

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

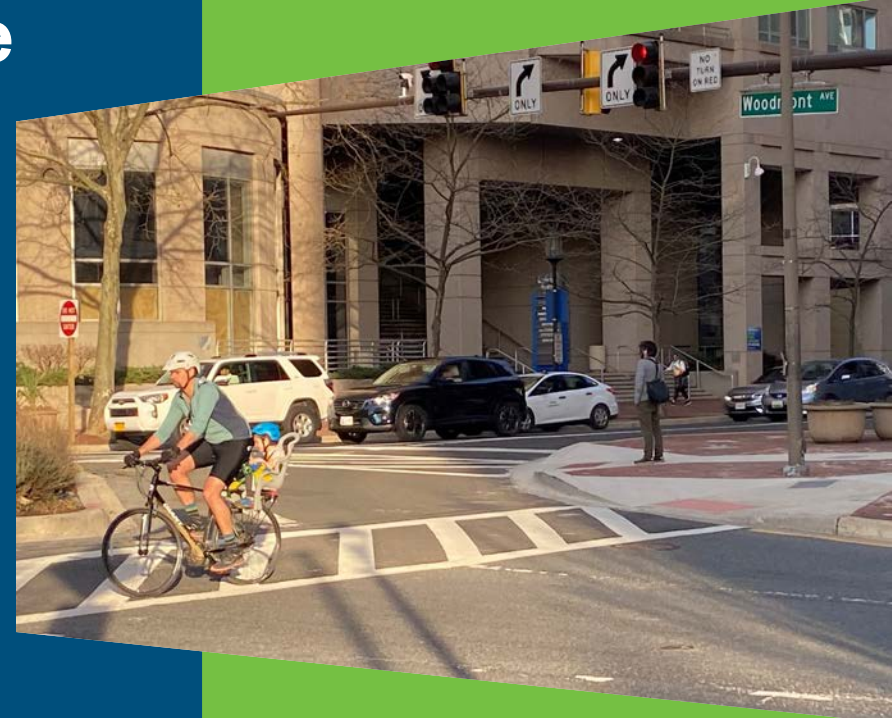
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TPB Technical Committee

April 2, 2021



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

Presentation Outline

- Overview of April 21 TPB Work session
- Comment Period Materials and Technical Inputs Summary
- Air Quality Conformity Table and Scope of Work

