VISUALIZE 2050

National Capital Region Transportation Plan

OVERVIEW OF PUBLIC COMMENT PERIOD MATERIALS

Visualize 2050, FY 2026-2029 TIP, and Air Quality Conformity Analysis Report

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TPB Travel Forecasting Subcommittee
November 21, 2025

National Capital Region
Transportation Planning Board

Agenda Item 4

Overview

- Providing Comments
- National Capital Region Transportation Plan - Visualize 2050
  - Implementation of model output data to support system performance analysis
- Air Quality Conformity Analysis Report

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VISUALIZE 2050
National Capital Region Transportation Plan

Providing Comments

- Comment Period: October 23–November 21, 2025
- TIP Forum: November 13, 2025

- Visualize2050.org: The hub for plan information and public comment
  - **Home, The Plan, Plan Resources & Get Involved pages**

- Four ways to submit comments:
  1. Online form at visualize2050.org
  2. Email: tpbcomment@mwcog.org
  3. Call: (202) 962-3774
  4. Mail: TPB Chair, 777 N. Capitol Street NE,
     Suite 300
     Washington, DC 20002

#Visualize2050

VISUALIZE 2050
National Capital Region Transportation Plan

Visualize 2050 Content

Visualize 2050 Executive Summary

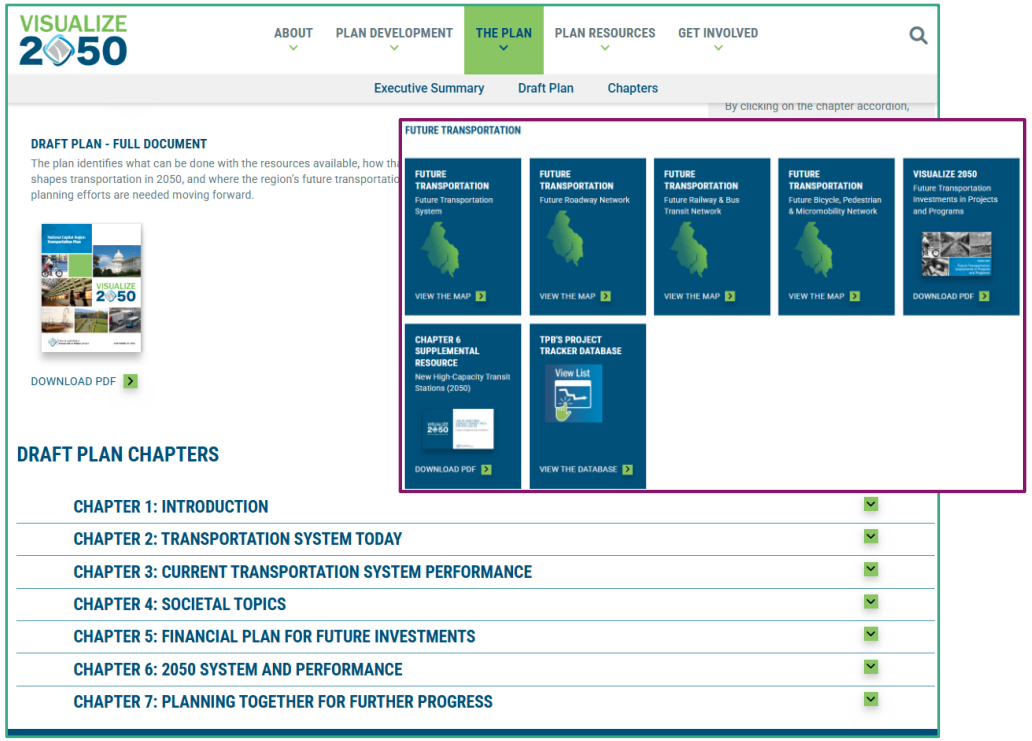
- 12-page PDF/flipbook
- Captures plan highlights: growth, mode share and performance today/future, finance, future challenges

Visualize 2050 Full Plan

- 108-page PDF/flipbook
- Transportation vision, values, performance targets
- Summary of region's current (2025) and future (2050) multimodal transportation system planned investments and anticipated performance, remaining challenges

Supplemental Information

- 11 Maps: existing/future transportation systems, system performance, land use and activity, environmental, EV charger siting
- High-Capacity Transit - Lists of current and future stations, systems, service providers
- Project Tracker database



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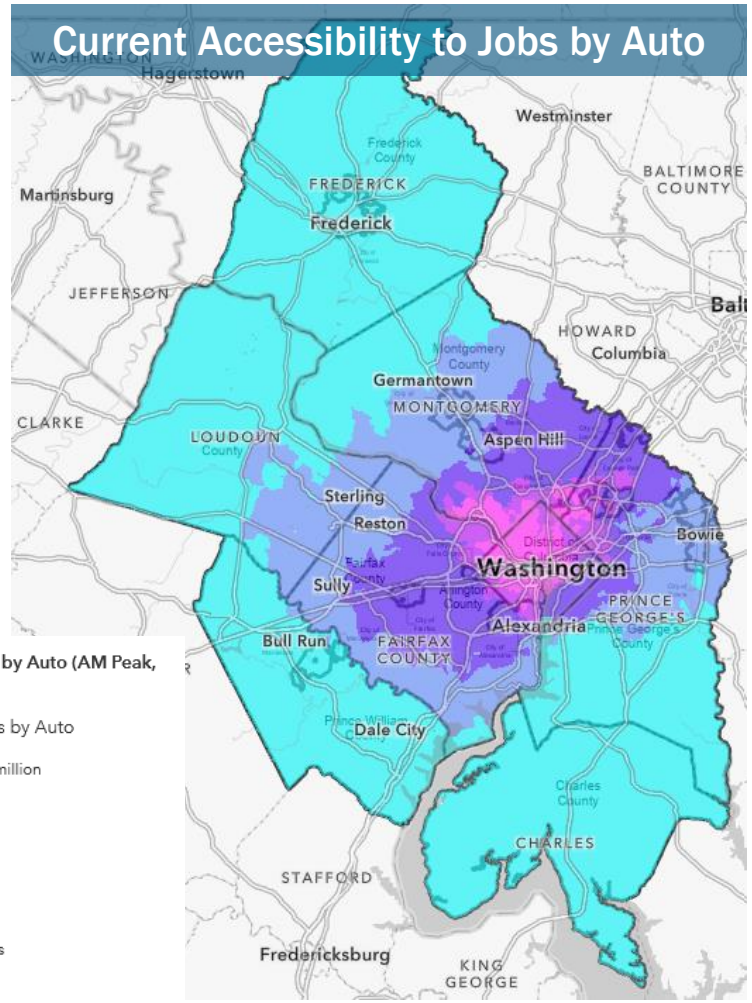
Chapter 3: Current Transportation System Performance

