

# visualize2045

A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

## APPENDIX C

### Air Quality Conformity Analysis Summary

September 2018 **DRAFT**



National Capital Region  
**Transportation Planning Board**

## **VISUALIZE 2045 AIR QUALITY CONFORMITY ANALYSIS SUMMARY**

September 2018 **DRAFT**

### **ABOUT VISUALIZE 2045 & THE TPB**

Visualize 2045 is the federally required long-range transportation plan for the National Capital Region. It identifies and analyzes all regionally significant transportation investments planned through 2045 to help decision makers and the public “visualize” the region’s future.

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

### **CREDITS**

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### **ACKNOWLEDGEMENTS (OPTIONAL)**

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

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## MEMORANDUM

**TO:** Transportation Planning Board  
**FROM:** Jane Posey, TPB Transportation Engineer  
**SUBJECT:** Draft Visualize 2045 Air Quality Conformity Analysis Summary  
**DATE:** September 7, 2018

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## INTRODUCTION

This memorandum documents summary results of the air quality conformity analysis of the Visualize 2045 Long Range Transportation Plan (Plan) and FY2019-2024 Transportation Improvement Program (TIP) with respect to ozone season pollutants, Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx). TPB staff has found that **the estimated emissions from the Plan and TIP adhere to the motor vehicle emissions budgets (MVEBs) for the pollutants analyzed, VOC and NOx**. The results and findings of the analysis have been reviewed by the Transportation Planning Board (TPB) Technical Committee and the Metropolitan Washington Air Quality Committee Technical Advisory Committee (MWAQC TAC). The findings were released for a 30-day public comment and interagency consultation period on September 7, 2018 which will end on October 7, 2018.

## OZONE STANDARD & MOBILE BUDGETS

### 2015 Ozone Standard

Effective August 3, 2018 EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as 'marginal' nonattainment 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 nonattainment area are specified in the Maintenance Plan for the 2008 Ozone Standard and have been found "adequate for conformity purposes" by the US Environmental Protection Agency (EPA). The emissions from the Visualize 2045 Plan and FY2019-2024 TIP adhere to these MVEBs.

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

### 2008 Ozone Standard Maintenance Plan Budgets

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

In 2015, the region attained the 2008 Ozone Standard, based on the readings from ambient air quality monitors. The Metropolitan Washington Air Quality Committee (MWAQC) developed a Redesignation

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

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

The maintenance plan provides for using the Tier 2 budgets in situations “where the conformity analysis must be based on different data, models, or planning assumptions, including but not limited to updates to demographic, land use, or project-related assumptions, than were used to create the [mobile budgets] in the Maintenance Plan”<sup>1</sup>.

**Exhibit 1: Tier 1 Mobile Budgets<sup>1</sup>**

<b>Year</b>	<b>NO<sub>x</sub> On-Road Emissions (tpd)</b>	<b>VOC On-Road Emissions (tpd)</b>
<b>Attainment Year 2014 Emission &amp; Budget</b>	136.8	61.3
<b>Intermediate Year 2025 Emission &amp; Budget</b>	40.7	33.2
<b>Final Year 2030 Emission &amp; Budget</b>	27.4	24.1

**Exhibit 2: Tier 2 Mobile Budgets<sup>1</sup>**

<b>Year</b>	<b>NO<sub>x</sub> On-Road Emissions (tpd)</b>	<b>VOC On-Road Emissions (tpd)</b>
<b>Attainment Year 2014 Emission &amp; Budget</b>	<b>136.8</b>	<b>61.3</b>
Predicted 2025 Emission	40.7	33.2
Transportation Buffer	8.1	6.6
<b>Intermediate Year 2025 Budget</b>	<b>48.8</b>	<b>39.8</b>
Predicted 2030 Emission	27.4	24.1
Transportation Buffer	5.5	4.8
<b>Final Year 2030 Budget</b>	<b>32.9</b>	<b>28.9</b>
Note: <sup>1</sup> 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.		

<sup>1</sup> Maintenance Plan for the Washington DC-MD-VA 2008 Ozone NAAQS Nonattainment Area. Prepared by the Metropolitan Washington Council of Governments for the District Department of the Environment, the Maryland Department of the Environment, and the Virginia Department of Environmental Quality on behalf of the Metropolitan Washington Air Quality Committee. December 20, 2017.

<https://www.mwcog.org/documents/2017/09/18/washington-dc-md-va-2008-ozone-naaqs-marginal-nonattainment-area-redesignation-request-and-maintenance-plan-air-quality-air-quality-conformity-ozone/>

## Budget Setting vs. Conformity

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

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

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

Exhibit 3 below lists the contrasting assumptions used in the mobile budgets development and in the more recent air quality conformity analysis of the Visualize 2045 plan and FY2019-2024 TIP. Details related to these inputs are discussed later in this report.

### EXHIBIT 3 INPUT ASSUMPTIONS

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

## WORK ACTIVITIES

The TPB approved the Scope of Work and project submissions for the Visualize 2045 transportation plan and the FY2019-2024 TIP air quality conformity analysis on January 17, 2018. The Scope of Work is included as Attachment A.

Key technical planning assumptions and methods include:

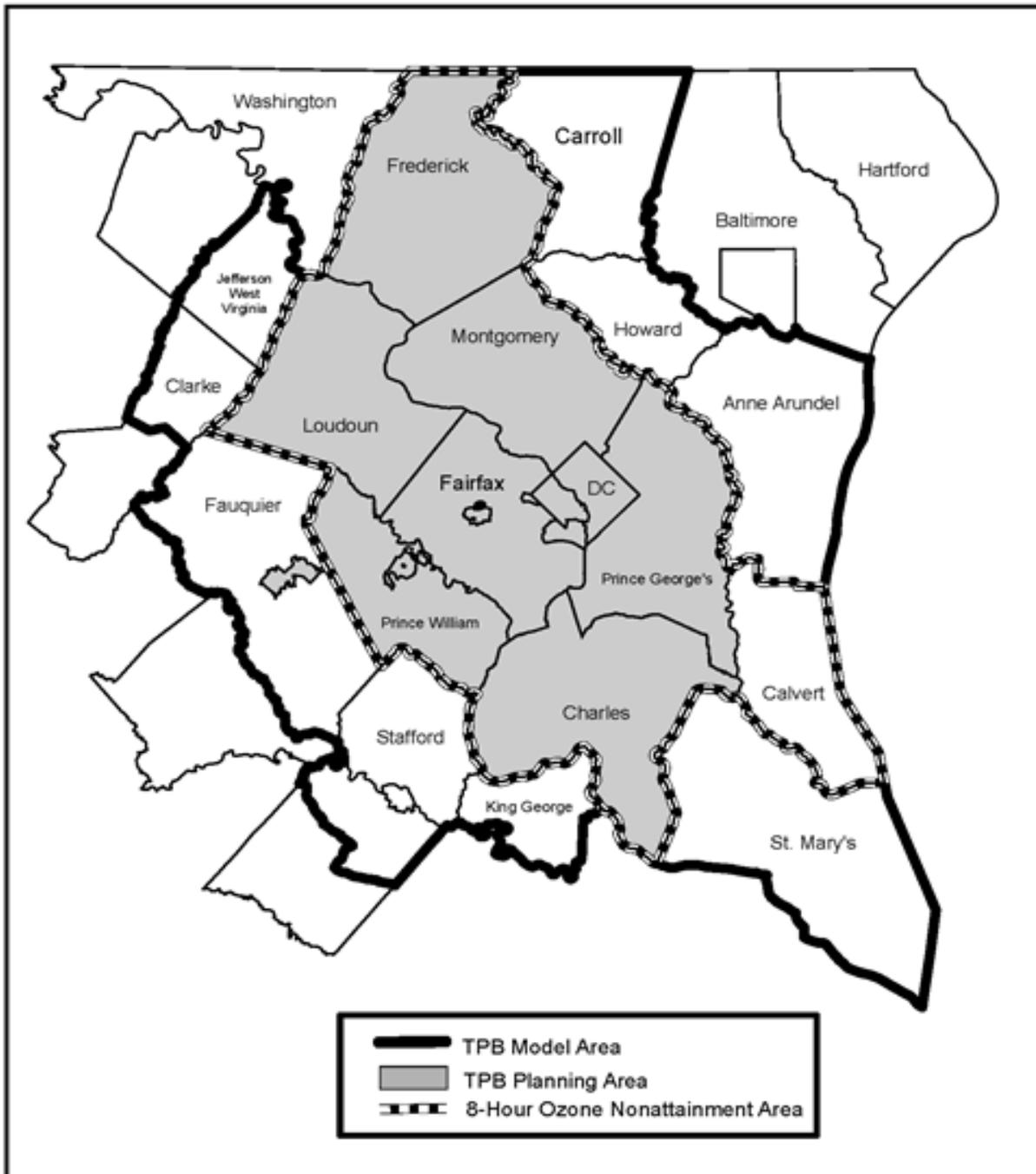
- New Cooperative Land Activity Forecasts- Round 9.1
- New December 2016 Vehicle Registration Data
- New Project and Updates to Existing Project Submissions
- Removal of the “core” Metrorail capacity constraint assumption within the travel demand model
- EPA’s MOVES 2014a Mobile Emissions Model