Overview of April 21 TPB Work session

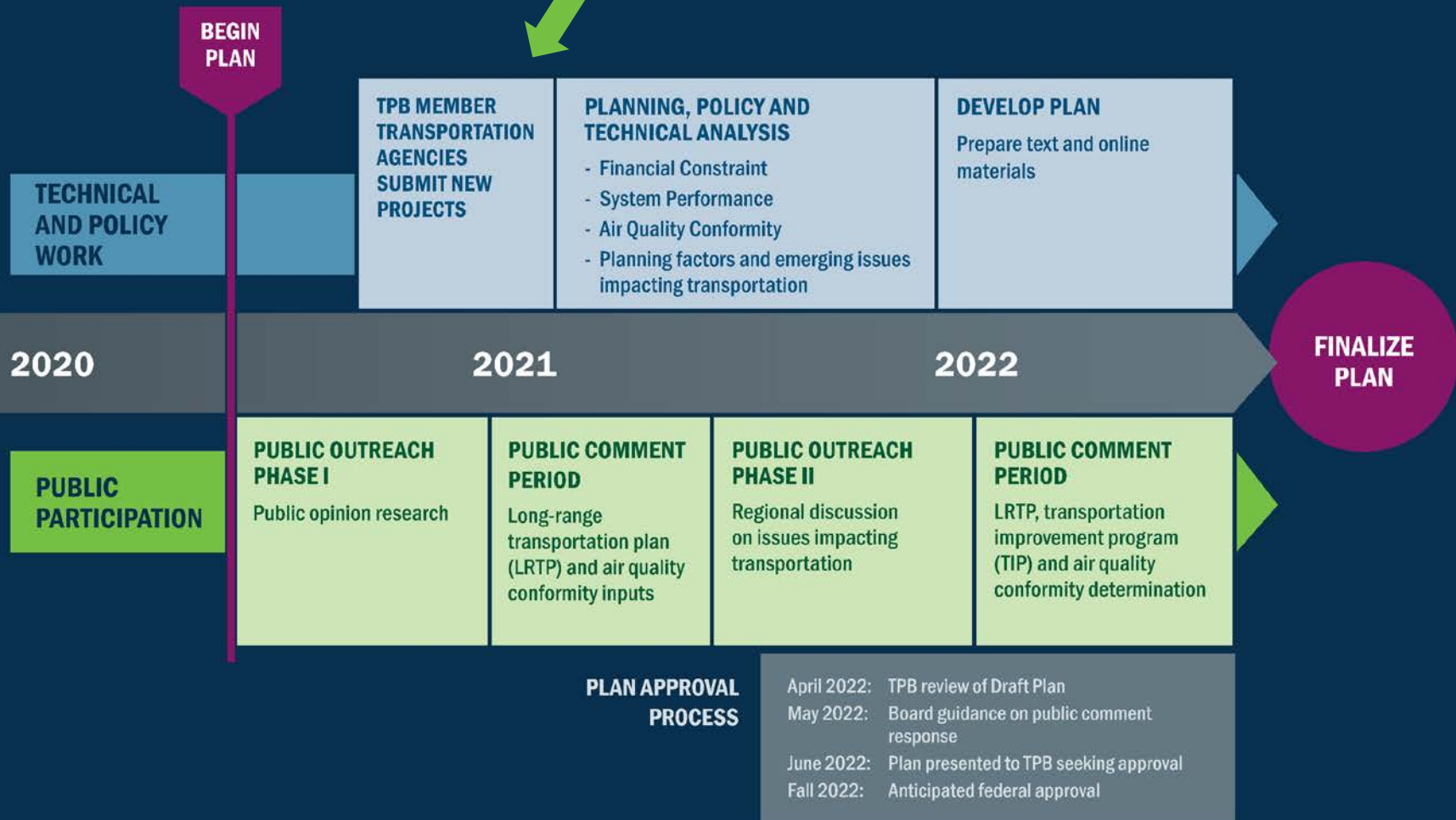
Agenda

- 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. A. District of Columbia projects
 - 11:00 A.M. B. Virginia projects
 - 11:20 A.M. C. Maryland projects
 - 11:45 A.M. D. Other projects / Technical Inputs
 - 11:55 A.M. Adjourn

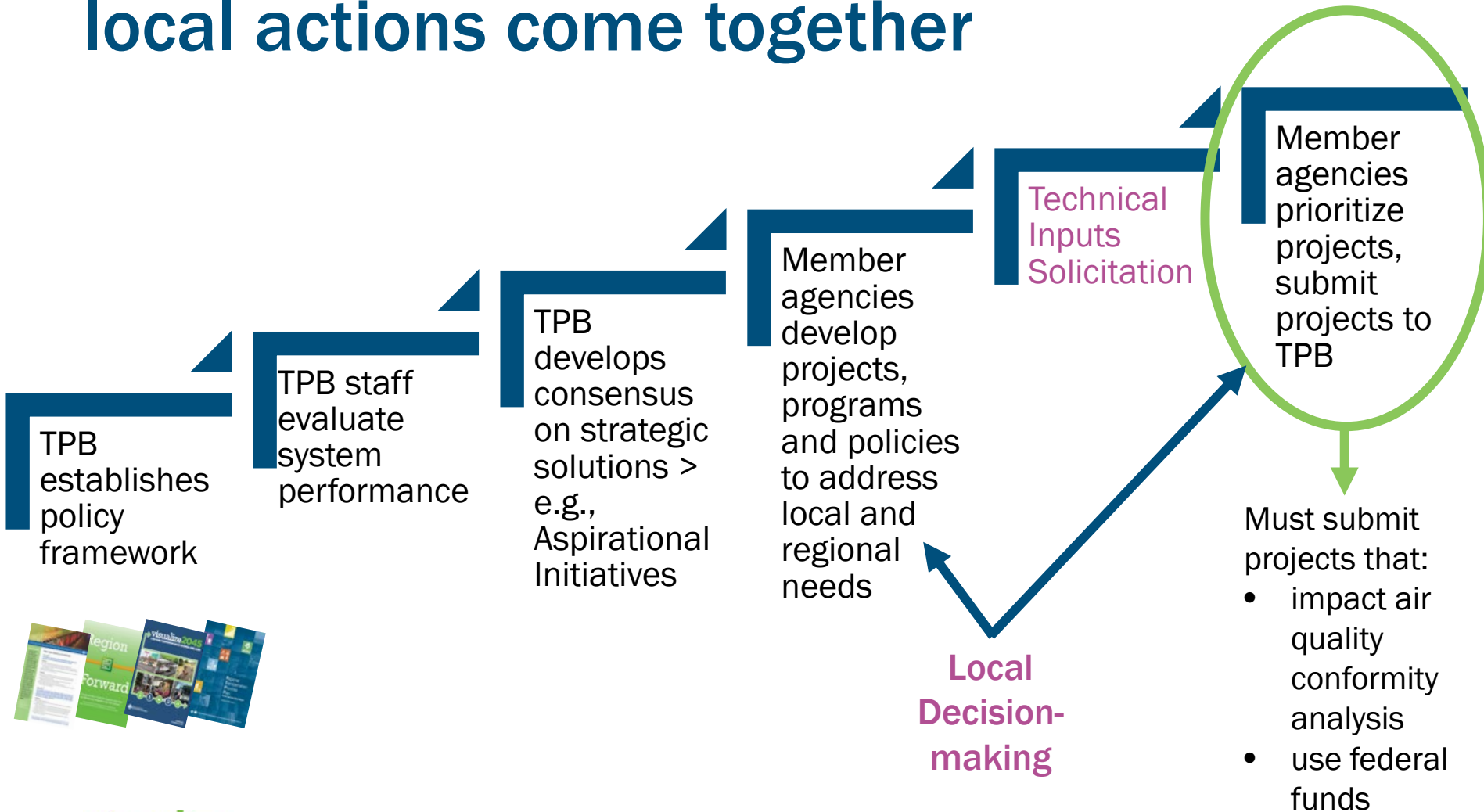
TPB's Visualize 2045 Long-Range Transportation Plan Update (2022)



