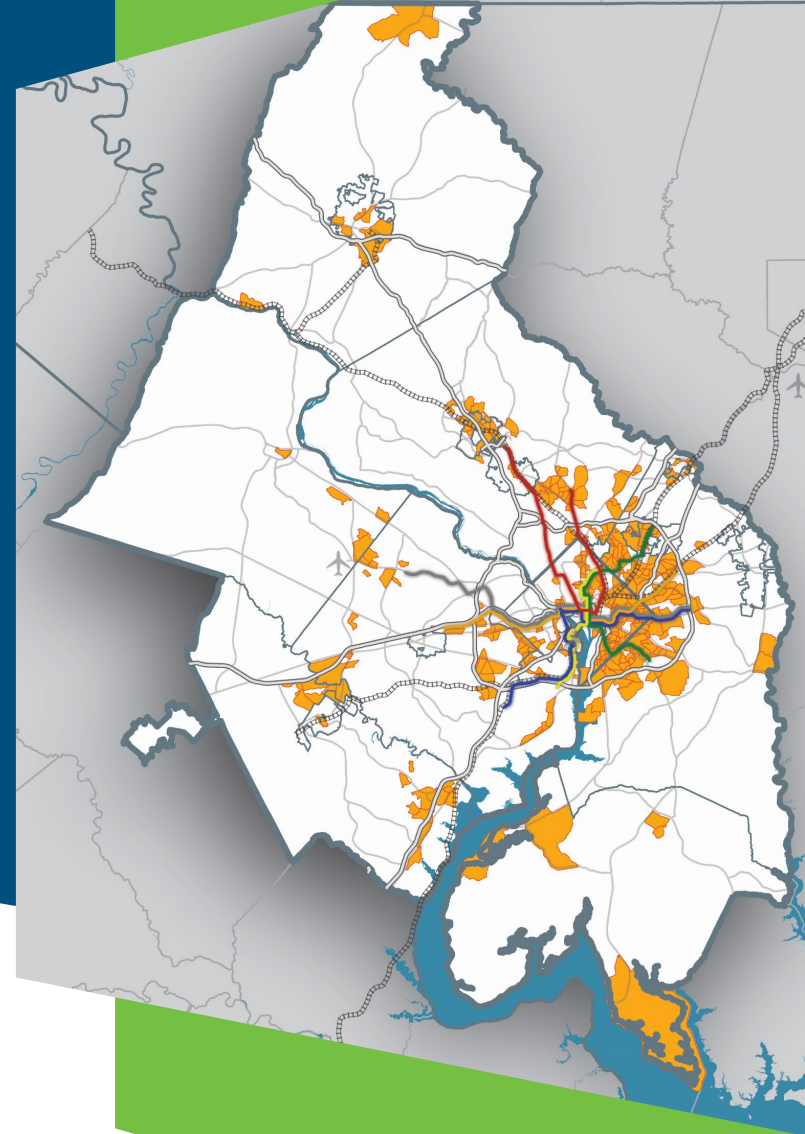


2022 Update to Visualize 2045, FY 2023-2026 TIP and the Air Quality Conformity Analysis

National Capital Region
Commuter Connections Subcommittee
November 15, 2022



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

Presentation Overview



1. Overview of the Visualize 2045 update



2. Why Have a Regional Plan?



3. TDM in Visualize 2045



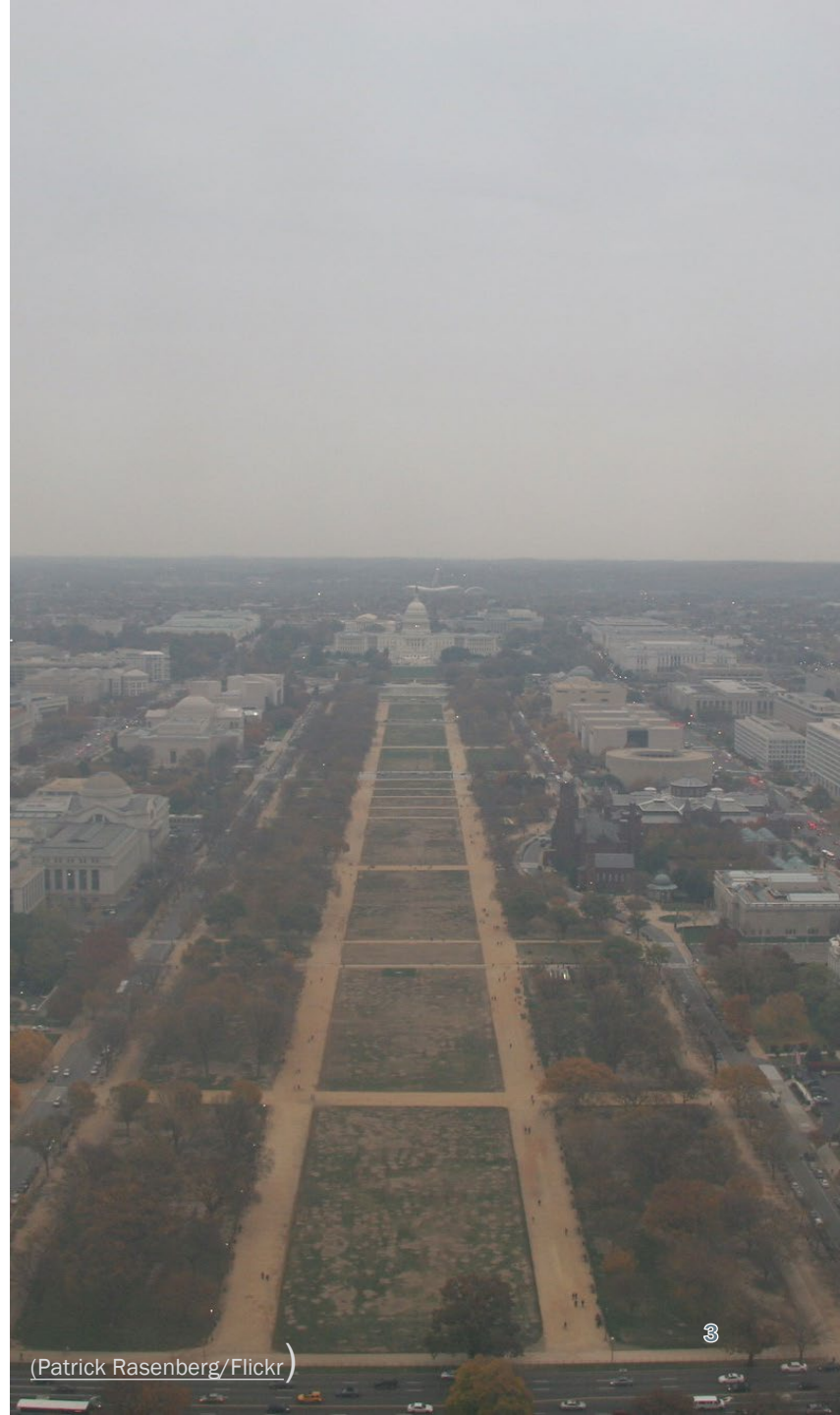
4. Performance Analysis of the Regional Transportation System



