement	I-66 Corridor Enhanced Bus Service (details shown with project description sheet)	Inside the beltway		~~2030~~ 2040
62	CE3448	799	I66HOTO	Implement	I-66 Corridor Enhanced Bus Service (details shown with project description sheet)	Outside the beltway		~~2021~~ 2022

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (transit)

1/10/2022

	PIT Project ID	ConID	Scenario	Improvement	Facility	From	To	Projected Completion Date
63	CE3448	800	I66HOTO	Implement	I-66 Corridor Enhanced Bus Service (details shown with project description sheet)	Outside the beltway		~~2025~~ 2030 & 2040
64	CE3448	801		Construct	I-66 Corridor Park and Ride lot	Haymarket		2021
65	CE3448	802		Construct	I-66 Corridor Park and Ride lot	University Blvd. in Gainesville		2021
66	CE3448	803		Construct	I-66 Corridor Park and Ride lot	Balls Ford Road in Manassas		2021
67	CE3448	804		Expand	I-66 Corridor Park and Ride lot	Prince William Pkwy (Cushing Rd)		~~2021~~ 2040
68	CE3448	806	NRS	Construct	I-66 Corridor Park and Ride garage	Monument Drive	garage replaces surface lot	~~2021~~ 2023
69	CE3496	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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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (highway)

1/10/2022

	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
DDOT													
70	CE2860	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						~~2020~~ 2022
71	3232	663	DS45		Reduce Capacity	Adams Mill Rd. NW	Kenyon	Klingle			3	2	2016 Complete
72	3232	832	in base		Reduce Capacity - bike lanes	Blair Road NW	Peabody St. NW	Aspen St. NW			3	2	2021
73	3232	705	DS12		Reduce Capacity	Brentwood Parkway NE	6th Street/Penn Street	9th Street			2	1	2016 Complete
74	3232	1008	DS28		Reduce Capacity - bike lanes	Dalecarlia Pkwy NW	Loughboro Road	Westmoreland Circle			4	2	~~2020~~ 2040
75	6315	567	DP16		Reduce Capacity	East Capitol Street	40th Street	Southern Ave			6	4	2021
76	6195	710			Reduce Capacity	Florida Avenue NE	2nd Street	3rd Street			6	5	~~2019~~ 2023
77	6195	717	DS13		Reduce Capacity	Florida Avenue NE	3rd Street	West Virginia Avenue			6	4	~~2019~~ 2023
78	3232	1004	DP41		Reduce Capacity - bike lanes	Florida Ave NE	West Virginia Ave	14th St			3	2	2019 Complete
79	3232	860	DS23		Reduce Capacity - bike lanes	Harewood Road NW	Rock Creek Church Road NW	North Capitol Street			2	1	~~2020~~ 2022
80	CE3653	949	DP37		Reduce Capacity - bike lanes	Irving Street NE/NW	Michigan Avenue NE	Warder Street NW			6	4	2020 Completed
81	3212	7839	DS39		Reduce Capacity - bike lanes	Kenyon St NW, Irving, St NW and Michigan St NE Protected Bike Lanes	Warder St NW	4th St NE	3	3	8	6	2020 Completed
82	3232	835	DP22		Reduce Capacity - bike lanes	Louisana Avenue NW	Columbus Circle NE/ Mass Ave NE	Constitution Avenue NW			4	3	~~2020~~ 2040
83	CE3075 6014	585	DS6		Reduce Capacity	Maryland Ave. NE	6th St. NE	15 St. NE			4	2	~~2019~~ 2021
84	3212	7824	DS41		Reduce Capacity - Bus Lanes	Martin Luther King Jr. Ave SE	W Street	Redwood Street	3	3	4	2	2020 Completed

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (highway)

1/10/2022

	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
85	3232	1006	DS30		Reduce Capacity - bike lanes	Mount Olivet Rd NE	Brentwood	West Virginia Ave			4	3	~~2020~~ 2022
86	3232	1010	DP40		Reduce Capacity - bike lanes	Nebraska Ave NW	New Mexico Ave	Loughboro Road			4	3	~~2020~~ 2022
87	CE3399	608			Reconstruct	New Jersey Avenue NW 1-way to 2-way	H Street NW	N Street NW					~~2020~~ 2021
88	CE3081	842	DS26		Reduce Capacity - Streetcar	New Jersey Avenue NW	H St NW	K Street NW			3 lanes 1-way	1 lane each 2-way	~~2030~~ 2040
89	3232	707	NRS		Reduce Capacity	New Jersey Avenue NW	H Street	Louisiana Ave			4	2	~~2020~~ 2021
90	3212	7836	DS42		Reduce Capacity -	Park Place/5th Street NW	Grant Circle	Kenyon St NW	3	3	2	1	2022
91	CE3447	712	DS15		Reduce Capacity	Pennsylvania Avenue NW	17th Street	18th Street			6	4	~~2021~~ 2025
92	CE3447	713	DS14		Reduce Capacity	Pennsylvania Avenue NW	18th Street	20th Street			5	4	~~2020~~ 2025
93	CE3447	714	DS18		Reduce Capacity	Pennsylvania Avenue NW	20th Street	26th Street			6	4	~~2021~~ 2040
94	CE3447	715	DS16		Reduce Capacity	Pennsylvania Avenue NW	26th Street	28th Street			5	4	~~2021~~ 2040
95	CE3447	716	DS17		Reduce Capacity	Pennsylvania Avenue NW	28th Street	29th Street			4	2	~~2021~~ 2040
96	CE3654	947	DP35		Reduce Capacity - bike lanes	Pennsylvania Ave SE	2nd Street SE	14th Street SE	2	2	6	4	~~2020~~ 2023
97	3232	1009	DP36A		Reduce Capacity - bike lanes	Pennsylvania Ave SE	2nd St	17th St.			8	6	2021
98	CE3654	948	DP36		Reduce Capacity - bike lanes	Pennsylvania Ave SE	14th Street SE	Barney Circle			8	6	~~2020~~ 2024
99	3423	541	DP9A	AW011, AW024A, AW001A, AW025A, CKTB6	Widen	South Capitol Street Corridor: Frederick Douglas Bridge	Independence Avenue (East)	Martin Luther King, Jr. Blvd. (west)	2	2	5	6	~~2021~~ 2025
100	5803	542	DP9C		Construct	South Capitol Street Intersection	at Potomac Avenue						~~2021~~ 2022

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (highway)

1/10/2022

	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
101	6114	609			Reduce Capacity	South Capitol Street	Firth Sterling Ave.	Southern Ave Maryland state line			5	~~4~~ 5	~~2015~~ 2022
102	6038	543	DP9D		Construct	Suitland Parkway interchange	at Martin Luther King, Jr. Boulevard to complete movements						2021
103	3212	7825	DS43		Reduce Capacity -	Virginia Ave NW	Rock Creek and Potomac Pkwy NW	18th St NW	3	3	6	5	2021
104	3212	7837	DS44		Reduce Capacity - bike lanes	Warder Street/7th Street NW	Kenyon St NW	New Hampshire Ave NW	4	4	2	1	2022
105	3232	709	DS19		Reduce Capacity	Wheeler Road SE	Alabama Avenue	Southern Avenue			4	2	~~2020~~ 2021
106	CE3077	558	DP42	ED0C2A	Reduce Capacity	C Street/N. Carolina Avenue	Oklahoma Avenue	14th Street NE			5	3	~~2020~~ 2022
107	CE2813	604	DS32		Construct	F Street NW	2nd Street NW	3rd Street NW			0	2	~~2018~~ 2019 Complete
108	CE3081	841	DP25		Reduce Capacity - Streetcar	H Street NE/NW	3rd Street NE	New Jersey Ave NW			6	4	~~2030~~ 2040
109	3212	11116	DP43A		Reduce Capacity Bus Lanes	H Street NW	Pennsylvania Ave	Connecticut Ave	2	2	4	3	2021
110	3212	11117	DP43B		Reduce Capacity Bus Lanes	H Street NW	Connecticut Ave	Vermont Ave	2	2	4	2	2021
111	3212	11118	DP43C		Reduce Capacity Bus Lanes	H Street NW	Vermont Ave	15th Street	2	2	4	3	2021
112	3212	11119	DP43D		Reduce Capacity Bus Lanes	H Street NW	15th Street	14th Street	2	2	3	2	2021
113	CE3196	582	DS27		Reduce Capacity	H St. NW Peak Period Bus-Only Lanes Pilot Project	19th St NW	14th St NW	3	3	5	4	2019 Complete
114	CE3196	583	DP38		Reduce Capacity	I St. NW Peak Period Bus Only Lanes Pilot Project	13th St. NW	Pennsylvania Ave. NW	2	2	4	3	2019 Complete
115	3212	11120	DP44A		Reduce Capacity Bus Lanes	I Street NW	13th Street	14th Street	2	2	3	2	2021
116	3212	11121	DP44B		Reduce Capacity Bus Lanes	I Street NW	16th Street	Connecticut Ave	2	2	3	2	2021
117	3212	11122	DP44C		Reduce Capacity Bus Lanes	I Street NW	17th Street	18th Street	2	2	3	2	2021

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (highway)

1/10/2022

									Facility		Lanes		
	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Fr	To	Fr	To	Completion Date
118	3212	11123	DP44D		Reduce Capacity Bus Lanes	I Street NW	19th Street	20th Street	2	2	3	2	2021
119	CE3652	946	DP34		Reduce Capacity - bike lanes	K Street NW	~~3rd Street NW~~ 7th St NW	1st Street NE			~~6~~ 4	~~4~~ 2	~~2020~~ 2021
120	CE3081	844	DP26A		Reduce Capacity - Streetcar	K Street NW	New Jersey Avenue NW	7th Street NW			3	2	~~2030~~ 2040
121	CE3081	845	DP27		Reduce Capacity - Transitway	K Street NW	9th Street NW	12th St NW			4	2	~~2021~~ 2025
122	CE3081	846	DP28		Reduce Capacity - Transitway	K Street NW	12th St NW	21st St NW			6	4	~~2021~~ 2025
123	CE3081	847	DP29		Reduce Capacity - Streetcar	K Street NW	21st St NW	25th Street NW			4	2	~~2030~~ 2040
124	CE3081	848	DP30		Reduce Capacity - Streetcar	K Street NW	25th Street NW	29th Street NW			6/4	4	~~2030~~ 2040
125	CE3081	849	DP31		Reduce Capacity - Streetcar	K Street NW	29th Street NW	Wisconsin Avenue NW			4	2	~~2030~~ 2040
126	3232	1007	DS29		Reduce Capacity - bike lanes	K St NE	1st St	8th St			3	2	2019 Complete
127	3212	10675	DS40		Reduce Capacity - Bus Lanes	M Street SE	10th Street	Half Street	3	3	6	4	2020 Completed
128	3232	1005	DS31		Reduce Capacity - bike lanes	M St SE	Half St	11th St			6	5	~~2020~~ 2022
129	3232	701	DS8		Reduce Capacity	6th Street NE	Florida Avenue	K Street			2	1	2016 Complete
130	3232	829	DS21		Reduce Capacity - bike lanes	6th Street NW	Constitution Avenue	Massachusetts Avenue			6 peak- 4 offpeak	4 peak - 2 offpeak	~~2019~~ 2030

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2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS (highway)

1/10/2022

	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
131	3232	830	DS22		Reduce Capacity - bike lanes	6th Street NW	Massachusettes Avenue	Florida Ave NW			4	~~2~~ 3	~~2019~~ 2030
132	3232	702	DS9		Reduce Capacity	7th Street NW	New York Avenue	N Street			4	2	~~2016~~ 2021
133	3232	1013	Within DP39		Reduce Capacity - bike lanes	9th St NW	New York Avenue NW	H Street NW			3	2	2030
134	3232	~~1013~~ 831	NRS		Reduce Capacity - bike lanes	9th St NW	Massachusetts Ave	Florida Ave			4	~~2~~ 3	~~2019~~ 2030
135	3232	1012	DP39		Reduce Capacity - bike lanes	9th St NW	Constitution Ave	Massachusetts Ave			6/4	4/2	~~2019~~ 2030
136	3232	704	DS11		Reduce Capacity	14th Street NW	Florida Avenue	Columbia Road			4	2	2016 Complete
137	3212	7820	DS35		Reduce Capacity - bike lanes	15th Street Cycletrack	Pennsylvania Ave NW	East Basin Dr. SW	3	3	4	3	2021
138	6638	839	DP23		Reduce Capacity - Bus Priority	16th Street NW	Arkansas Avenue NW	Columbia Road NW			6	4	~~2020~~ 2022
139	6638	840	DP24		Reduce Capacity - Bus Priority	16th Street NW	Columbia Road NW	W Street NW			5	4	~~2020~~ 2022
140	6638	838	NRS		Reconstruct	16th Street NW	W Street NW	H Street NW			4	4	2022
141	CE3651 3212	944	DP32		Reduce Capacity - bike lanes	17th Street NW	New Hampshire Avenue	K St. NW	3	3	2	1	~~2020~~ 2021
142	3212	7821	DS37		Reduce Capacity - bike lanes	20th St. NW Bike Lanes	G St.	Massachusetts Ave.	4	4	4	2	2022
143	3212	7827	DS38		Reduce Capacity - bike lanes	21st St. NW	Constitution Ave NW	Massachusetts Ave NW	3	3	3	2	2021

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MDOT													
		Interstate											
144		126	MI2Q	MO8391	Construct	I 270 Interchange	at Watkins Mill Road		1	1	8	8	2020
145	6432 CE1186	125	MI2U1	AW0731	Construct/Widen	I 270 Toll Lanes	I 495	I 270Y on the entire western spur, and on the eastern spur from MD187 north to the main I-270	1	1	4 + 2 HOV	4 + 4 HOT ~~+2 HOV + 4 ETL~~	2025
146	6432 CE1186	892	MI2U2	AW0731	Construct/Widen	I 270 Toll Lanes	I 270Y	I 370	1	1	10 + 2 HOV	10 + 4 HOT ~~+2 HOV + 4 ETL~~	2025
147	6432 CE1186	893	MI2U3	AW0731	Construct/Widen	I 270 Northbound Toll Lanes	I 370	Middlebrook Road	1	1	3 + 1 HOV NB	3 + 2 HOT NB ~~ETL~~	~~2025~~ 2030
148	6432 CE1186	893	MI2U4	AW0731	Construct/Widen	I 270 Southbound Toll Lanes	Middlebrook Road	I-370	1	1	4 SB	4 + 2 HOT SB ~~+ 2 ETL~~	~~2025~~ 2030
149	6432 CE1186	894	MI2U5	AW0731	Construct/Widen	I 270 Northbound Toll Lanes	Middlebrook Road	MD 121	1	1	2 + 1 HOV NB	2 + 2 HOT NB ~~+ 1 HOV NB +2 ETL~~	~~2025~~ 2030
150	6432 CE1186	894	MI2U6	AW0731	Construct/Widen	I 270 Southbound Toll Lanes	MD 121	Middlebrook Road	1	1	3 SB	3 + 2 HOT SB ~~+ 2 ETL~~	~~2025~~ 2030
151	6432 CE1186	895	MI2U7	AW0731	Construct/Widen	I 270 Toll Lanes	MD 121	I 70 / US 40	1	1	4	4 + 4 HOT ~~+4 ETL~~	~~2025~~ 2030
152	6444	952	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 complete
153	6444	953	MI2TSB7		Construct	I270 southbound auxiliary lane (innovative congestion management)	Md 28 on-ramp	MD 189 off-ramp	1	1			~~2019~~ 2021
154	6444	954	MI2TSB8		Construct	I270 southbound (innovative congestion management)	MD 189 on-ramp	Montrose Road off-ramp	1	1			2019 complete
155	6444	955	MI2TSB12		Construct	I270 southbound (innovative congestion management)	North of Montrose Road	Democracy Boulevard	1	1			2019 complete

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156	6444	956	MI2TNB1		Construct	I270 northbound (innovative congestion management)	Democracy Boulevard on-ramp	North of Montrose Road slip ramp to local lanes	1	1			2019 complete
157	6444	957	MI2TNB2		Construct	I270 northbound auxiliary lane (innovative congestion management)	MD 189 on-ramp	MD 28 off-ramp	1	1			~~2019~~ 2021
158	6444	958	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~~ 2021
159			MI2TNB3		Construct	I270 northbound (innovative congestion management)	Shady Grove Road	I-370 off-ramp	1	1			2019
160			MI2TNB4		Construct	I270 northbound (innovative congestion management)	MD 124 on-ramp	Watkins Mill Road off-ramp	1	1			2019
161			MI2TNB4		Construct	I270 northbound auxiliary lane (innovative congestion management)	Watkins Mill Road on-ramp	Middlebrook Road westbound off-ramp	1	1			2019
162	6444	962	MI2TNB5		Construct	I270 northbound (innovative congestion management)	MD 121	Comus Road Bridge	1	1			~~2019~~ 2021 complete
163		210	MI4		Widen	I 70	Mt. Phillip Road	West of I 270	1	1	4	6	2035
164	CE2250	151	MI4a	FR5801	Reconstruct	I 70	at MD 144FA, Meadow Road, and Old National Pike		1	1	6	6	~~2025~~ 2022
165					Study	I-295 Toll Lanes- planning study	US 50	I-95 (in Baltimore)					Not Coded
166	CE1479	108	MI1P MI1PR	PG3331	Construct	I-95/I-495	at Greenbelt Metro Station		1	1	8	8	2030
167	6432 CE3281	696	MI1Q	AW0731	Construct/Widen	I 495 Toll Lanes	Virginia State line/Potomac River (including American Legion Bridge)	I 270Y - western spur	1	1	8/10	8/10 + 4 ~~ETL~~ HOT	2025
168	6432 CE3281	856	MI1R	AW0731	Construct/Widen	I 495 Toll Lanes	I 270Y - western spur	MD 355	1	1	6	6 + 4 ~~ETL~~ HOT	2025
169	6432 CE3281	905	MI1S	AW0731	~~Construct/Widen~~ Study	I 495 Toll Lanes	MD 355	I 95	1	1	8	8 + 4 ~~ETL~~ HOT	~~2025~~ ~~2030~~ not coded
170	6432 CE3281	906	MI1T	AW0731	~~Construct/Widen~~ Study	I 95 / I 495 Toll Lanes	I 95	Baltimore Washington Parkway	1	1	8	8 + 4 ~~ETL~~ HOT	~~2025~~ ~~2030~~ not coded

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	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
171	CE1182	907	MI1U	AW0731	~~Construct/Widen~~ Study	I 95 / I 495 Toll Lanes	Baltimore Washington Parkway	Glenarden Parkway	1	1	8	8 + 4 ~~ETL~~ HOT	~~2025~~ ~~2030~~ not coded
172	CE1182	908	MI1V	AW0731	~~Construct/Widen~~ Study	I 95 / I 495 Toll Lanes	Glenarden Parkway	MD 202F	1	1	10	10 + 4 ~~ETL~~ HOT	~~2025~~ ~~2030~~ not coded
173	CE1182	909	MI1W	AW0731	~~Construct/Widen~~ Study	I 95 / I 495 Toll Lanes	MD 202F	Potomac River (not including Wilson Bridge)	1	1	8	8 + 4 ~~ETL~~ HOT	~~2025~~ ~~2030~~ not coded
		Primary											
174	3108	139	MP10A	PG2531	Reconstruct	US 1	College Avenue	MD 193	2	2	4	4	2023
175	CE1202	935 936	NRS	PG2531	Reconstruct	US 1	MD 193	I 95 / I 495	2	2	4	4	~~2030~~ 2035
176	CE1200	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~~ 2045
177	CE1200	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~~ 2045
178	CE2246	645	NRS		Reconstruct	MD 4 Interchange	at MD 235		2	2	2	~~2~~ 4	2031
179		127	MP2C	AT1981	Widen	MD 3 Robert Crain Highway	I595/US 50/US 301	Anne Arundel County Line	2	2	4	6	2035
180	CE1194	355	NRS	PG9171	Construct	MD 4	at Westphalia Road		2	5	4	6	2040
181	3547	393	NRS	PG6181	Construct	MD 4 Pennsylvania Avenue	at Suitland Parkway		5	5	4	4	2020
182	CE1194	933	NRS	PG9171	Construct	MD 4 Interchange	at Dower House Road		5	5	4	6	2040
183	CE1194	212	MP3A	PG9171	Widen	MD 4 Pennsylvania Avenue	I-95/I-495	MD 223	5	5	4	6	2040
184	CE1196 3469	440	NRS		Construct	MD 5	at Earnshaw/Burch Hill Roads		2	5	4	6	~~2030~~ 2035
185	3469 CE1196	205	MP4F	PG3916	Widen/Upgrade	MD 5 Branch Avenue	US 301 at T.B.	North of I95 /I 495	2	5	4	6	~~2030~~ 2035
186		354	NRS	PG1751	Construct	MD 5	at MD 373 and Brandywine Road		2	5	4	6	2019
187	3469 CE1196	441	NRS		Construct	MD 5 Branch Avenue	at Surratts Road		2	5	4	6	~~2030~~ 2035

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									Facility		Lanes		
	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Fr	To	Fr	To	Completion Date
188	CE3567	914	MP15B	FR1881	Construct/Widen	US 15	MD 26	North of Biggs Ford Road	5	5	4	6	~~2045~~ 2040
189	CE3566	915	MP15A	FR1881	Construct/Widen	US 15	US 340 / South Jefferson Street	MD 26	5	5	4	6	2030
190	CE913	358	MP15	FR5711	Construct	US 15 Interchange	at Monocacy Blvd./Christophers Crossing		3	3	4	4	~~2019~~ 2018 complete
191	3641 CE1197	211	NRS	MO8911	Construct	US 29 Columbia Pike	at Musgrove/Fairland Road				6	6	2035
192	CE1197	551			Construct	US 29 Columbia Pike	at Tech Road / Industrial Road		5	5	6	6	2030
193	CE1197	552, 919, 918	MP19A MP19B MP19C		Construct	US 29 Columbia Pike Interchange	at Stewart Lane, Greencastle Road, & Blackburn Road		5	5	6	6	2045
194		647	~~MP5e~~ NRS		Study	US 29 Columbia Pike	North of MD 650 New Hampshire Avenue	Howard County Line	5	5	6	6	2045
195	CE3425	941	NRS	PG0641	Reconstruct	US 50	District of Columbia line	I 95 / I 495	2	2	4	4	2035
196	CE1210	858	FP2B		Widen	MD 85	South of English Muffin Way	Crestwood Drive/Shockley Drive	2	2	2/4	4	2035
197	6483	391	FP2A	FR3881	Construct/Widen	MD 85 Buckeystown Pike	Crestwood Drive/Shockley Drive	Spectrum Drive	2	2	~~4~~	6	2022
198	CE1210	859	FP2C	FR3881	Construct/Widen	MD 85 Buckeystown Pike	Spectrum Drive	North of Grove Road	2	2	~~4~~	6	2035
199	CE1190	387	MP14	PG6191	Reconstruct	MD 202	at Brightseat Road		2	2	6	6	2045
200	4879	353	NRS	PG7001	Upgrade	MD 210	at Kerby Hill Road/Livingston Road		5	5	6	6	2021
201	4879	124	MP6D	PG2211	Upgrade	MD 210 Indian Head Highway	I-95/495	MD 228	2	5	6	6	2040
202	5527	384	MP18		Construct	US 301 Gov. Nice Bridge	Charles County, MD	King George County, VA	2	2	2	4	2023
203	CE1004	940	MP8E		Widen	US 301	Harry Nice Bridge	I-595 / US 50	2	5	4/6	6	2045
204	CE2239	939	NRS	CH2031	Reconstruct	US 301 Interchange	at MD 5 Business/MD 228		2	5	6	6	~~2030~~ 2040
205	CF2239	938	NRS	CH2031	Reconstruct	US 301	at MD 5 (south junction)		2	5	6	6	~~2030~~ 2035
206	CE1619	937	NRS		Construct	US 301 Interchange	at MD 197		5	5	6	6	~~2030~~ 2035
		Secondary											
207	3476 CE1462	206	MS2F	MO8861	Widen	MD 28 Norbeck Road	MD 97	MD 182	2	2	2	2-4	2045
208	3476 CE1462	925	NRS	MO8861	Reconstruct	MD 28 Norbeck Road	MD 182	Norwood Road	2	2	4	4	2045
209	3476 CE1462	926	NRS	MO8861	Reconstruct	MD 198	Norwood Road	MD 650	2	2	2	2	2045
210	3476 CE1462	927	NRS	MO8861	Reconstruct	MD 198	MD 650	Old Columbia Pike	2	2	2	2	2045