We are here



Visualize 2045: a regional vision and local actions come together



Two parts of the plan

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**

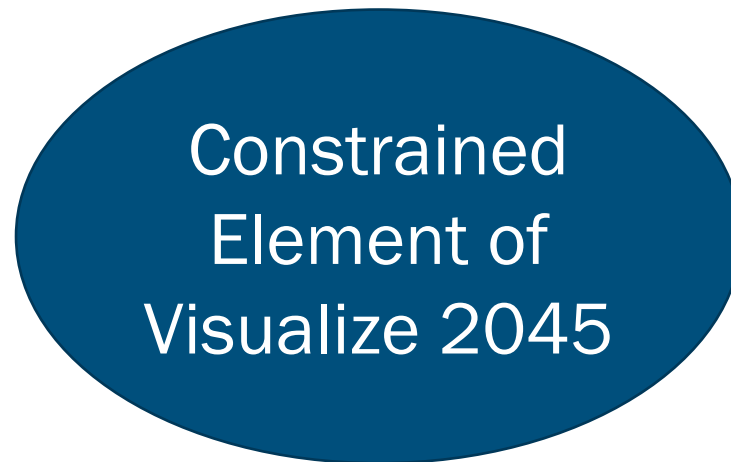
- Certain project types required – those that impact capacity

- **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?