5. Resources: Visualize 2045

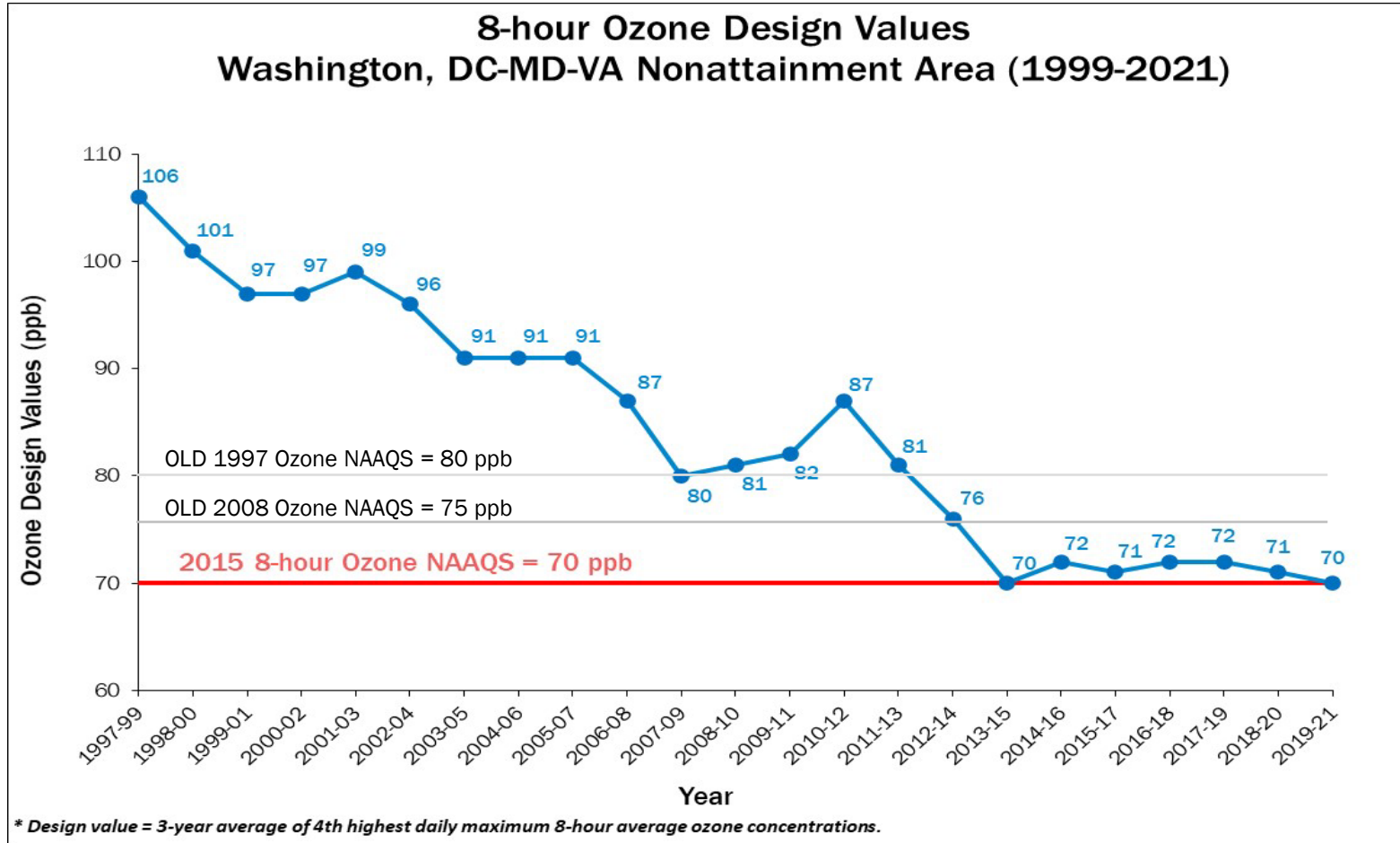
Why Have a Regional Plan?

- Working together toward regional goals:
 - Together, major projects, programs, and policies in the region can improve transportation system performance
- MPOs created to ensure regional cooperation in transportation planning—in particular, to improve air quality



Data from monitors throughout the region

Air Quality Trend 1999-2021



Source: MWAQC Staff

Many Federal Requirements

Federal Planning Factors <ul style="list-style-type: none"> • Preservation of the existing transportation system. • Efficient system management & operation • Integration & connectivity across and between modes • Support the economic vitality of the metropolitan area • Protect & enhance the environment • Increase the security of the transportation system • Support homeland security & safeguard security of all users • Improve resiliency & reliability of transportation system • Increase the safety of the transportation system • Increase accessibility & mobility of people • Increase accessibility & mobility of freight • Enhance travel and tourism. 	Financial Constraint Funds must be reasonably expected to be available.	Air Quality Emissions generated by use of the transportation system in the future must not exceed pollution budgets set by the EPA.
	Public Participation	Performance-Based Planning and Programming <ul style="list-style-type: none"> • Highway Safety • Highway Assets • Highway System Performance • Vehicular Emissions • Transit Asset Management • Transit Safety
	Congestion Management Process Agencies must consider alternatives to adding capacity for single-occupant vehicles	
	Title VI and Environmental Justice	

Why Have a Regional Plan?