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211	3476 CE1462	928	NRS	MO8861	Reconstruct	MD 198	Old Columbia Pike	US 29A	2	2	4	4	2045
212	3476 CE1462	929	NRS	MO8861	Reconstruct	MD 198	US 29A	I 95	2	2	4	4	2045
213	3106	137	MP12C	MO7461	Construct	MD 97 Brookeville Bypass	Gold Mine Road	North of Brookville	0	2	0	2	2021
214	CE2618	931	NRS	MO2241	~~Widen~~ Reconstruct	MD 97	MD 390	MD 192 / Forest Glen Road	2	2	6/7	~~7/8~~ 6/7	~~2025~~ 2030
215	CE1211	392	NRS	MO8521	Upgrade	MD 97 Georgia Avenue Interchange	at MD 28 Norbeck Road		2	2	6	6	2035
216		135	NRS	MO8541	Upgrade	MD 97 Georgia Avenue Interchange	at Randolph Road		2	2	6	6	2018
217	CE1203	115	MS32		~~Widen~~ Reconstruct	MD 117 Clopper Road	I270	Metropolitan Grove Road	~~2~~ 3	~~2~~ 3	~~2/4~~ 4	4	2030
218	CE1203	921	NRS		Reconstruct	MD 117 Clopper Road	Metropolitan Grove Road	West of Game Preserve Road	3	3	~~2/4~~ 2	~~2/4~~ 3	~~2030~~ 2035
219	3057 CE1206	118	MS6B	MO632	Widen	MD 124 Woodfield Road	Midcounty Highway	South of Airpark Drive	3	3	2	6	2035
220	3057 CE1206	1	MS6D	MO6323	Widen	MD 124 Woodfield Road	North of Fieldcrest Road	Warfield Road	3	3	2	6	2035
221	CE2253	356	MS35	PG6911	Widen	MD 197 Collington Road	MD 450	Kenhill Drive	2	2	2	4	~~2025~~ 2030
222	CE2261	924	MS36A	FR5491	Construct/Widen	MD 180	Greenfield Drive	I 70 (west junction)	4	4	2	4	~~2030~~ 2035
223		~~857~~	~~MS36B~~	~~FR6781~~	~~Construct/Widen~~	~~MD 180~~	~~I 70 (west junction)~~	~~Ballenger Center Drive~~	~~4~~	~~4~~	~~2/4~~	~~4~~	~~2021~~
224	CE1204	359	MS10B	PG9491	Widen	MD 201 Edmonston Rd. / Old Baltimore Pike	Cherrywood Lane	Ammendale Way	3	3	2/3	4	2045
225	CE1204	965	MS10E	PG9491	Construct/Widen	MD 201 Extended (Cedarhurst Dr.)	Muirkirk Road	US 1	3	3	2	4	2045
226	CE2248	942	NRS	PG5811	Reconstruct	MD 223	MD 4	Steed Road	3	3	2	2	2045
227	CE1207	175	MS18D	PG6541	Widen	MD 450 Annapolis Road	Stonybrook Drive	west of MD 3	2	2	2	4	~~2020~~ 2030
228		516	same as MC15B	MO3441	Construct	Montrose Parkway	Randolph Road	East of Parklawn Drive	0	2	0	4	2020
229	6384	152	BRAC nrs	MO5931	Reconstruct	BRAC Intersection Improvements near the National Naval Medical Center, Bethesda			2	2			2020 complete

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		Frederick County											
		Secondary											
230		648	MS36C	FR5491	Widen/Upgrade	MD 180 Ballenger Creek Pike	Ballenger Center Drive	Corporate Drive	3	2	2	4	2020
231		993	in FS3		Widen/Upgrade	Christopher's Crossing	Whittier Drive	Poole Jones Road	3	3	2	4	2024
232		880	FS3		Expansion	Christopher's Crossing	Walter Martz Road	Thomas Johnson Drive	3	3	0 to 2	4	2020
233		879	NRS		Construct	Christopher's Crossing	Shookstown Road	Rocky Springs Road	3	3	0	4	2026
234		651	FS2a		Widen	Monocacy Boulevard	Schifferstadt Boulevard	Gas House Pike	3	3	2	4	2019
235		691	NRS	F3	Construct	Spectrum Drive	Technology Way	MD 85 Buckeystown Pike	0	4	0	2	2030
		Montgomery County											
		Secondary											
236	3498	208	NRS		Construct	Burtonsville Access Road	MD 198 Spencerville Road	School Access Road in Burtonsville	0	4	0	2	2025
237	5944	597	NRS		Construct	Century Boulevard	Current terminus south of Oxbridge Tract	Intersection with future Dorsey Mill Road	0	3	0	4	~~2020~~ 2013 Completed
238	CE1577	199	MC43		Construct	Dorsey Mill Road Bridge over I-270	Century Blvd.	Milestone Center Dr.	0	3	0	4	~~2020~~ 2030
239	3049	112	MC7A		Widen	Goshen Road South	South of Girard Street	1000 feet north of Warfield Road	3	3	2	4	~~2025~~ 2030
240					Widen	Little Seneca Parkway	MD355	Observation Drive	3	3	2	4	2035
241	~~CE1245~~	~~172~~	~~MC11A~~		~~Construct~~	~~M 83 MidCounty Highway Extended~~	~~MD 27 Ridge Road~~	~~Middlebrook Road~~	~~0~~	~~2~~	~~0~~	~~4 6~~	~~2025 2045~~
242	~~CE1245~~	~~204~~	~~MC11D~~	~~509337-1~~	~~Construct~~	~~M 83 Midcounty Highway Extended~~	~~Middlebrook Road~~	~~Montgomery Village Avenue~~	~~0~~	~~2~~	~~0~~	~~4 6~~	~~2025 2045~~
243		113	MC12F		Widen	MD 118 Germantown Road Extended	MD 355	M 83 at Watkins Mill Road	2	2	3	4	2020
244	CE1229	161	MC14G		Widen	Middlebrook Road Ext.	MD 355	M 83	2	2	3	4	~~2025~~ 2045
245	3703	214	MC15B		Construct	Montrose Parkway East	Eastern Limit of MD 355/Montrose Interchange	Veirs Mill Road/Parkland Road Intersection	0	2	0	4	~~2022~~ 2045
246	7503				Construct	Extend Observation Drive	Waters Discovery Lane	West Old Baltimore Road	0	3	0	4	2035
247	7503				Construct	Extend Observation Drive	Little Seneca Parkway	Existing Observation Drive near Stringtown Road	0	3	0	2	2045
248	CE2912 5948	428	NRS		Construct	Platt Ridge Drive Extended	Jones Bridge Road	Montrose Driveway			0	2	2018 Completed
249	CE1236	119	MC34		Widen	Snouffer School Road	MD 124 Woodfield Road	Centerway Road	3	3	2	4	~~2019~~ 2021
		Urban											

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250	5985	421	NRS	501204-1	Construct	Executive Blvd Extended East	MD 355 Rockville Pike	New Nebel Street Extended			0	4	~~2020~~ 2026
251	5985	422	NRS		Construct	Executive Blvd Extended West	MD 187 Old Georgetown Road	Marinelli Road			0	4	~~2020~~ 2026
252	5986	424	NRS	501116-6	Construct	Hoya Street	Executive Blvd	Montrose Parkway			0	4	~~2020~~ 2030
253	5986	425	NRS	501116-1	Construct	Main Street / Market Street	MD 187 Old Georgetown Road	MD 355 Rockville Pike			0	2	~~2020~~ 2030
254	5986	423		501116-5	Construct	MD 187 Old Georgetown Road	MD 187 Old Georgetown Road	Nicholson Lane/Tilden Lane			0	6	~~2020~~ 2030
		Prince George's County											
		Secondary											
255	6367	361	PGS3a		Widen	Addison Road	Walker Mill Road	MD 214 Central Avenue	3	3	2	4	~~2023~~ 2026
256	6367	362	NRS		Reconstruct	Addison Road	Sherieff Road	MD 704	4	4	2	2	~~2025~~ 2028
257	CE1270	386	PGS5		Construct	Allentown Road Relocated	MD 210 Indian Head Highway	Brinkley Road		3		4	~~2025~~ 2028
258	CE1320	365	PGS73	PGS73	Widen	Ardwick-Ardmore Road	MD 704	91st Ave.	4	4	2	4	~~2025~~ 2030
259	CE1272	388	PGS9a		Widen	Bowie Race Track Road	MD 450 Annapolis Road	~~Old Chapel Road~~ Clearfield Road	4	4	2	4	~~2025~~ 2024
260	CE1272	~~389~~	~~PGS9b~~		~~Widen~~	~~Bowie Race Track Road~~	~~MD 197 Laurel-Bowie Road~~	~~Old Chapel Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2025~~
261	CE1273	~~390~~	~~PGS10~~		~~Widen~~	~~Brandywine Road~~	~~Piscataway Road (north of)~~	~~Thrift Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
262	CE1274	~~418~~	~~PGS12~~		~~Widen~~	~~Brinkley Road~~	~~MD 414 St. Barnabas Road~~	~~MD 337 Allentown Road~~	~~3~~	~~3~~	~~4~~	~~6~~	~~2020~~
263	CE1275	~~134~~	~~PGS13~~		~~Construct~~	~~Brooks Drive Extended~~	~~Marlboro Pike~~	~~Rollins Avenue~~	~~0~~	~~3~~	~~0~~	~~4~~	~~2020~~
264	CE1277	140	PGS16a		Construct	Campus Way North	Lake Arbor Way	south of Lottsford Road	0	4	0	4	2023
265	CE1277	138	PGS16b		Construct	Campus Way North Extended	south of Lottsford Road	Evarts Drive	0	4	0	4	2020
266	CE1278	141	PGS17		Widen	Cherry Hill Road	Powder Mill Road	Selman Road	3	3	2	4	2019 Complete
267	CE1279	142	PGS18		Widen	Church Road	Woodmore Road	Central Ave. (MD 214)	4	4	2	4	~~2021~~ 2028
268	CE1280	144	PGS20b		Widen	Columbia Park Road	US 50	Cabin Branch Road	4	4	2	4	~~2020~~ 2014 Complete
269	CE1280	143	PGS20a		Widen	Columbia Park Road	Cabin Branch Road	Columbia Terrace	4	4	2	4	2020

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270	CE1281	145	PGS21a		Widen	Contee Road	US 1	MD 201 Virginia Manor Road	4	4	2	4	2018 Complete
271	CE1282	~~146~~	~~PGS22~~		~~Widen~~	~~Dangerfield Road~~	~~Cheltenham Avenue~~	~~MD 223 Woodyard Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
272	CE1283	~~147~~	~~PGS24b~~		~~Widen~~	~~Dower House Road~~	~~Foxley Road~~	~~MD 4 Pennsylvania Avenue~~	~~4~~	~~4~~	~~2~~	~~6~~	~~2025~~
273	CE1283	~~155~~	~~PGS24a~~		~~Widen~~	~~Dower House Road~~	~~MD 223 Woodyard Road~~	~~Foxley Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2025~~
274	CE1284	~~156~~	~~PGS25~~		~~Widen~~	~~Fisher Road~~	~~Brinkley Road~~	~~Holton Lane~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2025~~
275	CE1285	~~157~~	~~NRS~~		~~Construct~~	~~Forbes Boulevard Extended~~	~~south of Amtrak~~	~~MD 193 Greenbelt Road~~	~~0~~	~~4~~	~~0~~	~~4~~	~~2020~~
276	CE1287	~~159~~	~~PGS29~~		~~Widen~~	~~Fort Washington Road~~	~~Riverview Road~~	~~MD 210 Indian Head Highway~~	~~4~~	~~4~~	~~2~~	4	~~2025~~
277	CE1288	~~160~~	~~PGS30b~~		~~Widen~~	~~Good Luck Road~~	~~Cipriano Road~~	~~MD 193 Greenbelt Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2025~~
278	CE1288	162	PGS30a		Widen	Good Luck Road	MD 201 Kenliworth Avenue (east of)	Cipriano Road	4	4	2	4	2025
279	3132	164	PGS34a		Widen	Hill Road	~~MD 214 Central Avenue~~ Consideration Lane	MD 704 ML King Jr Highway	4	4	2	4	2018 complete
280	3132	163	PGS34B		Widen	Hill Road	Consideration Lane	MD 214 Central Avenue	4	4	2	4	~~2018~~ 2028
281	CE1015	~~416~~	~~NRS~~		~~Construct~~	~~Iverson Street Extended~~	~~Wheeler Road~~	~~19th Avenue~~	~~0~~	~~4~~	~~0~~	~~4~~	~~2018~~
282	CE3438	~~666~~	~~PGS35~~		~~Widen~~	~~Karen Boulevard~~	~~Walker Mill Road~~	~~MD 214 Central Avenue~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
283	5806	165	PGS38b		Widen	Livingston Road	Piscataway Creek	Farmington Road	4	4	2	4	~~2020~~ 2025
284	CE1291	417	PGS38a		Widen	Livingston Road	MD 210 Indian Head Highway at Eastover	Kerby Hill Rd.	4	3	2	4	~~2025~~ 2028
285		213	PGS40a		Widen	Lottsford Road	Archer Lane	MD 193 Enterprise Road	3	3	2	4	2021
286			PGS40b		Reduce Capacity - bike lanes	Lottsford Road	MD 202 (Landover Rd.)	Largo Dr. West	3	3	6	4	2020

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287	CE1292	~~166~~	~~PGS39b~~		~~Widen~~	~~Lottsford Vista Road~~	~~MD 704 ML King Jr Highway~~	~~Ardwick-Ardmore Road/Relocated~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
288	CE1295	360	PGP4a		Construct	MD 193 Greenbelt Road	Baltimore-Washington Parkway (ramp to)		0	5	0	4	2025
289	CE1294	167	PGS42		Widen	MD 223 Woodyard Road	Rosaryville Road	Dower House Road	2	2	2	4	~~2020~~ 2017 Complete
290	CE1294	2	PGS42C		Widen	MD 223 Woodyard Road Relocated	Piscataway Creek/Floral Park Road	MD 4 /Livingston Road	3	3	2	4	2017
291	CE1295	169	PGS44b		Widen	Metzerott Road	Adelphi Road	MD 193 University Boulevard	4	4	2	4	2020
292	CE1295	~~168~~	~~PGS44a~~		~~Widen~~	~~Metzerott Road~~	~~MD 650 New Hampshire Avenue~~	~~Adelphi Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
293	CE1296	~~171~~	~~PGS46~~		~~Widen~~	~~Murkirk Road~~	~~US 1 Baltimore Avenue (west of)~~	~~Odell Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
294	CE1297	173	PGS47		Widen	Oak Grove and Leeland Roads	MD 193 Watkins Park Road	US 301 Robert Crain Highway	4	4	2	4	~~2020~~ 2028
295	CE1298	~~174~~	~~PGS48~~		~~Widen~~	~~Old Alexandria Ferry Road~~	~~MD 223 Woodyard Road~~	~~MD 5 Branch Avenue~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2025~~
296	CE1299	649	PGS50		Widen	Old Branch Avenue	MD 223 Piscataway Road (north of)	MD 337 Allentown Road	4	4	2	4	~~2020~~ 2028
297	CE1533	~~395~~	~~PGS90~~		~~Construct~~	~~Old Fort Road Extended~~	~~MD 223 Piscataway Road~~	~~Old Fort Road~~	~~4~~	~~4~~	~~0~~	~~4~~	~~2020~~
298		369	PGS51a		Widen	Old Gunpowder Road	Powder Mill Road	Greencastle Road	3	3	2	4	2018
299	CE1324	193	PGS81		Construct	Presidential Parkway	Suitland Parkway	Melwood Road	0	3	0	6	~~2025~~ 2020 Complete
300	CE1301	~~150~~	~~NRS~~		~~Reconstruct~~	~~Rhode Island Avenue~~	~~MD 193~~	~~US Route 1~~	~~4~~	~~4~~	~~2~~	~~2~~	~~2025~~
301	CE1302	~~176~~	~~PGS56a~~		~~Widen~~	~~Ritchie Road/Forestville Road~~	~~Alberta Drive~~	~~MD 4 Pennsylvania Avenue~~	~~3~~	~~3~~	~~2~~	~~4~~	~~2020~~
302	CE2623	153	PGS55b		Widen	Ritchie-Marlboro Road	White House Road	Old Marlboro Pike	2	2	2	4	~~2020~~ 2028
303	CE1303	~~177~~	~~PGS57~~		~~CE1197)~~	~~Rollins Avenue~~	~~MD 214 Central Avenue~~	~~Walker Mill Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
304	CE1304	178	PGS58		Widen	Rosaryville Road	US 301	MD 223 Woodyard Road	3	3	2	4	2020
305	CE1305	179	PGS60B		Widen	Spine Road	MD 5 Branch Avenue / US 301	MD 381 Brandywine Road	3	3	2	4	~~2025~~ 2020 Complete
306	CE1306	~~109~~	~~PGS61~~		~~Widen~~	~~Springfield Road~~	~~Lanham-Severn Road~~	~~Good Luck Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
307	CE1307	122	~~PGP2~~ NRS		Construct	Suitland Parkway Interchange at	Rena/Forestville Roads		5	5			~~2025~~ 2021 Complete
308	CE1309	181	PGS63		Widen	Sunnyside Avenue	US 1	MD 201 Kenilworth Avenue	4	4	2	4	2022

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309	CE1313	185	PGP5a		Construct	US 50 Columbia Park Road Ramp	wb ramp to Columbia Park Rd						~~2025~~ 2014 Complete
310	CE1314	187	PGS67a		Widen	Van Dusen Road	Contee Road	MD 198 Sandy Springs Road	3	3	2	4	2020
311	CE1314	~~186~~	~~PGS67b~~		~~Construct~~	~~Van Dusen Road Interchange at~~	~~Contee Road~~						~~2025~~
312		188	PGS68		Widen	Virginia Manor Road	Muirkirk Road	Old Gunpowder Road	4	4	2	4	2014
313	CE1316	429	PGS69a		Widen	Walker Mill Road	Silver Hill Road	I 95	3	3	2	4	~~2020~~ 2028
314	CE2624	154	PGS91		Widen	Westphalia Road	MD 4 Pennsylvania Avenue	Ritchie-Marlboro Road	2	2	2	4	~~2020~~ 2028
315	3166	189	PGS70		Widen	Wheeler Road	DC Limits	St. Barnabas Road	3	3	2	4	2018 complete
316	CE1318	~~437~~	~~PGS71~~		~~Widen~~	~~White House Road~~	~~Ritchie-Marlboro Road~~	~~MD 202 Largo-Landover Road~~	~~3~~	~~3~~	~~2~~	~~6~~	~~2020~~
317	CE1319	~~190~~	~~PGS72~~		~~Widen~~	~~Whitfield Chapel Road~~	~~CE1319~~	~~Ardwick-Ardmore Road~~	~~4~~	~~4~~	~~2~~	~~4~~	~~2020~~
318		436	PGS40b		Construct	Woodmore Road	MD 193 Enterprise Road	Church Road	3	3	2	4	2025
	Anne Arundel County												
319			**AA14C**		Widen	US 50 EB only	MD 70	MD 2 NB	1	1	6	7	2019 complete
320			**AA14D**		Widen	US 50	I-97	MD 2	1	1	6	8	2045
321					widen	I-97 HOV lanes	MD 32	US 50/301		2	4	6	
322			AA15a		Widen	I-295	I-195	MD 100	1	1	4	6	2035
323			AA3E		Widen	MD 2	US 50	I-695			4	6	2035
324			AA4e		Widen	MD 3	MD 32	~~St. Stephen's Church Rd~~. MD 424	2	2	4	6	2025
325					Widen	MD 32 HOV?	I-97	Howard County Line		2	6	8	
326			AA6e		Widen	MD 100	Howard Co. Line	I-97		5/1	4	6	2035
327			AA8b		Widen	MD 175	MD 170	~~National Business Parkway~~ MD 295 BW Parkway		2	4	6	2025
328			AA35		Widen	MD 177	MD 2	Lake Shore Dr.			2	4	2045
329			AA30		Widen	MD 198	MD 32	BW Parkway	2	2	2	4	2030
330					Widen	MD 214	MD 424	Shoreham Beach Dr.			2	4	2045
331			AA34a		Widen	MD 713	MD 175	~~Stoney Run Dr.~~ MD 176		2	2	4	2040
	Carroll County												
332			CA1B		Widen	MD 140	Sullivan Road	Market St.		1	6	8	2035
333			CA2a		Widen	MD 26	MD 32	Liberty Reservoir			4	6	2035
334			CA4A		widen	MD 32	MD 26	Howard County Line		2	2	4 5	2040
335			CA5		Widen	MD 97	MD 140	Bachmans Valley Rd.		2	2	4	2035

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	Howard County												
336			HW1b		Widen	I-70	US 29	MD 32	1	1	4	6	2035
337			HW19		Widen	I-95 Peak period shoulder use	MD 32	MD 100	1	1	4	4+1	2035
338			HW20		Widen	US 1	Howard/PG line	Howard/Balt. Co. line			4	6	2045
339			HW10b		Widen	US 29 NB	Middle Patuxent River	Seneca Dr.		5	4	6	2030
340			HW10F		Widen	US 29 NB	Seneca Dr.	MD 100	5	5	5	6	2017 complete
341			HW3c		Widen	MD 32	Cedar Lane	Anne Arundel County Line Brock Bridge Rd.		1	4/6	8	2045
342			HW3B		Widen	MD 32	MD 108	I-70		2	2	4	2021
343			HW3D		Widen	MD 32	I-70	Howard/ Carroll County Line River Rd			2	4	2045
344			HW5F		Widen	MD 100	I-95	AA/Howard Line	1	1	4	6	2035
345			HW6c		Widen	MD 108	Trotter Rd.	Guilford Rd.	2	2	2	4	2035
346			HW7C		Widen	MD 175	Oceano Ave	Howard/AA Col Line			2	4	2045
347			HW8b		Widen	MD 216	High School Access Rd.	Maple Lawn Blvd.		3	2	4	2015
348			HW14c		Widen	Snowden River Parkway	Oakland Mills Road	Broken Land Parkway		3	4	6	2023
349			NRS		Widen	Dorsey Run Rd.	MD 175	CSX RR spur			2	4	2021
	Calvert-St. Mary's MPO												
350	CE2246	644	MP9B	C-SMMPO	Construct	Thomas Johnson Bridge replacement	over the Patuxent River		2	2	2	4	2031
351			MP9C	C-SMMPO	Widen	MD 4 (in St. Mary's County)	Thomas Johnson Bridge	MD 235	2	2	2	4	2031
352			nrs	C-SMMPO	Construct	MD 4/ MD 235 Interchange	in Lexington Park		2	2	--	--	2028
353			MP9D	C-SMMPO	Widen	MD 4 (in Calvert County)	Thomas Johnson Bridge	Patuxent Point Parkway	2	2	2	4	2031
354			nrs	C-SMMPO	Reconstruct	MD 5 Great Mills Project	MD 471 Indian Bridge Road	MD 246 Great Mills Road			2	2	2026
	VDOT												
		Federal Lands											
355	CE3061	433	FED3a		Construct	Manassas Battlefield Bypass	US 29 West of Centreville	East of Gainesville, via 234	0	1	0	4	~~2035~~ 2040
356	CE3061	434	FED3b		Remove/Close	US 29 Lee Highway	Pageland Lane	Bridge over Bull Run	2	2	2/4	0	~~2035~~ 2040
357	CE3061	435	FED3c		Remove/Close	VA 234 Sudley Road	Southern Park Boundary	Sudley Springs (north of park)			2	0	2030
		Interstate											

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358	CE1759	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.~~ '@Vaden Dr.	1	1	0	2	~~2021~~ 2022
359	CE2096	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~~ 2016 complete
360	CE2096	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~~ 2022

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361	CE3448	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
362	CE3448	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
363	CE3448	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	3 general purpose + 2 HOT in each direction	~~2021~~ 2022

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	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
364	CE3448	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~~ 2022
365	CE3448	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
366	CE3484	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 complete
367	CE3484	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~~ 2022

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368	CE3484	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
369	CE3448	7221			Study	I-66 Revise Operations by 2024	I495	US 29 near Rosslyn			HOT 3 in peak direction during peak period	HOT 3 in both directions during peak period	not coded
370	CE3484	788	VI1XB		Construct/Widen	I 66 Eastbound	VA 267 DTR	Washington Blvd. Off-Ramp	1	1	3	4	2020
371	CE3484	789	VI1XC		Construct/Widen	I 66 Eastbound	Washington Blvd. Off-Ramp	North Fairfax Drive	1	1	2	3	2020
372	CE3484	786	VI1XD		Construct/Widen	I 66 Westbound	Sycamore Street	Washington Blvd. On-Ramp	1	1	2	3	2040
373	CE3448	752	I66R31 I66R32 I66R34		Construct	I-66 Express Lanes Interchange Ramps	EB Expr to SB GP NB GP to WB Expr SB Expr to WB Expr EB Expr to NB GP SB GP to WB Expr	I-495 Interchange (Capital Beltway GP and Express Lanes)	0	1	0	1	2022
374	CE3448	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
375	CE3448	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
376	CE3448	755			Reconstruct	I-66 Interchange	EB GP to SB GP WB GP to SB GP WB GP to SB Expr NB GP to EB GP SB GP to WB GP	@ I-495	1	1	—	—	2022
377	CE3448	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
378	CE3448	757	NRS		Reconstruct	I-66 Interchange	Cloverleaf interchange converted to diverging diamond interchange	@ Nutley Street (VA 243)	1	1	—	—	2022
379	CE3448	759	I66R27 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	@Vaden Dr.	1	1		Bus / HOV-3 / HOT from proposed Express Lanes	2022
380	CE3448	983	I66R43		Remove	I-66 ramp	remove existing EB on-ramp from Saintsbury Dr. at Vaden Dr.						2022

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381	CE3448	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
382	CE3448	763	I66R25 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
383	CE3448	765	I66R23 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
384	CE3448	766	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
385	CE3448	767	I66R19A I66R20A I66R21A 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
386	CE3448	768	I66R19 I66R20 I66R21 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
387	CE3448	769	I66R17 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~~ The existing reversible HOV ramp at Stringfellow Road will be expanded and converted to Express Lanes ramps providing access to and from the east using the Express Lanes. The new ramps will allow two-way traffic to and from the Express Lanes toward the Beltway 24 hours a day.	@ Stringfellow Road	1	1	Bus / HOV-2 Reversible by time of day	Bus / HOV-3 / HOT both directions 24 hrs / day	2022
388	CE3448	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