- Version 2.3.75 Travel Demand Model, including a 3,722 Transportation Analysis Zones (TAZ) area system

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

Exhibit 4 depicts the geographic areas for travel demand modeling and for emissions reporting.

### EXHIBIT 4 Planning Areas



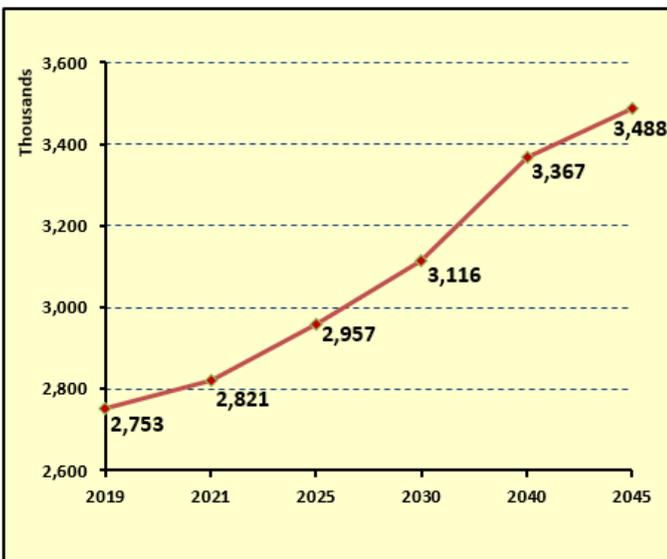
## Cooperative Forecasts

The COG Board approved the draft Round 9.1 Cooperative Forecasts for use in the air quality conformity analysis of the Visualize 2045 Plan and FY2019-2024 TIP in January 2018. The Round 9.1 projections, summarized in Exhibit 5, reflect not only the forecast small area land use distributions throughout the Washington area, but also the latest planning assumptions for areas outside the Washington region. For example, the Baltimore land use input to Round 9.1 reflects the Baltimore Metropolitan Council's current 'Round 8B' adopted figures.

Round 9.1 shows a steady growth in households and jobs through the 2045 out-year of the Plan. When comparing Round 9.1 to the previous Round 9.0, Round 9.1 includes more population for all forecast years, and more jobs for all years through 2030.

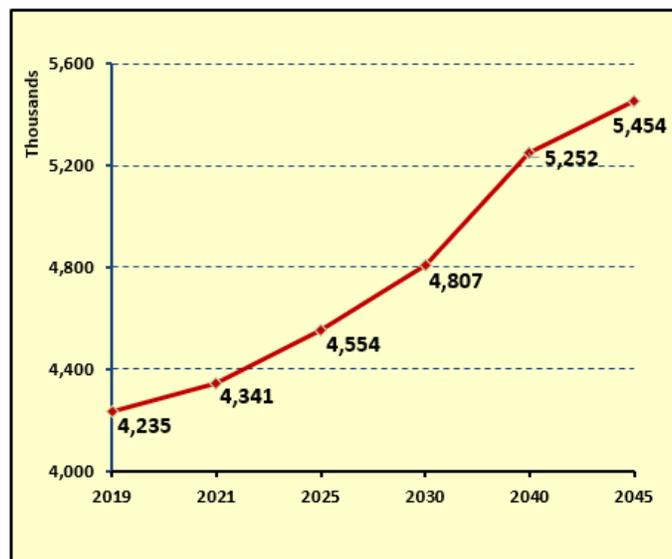
## EXHIBIT 5 Round 9.1 Cooperative Forecasts

### Households (in thousands)



NOTE: Values are for the modeled area

### Employment\* (in thousands)



\*Includes census adjustment

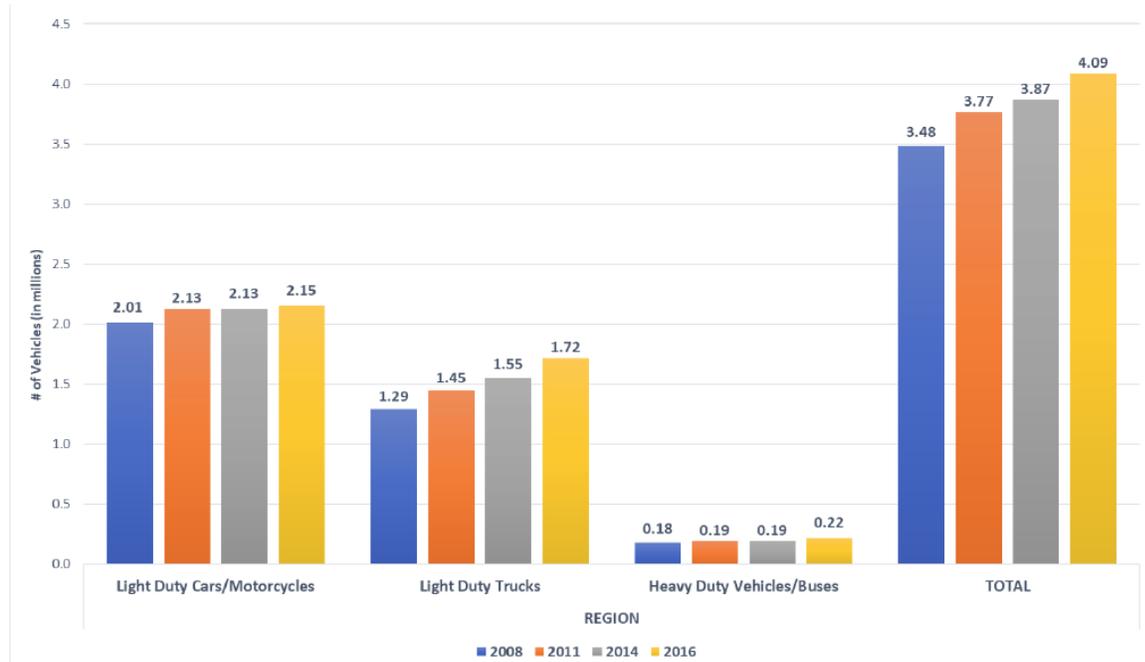
## Vehicle Registration Data

TPB staff has analyzed vehicle fleet inventory information on a regular basis since 2005. This information is used to understand the vehicle type composition and vehicle age distributions, which are important determinants of mobile emissions. Periodic inventory reviews enable staff to refresh mobile emissions modeling inputs with the most currently available information. The current data are from December 2016 (January 2017 for DC). TPB staff analyzed the December 2016 VIN data and the analysis was reviewed by the MWCOG/TPB technical oversight committees prior to being approved for use in transportation planning applications.

Exhibits 6 and 7 show characteristics of the region's vehicle fleet through time. The exhibits indicate that the fleet is continuing to grow, and that light duty trucks (SUVs) are growing at the fastest rate, relative to other vehicle types. Light duty trucks have a higher emissions rate than light duty cars. Also, for the first time since the TPB has collected fleet data, the average vehicle fleet age has decreased, as seen when

comparing 2014 to 2016 statistics in Exhibit 7. Typically, such a trend favors reduced emissions because of better emissions controls on newer vehicles.