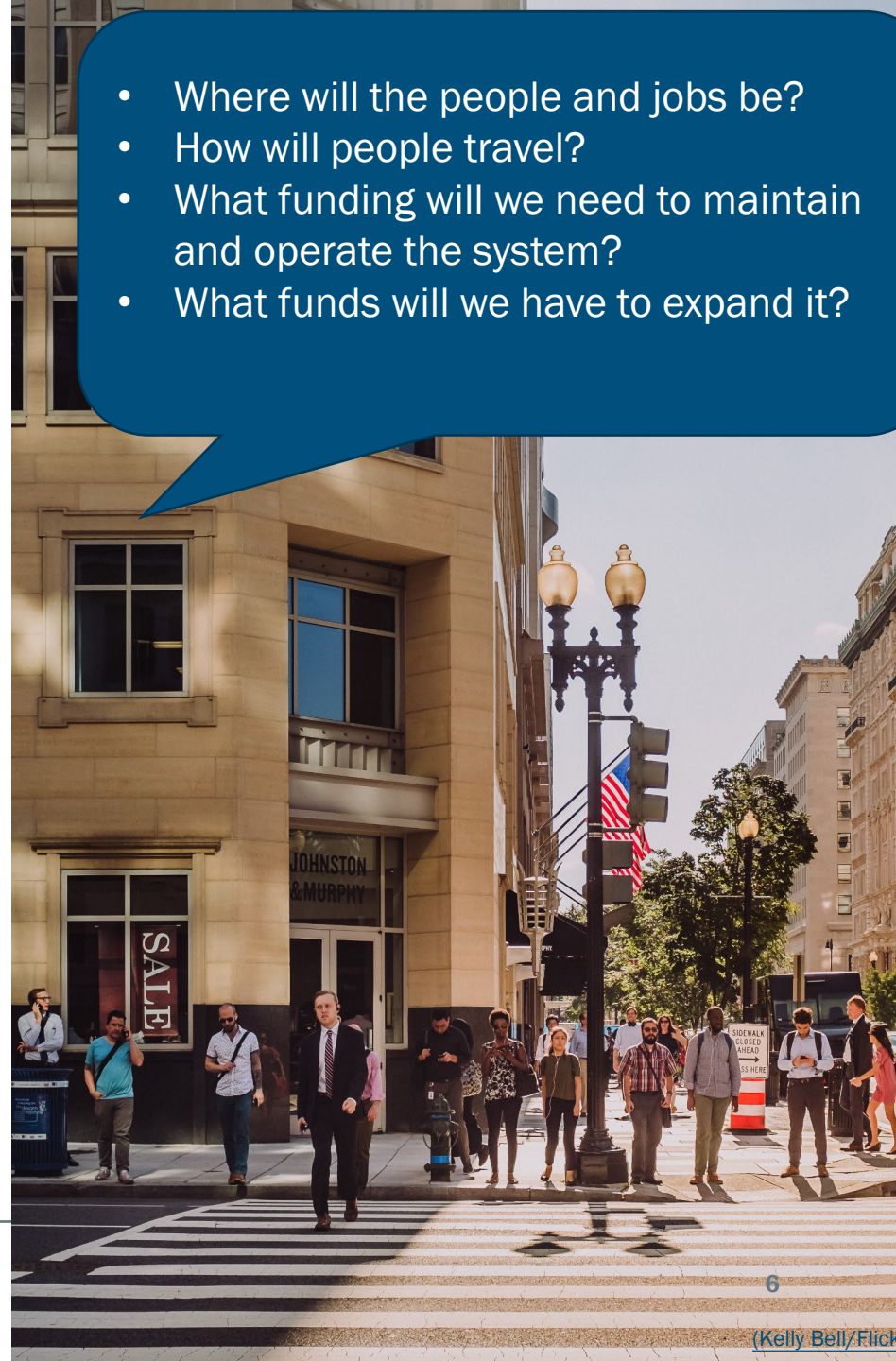
Planning in Times of Uncertainty

Must plan with many factors in mind

- Equity
- Global economy
- Climate change
- New technologies
- Increased urbanization
- Funding
- A global pandemic... and more

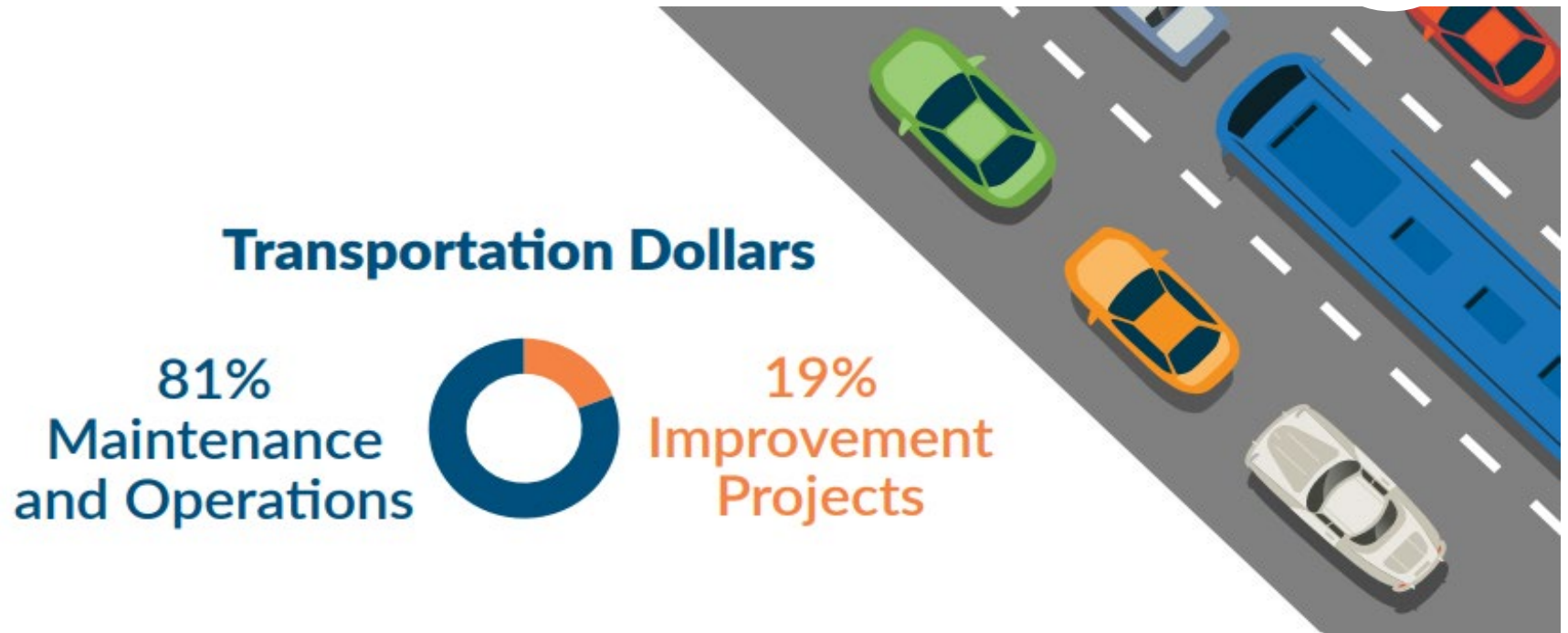
Must develop solutions that are resilient in all futures

- Where will the people and jobs be?
- How will people travel?
- What funding will we need to maintain and operate the system?
- What funds will we have to expand it?



