

Air Quality Conformity Analysis

FY2021-2024 Transportation Improvement Program & 2020 Amendment to the Visualize 2045 Long Range Transportation Plan

Jane Posey
TPB Transportation Engineer

March 12, 2020
TPB Citizens Advisory Committee



Minor Update to the Plan

❖ No Financial Analysis

❖ No Performance Analysis



Pollutants

- ❖ Volatile Organic Compounds (VOC)
- ❖ Nitrogen Oxides (NO_x)

- ❖ Greenhouse Gases

NOTE: Greenhouse gases are analyzed to track regional trends.
They are not officially part of the conformity analysis.



Technical Approach

Analysis Years:

2019, 2021, 2025, 2030, 2040, 2045



Technical Approach

Key Technical Inputs and Tools:

- ❖ Round 9.1a Cooperative Forecasts – *NEW*
- ❖ “Regionally Significant” Transportation Projects - *NEW*
- ❖ Version 2.3.78 Travel Demand Model
- ❖ 2016 Vehicle Registration Data (VIN)
- ❖ EPA’s MOVES2014b Mobile Emissions Model



Major Project Changes- District of Columbia

❖ Bicycle Lanes, Districtwide

- 9th St. NW from Florida Ave. to Constitution Ave.
- Dalecarlia Pkwy. NW from Loughboro Rd. to Westmoreland Circle
- Florida Ave. NE from 2nd St. to 14th St.
- K St. NE from 1st St. to 8th St.
- M St. SE from Half St. to 11th St.
- Mount Olivet Rd. NE from Brentwood Pkwy. to West Virginia Ave.
- Nebraska Ave. NW from New Mexico Ave. to Loughboro Rd.
- Pennsylvania Ave. SE from 2nd St. to 17th St.

❖ Peak Period Bus-Only Lanes

- H St. NW from 14th St. to 19th St.
- I St. NW from 13th St. to Pennsylvania Ave.

❖ K ST. NW Transitway

- Construct two segments from 9th St. to 12th St. and from 12th St. to 21st St.



Major Project Changes- Virginia

- ❖ Modify I-495 Capital Beltway Express Lanes
 - Construct 3 additional ramps near Dulles Toll Road interchange
 - Continuation of Peak Period NB Shoulder Lane

- ❖ Construct reversible ramp from I-95 at Opitz Dr.

- ❖ Construct VA 28 Manassas Bypass from VA 234 Sudley Rd. to VA 28 Centreville Rd.

- ❖ Widen VA 55 from US 29 to the Town of Haymarket

- ❖ Widen VA 123 from VA 267 Dulles Access Rd. to VA 634 Great Falls St.

- ❖ Widen VA 286 Fairfax County Parkway from US 29 Lee Hwy. to Rolling Rd.

- ❖ Construct West End Transitway Phase II (Southern Segment) from Van Dorn Street Metro to Landmark Mall