## EXHIBIT 6 Historical growth in vehicles by type



\* Based on Decoded Records

## EXHIBIT 7 Average Age of Regional Vehicle Fleet by Year

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

\*Motorcycles are included

### CLRP Projects

Attachment B lists the major highway and transit project inputs for the conformity analysis. A complete list of highway and transit projects, as approved by the TPB on January 17, 2018 is shown in Attachment B of the full technical report. Significant changes to the project list since the last update to the regional transportation plan (the 2016 Constrained Long Range Plan) include: managed lanes on I-270 and on the Beltway in Maryland, the widening of US 301 in Maryland, additional Express Lanes on the Beltway in Virginia (for better connectivity with Maryland’s managed lanes), the construction of a southbound I-95

auxiliary lane in Virginia, five new Bus Rapid Transit corridors in Montgomery County, five new bike lane corridors in the District, and \$5.4 billion worth of Metro core capacity improvements. Relative to the 2016 CLRP, the projects in Visualize 2045 result in a greater reduction in the vehicle miles traveled per capita.

**Metrorail Capacity Constraint**

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

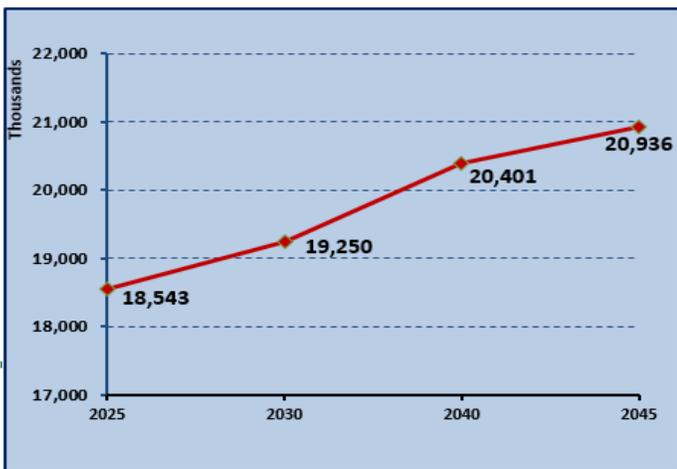
Since 2000, due to the lack of such a funding commitment for WMATA’s capital needs, the TPB’s air quality conformity analysis has included a technical adjustment to travel forecasts to account for the expectation that future peak period Metrorail ridership in the region’s “core” downtown area will be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

**TRAVEL MODELING**

Travel demand forecasts were developed for each of the analysis years using the Version 2.3.75 travel demand model. Changes between the version of the model used to set the mobile budgets (Version 2.3.66) and the version of the model used for conformity (Version 2.3.75) include: updates to airport trips to more accurately reflect travel to and from the region’s three major airports and enhancement of managed lanes modeling to account for the operational nature of facilities in MDOT’s Traffic Relief Plan (TRP). Exhibit 8 presents the resulting average weekday vehicle and transit trips through time for each conformity analysis year, for the full modeled area.

**EXHIBIT 8  
Modeled Area Trips**

**Vehicle Trips  
(in thousands)**

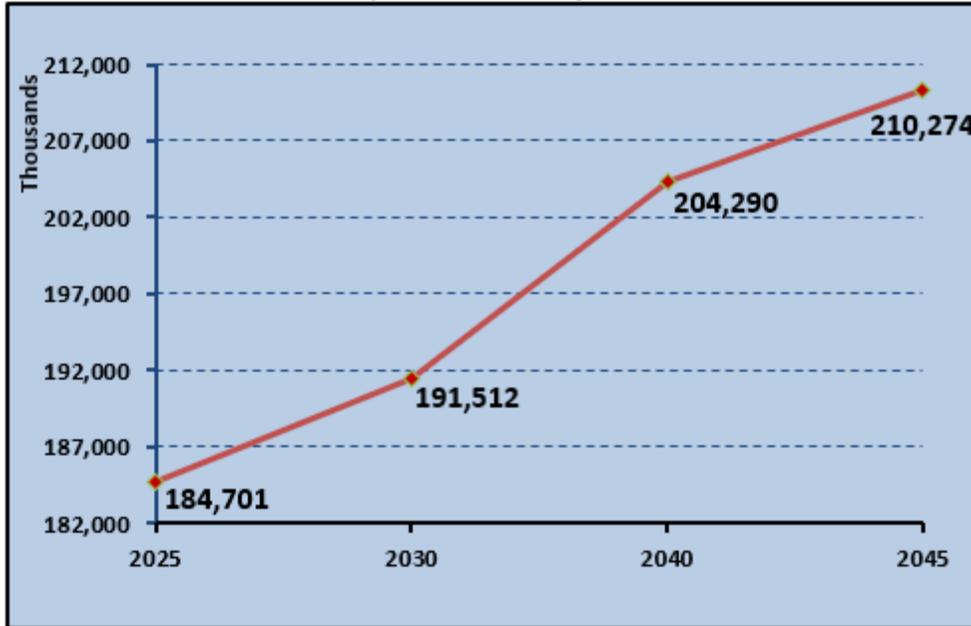


**Transit Trips  
(in thousands)**



Exhibit 9 shows Vehicle Miles Traveled (VMT) results through time for each conformity analysis year, for the full modeled area.

**EXHIBIT 9**  
**Modeled Area Vehicle Miles Traveled**  
**(in thousands)**



## EMISSIONS

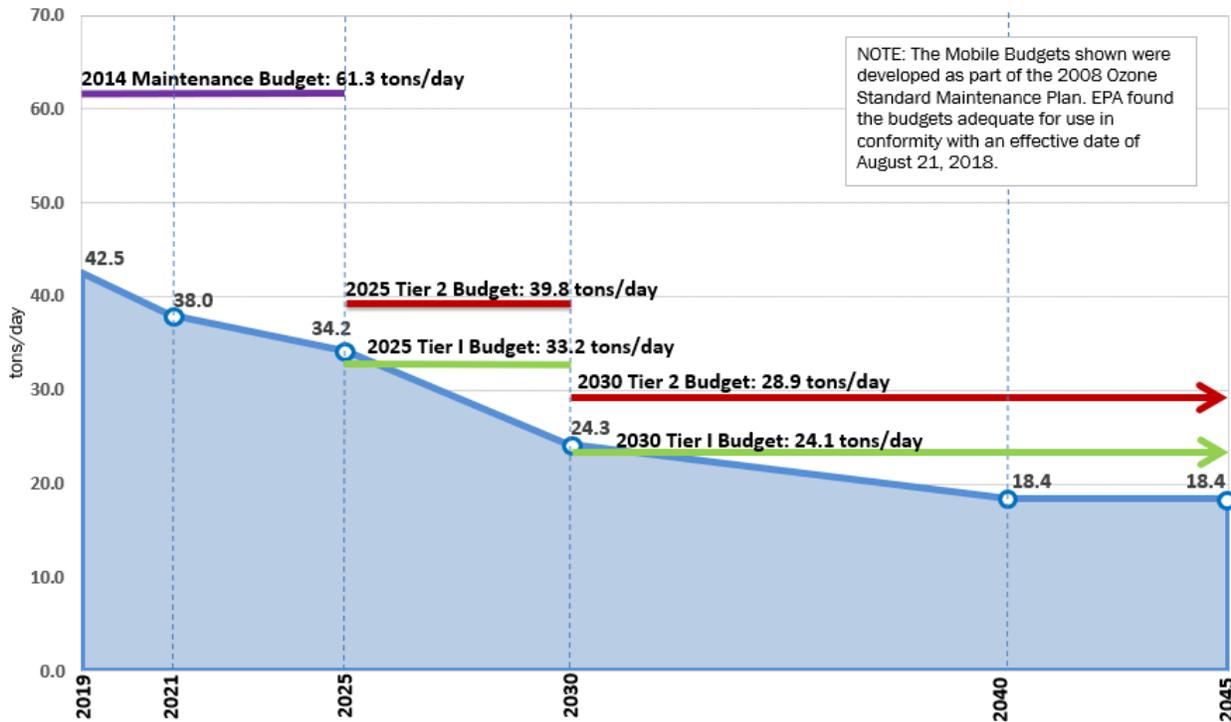
### Mobile Emissions Inventories & Tier 1 and Tier 2 Mobile Budgets

Ozone season emissions totals are illustrated in Exhibit 10. The emissions are shown in relation to the Tier 1 and Tier 2 mobile budgets for each pollutant. Emissions levels for VOC and NOx are slightly above the Tier 1 mobile budgets for the 2025 and 2030 analysis years. For the 2025 analysis year, the VOC emissions level is 1 ton/day above the 34.2 tons/day Tier 1 budget, and the NOx emissions level is 1.6 tons/day above the 40.7 tons/day Tier 1 budget. For the 2030 analysis year, the VOC emissions level is 0.2 tons/day above the 24.1 tons/day Tier 1 budget, and the NOx emissions level is 0.5 tons/day above the 27.4 tons/day Tier 1 budget. These emissions are marginally higher than Tier 1 budget levels due to the differences in the inputs used in this conformity analysis relative to those used in the 2008 Ozone Maintenance Plan.