The Challenge

By 2045, metropolitan Washington will be home to 1.3 million more people and about 1 million more jobs.



TPB's Aspirational Initiatives

- 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 Transit
- Complete the National Capital Trail Network

See chapters 6 and 7 for discussion regarding implementation of initiatives

ASPIRATIONAL INITIATIVES FOR A BETTER TRANSPORTATION SYSTEM

A long-range transportation plan for the National Capital Region

THE CHALLENGE

By 2045, metropolitan Washington will be home to **1.3 million** more people and **1 million** more jobs.

Available funding for transportation and the types of planned improvements can't do enough to prevent significant increases in **congestion and travel delays**.

81%
Maintenance and Operations

19%
Improvement Projects

THE SOLUTION

TPB's *Visualize 2045* plan prioritizes initiatives that make the most of every dollar, offering everyone in the region more options for where to live and how to get around. Here's how:

Concentrate land use in Activity Centers where housing, jobs, and transit are close to each other

Circulate people in Activity Centers via safe, accessible travel options for work and play

Connect Activity Centers via high-capacity regional transit and express highways

Aspirational Initiatives

Bring jobs and housing closer together

Increase telecommuting and other options for commuting

Improve walk and bike access to transit

Expand bus rapid transit and transitways

Complete the National Capital Trail Network

Move more people on Metrorail

Expand the express highway network

THE IMPACT

<p>Improved quality of life</p> <ul style="list-style-type: none"> ▶ Vibrant, mixed-use communities ▶ More and affordable housing options ▶ More time with family and friends 	<p>More ways to get around</p> <ul style="list-style-type: none"> ▶ Equitable, accessible, safe choices ▶ Shorter trips ▶ Options to walk, bike, drive, and take transit to work and play 	<p>Improved economic competitiveness</p> <ul style="list-style-type: none"> ▶ More reliable and reduced travel times ▶ More efficient movement of goods ▶ Greater access to employment opportunities
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Source: TPB

National Capital Region
Transportation Planning Board

Plan Together. Prosper Together.
Back local transportation projects that support these efforts.

visualize2045.org

Think regionally, act locally.

Two Parts of Visualize 2045

Plan's Constrained Element

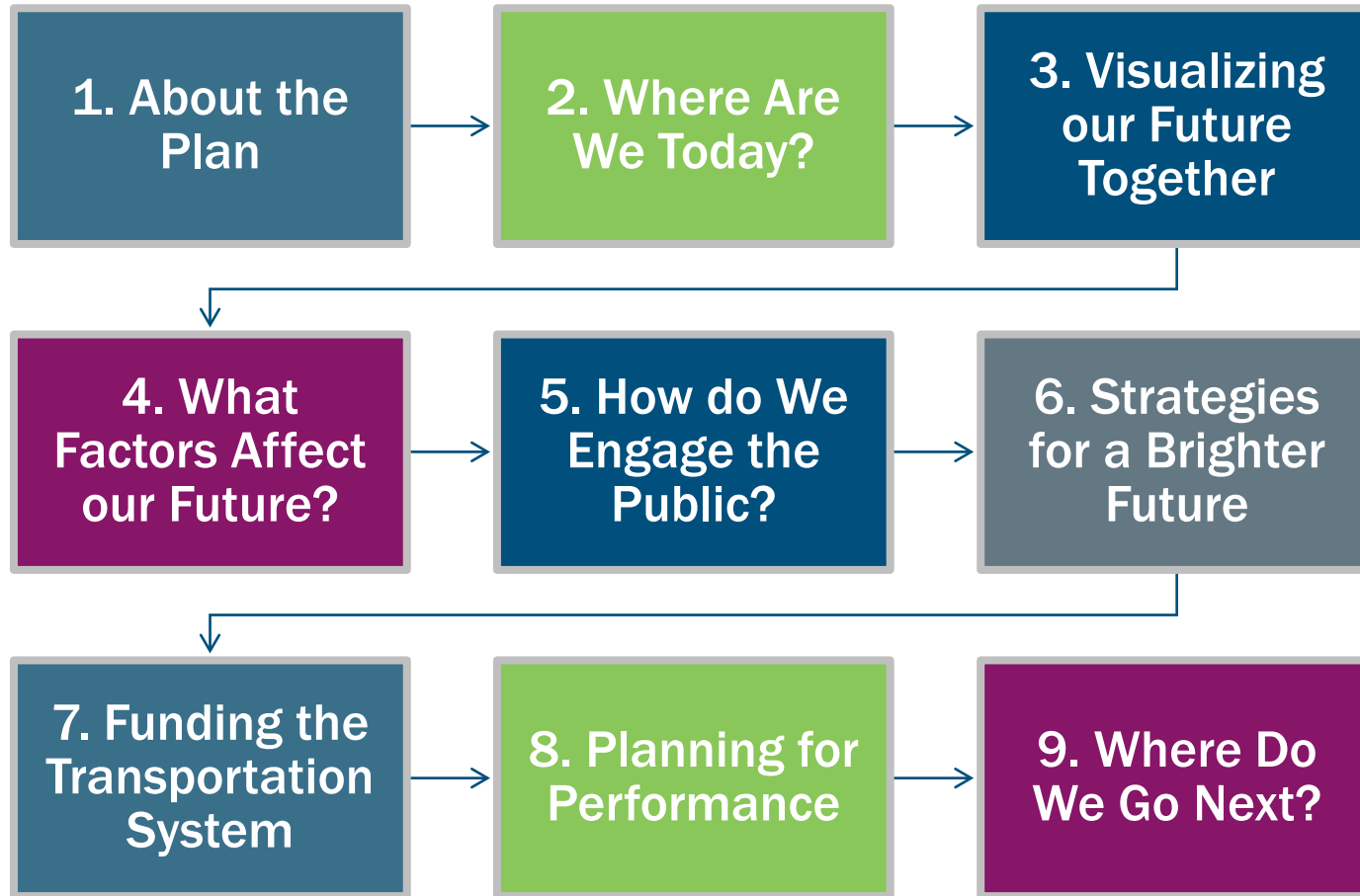
- Regionally-significant projects from approved local plans
- Projects are vetted through local planning processes
- Constrained by what we can afford over years of the plan and analysis requirements