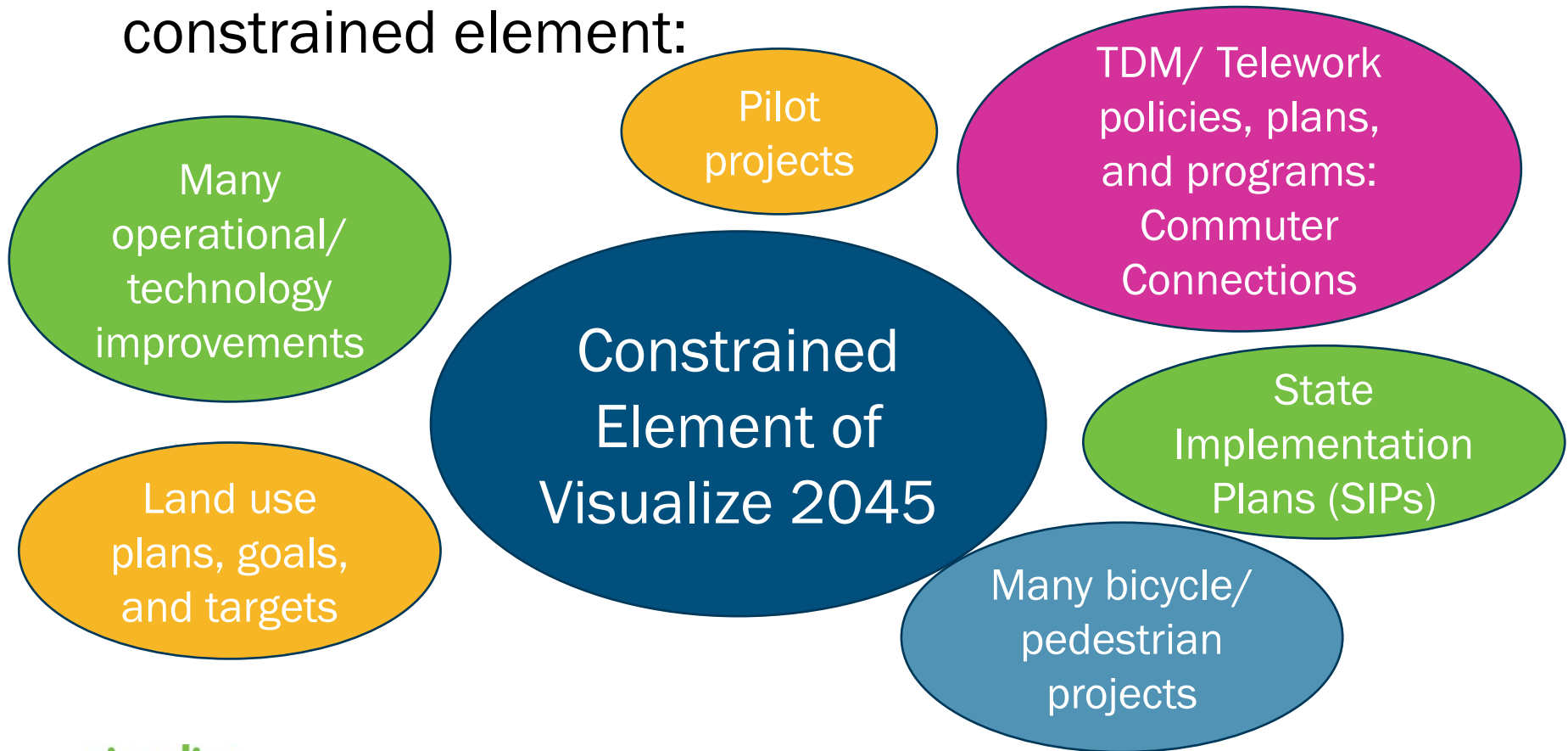
- Projects that impact air quality conformity analysis
- Projects that use federal funding



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:



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...



Implemented mostly
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

We are here

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 -

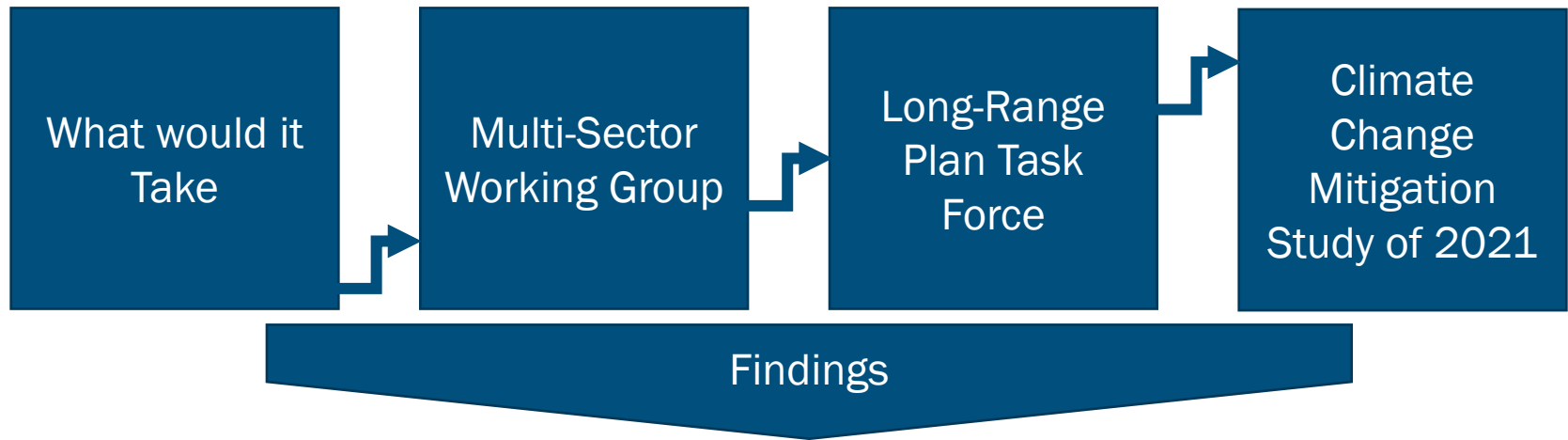
Request Board
approval of
plan, TIP, AQC
results