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									Facility		Lanes		
	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Fr	To	Fr	To	Completion Date
389	CE3448	772	I66R41		Construct	I-66 slip ramp	EB general purpose to EB express lanes	2.5 miles west of VA 286	0	1	0	1	2022
390	CE3448	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
391	CE3448	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
392	CE3448	776	I66R11 I66R12 I66R13 I66R14 I66R40		Construct	I-66 Express Lanes Interchange Ramps	EB Expr to NB GP WB Expr to NB GP SB GP to EB Expr SB GP to WB Expr NB GP to EB Expr	Route 28 Interchange	0	1	0	*1*	2022
393	CE3448	781?	I66R61		Construct	I-66 Express Lanes Interchange ramps	SB HOV to WB Expr	Route 28 Interchange	0	1	0	1	2040
394	CE3448	917	I66R45		Construct	I-66 flyover ramp	EB general purpose to EB Express Lanes	.65 miles east of VA Bus 234	0	1	0	1	2022
395	CE3448	920	I66R46		Construct	I-66 flyover ramp	WB Express Lanes to WB general purpose	.65 miles east of VA Bus 234	0	1	0	1	2022
396	CE3448	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
397	CE3448	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
398	CE3448	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
399	CE3448	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
400	CE3448	*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
401	CE3448	*785*	VSP49C		Construct	I-66 Express Lanes Access Connector Road	Heathcote Boulevard Extension	John Marshall Highway (VA 55)	0	1	0	*1*	2040
402	CE3179	444	VI2T		Widen	I 395 southbound	VA 236 Duke Street (north of)	VA 648 Edsall Road (south of)	1	1	3	4	2018 Complete
403		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 complete

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	PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility Fr	Facility To	Lanes Fr	Lanes To	Completion Date
404					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 complete
405					Revise Operations	I-395 HOV nb on-ramp at Seminary	Seminary Road	I-395 HOV lanes	1	1	HOV-3+ in am peak period	HOT-3+ in morning hours	2019 complete
406					Revise Operations	I-395 HOV sb off-ramp at Seminary	I-395 HOV lanes	Seminary Road	1	1	HOV-3+ in pm peak period	HOT-3+ in evening hours	2019 complete
407					Revise Operations	I-395 HOV nb on-ramp at Shirlington Circle	Shirlington Circle	I-395 HOV lanes	1	1	HOV-3+ in am peak period	HOT-3+ in morning hours	2019 complete
408					Revise Operations	I-395 HOV sb off-ramp at Shirlington Circle	I-395 HOV lanes	Shirlington Circle	1	1	HOV-3+ in pm peak period	HOT-3+ in evening hours	2019 complete
409					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 period	HOT-3+ in evening hours	2019 complete
410					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 period	HOT-3+ in morning hours	2019 complete
411					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 period	HOT-3+ in evening hours	2019 complete
412					Revise Operations	I-395 HOV nb off ramp at Eads Street			1	1	HOV-3+ in am peak period	HOT-3+ in morning hours	2019 complete
413					Revise Operations	I-395 sb HOV on-ramp at Eads Street			1	1	HOV-3+ in pm peak period	HOT3+ in evening hours	2019 complete
414			VI2R47		Remove	I-395 HOV/HOT SB Slip Ramp to I-395 main lanes	Just south of Eads St		1	0	1	0	2019 complete
415	CE2147	270	VI2AC		Reconstruct	I 95 Interchange	VA 613 Van Dorn Street		1	1			2030
416	CE3556				Construct	I-95 HOT lanes ramp	.25 miles south of Russell Road (Exit 148)	Russell Road	0	1	0	1	2022
417	CE3093	6	NRS		Reconstruct	Boundary Chanel Drive	Old Jefferson Davis Highway (off of I-395 Boundary Chanel Interchange)						~~2020~~ 2022

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418	CE2667	378	BRAC	BRAC0005	Construct	I 95 NB Off Ramp at Newington	I-95 NB	Fairfax County Parkway NB	1	1	0	1	2020
419	CE2668	8	BRAC0004 / VI2ra		Construct	I 95 Reversible Ramp (Colocated w/ existing slip ramp from HOV to GP lanes)	I 95 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
420		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
421		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
422		969	VI2X		Construct	I-95 Auxiliary Lane SB	VA 123	VA 294	1	1	0	1	2022
423	CE3697	1011	VI2R48		Construct	I-95 Opitz Drive Reversible Ramp	I-95 Express Lanes at Opitz Drive	Optiz Drive	1	1	0	1	2022
424	CE3763				Study	I 95/I 495 Gap Study - Study HOT lanes, including potential ramp access at Van Dorn St. and US 1	East Side of Springfield Interchange	East of Wilson Bridge	1	1			not coded
425	CE3272	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
426	CE3272	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
427	CE3272	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
428	CE3272	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
429	CE3272	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
430	CE3272	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
431	CE3272	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
432	CE3272	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
433	CE3272	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~~ 2025
434	CE3272	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~~ 2035
435	CE2069	999	VI4IRMP1		Construct	I-495 Express Lanes On-Ramp	Dulles Connector Road WB	I-495 Express Lanes NB	0	1	0	1	2025
436	CE2069	~~1000~~	~~part of VI4KA~~		~~Construct~~	~~I-495 Express Lanes (Shoulder Lane) – NB DIRECTION PEAK PERIODS ONLY~~	~~Dulles Connector WB On-Ramp~~	~~GW Parkway Off-Ramp~~	~~0~~	~~1~~	~~0~~	~~1~~	~~2025~~

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437	CE2069	1001	VI4IRMP2		Construct	I-495 NB Exchange Ramp	~~Interstate Ramp~~ I-495 NB GP Lanes at Dulles Toll Road	I-495 NB ~~GP~~ Express Lanes ~~at Dulles Toll Road~~	0	1	0	1	2045
438	CE2069	1002	VI4IRMP3		Construct	I-495 SB Exchange Ramp	~~Interstate Ramp~~ I-495 SB ~~GP~~ Express Lanes at Dulles Toll Road	I-495 SB ~~Express~~ GP Lanes ~~at Dulles Toll Road~~	0	1	0	1	2045
439	CE2069	40	VI4K		Construct	I 495 Capital Beltway HOT Lanes	American Legion Bridge	George Washington Parkway (south of)	1	1	8	8+4	2025
440	CE2069	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
441	CE3186	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~~ 2045
442	CE3186	519	VI4IRMP6		Construct	I 495 Capital Beltway Interchange (Phase IV)	Provide SB HOT to EB HOV	at VA 267 Dulles Toll Road	1	1			~~2030~~ 2035
443	CE3186	519	VI4IRMP5		Construct	I 495 Capital Beltway Interchange (Phase IV)	Provide EB DTR to NB HOT	at VA 267 Dulles Toll Road	1	1			~~2030~~ 2025
444	CE3186	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~~ 2045
445	CE3186	520	VI4IRMP7		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~~ 2045
446	CE3208	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~~ 2035
447	CE3680	991	VP21G		Widen	Dulles Greenway - eastbound only	Toll Plaza	Dulles Toll Road	1	1	2	3	2019
448					Widen	VA 267 Dulles Toll Road - eastbound only	Dulles Greenway	Centreville Rd. off-ramp	1	1	4	5	2019
449	CE3152	534	VP15E		Construct	VA 267 Dulles Toll Road Ramp	New Boone Boulevard Extension at Ashgrove		0	1	0	2	2037
450	CE3153	535	VP15B		Construct	VA 267 Dulles Toll Road Ramp	Greensboro Drive @ Tyco Road		0	1	0	2	2036
451	CE1965	236	MW1	MW1	Widen	Dulles Airport Access Road	Dulles Airport	VA 123	1	1	4	6	2030
						Primary							
452	CE3291	549	VP1AH	90339	Widen	US 1 Richmond Highway	Fuller Road	Stafford County Line	2	2	4	6	2040
453	CE2594	631	VP1AD	90339	Widen	US 1 Fraley Blvd. (Town of Dumfries)	Brady's Hill Road	VA 234 Dumfries Road	2	2	4	6	2025
454	CE2594	632	VP1ADA		Widen	US 1 Richmond Highway	VA 234 Dumfries Road	Cardinal Drive/Neabsco Road	2	2	4	6	2030
455	CE3173	84	VP1AF	104303	Widen	US 1 Richmond Highway	Featherstone Road	Mary's Way	2	2	4	6	2022
456	CE2161	239	VP1P	94102	Widen	US 1 Richmond Highway	Mary's Way	Annapolis Way	2	2	4	6	2019
457	CE2161	633	NRS	100938	Reconstruct	US 1 Richmond Highway	at VA 123 Gordon Boulevard (Interchange)						2028
458	CE2161	634	VSP63	100938	Construct	Belmont Bay Drive Extension	US 1 Jefferson Davis Highway	Heron's View Way			0	4	2025

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459	CE3180	85	VP1AG		Widen	US 1 Richmond Highway	Annapolis Way	~~Lorton Road~~ Pohick Road	2	2	4	6	2035
460	CE1942	322	VP1U		Widen	US 1 Richmond Highway	~~VA 235 North~~ Mt. Vernon Memorial Highway	~~VA 235 South~~ VA 626 Sherwood Hall Ln	2	2	4	6	~~2025~~ 2028
461	CE3331	653	VP2P		Construct	VA 7 Interchange	At VA 690		2	2	0	4	*2025*
462	CE1870	86	VP2JA	16006	Widen	VA 7 Bypass	VA 7 West	US 15 South King Street South	5	1	4	6	2040
463	CE1870	299	VP2J	16006	Widen	VA 7 Bypass	US 15 South King Street	VA7/US 15 East	5	1	4	6	2040
464	CE2105	221	VP2M		Widen	VA 7	Reston Avenue	~~West Approach to Bridge over Dulles Toll Road~~ Jarrett Valley Dr.	2	2	4	6	~~2025~~ 2024
465	CE2105	628	VP2Lb		Widen	VA 7 Leesburg Pike	VA 123 Chain Bridge Road	I 495 Capital Beltway	2	2	6	8	2030
466	CE3161	87	VP2N		Widen	VA 7 Leesburg Pike	I 495	I 66	2	2	4	6	2030
467	CE2175	347	VP2B	TBD	Widen	VA 7	Seven Corners	Bailey's Crossroads	2	2	4	6	2030
468	CE3701	1022	NRS		Study	VA 7 Interchange	VA 123 Dolly Madison Road						2030
469	CE3327	682	NRS	105584	Construct	VA 7 Overpass at	George Washington Boulevard		0	4	0	4	~~2022~~ 2024
470	CE2664	621	nrs	99481	Construct	VA 7 Interchange	at VA 659 Belmont Ridge Road		2	2	6	6	~~2017~~ 2020 complete
471	CE3523	1023	NRS		Construct	US 15 Bypass / Battlefield Parkway Interchange			2	2	4	4	2035
472	CE3162	253	VP4EA		Widen	US 15 James Madison Highway	US 29 Lee Highway	Haymarket Drive	3	3	2	4	2040
473	CE3162		VP4EC		Widen	US 15 James Madison Highway Overpass	1200' S of RR tracks	1000' N. of RR tracks	3	3	2	4	2030
474	CE3738	881	VP4G		Widen	US 15	Battlefield Parkway	Montresor Road	2	2	2	4	~~2022~~ 2026
475	CE2045	88	VP6H		Widen	VA 28	Fauquier County Line	VA 652 Fitzwater Drive	3	3	2	4	2040
476	CE2045	309	VP6kA	105198	Widen	VA 28	VA 652 Fitzwater Drive	VA 215 Vint Hill Road	3	3	2	4	2019

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477	CE2045	326	VP6MA	96721	Widen	VA 28	Godwin Drive	Manassas City limits	3	2	4	6	2019
478	CE2045	89	VP6K	105428	Widen	VA 28 Nokesville Road	Manassas City Limits	VA 619 Linton Hall Road	3	3	4	6	2022
479	CE1734	1037	VP6EDD		Convert	VA 28 PPTA Phase II- HOV	I-66	Westfields Blvd	5	5	8+ 2 aux	6 + 2aux + 2 HOV	2040
480	CE1734	873	VP6EDE		Convert	VA 28 PPTA Phase II- HOV	Westfields Blvd	Dulles Toll Road	5	5	8	6 + 2 HOV	2040
481	CE1734	~~310~~ 791	VP6EAA		Widen	VA 28 PPTA Phase II	I 66	Westfields Blvd	5	5	6	8+ 2 aux	2021
482	CE1734		VP6EAB		Widen	VA 28 PPTA Phase II	Westfields	US 50	5	5	6	8	2025
483	CE1734		VP6EBB		Widen	VA 28 PPTA Phase II	US 50	Sterling Blvd.	5	5	6	8	2016
484	CE1734	310	VP6ECC	106651	Widen	VA 28 PPTA Phase II	Sterling Blvd.	VA 7	5	5	6	8	2025
485	CE3181	656			Study	VA 28 Manassas Bypass /VA 411	VA 234 Godwin Drive/Route 234 on the western edge of the City of Manassas	I66 proposed interchange btwn Rt234 Business & Rt28 on I-66 Proposed Interchange					Not Coded
486	CE3479	737	VP6N	108720	Widen	VA 28 Centreville Road	US 29	Prince William County Line	2	2	4	6	2023
487	CE1865	995	VP6O		Construct	VA 28 Manassas Bypass	VA 234 Sudley Road	VA 28 Centreville Road	0	5	0	4	2025
488	CE3383	730		105482	Study	VA 28	US 29	Liberia Avenue					Not Coded
489		620	VP7s		Widen	US 29 (add NB lane)	I 66	Entrance to Conway Robinson MSF	3	2	4	5	2030
490	CE1933	620	VP7AG		Widen	US 29 (add NB lane)	Legato Raod	Shirley Gate/Waples Mill Rd.	3	2	4	5	~~2017~~ 2019 complete
491	CE1933	349	VP7AA		Widen	US 29	ECL City of Fairfax (vic. Nutley St.)	Espana Court	2	2	4	6	~~2025~~ 2040
492	CE1933	625	VP7AB		Widen	US 29	Espana Court	I 495 Capital Beltway	2	2	4	6	~~2025~~ 2040
493	CE3474	731	VP7T		Widen	US 29 Lee Highway	VA 659 Union Mill Road	Buckleys Gate Drive	2	2	4	6	2024
494	CE2182	319	VP8H		Widen	US 50	ECL City of Fairfax	Arlington County Line	2	2	4	6	~~2025~~ 2035

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495	CE3739	2500	VP25		Construct	US50 North Collector Road	Tall Cedars Parkway	VA 28/ Air and Space Museum	0	2	0	4	2029
496		94	NRS		Construct	US 50 Interchange	VA 606 Loudoun County Parkway		2	2	6	6	2025
497		657	NRS		Construct	US 50 Interchange	West Spine/Gum Springs Road		2	2	6	6	2035
498		658	NRS		Construct	US 50 Interchange	South Riding Boulevard		2	2	6	6	2035
499		659	NRS		Construct	US 50 Interchange	Tall Cedars Parkway		2	2	6	6	2035
500	CE3603	885	NRS		Upgrade/ Intersection	Route 50 & Everfield Drive			2	2	2	2	~~2022~~ 2026
501	CE3694	997	VP16		Widen	VA 55	Route 29	~~Town of Haymarket~~ Fayette St.			2	4	2028
502	CE1723	245	VP10G	100938	Widen	VA 123	US 1	Annapolis Way	2	2	4	6	2025
503	CE1784	235	VP10H		Widen	VA 123 Ox Road	Hooes Rd.	Fairfax Co. Parkway	2	2	4	6	2030
504	CE1784	337	VP10F	1784	Widen	VA 123 Ox Road	Fairfax Co. Parkway	Burke Center Parkway	2	2	4	6	2030
505	CE1856	300	VP10R		Widen	VA 123	Burke Center Parkway	Braddock Road	2	2	4	6	2030
506		95	VP10S		Widen	VA 123	VA 677 Old Courthouse Road	VA 7 Leesburg Pike			4	6	2030
507	CE3376	595	VP10T		Widen	VA 123 Chain Bridge Road	VA 7 Leesburg Pike	I 495 Capital Beltway	2	2	6	8	2030
508	CE3698	1016	NRS		Upgrade	VA 123	I-495 Capital Beltway	VA 267 Dulles Access Road	2	2	6	6	2030
509	CE3698	1015	VP10U		Widen	VA 123	VA 267 Dulles Access Road	VA 634 Great Falls Street	2	2	4	6	2030
510	CE3371	590	VP24B		Widen	VA 215 Vint Hill Road	Kettle Run Drive	VA 1566 Sudley Manor Drive	4	4	2	4	2020
511	CE3641				Widen	VA 234 Sudley Road	Grant Road	Godwin Drive	2	2	2	3	2021
512	CE1897	286	VP12O	99482	Construct	VA 234 Bypass Extension North	VA 234 Bypass@I-66 (Prince Wm. Co.)	US 50 (Loudoun Co.)		5		4	2040
513	CE3177	678		105420/ T143	Construct	VA 234 Bypass Interchange	Balls Ford Road Relocated						2022
514	CE3178	660		T5665	Construct	VA 234 Bypass Interchange	Dumfries Road/Brentsville Road						~~2025~~ 2024
515		739			Construct	VA 234 Byp-Prince William Parkway Interchange at	VA 840 University Boulevard						2030

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516	CE3703		NRS		Construct	VA 234 Bypass Interchange	Clover Hill Road						2026
517	CE3467	727	NRS		Construct	VA 234 Prince William Parkway Interchange at	VA 1566 Sudley Manor Dr.						2030
518	CE1760	311	VP13A		Widen	VA 236	Pickett Road	I 395	2	2	4	6	~~2025~~ 2035
519	CE2106	~~264~~	~~VSF25aa~~	~~57167~~	~~Convert~~	~~VA 286 Fairfax County Parkway HOV~~	~~VA 267 Dulles Toll Road~~	~~Sunrise Valley Drive~~	~~5~~	~~5~~	~~6~~	~~4+2~~	~~2035~~
520	CE2106	96	VSF25ea	57167	Widen	VA 286 Fairfax County Parkway	Sunrise Valley	~~West Ox Road~~ Rugby Road	5	5	4	6	2035
521	CE2106	~~97~~	~~VSF25e~~	~~57167~~	~~Convert~~	~~VA 286 Fairfax County Parkway HOV~~	~~West Ox Road~~	~~US 50~~	~~5~~	~~5~~	~~6~~	~~4+2~~	~~2035~~
522	CE3702	1024	NRS	111725	Widen/Construct	VA 286 Fairfax County Parkway Interchange	VA 654 Pope's Head Road		2	2	4	6	~~2025~~ 2024
523	CE2106	~~98~~	~~VSF25y~~		~~Upgrade~~	~~VA 286 Fairfax County Parkway HOV~~	~~US 50~~	~~VA 7735 Fair Lakes Parkway~~	~~2~~	~~5~~	~~6~~	~~4+2~~	~~2035~~
524	CE2106	~~101~~	~~VSF25z~~		~~Widen/Upgrade~~	~~VA 286 Fairfax County Parkway HOV~~	~~VA 7735 Fair Lakes Parkway~~	~~I 66~~	~~2~~	~~5~~	~~6~~	~~6+2~~	~~2035~~
525	CE2106	320	VSF25g		Widen	VA 286 Fairfax County Parkway	US 29	~~Rolling Rd.~~ VA 123 Ox Road	5	5	4	6	2030
526			VSF25GA		Widen	VA 286 Fairfax County Parkway	VA 123	Sydenstricker Road	5	5	4	6	~~2030~~ 2040
527	CE1833	~~304~~	~~VSF26~~		~~Construct~~	~~VA 289 Franconia-Springfield Parkway HOV~~	~~VA 286 Fairfax County Parkway~~	~~VA 2677 Frontier Drive~~	~~5~~	~~5~~	~~6~~	~~6+2~~	~~2025~~
528	CE1833	104	NRS		Construct	VA 289 Franconia-Springfield Parkway Interchange	Neuman Street		1	1			2035
529	CE1833	~~105~~	~~VSF26b~~		~~Upgrade~~	~~VA 289 Franconia-Springfield Parkway HOV~~	~~VA 638 Rolling Road~~	~~VA 617 Backlick Road~~	~~5~~	~~5~~	~~6~~	~~6+2~~	~~2025~~
530		408	VSP23d		Widen	VA 294 Prince William County Parkway	VA 776 Liberia Avenue	VA 642 Hoadly Road	2	2	4	6	2040
531	CE3704	1028	NRS		Construct	VA 294 Prince William Parkway Intersection Improvements	VA 641 Old Bridge Road						2028
532	CE3705	1027	NRS		Construct	VA 294 Prince William Parkway Interchange	VA 640 Minnieville Road						2028

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533	CE3151	106	VP15CD		Construct	Collector-Distributor Rd Westbound (parallels Dulles Toll Rd.)	Route 7 Leesburg Pike	VA 828 Wiehle Avenue	0		0	+1	~~2035~~ 2037
534	CE3154	107	VP15CDE		Construct	Collector-Distributor Rd Eastbound (parallels Dulles Toll Rd.)	VA 828 Wiehle Avenue	Route 7 Leesburg Pike	0		0	+1	~~2035~~ 2036
535	CE3154	1033	VP15CD2		Construct	Collector-Distributor Rd Westbound (parallels Dulles Toll Rd.)	Route 7 Leesburg Pike	Spring Hill Rd.			0	+2	2035
536	CE3151		VP15CDE2		Construct	Collector-Distributor Rd Eastbound (parallels Dulles Toll Rd.)	Spring Hill Rd.	Route 7 Leesburg Pike			0	+2	2035
		Urban											
537	CE2139	313	VU28B	100518	Construct	Battlefield Parkway	US 15 south of Leesburg	Dulles Greenway	0	2	0	4	2020
538	CE3222	52	VU30F	50100	Widen/Reconstruct	East Elden Street	Monroe Street	Fairfax County Parkway	3	2	4	6	~~2020~~ 2026
539	CE1783	328	VU52	77378	Widen	Eisenhower Avenue	Mill Road	Holland Lane	3	3	4	6	~~2019~~ 2023
540	CE3300	553	VU55	106976	Widen	Evergreen Mills Road	US 15 S. King Street	South City Limits of Leesburg	4	4	2	4	~~2022~~ 2021 Complete
541	CE3286	681	VU56		Construct	Farrington Aveneue	Van Dorn Street at Eisenhower Avenue	Edsall Road	0	4	0	2	~~2035~~ 2034
542	CE1952	267	VU10B	105521	Widen/Reconstruct	Spring Street	Herndon Parkway (East)/Spring Street	Fairfax County Parkway Interchange	3	2	4	6	~~2021~~ 2024
543	CE2073	232	VU33	102895	Widen	Sycolin Road	VA7/US 15 Bypass	SCL of Leesburg	4	4	2	4	~~2020~~ 2027
544	CE2671	382	NRS	89890/LEES0001	Construct	US 15 Bypass Interchange	At Fort Evans Road and Edwards Ferry Road		5	2	4	4	2025
545	~~CE2020~~	~~290~~	~~VU45~~	~~15960 (PE & RW Only)~~	~~Widen~~	~~VA 234 Dumfries Road Business~~	~~South Corporate Limits~~	~~Hastings Drive~~	~~3~~	~~3~~	~~2~~	~~4~~	~~2040~~
546	CE3375	594	NRS		Reconstruct	VA 234 Grant Avenue	Lee Avenue	Wellington Road	3	3	4	2	2020
547	CE3174	53	nrs	8645	Construct	Intersection Improvement	King Street	Beauregard Street					~~2018~~ 2025
548	CE3175	54	nrs		Construct	Ellipse	Seminary Road	Beauregard Street					~~2020~~ 2028
549	CE3166	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~~ 2023
550		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	~~2019~~ 2022
551	CE3441	687	NRS	76408	Reconstruct	VA 17 Intersection Improvements in Warrenton	South of Frost Ave.	South of Winchester St.					2021
		Secondary											
		Arlington County											

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552	CE2830	411	AR17a		Widen	Washington Boulevard	Wilson	Kirkwood	3	3	3	4	~~2019~~ 2022
553	CE3657	951	NRS		Construct	12th Street South	VA-120 (South Glebe Rd.)	South Monroe St	4	4	0	2	~~2019~~ 2024
554	CE3677	987	AR30		Convert to 2-way	27th Street South	US-1	Crystal Drive	4	4	4	4	2019
555	CE3678	988	AR31		Demolish	South Clark Street	12th Street South	20th Street South	4	0	2	0	2019
		Fairfax County											
556	CE1849	336	FFX2a		Widen	VA 602 Reston Pkwy.	VA 5320 Sunrise Valley Dr.	~~VA 606 Baron Cameron Avenue~~ Sunset Hills Road	3	3	4	6	~~2020~~ 2040
557			FFX2c		Widen	VA 602 Reston Pkwy.	Sunset Hills Road	New Dominion Parkway	3	3	4	6	Complete
558	CE1849	4041	FFX2b		Widen	VA 602 Reston Pkwy.	New Dominion Parkway	VA 606 Baron Cameron Avenue	3	3	4	6	2040
559	CE3475	732	VSF44		Widen	VA 608 Frying Pan Road	VA 28 Sulley Road	VA 657 Centreville Road	3	3	2	4	~~2025~~ 2030
560	CE2186	218	VSF4ca		Widen	VA 611 Telegraph Road	Leaf Road North	VA 635 Hayfield Road	3	3	2	4	~~2025~~ 2040
561	CE2186	298	VSF4i		Widen	VA 611 Telegraph Road	VA 635 Hayfield Road	VA 613 (Van Dorn St.)	3	3	2	4	~~2025~~ 2040
562	CE2186	62	VSF4h	11012	Widen	VA 611 Telegraph Road	VA 613 S. Van Dorn	VA 644 Franconia Road	3	3	2	3	~~2025~~ 2040
563	CE3275	63	VSF15b		Construct	VA 613 Van Dorn Interchange	VA 644 Franconia Road		0	0	0	0	~~2025~~ 2035
565	CE2158	301	VSF8g		Widen	VA 620 Braddock Road	VA 286 Fairfax County Parkway	VA 123 Ox Road	3	3	4	6	~~2025~~ 2040
566	CE2206	334	VSF8j		Construct/Widen	VA 620 New Braddock Rd.	VA 28	US 29 @ VA 662 (Stone Rd.)	0/4	3	0/2	4	2025
567	CE3478	736	VSF45		Widen	VA 636 Hooes Road	VA 286 Fairfax County Parkway	VA 600 Silverbrook Road	3	3	2	4	2025
568	CE1936	302	VSF10a		Widen	VA 638 Rolling Road	~~VA 286 Fairfax County Parkway~~ Viola St.	VA 644 Old Keene Mill Road	3	3	2	4	~~2025~~ *2026*
569	CE3301	586	VSF10E	102905	Widen	VA 638 Rolling Road	Rt 5297 DeLong Drive	~~Fullerton Drive~~ Virginia Dr.	3	3	2	4	~~2022~~ 2035

