

Technical Inputs to the Air Quality Conformity Analysis of the 2022 Update to Visualize 2045

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MWAQC TAC

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visualize
2045 A long-range
transportation plan
for the National
Capital Region





Comment Period Materials

- **Visualize 2045 Update – Comment Period Materials – Packet includes:**
 - Memorandum with overview
 - Background
 - Summary of existing highway, transit and HOV major projects
 - Maps
 - Federal and Regional Goals/Initiatives Matrices
 - Major Project Profiles (for new Major Projects and ones already in the plan with significant changes)
 - Project Description Sheets – new/changed projects
 - Air Quality Conformity Table and Scope of Work

Air Quality Conformity Schedule

Plan and TIP Update Schedule

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



Air Quality Conformity Scope of Work

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

Footnotes:

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

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

DDOT: New Major Project

- In the District of Columbia:
 - DDOT is proposing to implement bus-only lanes on H and I Street, NW.

H AND I STREET NW BUS PRIORITY
Proposed Change

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ROADWAY TRANSIT PED/BIKE

Project Information

Project Length	0.88 mi
Anticipated Completion	2021
Estimated Cost of Construction	\$1.1 Million
Submitting Agency	DDOT
TIP ID	3212
Anticipated Funding Source	Federal

Project Description

H and I Street NW Bus Priority. Upgrade to existing bus lanes. Includes double bus lane adjacent to Franklin Park and Lafayette St and offset bus lanes. Bicycles allowed in the bus lanes per DC regulations.

Existing Support for This Project

This project has been reviewed at the local, state, and/or subregional levels and is included in the following approved plans: To help improve bus travel speed and reliability for the routes that use H and I Streets (which represent up to 20% of Metro-bus riders in the District), the District Department of Transportation (DDOT) implemented a bus lane pilot on both streets, roughly between Pennsylvania Avenue and 13th Street NW. The pilot operated from June 3, 2019, to September 27, 2019. DDOT revised designs based on this pilot and solicited feedback on the draft concepts from the community and stakeholders in late 2020 and early 2021, in preparation for construction in 2021.

Federal Planning Factors

- Support Economic Vitality
- Increase Safety for All Users
- Increase Accessibility and Mobility of People
- Protect and Enhance the Environment

Consideration of Alternatives to Adding SOV Capacity

- Not Applicable

Comment Periods (Visit www.mdot.org/tip/comment)

April 2 - May 3, 2021 - Comment on the projects before they are included in the federally required Air Quality Conformity Analysis.

2022 - Comment on projects and any other aspect of the draft Visualize 2045 plan before final TIP.

How this project supports or advances RTP goals

The TPE's Regional Transportation Priorities Plan (RTP) and Appraisal Initiatives called upon the region to implement transitways to improve the performance of bus transportation in the region. This project will expand transportation choices (Goal 1) by providing more reliable travel on local bus in dedicated lanes that allow people on bicycles. This project will also connect activity centers (Goal 2) and has the potential to reduce VMT and greenhouse gases by reducing dwell time and offering an fast and reliable option instead of travel by SOV (Goal 5, 6).

Goal 1: Provide a Range of Transportation Options

- Bicycling
- Local Bus
- Metrobus

Goal 2: Promote Dynamic Activity

- Stigins or ends in an Activity Center
- Promotes non-auto travel within one or more Activity Centers.

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

- Not Applicable

Goal 4: Maximize Operational Effectiveness and Safety

- Not Applicable

Goal 5: Protect and Enhance the Natural Environment

Expected to contribute to reductions in emissions of:

- Criteria Pollutants (NO_x, VOC, PM_{2.5})
- Greenhouse Gases

Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following passenger carrier modes:

- Intercity Bus

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Information about how projects advance regional goals and address federal planning requirements is self-reported by the agencies submitting projects for inclusion in Visualize 2045.
The information on this form was last updated on April 1, 2021.