Climate Change Mitigation
Study - to be conducted in
2021

Results merged into
Visualize 2045

Past climate/scenario studies: impacts on projects, programs, policies in Visualize 2045



Policies – not in Constrained Element

- Funding/prioritization policies
- EV implementation policies
- Fuel taxes
- Eco-driving incentives
- Land use policies and plans
- Telework policies/some operations

Projects – not in Constrained Element

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

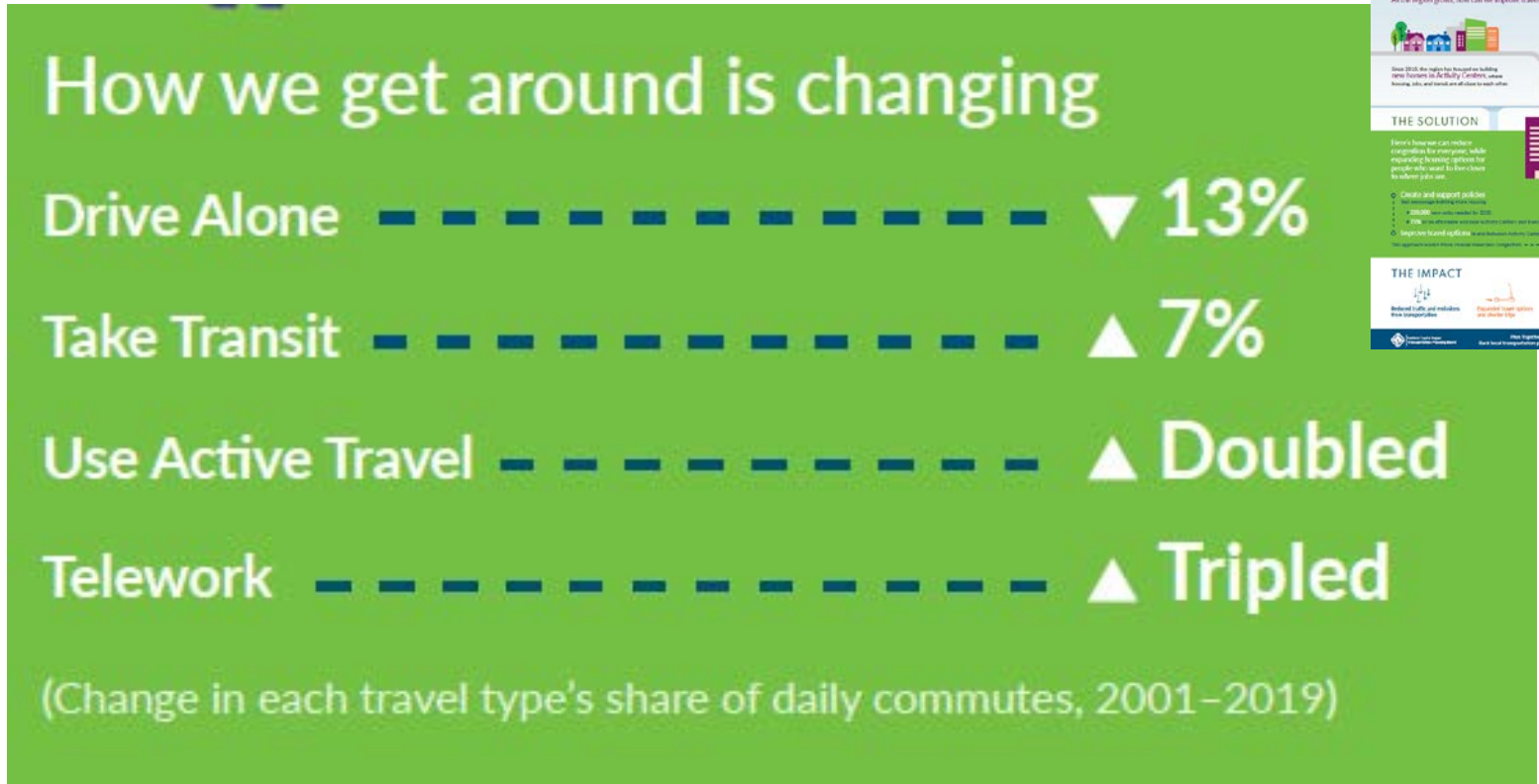
Constrained Element

- Aspirational Initiatives:
- Expressways
- BRT/Transitways
- Metro
- Some Bicycle/Pedestrian Projects

Planning Policy Focus Area Universe



Tracking Progress: 2001 - 2019



BRING JOBS AND HOUSING CLOSER TOGETHER visualize 2045

THE CHALLENGE
People need both jobs to live in and communities. But jobs and housing are often far apart, making it hard to get to work. As the region grows, how can we improve travel for all?