Rest of the Plan

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

Plan Organization: Nine Chapters

Includes Climate Change Mitigation



Chapter 6: Strategies for a Brighter Future

Aspirational Initiatives

Transportation Options:

- TDM
- Bike/Ped/Micromobility
- Transit (new) including Intercity bus
- Driving and Riding (new)
- Airport Systems

Equity considerations and planning discussed in each section

Future Factors/Federal Planning Factors

- Equity and Inclusion
- Coordinated Human Transportation Services Plan
- Climate Change Mitigation and Resiliency
- Environmental Consultation and Mitigation
- Safety
- Land-Use (including affordability and HCT/EEA planning)
- Freight
- Funding
- Public Health
- Management and Operations
- Emerging Technology/CAV
- Emergency Preparedness and Transportation Security
- Travel and Tourism

The Role of TDM

- The TPB has evaluated TDM in scenario planning studies and found the collection of strategies to be some of the most effective for meeting the TPB's mobility and accessibility goals.
- The TPB carries out a Congestion Management Process (CMP), TDM and transit strategies are some of the primary strategies to support congestion management

TDM and Commuter Connections in Visualize 2045

In Visualize 2045, TDM shows up in in numerous ways:

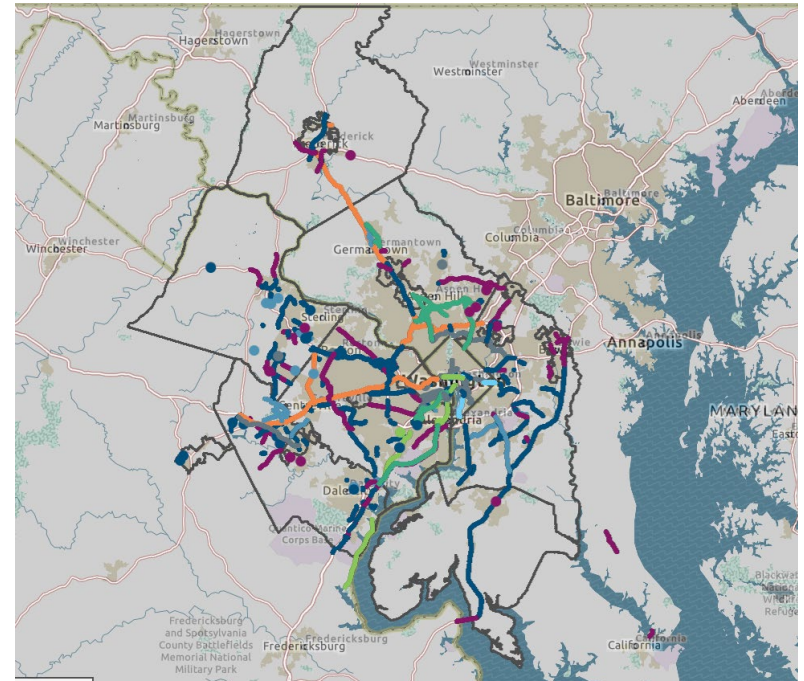
- TDM was considered in the public participation activities (survey, focus groups, interactive sign w/QR code event)
- TDM is highlighted in Chapter 6, the Strategies section
- TDM is considered a priority strategy endorsed by the TPB as one of its “Aspirational Initiatives”
 - See infographic and animated videos on these initiatives
- TDM is documented as a CMP strategy in Chapter 8

Plan Appendices

A. Financial Plan	B. Summary of Projects in the Fiscally Constrained Element	C. Air Quality Conformity Analysis	D. Systems Performance Report	E. Congestion Management Process – impact on plan development
F. Safety Planning	G. Environmental Consultation and Mitigation	H. Public Participation Summary	I. Summary of Public Comments	J. Summary of Transit Plans (TDP/TSP) in Region
	K. Federal Compliance Checklist	L. TPB Resiliency Study Whitepaper	M. TPB Climate Change Mitigation Study	

Financially Constrained Element

- Includes more than 100 major projects that expand or change the region's highway or transit system capacity ...and hundreds more
- See Appendix B: Summary of Projects in the Financially Constrained Element for more details



New Interactive Project Map
<https://www.mwcog.org/maps/map-listing/visualize-2045-project-map/>

The Region's Biggest Project – Metro

- WMATA expenditures are 45% of total plan – about \$101 Billion
 - State of Good Repair: \$33.2 Billion
 - Operations: \$64.5 Billion
- Expansion: \$3.2 Billion, funded through the jurisdictions in where the projects are located



Performance Results and the TPB Policy Framework

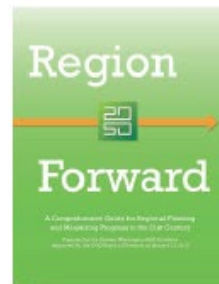
The TPB measures performance as one way of tracking progress on the goals and priorities presented in the TPB Policy Framework

The Evolution of the TPB Policy Framework

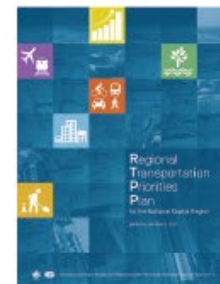
1998



2010



2014



2018



The Region Will Continue To Grow...

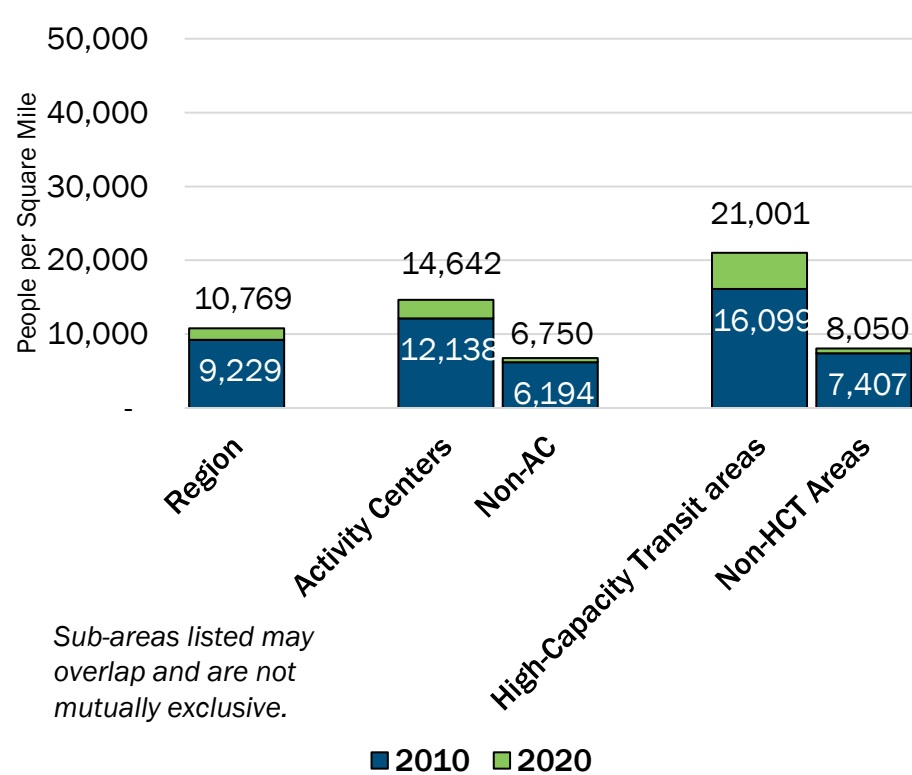
About 80% of 2045 land-use is already in place. Activity Centers will contain 67% of jobs (up from 66%) and 35% of the population (up from 29%), Bringing Jobs and Housing Closer Together.

