

**MEMORANDUM****DRAFT**

TO: Transportation Planning Board
FROM: Jane Posey, TPB Transportation Engineer
SUBJECT: Air Quality Conformity Analysis Summary Report
DATE: October 13, 2016

INTRODUCTION

This memo documents summary results of the air quality conformity analysis of the 2016 Constrained Long Range Plan (CLRP) Amendment and FY2017-2022 Transportation Improvement Program (TIP) with respect to ozone season pollutants, specifically, Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx). The results, showing that the CLRP and TIP meet all conformity requirements, 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 public comment and interagency consultation on October 13, 2016. The public comment period will end on November 12, 2016.

BACKGROUND

The TPB approved the Scope of Work and project submissions for the 2016 CLRP Amendment and FY2017-2022 TIP air quality conformity analysis on March 16.

Key technical planning assumptions and methods include:

- New Cooperative Land Activity Forecasts- Round 9.0
- New Project and Updates to Existing Project Submissions
- Updated HOV policy assumptions related to occupancy requirements
- EPA's MOVES 2014a Mobile Emissions Model
- 2014 Vehicle Registration Data
- Version 2.3.66 Travel Demand Model including a 3,722 Transportation Analysis Zones (TAZ) area system

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

Calvert County, Maryland is in the Washington D.C. region's ozone nonattainment area, and is also a member of the new southern Maryland MPO, C-SMMPO. Projects in Calvert County have always been included in the TPB's conformity analysis, but with the recent establishment of the new MPO, 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 is included in Attachment A.

CRITERIA POLLUTANTS

The Scope of Work identified conformity requirements associated with Ozone Season Pollutants (VOC and NO_x) and Fine Particles (PM_{2.5}) pollutants (direct fine particles and precursor NO_x). The requirements included the development of mobile emissions inventories of the above four Ozone Season and Fine Particles Pollutants. However, on August 24, 2016, the Environmental Protection Agency (EPA) published a rule which effectively removes the requirement to include the Fine Particles Pollutants in the conformity analysis. A discussion of this rule and its application to the air quality conformity analyses conducted by TPB staff, as well as some background on the Ozone Season Pollutants, is provided below.

Fine Particles Pollutants

The EPA has recently published a rule¹ related to air quality standards which will have a direct effect on how air quality conformity analyses are conducted in the Washington, D.C. region. The EPA revoked the 1997 Standard for Fine Particles Pollutants. The revocation, combined with the decreasing levels of fine particles that have enabled the region to be in compliance with more stringent 2012 standards, dictates that our region is no longer required to analyze Fine Particles Pollutants 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 Fine Particles Standard, staff did not include any charts or graphs associated with PM_{2.5}-related pollutants in the air quality conformity report of the 2016 CLRP and FY2017-2022 TIP.

While reference to PM_{2.5} levels will be removed from the conformity report, the region will continue to promote Transportation Emissions Reductions Measures and other federal, state, and local control programs that reduce fine particles emissions. The region will continue to monitor the levels of fine particles in the area, which are expected to continue to decline, especially with vehicle turnover introducing cleaner and more fuel-efficient vehicles into our fleet.

Ozone Season Pollutants

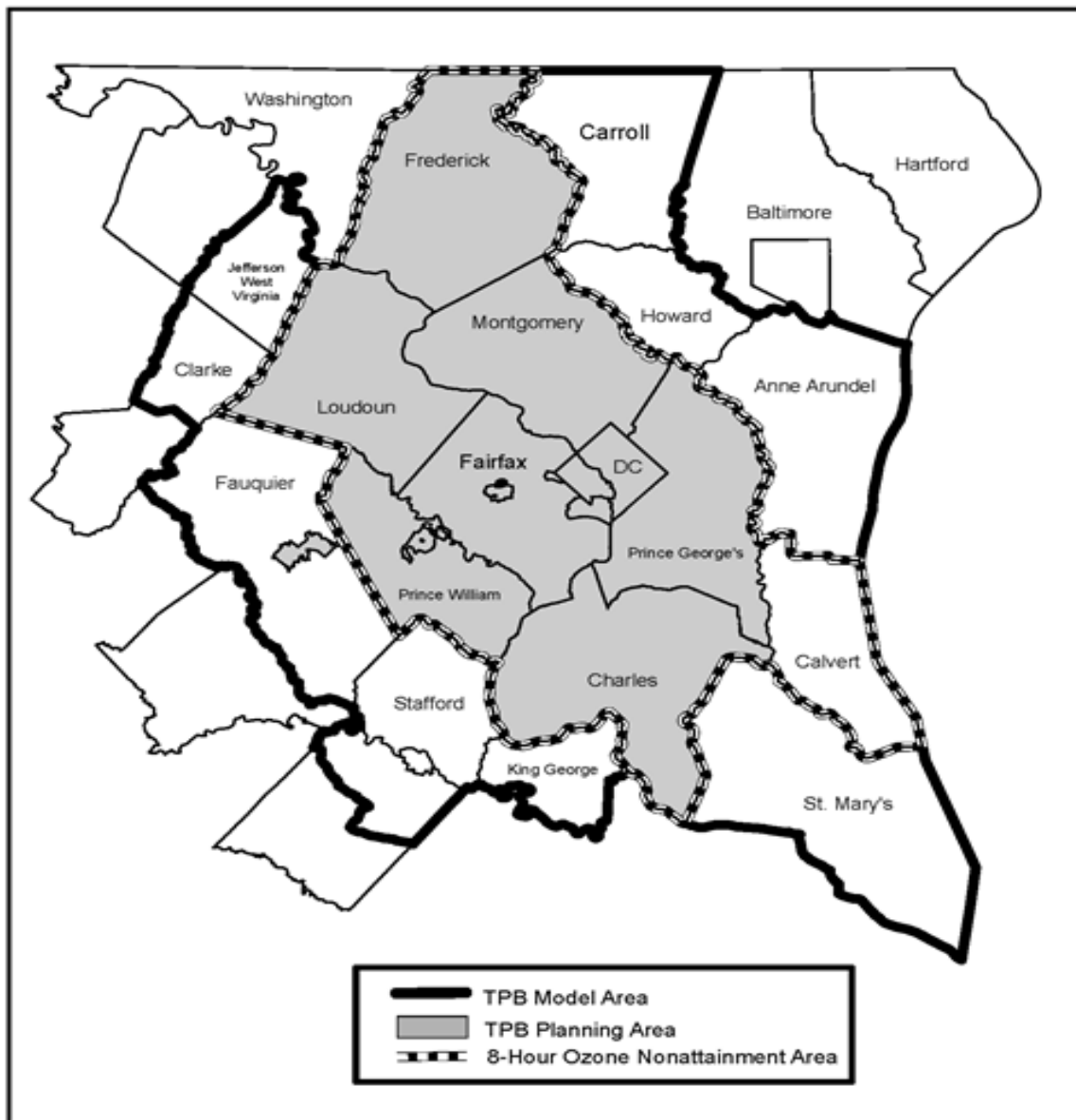
On May 21, 2012 EPA designated the Metropolitan Washington, DC, (DC-MD-VA) region as 'marginal' nonattainment for the 2008 Ozone Standard. Under a 'marginal' designation, it is not necessary to develop updated mobile budgets; however, the region must still adhere to those currently approved by EPA under the old 1997 standard. The currently approved budgets for VOC and NO_x were submitted to the EPA by the Metropolitan Washington Air Quality Committee (MWAQC) in 2007, as part of an 8-hour ozone SIP, responding to the 1997 Ozone Standard, under which the region was designated as 'moderate' nonattainment. On February 7, 2013 EPA found adequate the 2009 Attainment and 2010 Contingency budgets included in this SIP. The budgets are 66.5 tons/day of Volatile Organic Compounds (VOC) and 146.1 tons/day of Nitrogen Oxides (NO_x) for the 2009 Attainment Plan and 144.3 tons/day of NO_x for the 2010 Contingency Plan.