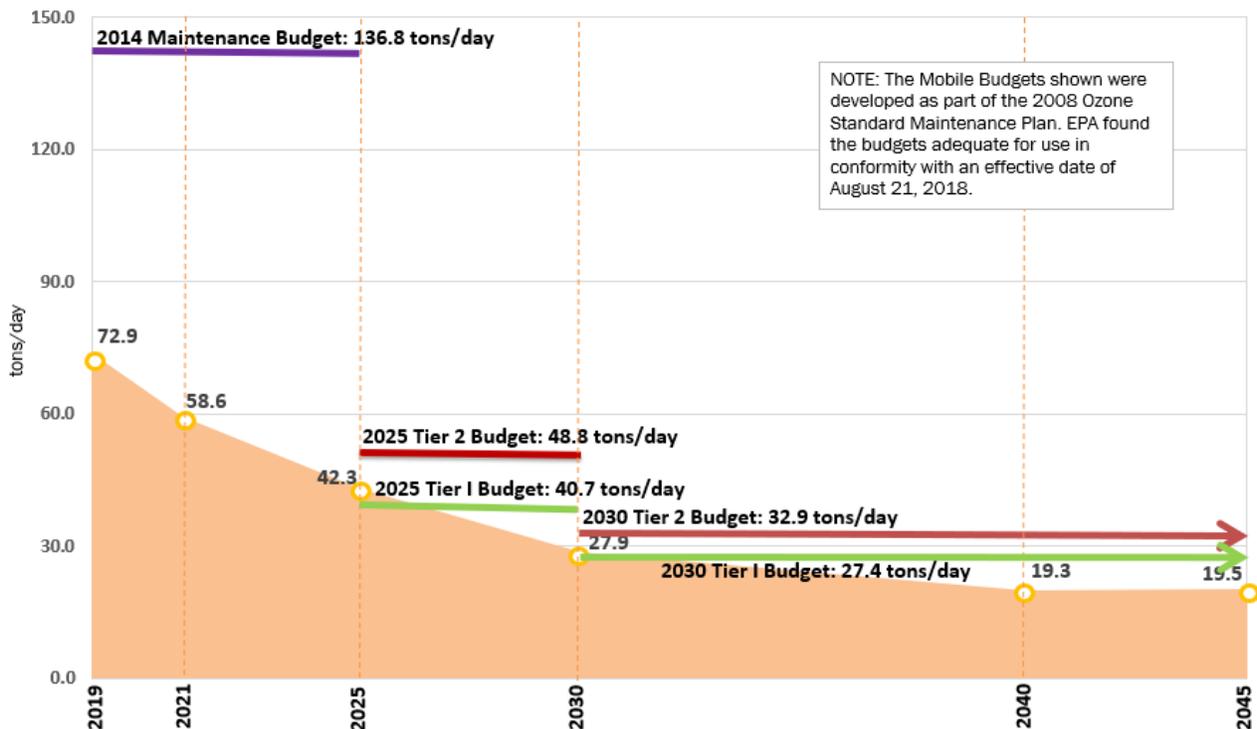
The transportation buffers established in the Tier 2 Mobile Budgets were implemented to account for changes in data, models, or planning assumptions used in the conformity analysis. As outlined earlier in this report, there were numerous input changes between the conformity analysis and the analysis used to set the mobile budgets. Therefore, the Tier 2 budgets are used to demonstrate conformity of the Visualize 2045 transportation plan and FY2019-2024 TIP with respect to VOC and NOx. Emissions levels for VOC and NOx are well below the Tier 2 mobile budgets for all analysis years, as shown in Exhibit 10.

# EXHIBIT 10 Mobile Source Emissions

## OZONE SEASON VOC



## OZONE SEASON NOx



## VIN Sensitivity Test

Each input to the conformity analysis impacts the resulting emissions estimates. It would not be feasible with respect to the project schedule to test the impact of each input change individually, but staff did conduct a sensitivity test to determine the impact of the change in the vehicle fleet. Staff re-estimated mobile emissions for the 2025 analysis year, one of the years for which new MVEBs were established in the 2008 Ozone Maintenance Plan, substituting the 2014 VIN data (same data used in the Maintenance plan) for the newer 2016 VIN data (used in conformity analysis).

For the 2025 analysis year, VOC is 3% and NOx is 4% above the respective Tier 1 budgets for each pollutant in the conformity analysis. In the sensitivity test, using the 2014 VIN instead of the 2016 VIN, VOC is only 1% above the Tier 1 budget, and NOx is below the Tier 1 budget. This indicates that the updated vehicle fleet data seem to be causing most of the increase in emissions in the conformity analysis when compared to the analysis used to create the mobile budgets. Exhibit 11 summarizes the results of the VIN sensitivity test.

### EXHIBIT 11 IMPACT OF VEHICLE FLEET CHANGES 2025 EMISSIONS VS TIER 1 MOBILE BUDGETS

	2025 Tier 1 Mobile Budgets (tons/day)	2016 VEHICLE FLEET			2014 VEHICLE FLEET		
		Conformity Analysis (tons/day)	Conformity Analysis Difference (tons/day)	Conformity Analysis Percent Diff	VIN Sensitivity Test (tons/day)	Sensitivity Test Difference (tons/day)	Sensitivity Test Percent Diff
<b>VOC</b>	<b>33.2</b>	34.2	1.0	3%	33.6	0.4	1%
<b>NOx</b>	<b>40.7</b>	42.3	1.6	4%	40.5	-0.2	-0.5%

## TERMs

Transportation Emission Reduction Measures (TERMs) are special strategies or actions that the TPB and/or its member agencies can employ to further reduce forecasted emissions from mobile sources. All TERMs are intended to reduce motor vehicle emissions by reducing either the number of vehicle trips (VT), vehicle miles traveled (VMT), or both. These strategies may include ridesharing and telecommuting programs, improved transit and bicycling facilities, clean fuel vehicle programs or other possible actions. TERMs analyzed for the Visualize 2045 conformity analysis were grouped into four categories:

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

Exhibit 12 lists the emission reduction potential of these TERMs, by pollutant, for each analysis year. The benefits of these projects are not included in the conformity emissions totals in this report, but are available, if necessary, to ensure that regional emissions stay below the approved motor vehicle emissions budgets and help offset future growth in mobile emissions.

**EXHIBIT 12**  
**Transportation Emission Reduction Measures**

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

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

**Conformity to the 1997 Ozone Standard**

Effective April 6, 2015 EPA revoked the 1997 Ozone Standard and eliminated conformity requirements associated with that standard. However, on February 16, 2018, the United States Court of Appeals for the District of Columbia ruled that the revocation of the 1997 Ozone Standard does not waive transportation conformity requirements for all areas. EPA’s May 9, 2018 response letter to an enquiry by American Association of State Highway and Transportation Officials (AASHTO) clarifies that areas such as ours, which are designated as nonattainment or maintenance for the 2008 ozone NAAQS, are not affected by the lawsuit. The EPA letter is included as Attachment C.

**COMMENTS / RESPONSE TO COMMENTS**

(To be completed after the comment period)

**SUMMARY**

The analytical results described in this air quality analysis provide a basis for a determination by the TPB of conformity of the Visualize 2045 Long Range Transportation Plan and the FY2019-2024 TIP and satisfy the requirements of the 2015 Ozone Standard to complete a conformity analysis within one year of EPA’s designation of marginal nonattainment.