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570	CE2645	377	VSF10c	16505	Widen	VA 638 Pohick Road	VA 1	I 95	3	3	2	~~4~~ 2	2025
571	CE1859	217	FFX11a		Widen	VA 645 Stringfellow Road	US 50	VA 286 Fairfax County Parkway	3	3	2	4	~~2030~~ 2040
572		64	VSF37a		Widen	VA 650 Gallows Road	VA 7 Leesburg Pike	VA 699 Prosperity Ave.	2	2	4	6	2038
573	CE2833	65	VSF33a		Widen	VA 651 Guinea Road	VA 6197 Roberts Parkway	VA 4807 Pommeroy Drive	3	3	2	4	~~2025~~ 2040
574	CE1748	255	FFX12a		Construct	VA 651 New Guinea Road	VA 123 Ox Road	Roberts Road	0	3	0	4	~~2025~~ 2040
575	CE3442	688	VSF17b		Construct	VA 655 Shirley Gate Road	VA 286 Fairfax County Parkway	VA 620 Braddock Road	0	3	0	4	2030
576		346	VSF18C	74749	Widen	VA 657 Centreville Road	VA 8390 Metrotech Dr.	VA 668 McLearen Road	3	3	4	6	2040
577	CE3150	66	NRS		Construct	Boone Boulevard Extension	VA 123 Chain Bridge Road	Ashgrove Lane			0	4	2036
578	CE3460	724	VSF46		Construct	VA 2677 Frontier Drive	Franconia-Springfield Transportation Center	VA 789 Loisdale Road	0	4	0	~~4~~	~~2024~~ 2030
579	CE3155	69	NRS		Construct	Greensboro Drive WB	Spring Hill Road	Tyco Road	0	4	0	2	2034
580	CE3158	68	VSF43		Widen	Magarity Road	VA 7 Leesburg Pike	VA 694 Great Falls Street			2	4	2037
581	CE3157	67	NRS		Construct	New Bridge/Road Crossing- bike ped only	Tysons Corner Center Ring Road	Old Meadow Road			0	0	~~2036~~ 2022
582	CE3609	882	VSF48		Construct	~~Rock Hill Road Overpass~~ Davis Dr. Bridge	VA 5320 (Sunrise Valley Dr.)	VA 209 (Innovation Avenue)	0	4	0	4	2030
583	CE3450	722	VSF49		Construct	Soapstone Drive 4-Lane Overpass	Sunrise Valley Drive	Sunset Hills Road	0	4	0	4	2027
584	CE3699	1017	VSF50		Construct	Town Center Parkway Underpass of Dulles Toll Road	VA 5320 Sunrise Valley Dr.	VA 675 Sunset Hills Road	0	4	0	4	2030
585	CE3060	442	VSF41	103907	Construct/Widen	VA 8102 Scotts Crossing Rd	VA 123 Dolly Madison Blvd	Jones Branch Dr			0/2	4	2018
586	CE3759	4080	NRS		Construct	Worldgate Drive Extension	Van Buren Street	Herndon Parkway	0	3	0	4	2030
		Loudoun County											
587	CE3355	661	NRS		Construct	VA 606 Ramp	VA 606 Eastbound	VA 789 Lockridge Road Northbound			0	2	2020
588		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	2018

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589	CE3315	566	VSL10E		Widen	VA 607 Loudoun County Parkway	US 50	VA 606 at new Arcola Blvd.	3	3	4	6	2030
590		275	VSL10bb		Widen/Upgrade	VA 607 Loudoun County Parkway	W&OD Trail	Redskin Park Drive	4	3	4	6	2025
591	CE3736	2493	VSL10F		Widen	VA 607 Loudoun County Parkway	Shellhorn Road	Ryan Road	3	3	4	6	2022
592	CE3604	890	VSL2C		Widen	VA 620 Braddock Rd	VA 659	Fairfax County Line	3	3	2	4	2025
593	CE3605	889	VSL2D		Widen	VA 620 Braddock Rd	VA 659	Royal Hunter Drive	4	4	2	4	2025
594	CE3606	884	NRS		Reconstruct	VA 620 Braddock Road	Braddock Road	Summerall/Supreme	4	4	2	2	~~2020~~ 2022
595	CE3601	887	NRS		ReAlign Intersections	VA 621 Evergreen Mills Rd	Watson Road	Reservoir Road	3	3	2	2	~~2020~~ 2024
596	CE3311	578 ~~580~~	VSL62		Widen	VA 621 Evergreen Mills Road (Eastern Segment)	~~VA 607 Loudoun County Parkway~~ Northstar Bouldvard	~~VA 659 Belmont Ridge Road~~ Stone Springs Boulevard	4	4	2	4	2025
597	CE3312	~~578~~ 580			Construct	VA 621 Evergreen Mills Road (Western Segment)	VA 842 Arcola Boulevard	VA 659 Belmont Ridge Road	4	4	2	4	2025
598	CE3333	683	NRS		Construct	VA 625 Waxpool Road/ VA 607 Loudoun County Parkway ~~Interchange~~ Intersection Improvements	Loudoun County Parkway	Waxpool Road	3	3	4	4	~~2019~~ 2024
599	CE3443	689	VSL54	106996	Widen	VA 640 Farmwell Road	VA 1950 Smith Switch Road	VA 641 Ashburn Road	4	4	4	6	~~2020~~ 2022
600	CE2209	335	VSL45	VSL45	~~Widen~~ Study	VA 643	Leesburg Town Limits	Crosstrails Boulevard	3	3	2	4	~~2035~~ not coded
601	CE3502	827	VSL65		Construct	VA 643 Shellhorn Extended	VA 606 Loudoun County Parkway	VA 634 Moran Road	0	4	0	4	~~2020~~ 2023
602	CE3499	825	VSL64		Construct	VA 645 Westwind ~~Blvd~~ Drive Extended	VA 607 Loudoun County Parkway	VA 606 Old Ox Rd.	0	4	0	4	~~2020~~ 2026
603	CE3734	2489	VSL68		Widen	VA 645 Croson Ln.	Clairborn Parkway	Old Ryan Road			2	4	2027
604	CE1897	72	VSL4ac	76244 & 99481	Widen	VA 659 Belmont Ridge Road	VA 7 Leesburg Pike	VA 267 Dulles Greenway	4	3	2	4	2018
605	CE1897	746	VSL4AD		Widen/Upgrade	VA 659 Belmont Ridge Road	VA 645 Croson Lane	VA 267 Dulles Greenway	4	3	2	4	~~2025~~ 2023
606	CE1897	2523	VSL4G		Widen	VA 659 Belmont Ridge Road	Arcola Mills Drive	Shreveport Drive			2	4	2028
607	CE1818	297	VSL4f		Widen	VA 659 Gum Spring Rd.	Prince William County Line	VA 620 Braddock Road	4	4	2	4	2035
608	CE3306 CE3307	573 574 575	VSL61		Construct	VA 842 Arcola Boulevard (Southern Segment)	US 50	VA 607 Loudoun County Parkway	0	4	0	4	2022

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609	CE3067	76	VSL40F	102858	Construct	VA 901 Clairborne Parkway	VA 645 Croson Lane	VA 772 Ryan Road	0	4	0	4	2019
610	CE3309	576	VSL63		Construct	VA 774 Creighton Road (completion of eastern end)	~~VA 659 Belmont Ridge Road~~ Northstar Bouldvard	VA 621 Evergreen Mills Road	0	4	0	4	~~2025~~ 2020
611	CE3323	641	VSL58		Construct	Ashburn Silver Line Station Connector Bridge	VA 267 Dulles Greenway	Ashburn Silver Line Station	4	4	0	4	2019 Complete
612	CE3734	883	VSL66		Widen	Croson Ln	Clairborn	Mooreview Pkwy	4	4	2	4	2025
613		577	VSL56		Construct	Crosstrail Boulevard	VA 625 Sycolin Road	Kincaid Boulevard	0	4	0	4	2019 Complete
614	CE3735	2491	VSL56A		Construct	Crosstrail Boulevard	VA 625 Sycolin Road	Dulles Greenway	0	4	4	4	2026
615		662	NRS	69870	Construct	VA 868 Davis Drive	VA 606 Old Ox Road	VA 846 Sterling Boulevard	0	4	0	4	2025
616	CE3313 & CE3314	564 & 565	VSL67A		Construct	Dulles West Blvd. Phase I & Phase II	~~Dulles Landing Drive~~ ~~VA 607~~ Loudon County Parkway	Arcola Blvd	0	4	0	4	**2022**
617	CE2582	1031	VSL67B		Construct	Dulles West Blvd. Phase III	Arcola Blvd	Northstar Dr.	0	4	0	4	**2025**
618		888	NRS		Reconstruct	Elk Lick Rd Intersections	US 50	Tall CedarsPkwy	4	4	2	2	2020
619	CE3602	886	NRS		Construct	Moorefield Boulevard	Mooreview Parkway	Moorefield Station	0	4	0	3	2020
620	CE3316	568	VSL57		Construct	VA 2298 Mooreview Parkway (Missing Link)	VA 2773 Amberleigh Farm Drive	VA 772 Old Ryan Road	0	4	0	4	2019
621	CE3318	570	VP12R	106994	Construct	VA 3171 Northstar Boulevard (Missing Link #79)	Shreveport Drive	US 50	0	3	0	4	2022
622	CE3737	2495	VP12S		Construct	VA 3171 Northstar Boulevard	Tall Cedars Parkway	Braddock Road	0	3	0	4	2028
623	CE3320	572	VSL59		Construct	VA 1071 Prentice Drive (Western Segment)	VA 607 Loudoun County Parkway	Loudoun Station Drive	0	4	0	4	~~2019~~ 2026
624	CE3321	556	VSL59		Construct	VA 1071 Prentice Drive Eastern Segment	VA 789 Lockridge Road	VA 607 Loudoun County Parkway	0	4	0	4	~~2019~~ 2026

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625	CE3501	826	VSL48B		Construct	VA 2401 RIverside Parkway	VA 607 Loudoun County Parkway	VA 2020 Ashburn Village Boulevard Extension	0	4	0	4	~~2018~~ 2022
626	CE3324	559	VSL49B		Construct	VA 1061 Russell Branch Parkway (Western Segment)	VA 659 Belmont Ridge Road	Tournament Parkway	0	4	0	4	~~2017~~ 2024
627	CE3326	563	VSL55A		Construct	~~Shreveport Drive (Western Segment)~~ Evergreen Mills Road	VA 621 Evergreen Mills Road	VA 659 Belmont Ridge Road	0	4	0	4	~~2025~~ 2021 Completed
628	CE3329	562	VSL60	105783	Construct	VA 846 Sterling Boulevard Extension	VA 1036 Pacific Boulevard	VA 634 Moran Road	0	4	0	4	2025
629	CE3332	555		87106	Widen	VA 2119 Waxpool Road	VA 2070 Demott Road	VA 2020 Ashburn Village Boulevard	4	4	2	4	2018
		Prince William County											
630	CE3187	82	VSP2i	92999	Widen	VA 619 Fuller Road	US 1	VA 619 Fuller Heights Road Relocated			2	4	2025
631	CE3693	996	VSP3D		Widen	VA 621 Devlin Road	Linton Hall Road	Wellington Road			2	4	2028
632	CE2357	79	VSP3b	80347	Widen/Upgrade	VA 621 Balls Ford Road	Sudley Rd	Doane Drive	4	3	2	4	2022
633	CE2357	690	VSP64			VA 621 Balls Ford Road Relocated	Doane Drive	Devlin Road	0	3	0	4	2022
634	CE3372	591	VSP66		Construct	VA 627 Van Buren Road	VA 234 Dumfries Road	VA 610 Cardinal Drive	0	4	0	4	2040
635	CE3374	593	VSP65		Widen	VA 638 Neabsco Mills Road	US 1 Jefferson Davis Highway	~~S~~moke Ct.			2	4	2023
636		376	VSP5e	103484	Widen	VA 640 Minnieville Road	VA 643 Spriggs Road	VA 234 Dumfries Road	3	3	2	4	2018
637	CE3695	998	VSP17C		Widen	VA 674 Wellington Road	University Boulevard	VA 621 Devlin Road/Balls Ford Road	3	3	2	4	2028
638	CE2145	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
639	CE2145	338 589	VSP17b		Widen	VA 674 Wellington Road	VA 234 Bypass Prince William Parkway	VA 668 Rixlew Lane	3	3	2	4	2035
640	CE1754	308	VSP18	VSP18	Widen	VA 676 Catharpin Rd.	VA 55 John Marshall Highway	Heathcote Blvd.	3	3	2	4	~~2040~~ 2020
641	CE3753	4600	NRS		Construct	Annapolis Way Extension	VA 123 Commuter Lot Entrance	Current termini west of Marina Way			0	2	2028
642	CE3754	3520			Study	HOV lanes on Dale Blvd/PW Pkwy/Minnieville Rd	Dale Blvd / PW Pkwy / Minnieville Rd						not coded
643	CE3756	3580	NRS		Construct	Marina Way Extended	VA 123 Gordon Blvd	Annapolis Way	0	4	0	4	2030
644	CE2876	4123	VU14B		Widen	Liberia Avenue	VA 28	Richmond Avenue			4	6	2025
645	CE1985	401	NRS		Construct	McGraws Corner Dr. / Thoroughfare Rd.	US 29 Lee Highway @ Virginia Oaks Dr.	US 15 @ Thoroughfare Dr.	0	4	0	4	2040
646	CE1921	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	2025

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647	CE3480	745	NRS		Construct	VA 234 Potomac Shores Parkway	US 1 Jefferson Davis Highway	VA 4700 River Heritage Boulevard	0	4	0	4	2020
648	CE2008	325	VSP20C	VSP20c	Widen/Upgrade	VA 1392 Rippon Boulevard Extension	West of Wigeon Way	Rippon VRE Station	4	3	2	4	~~2040~~ 2030
649	CE3482	743	NRS		Widen	VA 4700 River Heritage Boulevard	VA 234 Potomac Shores Parkway	Dominica Drive	4	4	2	4	2020
650	CE3481	744	NRS		Construct	VA 4700 River Heritage Boulevard	Dominica Drive	VA 234 Potomac Shores Parkway	0	4	0	2	2020
651	CE3293	642	VSP62a		Construct	Rollins Ford Road	Wellington Road	Linton Hall Road	0	3	0	4	2040
652		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	2025
653	CE1837	257	VSP25c		Widen	VA 1781 Telegraph Rd.	VA 294 (Prince William Pkwy)	~~VA 849 (Caton Hill Rd.)~~ Horner Road Park-n-Ride Lot Access	4	4	2	4	2025
654	CE3755	3560	NRS		Construct	Thorough Blvd.	VA 640 Minnieville Road	Elm Farm Road			0	2	2030
655		83	VSP47e		Construct	University Boulevard	Sudley Manor Drive	Wellington Rd/Progress Ct.	0	3	0	4	2035
656	CE2176	904			Construct	Williamson Blvd	Sudley Manor Drive	Portsmouth Road			0	4	2030
	FAMPO												
657			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
658			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
659			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
660			VI2rf		Construct	I 95 : HOV / Bus / HOT Lanes	Rte. 610 (Garrisonville Rd.) in Stafford County	VA 17 Warrenton Rd. (exit 133)	1	1	0	2	2022
661					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
662					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	2022
663					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	2022
664					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	2022
665			VI2RFD		Construct	I 95 : HOV / Bus / HOT Lanes: Ramp	At Courthouse Rd.	NB AM on-ramp	1	1	0	1	2022
666			VI2RFE		Construct	I 95 : HOV / Bus / HOT Lanes: Ramp	at Courthouse Rd.	SB PM off-ramp	1	1	0	1	2022
667			**FAI1F**		Widen	I-95 northbound	Exit 126 (US 1/VA17)	Exit 130 (VA 3 Plank Rd.)	1	1	3	4	2035
668			**FAI1G**		Construct	I-95 northbound 3 lane collector distributor road	Exit 130 (VA 3 Plank Rd.)	Exit 133 (VA 17 Warrenton Rd.)	1	1	3	6	2025
669			FAI1H		Widen	I-95 northbound	Exit 133 (VA 17 Warrenton Rd.)	Exit 136 (Centerport Parkway)	1	1	3	4	2045
670			FAI1HA		Construct	I-95 4th auxiliary lane	Exit 133 (VA 17 Warrenton Rd.)	Exit 136 (Centerport Parkway)	1	1	X	X+1	2045

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671			FAI1J		Widen	I-95 southbound	Exit 130	Exit 126 (US 1/VA17)	1	1	3	4	2035
672			FAI1K		Construct	I-95 southbound	1.3 miles south of Exit 130	.3 miles north of Truslow Rd	1	1	x	x+3cd	2025
673			FAS22A		Widen	VA-3 (William St)	Gateway Blvd.	William St./Blue Gray Parkway			4	6	2030
674			FAS22		Widen	VA 3 (Spotsylvania)	Chewing Lane	VA 627 (Gordon Rd.)	2	2	4	6	2013
675			FAP6E		Widen	Tidewater Trail US 17 Business/VA 2	Beulah Salisburty Dr.	US 17 Bypass (Mills Dr.)	2	2	2	4	2035
676			FAP6		Widen	US 17	US 1	Hospital Blvd.	2	2		4	2025
677			FAP6C		Widen	US 17 (Warrenton Rd.)	McLane Drive	Stafford Lakes Parkway	2	2	4	6	2020
678			FAP7A		Widen	VA 218 (Butler Rd.)	Carter St.	Castle Rock Dr.	4	4	2	4	2045
		Fredericksburg											
679					Construct	Carl D. Silver Pkwy Ext.	current terminus	Gordon Shelton Blvd.			0	4	2035
680			FAU1			Fall Hill Ave./ Mary Washington Blvd. Extension	Mary Wash. Blvd.	Gordon Shelton Blvd.			2	4	2020
681						Lafayette Blvd.	City Limit	VA-3 (Blue & Gray Parkway)				4	2045
682			FAU2			Gateway Blvd. Extended	William St. (PR-3)	Fall Hill Ave (UR-3965)			0	4	2035
		Stafford County Secondary											
683			NRS			VA 610	Shenandoah Ln	Oriville Rd				6	2021
684			FAS5b			VA 630 (Courthouse Rd)	Austin Ridge Dr.	VA 648 (Shelton Shop Rd)	4	4	2	4	2035
685			FAS13			VA 648 (Shelton Shop Rd.)	VA 610 (Garrisonville Rd)	VA 627 (Mountainview Rd)	4	4	2	4	2035
686			FAS3E		Widen	Garrisonville Rd.	Eustace Rd.	Shelton Shop Rd.			4	6	2045
		Spotsylvania County Secondary											
687			FAS26A			VA 606	US 1	I-95				4	2025
688			FAS18B			VA-620 (Harrison Rd.)	US-1 BUS (Lafayette Blvd.)	VA-639 (Salem Church Rd.)			2	4	2035
689			FAS19			VA 636 (Mine Rd./ Hood Dr.)	VA 208 (Courthouse Rd.)	US 1	4	4	2	4	2025
690			FAS19B			VA 636 (Mine Rd./ Hood Dr.)	Falcon Dr. / Spotsylvania Ave	Landsdowne Rd	4	4		4	2035

NOTE: Shaded areas represent changes from the 2020 Amendment to Visualize 2045.

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 2020 update to the *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.

PUBLIC COMMENT PERIODS

Public comment periods will be governed by the following procedures:

- For federally required plans and programs, including the Long-Range Transportation Plan (called Visualize 2045), the Transportation Improvement Program (TIP), the Public Participation Plan, associated air quality conformity analyses, and other documents, the following procedures are conducted, per federal requirements, at a minimum:
  - The length of public comment periods will be as follows:
    - A period of at least 45 days prior to the approval of the Public Participation Plan;
    - A period of at least 30 days prior to the approval of all other federally required plans and programs.
  - Development and consideration of written responses to comments received.
  - The TPB shall provide an additional opportunity for public comment if the final Long- Range Transportation 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 Long-Range Transportation Plan 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 Long-Range Transportation Plan and TIP.

- For major regional plans and policy documents that are not specifically governed by federal requirements, the following procedures are followed:
  - Public comment period of at least 30 days prior to the approval of documents.
  - Development and consideration of written responses to comments received.
  - The TPB shall provide an additional opportunity for public comment, if the final plan or policy document 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.

- For other Action Items before the TPB, the following participation procedures will be conducted at a minimum:
  - Materials will be posted electronically (on the TPB website and announced by email notification) six days before the TPB meeting.
  - Materials will be reviewed at the TPB Technical Committee by representatives from regional jurisdictions.

ONGOING OPPORTUNITIES TO COMMENT

For other items and activities, the TPB provides an opportunity for public comment via mail, email, and on the TPB website. The TPB also provides access to documents in advance of all meetings to provide an opportunity to comment.

To ensure that reasonable public access is provided to technical and policy information used in the TPB process, members of the public will be invited to review reports and other technical information (other than proprietary software or legally confidential data).

The TPB will encourage dissemination of information through the following means:

- Post all publicly available TPB documents on the TPB website, and otherwise seek opportunities to make suitable reports and technical information available through the TPB website.
- Distribute relevant reports and technical information free of charge at meetings of the TPB and its committees and subcommittees.

OPEN PUBLIC MEETINGS

The TPB will invite members of the public to participate in the review of technical work programs and analysis through attendance at meetings of the TPB Technical Committee and other TPB subcommittees, and at regular monthly meetings of the TPB.

To provide opportunities for public participation at these meetings, the TPB will use the following methods:

- A period of time will be dedicated at the beginning of each TPB meeting for public comment on transportation issues under consideration by the TPB and provide follow-up acknowledgment and response as appropriate.
- At least one formal public meeting will be conducted during the development process for the TIP.
- When possible, all meetings will occur at the MWCOG offices located at 777 N. Capitol St NE. These facilities are ADA-compliant, provide assisted hearing technology, and are accessible by fixed-route transit.
- Meetings may also be hold online, or in a hybrid in-person / online format. When a meeting has an online component, information needs to be made available describing how the public can join the meeting and documentation provided before or during the meeting needs also to be available online. Such online meeting opportunities may become particularly necessary in times of national crisis, such as the pandemic of 2020.

TPB Consultation and Public Comment Opportunities for the Air Quality Conformity Analysis of the 2022 Update to Visualize 2045 and the FY 2023-2026 Transportation Improvement Program (TIP)

The following lists TPB consultation and public comment opportunities during the air quality conformity analysis:

- November 6th, 2020 – TPB Technical Committee presentation on the Technical Input Solicitation guide for project submissions for the air quality conformity analysis of the 2022 Update to Visualize 2045 and the FY2023-2026 TIP. Staff presented key dates and deadlines.
- November 12th, 2020 – TPB Community Advisory Committee (CAC) presentation on the timeline and planned activities for Visualize 2045.
- November 13th, 2020 – Monthly conformity consultation letter referenced the draft final Technical Input Solicitation guide.
- November 18th, 2020 – Opportunity for public comment at the TPB meeting.
- November 18th, 2020 –TPB presentation on the final Technical Input Solicitation guide, including key dates and deadlines.
- December 1st, 2020 – COG published article encouraging people to join the Air and Climate Public Advisory Committee and the TPB Community Advisory Committee
- December 4th, 2020 – TPB Technical Committee presentation on the update for the Technical Input Solicitation document, including comments received.
- December 8th, 2020 – Article informed agencies that it is time to submit or update projects, programs, and policies for inclusion in the Visualize 2045 update.
- December 11th, 2020 – Monthly conformity consultation letter referenced the TPB's upcoming approval of the Technical Input Solicitation for the Constrained Element of the Long-Range Transportation Plan (LRTP), TIP, and the Air Quality Conformity Analysis.
- December 16th, 2020 – Opportunity for the public comment at the TPB meeting.
- December 16th, 2020 – TPB presentation and approval of the draft Technical Input Solicitation guide.
- January 12th, 2021 – MWAQC-TAC presentation about upcoming conformity analysis of the 2022 Update to Visualize 2045 and the FY2023-2026 TIP.
- February 9th, 2021– Article on Spanish language materials for Visualize 2045 made available for the Spanish community explaining who the TPB is and what TPB does. TPB in Spanish - TPB News
- March 5th, 2021–TPB Technical Committee presentation on air quality conformity project input submissions.

