

Air Quality Conformity

Visualize 2045 Long Range Transportation Plan Air Quality Conformity Analysis

Presentation for the
Metropolitan Washington Air Quality Committee
Technical Advisory Committee
September 11, 2018
Item 3

Jane Posey, TPB Transportation Engineer



Long Range Transportation Plan

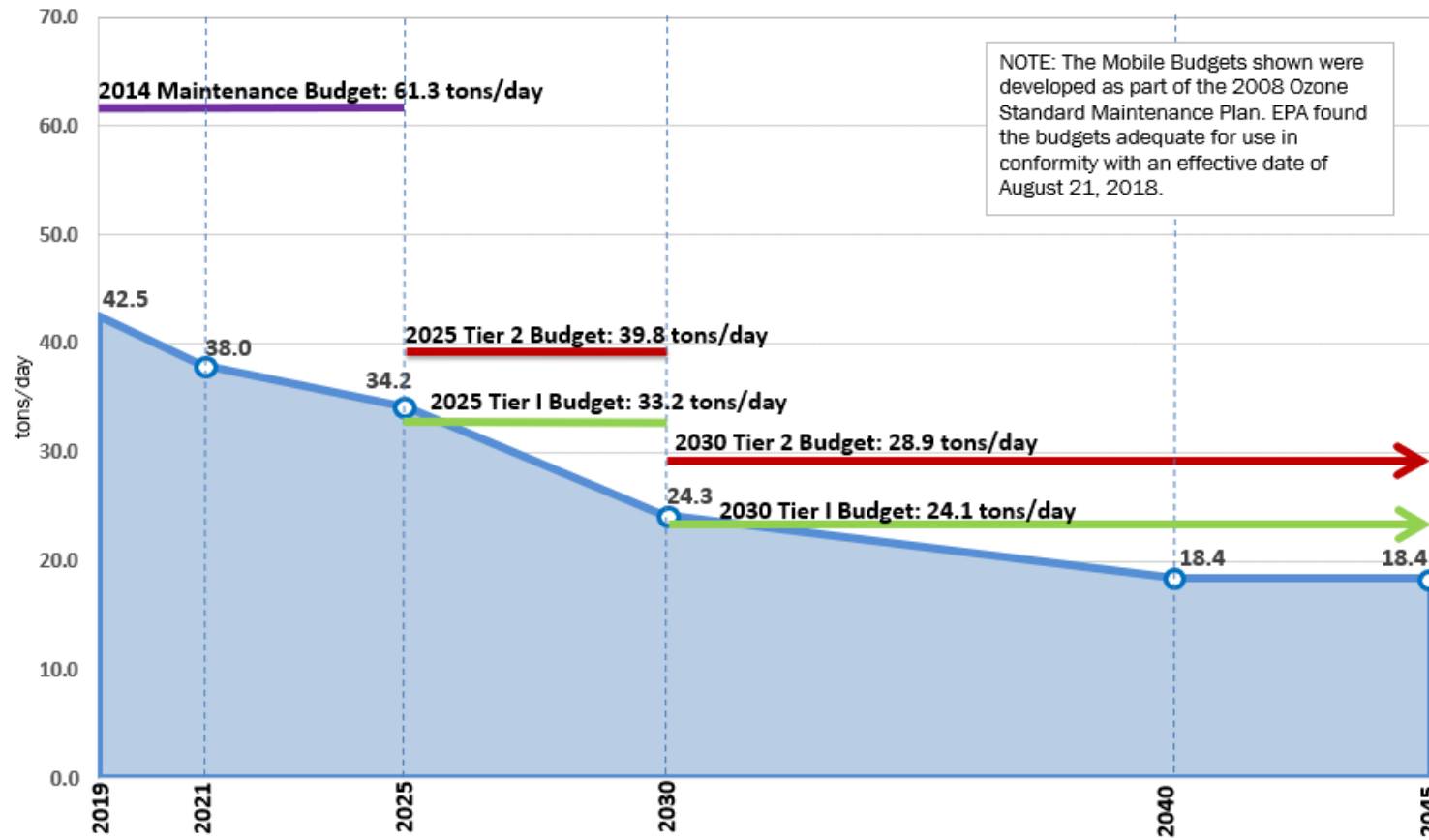
Visualize 2045

- Federally Mandated Quadrennial Update
- New 2045 Out Year
- Updates to financial plan, demographics, modeling tools, projects/programs/policies
- Uses New 2008 Ozone Maintenance Plan Mobile Emissions Budgets
- Regional Priorities Reflected in Update Include:
 - ✓ Increased Housing to Improve Economic Competitiveness
 - ✓ Improved Metrorail reliability
 - ✓ Reduced Congestion