Online Resource

Current Accessibility to Jobs by Auto

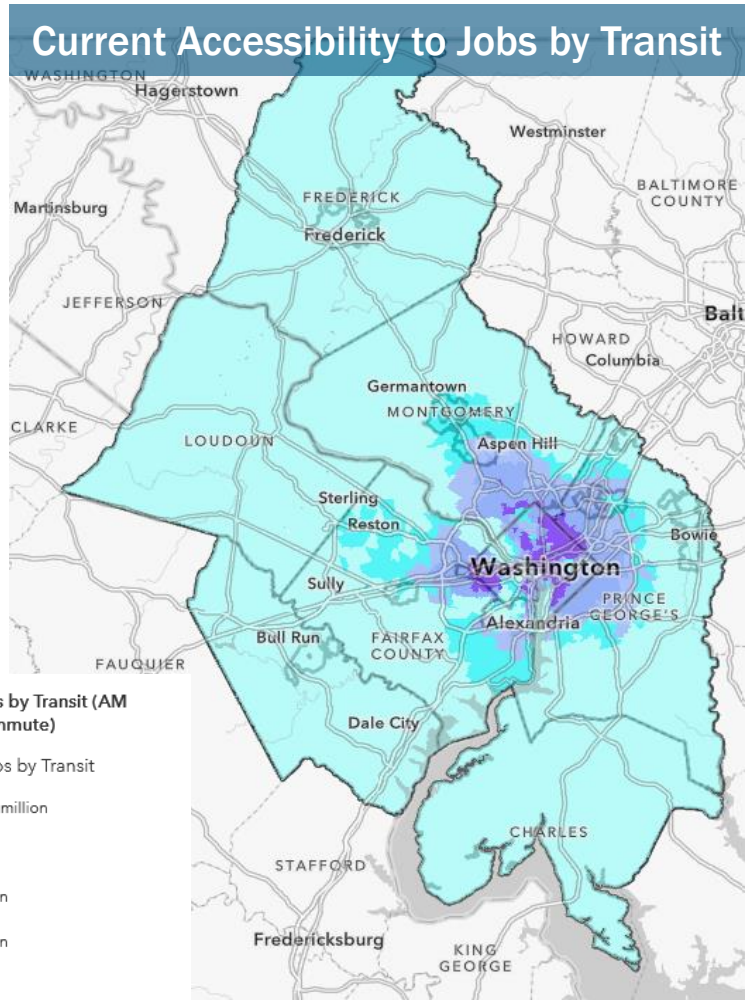


Today Access to Jobs by Auto (AM Peak, 45-Minute Commute)

Today Access to Jobs by Auto

- Greater than 2.0 million
- 1.5 - 2.0 million
- 1.0 - 1.5 million
- 0.5 - 1.0 million
- 0 - 0.5 million jobs

Current Accessibility to Jobs by Transit



Today Access to Jobs by Transit (AM Peak, 45-Minute Commute)

Today Access to Jobs by Transit

- Greater than 1.0 million
- 0.75 - 1.0 million
- 0.50 - 0.75 million
- 0.25 - 0.50 million
- 0 - 250,000

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Chapter 6: Future System and Performance

