Facilitated Review:
Technical Inputs to the Air
Quality Conformity Analysis
for the Visualize 2045 Update

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TPB Transportation Planner

TPB Work Session
April 21, 2021





### Agenda

- 10:30 A.M. 1. Welcome, TPB Director Srikanth
- 10:35 A.M. 2. Purpose of the facilitated session, Chair Allen
- 10:40 A.M. 3. Brief staff summary of comment period materials,
   TPB Transportation Planner, Ms. Cook
- Board Discussion and Questions for Submitting Agencies:
- 10:45 A.M. 4. District of Columbia projects
- 11:00 A.M. 5. Virginia projects
- 11:20 A.M. 6. Maryland projects
- 11:45 A.M. 7. Other projects / Technical Inputs
- 11:55 A.M. 8. Adjourn



TPB's Visualize 2045 Long-Range Transportation Plan Update (2022)

We are here



**BEGIN** PLAN **TPB MEMBER PLANNING, POLICY AND DEVELOP PLAN TECHNICAL ANALYSIS** TRANSPORTATION Prepare text and online AGENCIES - Financial Constraint materials **SUBMIT NEW** TECHNICAL - System Performance **PROJECTS** AND POLICY - Air Quality Conformity WORK - Planning factors and emerging issues impacting transportation FINALIZE 2021 2020 2022 PLAN **PUBLIC COMMENT PUBLIC OUTREACH PUBLIC COMMENT PUBLIC OUTREACH** PHASE **PHASE II** PERIOD PERIOD PUBLIC Regional discussion LRTP, transportation Public opinion research Long-range **PARTICIPATION** on issues impacting improvement program transportation plan (LRTP) and air quality transportation (TIP) and air quality conformity determination conformity inputs **PLAN APPROVAL** April 2022: TPB review of Draft Plan Board guidance on public comment May 2022: **PROCESS** Plan presented to TPB seeking approval June 2022: Fall 2022: Anticipated federal approval

Visualize 2045: a Regional Vision, Local Actions

TPB establishes policy framework TPB staff evaluate system performance TPB
develops
consensus
on strategic
solutions >
e.g.,
Aspirational
Initiatives

Member agencies develop projects, programs and policies to address local and regional needs

Local

**Decision-**

making

Must submit projects that:

Member agencies

prioritize

projects,

projects to

submit

**TPB** 

**Technical** 

Solicitation

Inputs

- impact air quality conformity analysis
- use federal funds





### **Two Parts of Visualize 2045**

## Plan's Constrained element

- Projects from approved local plans
- Projects are vetted through local planning processes
- Constrained

#### Rest of the Plan

- Vision and Goals
- Reflects Where We are Today
- Factors we must Consider when Planning for the Future
- Strategies for a Better Future (and more)



### What are some Constraints?

### Federal Requirements

- Fiscal constraint: expected revenues must cover project list
- Projects included through about a 20- year (minimum) horizon 2045

### Air Quality Conformity Analysis

Certain project types required – those that impact capacity

### Funding Availability and Silos

- Much of fed/state project funding is dedicated to specific uses, allocated through formulas
- About 80% of funding goes to maintenance



### What is in the Constrained Element?

- Projects that impact air quality conformity analysis
- Projects that use federal funding

Constrained Element of Visualize 2045 Financial constraint means we can't include projects that don't have identified funding sources



### How is Visualize 2045 Implemented?

Implementation activities extend beyond the

constrained element:

Many operational/ technology improvements

Land use plans, goals, and targets

Pilot projects

Constrained
Element of
Visualize 2045

TDM/ Telework
Commuter
Connections

State Implementation Plans (SIPs)

Many bicycle/ pedestrian projects



### **Aspirational Initiatives - Implementation**

- Bring Jobs and Housing Closer Together
- Improve Walk and Bike Access to Transit
- Complete the National Capital Trail
- Provide More Telecommuting and...



outside of the
Visualize 2045
constrained element

- Other Options for Commuting
- Move More People on Metrorail
- Expand Express Highway Network
- Expand Bus Rapid Transit and Transitways Regionwide



