



National Capital Region
Transportation Planning Board

August 12, 2020

Mr. Norman Whitaker
Transportation Planning Director
VDOT Northern Virginia District
4975 Alliance Dr.
Fairfax, VA 22030

Dear Mr. Whitaker:

I am writing to provide you our assessment of the potential impact of updates to the I-495 NEXT project on the regional air quality conformity analysis of the TPB's current Long Range Transportation Plan (2020 Amendment to Visualize 2045) and Transportation Improvement Program (FY 2021-2024 TIP). In your July 13, 2020 email, you asked if some proposed updates to the I-495 project would be significant enough to change the results of the regional air quality conformity analysis of the Plan and TIP. Upon a detailed review of the updates to the I-495 NEXT project and based on the results of a targeted regional air quality conformity analysis (sensitivity test) we believe that the proposed changes to the I-495 NEXT project, by themselves, do not change the results of the air quality conformity determination for the approved 2020 Amendment to the Visualize 2045 Plan and FY2021-2024 TIP.

The I-495 NEXT project is part of the TPB's Plan and TIP and was included in the federally approved air quality conformity analysis. VDOT has proposed changes to the I-495 NEXT project which are shown as highlighted areas in the attached table. The changes eliminate a proposed peak-period north bound shoulder express lane to the George Washington Parkway and modify completion dates for some segments of the project. In order to assess the magnitude of changes in mobile emissions estimates from these changes alone, we conducted a sensitivity test. The sensitivity test involved a new regional emissions analysis just for the out year (2045) of the Plan to capture all of the proposed changes.

For the sensitivity test, staff used the highway network from the approved conformity analysis and updated it to reflect the proposed changes to the I-495 NEXT project. No changes were made to any other inputs or modeling tools used in the currently approved air quality conformity analysis. A comparison of the year 2045 estimates of regional volatile organic compound (VOC) and nitrogen oxide (NOx) emissions from the approved analysis to those with the proposed changes to I-495 NEXT project indicates that the results of the regional conformity determination would not be substantively impacted by the proposed change. Table 1 summarizes the results of the sensitivity analysis and comparison.

Mr. Norman Whitaker
June 30, 2019

Table 1. 2045 Regional Emissions Analysis: Sensitivity test

Analysis Scenario	NOx (Tons/day)	VOC (Tons/Day)
2020 Amendment to Visualize 2045 - Approved Conformity	19.419	18.281
2020 Amendment to Visualize 2045 - With Proposed Changes to I-495 NEXT	19.424	18.282
Difference - Absolute (Percent)	0.005 (0.0%)	0.001 (0.0%)
Tier 1 Motor Vehicle Emissions Budget (MVEB)	27.400	24.100
2020 Amendment to Visualize 2045 - Approved Conformity: MVEB Margin	7.981	5.819
2020 Amendment to Visualize 2045 - With Proposed Changes to I-495 NEXT: MVEB Margin	7.976	5.818

As with the 2020 Amendment to Visualize 2045 conformity analysis, the emissions levels in the sensitivity test, reflecting the change to the I-495 NEXT project, are below the Tier 1 mobile budgets. As also may be observed, results from both analyses are very similar, with the proposed change to the I-495 NEXT project resulting in regional emissions increasing slightly by .005 tons/day of NOx and by .001 tons/day of VOC. Given the overall magnitude of total emissions, this change is not considered substantive.

Since the analysis shows that the proposed changes to the project would result in non-substantive amount of change in regional emissions and result in emissions that are within the mobile budgets for the 2045 forecast year, we believe it is reasonable to conclude that the pollutant levels for the other forecast years (2025, 2030, and 2040) would also be within the mobile budgets.

As part of interagency consultation, staff presented the VDOT request and proposed sensitivity test to the Metropolitan Washington Air Quality Committee Technical Advisory Committee (MWAQC TAC) at the monthly meeting in July. Staff also plans to share this letter with the results of the sensitivity test with the TPB Technical Committee and MWAQC TAC at their next meetings.

As we discussed, these changes will need to be included in the upcoming air quality conformity analysis of the 2022 Amendment to the Visualize 2045 Plan. We anticipate that this new regional air quality conformity determination work will commence at the beginning of 2021. If you have any questions on the above assessment please feel free to contact Jane Posey at jposey@mwkog.org or 202-962-3331.