WORK ACTIVITIES

Mobile emissions inventories were developed for ozone season VOC and NO_x for five forecast years (2016, 2017, 2025, 2030 and 2040). 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 1 depicts the geographic areas for travel modeling and for emissions reporting.

¹ Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements; Final Rule, Vol. 81, No. 44 Fed. Reg., August 24, 2016.

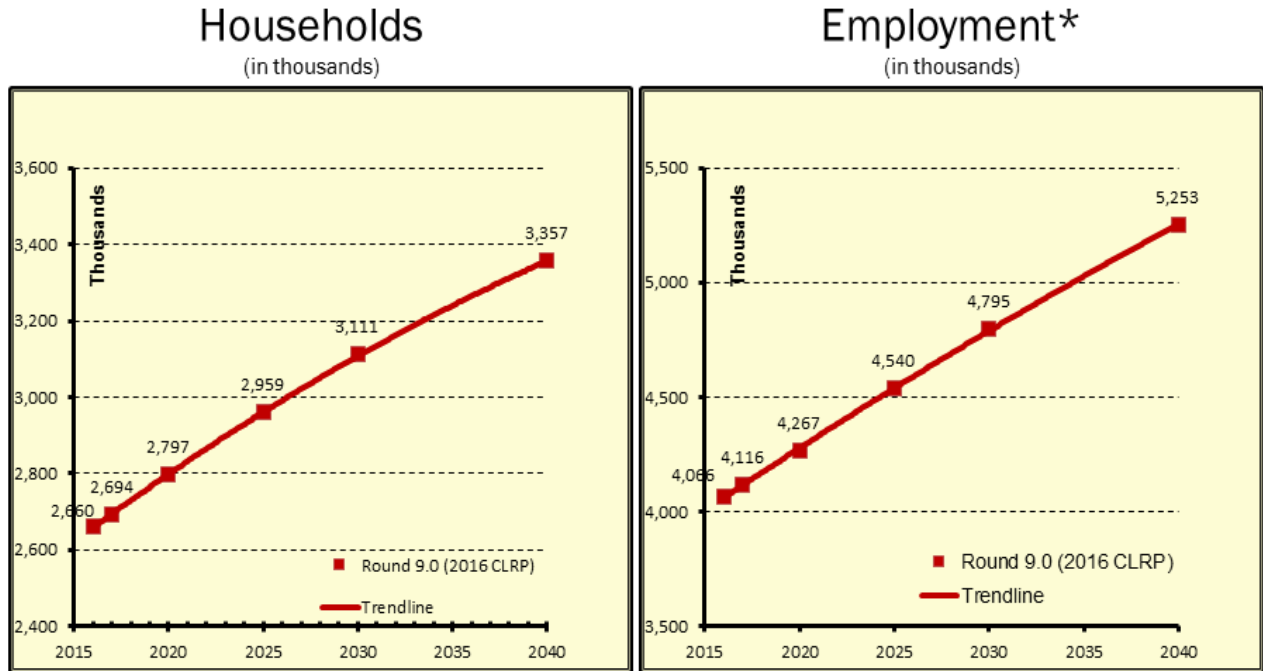
EXHIBIT 1 Planning Areas



Cooperative Forecasts

The COG Board approved the draft Round 9.0 Cooperative Forecasts for use in the air quality conformity analysis of the 2016 CLRP Amendment and FY2017-2022 TIP in March, 2016. The Round 9.0 data, summarized in Exhibit 2, 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 9.0 reflects the Baltimore Metropolitan Council's current 'Round 8A' adopted figures.

EXHIBIT 2 Round 9.0 Cooperative Forecasts



NOTE: Values are for the modeled area.

*Includes census adjustment

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 March 16, is shown in Appendix B of the full technical report.

HOV Policy Assumptions

Attachment C is a letter from the Maryland Department of Transportation (MDOT) updating the policy assumption in the CLRP regarding high occupancy vehicle (HOV) facilities in Maryland. The previous policy indicated that all HOV/HOT facilities in the region will operate as HOV/HOT-3 in the year 2020 and beyond. MDOT recommended that I-270 and US 50, which currently operate as HOV-2 facilities, remain as HOV-2 in the CLRP for all analysis years. The Virginia Department of Transportation (VDOT) did not recommend any change to the policy for HOV/HOT facilities in the CLRP, so all HOV/HOT facilities in Virginia are assumed to operate as HOV/HOT-3 in the year 2020 and beyond, except I-66 inside the Beltway, which converts to HOT-3 when the I-66 outside the Beltway lanes open to traffic. There currently are no HOV/HOT facilities in the District in the CLRP.

MOVES Model

In November 2015, EPA released MOVES2014a, which was an update to the MOVES2014 model. The MOVES2014a model includes minor updates to the default fuel tables and corrects an error in brake wear emissions. MOVES2014a does not significantly change the criteria pollutant emissions results of MOVES2014, and therefore, EPA does not consider it a new model for State Implementation Plan (SIP) and transportation conformity purposes.

Vehicle Registration Data

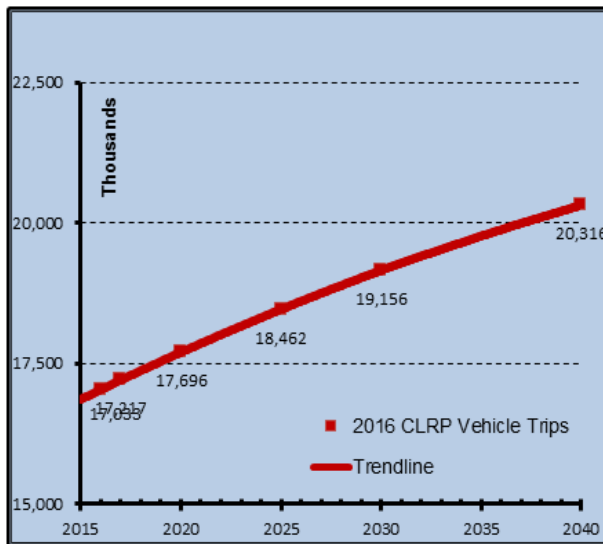
Every three years since 2005, the TPB has received updated regional vehicle fleet data for use in air quality conformity determinations and SIP updates. The current data are from 2014. States use Vehicle Identification Number (VIN) data from vehicle registrations to define the regional vehicle fleet. The latest data are used in the development of future year vehicle population profiles (i.e., vehicle age and vehicle type distribution) for all the analysis years in the air quality conformity analysis. The vehicle population of the 2014 VIN data was reviewed by the MWCOG/TPB technical oversight committees prior to becoming approved for transportation planning applications.

Travel Modeling

Travel demand forecasts were developed for each of the analysis years using the Version 2.3.66 travel demand model. Exhibit 3 presents the resulting average weekday vehicle and transit trips through time for each conformity analysis year, for the full modeled area.