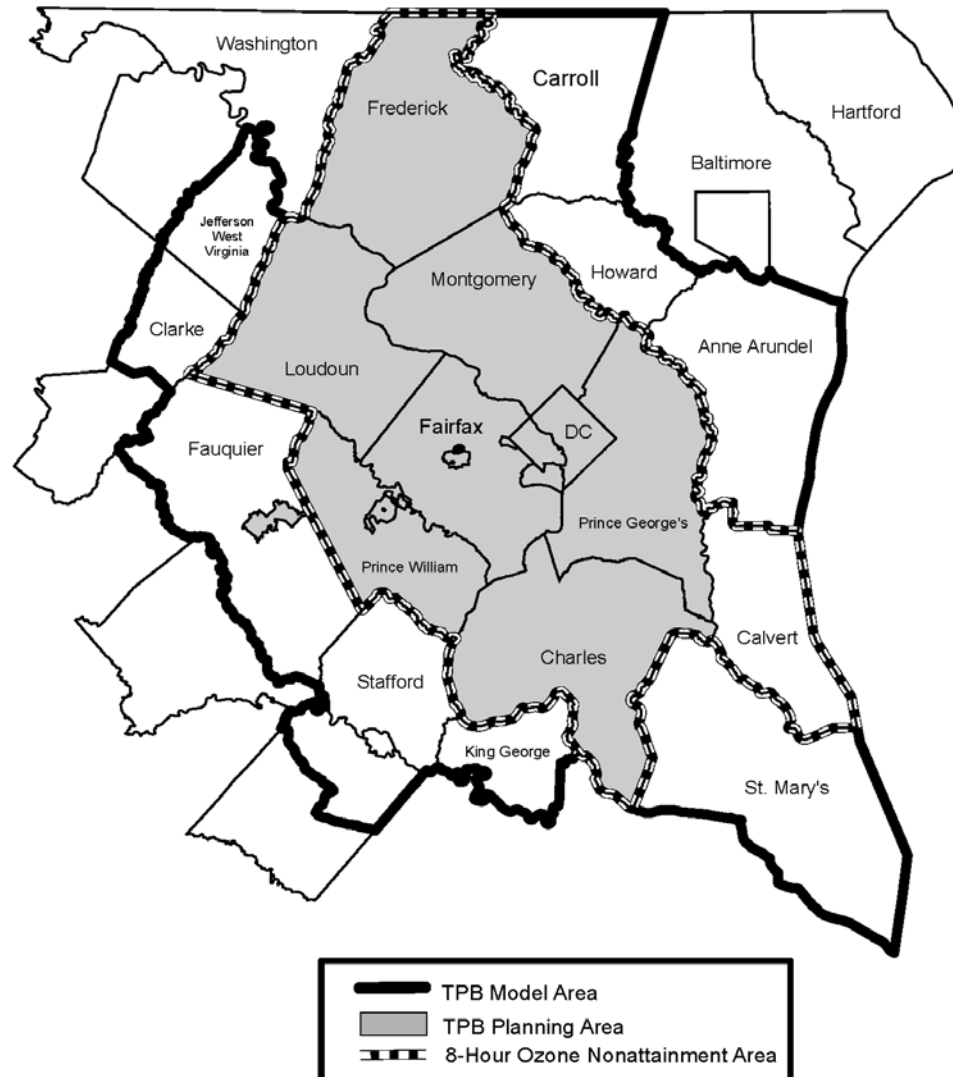


Round 9.1a Cooperative Forecasts

- ❖ Updates to BMC & FAMPO Planning Areas Only
- ❖ Adjustments to Employment Factors
 - Provide Consistent Definition For All Jurisdictions
 - Based on 2015 Bureau of Labor Statistics Data, Census Bureau Data, and Military Personnel Data
- ❖ Updated External, Miscellaneous, and Airport Trip Forecasts