- April 2nd, 2021– TPB Technical Committee presentation on air quality conformity project input submissions and scope of work.
- April 2nd-May 3rd, 2021- 30-day public comment period on conformity project inputs and scope of work.
- April 2nd, 2021– TPB announced public comment period on Twitter.
- April 13th, 2021 – TPB News article announced public comment period.
- April 13th, 2021 – MWAQC TAC presentation on the technical inputs to the air quality conformity analysis.
- April 15th, 2021 – TPB CAC presentation on project inputs and public engagement opportunities during the spring and summer.
- April 16th, 2021 – Monthly conformity consultation letter referenced the TPB's upcoming briefing on project inputs.
- April 21st, 2021- TPB work session on project inputs
- April 21st, 2021 – Opportunity for public comment at the TPB meeting.
- April 21st, 2021 – TPB presentation on air quality conformity project input submissions and scope of work.
- April 26th, 2021 – TPB News article discussed April 21st TPB work session.
- May 3rd, 2021 – TPB News article announced launch of new Visualize 2045 website.
- May 7th, 2021 – TPB Technical Committee presentation on comments received during the comment period.
- May 13th, 2021 – TPB CAC had small group discussions and shared their observations and opinions about the project inputs.
- May 14th, 2021 – Monthly conformity consultation letter referenced the TPB's upcoming discussion on comments received and recommended responses.
- May 19th, 2021- TPB work session on comments received and recommended responses.
- May 19th, 2021 – Opportunity for public comment at the TPB meeting.
- May 19th, 2021 – TPB presentation on comments received and recommended responses. The implementing agencies discussed their projects.
- May 25th, 2021 – TPB News article discussed May 19th work session.
- June 14th, 2021 – Monthly conformity consultation letter referenced the TPB's upcoming approval of project inputs.
- June 16th, 2021 – Opportunity for the public comment at the TPB meeting.
- June 16th, 2021 – TPB News article about TPB's vote to remove the proposed I-270/I-495 express toll lanes project from air quality analysis.
- July 16th, 2021 – Monthly conformity consultation letter referenced the TPB's upcoming amendment of project inputs to add back in the proposed I-270/I-495 express toll lanes project.
- July 21st, 2021 – Opportunity for public comment at the TPB meeting.

- July 21st, 2021 – TPB posted on Twitter about vote to restore I-270/I-495 HOT lanes to region's long-range-plan.
- August 3rd, 2021 - TPB News article about TPB vote to include the Maryland HOT lanes project in the air quality conformity analysis.
- August 4th, 2021 – TPB posted on Twitter about vote to restore I-270/I-495 HOT lanes to region's long-range-plan.
- March 10th, 2022 – TPB CAC presentation on plans for virtual open houses on the Visualize 2045 update.
- April 1st, 2022 – Beginning of 30-day public comment period
- April 1st, 2022 – Paid advertisement posted in the ***Afro-American, Washington Hispanic*** and ***Washington Post*** announcing a 30-day public comment period from April 1, 2022 to May 1, 2022.
- April 1st, 2022 – TPB Technical Committee presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.
- April 1st, 2022 – TPB posted on Twitter about the public comment period for the 2022 update of the long-rang transportation plan, the TIP, and the air quality conformity analysis
- April 4th, 2022 – TPB posted on Twitter about upcoming Visualize 2045 open houses.
- April 5th, 2022– Conformity Subcommittee presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.
- April 6th, 2022 – Visualize 2045 evening virtual open house with question/answer session
- April 7th, 2022 - Visualize 2045 mid-day virtual open house with question/answer session
- April 8th, 2022 – Access For All Committee presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.
- April 14, 2022 – TIP forum
- April 14th, 2022 – TPB CAC presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.
- April 15th, 2022 – Monthly conformity consultation letter referenced upcoming TPB presentation on the draft plan and TIP, regional context, financial plan, draft findings of the Air Quality Conformity analysis, and regional transportation system performance analysis.
- April 20th, 2022 – Opportunity for public comment at the TPB meeting.
- April 20th, 2022 – TPB presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.

- April 26th, 2022 – TPB posted on Twitter about the presentation on the draft findings of the air quality conformity analysis, the financial plan, and the regional transportation system performance analysis.
- April 28th, 2022 – TPB News article summarized April TPB meeting.
- May 12th, 2022 – TPB CAC was briefed on an update on the input received during the public comment period from April 1 to May 1, 2022 for the long-range-plan update.
- May 13th, 2022 – Monthly conformity consultation letter referenced the upcoming TPB presentation on the comments received during the 30-day public comment period.
- May 18th, 2022 – Opportunity for public comment at the TPB meeting.
- May 18th, 2022 – TPB was briefed on the comments received during the 30-day public comment period from April 1 to May 1, 2022 for the air quality conformity analysis of the draft Plan and TIP, the draft plan, and draft TIP.
- May 31st, 2022 – TPB News article summarized May TPB meeting.
- June 10th, 2022 – Monthly conformity consultation letter referenced the upcoming TPB approval of the air quality conformity analysis, plan, and TIP.
- June 15th, 2022 – Opportunity for public comment at the TPB meeting.
- June 15th, 2022 – TPB approved the air quality conformity analysis, plan, and TIP.

National Capital Region
Transportation Planning Board

March 13, 2020

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 March 18, 2020 TPB meeting

This memo transmits the agenda for the March 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 *Dates and 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 in the Calendar of Events in *TPB NEWS*.

The March TPB agenda items relevant for transportation conformity and consultation are identified below.

Item 7 is an action item in which the Board will be briefed on, and asked to approve an amendment to the FY 2020 Unified Planning Work Program (UPWP), and associated FY 2020 carryover funding to FY 2021.

Item 8 is an action item in which the Board will be briefed on, and asked to approve the final version of the FY 2021 UPWP. At the February 19 meeting, the Board was briefed on the draft FY 2021 UPWP.

Item 10 is an action item in which the Board will be briefed on the all comments received during the 30-day public comment period and asked to accept the recommended responses for Visualize 2045, the FY 2021-2024 Transportation Improvement Program (TIP), and the Air Quality Conformity Analysis. The public comment period was opened January 31 and closed on March 1. The final version of the comments and responses memorandum will be incorporated into the documents scheduled for consideration under agenda items 11 and 12.

Item 11 is an action item in which the Board will be asked to approve the Air Quality Conformity Analysis of the 2020 Amendment to Visualize 2045 and the FY 2021-2024 TIP. At the February 19 meeting, the Board was briefed on the Air Quality Conformity Analysis of the 2020 Amendment to Visualize 2045 and FY 2021-2024 TIP.

Item 12 is an action item in which the Board will be asked to approve the 2020 Amendment to Visualize 2045 and the FY 2021-2024 TIP. The 2020 Amendment to Visualize 2045 and the draft FY 2021-2024 TIP were released for a 30-day public comment period on January 31.

National Capital Region
Transportation Planning Board

TRANSPORTATION PLANNING BOARD

Wednesday, March 18, 2020
12:00 - 2:00 P.M.
~~Walter A. Scheiber Board Room~~
VIRTUAL MEETING ONLY

AGENDA

12:00 P.M. **1. VIRTUAL PARTICIPATION PROCEDURES, MEMBER ROLL CALL, AND VIRTUAL PUBLIC COMMENT OPPORTUNITY**
Kelly Russell, TPB Chair

12:20 P.M. **2. APPROVAL OF THE FEBRUARY 19, 2020 MEETING MINUTES**
Kelly Russell, TPB Chair

12:25 P.M. **3. TECHNICAL COMMITTEE REPORT**
Kelly Russell, TPB Chair

12:30 P.M. **4. CITIZENS ADVISORY COMMITTEE REPORT**
Kelly Russell, TPB Chair

12:40 P.M. **5. STEERING COMMITTEE ACTIONS AND REPORT OF THE DIRECTOR**
Kelly Russell, TPB Chair

This agenda item includes Steering Committee actions, letters sent/received, and announcements and updates.

12:45 P.M. **6. CHAIRMAN'S REMARKS**
Kelly Russell, TPB Chair

ACTION ITEMS

12:50 P.M. **7. APPROVAL OF AN AMENDMENT TO THE FY 2020 UPWP, AND APPROVAL OF FY 2020 CARRYOVER FUNDING TO FY 2021**
Lyn Erickson, TPB Plan Development and Coordination Program Director

The Unified Planning Work Program (UPWP) is an annual work statement that identifies planning priorities and activities to be carried out within a metropolitan planning area. It serves as the TPB staff's work scope for the year. Certain projects and budgets in the current FY 2020 UPWP have been identified to be removed from the FY 2020 UPWP and carried over to FY 2021. The board will be briefed on the enclosed amendment to the FY 2020 UPWP and associated FY 2020 carryover funding to FY 2021.

Action: Adopt Resolutions R10-2020 and R11-2020 to approve the amendment to the FY 2020 UPWP and the FY 2020 carryover funding to FY 2021.

12:55 P.M. **8. APPROVAL OF THE FY 2021 UNIFIED PLANNING WORK PROGRAM (UPWP)**
Lyn Erickson, TPB Plan Development and Coordination Program Director

At the February 19 meeting, the board was briefed on the draft FY 2021 UPWP. The board will be briefed on the final draft of the FY 2021 UPWP and will be asked to approve it.

Action: Adopt Resolution R12-2020 to approve the FY 2021 UPWP.

1:00 P.M. **9. APPROVAL OF THE FY 2021 COMMUTER CONNECTIONS WORK PROGRAM (CCWP)**
Nicholas Ramfos, TPB Transportation Operations Programs Director

At the February 19 meeting, the board was briefed on the draft FY 2021 CCWP. The CCWP is an annual work statement that identifies alternative commute program projects and services designed to help improve traffic congestion and meet regional air quality goals. The board will be briefed on the final draft of the FY 2021 CCWP and will be asked to approve it.

Action: Adopt Resolution R13-2020 to approve the FY 2021 CCWP.

1:05 P.M. **10. REVIEW OF ALL COMMENTS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD AND ACCEPTANCE OF RECOMMENDED RESPONSES FOR THE 2020 AMENDMENT TO VISUALIZE 2045, THE FY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP), AND THE AIR QUALITY CONFORMITY ANALYSIS**
Andrew Austin, TPB Transportation Planner
Jane Posey, TPB Transportation Engineer

The board will be briefed on the comments received from the public and asked to accept the recommended responses for Visualize 2045, the FY 2021-2024 TIP, and the Air Quality Conformity Analysis. The public comment period was opened January 31 and closed on March 1. The final version of the comments and responses memorandum will be incorporated into the documents scheduled for consideration under agenda items 11 and 12.

Action: Accept recommended responses to comments received for the 2020 Amendment to Visualize 2045, the FY 2021-2024 TIP, and the Air Quality Conformity Analysis.

1:15 P.M. **11. APPROVAL OF THE AIR QUALITY CONFORMITY ANALYSIS OF THE 2020 AMENDMENT TO VISUALIZE 2045 AND THE FY 2021-2024 TIP**
Lyn Erickson, TPB Plan Development and Coordination Program Director

At the February 19 meeting, the board was briefed on the Air Quality Conformity Analysis of the 2020 Amendment to Visualize 2045 and the FY 2021-2024 TIP.

Action: Adopt Resolution R14-2020 finding that the 2020 Amendment to Visualize 2045 and the FY 2021-2024 TIP conform with the requirements of the Clean Air Act Amendments of 1990.

1:20 P.M. **12. APPROVAL OF THE 2020 AMENDMENT TO VISUALIZE 2045 AND THE FY 2021-2024 TIP**
Lyn Erickson, TPB Plan Development and Coordination Program Director

The 2020 Amendment to Visualize 2045 and the draft FY 2021-2024 TIP were released for a 30-day public comment period on January 31.

Action: Adopt Resolution R15-2020 approving the 2020 Amendment to Visualize 2045 and the FY 2021-2024 TIP.

1:25 P.M. **13. CERTIFICATION OF THE METROPOLITAN TRANSPORTATION PLANNING PROCESS FOR THE NATIONAL CAPITAL REGION**
Lyn Erickson, TPB Plan Development and Coordination Program Director

The Joint Planning Regulations issued by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) require that "concurrent with the submittal of the entire proposed TIP…the state and MPO shall certify at least every four years that the metropolitan transportation planning process is addressing the major issues in the metropolitan planning area and is being carried out in accordance with all applicable requirements…" The board will be briefed on the Statement of Certification and asked to endorse it.

Action: Adopt Resolution R16-2020 endorsing the appended Statement of Certification.

INFORMATION ITEM

1:30 P.M. **14. TRANSIT-ORIENTED COMMUNITIES: HIGH-CAPACITY TRANSIT STATION AREA INTERACTIVE MAP**
Tim Canan, TPB Planning Data and Research

As part of TPB's focus on transit-oriented communities, TPB staff developed an interactive map that identifies existing transit station areas and classifies them according to demographic filters. This planning tool can support local planning agencies to identify opportunities for projects, programs, and policies that support the development of transit-oriented communities in the region. Staff will demonstrate the interactive map.

NOTICE ITEM

1:30 P.M. **15. PROPOSED ADDITION TO TPB BYLAWS**

TPB is providing notice to add a provision to the TPB Bylaws to allow virtual meetings in the future on an as-needed basis.

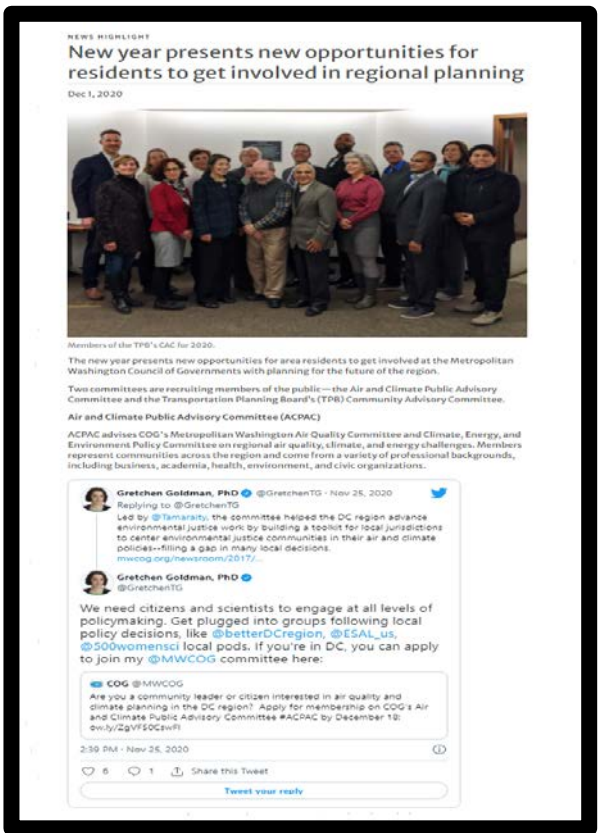
2:00 P.M. **16. ADJOURN**

The next meeting is scheduled for April 15, 2020.

MEETING AUDIO

Stream live audio of TPB meetings and
listen to recorded audio from past meetings at:
www.mwcog.org/TPBmtg

Public Invoved in Air & Climate December 1, 2020



NEWS HIGHLIGHT

New year presents new opportunities for residents to get involved in regional planning

Dec 1, 2020

Members of the TPB's CAC for 2020.

The new year presents new opportunities for area residents to get involved at the Metropolitan Washington Council of Governments with planning for the future of the region.

Two committees are recruiting members of the public—the Air and Climate Public Advisory Committee and the Transportation Planning Board's (TPB) Community Advisory Committee.

Air and Climate Public Advisory Committee (ACPAC)

ACPAC advises COG's Metropolitan Washington Air Quality Committee and Climate, Energy, and Environment Policy Committee on regional air quality, climate, and energy challenges. Members represent communities across the region and come from a variety of professional backgrounds, including business, academia, health, environment, and civic organizations.

Gretchen Goldman, PhD @GretchenTG · Nov 25, 2020

Replying to @GretchenTG

Led by @Tamaraity, the committee helped the DC region advance environmental justice work by building a toolkit for local jurisdictions to center environmental justice communities in their air and climate policies--filling a gap in many local decisions.

mwcog.org/newsroom/2017/...

Gretchen Goldman, PhD @GretchenTG

We need citizens and scientists to engage at all levels of policymaking. Get plugged into groups following local policy decisions, like @betterDCregion, @ESAL_us, @500womensci local pods. If you're in DC, you can apply to join my @MWCOG committee here:

COG @MWCOG

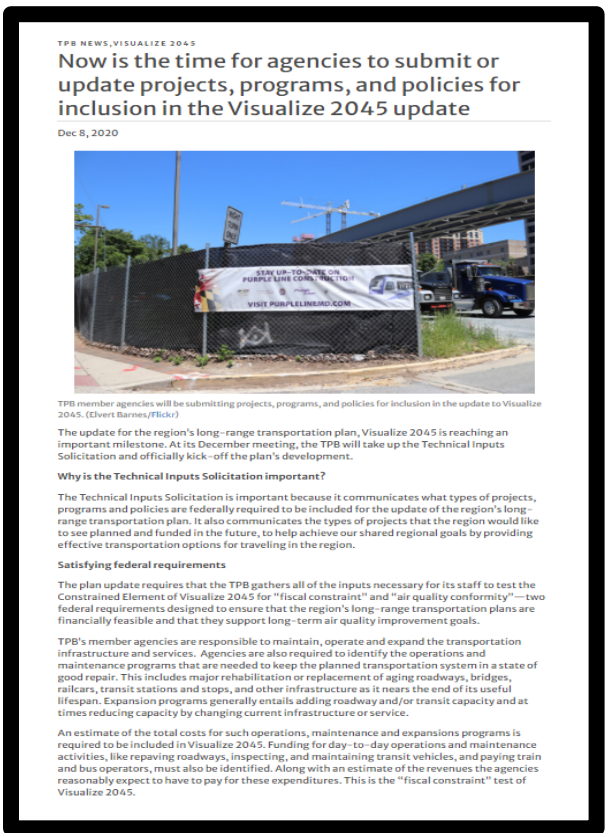
Are you a community leader or citizen interested in air quality and climate planning in the DC region? Apply for membership on COG's Air and Climate Public Advisory Committee #ACPAC by December 19: ow.ly/2gVF50CswFI

2:39 PM · Nov 25, 2020

6 1 Share this Tweet

Tweet your reply

Agencies Submit Projects December 8, 2020



TPB NEWS, VISUALIZE 2045

Now is the time for agencies to submit or update projects, programs, and policies for inclusion in the Visualize 2045 update

Dec 8, 2020

TPB member agencies will be submitting projects, programs, and policies for inclusion in the update to Visualize 2045. (Elvert Barnes/Flickr)

The update for the region's long-range transportation plan, Visualize 2045 is reaching an important milestone. At its December meeting, the TPB will take up the Technical Inputs Solicitation and officially kick-off the plan's development.

Why is the Technical Inputs Solicitation important?

The Technical Inputs Solicitation is important because it communicates what types of projects, programs and policies are federally required to be included for the update of the region's long-range transportation plan. It also communicates the types of projects that the region would like to see planned and funded in the future, to help achieve our shared regional goals by providing effective transportation options for traveling in the region.

Satisfying federal requirements

The plan update requires that the TPB gathers all of the inputs necessary for its staff 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 transportation plans are financially feasible and that they support long-term air quality improvement goals.

TPB's member agencies are responsible to maintain, operate and expand the transportation infrastructure and services. Agencies are also required to identify the operations and maintenance programs that are needed to keep the planned transportation system in a state of good repair. This includes major rehabilitation or replacement of aging roadways, bridges, railcars, transit stations and stops, and other infrastructure as it nears the end of its useful lifespan. Expansion programs generally entails adding roadway and/or transit capacity and at times reducing capacity by changing current infrastructure or service.

An estimate of the total costs for such operations, maintenance and expansions programs is required to be included in Visualize 2045. Funding for day-to-day operations and maintenance activities, like repaving roadways, inspecting, and maintaining transit vehicles, and paying train and bus operators, must also be identified. Along with an estimate of the revenues the agencies reasonably expect to have to pay for these expenditures. This is the "fiscal constraint" test of Visualize 2045.

Update to Visualize 2045 December 22, 2020

Looking ahead to Visualize 2045

Plan together.
Prosper together.

visualize 2045

This year TPB staff began working on the 2022 update to Visualize 2045, the long-range transportation plan for metropolitan Washington. The plan will include transportation projects in the region that we can reasonably expect to fund, including all those that impact the required air quality conformity analysis. It provides a rededication to equity, resiliency, and safer communities as we visualize our future. To get started the TPB conducted a regionwide survey and is scheduling focus groups to capture the story behind the data. Later in 2021, the TPB will be conducting outreach to communities throughout the region, respecting social distancing inconsideration of public health directives. There will also be opportunities for the public to weigh in during public comment periods.

Learn more about the plan update.

Check out our kick-off video, A look back to look forward:

TPB in Spanish Visualize 2045 Febuary 9,2021

Home > > Newsroom > TPB in Spanish

TPB NEWS

TPB in Spanish

Feb 9, 2021

Did you know we have Spanish language materials? If you work with Spanish speakers or are interested in sharing some information about the TPB to Spanish speakers, you're in luck.

We have translated two articles that explain who we are and what we do.

Conozca la junta de planificacion de transporte

La planificacion del transporte, en resumen

For any COG webpages, we also have enabled Google Translate. As we develop more Spanish language materials in the future, you'll be able to find them by searching "TPB En Español" or "TPB in Spanish"

We also have videos developed for Visualize 2045.

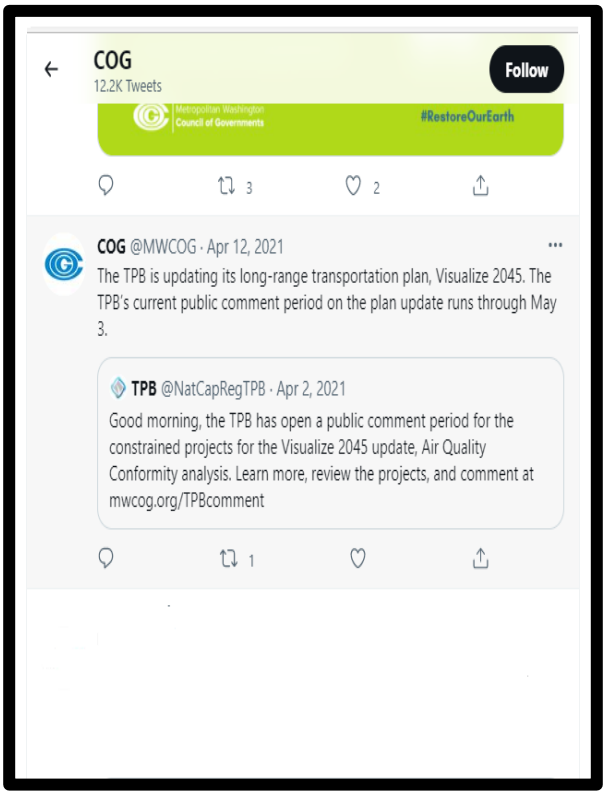
(Spanish) Visualize 2045: Plan Together, Prosper Together

from COG Video

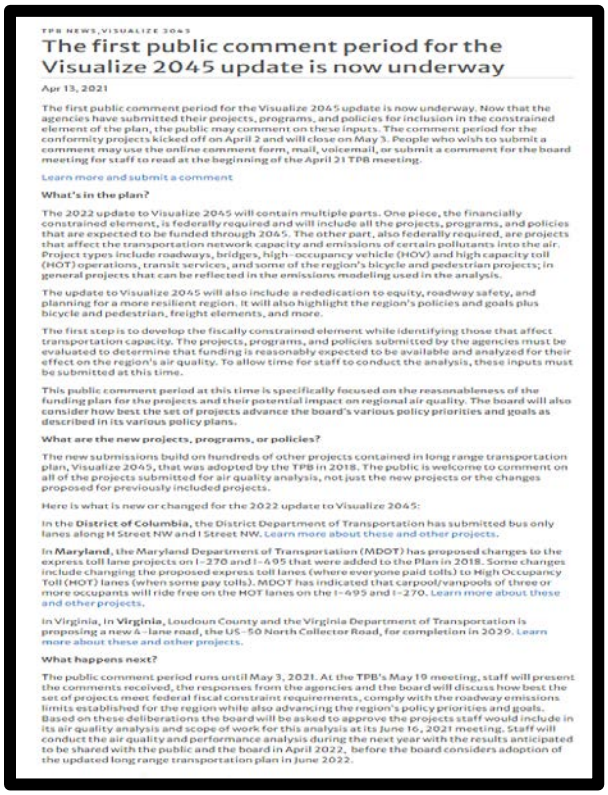
Prosperamos juntos.

visualize 2045

TPB Twitter: Public Comment Period April 2, 2021



Public Comment Period April 13, 2021



TPB NEWS, VISUALIZE 2045

The first public comment period for the Visualize 2045 update is now underway

Apr 13, 2021

The first public comment period for the Visualize 2045 update 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 for the conformity projects kicked off on April 2 and will close on May 3. People who wish to submit a comment may use the online comment form, mail, voicemail, or submit a comment for the board meeting for staff to read at the beginning of the April 21 TPB meeting.

Learn more and submit a comment

What's in the plan?

The 2022 update to Visualize 2045 will contain multiple parts. One piece, the financially constrained element, is federally required and will include all the projects, programs, and policies that are expected to be funded through 2045. The other part, also federally required, are projects that affect the transportation network capacity and emissions of certain pollutants into the air. Project types include roadways, bridges, high-occupancy vehicle (HOV) and high capacity toll (HOT) operations, transit services, and some of the region's bicycle and pedestrian projects; in general projects that can be reflected in the emissions modeling used in the analysis.

The update to Visualize 2045 will also include a rededication to equity, roadway safety, and planning for a more resilient region. It will also highlight the region's policies and goals plus bicycle and pedestrian, freight elements, and more.

The first step is to develop the fiscally constrained element while identifying those that affect transportation capacity. The projects, programs, and policies submitted by the agencies must be evaluated to determine that funding is reasonably expected to be available and analyzed for their effect on the region's air quality. To allow time for staff to conduct the analysis, these inputs must be submitted at this time.