Year: 2045
Population: 2.2M
Jobs: 2.9M

Since 2018, the region has helped us build new homes in Alameda County, where housing, jobs, and transit are all close to each other.

Our actions today can help us use 37% of the population to create 95% of the jobs.

THE SOLUTION

There's a lot we can do to make transportation for every person, while ensuring housing options for people who want to live close to their jobs.

- Create and support policies that encourage housing and jobs near transit
- Support transit options that connect jobs and homes
- Support transit options that connect jobs and homes

How we get around is changing:

- Drive Alone: ▼ 13%
- Take Transit: ▲ 7%
- Use Active Travel: ▲ Doubled
- Telework: ▲ Tripled

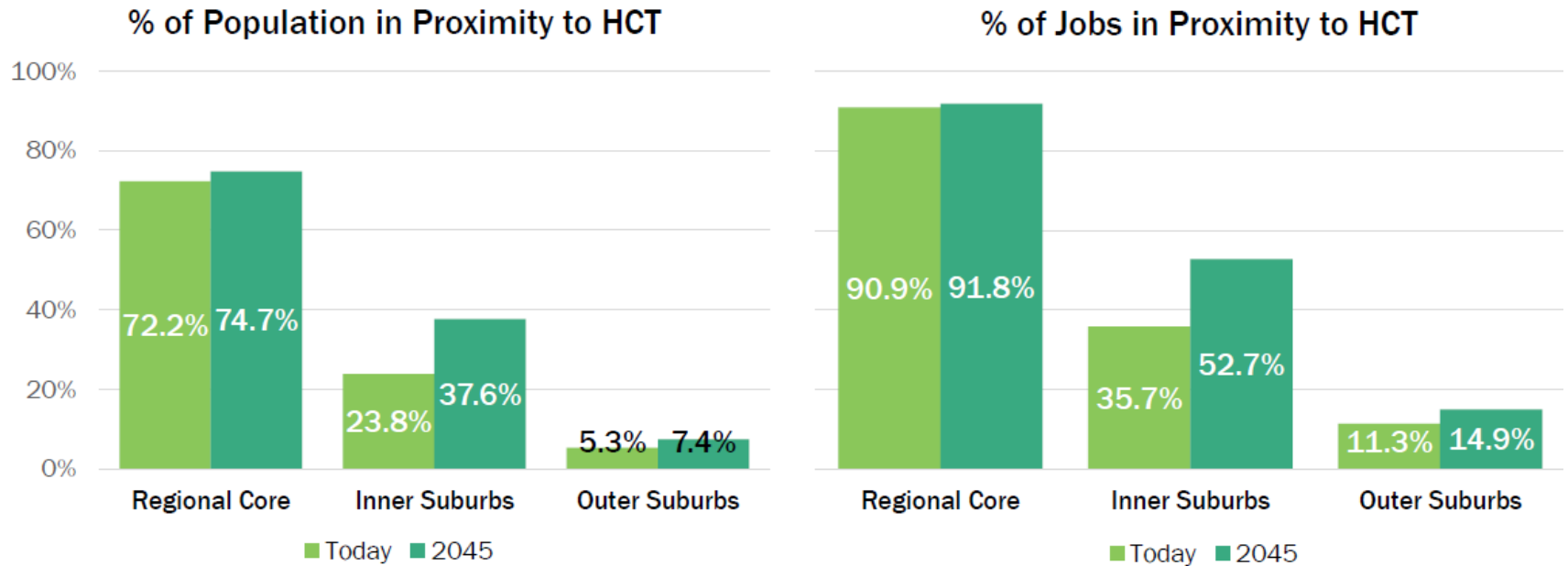
THE IMPACT

- Reduced traffic and emissions
- Improved transit options
- Increased housing options
- Reduced travel time