	Today	2045	
People	5.7 M	7.0 M	↑23%
Jobs	3.4 M	4.3 M	↑25%

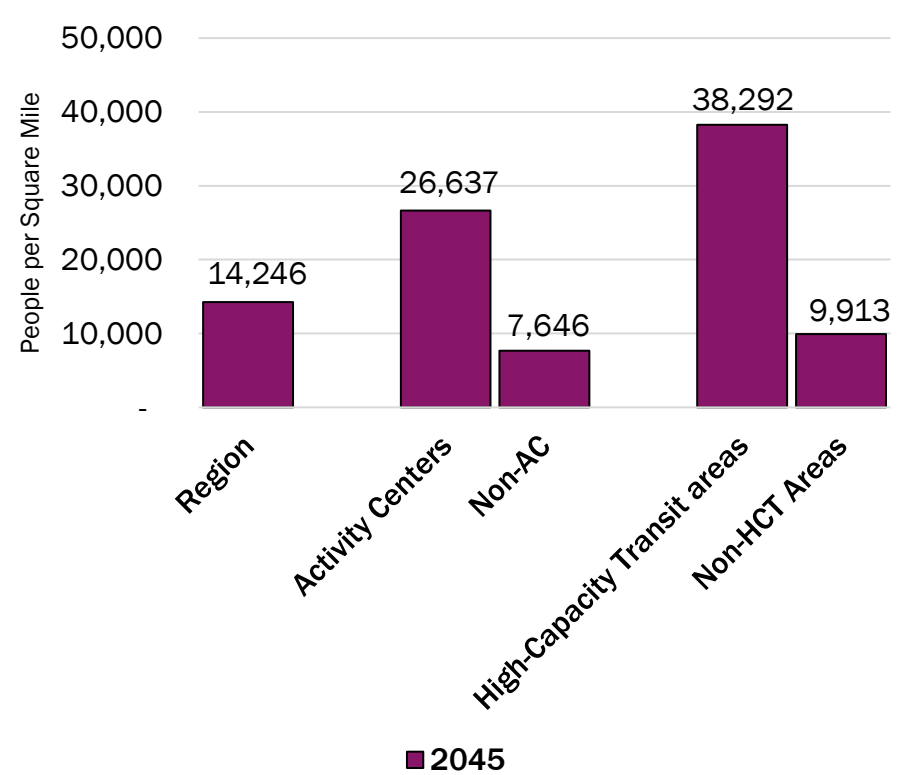


...and Increase in Density

Evidence suggests the region is making progress towards goal to concentrate land-use in the right areas, like Activity Centers and High-Capacity Transit areas.



Note: Staff analysis of U.S. Decennial Census Block Groups



Note: Staff analysis of COG Cooperative Forecast Transportation Analysis Zones

By 2045, More than 1/4 of People and 1/2 of Jobs will be Close to High-Capacity Transit

% of Population and Jobs in Proximity to High-Capacity Transit

	Today	2045	
People	18%	27%	↑26%
Jobs	41%	49%	↑25%

Proximity:

0.5-mile radius from High-Capacity Transit

High-Capacity Transit:

- Metrorail
- Commuter Rail
- Streetcar
- Light Rail
- Bus Rapid Transit



How is travel
expected to change
in the region over
time?

Driving in the Region to Decline Per Capita

↑ **18.9%** • While **population** is forecast to grow in this region

↑ **15.4%** • The **Vehicle Miles Traveled (VMT)** increase at a lower rate

↓ **-5.6%** • As a result, **VMT per capita** of region residents declines by more than 5%. Residential vehicle use has the most potential for change compared to other uses, such as commercial.



Delay and Congestion Continue Impacting the Region

New roadway projects will make a difference, but delay and congestion will continue to be a part of life in this region.



- Major increases without implementing the Plan:
 - Delay: **↑80%**
 - Congestion: **↑58%**
- Still increases but less so by implementing the Plan:
 - Delay: **↑48%**
 - Congestion: **↑31%**

Avoiding Congestion and Delay: More Travel on Reliable Modes

Travel in the region on reliable modes that are represented by the Aspirational Initiatives will increase from **11% to 15%**. These options are less impacted by congestion and delay.



“Reliable modes:”

- Metrorail, Commuter Rail, Light Rail, Streetcar
- Express toll lanes with dynamic toll rates
- HOV lanes
- Inter-County Connector
- Dulles Airport Access Road
- Bus Rapid Transit
- Long-haul express buses
- Bike/Ped travel



(BeyondDC/Flickr)