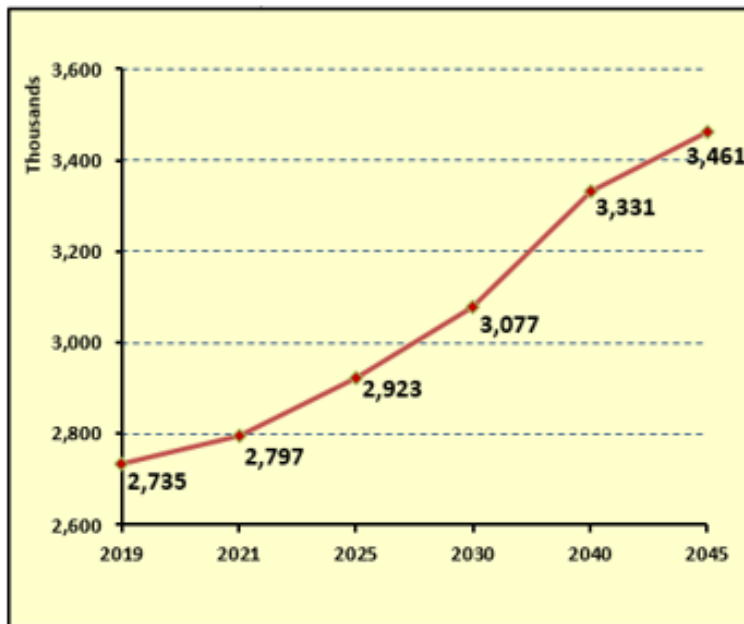


TPB Planning Areas



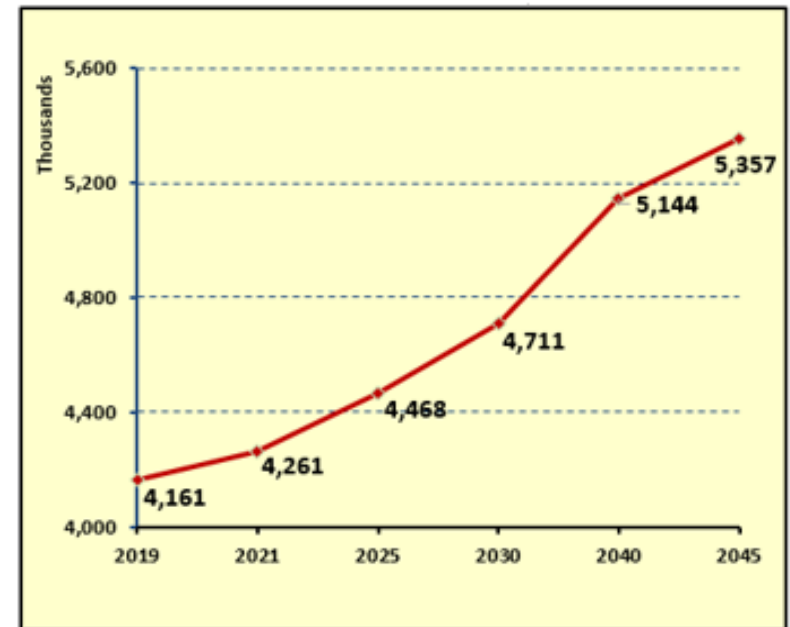
Round 9.1a Cooperative Forecasts

Households
(in thousands)



NOTE: Values are for the modeled area

Employment*
(in thousands)



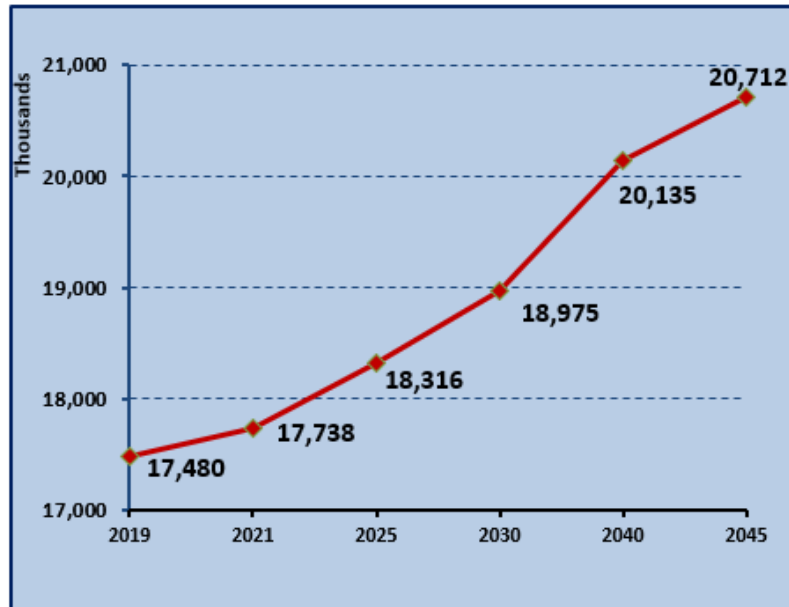
*Includes employment definition adjustment



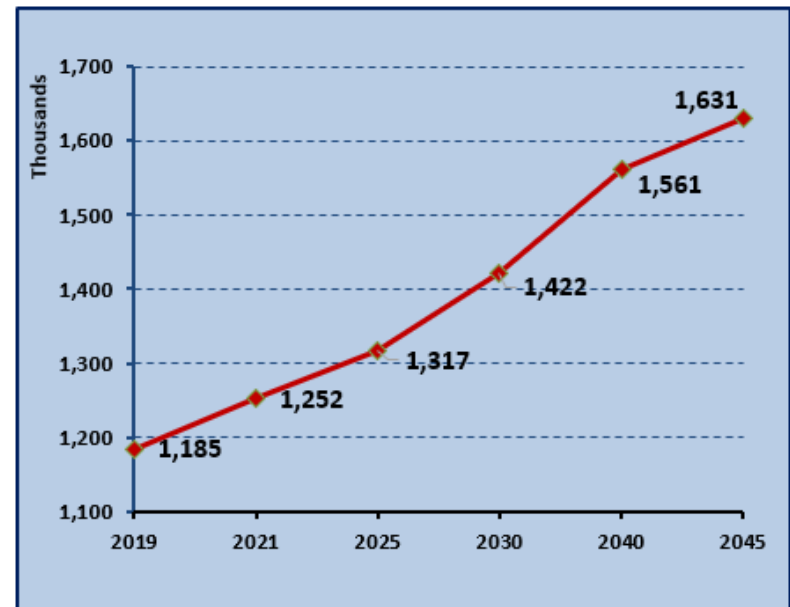
Travel Demand Summaries

Modeled Area Trips

Vehicle Trips
(in thousands)