EXHIBIT 3 Modeled Area Trips

Vehicle Trips
(in thousands)



Transit Trips
(in thousands)

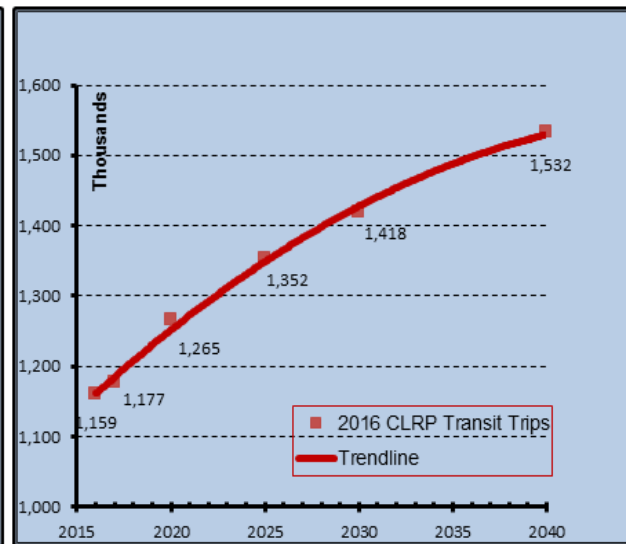
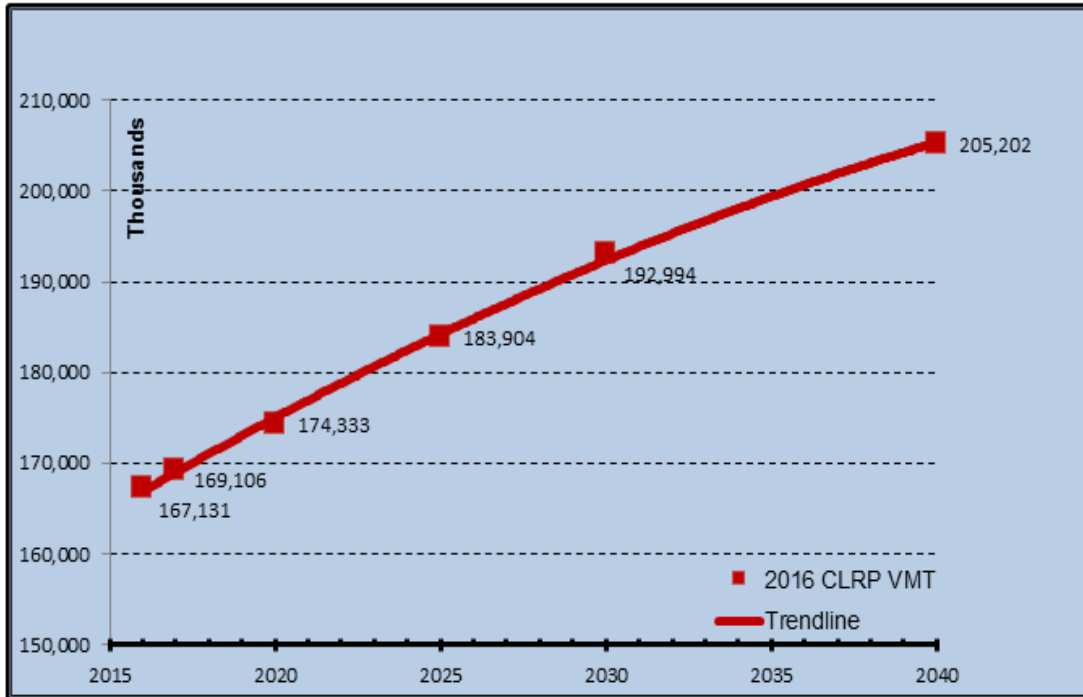


Exhibit 4 shows Vehicle Miles Traveled (VMT) results through time for each conformity analysis year, for the full modeled area.

EXHIBIT 4
Modeled Area Vehicle Miles Traveled
(in thousands)



MOVES Inputs

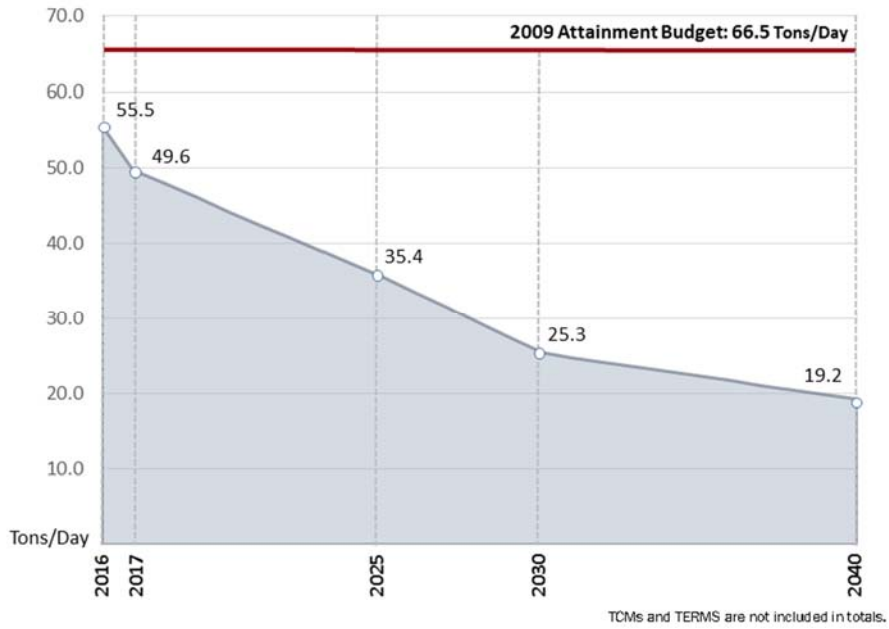
Inputs to the MOVES model include both transportation and environmental data. Transportation data include travel information from the travel demand model, such as VMT and speed distributions, as well as vehicle fleet data. Environmental data include fuel supply and formulation, meteorology data, and state Inspection and Maintenance (I/M) program information.