This public comment period at this time is specifically focused on the reasonableness of the funding plan for the projects and their potential impact on regional air quality. The board will also consider how best the set of projects advance the board's various policy priorities and goals as described in its various policy plans.

What are the new projects, programs, or policies?

The new submissions build on hundreds of other projects contained in long range transportation plan, Visualize 2045, that was adopted by the TPB in 2018. The public is welcome to comment on all of the projects submitted for air quality analysis, not just the new projects or the changes proposed for previously included projects.

Here is what is new or changed for the 2022 update to Visualize 2045:

In the **District of Columbia**, the District Department of Transportation has submitted bus only lanes along H Street NW and I Street NW. Learn more about these and other projects.

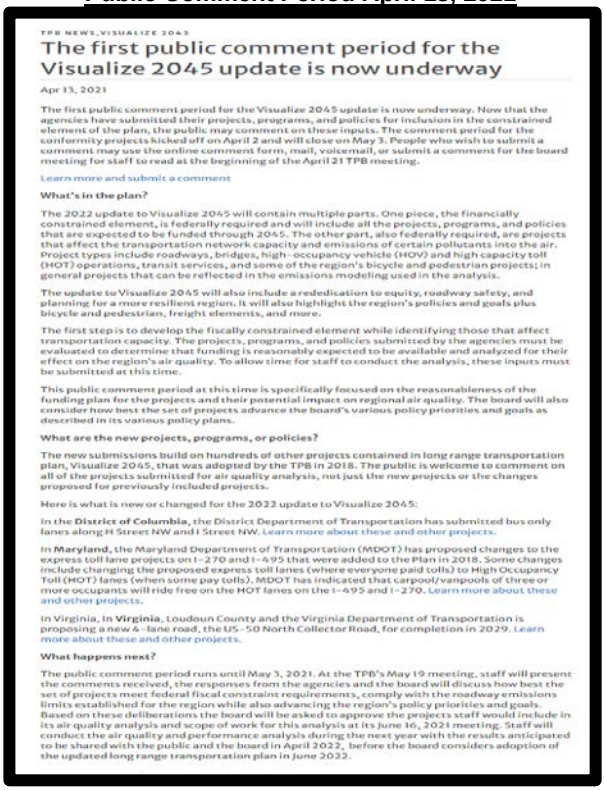
In **Maryland**, the Maryland Department of Transportation (MDOT) has proposed changes to the express toll lane projects on I-270 and I-495 that were added to the Plan in 2018. Some changes include changing the proposed express toll lanes (where everyone paid tolls) to High Occupancy Toll (HOT) lanes (when some pay tolls). MDOT has indicated that carpool/vanpools of three or more occupants will ride free on the HOT lanes on the I-495 and I-270. Learn more about these and other projects.

In Virginia, In **Virginia**, Loudoun County and the Virginia Department of Transportation is proposing a new 4-lane road, the US-50 North Collector Road, for completion in 2029. Learn more about these and other projects.

What happens next?

The public comment period runs until May 3, 2021. At the TPB's May 19 meeting, staff will present the comments received, the responses from the agencies and the board will discuss how best the set of projects meet federal fiscal constraint requirements, comply with the roadway emissions limits established for the region while also advancing the region's policy priorities and goals. Based on these deliberations the board will be asked to approve the projects staff would include in its air quality analysis and scope of work for this analysis at its June 16, 2021 meeting. Staff will conduct the air quality and performance analysis during the next year with the results anticipated to be shared with the public and the board in April 2022, before the board considers adoption of the updated long range transportation plan in June 2022.

Public Comment Period April 13, 2021



TPB NEWS, VISUALIZE 2045

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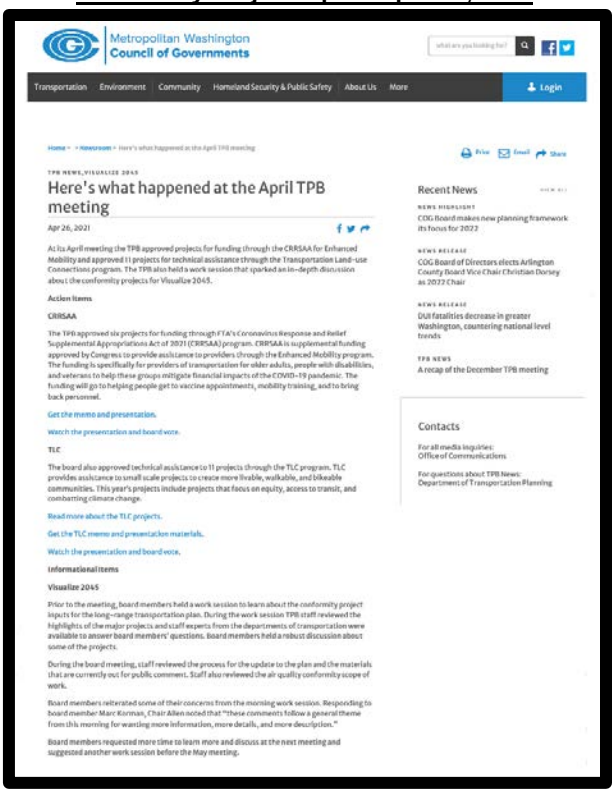
Conformity Project Inputs April 26, 2021



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TPB NEWS, VISUALIZE 2045

Here's what happened at the April TPB meeting

Apr 26, 2021

At its April meeting the TPB approved projects for funding through the CRRSAA for Enhanced Mobility and approved 11 projects for technical assistance through the Transportation Land-use Connections program. The TPB also held a work session that sparked an in-depth discussion about the conformity projects for Visualize 2045.

Action Items

CRRSAA

The TPB approved six projects for funding through FTA's Coronavirus Response and Relief Supplemental Appropriations Act of 2021 (CRRSAA) program. CRRSAA is supplemental funding approved by Congress to provide assistance to providers through the Enhanced Mobility program. The funding is specifically for providers of transportation for older adults, people with disabilities, and veterans to help these groups mitigate financial impacts of the COVID-19 pandemic. The funding will go to helping people get to vaccine appointments, mobility training, and to bring back personnel.

Get the memo and presentation.

Watch the presentation and board vote.

TLC

The board also approved technical assistance to 11 projects through the TLC program. TLC provides assistance to small scale projects to create more livable, walkable, and bikeable communities. This year's projects include projects that focus on equity, access to transit, and combatting climate change.

Read more about the TLC projects.

Get the TLC memo and presentation materials.

Watch the presentation and board vote.

Informational Items

Visualize 2045

Prior to the meeting, board members held a work session to learn about the conformity project inputs for the long-range transportation plan. During the work session TPB staff reviewed the highlights of the major projects and staff experts from the departments of transportation were available to answer board members' questions. Board members held a robust discussion about some of the projects.

During the board meeting, staff reviewed the process for the update to the plan and the materials that are currently out for public comment. Staff also reviewed the air quality conformity scope of work.

Board members reiterated some of their concerns from the morning work session. Responding to board member Marc Korman, Chair Allen noted that "these comments follow a general theme from this morning for wanting more information, more details, and more description."

Board members requested more time to learn more and discuss at the next meeting and suggested another work session before the May meeting.

Recent News

NEWS HIGHLIGHT
COG Board makes new planning framework its focus for 2022

NEWS RELEASE
COG Board of Directors elects Arlington County Board Vice Chair Christian Dorsey as 2022 Chair

NEWS RELEASE
DUI fatalities decrease in greater Washington, countering national level trends

TPB NEWS
A recap of the December TPB meeting

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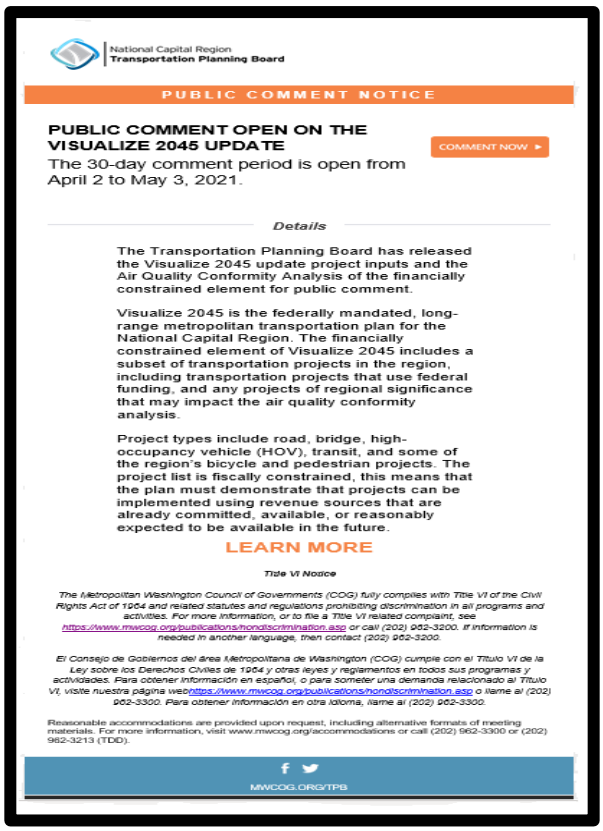
For questions about TPB News:
Department of Transportation Planning

Public Comment Period May 3, 2021



National Capital Region Transportation Planning Board

PUBLIC COMMENT NOTICE

PUBLIC COMMENT OPEN ON THE VISUALIZE 2045 UPDATE

COMMENT NOW ►

The 30-day comment period is open from April 2 to May 3, 2021.

Details

The Transportation Planning Board has released the Visualize 2045 update project inputs and the Air Quality Conformity Analysis of the financially constrained element for public comment.

Visualize 2045 is the federally mandated, long-range metropolitan transportation plan for the National Capital Region. The financially constrained element of Visualize 2045 includes a subset of transportation projects in the region, including transportation projects that use federal funding, and any projects of regional significance that may impact the air quality conformity analysis.

Project types include road, bridge, high-occupancy vehicle (HOV), transit, and some of the region's bicycle and pedestrian projects. The project list is fiscally constrained, this means that the plan must demonstrate that projects can be implemented using revenue sources that are already committed, available, or reasonably expected to be available in the future.

LEARN MORE

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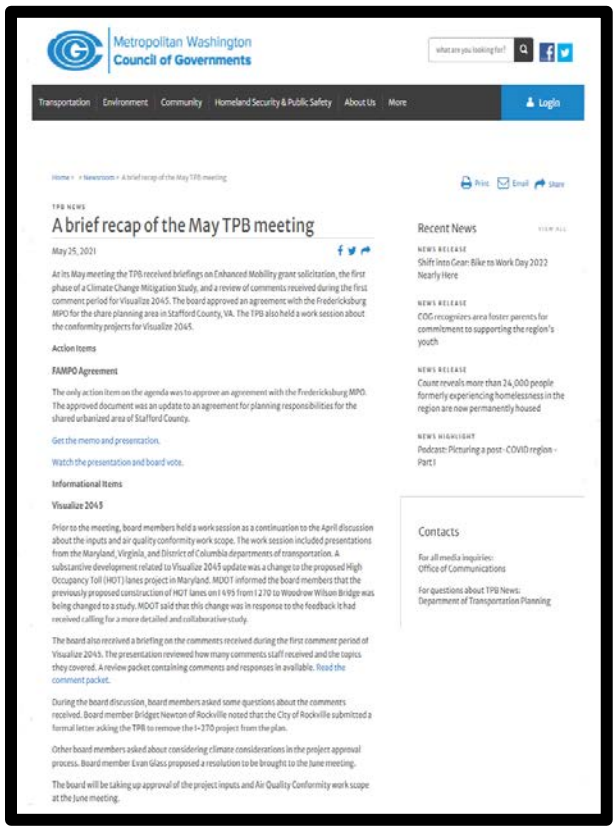
El Consejo de Gobiernos del área Metropolitana de Wasshington (COG) cumple con el Título VI de la Ley sobre los Derechos Civiles de 1964 y otras leyes y reglamentos en todas sus programas y actividades. Para obtener información en español, o para someter una demanda relacionado al Título VI, visite nuestra página webhttps://www.mwcog.org/publications/nondiscrimination.asp o llame al (202) 962-3300. Para obtener información en otra idioma, llame al (202) 962-3300.

Reasonable accommodations are provided upon request, including alternative formats of meeting materials. For more information, visit www.mwcog.org/accommodations or call (202) 962-3300 or (202) 962-3213 (TDD).

MWCOG.ORG/TPB

Air Quality Conformity Work Scope May 25, 2021



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TPB NEWS

A brief recap of the May TPB meeting

May 26, 2021

At its May meeting the TPB received briefings on Enhanced Mobility grant solicitation, the first phase of a Climate Change Mitigation Study, and a review of comments received during the first comment period for Visualize 2045. The board approved an agreement with the Fredericksburg MPO for the share planning area in Stafford County, VA. The TPB also held a work session about the conformity projects for Visualize 2045.

Action Items

FAMPO Agreement

The only action item on the agenda was to approve an agreement with the Fredericksburg MPO. The approved document was an update to an agreement for planning responsibilities for the shared urbanized area of Stafford County.

Get the memo and presentation.

Watch the presentation and board vote.

Informational Items

Visualize 2045

Prior to the meeting, board members held a work session as a continuation to the April discussion about the inputs and air quality conformity work scope. The work session included presentations from the Maryland, Virginia, and District of Columbia departments of transportation. A substantive development related to Visualize 2045 update was a change to the proposed High Occupancy Toll (HOT) lanes project in Maryland. MDOT informed the board members that the previously proposed construction of HOT lanes on I 495 from I 270 to Woodrow Wilson Bridge was being changed to a study. MDOT said that this change was in response to the feedback it had received calling for a more detailed and collaborative study.

The board also received a briefing on the comments received during the first comment period of Visualize 2045. The presentation reviewed how many comments staff received and the topics they covered. A review packet containing comments and responses in available. Read the comment packet.

During the board discussion, board members asked some questions about the comments received. Board member Bridget Newton of Rockville noted that the City of Rockville submitted a formal letter asking the TPB to remove the I-270 project from the plan.

Other board members asked about considering climate considerations in the project approval process. Board member Evan Glass proposed a resolution to be brought to the June meeting.

The board will be taking up approval of the project inputs and Air Quality Conformity work scope at the June meeting.

Recent News

NEWS RELEASE
Shift Into Gear: Bike to Work Day 2022 Nearly Here

NEWS RELEASE
COG recognizes area foster parents for commitment to supporting the region's youth

NEWS RELEASE
Count reveals more than 24,000 people formerly experiencing homelessness in the region are now permanently housed

NEWS HIGHLIGHT
Podcast: Picturing a post-COVID region - Part I

Contacts

For all media inquiries:
Office of Communications

For questions about TPB News:
Department of Transportation Planning

Removes I-270/I-495 Toll Lanes June 16,2021

NEWS RELEASE

TPB making changes to long-range plan: Adds new climate change commitments to planning process, removes I-270/I-495 toll lanes

Jun 16, 2021

Members of the National Capital Region Transportation Planning Board (TPB) voted today to add new climate change commitments to its planning process and also removed the proposed I-270/I-495 express toll lanes project from an air quality analysis that the TPB is required to undertake as it updates the region's long-range transportation plan, Visualize 2045. This action effectively removes the Maryland project from the June 2022 update of the regional plan.

In order to meet federal requirements and advance to the construction phase, regional projects must be included in the long-range plan. Inclusion in the plan affirms that projects collectively meet federal air quality standards and have financing in place to build, operate, and maintain the regional transportation system. Following the action to remove the lanes from the project list for the air quality analysis, the TPB voted to study the remaining projects, including a new 4-lane road, the US-50 North Collector Road in Virginia, which is the next step in the process of updating the plan.

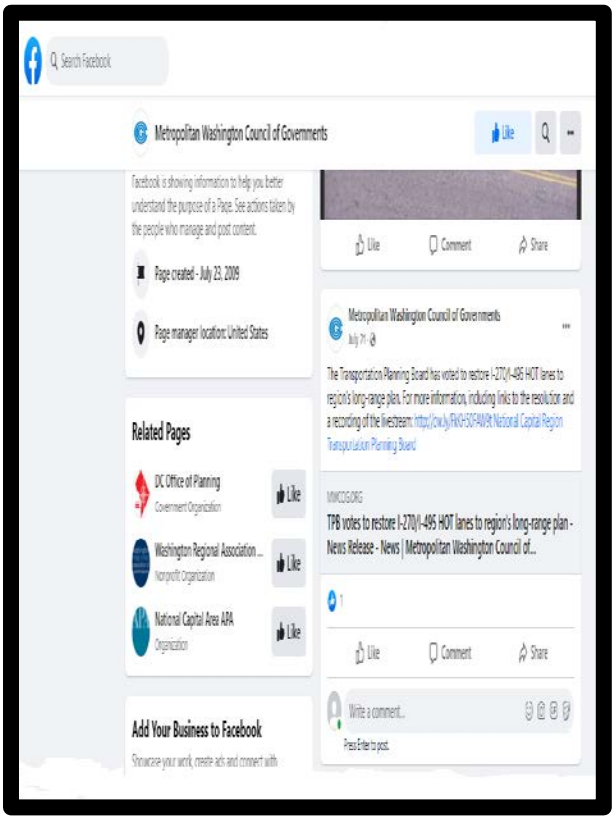
Members in support of removing the express toll lanes project questioned the effectiveness of the lanes, cited community concerns, and noted that the project did not appear to enjoy regional consensus. Opponents of removing the lanes argued that the project, which included reconstruction of the American Legion Bridge and would connect with the Virginia express lanes network, would provide major economic and quality of life benefits to residents in Maryland and the entire region.

As part of the approved air quality analysis resolution, the board also added language to increase its commitment to addressing climate change within the transportation sector. The resolution calls for the TPB to initiate another full update of the plan in 2024, two years earlier than required by federal authorities. The 2024 version will consider multiple scenarios, including a planning scenario focused primarily on reducing greenhouse gas emissions.

"This resolution lays the foundation for the next transportation plan while recognizing the climate crisis we are in," said Montgomery County Councilmember Evan Glass, a TPB member that advocated for the new climate commitments, noting these are "steps in the right direction for TPB to show our commitment to addressing the climate crisis."

"Even though it is a bit contentious, I think we have collectively taken a significant step and a meaningful one" in our transportation planning process, said TPB Chair Charles Allen, a District of Columbia Councilmember.

Twitter Restore I-270/I-495 Hot Lanes July 21, 2021



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Metropolitan Washington Council of Governments
July 21

The Transportation Planning Board has voted to restore I-270/I-495 HOT lanes to region's long-range plan. For more information, including links to the resolution and a recording of the livestream: https://ow.ly/fWO150I4MJR National Capital Region Transportation Planning Board

MWCOG.ORG

TPB votes to restore I-270/I-495 HOT lanes to region's long-range plan - News Release - News | Metropolitan Washington Council of...

1

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Public Comment Period Start January 25, 2022

INFORMATION ITEMS

Unified Planning Work Program Overview

Lyn Erickson, TPB Plan Development and Coordination Program Director, provided an overview of the federal MPO requirements related to the development and implementation of the Unified Planning Work Program (UPWP), which directs the scope of work for the MPO each fiscal year (FY). The FY 2023 UPWP includes revenue estimates and planned work activities for:

- Long-Range Transportation Planning
- Transportation Improvement Program
- Planning Elements
- Public Participation
- Travel Forecasting
- Mobile Emissions Planning
- Transportation Research and Data Programs
- Regional Land Use and Transportation Planning Coordination
- Mobility and Enhancement Programs
- TBP Management and Support
- Technical Assistance Program

Board members will review UPWP revenues and expenditures in February 2022 and will be asked to approve the FY 2023 UPWP on March 16.

What's Inside *Visualize 2045*: A Look at the Long-Range Transportation Plan

Stacy Cook, TBP Transportation Planner, provided an update on the development of the *Visualize 2045* plan, including the outline of the plan document, the new components to be included in *Visualize 2045*, and the timeline for finalizing the plan document. The plan document includes nine chapters covering current conditions, factors affecting the region, public engagement, strategies for the future, funding, and performance-based planning.

Key spring/early summer dates:

- April 2022: Begin Public Comment Period on the Air Quality Conformity Analysis and the plan
- May 2022: Present public comment summary to the TPB
- June 2022: Staff recommendation for approval of the update to Visualize 2045

TPB members asked about actions that will help the region move forward with its goals. Staff reported that the plan includes projects that advance aspirational initiatives. The plan also includes specific items required by federal regulations yet addresses overarching regional priorities—such as housing and jobs access—to meet regional goals.

Kostiuk commented on the interplay between the TPB aspirational initiative, regional priorities such as equity, climate change, and the plan. Staff noted the many elements in the plan document and how these can be used in combination to assess the progress the region is making towards its aspirational goals and regional priorities each time the plan is updated. Staff pointed to chapters 1, 6, 7, and 8 which speak to member action not captured through the TPB's long range plan, the specific list of member projects that are currently planned within fiscal constraints, results of performance analysis of the plan, and strategies to achieve the aspirational goals and reginal priorities.

Mark Phillips, WMATA representative, asked how the plan considers equity. Staff responded that equity considerations are interlaced throughout the plan and respond to comments voiced by under-represented and historically disadvantaged groups. Specific examples include but are not limited to: (1) Chapter 2: Implications of traffic emissions; (2) Chapter 3: Documented TPB equity resolutions; and (3) Chapter 6: Discussion of equity considerations for each planning area (i.e., bicycle/pedestrian, transit, roadway). Another equity consideration is the outreach conducted to traditionally underserved communities as part of the 2021 Voices of the Region Focus Groups.

Air Quality Analysis Finding March 24, 2022

Steering Committee Actions and Director's Report

Kanti Srikanth, TPB Staff Director, welcomed TPB members back to the COG Board Room and thanked the COG IT staff for their support on implementing and testing technology for virtual meetings over the past two years and for the return of in-person participation.

Maryland DOT and WMATA have submitted Transportation Improvement Program (TIP) amendments related to South Mountain Welcome Center truck parking and adjustments to the WMATA capital budget.

TPB is preparing letters of support for projects receiving funding through U.S. DOT RAISE grants and other U.S. DOT programs in Loudoun and Prince William Counties in Virginia and in Montgomery County, Maryland.

Commuter Connections is welcoming workers back to their offices through a regional "Commute with Confidence" campaign. TPB Chair Pamela Sebesky participated in the February 23 live discussion with Nick Ramfos, Director of Transportation Operations Programs.

Srikanth announced the following activities:

- April 1 is the deadline for returning TPB climate change mitigation questionnaire responses.
- April 1 – May 1 is the 30-day comment period for the draft Visualize 2045 plan update document, the TIP, and the Air Quality Conformity analysis findings. TPB committees will receive briefs.
- April 6 (7:00 – 8:15 P.M.) and April 7 (12:00 – 1:15 P.M.) – TPB will host virtual open houses for the Visualize 2045 plan update.
- April 14 (6:00 – 7:00 P.M.) – TPB will host the virtual TIP Forum in coordination with state DOT and transit agency partners.
- April 8 is the first webinar in the new TPB Transportation Resiliency Planning webinar series. More information will be shared on the COG website and in TPB News.

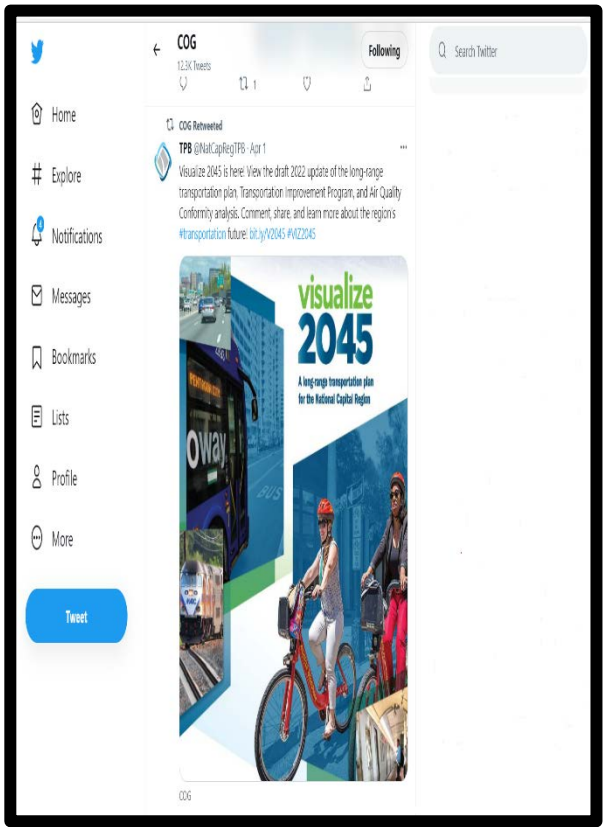
Kacy Kostiuk, City of Takoma Park Councilmember, stated that there are new opportunities for safety-focused grants available for MPOs through the Bipartisan Infrastructure Law and asked whether work is being done toward a grant that TPB may apply for or may encourage member jurisdictions to apply for in the near future. Srikanth responded that as U.S. DOT releases program guidelines for the new programs, staff will work with the TPB Technical Committee and state DOTs to determine if there are programs to which the MPO could apply. MPOs are now eligible applicants for some programs; there might be opportunities where the MPO can assist local government or state DOTs if TPB comes up with program ideas to complement the local or state applications.

Patrick Wojahn, College Park City Council Mayor, asked if TPB is supporting all the RAISE grant applications in the region or whether some are prioritized. Srikanth replied that TPB supports projects that advance TPB goals and priorities. If a project doesn't align with those goals, TPB staff will reach out to applicant staff to learn more about the project in order to determine whether to support a particular project.