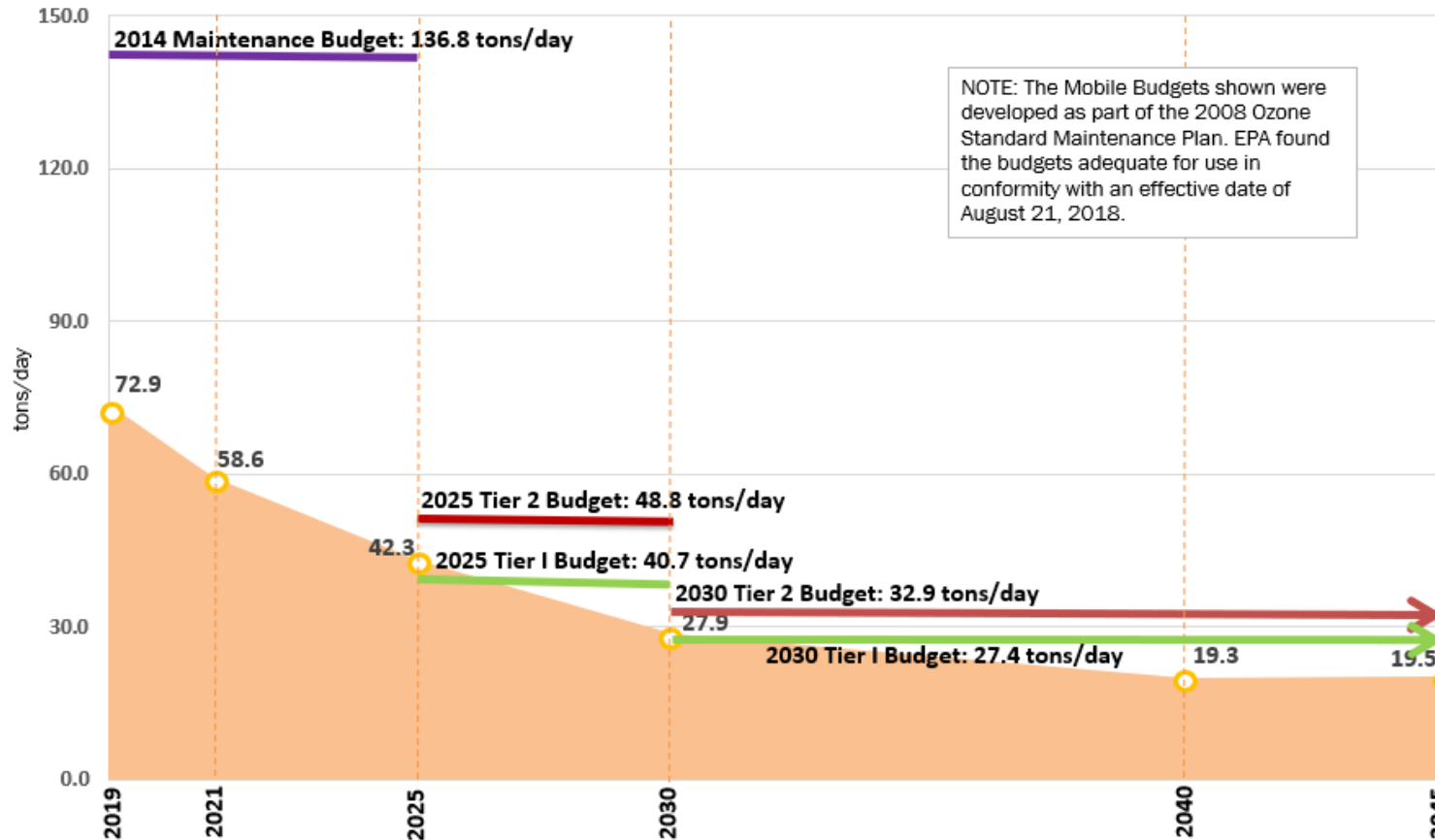
Air Quality Conformity: Findings

Mobile Source Emissions and Mobile Budgets Ozone Season VOC



Air Quality Conformity: Findings

Mobile Source Emissions and Mobile Budgets Ozone Season NOx



Air Quality Conformity

From the August 6, 2018 Federal Register – Notice of Adequacy Finding for the Mobile Budgets in the 2008 Ozone Maintenance SIP:

