

**Frequently Asked Questions
Received during the March 2024 Comment Period**

Questions from TPB Board Members

- 1. We would like to know how well our jurisdiction is doing over time. Is it possible for this round of analysis to assess whether a locality's policies, programs, and projects are impacting VMT, GHGs, and other metrics?**
 - Examining the effectiveness of the actions taken to address transportation system needs in relation to the goals is a very important element of decision making. The goals adopted by the TPB are regional in scale, as is its long-range transportation plan, which represents the collective action of the region to achieve its collective goals. The COG/TPB technical tools and methodology used to estimate changes in travel and system performance are regional in nature and are, thus, not best suited to assess smaller geographies (such as individual jurisdictions within the TPB planning area). Additionally, and importantly, there is a significant amount of inter-jurisdictional travel in the region, for both work and non-work purposes, that makes establishing a relationship between one jurisdiction's policies, programs, and projects to changes in travel and its impacts both challenging and somewhat subjective. There are opportunities, tools and approaches to assess impacts of specific policies, projects and programs at a local level through before-and-after studies that local transportation agencies are best suited to undertake.

- 2. To understand what we as a region have accomplished over time, is it possible to do a comparison over a 10-to-15-year period?**
 - Yes. There are several measures that could be used to assess changes/progress over the past several years including travel patterns, travel experience and travel demand. Such data is collected as part of either program evaluation, e.g., Commuter Connections, or a regional program, such as the Congestion Management Process (CMP). It is important to note that travel patterns and demand are affected not just by changes in the transportation system and services, but also often by changes in socio-economic aspects of the region. Data on such changes, including population, employment, land use, and the economy are tracked, yet at different levels and frequencies. The TPB's CMP explains how congestion in the region has changed with regard to freight, highway, transit, managed lanes, and airport access. The most recent CMP report is available [here](#). Staff will examine what additional types of data can be compiled.

- 3. Regarding the [Project Summary Table](#), what was the process that staff conducted to determine whether a project aligns with the TPB goals? There appears to be some inconsistencies across the projects.**
 - The transportation agencies were asked to provide information on a menu of topics for each project including the project's support of various TPB goals. TPB staff held training for staff from implementing agencies (state and local government) on how to respond to the project input questions. TPB staff reviewed the information provided by the agencies for each project in conducting a qualitative assessment of the assertions made with respect to the TPB goals. TPB staff also associated the TPB goals with the federal planning factors that are to guide an MPO's transportation plan. It is likely that this information was missing for some of the

projects OR was incomplete. TPB staff will continue to work with implementing agencies to make any corrections or edits as needed.

4. Do projects only need to comply with one of the ten federal planning factors?

- Yes, projects only need to comply with one factor.

5. Could you please clarify the Maryland Op Lane projects proposed for inclusion?

- Detailed information about the proposal for express lanes in Maryland as part of Visualize 2050 is available in a separate [FAQ handout](#).

6. Regarding the 2021 Resolution and zero-based budgeting directive, how can we as an MPO and as local agencies meet the directive to provide multiple build scenarios for project proposals?

- TPB staff, over the years, have conducted large-scale scenario analyses. For instance, if the region does not build highway projects but instead builds transit projects, or if the region does not invest further into the transit system. Some of these scenarios were for a target year of 2040 and some were for 2045. These scenarios were summarized (see [Summary of Findings](#) and [Detailed Findings](#)) at the beginning of the Visualize 2050 development process to inform the jurisdictions and help guide their decisions on the types of projects to submit for Visualize 2050.

7. The region has set GHG goals, what environmental goals and standards are applicable to this process? Are we just meeting the federal minimum standards or are we going beyond the minimum?

- The TPB's first priority is to make sure ozone-forming pollutants will be below a certain level that is acceptable to the EPA, which is the focus of the air quality conformity analysis to be undertaken over the next ten months. Secondly, while not yet prescribed by the feds, the TPB has set the goal for the region to reduce on-road GHG emissions 50% below 2005 levels by 2030 and 80% below 2005 levels by 2050. As such the TPB's process goes beyond meeting the federal standards. The [Climate Change Mitigation Study](#) identified several strategies that would reduce GHG and also contribute to reducing ozone forming pollutants. Some of these strategies are aimed at reducing travel or changing the mode of travel, and others are aimed at changing the fuel used to travel. The TPB is pursuing strategies across all these pathways. The TPB study found that transitioning vehicle fleets to cleaner fuels would be the most effective strategy in meeting these GHG reduction goals, though achieving this transition is going to take time and will require efforts beyond the TPB's purview.