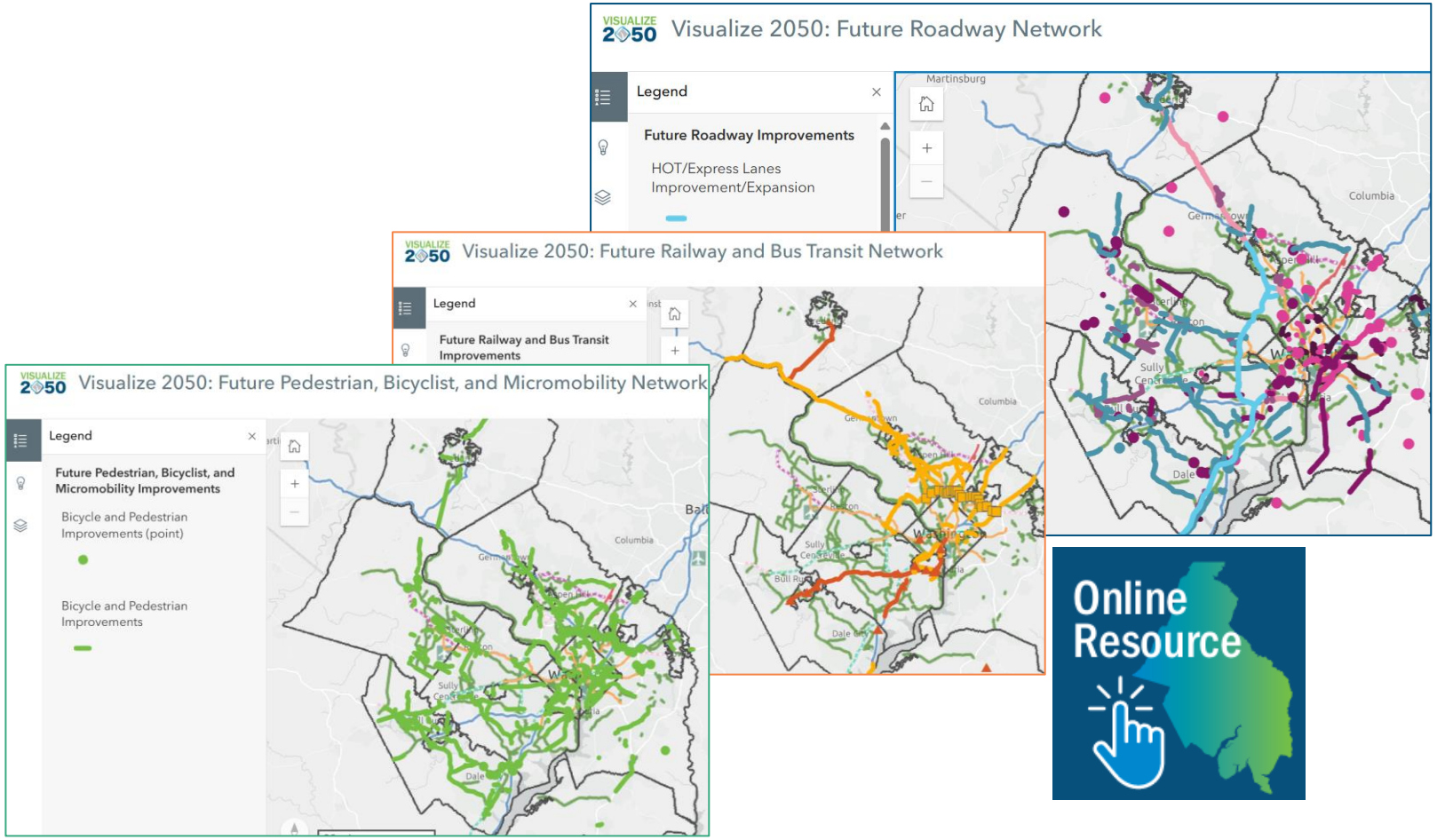
Envisioning the National Capital Region's 2050 transportation system and its future performance

Future Transportation Network

- Roadways
- Railways
- Bus Transit
- Pedestrians, Bicyclists, and Micromobility

2050 System Performance

- Access
- Congestion
- Environmental Forecasts



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Chapter 6: Future System & Performance

Roadways

- Over 600 added lane miles
- Conversion of 10 HOV miles to HOT
- Upgraded streetlight technologies and intersections

Walking, Biking, and Micromobility

- Where applicable and possible, all future projects will include bicycle/pedestrian accommodations

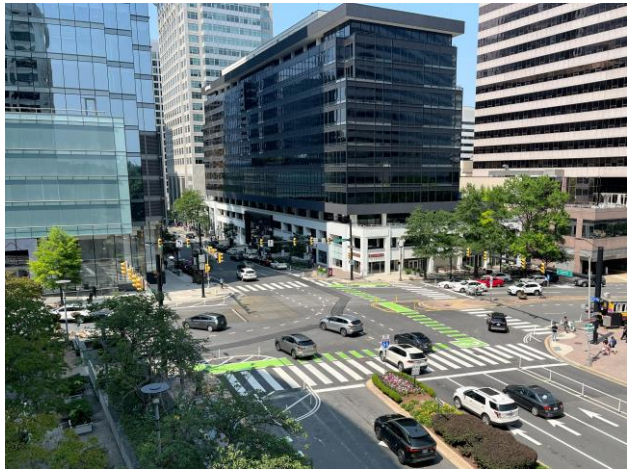
Bus Transit

- +79 BRT lane miles and +90 BRT stations
- Replacement of aging fleets with clean fuel/EV buses

Railways

- +18 added rail miles and +27 rail stations
- Operational enhancements, station upgrades, accessibility improvements

BeyondDC/Flickr



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Chapter 6: Future System and Performance

Figure 6.3: Mode Share for All Trips, Today to 2050

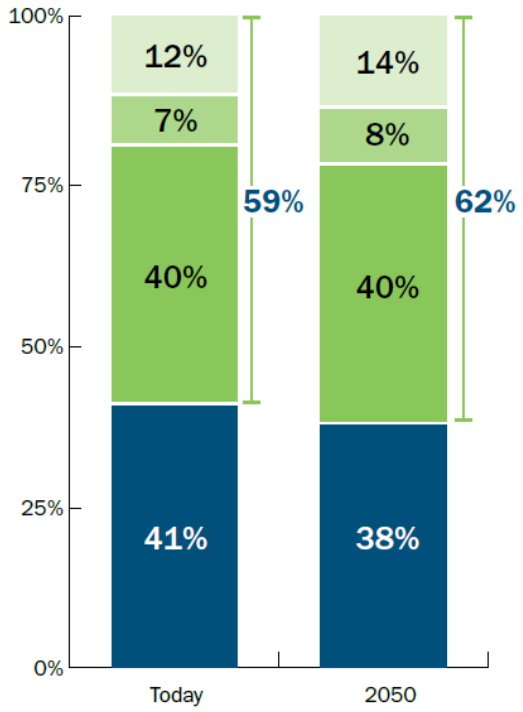
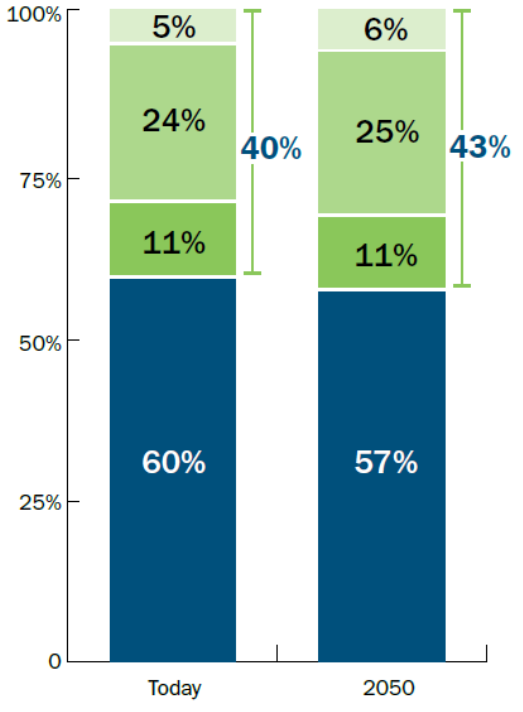