Mobile Emissions Inventories

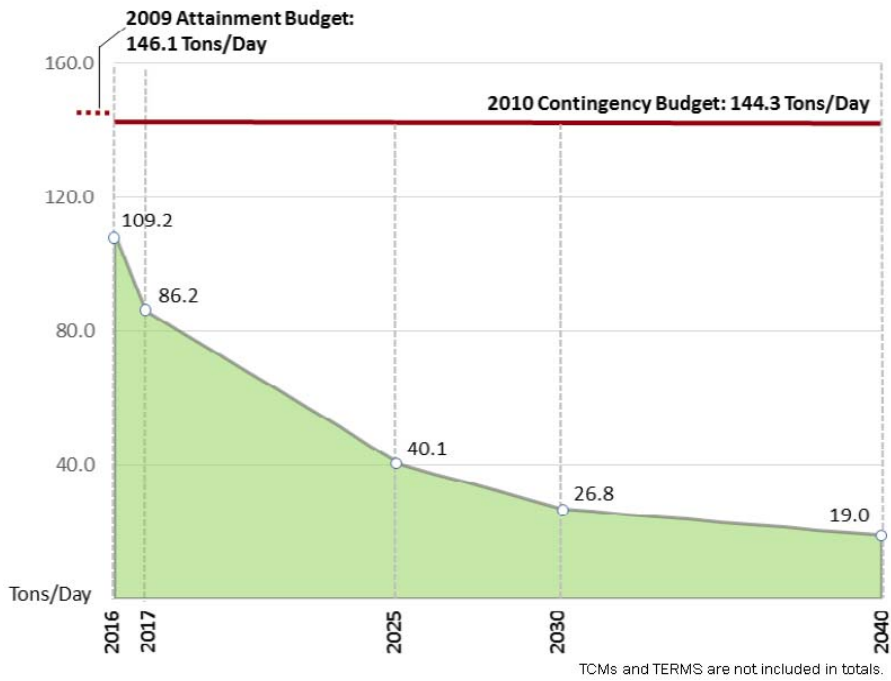
Ozone season emissions totals are illustrated in Exhibit 5. The emissions are shown in relation to the approved mobile budget for each pollutant. Ozone Season emissions reductions through time are attributed to cleaner vehicles and fuel standards, including those from Tier 2 and Tier 3 federal programs. The charts show that the mobile emissions are within the mobile budgets for ozone season VOC and NO_x for all forecast years.

EXHIBIT 5 Mobile Source Emissions

OZONE SEASON VOC



OZONE SEASON NOx



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 2016 CLRP Amendment conformity analysis were grouped into four categories:

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

Exhibit 6 lists the emission reduction potential of these TERMS, by pollutant, for each analysis year. The benefits of these projects are not included in the emissions totals in this report, but are available, if necessary, to ensure that regional emissions stay below the approved motor vehicle emissions budgets and also help offset future growth in mobile emissions.

EXHIBIT 6 Transportation Emission Reduction Measures

ADDITIONAL EMISSIONS REDUCTIONS-ALL TERMS COMBINED				
Years/Pollutants	Ozone - VOC	Ozone - NOx	PM2.5 Direct	Precursor NOx
	(tons/day)	(tons/day)	(tons/year)	(tons/year)
2016	0.066	0.090	0.95	25.77
2017	0.074	0.083	1.04	23.91
2025	0.097	0.071	1.43	20.84
2030	0.087	0.054	1.63	16.60
2040	0.093	0.043	2.06	15.09

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

SUMMARY

The analytical results described in this air quality analysis provide a basis for a determination by the TPB of conformity of the 2016 CLRP Amendment and FY2017-2022 TIP.

ATTACHMENT A

**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

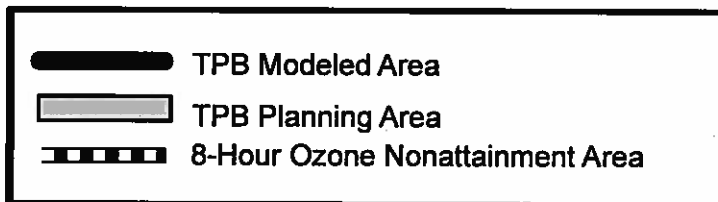
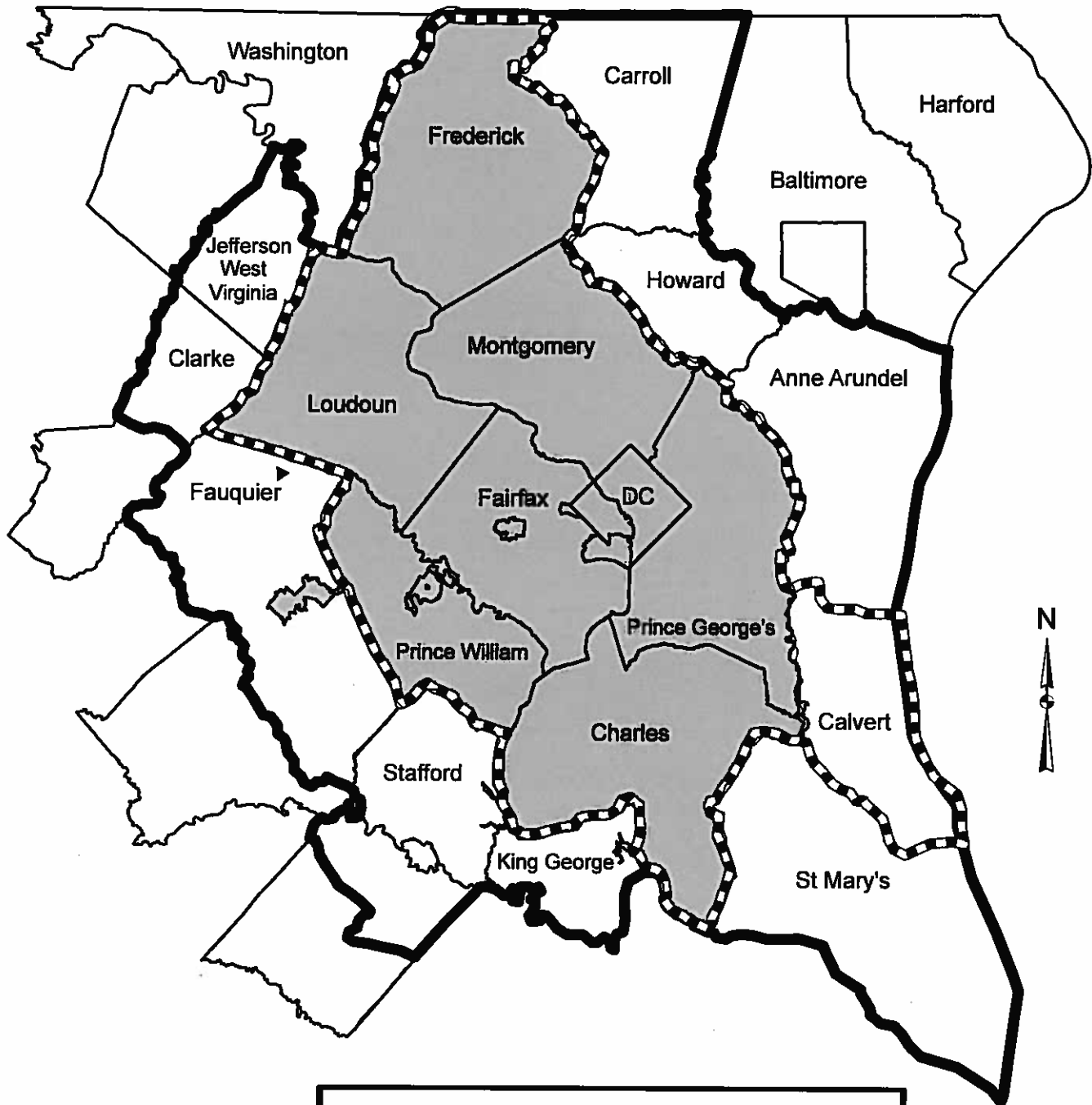
WHEREAS, the TPB, the C-SMMPO, and Calvert County have agreed to a process where C-SMMPO will develop Plans and TIPs to include Calvert County projects, and the TPB will continue to include these Calvert County projects in its regional air quality conformity analysis;

