

## Air Quality Conformity Analysis Summary

The Air Quality Conformity analysis demonstrates how the region is working towards its environmental goals. One of these goals comes from the Regional Transportation Priorities Plan (RTPP), which states the TPB's work should “enhance environmental quality and protect natural and cultural resources.” The financially constrained element of the Visualize 2045 update must demonstrate that future emissions under the plan are consistent—“in conformity”—with emissions levels set forth in air quality plans adopted by the states. Federal law requires “conformity findings” in all metropolitan regions that are currently not in attainment of certain federal air quality standards (“non-attainment areas”). Since the Washington region is a non-attainment area for ground-level ozone, the TPB must demonstrate that future vehicle-related emissions of ozone-forming pollutants will, under the proposed constrained element plan, remain below the approved limits. This section summarizes the Air Quality Conformity analysis, and the full document can be found in Appendix C: Air Quality Conformity Analysis Summary.

### Pollutants Analyzed

Ozone pollution is harmful to people and the environment. Therefore, the region must show through a detailed technical analysis that future vehicle-related emissions of the two key ingredients in the formation

### FEDERAL REQUIREMENTS

The Clean Air Act requires that transportation and air quality planning be integrated in regions like this one that are designated by the U.S. Environmental Protection Agency (EPA) as air quality “non-attainment” areas. In such areas, as well as in areas designated as “maintenance,” federal funding and approval for transportation projects is only available if transportation activities are consistent with the region’s air quality goals. Before the 2022 update to Visualize 2045 can be adopted, the TPB must approve a “conformity determination” showing that anticipated future vehicle-related emissions will remain below regional limits (known formally as “motor vehicle emissions budgets”) that have been set by the region’s air quality improvement plan (known as the “State Implementation Plan” or “SIP”) and approved by the EPA. The Metropolitan Washington Air Quality Committee (MWAQC) is the body responsible for developing the regional air quality plan. The conformity determination will demonstrate that the constrained element of the Visualize 2045 update is consistent—“in conformity”—with the regional limits.

of ozone—nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs)—are expected to remain below approved regional limits. The Metropolitan Washington Air Quality Committee (MWAQC) facilitates the establishment of the regional limits for on-road mobile

emissions of VOCs and NO<sub>x</sub>, which combine in sunlight on hot summer days to form ground-level ozone. Motor vehicles are one of several sources responsible for VOC and NO<sub>x</sub> emissions in the region. A few examples of others include power plants, residential heating and air conditioning, dry cleaners, gas stations, boats, airplanes, construction vehicles, and lawn care equipment.