Source: 2045

Metropolitan Transportation Authority | Alameda County | Alameda County | Alameda County

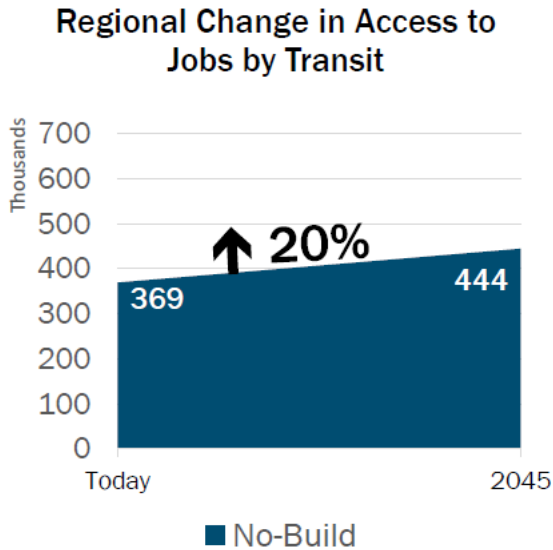
Forecasted Progress



- “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.

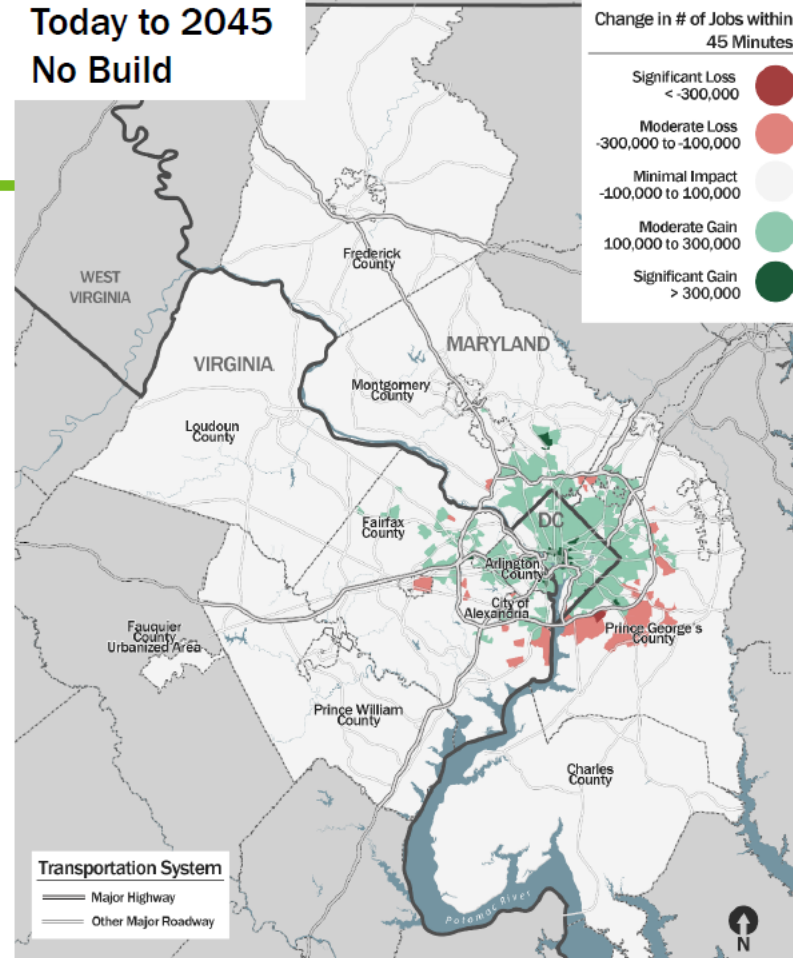
Forecasted Progress

Change in Access to Jobs by Transit



These numbers represent the average number of jobs accessible via transit within a 45-minute commute based