“The MVEBs ...that include a transportation buffer will be used only as needed in situations where the conformity analysis must be based on *different data, models, or planning assumptions, including, but not limited to, updates to demographic, land use, or project-related assumptions,* than were used to create the first set of MVEBs in the maintenance plan”



Conformity Inputs: MP vs Visualize

	Maintenance Plan Mobile Budgets	Visualize 2045 Conformity Emissions
Cooperative Forecasts	Round 9.0	Round 9.1
Vehicle Fleet	2014 VIN	2016 VIN
Travel Demand Model	Version 2.3.66	Version 2.3.75
Project Inputs	2016 CLRP	Visualize 2045
Metrorail Constraint	yes	no



Conformity Inputs: Demographics

Cooperative Forecasts (2018-2045)

Round 9.0 → Round 9.1

12K ▲ households (policy action by 3 States to increase housing in the region)

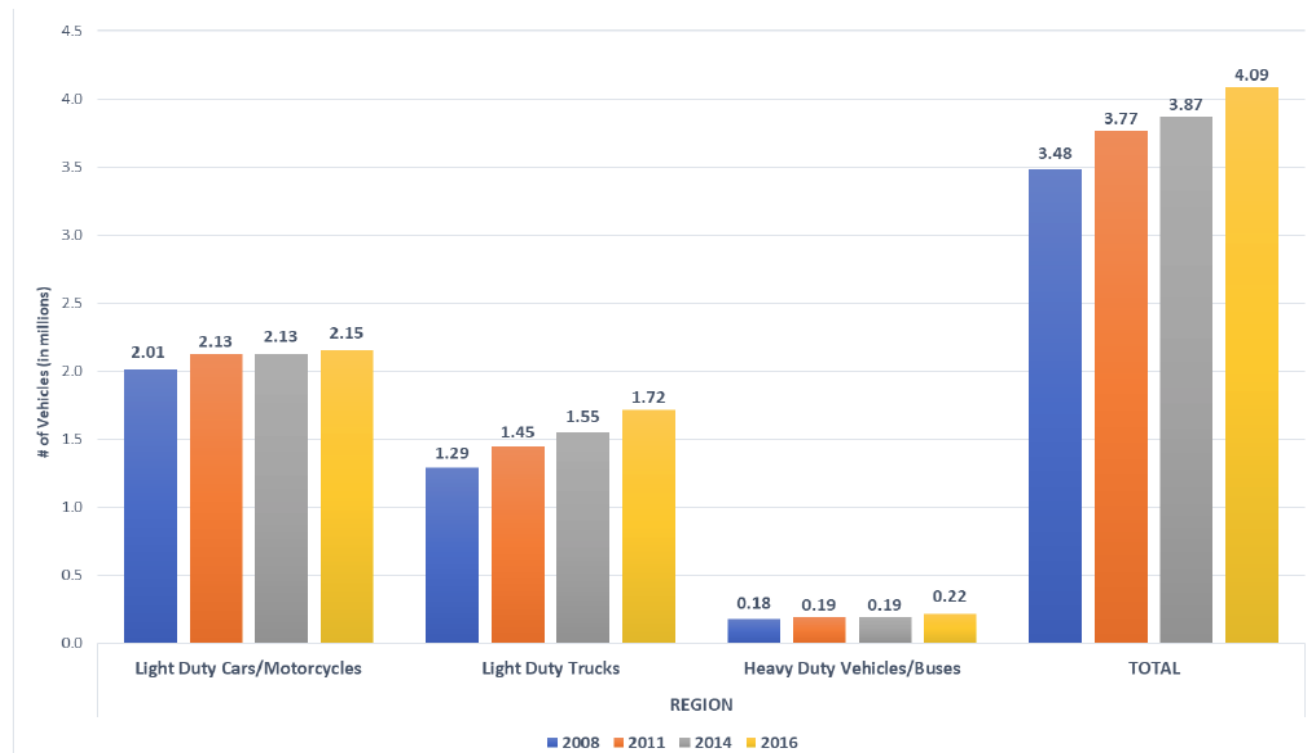
40K ▲ population

8K ▼ jobs, but
14K ▲ jobs in 2025
11K ▲ jobs in 2030



Conformity Inputs: Vehicle Fleet

2014 VIN vs 2016 VIN Historical Growth in Vehicles By Type



* Based on Decoded Records



Conformity Analysis: Travel Model

Travel Demand Model v2.3.66 → v2.3.75

- Improved accuracy of airport trip modeling
- Enhanced managed lanes modeling



Conformity Inputs: Projects/Programs

2016 CLRP → Visualize 2045

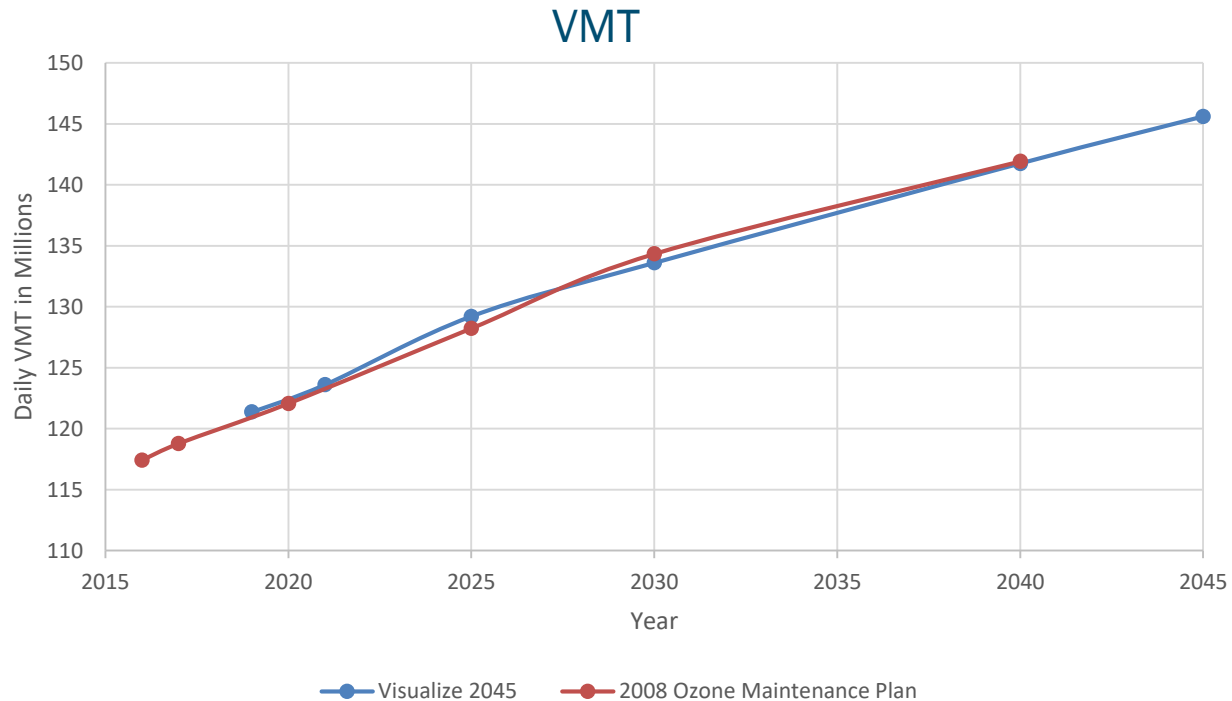
- New Managed Lanes on I-270 and MD Beltway
- VA Beltway Express Lanes Connection with MD Beltway
- New BRT – Five Corridors in Montgomery County
- Metrorail Core Capacity Improvements (\$5.4 Billion)*
- US 301 Widening
- Bike Lane Corridors in the District

*Allowed for removal of “transit constraint”