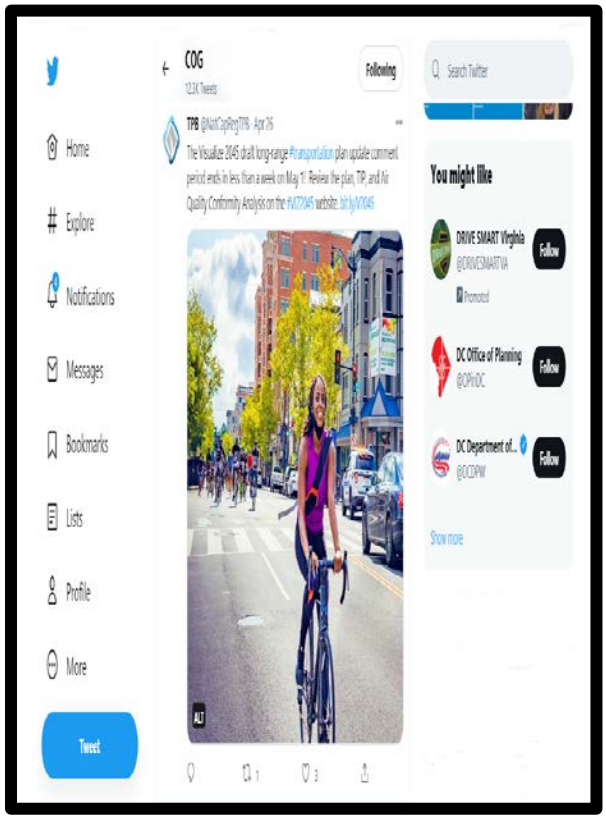
NEXT MEETING

The April TPB meeting is scheduled for April 20 at 12:00 P.M. A 10:15 A.M. climate work session will be held prior to the meeting.

Air Quality Conformity Analysis April 1, 2022



Update on Comment Period April 26, 2022



Finding from the Air Quality Analysis April 28, 2022

Visualize 2045 Update, FY 2023-2026 TIP and Air Quality Conformity Analysis

Stacy Cook and Sergio Ritacco, TPB Transportation Planners, and Eric Randall and Jane Posey, TPB Engineers, provided an overview of the draft plan update and accompanying materials. The Visualize 2045 update is currently in a 30-day comment period that runs through May 1, 2022. The presentation included the financial plan, findings of the Air Quality Conformity analysis, and regional transportation system performance analysis. The draft plan and supporting documents are available at Visualize 2045.

Victor Weissberg, Prince George's County, called attention to continuing equity disparities in the region, particularly along the much-studied east-west divide. As an example, he said he thinks there is a need for the TPB to continue to understand and change regional geographic differences in access to jobs, which were highlighted in the Visualize 2045 analysis. Weissberg recommended increasing housing options near jobs.

Brian Lee, City of Laurel, asked whether COVID impacts on teleworking levels and the use of single-occupancy vehicles were considered in Visualize 2045 projections. Srikanth responded that the forecasts for Visualize 2045 did not include increased levels of teleworking or COVID-related changes in driving because the long-term impacts of the pandemic are not yet clear. However, he said that TPB staff anticipates that future forecast modeling will reflect COVID impacts.

Lee also asked whether intra-corridor stations on the Metrorail system are being considered. Srikanth explained that future expansions of Metro, MARC, or Virginia Railway Express systems, including infill stations on existing lines, may be under consideration at the local and state levels and they may already be included in local and state plans. However, he cautioned that such expansions may only be included in the constrained element of Visualize 2045 if sponsoring agencies have demonstrated they anticipate the funding to build, operate, and maintain such a facility. This financial constraint component of the TPB's planning process is a requirement of federal law.

To address recent questions about the status of managed lane projects in Maryland, the TPB has posted a clarification response on the Visualize 2045 website.

Committee and Director's Reports

At their April meetings, the TPB's Technical Committee, Community Advisory Committee (CAC), and Access for All Advisory Committee (AFA) members all received presentations on the Visualize 2045 draft plan update, FY 2023 – 2026 Transportation Improvement Program (TIP), and the Air Quality Conformity Analysis. The April 14 CAC meeting was preceded by the TIP Forum which featured presentations from the District DOT, Maryland DOT, and Virginia DOT.

At its April 8 meeting, AFA Committee members held breakout discussions on unmet transportation needs as part of the development of the 2022 update of the Coordinated Human Service Transportation Plan for the National Capital Region. It is anticipated that the plan will be sent to the TPB for review in November 2022 with requested approval at the December TPB meeting.

Washington Hispanic March 25, 2022

PERÍODO DE COMENTARIO PÚBLICO
PARA EL PLAN DE PROPUESTA DE LA REGIÓN NACIONAL DE LA CAPITAL
VISUALIZE 2045 EL PLAN DE TRANSPORTACIÓN A LARGO PLAZO,
FY 2023-2026 PROGRAMA DE MEJORAMIENTO DE TRANSPORTACIÓN
Y ANÁLISIS DE CONFORMIDAD DE CALIDAD DE AIRE

El Consejo de Planificación de Transportación de la Región Nacional de la Capital (TPB) es la organización designada de Planificación Metropolitano (MPO), con responsabilidad del requisito federal de planificación de transportación regional para el Distrito de Columbia, los suburbios de Maryland, y el Norte de Virginia. EL TPB iniciará un período de comentario público de 30 días por la actualización del 2022 de Visualize 2045, plan de transportación a largo plazo, el borrador FY 2023-2026, Programa de Mejoramiento de Transportación (TIP), y el acompañante análisis de conformidad de calidad del aire el 1 de abril, 2022. Este período de comentario se extenderá hasta el domingo 1 de mayo, 2022. Estos documentos están programados para ser aprobados en la reunión del 5 de junio, 2022.

Visualize 2045 es un plan ordenado federalmente de la transportación metropolitana para la Región Nacional de la Capital. Además de los proyectos de carreteras, puentes, vehículos de alta ocupación (HOV) y bicicletas que las agencias de transportación regional esperan poder pagar entre ahora y el 2045, el plan incluye proyectos con aspiraciones, programas, políticas que van más alla de las limitaciones financieras. El TIP incluye todos los proyectos, programas y estrategias que las agencias de transportación regional que planifican implementar entre el 2023 y 2026. El análisis de conformidad de la calidad del aire evalúa el plan y programa con respeto a los requisitos de calidad de aire bajo las enmiendas de 1990 de la Acta de Aire Limpio. El proceso de comentarios sobre el TIP está siendo usada paras obtener comentarios sobre el programa de proyectos de la región que son financiados por la Administración de Transportación Federal (incluyendo proyectos financiados por el Programa de Fórmula de Áreas Urbanas) y la Administración de Carreteras Federales.

Miembros del público están invitados a presentar sus comentarios en línea en https://visualize2045.org/get-involved/wh, por correo electrónico a TPBcomment@mwcog.org, o por teléfono al (202) 962-3774. Comentarios por escrito también pueden ser enviados a TPB Pamela Sebesky, Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

El Consejo de Gobiernos del Área Metropolitana de Washington (COG) opera sus programas sin tener en cuenta la raza, el color, y el origen nacional y cumple con el Título VI de la Ley de Derechos Civiles de 1964 y los estatutos y reglamentos relacionados que prohíben la discriminación en todos los programas y actividades. Para más información, presentar una queja relacionada con el Título VI, u obtener información en otro idioma, visite www.mwcog.org/nondiscrimination o llame al (202) 962-3300.

Washington Post March 25, 2022

PUBLIC COMMENT PERIOD
FOR THE NATIONAL CAPITAL REGION'S PROPOSED VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN UPDATE, FY 2023-2026 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 regional transportation planning for the District of Columbia, suburban Maryland, and Northern Virginia. The TPB will initiate a 30-day public comment period for the 2022 update of the Visualize 2045 long-range transportation plan, the draft FY 2023-2026 Transportation Improvement Program (TIP), and the accompanying air quality conformity analysis on April 1, 2022. This comment period will extend through Sunday, May 1, 2022. These documents are scheduled to be approved at the June 15, 2022 TPB meeting.

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 TIP includes all projects, programs, and strategies that the region's transportation agencies plan to implement between 2023 and 2026. 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 online at https://visualize2045.org/get-involved/wp, by email to TPBcomment@mwcog.org, or by phone at (202) 962-3774. Written comments can also be mailed to TPB Chair Pamela Sebesky, Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

The Metropolitan Washington Council of Governments (COG) operates its programs without regard to race, color, and national origin and fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations prohibiting discrimination in all programs and activities. For more information, to file a Title VI related complaint, or to obtain information in another language, visit www.mwcog.org/nondiscrimination or call (202) 962-3300.

El Consejo de Gobiernos del Área Metropolitana de Washington (COG) opera sus programas sin tener en cuenta la raza, el color, y el origen nacional y cumple con el Título VI de la Ley de Derechos Civiles de 1964 y los estatutos y reglamentos relacionados que prohíben la discriminación en todos los programas y actividades. Para más información, presentar una queja relacionada con el Título VI, u obtener información en otro idioma, visite www.mwcog.org/nondiscrimination o llame al (202) 962-3300.

Afro-American April 1, 2022

PUBLIC COMMENT PERIOD FOR THE NATIONAL CAPITAL REGION'S PROPOSED VISUALIZE 2045 LONG-RANGE TRANSPORTATION PLAN UPDATE, FY 2023-2026 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 regional transportation planning for the District of Columbia, suburban Maryland, and Northern Virginia. The TPB will initiate a 30-day public comment period for the 2022 update of the *Visualize 2045* long-range transportation plan, the draft FY 2023-2026 Transportation Improvement Program (TIP), and the accompanying air quality conformity analysis on April 1, 2022. This comment period will extend through Sunday, May 1, 2022. These documents are scheduled to be approved at the June 15, 2022 TPB meeting.

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 TIP includes all projects, programs, and strategies that the region's transportation agencies plan to implement between 2023 and 2026. 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 online at https://visualize2045.org/get-involved/aa, by email to TPBcomment@mwcog.org, or by phone at (202) 962-3774. Written comments can also be mailed to TPB Chair Pamela Sebesky, Metropolitan Washington Council of Governments (COG), 777 N. Capitol St. NE, Suite 300, Washington, DC 20002.

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El Consejo de Gobiernos del Área Metropolitana de Washington (COG) opera sus programas sin tener en cuenta la raza, el color, y el origen nacional y cumple con el Título VI de la Ley de Derechos Civiles de 1964 y los estatutos y reglamentos relacionados que prohíben la discriminación en todos los programas y actividades. Para más información, presentar una queja relacionada con el Título VI, u obtener información en otro idioma, visite www.mwcog.org/nondiscrimination o llame al (202) 962-3300.

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

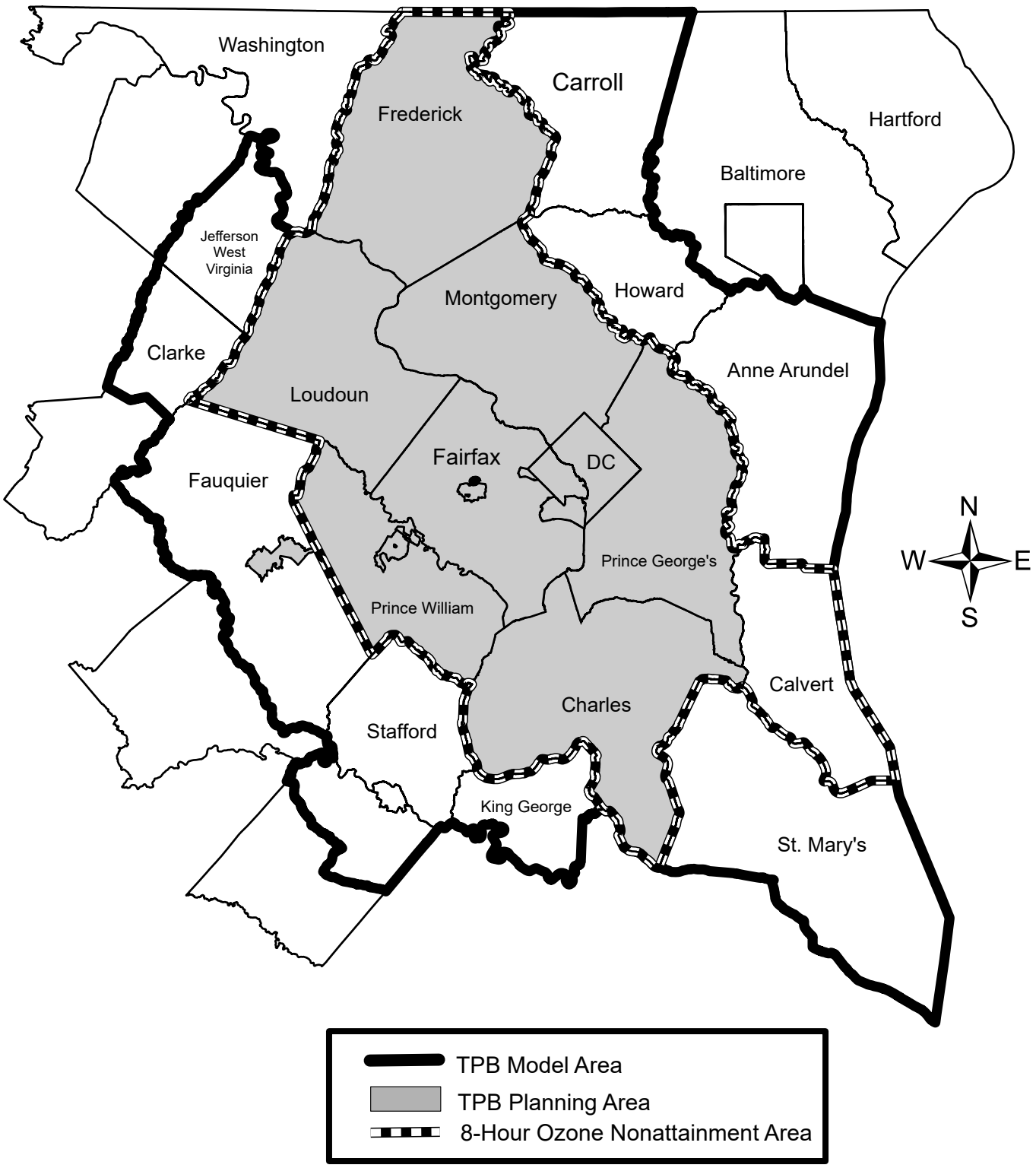
WHEREAS, the TPB, the C-SMMPO, and Calvert County have agreed to a process where C-SMMPO will develop Plans and TIPs to include Calvert County projects, and the TPB will continue to include these Calvert County projects in its regional air quality conformity analysis;

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***

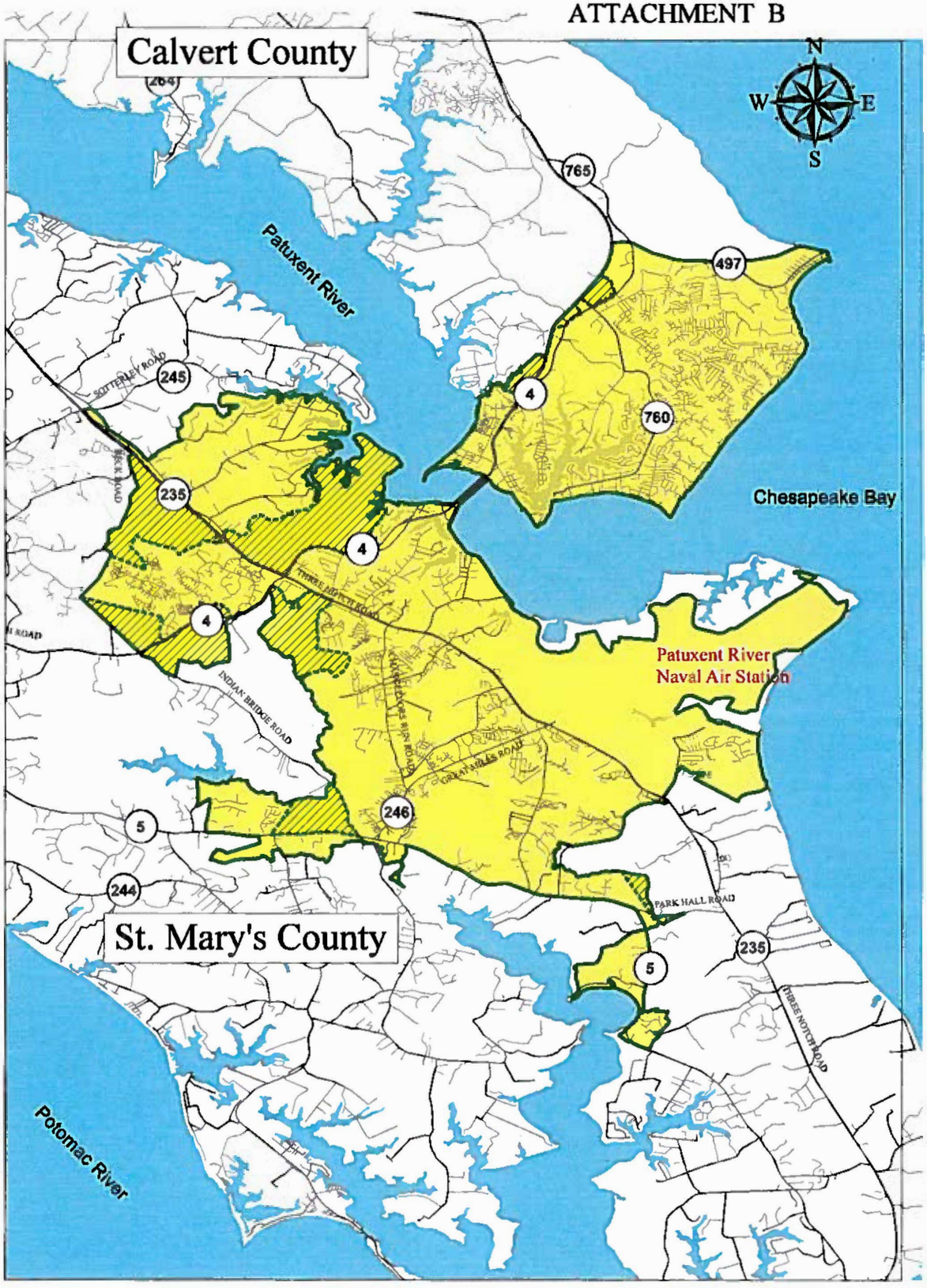
Metropolitan Planning Organization (C-SMMPO) and Calvert County, Maryland on the conformity analysis and determination of transportation plans, programs, and projects in Calvert County, Maryland document to ensure that transportation plans, programs, and projects in Calvert County are assessed for regional 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

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 the 2022 Amendment to Visualize 2045 (draft)
DATE: January 13, 2022

1.0 BACKGROUND

This technical appendix documents four categories of data preparation executed for MOVES model: (1) postprocessing of MWCOG/TPB's Version 2.4 travel demand model results; (2) development of travel-related inputs based on the postprocessed travel demand results from (1) and local data; (3) non-travel related inputs such as meteorology, fuel supply, fuel usage fraction, and fuel formulation, inspection/maintenance (I/M) programs and state-specific policy programs; and (4) 2020 vehicle registration data. The vehicle registration data, or vehicle identification number (VIN), were obtained from air 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. Postprocessing of travel demand results is a pre-requisite for developing travel related data. Non-travel related data were provided by state air quality agencies.

Emissions modeling in Metropolitan Washington Council of Governments/Transportation Planning Board (MWCOG/TPB) is executed by applying Emissions Modeling Process (EMP) version 1[1]. The EMP is composed of mainly three components to be executed in order: (1) Development of travel and non-travel related data and local data for MOVES and creation of MOVES setups; (2) Execution of MOVES model; and (3) Summary of MOVES outputs. The modeling process is 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 estimations where available; otherwise, MOVES default data are used. Table 1 exhibits MOVES input data by locality and supplies sources of the data.

2.0 POSTPROCESSING OF TRAVEL DEMAND RESULTS

Travel demand results are postprocessed 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 postprocessor had been used to calculate emissions in the Mobile 6.2 model in the past, but with MOVES, postprocessing is tailored to only create VHT and VMT distributions for each vehicle type.

For each analysis year, travel demand results are postprocessed 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 postprocessing six travel markets from the travel demand model results are grouped into three vehicle types as follows:

[1] Daniel Son and Jinchul Park to Files, "User's Guide for Emissions Modeling Process Version 1," Draft memorandum, April 25, 2019 U:\!!!_MOVES_Training\MOVES_User_Guide\ memorandum_MOVES_User_Guide_2019_04_25_EMP_V100.pdf

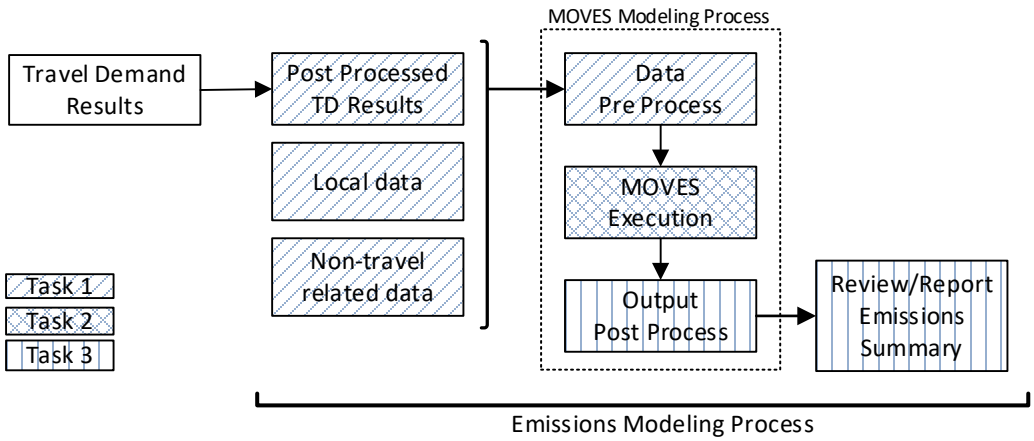


Figure 1. Emissions Modeling Process

- Passenger Vehicles (PVs) = SOV + HOV2 + HOV3 or more + Airport Passenger Trips;
- Commercial Vehicles (CVs) = Commercial Vehicles; and
- Heavy Duty Vehicles (HDVs) = Trucks;

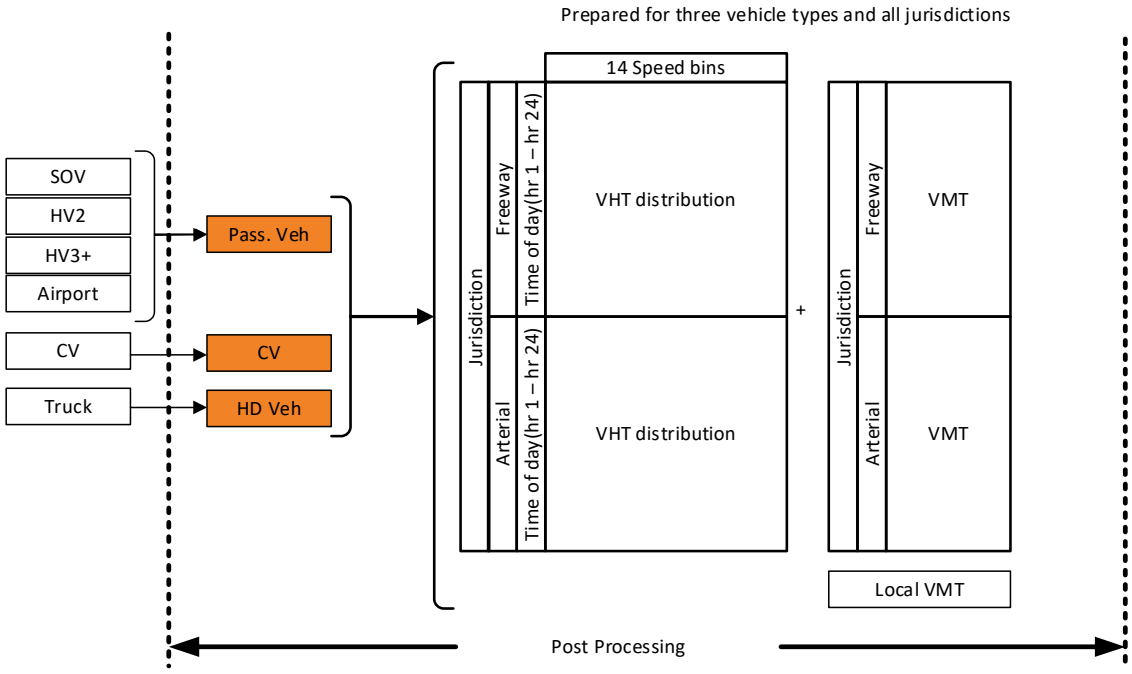
And six facility types are grouped into two as follows:

- Freeway = freeway + expressway + freeway ramp; and
- Arterial = major arterial + minor arterial + collector.

The postprocessor is then executed four times for each analysis year: one for each vehicle type and another for all vehicle types combined. A successful postprocessing of travel demand results produces hourly jurisdictional VHT distributions by Mobile's 14 speed bins and two facility types for three vehicle types, and jurisdictional VMT by two facility types for three vehicle types. Figure 2 illustrates the postprocessing of travel demand results.