# ATTACHMENT A

## Scope of Work



## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Jane Posey, TPB Transportation Engineer  
**SUBJECT:** Amendments to the Visualize 2045 Air Quality Conformity Scope of Work  
**DATE:** May 16, 2018

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

### **2015 OZONE NAAQS**

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

### **WMATA FUNDING**

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

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

## SCOPE OF WORK AMENDMENT

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



May 16, 2018

## **AIR QUALITY CONFORMITY ANALYSIS: VISUALIZE 2045 AMENDED SCOPE OF WORK**

### **I. INTRODUCTION**

Projects solicited for the quadrennial update of the region's transportation plan, Visualize 2045, and the FY2019-2024 Transportation Improvement Program (TIP) are scheduled to be finalized at the January 17, 2018 TPB meeting. This work effort addresses requirements associated with attainment of the ozone standard (volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) as ozone precursor pollutants).

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

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

### **II. FEDERAL REQUIREMENTS**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Assessment Criteria:**

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

**III. POLICY AND TECHNICAL APPROACH**

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

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

#### IV. CONSULTATION

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

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

#### V. WORK TASKS

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

1. Receive project inputs from programming agencies and organize into conformity documentation listings by:
  - Project type, limits, etc.
  - Phasing with respect to forecast years
  - Transit operating parameters, e.g., schedules, service
2. Update Travel Model Base Transit Service to reflect:
  - Service current to Fall 2017
  - Fares current to Fall 2017
3. Prepare 2016 Vehicle Registration Data (VIN data)
  - Coordinate with States to receive raw VIN data
  - Explore updated VIN decoder software options and procure the software that best suits the agency's needs
  - Convert raw VIN data into MOVES input categories/format
4. Review and Update Land Activity files to reflect Round 9.1 Cooperative Forecasts with respect to:
  - Zonal data files
  - Employment Data Census Adjustment
  - Households by auto ownership, size and income
  - Coordination with agencies outside the MWCOG Cooperative Forecast area (BMC, FAMPO, C-SMMPO etc.)
  - Exogenous Travel (external, through trips etc.)

5. Prepare forecast year highway, HOV, and transit networks including regionally significant projects, as follows:
  - 2019, 2021, 2025, 2030, 2040, and 2045 highway networks
  - 2019, 2021, 2025, 2030, 2040, and 2045 transit network input files
  - Update highway tolls, as necessary
6. Execute travel demand modeling for years 2019, 2021, 2025, 2030, 2040, and 2045
7. Derive Mobile Emissions Estimates for years 2019, 2021, 2025, 2030, 2040, and 2045 using inputs from both 2008 Ozone NAAQS attainment SIP mobile budgets and 2008 Ozone NAAQS Maintenance Plan mobile budgets (2 runs per year)
8. Provide emissions reductions estimates for TERMS
9. Summarize key inputs and outputs (VMT, mode share, emissions, etc.) of the conformity determination for use in the Visualize 2045 Performance Analysis
10. Assess conformity and document results in a report
  - Document methods
  - Draft conformity report
  - Forward to technical committees, policy committees
  - Make available for public and interagency consultation
  - Receive comments
  - Respond to comments and present to TPB for action
  - Finalize report and forward to FHWA, FTA, and EPA