Figure 6.4: Mode Share for Work Trips, Today to 2050



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Chapter 6: Future System and Performance

Figure 6.5: Percent of All Trips in 2050 by Geography

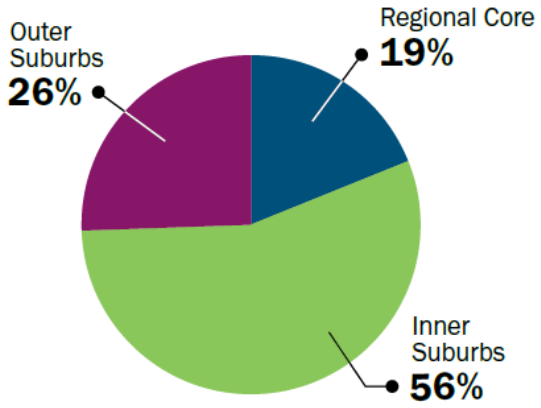
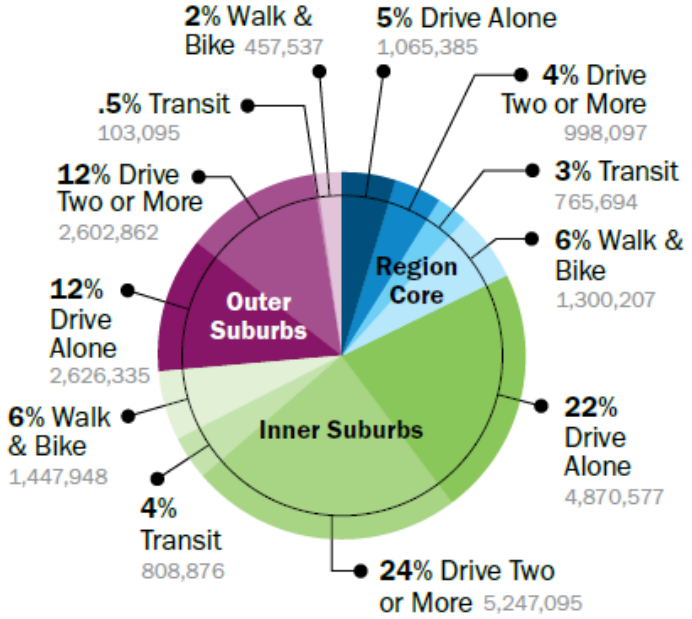
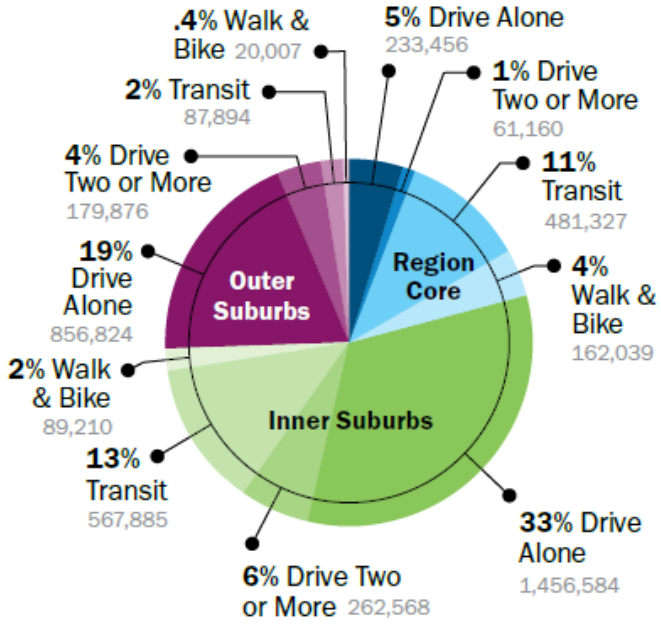