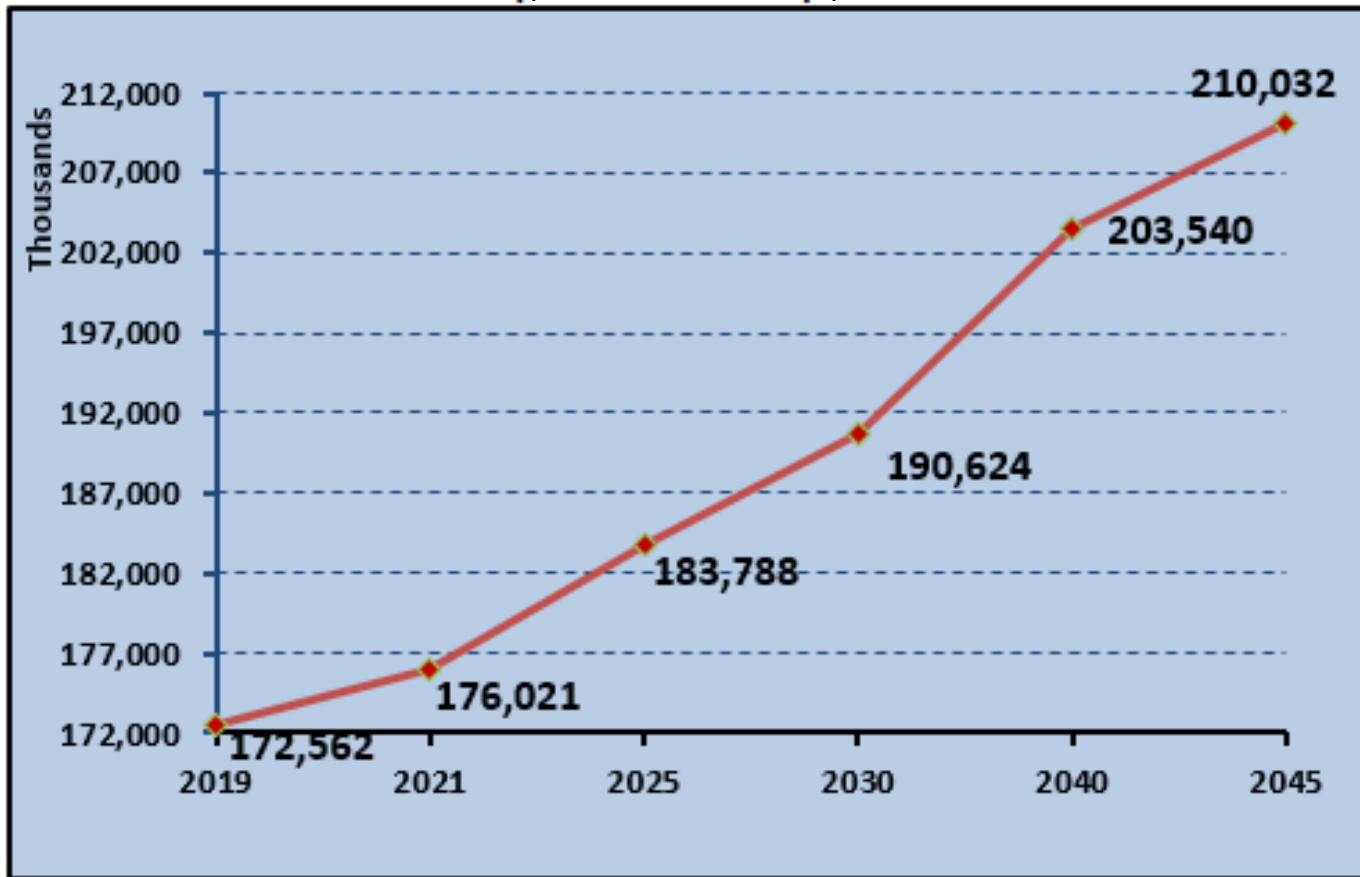


Transit Trips
(in thousands)