VDOT: New Major Project

- In Loudoun County, Virginia, the County and VDOT are proposing to:
 - Construct a new 4-lane road for completion in 2029, the US-50 North Collector Road

ROUTE 50/NORTH COLLECTOR ROAD
New Construction

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ROADWAY TRANSIT PED/BIKE

Project Information

Project Length	0.3 mi
Anticipated Completion	2029
Estimated Cost of Construction	\$ 1.10 Million
Submitting Agency	VDOT
CRID	3739
Anticipated Funding Sources	Local

Project Description

This project involves funding for planning, design, right-of-way acquisition, and construction of a roadway from Route 50 at Tall Oaks Parkway to the far end of Mason Runway interchange in Fairfax County at Route 28. The project entails construction of a four-lane median divided roadway to the north of Route 50 to provide additional capacity to the Route 50 corridor.

Existing Support for This Project

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

- Loudoun County 2018 Comprehensive Transportation Plan
- The Capital Improvement Program (CIP)

Federal Planning Factors

- Support Economic Viability
- Increase Accessibility and Mobility of People and/or Freight
- Enhance Integration and Connectivity
- Enhance Travel and Tourism

Consideration of Alternatives to Adding SOV Capacity

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

- Traffic operational improvements

Comment Periods (Visit nrcap.org/visualize2045)

April 2 - May 2, 2021 - Comment on the projects below that are included in the federally required Air Quality Conformity Analysis

2022 - Comment on projects and any other aspect of the draft Visualize 2045 plans before final TRP

Interactive Project Map

How this project supports or advances goals

The TRP's Regional Transportation Priorities Plan (RTPP) identifies six goals. The new Northern Collector Road looks for project to improve transportation options for improving access and connectivity to an Activity Center (Goals 1, 2). The project is defined with considerations for safety, and will reduce recurring congestion, which helps to reduce greenhouse gases while improving travel for people in vans and for freight (Goals 3, 6).

Goal 1: Provide a Range of Transportation Options

- Single-occupant (SOV) operation
- Local Bus

Goal 2: Promote Dynamic Activity

- Single or multi-use Activity Center

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

- Not Applicable

Goal 4: Maximize Operational Effectiveness and Safety

- Enhance safety for motorists, transit users, pedestrians, and/or bicyclists

Goal 5: Protect and Enhance the Natural Environment

- Not Applicable

Goal 6: Support Interregional and International Travel and Commerce

- Long-haul Truck
- Local Delivery

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MDOT: Significant Change to Major Project already in Visualize 2045

The Traffic Relief Plan (TRP) includes the following changes from the project as reflected in the 2018 plan:

- The entire Maryland Beltway has been changed from two Express Toll Lanes (ETLs) in each direction to two High Occupancy Toll (HOT) 3+ lanes in each direction, which means that carpools/vanpools of three or more occupants will ride free.
- The segment from Virginia (near the American Legion Bridge) to MD 355 has a completion date of 2025, which is the same as in the past.
- Completion date for the Capital Beltway segment from MD 355 to the Wilson Bridge was changed from 2025 to 2030.
- I-270 assumptions were changed from adding two ETLs in each direction and keeping the existing High Occupancy Vehicle (HOV) lanes to adding two HOT lanes in each direction, one of which will take away the existing HOV lane in each direction.
- The I-270 segment from the Beltway to I-370 maintains its completion date of 2025. Completion date for the I-270 segment from I-370 to I-70 was changed from 2025 to 2030.

MDOT: Significant Change to Major Project already in Visualize 2045



ROADWAY TRANSIT PED/BIKE

I-270 TOLL LANES Proposed Change

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Interactive Project Map



Project Information

Project Length.....	34 mi
Anticipated Completion.....	2025
Estimated Cost of Construction.....	3.4 Billion
Submitting Agency.....	MDOT SHA
TIP ID.....	6432
Anticipated Funding Sources.....	State/Private

Project Description

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

Existing Support for This Project

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

- MDOT/SHA Traffic Relief Plan
- Montgomery County 2017 Transportation Priority Letter

Federal Planning Factors

- Support Economic Vitality
- Increase Safety for All Users
- Support Homeland and Personal Security
- Increase Accessibility and Mobility of People and/or Freight
- Protect and Enhance the Environment
- Enhance Integration and Connectivity
- Promote Efficient System Management and Operation