Implemented mostly

within the

Visualize 2045

constrained element





# Climate Change Mitigation Study of 2021 as input to Visualize 2045 Update

April 2-May 3 2021 June 2021

June 2021 -Jan 2022

April 2022

June 2022

Step 1

Update and add projects, public comment

Step 2 -

Request Board approval new inputs for analysis

Step 3 -

Conduct analysis and develop plan draft chapters

Step 4 -

Post draft plan and AQC results for public comment Step 5 -

Request Board approval of plan, TIP, AQC results

TPB Climate Change Mitigation Study of 2021 – to be conducted in CY 2021

Results merged into Visualize 2045



# Past Climate/Scenario Studies: Impacts on Projects, Programs, Policies in Visualize 2045



### Programs & Policies – not in Constrained Element

- Funding/prioritization policies
- EV implementation policies
- VMT tax and parking fees
- Operations and eco-driving
- Land use policies and plans
- Telework policies

### Projects – not in Constrained Element

- Many Bicycle/Pedestrian Projects
- Placemaking Projects
- Development/land use activity
- EV implementation

#### **Constrained Element**

Aspirational Initiatives:

- Expressways
- BRT/Transitways
- Metro
- Some Bicycle/Pedestrian Projects

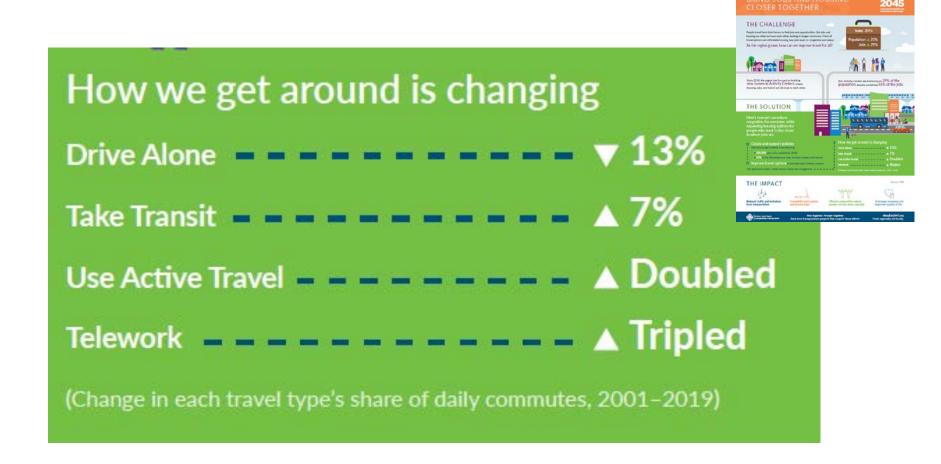


### Planning Policy Focus Areas: Universe

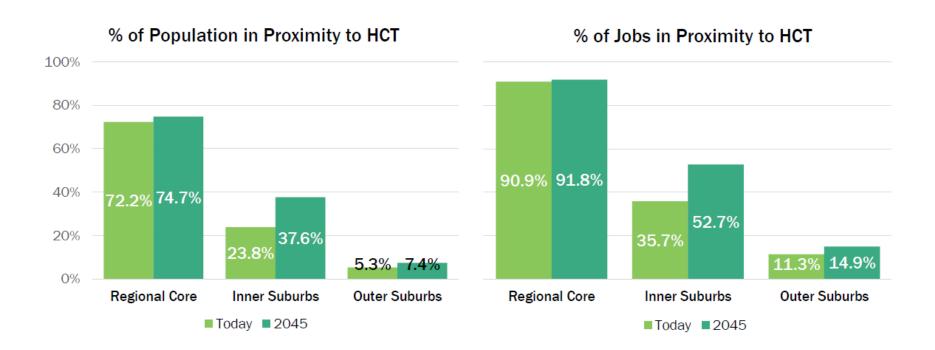
Comprehensive **Air Quality Accessibility Affordability** Multimodal Conformity **System Emerging Environment** / Connectivity **Mobility and** Resiliency/ **Economy Sustainability Tech Operational Equity Land Use Mobility Efficiency State of Good Public Health** Reliability Safety Repair



### **Tracking Progress: 2001 - 2019**



### **Forecasted Progress**



- "Proximity" defined as within one mile of rail or within a ½ mile of bus rapid transit (BRT).
- · "High-capacity transit" defined to include Metrorail, commuter rail, streetcar, light rail or BRT.