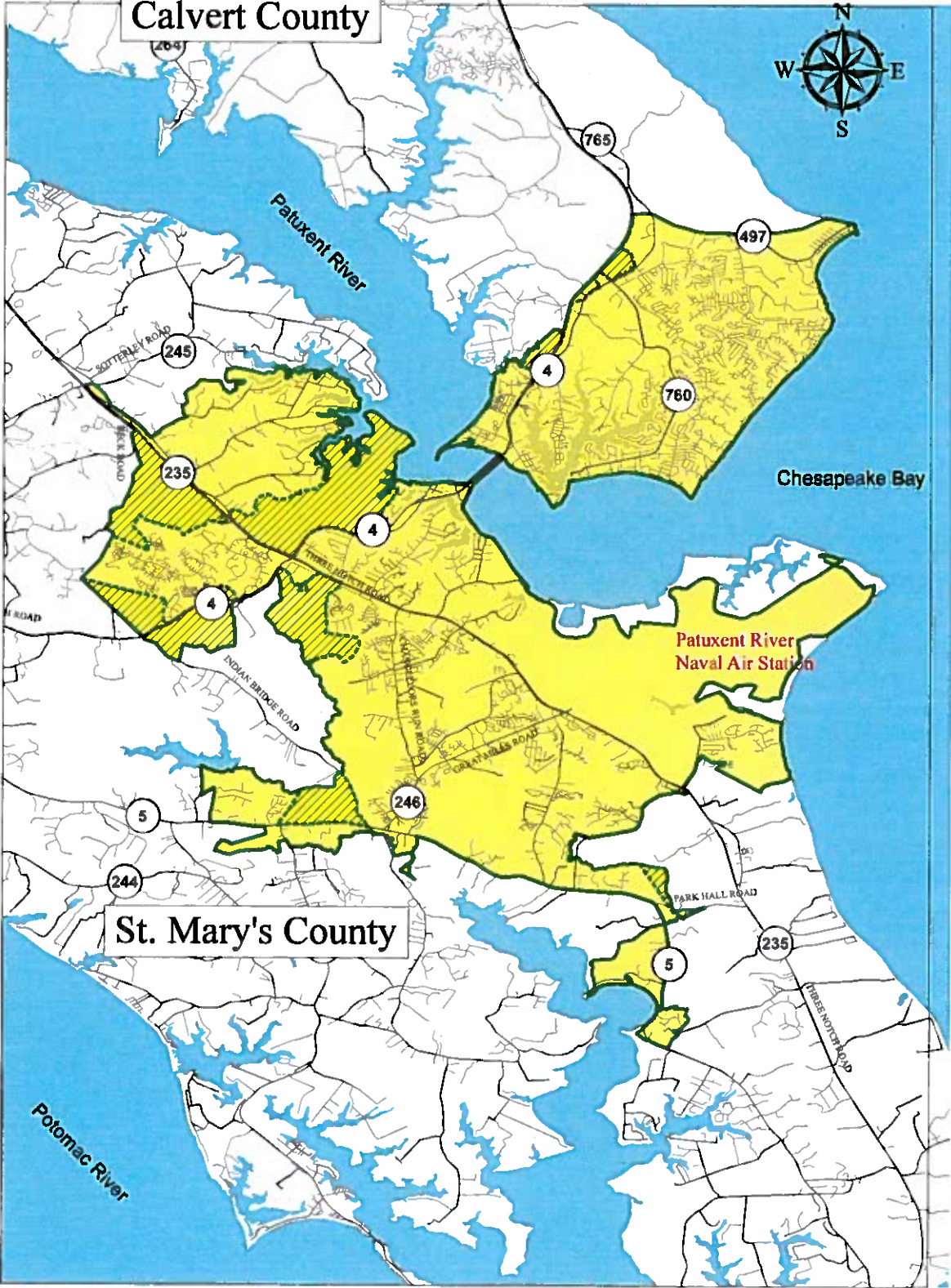
NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD approves execution, by its Chairman, of the attached *Agreement between the National Capital Region Transportation Planning Board (TPB) and the Calvert-St. Mary's*

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

ATTACHMENT A
TPB Transportation Planning Area and
Washington, DC-MD-VA 8-Hour Ozone Nonattainment Area





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**



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

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. Slaughenhaupt 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 [Signature]
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

Proposal for 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.

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:

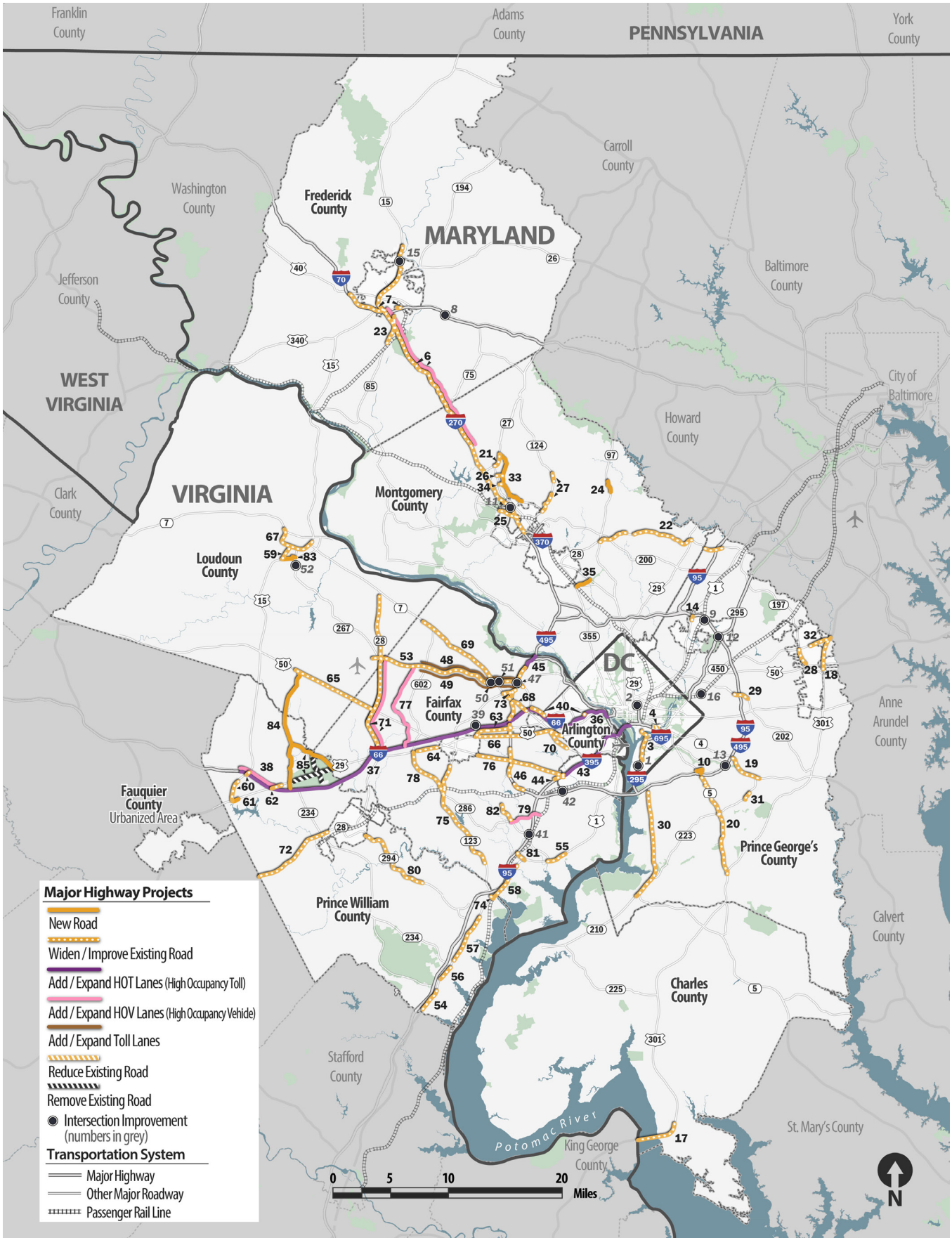
"In non attainment areas, if the MPO and the Governor agree to exclude a portion of the nonattainment area, they must be able to demonstrate how conformity will be ensured in the excluded portion. Such proposals should be coordinated with FHWA, FTA, EPA, the state transportation agency, and the state 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.