Figure 6.9: All Trips by Mode and Geography, 2050



Total Trips: 22,293,708

Figure 6.10: Work Trips by Mode and Geography, 2050



Total Trips: 4,458,829

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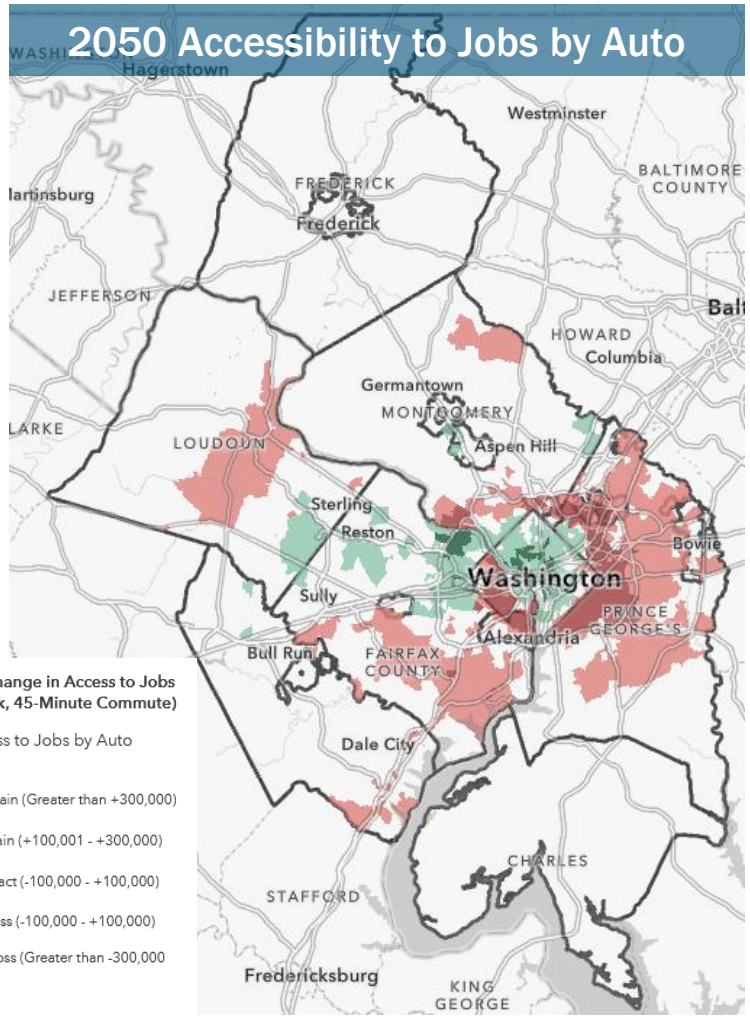
Chapter 6: Future System and Performance

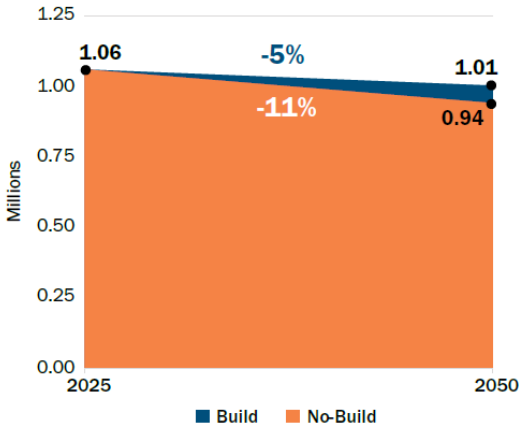
2050 Accessibility to Jobs by Auto

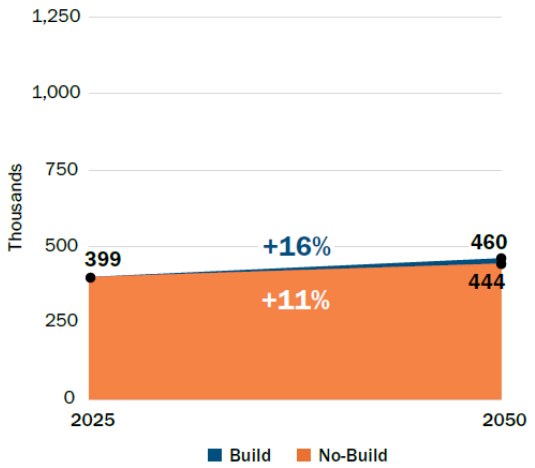


Today to 2050 Change in Access to Jobs by Auto (AM Peak, 45-Minute Commute)

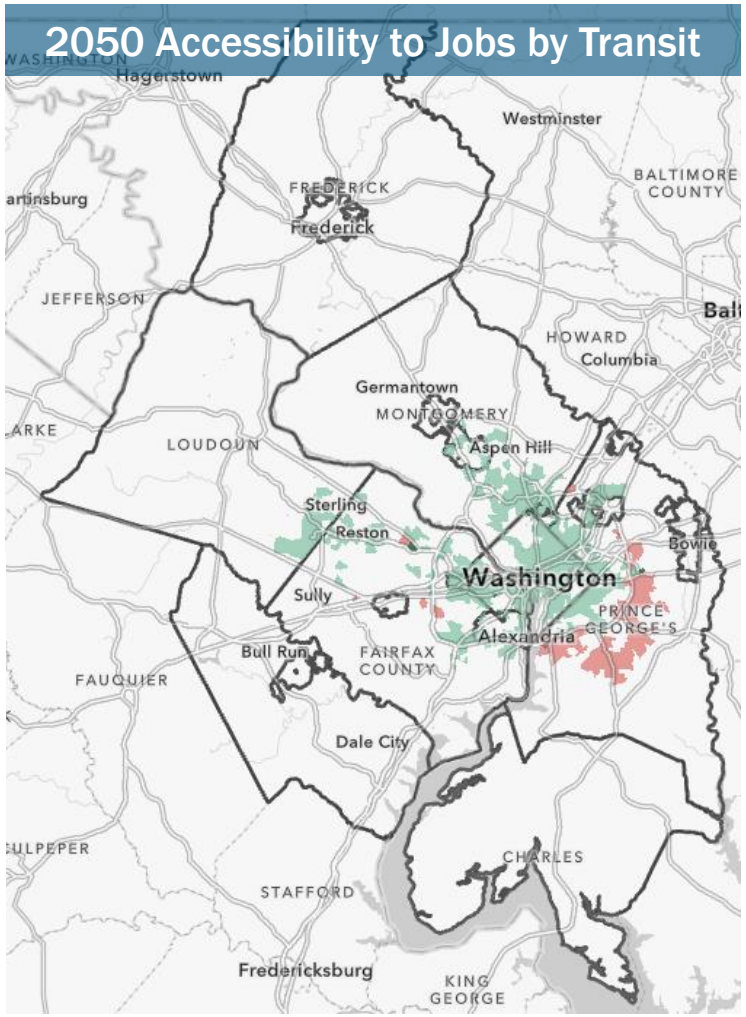
Change in Access to Jobs by Auto (Today to 2050)