Most of Work Trips will be Driving Alone, 1/4 of Work Trips on Transit

Mode Share, 2045 Build

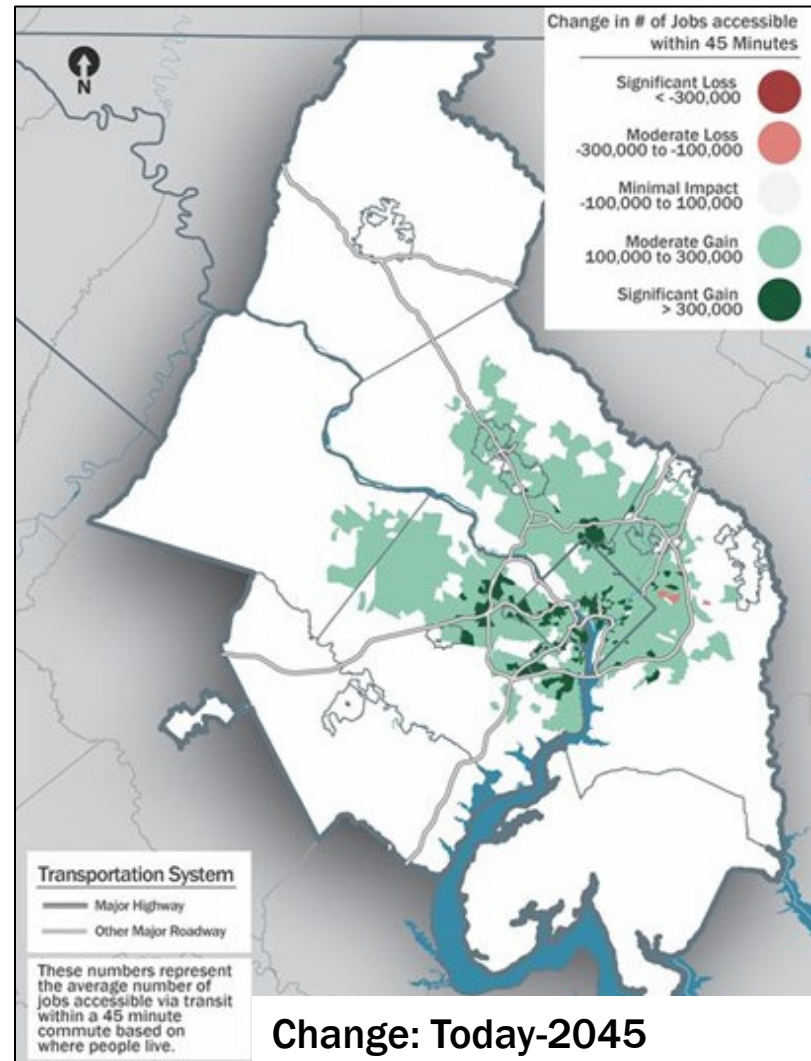
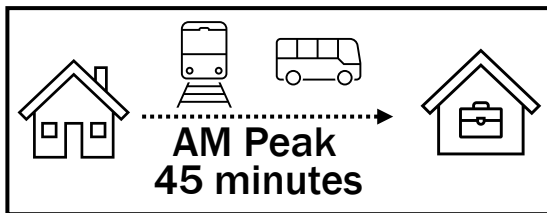
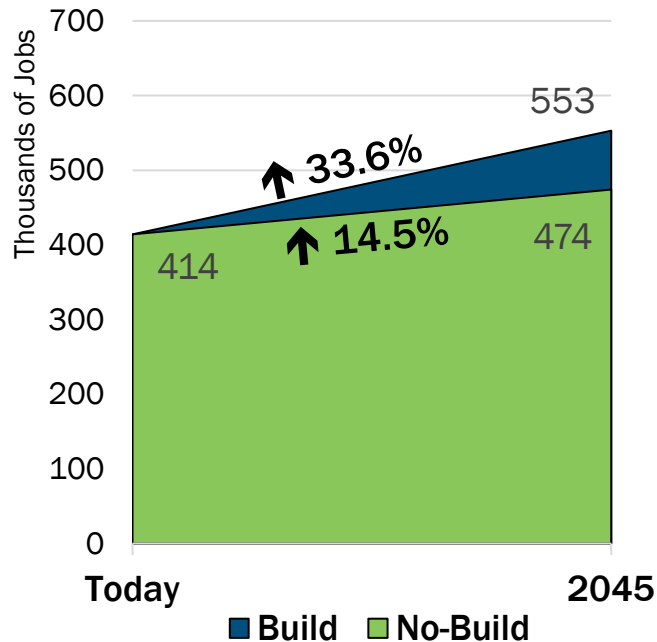


Taking Transit to Work Increases When Readily Available & Serving Density

By 2045, in the Region's Core, majority of work trips will be on transit (53%) and nearly a quarter in the Inner Suburbs, compared to 6% in Outer Suburbs

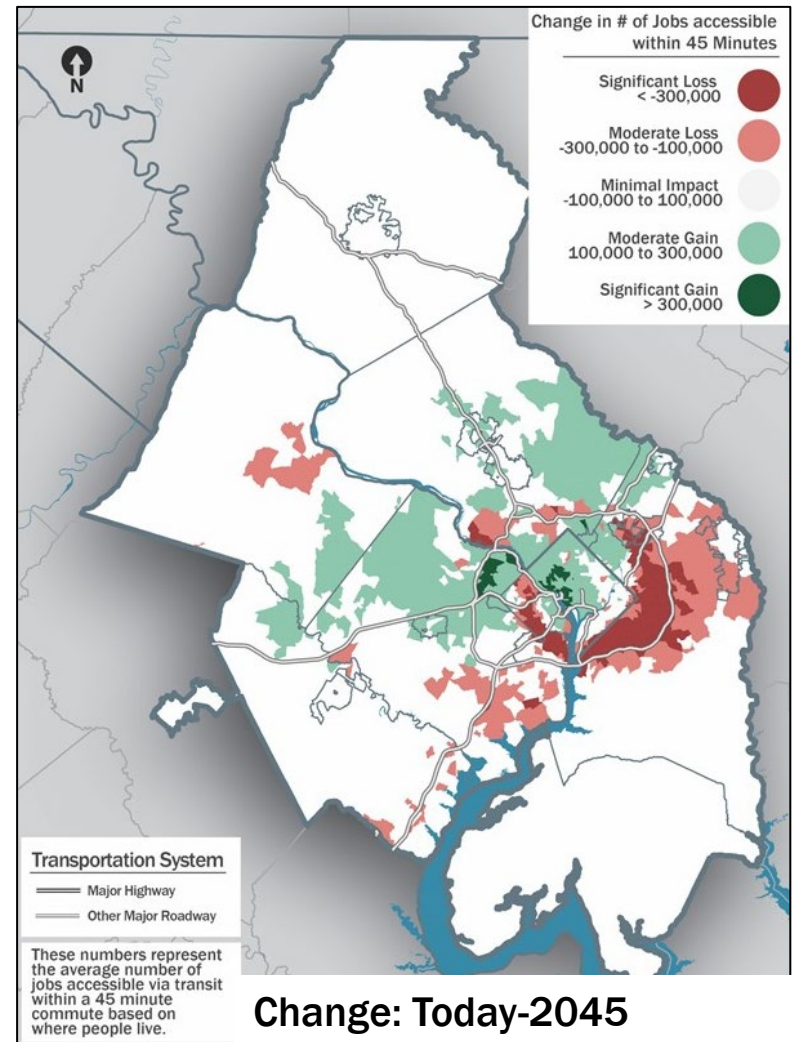
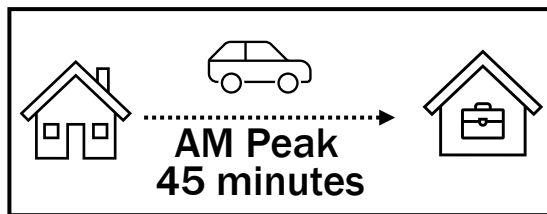
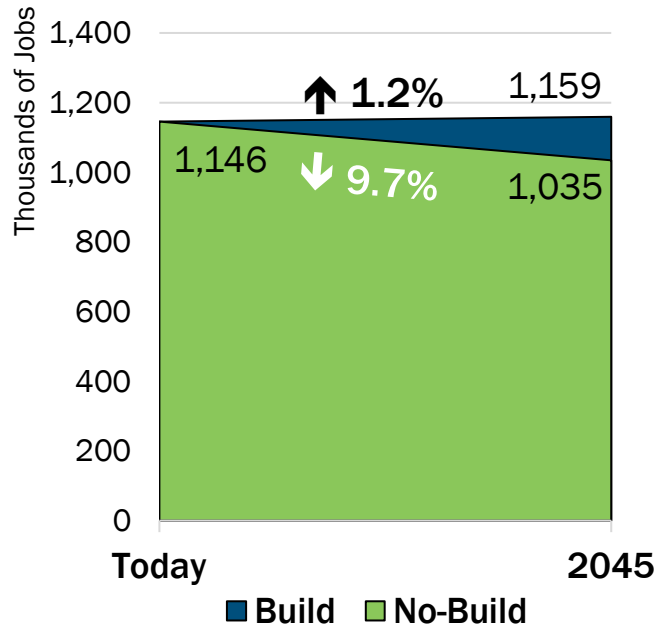