Conformity Results: MP vs Visualize

TRAVEL DEMAND OUTPUT* Visualize 2045 vs 2008 Ozone Maintenance Plan



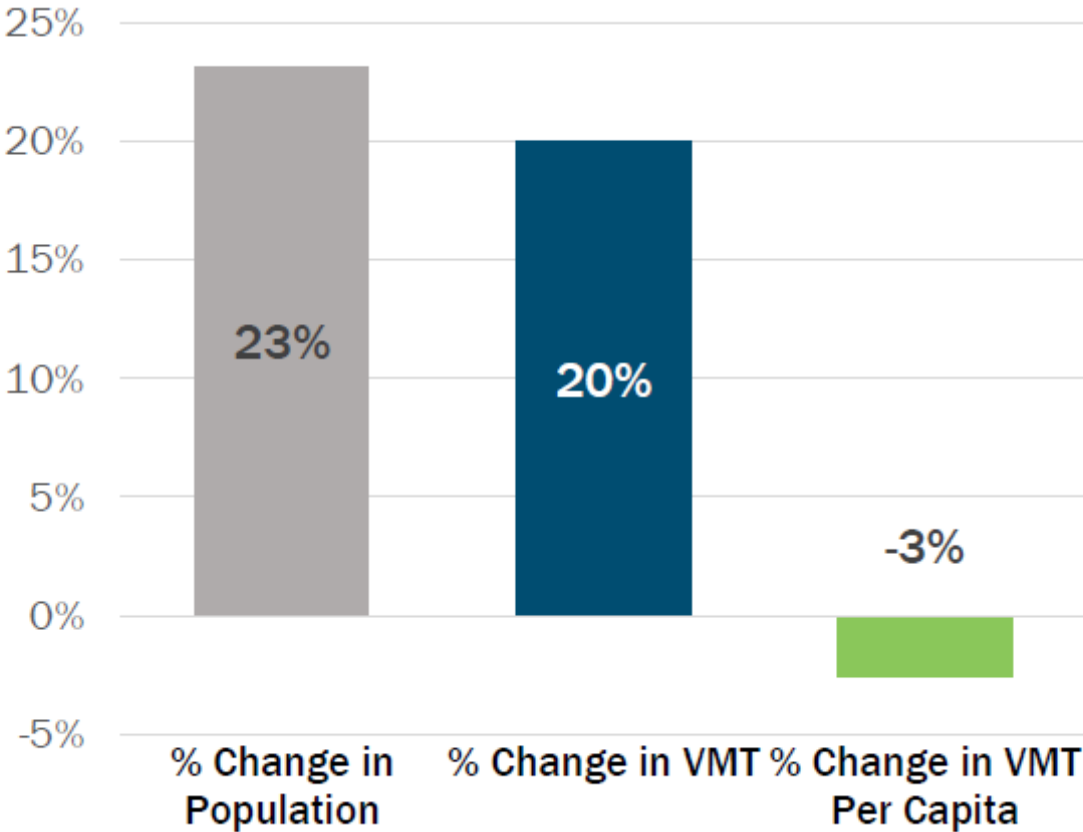