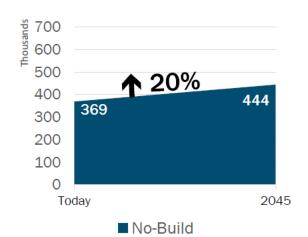


Source: Visualize 2045 (2018) Performance Analysis

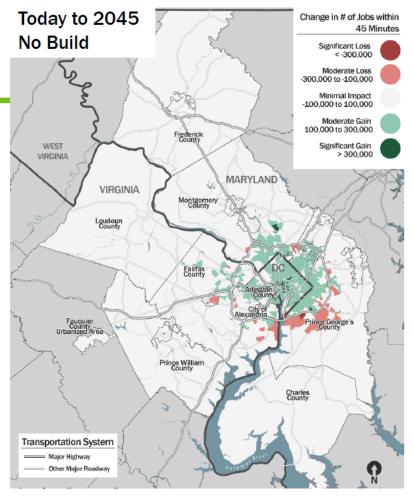
### Forecasted Progress – Land Use Impacts

Change in Access to Jobs by Transit

#### Regional Change in Access to Jobs by Transit



These numbers represent the average number of jobs accessible via transit within a 45-minute commute based on where people live.



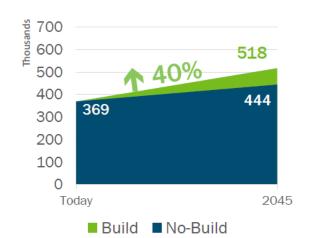




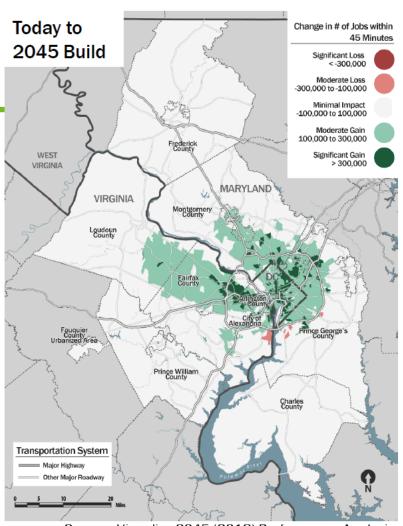
### Forecasted Progress – Land Use & Transportation

**Change in Access** to Jobs by Transit

#### Regional Change in Access to Jobs by Transit



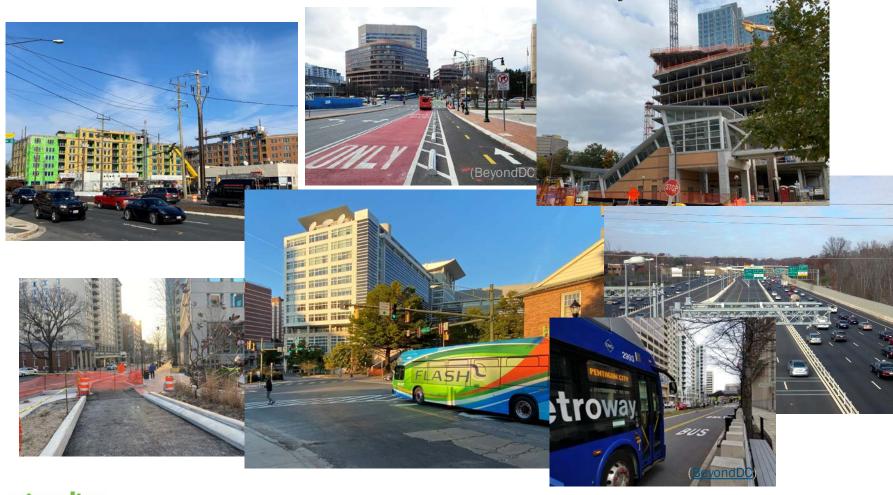
These numbers represent the average number of jobs accessible via transit within a 45-minute commute based on where people live.







### **Tracking Progress - a Few Examples**





Facilitated Review of Proposed Technical Inputs



### **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 Matrixes
  - 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



### **DDOT: New Major Project**

- In the District of Columbia:
  - DDOT is proposing to implement bus-only lanes on H and I street



### **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



# MDOT: Significant Change to Major Project already in Visualize 2045

The I-270 component of MDOT's "Traffic Relief Plan" project, is in the current plan, Visualize 2045. MDOT is proposing changes.

**New Description:** Project will add one High Occupancy Toll (HOT) managed lane in each direction along I-270 between the Capital Beltway (I-495) and I-70/US 40, while converting the existing HOV lane in each direction to a HOT lane.