Consideration of Alternatives to Adding SOV Capacity

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

- Transportation demand management measures (including growth management and congestion pricing)
- Traffic operational improvements • Public transportation improvements
- Intelligent Transportation Systems (ITS) technologies • Other congestion management strategies

Comment Periods (Visit mwcog.org/tpbcomment)

April 2- May 3, 2021 - Comment on the projects before they are included in the federally required Air Quality Conformity Analysis

2022 - Comment on projects and any other aspect of the draft Visualize 2045 plan before final TPB adoption.

How this project supports or advances RTTP goals

The TPB's Regional Transportation Priorities Plan (RTTP) and Aspirational Initiatives called upon the region to use tolling and pricing mechanisms to manage road congestion and raise revenue. New toll lanes on the 34-mile length of I-270 will dramatically expand transportation choices (Goal 1) in the region by adding dynamic pricing on managed lanes to ensure free-flowing travel for drivers and for express bus services. Carpool/vanpools of three or more occupants will ride free. Along with the I-495 Toll Lanes, this project significantly expands the region's network of priced managed lanes. The project will connect numerous Activity Centers (Goal 2), the region's focal points for economic growth and, improve interstate commerce (Goal 6).



Goal 1: Provide a Range of Transportation Options

- Single Driver (SOV) • Carpool/HOV • Local Bus
- Express/Commuter Bus • Metrobus
- Improves accessibility for historically transportation-disadvantaged individuals



Goal 2: Promote Dynamic Activity

- Begins or ends in an Activity Center
- Connects two or more Activity Centers



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

- Contributes to enhanced system maintenance, preservation, or safety



Goal 4: Maximize Operational Effectiveness and Safety

- Enhances safety for motorists, transit users, pedestrians, and/or bicyclists



Goal 5: Protect and Enhance the Natural Environment

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



Goal 6: Support Interregional and International Travel and Commerce

Enhances, supports, or promotes the following freight carrier modes:

- Long-haul Truck • Local Delivery

Enhances, supports, or promotes the following passenger carrier modes:

- Intercity Bus



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The information on this form was last updated on April 1, 2021.

MDOT: Significant Change to Major Project already in Visualize 2045



ROADWAY TRANSIT PED/BIKE

1-95/I-495 TOLL LANES Proposed Change

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Project Information

Project Length.....	48 mi
Anticipated Completion.....	2030
Estimated Cost of Construction.....	4.2 Billion
Submitting Agency.....	MDOT SHA
TIP ID.....	6432
Anticipated Funding Sources.....	State/Private

Interactive Project Map



Project Description

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

Existing Support for This Project

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

- MDOT/SHA Traffic Relief Plan
- Montgomery County 2017 Transportation Priority Letter
- 2009 Prince George's County Master Plan of Transportation (MPO)

Federal Planning Factors

- Support Economic Vitality
- Increase Safety for All Users
- Support Homeland and Personal Security
- Increase Accessibility and Mobility of People and/or Freight
- Protect and Enhance the Environment
- Enhance Integration and Connectivity
- Promote Efficient System Management and Operation

Consideration of Alternatives to Adding SOV Capacity

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

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- Traffic operational improvements Public transportation improvements
- Intelligent Transportation Systems (ITS) technologies • Other congestion management strategies

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How this project supports or advances RTTP goals

The TPB's Regional Transportation Priorities Plan (RTTP) and Aspirational Initiatives called upon the region to use tolling and pricing mechanisms to manage road congestion and raise revenue. New toll lanes on the 48-mile length of Maryland's Capital Beltway will dramatically expand transportation choices (Goal 1) in the region by adding dynamic pricing on managed lanes to ensure free-flowing travel for drivers and for express bus services. Carpool/vanpools of three or more occupants will ride free. Along with the I-270 Toll Lanes, this project significantly expands the region's network of priced managed lanes. The project will connect numerous Activity Centers (Goal 2), the region's focal points for economic growth, and improve interstate commerce (Goal 6).