- Significant Gain (Greater than +300,000)
- Moderate Gain (+100,001 - +300,000)
- Minimal Impact (-100,000 - +100,000)
- Moderate Loss (-100,000 - +100,000)
- Significant Loss (Greater than -300,000 Jobs)





2050 Accessibility to Jobs by Transit



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Chapter 6: Future System and Performance

Figure 6.14: Change in Total Daily Vehicle Hours of Delay, Today to 2050

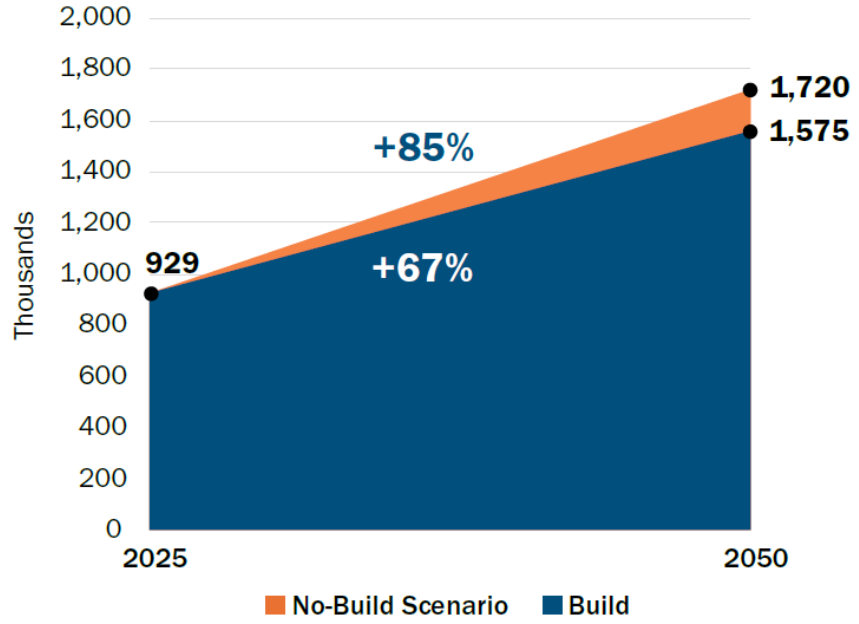
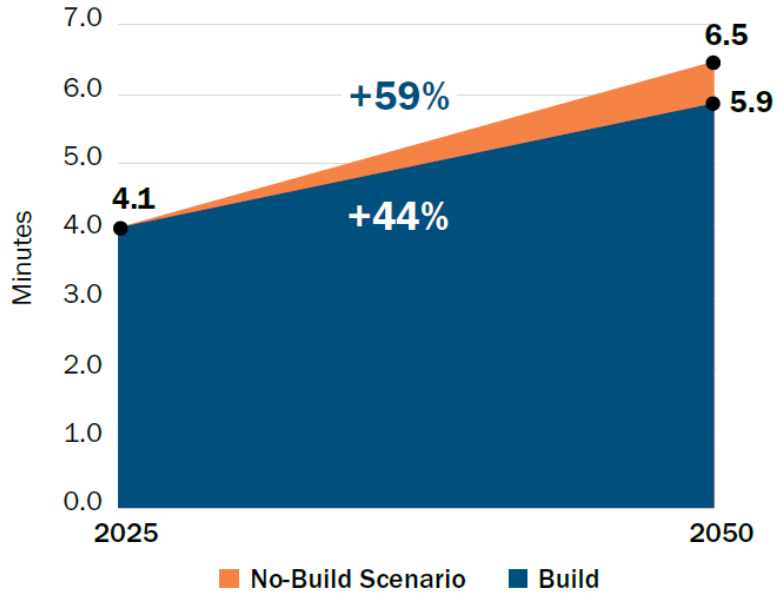


Figure 6.15: Change in Average Minutes of Delay Per Trip, Today to 2050



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Chapter 7: Planning Together for Further Progress

Challenges will exist beyond the planned investments

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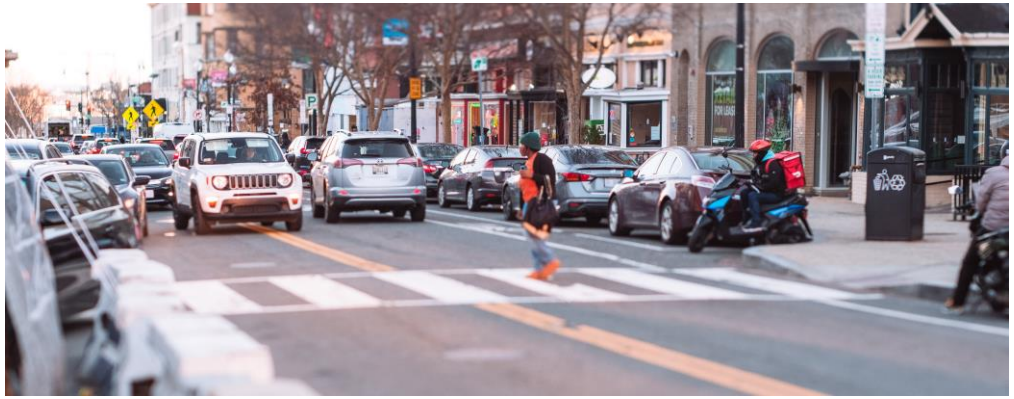

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CONTINUED TRAVELER FATALITIES & SERIOUS INJURIES

Safety challenges are unlikely to be fully resolved, as some of the underlying contributing factors—large vehicles, high-speed roadway designs, and distracted or unsafe driving—are complex and far-reaching.