* For TPB Planning Area



Conformity Results

VMT Per Capita

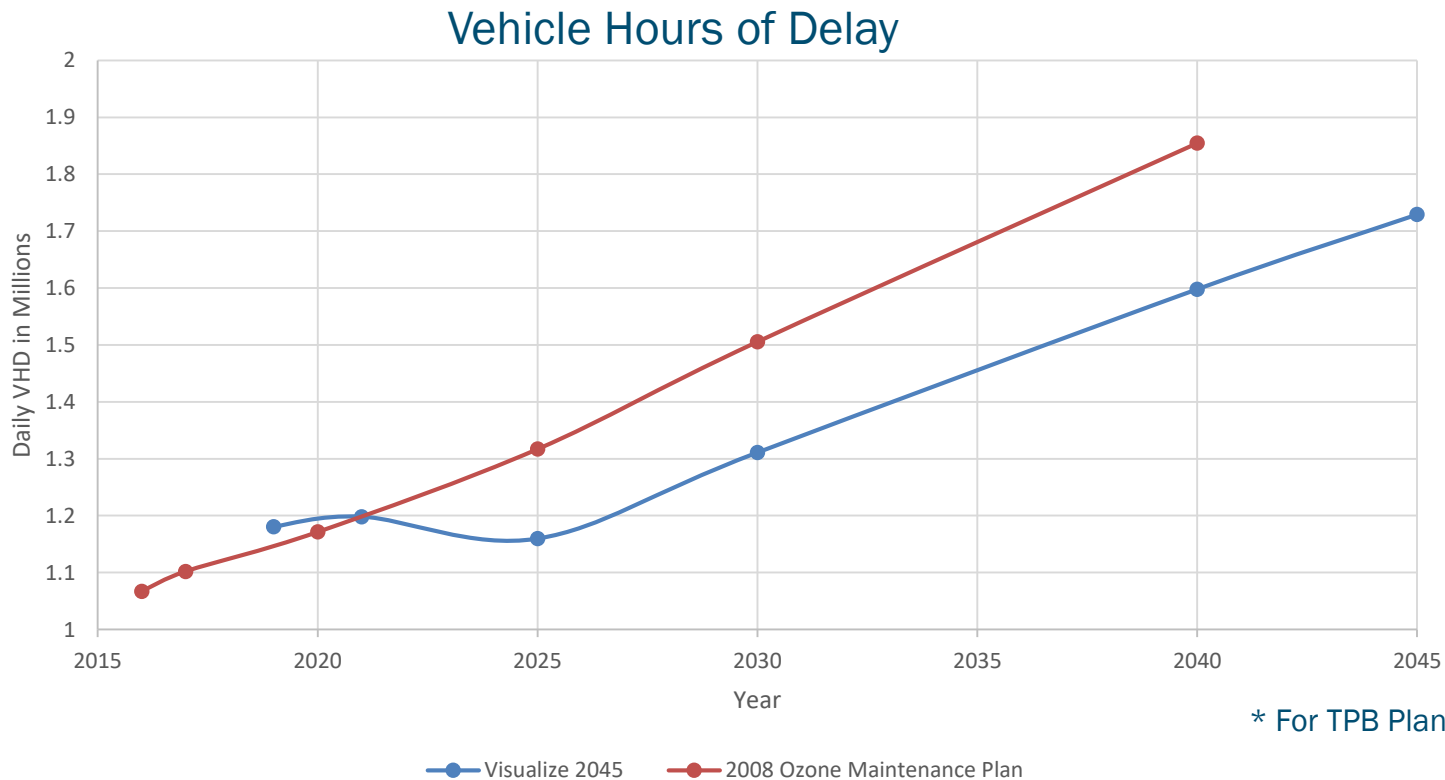
(Today - 2045)