ATTACHMENT B

Major Highway Projects



MAJOR HIGHWAY PROJECTS

DISTRICT OF COLUMBIA

1. I-295 - reconstruct interchange at Malcolm X Blvd, 2014
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, 2016
3. South Capitol St - convert to 6 lane urban blvd, incl. Franklin Douglas Bridge Reconstruction, 2015, 2016
4. Southeast Blvd - downgrade and construct urban blvd, 2015
5. Lane Reductions/Reconfigurations for Bicycle Lanes, 2015, 2016, 2017, 2021, 2022 (not mapped)

MARYLAND

6. I-270/US-15 widen including HOV, 2030
7. I-70 - widen to 6 lanes, 2020
8. I-70 - interchange at Meadow Rd, 2020
9. I-95/I-495 - interchange at Greenbelt Metro Sta, 2020
10. I-95/I-495 - Branch Avenue Metro access improvements, construct 8 lanes, 2017
11. I-270 - interchange at Watkins Mill Rd Ext, 2018
12. Baltimore Washington Parkway (MD-295) at MD-193 (Greenbelt Rd) - intersection improvement, 2020, 2025
13. Suitland Pkwy - interchange at Rena/Forestville Rd, 2025
14. US-1 (Baltimore Ave) - reconstruct 4 lanes, 2030
15. US-15 (Catoctin Mtn Hwy) - reconstruct intersection at Monocacy Blvd, 2017
16. US-50 (John Hanson Hwy) - westbound ramp to Columbia Park Rd, 2025
17. US-301 - widen Governor Harry Nice Memorial Bridge, 2030
18. MD-3 (Robert Crain Hwy) - widen to 6 lanes, 2030
19. MD-4 (Pennsylvania Ave) - widen to 6 lanes with interchanges at Westphalia Rd and Suitland Pkwy, 2022, 2035
20. MD-5 (Branch Ave) - upgrade, widen to 6 lanes including interchanges, 2017, 2030
21. MD-27 (Ridge Rd) - widen to 6 lanes, 2020
22. MD-28 (Norbeck Rd) / MD-198 (Spencer-ville Rd) - widen to 4, 6 lanes, 2025
23. MD-85 (Buckeystown Pke) - widen to 4, 6 lanes, 2020, 2025
24. MD-97 (Brookeville Bypass) - construct 2 lane bypass, 2018
25. MD-117 (Clopper Rd) - widen to 4 lanes, 2025
26. MD-118 (Germantown Rd) - widen to 4 lanes, 2020
27. MD-124 (Woodfield Rd) - widen to 6 lanes, 2020
28. MD-197 (Collington Rd) - widen to 4/5 lanes, 2025
29. MD-202 (Landover Rd) - Largo Town Center Metro Access Improvement, recon-

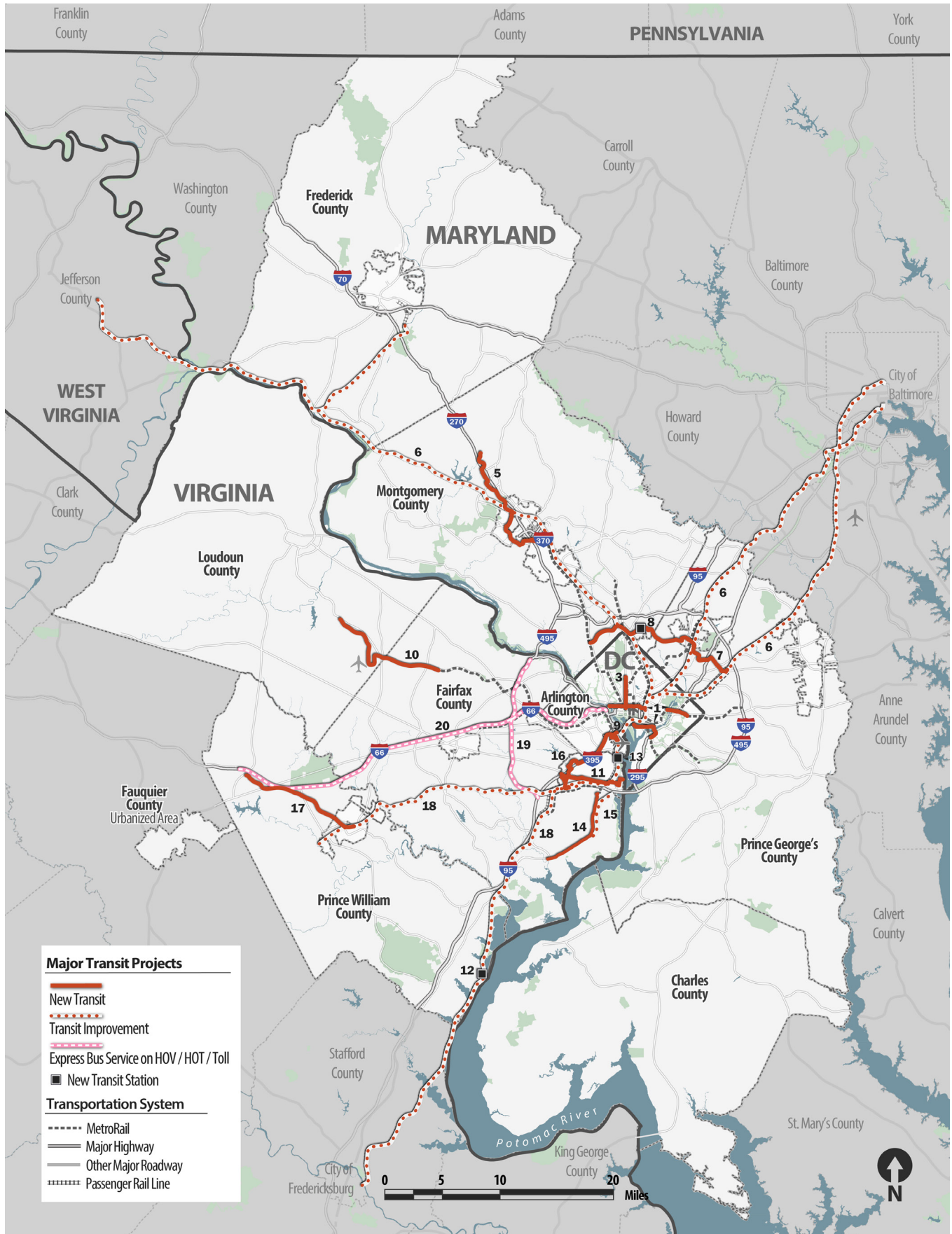
- struct 6 lanes, 2025
30. MD-210 (Indian Head Hwy) - upgrade to 6 lanes and interchange improvement, 2019, 2030
31. MD-223 (Woodyard Rd) - widen to 4 lanes, 2017, 2020
32. MD-450 (Annapolis Rd) - widen to 4 lanes, 2020
33. Mid County Hwy Extension (M-83) - construct 4, 6 lanes, 2025
34. Middlebrook Rd Extended - construct 4 lanes, 2025
35. Montrose Pkwy East - construct 4 lanes, 2022