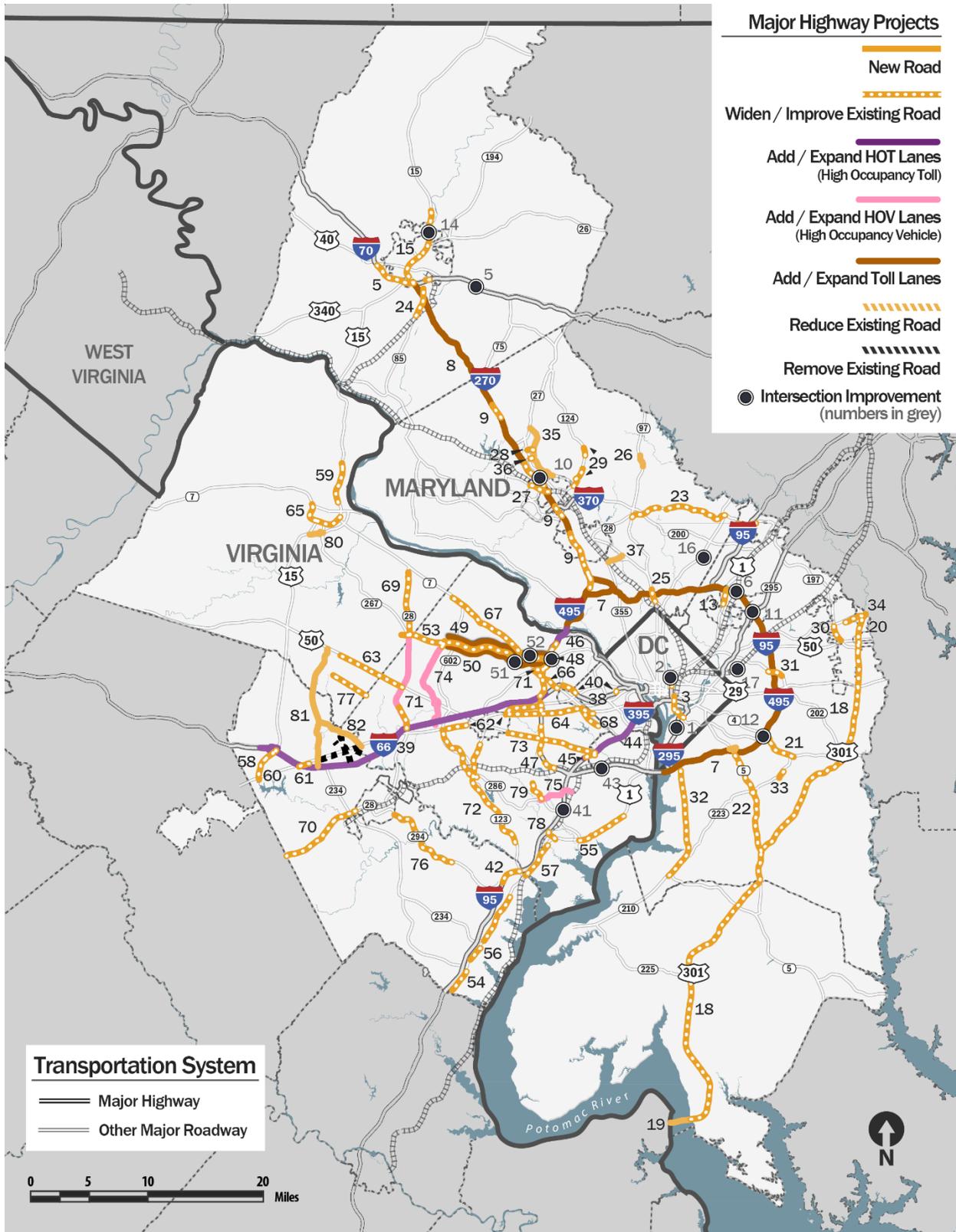
# SCHEDULE FOR DEVELOPMENT & ADOPTION OF VISUALIZE 2045

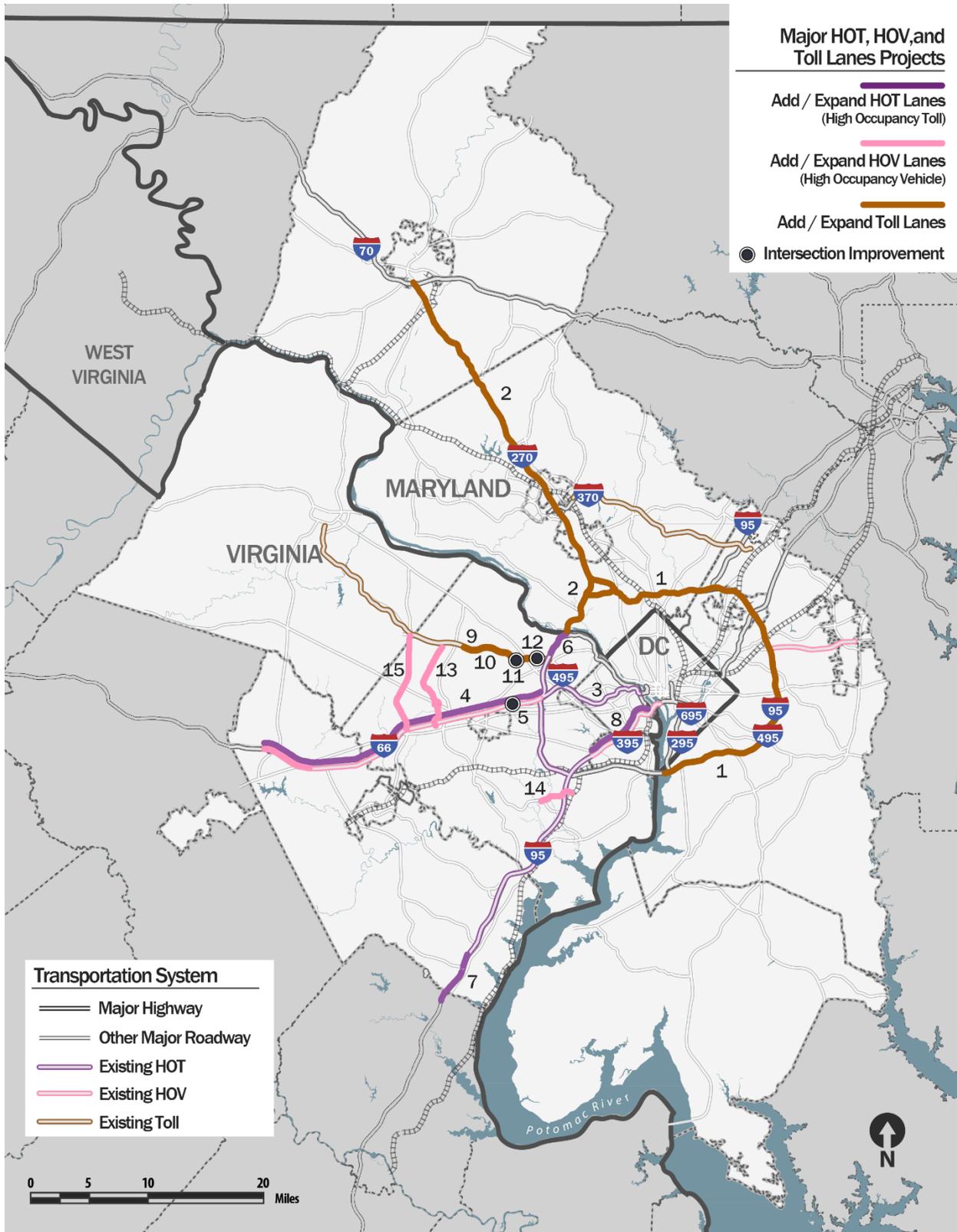
2017	September 20*	TPB is briefed on the draft Solicitation of Technical Inputs document.
	October 18*	TPB releases final Solicitation Document. Transportation agencies begin submitting project information through online database.
	November 17	<b>DEADLINE:</b> Transportation agencies complete online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

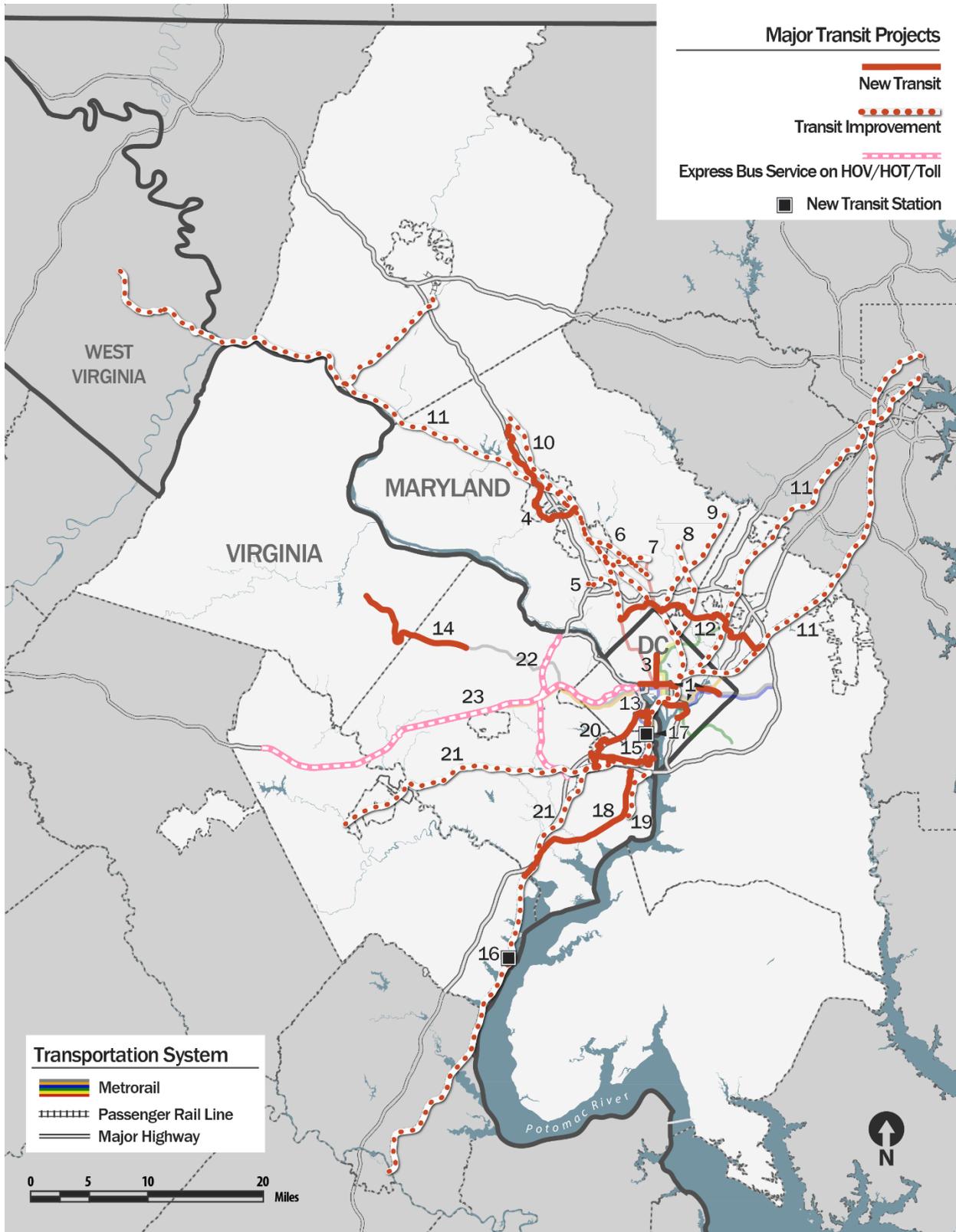
\* Regularly scheduled TPB meeting.

# **ATTACHMENT B**

## **Major Project Inputs**







## MAJOR HIGHWAY PROJECTS

### DISTRICT OF COLUMBIA

#### MAJOR HIGHWAYS

1. I-295 - reconstruct interchange at Malcolm X Blvd, 2020 (\$200M)
2. I-395 - remove 3rd St SB exit ramp, reconfigure 3rd St SB entrance and 2nd St NB exit ramps, reconnect F St between 2nd and 3rd St, 2019 (\$27M)

#### LOCAL ROADS

3. South Capitol St - convert to 6 lane urban blvd, incl. Frederick Douglass Bridge Reconstruction, 2021 (\$822M)
4. Lane Reductions/Reconfigurations for Bicycle Lanes, 2018, 2019, 2020, 2024 (not mapped)