SINGLE-OCCUPANT VEHICLES CONTINUE TO BE MOST PEOPLE'S CHOICE FOR COMMUTING

Many residents, particularly in the region's inner and outer suburbs, will continue to face limited access to timely multimodal options to access work due to long travel distances and impracticality of travel times.

ANTICIPATED RISKS TO INFRASTRUCTURE FROM NATURAL HAZARDS

Increased flooding and extreme heat will mount more pressure on essential, aging infrastructure.

INSUFFICIENT TRANSIT REVENUE TO SUSTAIN, LET ALONE INCREASE SERVICES

There continues to be challenges with adequately funding the Washington Metropolitan Area Transit Authority (WMATA) and local transit service needs with sustainable, predictable, long-term sources. Financial uncertainties will hinder the region's ability to elevate the transit system to a world-class modern standard.

CONTINUED INCREASE IN TRAFFIC CONGESTION & DELAYS

Congestion and delays are forecasted to persist. While delays may be expected and even yield reliable travel times, frustration will affect people's health and mental well-being as well as their daily activities.

CONSTRAINED FUNDS FOR MAINTENANCE

Most funds go to operations, maintenance, and state of good repair, but limited and uncertain sources—including declining gas tax revenue and unpredictable federal support—make prioritization challenging as funding needs continue to increase.

INSUFFICIENT TRUCK PARKING ALONG MAJOR ROUTES

The surge in consumer demand for rapid package delivery has increased freight traffic along major routes, leading to difficulties for truckers to find reliable parking.

ANTIQUATED INFRASTRUCTURE AT UNION STATION LIMITING SERVICE AND CAPACITY

As the region's busiest transit hub, Union Station must upgrade and expand to meet projected ridership on intercity rail and bus, Metrorail, VRE, MARC, and ground transportation driven by population/employment growth regionally and along the Northeast Corridor.

Air Quality Conformity Analysis Report

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Air Quality Conformity Background

- Air quality conformity analysis is a federal requirement that ensures transportation plans and projects do not prevent a region from meeting its air quality goals under the Clean Air Act (CAA).
- This process confirms that transportation investments are consistent with the air quality standards laid out in a state's State Implementation Plan (SIP).
  - The SIP is a plan for a region to meet and/or maintain the National Ambient Air Quality Standards (NAAQS).
  - The SIP includes Motor Vehicle Emissions Budgets (MVEBs), the maximum allowable emissions from on-road vehicles.

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Air Quality Conformity Background

- The Washington, DC-MD-VA non-attainment area (TPB region + Calvert County) only has conformity requirements for ground-level Ozone.
- Vehicles do not emit Ozone directly – it results from two pollutants, Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NO_X), combining in sunlight to form Ozone.
- The MVEBs set limits for these two precursor pollutants.
- The TPB models total mobile source (on-road) emissions to ensure they are below the MVEBs.

Technical Tools and Assumptions

Pollutants	Ozone Season Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_X)
Emissions Model	MOVES4.0.1
Conformity Test	Budget Test: Using EPA approved mobile emissions budgets from the updated 2008 Ozone NAAQS Maintenance Plan
Vehicle Fleet Data	December 2023 vehicle registration data
Geography	8-hour ozone non-attainment area
Network Inputs	Regionally significant projects
Land Activity	Cooperative Forecasts Round 10.0
HOV/HOT	VA: I-66, I-95, I-395, and I-495 are all HOT3+; all HOV facilities will be HOV2+ through 2050 MD: HOV facility on US 50 will remain HOV2+ through 2050; HOV facility on I-270 will convert from HOV2+ to HOT3+ when additional lanes are added;
Roadway Restrictions	Roadway restrictions, such as truck prohibitions, are reflected in the travel model network using information supplied by the Departments of Transportation
Analysis Years	2025, 2026, 2030, 2040, 2045, and 2050
Modeled Area	6,800 square mile area with 3,722 Transportation Analysis Zones (TAZs)*
Travel Demand Model	Gen2/Version 2.4.6

* Analysis reported for the smaller 8-hour ozone non-attainment area

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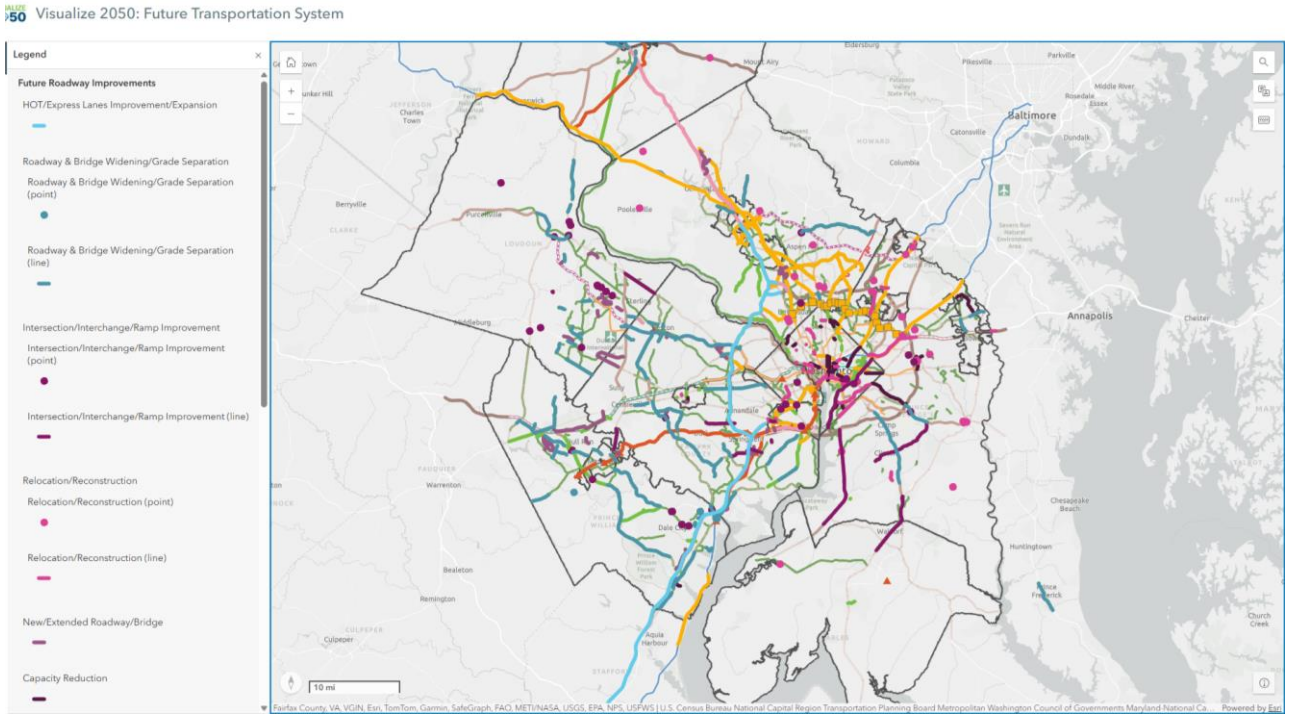
Visualize 2050 Interactive Project Map