VIRGINIA

36. I-66 HOT (Inside Beltway), revise operations from HOV 2+ to HOT during peak hours and bus service, 2017, 2021, 2040
37. I-66 HOT (Outside Beltway) - widen to 6 lanes (3 general purpose, 2 HOT, and 1 auxiliary) and bus service, 2021, 2040
38. I-66 HOV, widen to 8 lanes, HOV in additional lanes during peak, includes interchange reconstruction at US-15, 2016
39. I-66 - construct HOV ramps to access Vienna Metro Sta, 2021
40. I-66 - construct 1 lane in each direction, 2020, 2040
41. I-95/Fairfax County Parkway - enhanced interchanges for BRAC, 2025
42. I-95/I-495 - reconstruct interchange at Van Dorn St, 2015
- 43. I-395 HOT - additional lane and revise operation from HOV 3+ during peak to HOT 3+, 2019**
44. I-395 - construct new south bound lane, 2018
45. I-495 - construct 4 HOT lanes, 2025, 2030
46. I-495 Auxiliary Lanes - construct 2 auxiliary lanes in both directions, 2030
47. I-495 - interchange at VA 267, 2030
48. Dulles Toll Rd (VA-267) - Collector-Distributor Road west-bound, 2037
49. Dulles Toll Rd (VA-267) - Collector-Distributor Road east-bound, 2036
50. Dulles Toll Rd (VA-267) - interchange at New Boone Blvd Extension, 2037
51. Dulles Toll Rd (VA-267) - interchange at Greensboro Drive/Tyco Rd, 2036
52. Dulles Greenway (VA 267) - interchange at Hawling Farm Blvd, 2016
53. Dulles Access Rd (VA 267) - widen to 6 lanes including interchange reconstruct at I-495, 2017
54. US-1 (Jefferson Davis Hwy) - widen to 6 lanes, 2030
55. US-1 (Richmond Hwy) - widen to 6 lanes, 2016, 2025
56. US-1 (Richmond Hwy) - widen to 6 lanes, 2024, 2030
57. US-1 (Richmond Hwy) - widen to 6 lanes, 2016, 2021
58. US-1 (Richmond Hwy) - widen to 6 lanes, 2019, 2021, 2035
59. US-15 (South King St) - widen to 4 lanes, 2017
60. US-15 (James Madison Hwy) - widen to 4 lanes, 2017, 2024, 2040
61. US-29 (Lee Hwy Parallel) McGraws Corner Dr - construct 4 lanes, 2020
62. US-29 (Lee Hwy) - widen to 5 lanes, 2030
63. US-29 (Lee Hwy) - widen to 6 lanes, 2025
64. US-29 (Lee Hwy) - widen to 3 lanes, 2017
65. US-50 (Lee Jackson Memorial Hwy) - widen to 6 lanes, 2025
66. US-50 (Arlington Blvd) - widen/reconstruct 6 lanes including interchanges, 2025
67. VA-7/US-15 Bypass (Harry Byrd Hwy) - widen to 6 lanes, 2040
68. VA-7 (Leesburg Pke) - widen to 6 lanes, 2021
69. VA-7 (Leesburg Pke) - widen to 6, 8 lanes, 2021, 2025, 2030
70. VA-7 (Leesburg Pke) - widen to 6 lanes, 2025
71. VA 28 (Sully Rd) HOV, widen to 8-10 lanes, HOV in additional lanes during peak, 2016, 2021, 2025, 2040
72. VA-28 (Nokesville Rd) - widen to 4 or 6 lanes, 2016, 2018, 2020, 2040
73. VA-123 (Chain Bridge Rd) - widen to 8 lanes, 2021
74. VA-123 (Gordon Blvd) - widen to 6 lanes, 2022
75. VA-123 (Ox Road) - widen to 6 lanes, 2025
76. VA-236 (Little River Tpke) - widen to 6 lanes, 2025
77. VA-286 (Fairfax County Pkwy) HOV - widen to 6 lanes, HOV in additional lanes during Peak, 2035
78. VA-286 (Fairfax County Pkwy / Jack Herrity Pkwy) - widen to 6 lanes, 2025
79. VA 289 (Franconia/Springfield Parkway), HOV lanes with interchange at Neuman St, 2025
80. VA-294 (Prince William Pkwy) - widen to 6 lanes, 2040
81. VA-638 (Pohick Rd) - widen to 4 lanes, 2025
82. VA-638 (Rolling Rd) - widen to 4 Lanes, 2020
83. Battlefield Pkwy - construct 4 lanes, 2020
84. Manassas Bypass (VA-234 Bypass) - construct 4 lanes, 2030
85. Manassas Battlefield Bypass - construct 4 lanes and close portions of US-29 (Lee Hwy) and VA-234 (Sudley Rd), 2030, 2035

Projects listed in bold are new to the CLRP in the 2016 Amendment.

Major Transit Projects



MAJOR TRANSIT PROJECTS

DISTRICT OF COLUMBIA

1. DC Streetcar, 2016, 2017, 2020, 2022
- 2. DC Dedicated Bicycle Lane Network, 2016, 2017 (not mapped)**
- 3. 16th Street Bus Priority Improvements, 2021**
4. Tiger Grant Bus Priority Improvements (not mapped: DC, MD, and VA)