#### **Proposed Changes:**

- Changing the managed lanes along I-270 from Express Toll Lanes (ETL) in each direction to HOT lanes in each direction.
  - Note: For both TRP projects: all users pay tolls on ETLs, only those vehicles not meeting high occupancy requirements pay tolls on HOT lanes. Carpool/vanpools of three or more occupants will travel toll-free on the HOT lanes on the I-495 and I-270 components of the TRP. Transit buses will also travel toll-free.
- Adding one additional HOT lane in each direction (previously proposed two lanes are being reduced to one while converting the existing HOV lanes to HOT lanes in each direction).
- Changing the completion date for the segment from I-370 to I-70 from 2025 to 2030.



# MDOT: Significant Change to Major Project already in Visualize 2045

The I-495 component of MDOT's "Traffic Relief Plan" project, is in the current plan, Visualize 2045. MDOT is proposing changes

**New Description:** Project will add two High Occupancy Toll (HOT) managed 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

#### **Proposed changes:**

- Changing the managed lanes along the entire Maryland Capital Beltway from Express Toll Lanes (ETLs) to High Occupancy Toll (HOT) lanes in each direction
- Changing the completion date for the segment of the HOT lanes from MD 355 to the Wilson Bridge from 2025 to 2030



## TABLE 1 VISUALIZE 2045 UPDATE - PROJECT SUBMISSIONS AND THE REGIONAL TRANSPORTATION PRIORITIES PLAN GOALS

This matrix provides a visual summary of the responses provided by the relevant implementing agencies as to how their proposed projects and updated projects support the goals identified in the RTPP.