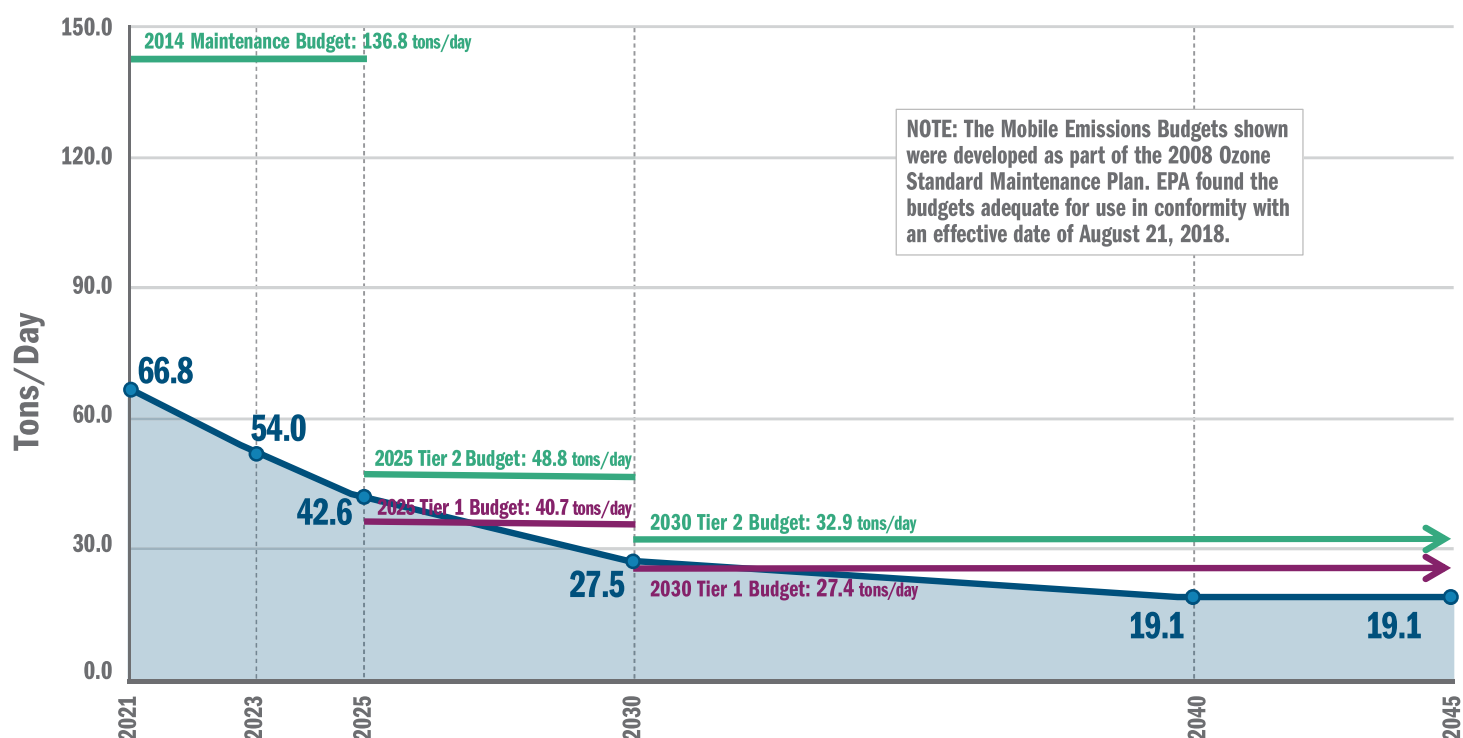
## Air Quality Conformity Analysis Results

Under the constrained element of the Visualize 2045 update, mobile emissions are expected to drop steadily (Figures 8.11 and 8.12) mainly due to more stringent fuel and vehicle efficiency standards.<sup>42</sup> In spite of increased travel, mobile emissions are expected to steadily decrease through the 2045 horizon year of the plan, mainly as cars and trucks meeting increasingly more stringent federal fuel and vehicle efficiency standards enter the region's vehicle fleet (all cars in the region) and

as changes are made to the formulation of vehicle fuel. Changes in development patterns, investments in transit and other travel options, and improved operational efficiency of area roadways will also contribute to reductions in vehicle-related emissions. Project sponsors identified 171 projects in the constrained element of this plan that are expected to contribute to reductions in emissions of criteria pollutants.

The plan's Air Quality Conformity analysis included comparing forecasted mobile source emissions to the region's two tiers of mobile emissions budgets for VOC and NO<sub>x</sub>. The conformity analysis found that forecasts of mobile emissions for VOC and NO<sub>x</sub> are within required budgets for all analysis years of the plan. Details related to the two tiers of mobile budgets can be found in Appendix C: Air Quality Conformity Analysis Summary.

Figure 8.11: 2022 Update to Visualize 2045 Air Quality Conformity Mobile Source Emissions and Mobile Emissions Budgets Ozone Season NO<sub>x</sub>



<sup>42</sup> NOTE: The mobile budgets shown were developed as part of the 2008 Ozone Standard Maintenance Plan. EPA found the budgets adequate for use in conformity. The adequacy finding was published in the Federal Register on August 6, 2018, with an effective date of August 21, 2018.





Figure 8.12: 2022 Update to Visualize 2045 Air Quality Conformity Mobile Source Emissions and Mobile Emissions Budgets Ozone Season VOC