MARYLAND

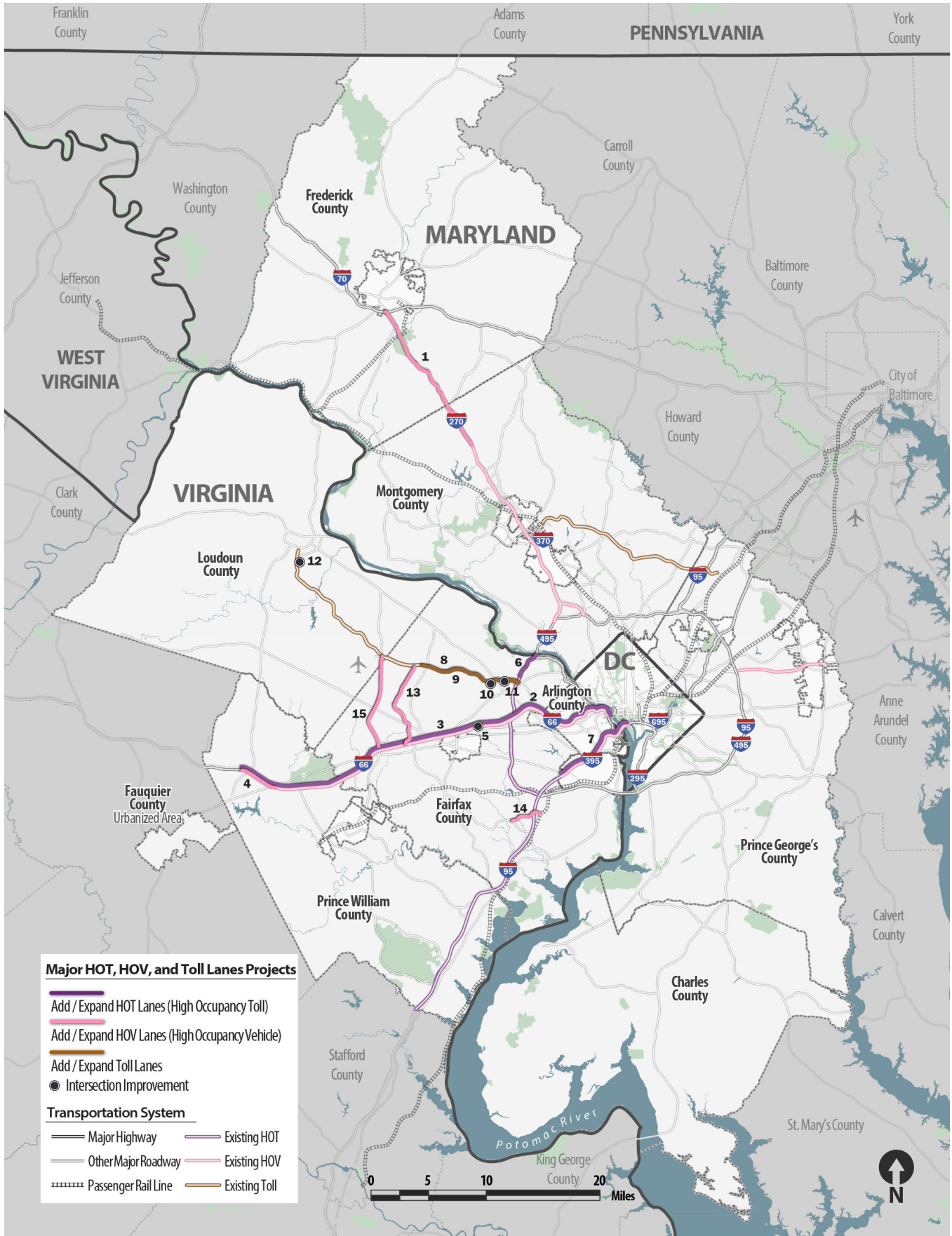
5. Corridor Cities Transitway BRT - from Shady Grove to COMSAT, 2020
6. MARC - Increase trip capacity and frequency along all commuter rail lines, 2029
7. Purple Line - Bethesda to New Carrollton, 2020
8. Silver Spring Transit Center, 2017

VIRGINIA

- 9. Crystal City Transitway: Northern Extension BRT, 2016, 2023**
10. Metro Silver Line (Dulles Corridor Metrorail Project) - Phase 2, 2020
11. Duke St Transitway - King St Metro to Fairfax County line, 2024
12. Potomac Shores VRE Station, 2017
13. Potomac Yard Metro Station, 2021
14. US-1 BRT from Huntington Metro Station to Woodbridge , 2030
15. US-1 bus right turn lanes, 2035
16. West End Transitway - Van Dorn St Metro to Pentagon Metro, 2019
- 17. VRE - Gainseville-Haymarket Extension, 2022**
18. VRE - Reduce headways along the Manassas and Fredericksburg Lines, 2020
19. I-495 HOT Lane Express Bus Service
20. I-66 HOT Lane Enhanced Bus Service

Projects listed in bold are new to the CLRP in the 2016 Amendment

Major HOT, HOV, and Toll Projects



MAJOR HOT, HOV, AND TOLL LANE PROJECTS

MARYLAND

1. I-270/US-15 widen including HOV, 2030

VIRGINIA

2. I-66 HOT (Inside Beltway), revise operations from HOV 2+ to HOT during peak hours and bus service, 2017, 2021, 2040
3. I-66 HOT (Outside Beltway) - widen to 6 lanes (3 general purpose, 2 HOT, and 1 auxiliary) and bus service, 2021, 2040
4. I-66 HOV, widen to 8 lanes, HOV in additional lanes during peak, includes interchange reconstruction at US-15, 2016
5. I-66 - construct HOV ramps to access Vienna Metro Sta, 2021
6. I-495 - construct 4 HOT lanes, 2025, 2030
- 7. I-395 HOT - additional lane and revise operation from HOV 3+ during peak to HOT 3+, 2019**
8. Dulles Toll Rd (VA-267) - Collector-Distributor Road west-bound, 2037
9. Dulles Toll Rd (VA-267) - Collector-Distributor Road east-bound, 2036
10. Dulles Toll Rd (VA-267) - interchange at New Boone Blvd Extension, 2037
11. Dulles Toll Rd (VA-267) - interchange at Greensboro Drive/Tyco Rd, 2036
12. Dulles Greenway (VA 267) - interchange at Hawling Farm Blvd, 2016
13. VA-286 (Fairfax County Pkwy) HOV - widen to 6 lanes, HOV in additional lanes during Peak, 2035
14. VA 289 (Franconia/Springfield Parkway), HOV lanes with interchange at Neuman St, 2025
15. VA 28 (Sully Rd) HOV, widen to 8-10 lanes, HOV in additional lanes during peak, 2016, 2021, 2025, 2040

Projects listed in bold are new to the CLRP in the 2016 Amendment

ATTACHMENT C



Maryland Department of Transportation
The Secretary's Office

Larry Hogan
Governor

Boyd K. Rutherford
Lt. Governor

Pete K. Rahn
Secretary

February 1, 2016

Mr. Kanti Srikanth
Director
Department of Transportation Planning
Metropolitan Washington Council of Governments
777 North Capitol Street, N.E., Suite 300
Washington DC 20002

Dear Mr. Srikanth:

In response to your request for comments to inform the Air Quality Conformity Analysis Scope of Work for the 2016 Constrained Long Range Plan (CLRP) and FY 2017-2022 Transportation Improvement Program (TIP), I would like to address the current policy assumption which indicates all high-occupancy vehicle (HOV) facilities will operate as HOV-3 facilities in 2020. In 2009, the Maryland Department of Transportation (MDOT) recommended that the model should assume that the two MDOT HOV facilities, I-270 and US 50, which currently operate as HOV-2 facilities, would operate as HOV-3 facilities in 2020. MDOT does not plan to convert these facilities from HOV-2 operations to HOV-3 operations by 2020. We recommend that the HOV-3 assumption for Maryland facilities be changed to maintain these facilities as HOV-2 operations in the upcoming Air Quality Conformity Analysis.

We appreciate your cooperation in this matter. If you have any questions or concerns, please contact Ms. Lyn Erickson, Manager, Office of Planning and Capital Programming, MDOT, at 410-865-1279, toll free at 888-713-1414, or via email at lerickson@mdot.state.md.us. Of course, please feel free to contact me directly.

Sincerely,

Heather R. Murphy, Director
Office of Planning and Capital Programming

cc: Mr. Eric Beckett, Chief, Regional and Intermodal Planning Division, SHA
Ms. Lyn Erickson, Manager, Office of Planning and Capital Programming, Maryland
Department of Transportation
Ms. Kari Snyder, Regional Planner, Office of Planning and Capital Programming, Maryland
Department of Transportation

My telephone number is _____
Toll Free Number 1-888-713-1414 TTY Users Call Via MD Relay
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