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MAJOR PROJECTS*								+																				4	Ŧ	
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2. I-270 Toll Lanes	\$ 3.4 Billion	2025	$\mathbf{Z}$	$ \mathbf{Z} $	Щ		$\perp$	$\vee$	$\leq$	$\square$	_				Ш	$\mathbf{Z}$	$ \mathbf{Z} $		4	Ш		$\mathbf{Z}$	$\mathbf{X}$	$ \mathbf{Z} $	L	Ш	Ц	$\perp$	$\perp$	$\perp$
3. I-495 Toll Lanes	\$ 4.2 Billion	2030	$\mathbf{Z}$	$ \mathbf{Z} $	Ш			$\checkmark$	$ \mathbf{Z} $	$\square$					Ш	$\mathbf{Z}$	$ \mathbf{Z} $		_	Ш		$ \mathbf{Z} $	$ \mathbf{Z} $	$ \mathbf{Z} $	L	Ш	Ц	$\perp$	$\perp$	$\perp$
4. US50 North Collector Rd	\$ 110 Million	2029	$\mathbf{Z}$	$ \mathbf{Z}$						$ \mathbf{Z} $					$ \mathbf{Z}$	$\mathbf{Z}$				Ш					$\mathbf{V}$	$ \mathbf{Z} $	$\mathbf{Z}$	$ \mathbf{Z}$	$\perp$	
OTHER PROJECTS																														
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6. MD 85 Buckeystown Pike	\$ 140 Million	2035	$ \mathbf{Z} $												$ \mathbf{Z}$	$ \mathbf{V} $			П	П		$ \mathbf{Z} $	$\leq$	$ \mathbf{Z} $	$\checkmark$		П	- 5	1	Т
7. VA 620 Braddock Rd	\$ 34 Million	2028								$\square$		$\boxtimes$			$ \mathbf{Z} $	$ \mathbf{Z} $		$ \mathbf{Z}$	П	П		$ \mathbf{Z} $				$ \mathbf{Z}$	П	$\top$		$\top$
8. Worldgate Dr Ext.	\$ 20 Million	2030						$\top$							$ \mathbf{Z} $	$ \mathbf{Z} $	$ \mathbf{Z} $	$\leq$	٦	$ \mathbf{Z} $	$ \mathbf{Z} $	$ \mathbf{Z} $	<b>V</b>				П	十	$\top$	$\top$
9. VA 607 Loudoun Cty Pky	\$ 3 Million	2022			$ \mathbf{Z} $			T			$ \mathbf{Z} $	$ \mathbf{Z} $			$ \mathbf{Z} $	$ \mathbf{V} $			7	П							П	$\top$	T	$\top$
10. VA 645 Croson Ln	\$ 19 Million	2027	г		$ \mathbf{Z} $		$\top$	$\top$			$ \mathbf{Z} $					$ \mathbf{V} $			П	П						П	П	$\top$	$\top$	$\top$
11.VA 659 Belmont Ridge Rd	\$ 68 Million	2025						$\top$				$ \mathbf{Z} $							П	П		$ \mathbf{Z} $	$ \mathbf{Z} $			$ \mathbf{Z}$	П	$\top$	$\top$	$\top$
12. Crosstrail Blvd	\$ 66 Million	2026	Г					$\mathbf{Z}$	-		$ \mathbf{Z} $								П	П					$ \mathbf{Z} $	$ \mathbf{Z}$	П	$\top$	Т	$\checkmark$
13.VA 3171 Northstar Blvd	\$ 33 Million	2028									$ \mathbf{Z} $	$ \mathbf{Z} $			$ \mathbf{Z}$												П	$\top$	$\top$	
14. Annapolis Way Ext	\$ 8.7 Million	2028		$ \mathbf{Z} $				$\mathbf{v}$	,		$ \mathbf{Z} $	$ \mathbf{Z} $		$ \mathbf{Z} $	$ \mathbf{Z} $	$\mathbf{Z}$		$ \mathbf{Z} $	П	П			$ \mathbf{Z} $	$ \mathbf{Z} $			П	Т	Т	T
15. Horner Rd	\$ .3 Million	2030		$ \mathbf{Z} $				$\overline{\mathbf{v}}$	-		$ \mathbf{Z} $	$ \mathbf{Z} $		$ \mathbf{Z} $	$ \mathbf{Z} $	$ \mathbf{A} $			<b>V</b>	П			8	M		П	$\sqcap$	十	$\top$	$\top$
16.Dale City Pkwy Node New Through Blvd	\$ 10 Million	2030									$ \mathbf{Z} $	$ \mathbf{Z} $			V									$ \mathbf{Z} $				$\top$		
17. Williamson Blvd	\$ 3 Million	2030								$\checkmark$	$ \mathbf{Z} $	$ \mathbf{Z} $			$ \mathbf{A} $								$ \mathbf{Z} $	$\mathbf{Z}$				$\top$		
18. Alexandria 4th Track	\$ 185 Million	2025						~	1		V	$ \mathbf{Z} $	$ \mathbf{Z} $		$ \mathbf{Z}$	$ \mathbf{Z} $	$ \mathbf{Z} $	$ \mathbf{Z}$		П			$ \mathbf{Z} $	$\checkmark$			$\checkmark$	$\top$	₩	1
19. Broad Run Expansion	\$ 164 Million	2025		$ \mathbf{Z} $	$ \mathbf{Z} $						$ \mathbf{Z}$	$ \mathbf{Z}$	$ \mathbf{Z} $		V	$\mathbf{Z}$	$ \mathbf{Z} $	$ \mathbf{Z} $		$ \mathbf{Z} $			$ \mathbf{Z} $	$\square$	$\mathbf{Z}$		V	$\top$	æ	1
20. Observation Drive	\$ 113 Million	2035						$\leq$		$\mathbf{Z}$		$\mathbf{Z}$			$ \mathbf{Z} $											$ \mathbf{Z} $			$\simeq$	1

<sup>\*</sup> Major projects are defined as changes to interstates, major arterials, and expressways or freeways with at-grade intersections, as well as dedicated transit facilities.

## TABLE 2 VISUALIZE 2045 UPDATE - PROJECT SUBMISSIONS AND THE ASPIRATIONAL INITIATIVES

This matrix provides a visual summary of the responses provided by the relevant implementing agencies as to how their proposed projects support the Aspirational Initiatives