Conformity Results: MP vs Visualize

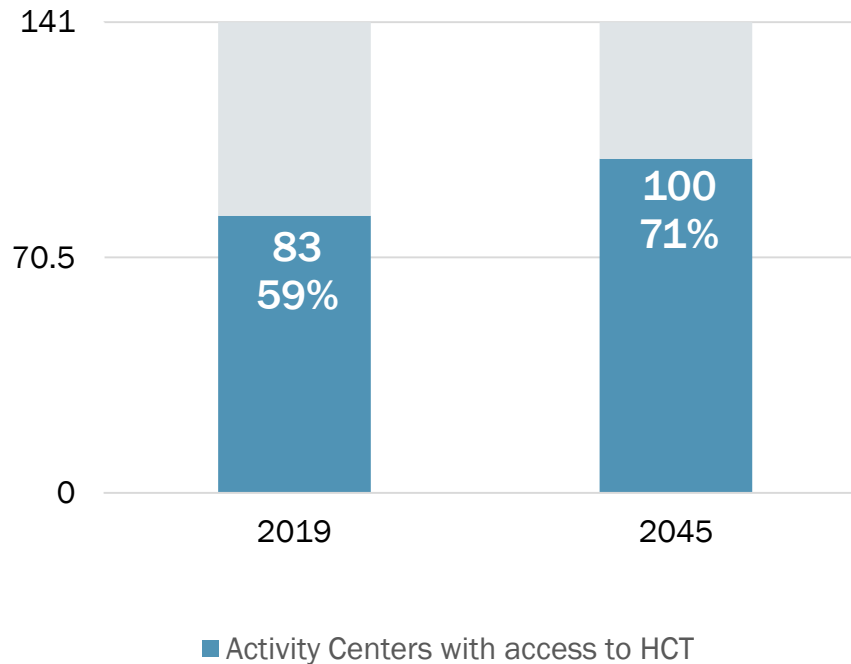
TRAVEL DEMAND OUTPUT*

Visualize 2045 vs 2008 Ozone Maintenance Plan



Conformity Results

More Activity Centers connected to High-Capacity Transit

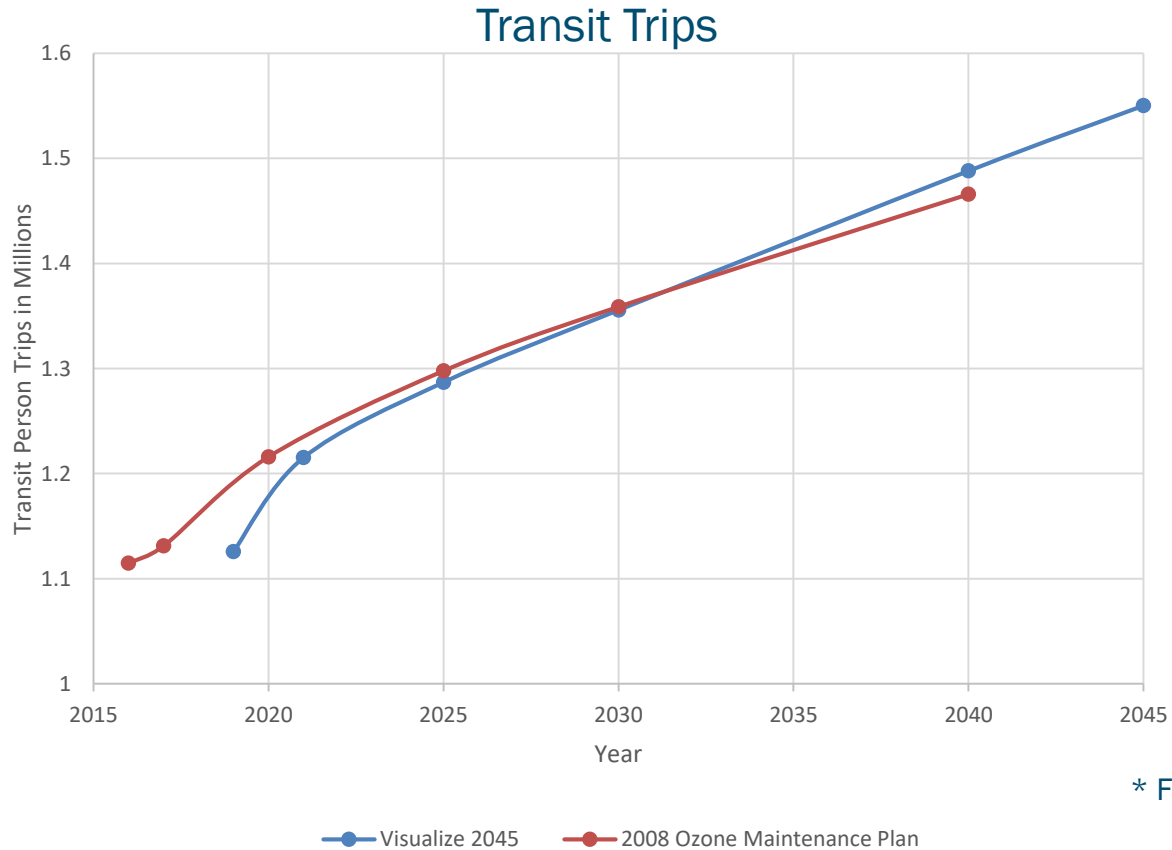


* "Proximity" defined as within one mile of rail or within ½ mile of BRT.