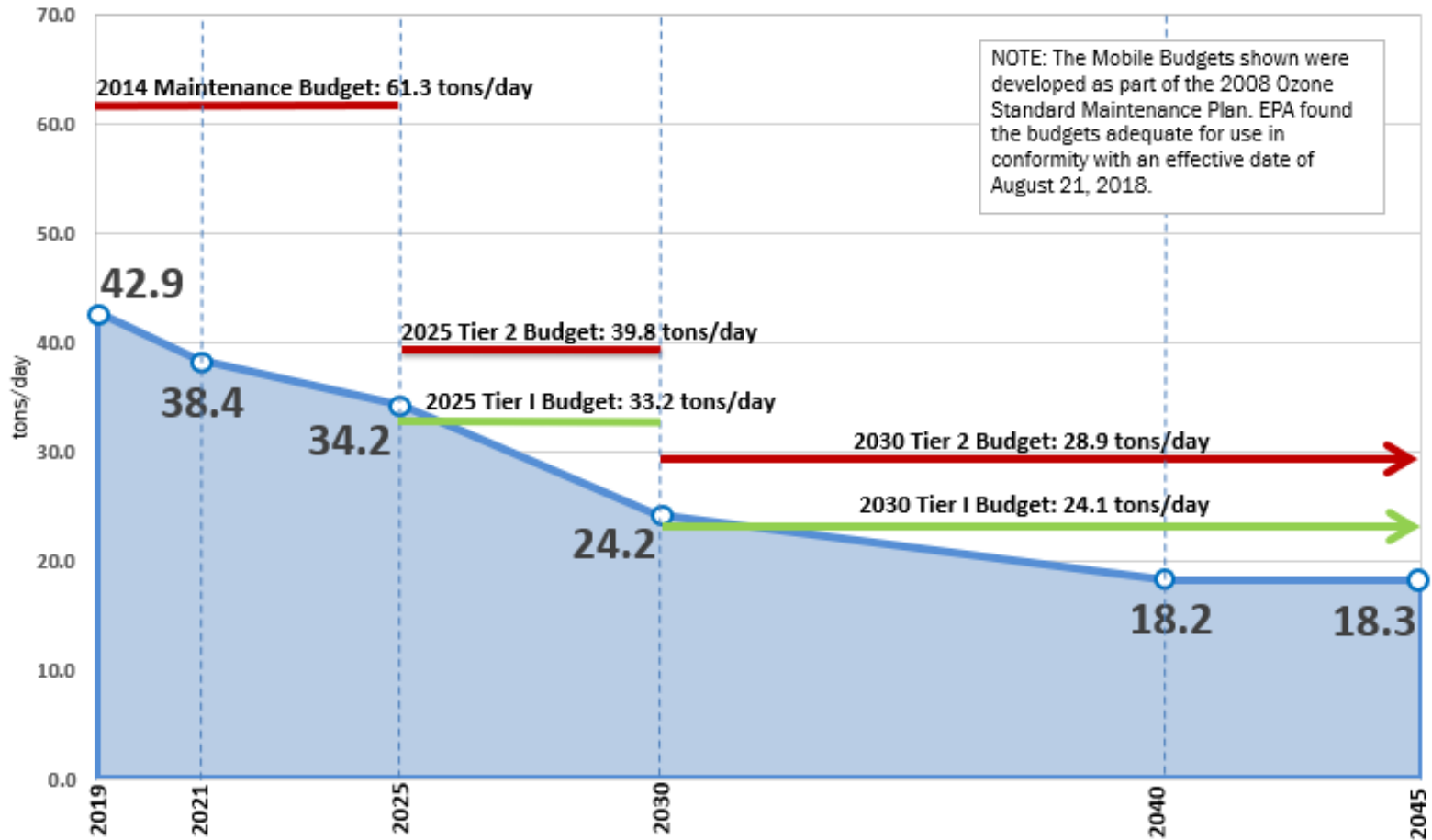
Travel Demand Summary

Modeled Area Vehicle Miles Traveled
(in thousands)