8. Is there a set goal for VMT reduction per capita?

- No, there is no numeric goal for per capita VMT reduction, rather a more general goal to see VMT reduction per capita throughout the region over time. This itself is challenging in a region that continues to grow, adding more households every year, and each household typically results in about 8-10 trips/day.

9. Why is a portion of the Falls Church/Fairfax County Route 7 BRT project not included in Visualize 2050?

- This Route 7 project is listed in the Transportation Improvement Program for planning and engineering and is documented as an ongoing study. It is not included in the project list for air quality analysis because there is no reasonable anticipated funding available for construction at this time. The project can be added once funding has been secured or found to be reasonably available at which time the plan can be amended for its inclusion.

Questions from the Public

About PROJECTS:

10. What express lanes are proposed in Maryland?

- Please see this [FAQ](#) on the proposed Maryland express lanes. Note, the section of I-270 north of I-370 to I-70 is currently included as a study, not coded.

11. Why are there few or no projects in my locality?

- Each locality/state/transit agency submitted only capacity-related projects that have significance when measuring future air quality. This does not reflect the full spectrum of transportation projects planned within a locality or in the region. If few or no projects are listed within a locality that means no capacity-related projects have been proposed at this time.

About CLIMATE CHANGE:

12. What policies does the TPB have regarding greenhouse gas (GHG) emissions?

- Greenhouse gases are not a criteria pollutant, and therefore are not covered by the National Ambient Air Quality Standards (NAAQS), so they are not required as part of the air quality conformity analysis. Despite the absence of a federal mandate to estimate GHGs for the region's transportation plan, the TPB has estimated GHG emissions caused by on-road transportation since 2010 and has provided this information as part of the plan's performance analysis. See, for example, Chapter 8, p. 225, Figure 8.27 of Visualize 2045. See also the discussions of GHGs on pp. 129-134 (Chapter 6).¹

The TPB endorsed COG's economy-wide GHG reduction goals. In June 2022, the TPB adopted the same goals specifically for the on-road sector, making the TPB the first MPO to voluntarily adopt GHG reduction goals specific to the on-road transportation sector. The goals are 1) 50% below 2005 levels by 2030; and 2) 80% below 2005 levels by 2050. 2) These are very ambitious goals that will be very challenging to meet. TPB has conducted multiple scenario

¹ "2022 Update to Visualize 2045, a Long-Range Transportation Plan for the National Capital Region," June 15, 2022.

studies aimed at finding viable solutions for attaining these GHG reduction goals. GHG reduction goals and strategies that were adopted by the TPB are part of the TPB's [Synthesized Policy Framework](#).

About EQUITY:

13. How is equity considered in these projects?

- Agencies had the option to explain how the project supports or advances equity, but some agencies may have omitted this information. The TPB will conduct an Environmental Justice analysis on the regional impact of all the projects following the plan's approval. Separately, as part of the National Environmental Policy Act (NEPA), implementing agencies that have individual projects financed entirely or in part by federal agencies are required to analyze environmental effects of the project which includes considerations of Environmental Justice populations.

About the MODEL:

14. What pollutants does the TPB model include in the Air Quality Conformity Analysis?

- The TPB's air quality conformity analysis is only for ground-level ozone, which is one of the six criteria pollutants with a national standard established by the EPA. Ground-level ozone is produced when volatile organic compounds (VOCs) and nitrogen oxides (NOx) mix with sunlight. The air quality conformity process refers to a very specific set of tasks that metropolitan planning organizations (MPOs) and states are required to conduct to be able to obtain federal funding for the projects in the region. "Conformity" is a requirement of the federal Clean Air Act (CAA) to ensure that 1) transportation plans and transportation improvement programs are consistent with air quality goals, and 2) progress toward achieving and maintaining federal air quality standards is being made. Using a set of required tools, including EPA's mobile emissions estimation model, MOVES, and the region's travel demand forecasting model, a conformity analysis is undertaken to forecast VOCs and NOx emissions from the vehicles on the region's planned transportation system. The analysis must demonstrate that those emissions are within limits outlined in state air quality implementation plans (SIPs) and approved by the EPA.