- http://www.mwcog.org/V50FutureTransportationMap
- A printed list of the regionally significant for air quality conformity projects is included in the Conformity Report (Appendix B)

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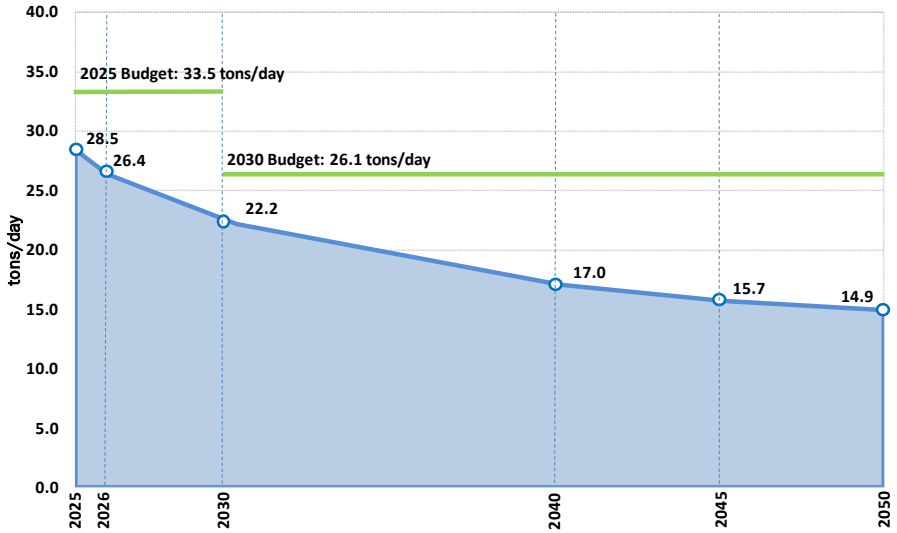
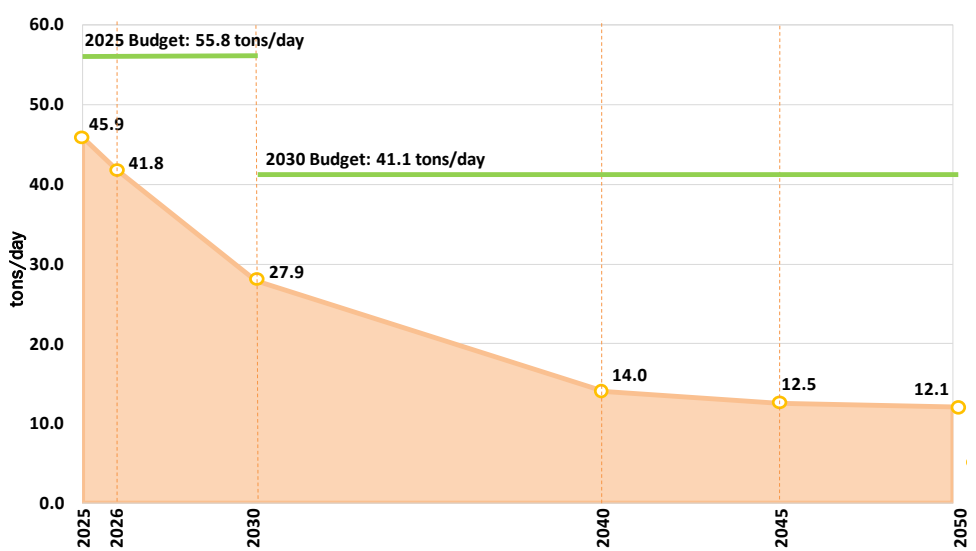
Air Quality Conformity Results

Volatile Organic Compounds (VOCs)



Nitrogen Oxides (NO_X)



- The conformity analysis utilizes the region's travel demand model and the EPA's Motor Vehicle Emissions Simulator (MOVES) to calculate the total emissions of VOC and NO_X.
- For both VOCs and NO_X, total emissions fall below the MVEBs.
- Visualize 2050 conforms to the SIP (passes conformity).

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Air Quality – Next Steps

- On April 4, 2025, the EPA granted a Clean Data Determination (CDD) for the Washington DC-MD-VA Nonattainment Area for the 2015 Ozone standard.
- This means that data from air quality monitors has shown the region has achieved its air quality goals for ozone.
- In response, a Maintenance Plan (MP) with more stringent MVEBs will be developed, outlining how the region will maintain the ozone standard.
- A Redesignation Request (RR) will be submitted along with the MP.
- Once approved, the region will be redesignated from "Non-Attainment" to "Maintenance" of the Ozone NAAQS.

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