Mobile Source Emissions

Ozone Season VOC

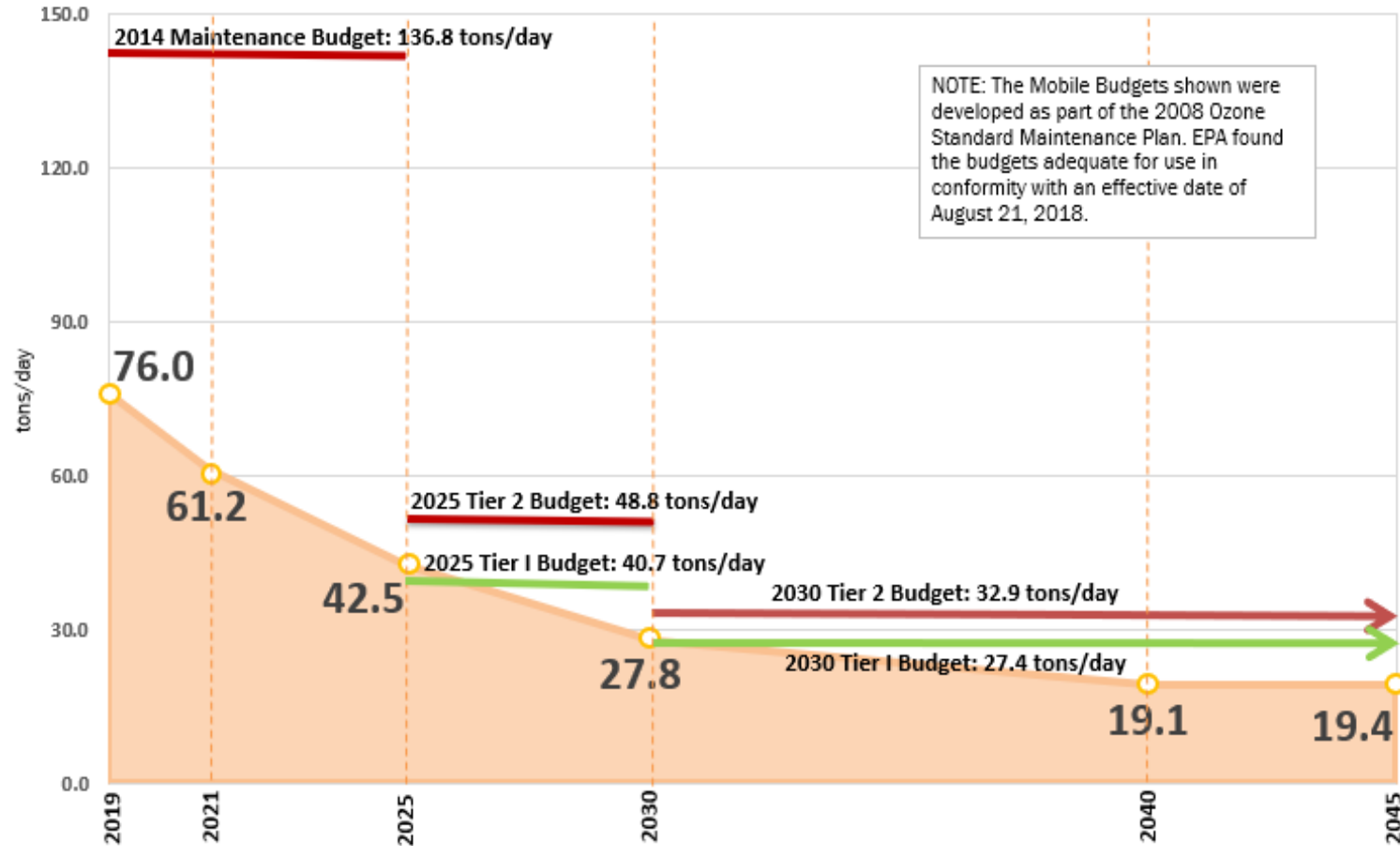


TCMs and TERMS are not included in totals.



Mobile Source Emissions

Ozone Season NO_x



TCMs and TERMS are not included in totals.



Air Quality Conformity: Findings

- ✓ Ozone Season VOC within Mobile Budget
- ✓ Ozone Season NOx within Mobile Budget



Mobile Budgets vs. Conformity

	Maintenance Plan Mobile Budgets	2020 Amendment to Visualize 2045 Conformity Emissions
Cooperative Forecasts	Round 9.0	Round 9.1a
Vehicle Fleet	2014 VIN	2016 VIN
Travel Demand Model	Version 2.3.66	Version 2.3.78
Project Inputs	2016 CLRP	2020 Amendment to Visualize 2045
Metrorail Constraint	yes	no

NOTE: A sensitivity analysis conducted in 2018 showed that the change to the vehicle fleet had the most significant impact on changes to emissions.