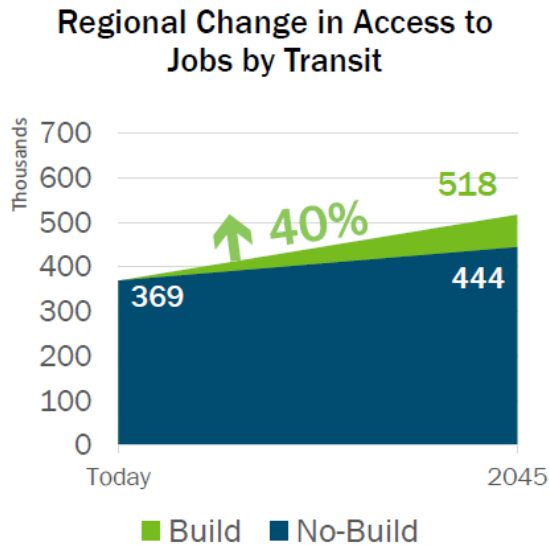
Today to 2045
No Build



Source: Visualize 2045 (2018) Performance Analysis

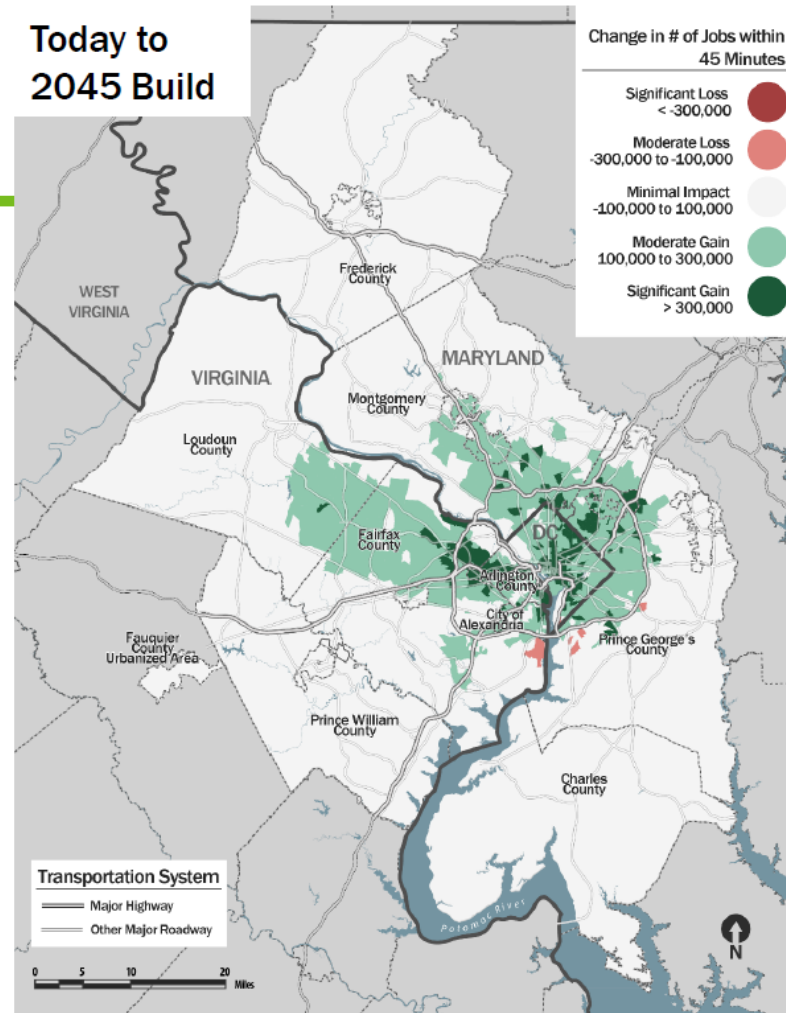
Forecasted Progress

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.

Today to 2045 Build



Source: Visualize 2045 (2018) Performance Analysis

Tracking Progress



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 Virginia, VDOT is proposing to:
 - Construct a new 4-lane road for completion in 2029, the US-50 North Collector Road

MDOT: Significant Change to Major Projects already in Visualize 2045

- In Maryland, MDOT is proposing to update the Traffic Relief Plan:
 - 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.
 - 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.

Air Quality Conformity Inputs and Scope of Work

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 2022 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

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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