Table 1. MOVES Input Data

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)



Pass. Veh = passenger vehicle
CV = commercial vehicle
Truck = heavy duty vehicle

Freeway = freeway, expressway & freeway ramp
Arterial = major/minor arterials, collectors & local roads

Figure 2. Postprocessing of Travel Demand Results

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. The vehicle registration data, collected by Departments of Motor Vehicles in each state, are a snapshot of vehicle registrations of the year the data were collected, which contain a broad range of attributes of the vehicles registered in the jurisdictions of the Metropolitan Washington DC non-attainment area. The latest data, 2020 VIN are used in the development of future year vehicle population profiles (i.e., vehicle age and vehicle type distribution) for all analysis years in the air quality conformity analysis for the 2022 Amendment to 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[2]. Following EPA's guidelines, the data are decoded in two steps in order: (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[3]. 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

[2] VinPower, Copyright; ESP Data Solutions Inc., Product version 4.0.0.16
[3] RegistrationDistributionConverter_Veh16.xls, https://www.epa.gov/moves/tools-develop-or-convert-moves-inputs#fleet

Appendix Supplement section. The vehicle population of the 2020 VIN data was reviewed by the MWCOG/TPB technical committee prior to becoming approved for transportation planning applications. The VIN data were formally approved by MWCOG/TPB to be used for the 2022 Amendment to Visualize 2045 in September 2021.

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 postprocessing, 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., freeway and arterial); and later reclassified 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 (see 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 (see 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 (see 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 (see Table 4):
     - All Day: Per WMATA's bus speed distribution of the off-peak period.

Table 2. Average Weekday VHT Distribution for Refuse Trucks (source: Fairfax Co, VA)[4]

Speed Bins	Speed Range	5:00 AM - 5:00 PM	5:01 PM - 4:59 AM
1	< 2.5 mph	0.00%	0.00%
2	2.5 - 7.5 mph	62.65%	0.00%
3	7.5 - 12.5 mph	0.00%	0.00%
4	12.5 - 17.5 mph	0.00%	0.00%
5	17.5 -22.5 mph	0.00%	0.00%
6	22.5 - 27.5 mph	37.35%	100.00%
7	27.5 - 32.5 mph	0.00%	0.00%
8	32.5 - 37.5 mph	0.00%	0.00%
9	37.5 - 42.5 mph	0.00%	0.00%
10	42.5 - 47.5 mph	0.00%	0.00%
11	47.5 - 52.5 mph	0.00%	0.00%
12	52.5 - 57.5 mph	0.00%	0.00%
13	57.5 - 62.5 mph	0.00%	0.00%
14	62.5 - 67.5 mph	0.00%	0.00%
15	67.5 - 72.5 mph	0.00%	0.00%
16	72.5 mph <	0.00%	0.00%

Table 3. VHT Distribution of School Buses (6:00 am – 6:00 pm) (source: Fairfax Co, VA)

		Bus Trip (%)											
Speed Bin	Speed Range	1	2	3	4	5	6	7	8	9	10	11	Wgt. Avg.
1	< 2.5 mph	0.35	24.30	17.58	14.65	7.90	16.11	6.55	18.30	25.76	16.18	17.67	19.21
2	2.5 - 7.5 mph	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	7.5 - 12.5 mph	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	12.5 - 17.5 mph	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	17.5 -22.5 mph	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	22.5 - 27.5 mph	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	27.5 - 32.5 mph	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	32.5 - 37.5 mph	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	37.5 - 42.5 mph	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	42.5 - 47.5 mph	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	47.5 - 52.5 mph	0.68	0.00	0.00	0.00	0.00	0.36	0.00	0.67	0.31	32.27	0.36	0.59
12	52.5 - 57.5 mph	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	57.5 - 62.5 mph	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	62.5 - 67.5 mph	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	67.5 - 72.5 mph	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	72.5 mph <	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[4] Sivasailam, Daivamani, et al., "Vehicle Hours of Travel (VHT) Distribution for Refuse Truck," (MOVES Task Force Meeting, Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, September 21, 2010) V:\MOVES\Memos_MOVES_Task_Force\2010.09.21\3.Item 3a.pdf

Table 4. VHT Distribution of Transit Buses (Source: Washington Metropolitan Area Transit Authority (WMATA))

Speed Bin	Speed Range	6:00 am - 9:00 am	3:00 pm - 6:00 pm	9:01 am - 2:59 pm/ 5:01 pm - 5:59 pm
1	< 2.5 mph	9.94	9.10	7.92
2	2.5 - 7.5 mph	13.79	18.95	14.49
3	7.5 - 12.5 mph	34.07	37.86	31.36
4	12.5 - 17.5 mph	28.52	23.97	29.17
5	17.5 -22.5 mph	10.02	5.92	10.77
6	22.5 - 27.5 mph	1.88	1.84	3.91
7	27.5 - 32.5 mph	0.92	0.85	1.04
8	32.5 - 37.5 mph	0.34	0.60	0.72
9	37.5 - 42.5 mph	0.14	0.50	0.35
10	42.5 - 47.5 mph	0.05	0.15	0.15
11	47.5 - 52.5 mph	0.31	0.28	0.06
12	52.5 - 57.5 mph	0.00	0.00	0.06
13	57.5 - 62.5 mph	0.00	0.00	0.00
14	62.5 - 67.5 mph	0.00	0.00	0.00
15	67.5 - 72.5 mph	0.00	0.00	0.00
16	72.5 mph <	0.00	0.00	0.00

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 postprocessing 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 3 illustrates the process of allocating VMT by vehicle type, facility type, and urban/rural split.

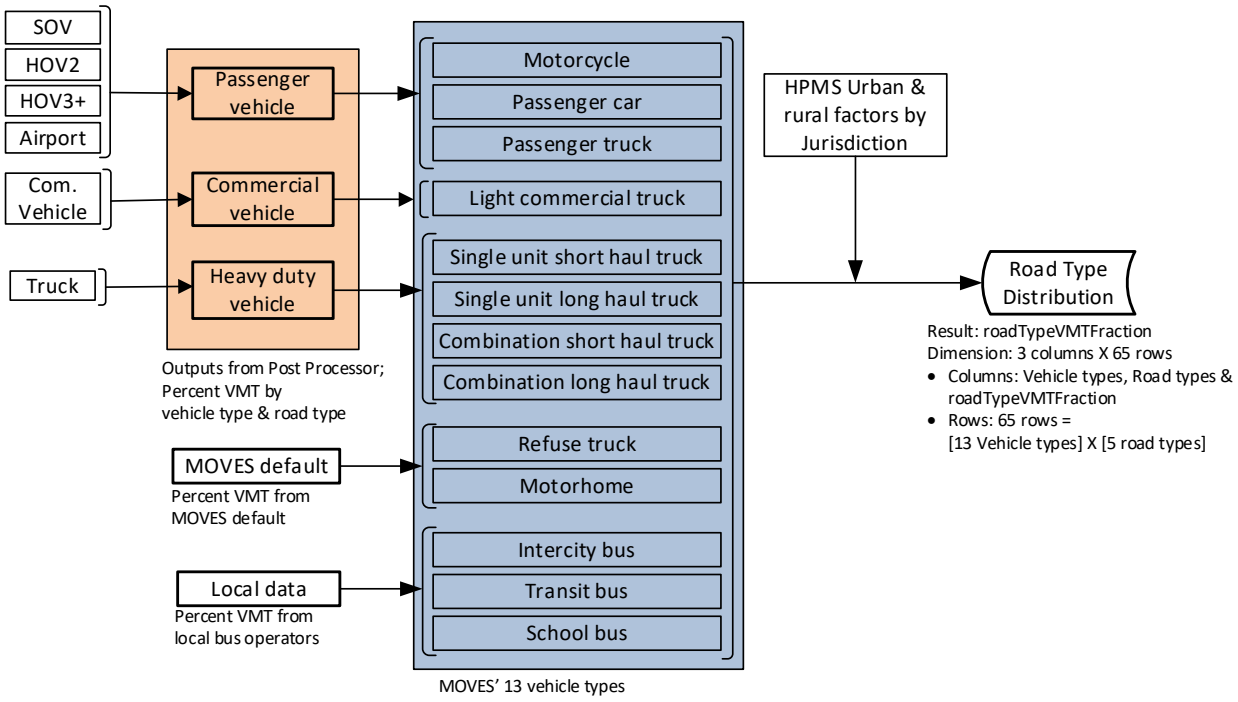


Figure 3. Road Type Distribution Development Process

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[5].

Table 5 exhibits vehicle population forecasts based on this method using 2020 VIN data. Vehicle profiles of the 2020 VIN data are used to develop future year vehicle profiles by jurisdiction. Vehicle profiles are prepared in a Mobile format first, and then are converted into a MOVES vehicle type using a vehicle mapping table provided by EPA (see Table AS1 in the Appendix).

[5] Daniel Son and Jinchul Park to Files, "Vehicle Population Projection based on 2016 Vehicle Registration Data plus DC's New Vehicle Identification Number," Draft memorandum, June 12, 2019 V:\MOVES\VIN_Data\2017_VIN\VIN_Related_Documents\ Memo_VehPop_Projection_2016VIN_NewDC_VIN.docx

Table 5. Vehicle Population Forecasts (Source Type Population)

State/Jurisdiction	2021	2023	2025	2030	2040	2045
District of Columbia						
District of Columbia	318,004	325,482	332,961	351,657	389,049	407,745
DC Total	**318,004**	**325,482**	**332,961**	**351,657**	**389,049**	**407,745**
Maryland						
Calvert County	95,075	98,296	101,518	109,573	125,682	133,736
Charles County	149,141	153,735	158,330	169,817	192,791	204,278
Frederick County	243,733	251,064	258,395	276,724	313,380	331,709
Montgomery County	801,586	818,458	835,332	877,516	961,882	1,004,066
Prince George's County	665,366	676,260	687,154	714,393	768,867	796,103
Maryland Total	**1,954,900**	**1,997,814**	**2,040,730**	**2,148,022**	**2,362,602**	**2,469,891**
Virginia						
Alexandria city	130,368	132,532	134,697	140,107	150,929	156,340
Arlington County	150,577	152,449	154,320	158,999	168,356	173,035
Fairfax County	1,002,434	1,027,720	1,053,008	1,116,225	1,242,660	1,305,878
Loudoun County	328,070	342,628	357,187	393,584	466,376	502,774
Prince William County	448,225	465,393	482,562	525,484	611,327	654,249
Virginia Total	**2,059,674**	**2,120,722**	**2,181,774**	**2,334,399**	**2,639,648**	**2,792,275**
Region Total	**4,332,579**	**4,444,018**	**4,555,465**	**4,834,077**	**5,391,299**	**5,669,912**

E. Vehicle Type VMT and VMT Percent by Hour, Day, and Month

MOVES2014b, 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 on-network data from the travel demand model outputs as well as local road VMT estimates, which are added in exogenously. Auto access VMT for transit riders, estimated from postprocessing, is added to the VMT of Light Duty Vehicles (sourceTypeID = 25). Modeled VMT is divided into three vehicle types: passenger vehicles, commercial vehicles, and heavy-duty vehicles. Local road VMT is developed by using a combination of observed and simulated data in the postprocessing shown in Figure 4.

The local road VMTs are added to VMT from the travel model to produce total VMT. The resulting total VMT of the three vehicle types is then classified by five MOVES vehicle types using observed jurisdictional Highway Performance Monitoring System (HPMS) VMT percentages. Figure 4 illustrates the process of developing VMT for five HPMS vehicle types.

An EPA converter, AAD VMT Calculator HPMS.XLS, is used to convert daily VMT into the required annual VMT necessary for MOVES. The converter uses annual average weekday VMT (AADVMT) at the HPMS level to calculate type of day (i.e., weekday or weekend day), monthly and yearly VMT in

terms of HPMS and/or MOVES source types. It generates the HPMSVTypeYear, monthVMTFraction, and dayVMTFraction tables from AADVMT and monthly/weekend-day adjustment factors.

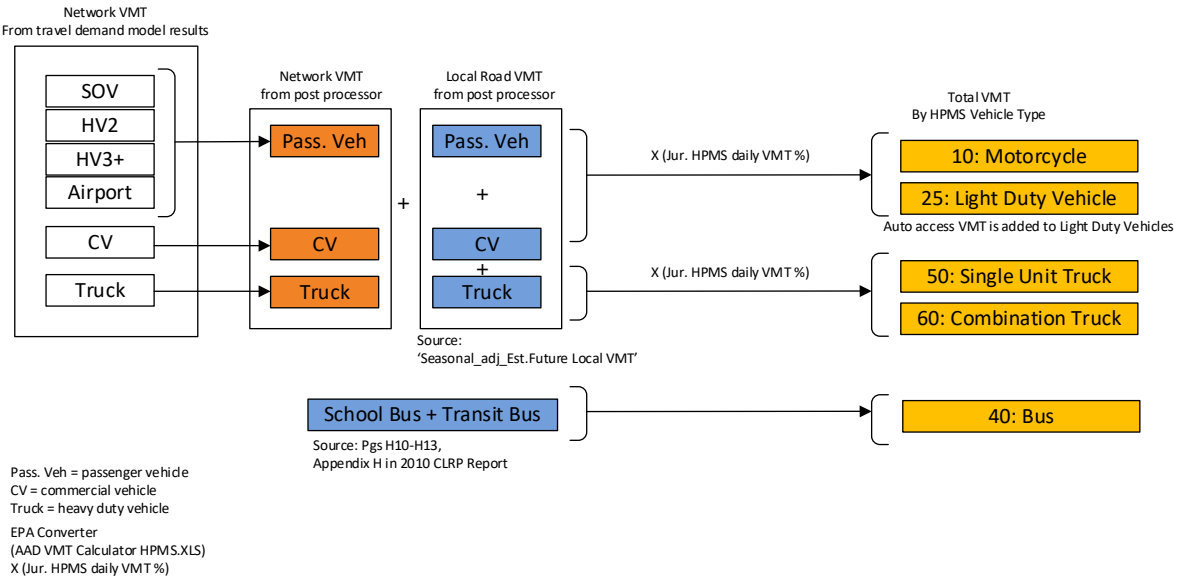


Figure 4. Annual VMT Calculation Process

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 Non-Travel Inputs (Meteorology, Fuel, and Control Programs)

A. METEOROLOGY

Meteorology data used in the conformity analysis for a particular pollutant match the data used in the Attainment State Implementation Plan (SIP) or Maintenance Plan demonstrating attainment or maintenance respectively of the national ambient air quality standard (NAAQS) for that pollutant. The meteorology data used in this conformity analysis match the data used in developing MOVES2014a based motor vehicle emissions budgets (MVEBs) for the maintenance plan for the 2008 ozone NAAQS. These MVEBs were approved by EPA and became effective May 15, 2019. Since there is no difference in meteorology data format for MOVES2014a and MOVES2014b, data from the above maintenance plan were used in the same format for this analysis.

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 the MOVES2014b ready format.

For analysis years 2021 and beyond, the gasoline sulfur content used was 10 ppm (except for Maryland), which is an assumption that is consistent with the 2014 Tier 3 rule of EPA. Maryland used actual local fuel samples to develop gasoline sulfur values for years 2021, 2023, and 2024 and used Tier 3 gasoline sulfur value assumptions (10 ppm) for 2025 and beyond.

C. INSPECTION/MAINTENANCE (I/M) PROGRAMS

The District of Columbia, Maryland, and Virginia provided details of I/M programs for the analysis years in MOVES2014b ready format.

In addition to the above inputs there are state-specific programs that were included 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 (MOVES2014b defaults)

   - Maryland: 2017 onwards – No Stage II program, MOVES2014b Stage II database file - md_no_stageii (reflects refueling vapor program adjustment & refueling spill program adjustment at 0.0)

   - Virginia: 2015 onwards - No Stage II program, MOVES2014b Stage II database file - va_stage2_input_20161104 (reflects refueling vapor program adjustment & refueling spill program adjustment at 0.0)

3. CAL-LEV Programs: Maryland adopted CAL-LEV II and CAL-LEV III programs in 2007 and 2012 respectively. CAL-LEV II and CAL-LEV III programs became effective for the model year 2011 and 2015-2025 vehicles respectively. The CAL-LEV II program included a Zero Emissions Vehicle (ZEV) mandate that car manufacturers needed to meet. The CAL-LEV III program strengthened this mandate, increasing the requirements for ZEVs beginning in 2018.

   However, EPA and NHTSA jointly published a rule (SAFE Vehicle Rule Part One: One National Program) effective November 26, 2019. Through this rule, EPA withdrew the Clean Air Act preemption waiver granted to California in January 2013 as it relates to California's GHG and ZEV programs. Since Maryland's CAL-LEV/ZEV programs were based on California's programs, the above rule also applies to them. As such, Maryland's ZEV mandate is not enforceable. However, EPA and NHTSA, per Executive Order, have reviewed the SAFE rule and are taking actions to restore California's waiver. NHTSA finalized its rule on Dec. 29, 2021. EPA started its process with its April 2021 Notice of Opportunity for Public Hearing and Comments and anticipates completing its rulemaking process in 2022.

   Therefore, the current conformity analysis includes Maryland's LEV Program and ZEV program (PZEV mandate modeling for evaporative permeation VOC) for LEV and ZEV benefits from Maryland's vehicles by conducting two separate MOVES2014b runs based on EPA's guidance titled "Instructions for Using LEV and NLEV Inputs for MOVES2014", October 2014." MOVES2014b default ZEV AVFT data was used.

   The following auxiliary file provided by the Maryland Department of the Environment (MDE) was used to model CAL-LEV programs in the Maryland jurisdictions:
   MOVES2014b Cal-Lev Database File - MOVES2014_caleviii2011

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

APPENDIX F

Transportation Emissions Reduction Measures (TERMS)

TRANSPORTATION EMISSIONS REDUCTION MEASURES (TERMs) ANALYSIS

for the
2022 Update to Visualize 2045 and the FY2023-2026 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 FY2023-2026 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 MOVES2014b 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 2022 Update to Visualize 2045 Air Quality Conformity assessment: 2021, 2023, 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 #8 in year 2020, the Commuter Connections programs helped reduce about 2.6 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	Period 1 1999	Period 2 2002	Period 3 2005	Period 4 2008	Period 5 2011	Period 6 2014	Period 7 2017	Period 8 2020
Telework RC *	606,908	279,692	226,913	413,703	241,834	205,511	370,563	317,828
Expanded Telecommuting	0	0	36,859	0	0	0	0	0
GRH	13,069	202,058	334,088	227,428	208,346	212,834	181,335	147,371
Intergrated Rideshare (Commuter Operations Center_Software Upgrades)	6,977	117,940	146,612	199,079	51,569	66,442	51,340	40,541
Employer Outreach (All)	90,000	1,107,698	1,339,818	969,174	1,657,809	1,327,044	1,841,429	1,489,165
EO - Bicycling (some year Included in EO)	0	1,225	3,431	0	0	0	0	0
Mass Marketing	0	0	132,861	69,274	78,297	173,269	163,250	277,511
Commuter Ops Center (basic services)	0	0	279,055	575,237	180,409	488,226	401,327	375,135
Total	716,954	1,708,613	2,499,637	2,453,895	2,418,264	2,473,326	3,009,244	2,647,551

Table 2. Average Annual VMT Growth

Year	VMT*	Annual Growth
2021	171,819,137	0.00%
2023	175,061,241	0.94%
2025	178,600,072	1.01%
2030	185,647,258	0.79%
2040	198,185,958	0.68%
2045	204,816,864	0.67%
Avg. Annual Growth		0.74%

Note: *AAWD 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), November 2017 (Audit #7 of the FY2014-2017) and November 2020 (Audit #8 of the FY2017-2020).*

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
2020	2,647,551
2021	2,667,081
2023	2,706,575
2025	2,746,653
2030	2,849,465
2040	3,066,777
2045	3,181,571

*1999 to 2020: Historical VMT from Commuter Connections; 2021 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 2021 adjusted VMT reduction was calculated as:

2,667,081 (2021 projection) – 2,453,895 (2008 historical VMT) = 213,186

The adjusted reductions per day are shown in Table 4.

Table 4. Projection of Adjusted VMT Reductions (in VMTs/day)

Year	Ozone (VOC and NOx) VMT/day
2008	0
2021	213,186
2023	252,680
2025	292,758
2030	395,570
2040	612,882
2045	727,676

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 MOVES2014b (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
2021	0.261	0.241
2023	0.230	0.193
2025	0.206	0.145
2030	0.148	0.084
2040	0.106	0.046
2045	0.100	0.043

Table 6. Emission Reductions by Commuter Connections Programs (in short tons/year)

Years	Ozone VOC	Ozone NOx
2021	0.061	0.057
2023	0.064	0.054
2025	0.066	0.047
2030	0.065	0.036
2040	0.071	0.031
2045	0.080	0.034

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 MOVES2014b model.

[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.*

- According to recent minor and major incident data collected from FY2019 to FY2022,[3] average monthly average of minor and major incidents of regional significance are 28.6 and 16.7, respectively.

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 2022 Amendment to 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], with MATOC involvement
assumed Major Incident Queue VMT Savings = 452,120 (vehicle miles) and

[3] Based on MATOC Notifications and Performance Metrics delivered on 12/30/2021

assumed Minor Incident Queue VMT Savings = 19,040 (vehicle miles).

Assumed Daily Emissions Savings (grams per mile) by Pollutant =
16.7/30 (16.7 major incidents per month) X VMT savings from major incident X emission rate+
28.6/30 (28.6 minor incidents per month) X VMT savings from minor incident X emission rate

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
2021	0.355	0.561
2023	0.311	0.445
2025	0.276	0.344
2030	0.199	0.214
2040	0.144	0.140
2045	0.136	0.137

Table 8. Mobile Emissions Reductions from Regional Incident Management Program (in short tons/day)

Years	Ozone VOC	Ozone NOx
2021	0.105	0.166
2023	0.092	0.132
2025	0.082	0.102
2030	0.059	0.063
2040	0.043	0.042
2045	0.040	0.041

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[4], so that the resulting emission reductions are dependent on the following assumptions:

- Facility construction/expansions/enhancements were post-2007/2008;

[4] *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*

- Baseline Year 2010 Pedestrian Facilities Length = 634 miles[5]. VMT estimates were based only on Home-Based-Work (HBW) trips from the regional travel demand model;
- Average trip length (ATL) = 2.55 miles[6]; and
- Non-motorized HBW trips percentage = 3% of the regional total HBW trips[5].

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 2.55 miles
= 280,097

Baseline (Year 2010) VMT reductions per mile are estimated as follows:

VMT Reductions per mile = [Baseline VMT reductions]/[2010 Baseline length of ped + bike facilities]
= 280,097/634
= 441.79

VMT reductions per mile were estimated based on the mileage of new or expanded pedestrian and bike facilities included in the 2022 Update to Visualize 2045 and the FY2023-2026 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 2021: 75.9 lane miles,
Year 2023: 127.0 lane miles and
Year 2025 - 2045: 178.0 lane miles.

Future average weekday VMT reductions due to the lane mile additions above are:

Year 2021: 75.9 miles x 441.79 = 33,548 vehicle miles,
Year 2023: 127.0 miles x 441.79 = 56,094 vehicle miles and
Year 2025 - 2045: 178.0 miles x 441.79 = 78,641 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).

[5] *"2015 Bicycle and Pedestrian Plan for the National Capital Region Report", TPB, January 2015*
[6] *"2019 State of the Commute Survey Report," June 2019*

Table 9. Mobile Emissions Reductions from Pedestrian and Bike Facilities Expansion (in short tons/day)

Years	Ozone VOC	Ozone NOx
2021	0.010	0.009
2023	0.014	0.012
2025	0.018	0.013
2030	0.013	0.007
2040	0.013	0.007
2045	0.009	0.004

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 2020 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, 16.30 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 2021. 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 16.30 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. 2020 Informal Carpool Lots Capacity and Trip Length to Work

Slug Lot Name	TAZ ID	2021 Parking spaces	Average HBW Trip Length (in miles)	Round trip and 2/3 of lots are full
Frederick Armory	2914	125	16.4	2,733
Beltway	925	223	10.5	3,122
American Legion Post 176	2018	110	11.3	1,657
Lusby	3324	55	32.1	2,354
New Market	2888	100	25.4	3,387
Baron Cameron Park	1733	315	11.1	4,662
Harmony Grove	2919	390	19.9	10,348
B/W Parkway Armory	900	123	11.6	1,902
Autumn Willow Park	1654	100	11.9	1,587
Calvert County Fairgrounds (SHA Lot)	3291	20	22.1	589
Huntingtown	3299	35	27.8	1,297
Solomons (Creston Lane)	3325	16	26.9	574
La Plata Armory	3153	20	19.9	531
Jefferson	2826	99	28.1	3,709
New Design Road	2917	110	17.4	2,552
Rosemont	2820	46	28.3	1,736
Woodsboro	2879	20	25.8	688
Kutner Park	1796	35	10.7	499
Bethel United Methodist Church	2745	49	15.9	1,039
Good Shepherd United Methodist Church	2732	62	16.9	1,397
At Home	2732	85	16.9	1,915
Sudley Manor Square Shopping Center	2536	200	13.6	3,627
On-Street Parking, Dale Blvd & Ashdale Ave	2751	12	16.9	270
Prince William Stadium	2678	190	17.7	4,484
Sudley Road	2631	50	13	867
Sudley Town Plaza	2533	200	13.4	3,573
Tackett's Mill Specialty Center	2667	250	14.9	4,967
Woodbridge Church of the Brethren	2760	21	14.5	406
Weighted Average Trip Length (Lots to work)			**16.3**	**66,473**

* This slug lot has an initial TAZ ID 2018 w/ no populations, and nearest TAZ ID of 2022 was applied.

Base Year 2021 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 66,473 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
2021	0.019	0.018
2023	0.017	0.014
2025	0.015	0.011
2030	0.011	0.006
2040	0.008	0.003
2045	0.007	0.003

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
2021	0.195	0.249
2023	0.187	0.212
2025	0.181	0.172
2030	0.148	0.113
2040	0.135	0.083
2045	0.137	0.082

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 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