Mobile Budgets

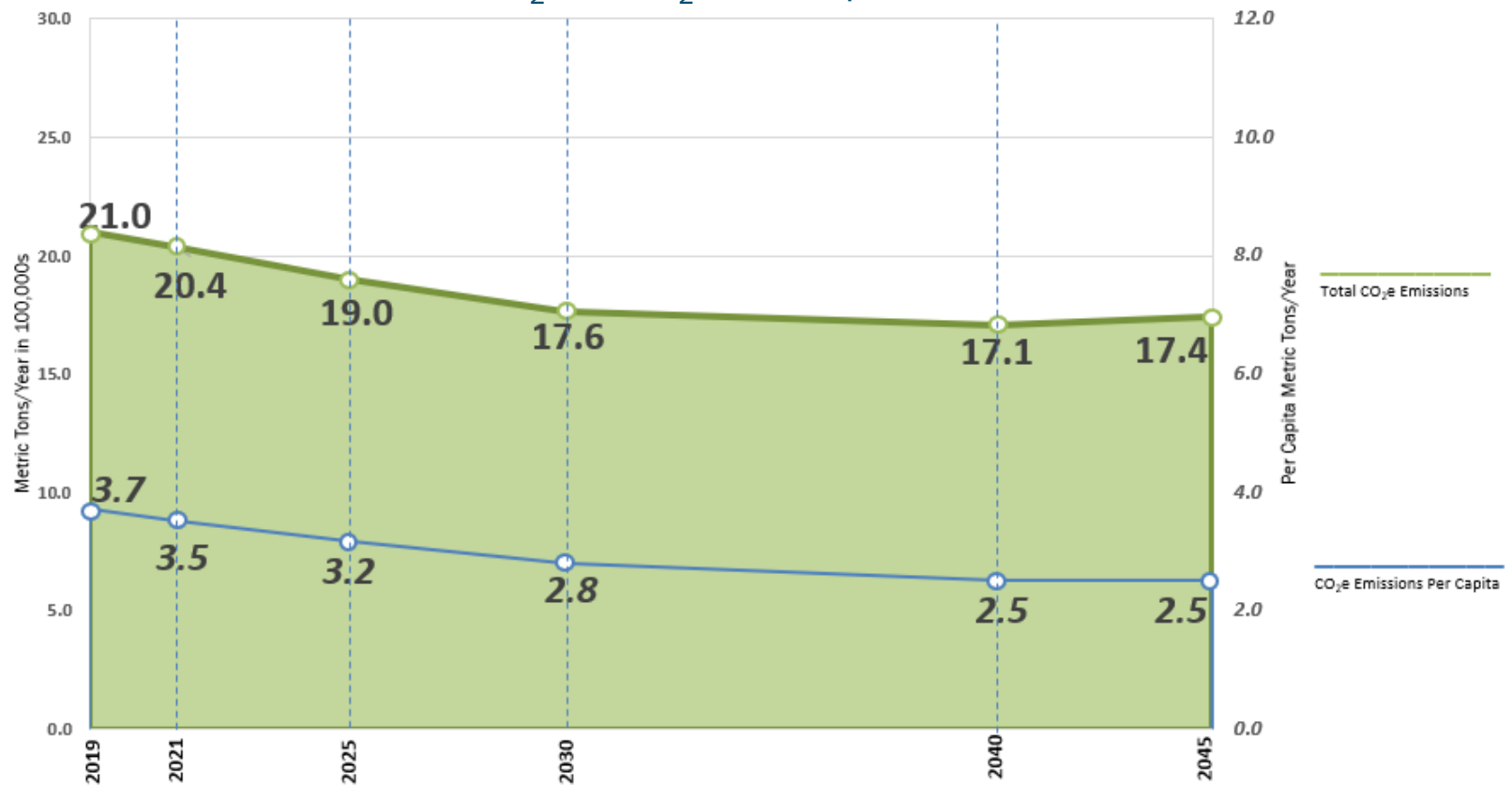
From the August 6, 2018 Federal Register – Notice of Adequacy
Finding for the Mobile Budgets in the 2008 Ozone Maintenance SIP:

“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”



Greenhouse Gases

2020 Amendment to Visualize 2045
Greenhouse Gas
Mobile Source Emissions
CO₂ and CO₂ e Per Capita



Next Steps

- ❖ TPB Action: Conformity Analysis Mar 18
FY 2021-2024 TIP
2020 Amendment to Visualize 2045



CONTACTS

Jane Posey

TPB Transportation Engineer

(202) 962-3331

jposey@mwkog.org