Conformity Results: MP vs Visualize

TRAVEL DEMAND OUTPUT* Visualize 2045 vs 2008 Ozone Maintenance Plan



Conformity Results: Sensitivity Test

VIN Sensitivity Test: 2025 Analysis Year

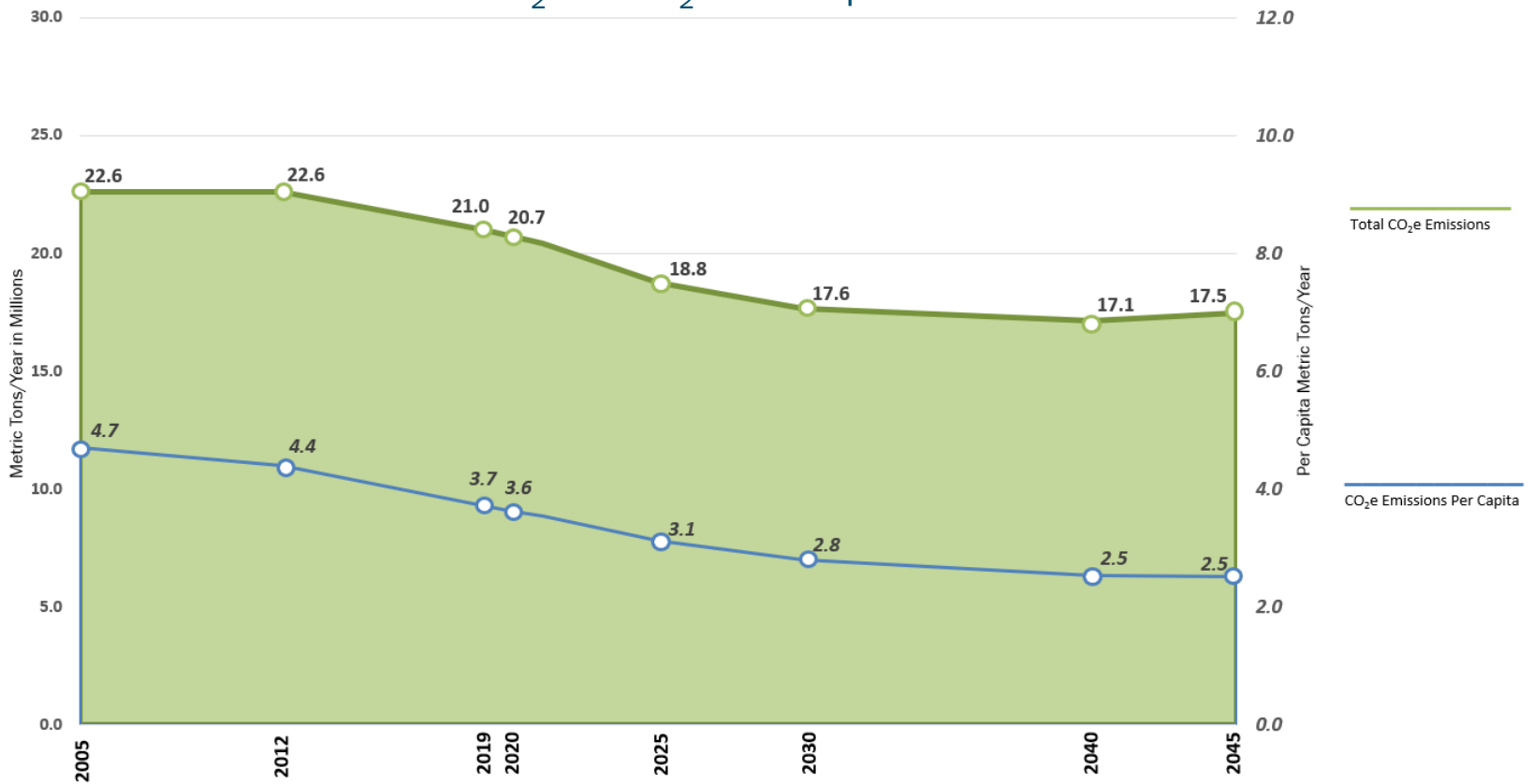
EMISSIONS VS TIER 1 MOBILE BUDGETS

	2025 Tier 1 Mobile Budgets (tons/day)	2016 VEHICLE FLEET			2014 VEHICLE FLEET		
		Conformity Analysis (tons/day)	Conformity Analysis Difference (tons/day)	Conformity Analysis Percent Diff	VIN Sensitivity Test (tons/day)	Sensitivity Test Difference (tons/day)	Sensitivity Test Percent Diff
VOC	33.2	34.188	0.988	3%	33.608	0.408	1%
NOx	40.7	42.321	1.621	4%	40.5	-0.2	-0.5%



Greenhouse Gases

Visualize 2045
Greenhouse Gas
Mobile Source Emissions
CO₂ and CO₂ e Per Capita



Air Quality Conformity

Next Steps...

- Comment Period: Sept 7- Oct 7
- Presentation to TPB: Sept 21
- Presentation to MWAQC: Sept 26
- TPB Asked to Approve the Conformity Analysis, the Visualize 2045 Transportation Plan, and the FY2019-2024 TIP: Oct 17