Sincerely,



Kanathur Srikanth
Director, Department of Transportation Planning
Metropolitan Washington Council of Governments

Attachment

EXCERPT FROM 2020 Amendment to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS
(I495 NEXT Project Modifications are highlighted)

12/10/2019
05/06/2020

Con ID	Project ID	Improvement	Facility	From	To	Facility		Lanes		Completion Date
						Fr	To	Fr	To	
VDOT										
Interstate										
1011	VI2R48	Construct	I-95 Opitz Drive Reversible Ramp	I-95 Express Lanes at Opitz Drive	Opitz Drive	1	1	0	1	2022
20	VI4Iaux1	Widen	I 495 Capital Beltway NB Auxiliary Lane	North of Hemming Ave. Underpass	Braddock Road Off Ramp	1	1	4+2	5+2	2030
21	VI4Iaux2	Widen	I 495 Capital Beltway SB Auxiliary Lane	Braddock Road On Ramp	North of Hemming Ave. Underpass	1	1	4+2	5+2	2030
22	VI4Iaux3	Widen	I 495 Capital Beltway NB Auxiliary Lane	Braddock Road On Ramp	VA 236 Off Ramp	1	1	4+2	5+2	2030
24	VI4Iaux5	Widen	I 495 Capital Beltway NB Auxiliary Lane	VA 236 On Ramp	Gallows Road Off Ramp	1	1	4+2	5+2	2030
25	VI4Iaux6	Widen	I 495 Capital Beltway SB Auxiliary Lane	Gallows Road On Ramp	VA 236 Off Ramp	1	1	4+2	5+2	2030
29	VI4Iaux10	Widen	I 495 Capital Beltway NB Auxiliary Lane	US 50 On Ramp	I 66 Off Ramp	1	1	5+2	6+2	2030
32	VI4Iaux13	Widen	I 495 Capital Beltway SB Auxiliary Lane	VA 7 On Ramp	I 66 Off Ramp to WB	1	1	4+2	5+2	2030
35	VI4Iaux16	Widen	I 495 Capital Beltway SB Auxiliary Lane	VA 123 On Ramp	VA 7 Off Ramp	1	1	5+2	6+2	2030
38	VI4Iaux19	Widen	I 495 Capital Beltway NB Auxiliary Lane	VA 267 On Ramp	VA 193 Off Ramp	1	1	4+2	5+2	2030 2025
39	VI4Iaux20	Widen	I 495 Capital Beltway SB Auxiliary Lane	VA 193 On Ramp	VA 267 Off Ramp	1	1	4+2	5+2	2030 2035
999	VI4IRMP1	Construct	I-495 Express Lanes On-Ramp	Dulles Connector Road WB	I-495 Express Lanes NB	0	1	0	1	2025
1000	part of VI4KA	Construct	I-495 Express Lanes (Shoulder Lane) - NB DIRECTION PEAK PERIODS ONLY	Dulles Connector WB On Ramp	GW Parkway Off Ramp	0	1	0	1	2025
1001	VI4IRMP2	Construct	I-495 NB Exchange Ramp	Interstate Ramp	I-495 NB GP Lanes at Dulles Toll Road	0	1	0	1	2045
1002	VIRIRMP3	Construct	I-495 SB Exchange Ramp	Interstate Ramp	I-495 SB Express Lanes at Dulles Toll Road	0	1	0	1	2045
40	VI4K	Construct	I 495 Capital Beltway HOT Lanes	American Legion Bridge	George Washington Parkway (south of)	1	1	8	8+4	2025
41	VI4KA	Construct	I 495 Capital Beltway HOT Lanes	George Washington Parkway (south of)	Old Dominion Drive (south of)	1	1	8	8+4	2025
49	Part VI4IHOTa	Relocate	I 495 Capital Beltway Interchange Flyover Ramp (Phase 4)	EB Dulles Airport Access Highway to NB General Purpose	at VA 267 Dulles Toll Road	1	1	1	1	2030 2045
519	Part VI4IHOTa	Construct	I 495 Capital Beltway Interchange (Phase IV)	Provide SB HOT to EB HOV & EB DTR to NB HOT movements	at VA 267 Dulles Toll Road	1	1			2030 2035
517	Part VI4IHOTa	Widen	I 495 Capital Beltway Interchange Ramp (Phase III DTR)	Widen EB DTR ramp to 2 NB lanes	NB GP Lanes	1	1	1	2	2030 2045
520	VI4IrmP1	Construct	I 495 Capital Beltway Interchange Flyover Ramp (Phase 4)	I 495 Capital Beltway NB GP lanes	Dulles Airport Access Highway (DAAH) WB	0	1	0	1	2030 2045
50	VI4IHOTb	Construct	I 495 Capital Beltway Interchange Ramp (Phase II, Ramp 3 DAAH)	I 495 Capital Beltway SB	Dulles Airport Access Highway WB	0	1	0	1	2020 2035