### MARYLAND

#### MAJOR HIGHWAYS

5. I-70 - widen to 6 lanes with interchange at Meadow Rd, 2025, 2035 (\$143M)
6. I-95/I-495 - interchange at Greenbelt Metro Sta, 2030 (\$196M)
7. **I-95/I-495 Traffic Relief Plan, construct 4 managed lanes, 2025 (\$4.2B)**
8. **I-270 Traffic Relief Plan, construct 4 managed lanes, 2025 (\$3.4B)**
9. **I-270 - "Innovative Congestion Management" project to includes auxiliary lanes & add'l improvements, 2019 (\$114M)**
10. I-270 - interchange at Watkins Mill Rd Ext, 2021 (\$120M)
11. Baltimore Washington Parkway (MD-295) at MD-193 (Greenbelt Rd) - intersection improvement, 2020 (\$8.5M)
12. Suitland Pkwy - interchange at Rena/Forestville Rd, 2025 (\$2.8M)
13. US-1 (Baltimore Ave) - reconstruct 4 lanes, 2030 (\$116M)
14. US-15 (Catocin Mtn Hwy) - reconstruct intersection at Monocacy Blvd, 2018 (\$61M)
15. **US-15 (Frederick Fwy and Catocin Mtn Hwy) - widen to 6 lanes with interchange at Biggs Ford Rd, 2030, 2040, 2045 (\$420M)**
16. **US-29 (Columbia Pke) - improve interchanges at Stewart Ln, Tech Rd/Industrial Pkwy, Musgrove Rd/Fairland Rd, Greencastle Rd, and Blackburn Rd, 2045 (\$646M)**
17. US-50 (John Hanson Hwy) - westbound ramp to Columbia Park Rd, 2025 (\$64M)
18. **US-301 (Crain Hwy) - widen to 6 lanes, 2045 (\$4.6B)**
19. US-301 - widen Governor Harry Nice Memorial Bridge, 2023 (\$768M)

#### STATE ROUTES

20. MD-3 (Robert Crain Hwy) - widen to 6 lanes, 2035 (\$1.8B)
21. MD-4 (Pennsylvania Ave) - widen to 6 lanes with interchanges at Dowerhouse Rd, Westphalia Rd, and Suitland Pkwy, 2040 (\$533M)
22. MD-5 (Branch Ave) - upgrade, widen to 6 lanes including interchanges, 2035 (\$790M)
23. MD-28 (Norbeck Rd) / MD-198 (Spencerville Rd) - widen to 4, 6 lanes, 2045 (\$413M)
24. MD-85 (Buckeystown Pke) - widen to 4, 6 lanes, 2021, 2035 (\$220)
25. **MD-97 (Georgia Ave) - widen to 7, 8 lanes, 2025 (\$52M)**
26. MD-97 (Brookeville Bypass) - construct 2 lane bypass, 2021 (\$52M)
27. MD-117 (Clopper Rd) - widen to 4 lanes, 2030 (\$69M)
28. MD-118 (Germantown Rd) - widen to 4 lanes, 2020 (\$4.0M)
29. MD-124 (Woodfield Rd) - widen to 6 lanes, 2035 (\$129M)

- 30. MD-197 (Collington Rd) - widen to 4/5 lanes, 2025 (\$94M)
- 31. MD-202 (Landover Rd) - Largo Town Center Metro Access Improvement, reconstruct 6 lanes, 2045 (\$24M)
- 32. MD-210 (Indian Head Hwy) - upgrade to 6 lanes and interchange improvement, 2040 (\$754M)
- 33. MD-223 (Woodyard Rd) - widen to 4 lanes, 2020 (\$2.8M)
- 34. MD-450 (Annapolis Rd) - widen to 4 lanes, 2030 (\$67M)

**LOCAL ROADS**

- 35. Midcounty Hwy Extension (M-83) - construct 4, 6 lanes, 2025 (\$202M)
- 36. Middlebrook Rd Extended - widen to 4 lanes, 2025 (\$16M)
- 37. Montrose Pkwy East - construct 4 lanes, 2025 (\$140M)

**VIRGINIA**

**MAJOR HIGHWAYS**

- 38. I-66 HOT (Inside Beltway), revise operations from HOV 2+ to HOT during peak hours and bus service, 2017, 2021, 2040 (\$375M)
- 39. I-66 HOT (Outside Beltway) - widen to 6 lanes (3 general purpose, 2 HOT, and 1 auxiliary) and bus service, 2021, 2040 (\$4.4B)
- 40. I-66 - Extend existing westbound acceleration/deceleration lane, 2020, 2022 (\$59M)
- 41. I-95/Fairfax County Parkway - enhanced interchanges for BRAC, 2025 (\$57M)
- 42. I-95 - add southbound auxiliary lane, 2028 (\$27M)**
- 43. I-95/I-495 - reconstruct interchange at Van Dorn St, 2030 (\$40M)
- 44. I-395 HOT - additional lane and revise operation from HOV 3+ during peak to HOT 3+, 2019 (\$220M)
- 45. I-395 - construct new south bound lane, 2018, 2020 (\$58M)
- 46. I-495 - construct 4 HOT lanes, 2025 (\$500M)**
- 47. I-495 Auxiliary Lanes - construct 2 auxiliary lanes in both directions, 2030
- 48. I-495 - interchange at VA 267, 2030 (\$70M)
- 49. Dulles Toll Rd (VA-267) - Collector-Distributor Road west-bound, 2037 (\$62M)
- 50. Dulles Toll Rd (VA-267) - Collector-Distributor Road east-bound, 2036 (\$124M)
- 51. Dulles Toll Rd (VA-267) - interchange at New Boone Blvd Extension, 2037 (\$79M)
- 52. Dulles Toll Rd (VA-267) - interchange at Greensboro Drive/Tyco Rd, 2036 (\$28M)
- 53. Dulles Access Rd (VA 267) - widen to 6 lanes including interchange reconstruct at I-495, 2030 (\$40M)
- 54. US-1 (Jefferson Davis Hwy) - widen to 6 lanes, 2040 (\$58M)
- 55. US-1 (Richmond Hwy) - widen to 6 lanes, 2025, 2035 (\$37M)
- 56. US-1 (Richmond Hwy) - widen to 6 lanes, 2024, 2030 (\$127M)
- 57. US-1 (Richmond Hwy) - widen to 6 lanes, 2035 (\$125M)
- 58. US-15 (James Madison Hwy) - widen to 4 lanes, 2024, 2030 (\$45M)
- 59. US-15 (James Madison Hwy) - widen to 4 lanes, 2022, 2025 (\$33M)**
- 60. US-15 (James Madison Hwy) - widen to 4 lanes, 2030, 2040 (\$54M)
- 61. US-29 (Lee Hwy) - widen to 5 lanes and improve I-66 interchange, 2030 (\$255M)
- 62. US-29 (Lee Hwy) - widen to 3, 6 lanes, 2017, 2025 (\$130M)
- 63. US-50 (Lee Jackson Memorial Hwy) - widen to 6 lanes, 2025 (\$100M)
- 64. US-50 (Arlington Blvd) - widen/reconstruct 6 lanes including interchanges, 2020, 2025(\$249M)

## STATE ROUTES

- 65. VA-7/US-15 Bypass (Harry Byrd Hwy) - widen to 6 lanes, 2035, 2040 (\$55M)
- 66. VA-7 (Leesburg Pke) - widen to 6 lanes, 2021 (\$71M)
- 67. VA-7 (Leesburg Pke) - widen to 6, 8 lanes, 2021, 2025, 2030 (\$49M)
- 68. VA-7 (Leesburg Pke) - widen to 6 lanes, 2020, 2025 (\$34M)
- 69. VA 28 (Sully Rd) HOV, widen to 8-10 lanes, HOV in additional lanes during peak, 2016, 2025, 2040 (\$100M)
- 70. VA-28 (Nokesville Rd) - widen to 4 or 6 lanes, 2019, 2025, 2022, 2040 (\$71M)
- 71. VA-123 (Chain Bridge Rd) - widen to 8 lanes, 2021 (\$22M)
- 72. VA-123 (Ox Road) - widen to 4, 6 lanes, 2020, 2025 (\$69.9M)
- 73. VA-236 (Little River Tpke) - widen to 6 lanes, 2030 (\$58M)
- 74. VA-286 (Fairfax County Pkwy) HOV - widen to 6 lanes, HOV in additional lanes during Peak, 2025, 2035 (\$295M)
- 75. VA-289 (Franconia/Springfield Parkway), HOV lanes with interchange at Neuman St, 2025 (\$16M)
- 76. VA-294 (Prince William Pkwy) - widen to 6 lanes, 2040 (\$263M)
- 77. VA-620 (Braddock Rd) - widen to 4 lanes, 2025, 2027 (\$165M)**
- 78. VA-638 (Pohick Rd) - widen to 4 lanes, 2020 (\$12M)
- 79. VA-638 (Rolling Rd) - widen to 4 Lanes, 2025 (\$31M)

## LOCAL ROADS

- 80. Battlefield Pkwy - construct 4 lanes, 2020 (\$45M)
- 81. Manassas Bypass (VA-234 Bypass) - construct 4 lanes, 2040 (\$96M)
- 82. Manassas Battlefield Bypass - construct 4 lanes and close portions of US-29 (Lee Hwy) and VA-234 (Sudley Rd), 2035, 2040 (\$28M)

Note: New or significantly changed projects are identified with **bold text**. Costs identified include total project costs which may include additional elements presented in another list(s).