Change in Access to Jobs, Transit



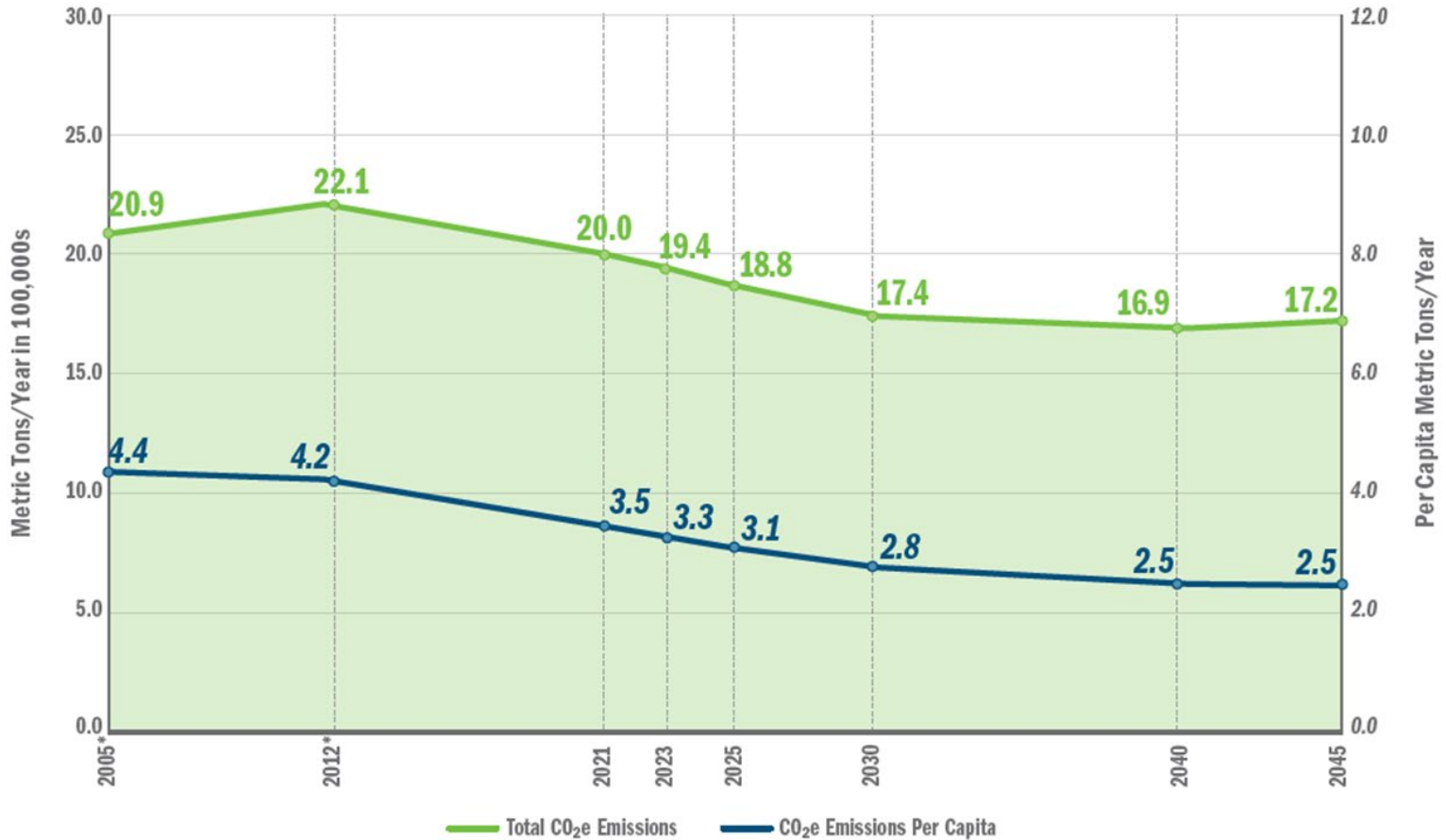
Change: Today-2045

Change in Access to Jobs, Auto



Forecast Greenhouse Gases

Greenhouse Gas Mobile Source Emissions CO₂e and CO₂e Per Capita



*NOTE: 2005 and 2012 are historic estimates.

5. Getting the Word Out

Materials to View and Share:

- visualize2045.org
- **Infographics and Animated videos:**
 - <https://visualize2045.org/plan-update/resources/>
 - **The Voices of the Region Story Map**
 - <https://www.mwcog.org/maps/map-listing/voices-of-the-region/>
- **The Visualize 2045 Interactive Project Map**
 - <https://www.mwcog.org/maps/map-listing/visualize-2045-project-map/>

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