	Estimated Cost	Projected Completion	Bring Jobs and Housing Closer Together	Expand Bus Rapid Transit and Transitways Regionwide	Move More People on Metrorail	Provide More Telecommuting and Other Options for Commuting	Expand Express Highway Network	Improve Walk and Bike Access to Trans it	Complete the National Capital Trail
MAJOR PROJECTS*	A4.4.1.000	0004							
1. H & I Bus Lanes	\$1.1 Million	2021		<b>✓</b>				✓	
2. I-270 Toll Lanes	\$3.4 Billion	2030					<b>V</b>		
3. I-495 Toll Lanes	\$4.2 Billion	2025					<b>√</b>		
4. US 50 North Collector Rd	\$110 Million	2028	✓				✓		
OTHER NEW PROJECTS									
5. 16th St NW	\$2 Million	2024							
6. MD 85 Buckeystown Pike	\$140 Million	2035							
7. VA 620 Braddock Rd	\$34 Million	2028						✓	
8. Worldgate Dr Ext.	\$20 Million	2030					✓		
9. VA 607 Loudoun Cty Pky	\$3 Million	2022						✓	✓
10. VA 645 Croson Ln	\$19 Million	2027			✓			✓	✓
11. VA 659 Belmont Ridge Rd	\$68 Million	2025						✓	
12. Crosstrail Blvd	\$66 Million	2026					<b>✓</b>		
13. VA 3171 Northstar Blvd	\$33 Million	2028							
14. Annapolis Way Ext	\$8.7 Million	2028	<b>√</b>					✓	
15. Horner Rd	\$0.3 Million	2030	<b>√</b>					✓	
16. Dale City Parkway Node New Through Boulevard	\$10 Million	2030	✓					✓	
17. Williamson Blvd	\$3 Million	2030						<b>✓</b>	
18. Alexandria 4th Track	\$185 Million	2025							
19. Broad Run Expansion	\$164 Million	2025				<b>√</b>		✓	
20. Observation Dr	\$113 Million	2035		✓				✓	

<sup>\*</sup> Major projects are defined as changes to interstates, major arterials, and expressways or freeways with at-grade intersections, as well as dedicated transit facilities.

## TABLE 3 VISUALIZE 2045 UPDATE - PROJECT SUBMISSIONS AND THE FEDERAL PLANNING FACTORS

This matrix provides a visual summary of the responses provided by the relevant implementing agencies as to how their proposed projects support the planning factors set forth in the FAST Act

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MAJOR PROJECTS*													
1. H & I Bus Lanes	\$1.1 Million	2021	✓	✓		✓		✓					
2. I-270 Toll Lanes	\$3.4 Billion	2030	✓	<b>✓</b>	✓	✓	✓	✓	✓	✓			
3. I-495 Toll Lanes	\$4.2 Billion	2025	✓	✓	✓	✓	✓	✓	✓	✓			
4. US 50 North Collector Rd	\$110 Million	2028	✓			✓	✓		✓				✓
OTHER NEW PROJECTS													
5. 16th St NW	\$2 Million	2024	✓	<b>✓</b>		✓		✓	✓	✓			
6. MD 85 Buckeystown Pike	\$140 Million	2035	✓										
7. VA 620 Braddock Rd	\$34 Million	2028		✓					✓	✓			
8. Worldgate Dr Ext.	\$20 Million	2030				✓							
9. VA 607 Loudoun Cty Pky	\$3 Million	2022		✓					✓				
10. VA 645 Croson Ln	\$19 Million	2027				✓			✓				
11. VA 659 Belmont Ridge Rd	\$68 Million	2025	1	✓	<b>✓</b>	✓	✓	<b>√</b>	<b>√</b>	✓			
12. Crosstrail Blvd	\$66 Million	2026				✓	✓		1			✓	
13. VA 3171 Northstar Blvd	\$33 Million	2028		✓		✓			1				
14. Annapolis Way Ext	\$8.7 Million	2028	<b>√</b>			✓			1				
15. Horner Rd	\$0.3 Million	2030	1			✓			1				
16. Dale City Parkway Node New Through Boulevard	\$10 Million	2030				✓			✓				
17. Williamson Blvd	\$3 Million	2030				✓							
18. Alexandria 4th Track	\$185 Million	2025	✓	✓	✓	✓	✓	1	✓	✓	✓		
19. Broad Run Expansion	\$164 Million	2025	1	1		✓	1	1	1	1		1	✓
20. Observation Dr	\$113 Million	2035	1	✓		✓		1	1	1	1	✓	✓

#### **Federal Planning Factors**

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for all motorized and non-motorized users.
- Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users.
- · Increase accessibility and mobility of people.
- · Increase accessibility and mobility of freight.
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface Transportation
- · Enhance travel and tourism

<sup>\*</sup> Major projects are defined as changes to interstates, major arterials, and expressways or freeways with at-grade intersections, as well as dedicated transit facilities.

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