## MAJOR HOT, HOV, AND TOLL LANE PROJECTS\*

### MARYLAND

#### MAJOR HIGHWAYS

1. I-95/I-495 Traffic Relief Plan, construct 4 managed lanes, 2025 (\$4.2B)
2. I-270 Traffic Relief Plan, construct 4 managed lanes, 2025 (\$3.4B)

### VIRGINIA

#### MAJOR HIGHWAYS

3. I-66 HOT (Inside Beltway), revise operations from HOV 2+ to HOT during peak hours and bus service, 2017, 2021, 2040 (\$375M)
4. I-66 HOT (Outside Beltway) - widen to 6 lanes (3 general purpose, 2 HOT, and 1 auxiliary) and bus service, 2021, 2040 (\$4.4B)
5. I-66 - construct HOV ramps to access Vienna Metro Sta, 2021 (\$41M)
6. I-495 - construct 4 HOT lanes, 2025 (\$500M)
7. I-95 - convert to managed lanes (\$254M)
8. I-395 HOT - additional lane and revise operation from HOV 3+ during peak to HOT 3+, 2019 (\$220M)
9. Dulles Toll Rd (VA-267) - Collector-Distributor Road west-bound, 2037 (\$62M)
10. Dulles Toll Rd (VA-267) - Collector-Distributor Road east-bound, 2036 (\$124M)
11. Dulles Toll Rd (VA-267) - interchange at New Boone Blvd Extension, 2037 (\$79M)
12. Dulles Toll Rd (VA-267) - interchange at Greensboro Drive/Tyco Rd, 2036 (\$28M)

#### STATE ROUTES

13. VA-286 (Fairfax County Pkwy) HOV - widen to 6 lanes, HOV in additional lanes during peak, 2025, 2035 (\$296M)
14. VA-289 (Franconia/Springfield Parkway), HOV lanes with interchange at Neuman St, 2025 (\$16M)
15. VA-28 (Sully Rd) HOV, widen to 8-10 lanes, HOV in additional lanes during peak, 2016, 2025, 2040 (\$100M)

Note: New or significantly changed projects are identified with **bold text**. Costs identified include total project costs which may include additional elements presented in another list(s).

\* HOT = High-Occupancy Toll Lanes. HOV = High-Occupancy Vehicle Lanes.

## MAJOR TRANSIT PROJECTS

### DISTRICT OF COLUMBIA

1. DC Streetcar, 2023, 2026 (\$348M)
2. DC Dedicated Bicycle Lane Network, 2019, 2024 (not mapped) (\$800k)
3. 16th Street Bus Priority Improvements, 2021 (\$15M)

### MARYLAND

4. Corridor Cities Transitway BRT - from Shady Grove to COMSAT, 2020 (\$545M)
5. **North Bethesda Transitway BRT - from Montgomery Mall to White Flint Metro, 2040 (\$115M)**
6. **Veirs Mill Rd BRT - from Wheaton Metro to Rockville Metro, 2030 (\$6M)**
7. **Randolph Rd BRT - from US-29 to MD-355, 2040 (\$102M)**
8. **New Hampshire Ave. BRT - from Takoma Metro to Colesville P&R, 2045 (\$285M)**
9. US-29 BRT - from Silver Spring Metro to Burtonsville P&R, 2020 (\$39M)
10. **MD-355 BRT - from Bethesda Metro to Clarksburg, 2040 (\$1B)**
11. MARC - Increase trip capacity and frequency along all commuter rail lines, 2029 (\$1B)
12. Purple Line - Bethesda to New Carrollton, 2020 (\$2.4B)

### VIRGINIA

13. Crystal City Transitway: Northern Extension BRT, 2023 (\$24M)
14. Metro Silver Line (Dulles Corridor Metrorail Project) - Phase 2, 2020 (\$2.9B)
15. Duke St Transitway - King St Metro to Fairfax County line, 2024 (\$19M)
16. Potomac Shores VRE Station, 2019 (\$26M)
17. Potomac Yard Metro Station, 2021 (\$268M)
18. US-1 BRT from Huntington Metro Station to Woodbridge, 2030 (\$504M)
19. US-1 bus lanes and improved intersections, 2035 (\$37M)
20. West End Transitway - Van Dorn St Metro to Pentagon Metro, 2024 (\$140M)
21. VRE - Reduce headways along the Manassas and Fredericksburg Lines, 2020 (\$105M)
22. I-495 HOT Lane Express Bus Service, 2030 (\$254M)
23. I-66 HOT Lane Enhanced Bus Service, 2025, 2040

Note: New or significantly changed projects are identified with **bold text**. Costs identified include total project costs which may include additional elements presented in another list(s).

# ATTACHMENT C

## EPA Letter



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 9 2018

OFFICE OF  
AIR AND RADIATION

Mr. Bud Wright  
Executive Director  
American Association of State Highway  
and Transportation Officials  
444 North Capitol Street, N.W.  
Washington, D.C. 20001

Dear Mr. Wright:

Thank you for your March 16, 2018 letter to U.S. Environmental Protection Agency (EPA) Administrator Scott Pruitt, regarding our response to the recent decision by the District of Columbia Circuit Court of Appeals on the *South Coast Air Quality Management District v. EPA et al* litigation. In your letter, you raised several issues as well as concerns regarding the potential impacts of the decision on transportation planning.

On April 23, 2018, the Department of Justice filed a motion with the Circuit Court seeking rehearing on various aspects of the decision including portions of the decision that address transportation conformity requirements in certain former nonattainment and maintenance areas for the 1997 ozone national ambient air quality standard (NAAQS). Your letter was included as part of the court filing in order to illustrate the potential impacts of the decision on the planning process.

We believe that there are a number of areas which can continue to make transportation conformity determinations for ozone. Based on our review of the decision, we have concluded that the decision does not affect transportation conformity requirements for areas that are designated as nonattainment or maintenance for the 2008 ozone NAAQS. In other words, transportation conformity determinations for the 2008 ozone NAAQS should continue to be made as they have been prior to the decision. For example:

- Areas such as Houston, Dallas, the South Coast, and other 2008 ozone NAAQS nonattainment or maintenance areas may continue to satisfy transportation conformity requirements for ozone by demonstrating conformity for the 2008 ozone NAAQS as they have been doing.
- In addition, there are some 2008 ozone NAAQS areas, such as Atlanta, where a portion of the former 1997 ozone NAAQS nonattainment or maintenance area is not covered by a 2008 ozone NAAQS nonattainment or maintenance area. We believe that such areas can fulfill transportation conformity requirements for the 2008 ozone NAAQS by continuing to demonstrate conformity for the 2008 ozone NAAQS nonattainment or maintenance area as they have been doing. In addition to determining conformity for the 2008 ozone NAAQS nonattainment or maintenance area, such

areas could also determine conformity for the entire former 1997 ozone NAAQS nonattainment or maintenance area. Determining conformity for both ozone NAAQS in this way is an acceptable approach for complying with the decision at this time.

We anticipate issuing transportation conformity guidance on the court decision in the near future consistent with the information in this letter, and we are considering your suggestions for additional guidance. We also continue to work with our counterparts in the U.S. Department of Transportation to assist areas with transportation conformity implementation.

If you have questions, please contact Meg Patulski at (734) 214-4842 or [patulski.meg@epa.gov](mailto:patulski.meg@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Simon', is positioned above the typed name.

Karl Simon, Director  
Transportation and Climate Division  
Office of Transportation and Air Quality