Goal 1: Provide a Range of Transportation Options

- Single Driver (SOV) • Carpool/HOV • Local Bus
- Express/Commuter Bus • Metrobus
- Improves accessibility for historically transportation-disadvantaged individuals



Goal 2: Promote Dynamic Activity

- Begins or ends in an Activity Center
- Connects two or more Activity Centers



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

- Contributes to enhanced system maintenance, preservation, or safety



Goal 4: Maximize Operational Effectiveness and Safety

- Enhances safety for motorists, transit users, pedestrians, and/or bicyclists



Goal 5: Protect and Enhance the Natural Environment

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



Goal 6: Support Interregional and International Travel and Commerce

- Enhances, supports, or promotes the following freight carrier modes:
- Long-haul Truck • Local Delivery
- Enhances, supports, or promotes the following passenger carrier modes:
- Intercity Bus



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The information on this form was last updated on April 1, 2021.

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April 21, 2021

Conformity Project Input Table

2022 Update to VISUALIZE 2045 AIR QUALITY CONFORMITY NETWORK INPUTS												
DRAFT 3/29/2021												
(highway)												
PIT Project ID	Con ID	Project ID	Agency ID	Improvement	Facility	From	To	Facility		Lanes		Completion Date
								Fr	To	Fr	To	
CE2248	942	NRS	PG5811	Reconstruct	MD 223	MD 4	Steed Road	3	3	2	2	2045
CE1207	175	MS18D	PG6541	Widen	MD 450 Annapolis Road	Stonybrook Drive	west of MD 3	2	2	2	4	2020 2030
	516	same as MC15B	MO344 1	Construct	Montrose Parkway	Randolph Road	East of Parklawn Drive	0	2	0	4	2020
6384	152	BRAC nrs	MO593 1	Reconstruct	BRAC Intersection Improvements near the National Naval Medical Center, Bethesda			2	2			2020 complete
Frederick County												
Secondary												
	648	MS36C	FR5491	Widen/Upgrade	MD 180 Ballenger Creek Pike	Ballenger Center Drive	Corporate Drive	3	2	2	4	2020
	993	in FS3		Widen/Upgrade	Christopher's Crossing	Whittier Drive	Poole Jones Road	3	3	2	4	2024
	880	FS3		Expansion	Christopher's Crossing	Walter Martz Road	Thomas Johnson Drive	3	3	0 to 2	4	2020
	879	NRS		Construct	Christopher's Crossing	Shookstown Road	Rocky Springs Road	3	3	0	4	2026
	651	FS2a		Widen	Monocacy Boulevard	Schifferstadt Boulevard	Gas House Pike	3	3	2	4	2019
	691	NRS	F3	Construct	Spectrum Drive	Technology Way	MD 85 Buckeystown Pike	0	4	0	2	2030
Montgomery County												
Secondary												
3498	208	NRS		Construct	Burtonsville Access Road	MD 198 Spencerville Road	School Access Road in Burtonsville	0	4	0	2	2025
5944	597	NRS		Construct	Century Boulevard	Current terminus south of Oxbridge Tract	Intersection with future Dorsey Mill Road	0	3	0	4	2020 2013 Completed
CE1577	199	MC43		Construct	Dorsey Mill Road Bridge over I-270	Century Blvd.	Milestone Center Dr.	0	3	0	4	2020 2030
3049	112	MC7A		Widen	Goshen Road South	South of Girard Street	1000 feet north of Warfield Road	3	3	2	4	2025 2030
CE1245	172	MC11A		Construct	M 83 MidCounty Highway Extended	MD 27 Ridge Road	Middlebrook Road	0	2	0	4-6	2025 2045
CE1245	204	MC11D	509337-1	Construct	M 83 Midcounty Highway Extended	Middlebrook Road	Montgomery Village Avenue	0	2	0	4-6	2025 2045
	113	MC12F		Widen	MD 118 Germantown Road Extended	MD 355	M 83 at Watkins Mill Road	2	2	3	4	2020

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

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