15. How are transit, bike, and pedestrian modes considered in the model?

- The COG/TPB Gen2/Ver. 2.4 Travel Model is an advanced, trip-based, "four-step" model, which accounts for traffic congestion and ensures that congested speeds are used consistently throughout the model as appropriate. The travel model, which is consistent with best practices for regional travel models, represents vehicular travel that produces emissions and includes, automobiles, trucks, and transit vehicles. Biking and walking trips are neither explicitly represented nor included in emissions estimation, yet they are included in

calculating the total number of trips generated in the region and as a mode to travel to access transit. More information can be found in TPB's travel model documentation.²

16. How are traffic jams and traffic lights considered in the model?

- The air quality conformity analysis makes use of the regional travel demand forecasting model (the Gen2/Ver. 2.4 Travel Model) and the EPA's mobile emissions model (MOVES). The regional travel model is an advanced, trip-based, "four-step" model, which accounts for traffic congestion, and thus includes the effects of traffic jams. The travel model is consistent with best practices for regional travel models and ensures that congested speeds are used consistently throughout the model. However, static traffic assignment models are macroscopic models that do not have the resolution to represent traffic lights. By contrast, sub-regional analyses conducted by some state and/or local governments may include mesoscopic and/or microscopic traffic assignment models that do represent traffic lights, but this type of traffic assignment model is not commonly found in regional travel models.

17. What type of VMT will be analyzed and with what methodology?

- The regional travel demand forecasting model (the Gen2/Ver. 2.4 Travel Model) is used to estimate VMT for various forecast years and all types of motor vehicles. Additionally, the modeling is performed for a typical weekday and includes both work and non-work related trips. As such, VMT can be summarized by trip purpose (e.g., work vs. non-work). The Gen2/Ver. 2.4 Travel Model is an advanced, trip-based, "four-step" model, which accounts for traffic congestion using a static traffic assignment within a speed-feedback loop, which ensures that the VMT reflects congested speeds, when applicable. The travel model is consistent with best practices for regional travel models.

18. How does the travel model account for induced demand and its effect on land use changes?

- TPB's air quality conformity analysis makes use of the regional travel demand forecasting model (the Gen2/Ver. 2.4 Travel Model) and the EPA's mobile emissions model (MOVES). The regional travel model is an advanced, trip-based model and is consistent with best practices for regional travel models. Use of the MOVES mobile emissions model is mandated by the U.S. Environmental Protection Agency.

The current travel model is state of the practice in terms of capturing induced demand primarily through speed feedback loops and, like most four-step travel models, it can capture induced demand arising from most of the immediate and some near-term/long-term travel behavioral interactions.

19. Are current telework practices reflected in the model, and can you explain how these assumptions will be different for Visualize 2050?

- COG/TPB's current production-use travel demand forecasting model (the Gen2/Ver. 2.4.6 Model) was estimated and calibrated using empirical data (primarily household travel

² Meseret Seifu et al., "User's Guide for the COG/TPB Gen2/Version 2.4.6 Travel Demand Forecasting Model" (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, July 11, 2023), <https://www.mwcog.org/transportation/data-and-tools/modeling/model-documentation/>.

surveys and transit on-board surveys) which occurred prior to the Covid pandemic, and, thus, was not calibrated to reflect pandemic effects on travel behavior. The air quality conformity analysis and performance analysis of Visualize 2050, will be conducted using the current, production-use travel model (and latest EPA mobile emissions model, MOVES4), without incorporating revised, post-pandemic telecommuting and/or travel pattern assumptions, since we currently do not have sufficient empirical data to re-estimate and re-calibrate the regional travel demand model. Nonetheless, COG is in the process of collecting such data for future model development work. It should be noted that the current model, which assumes pre-Covid telecommuting rates, will tend to overestimate VMT and emissions, and will, thus, provide a conservative estimate of mobile emissions (i.e., it will tend to overestimate mobile emissions).

20. Can the model account for policy scenarios such as EV incentives or higher gas taxes?

- The COG/TPB travel demand forecasting model can estimate the effect of gas taxes on travel, but it is not designed to be used to model vehicle purchasing behavior. Nonetheless, the EPA’s MOVES emissions model requires inputs about the percentage of the vehicle fleet by fuel type (including EVs), so it is possible to test changes in the vehicle fleet. The TPB has used its regional travel demand model in many of its past scenario studies.

It is important to note that while the TPB acknowledges the importance of assessing greenhouse gas (GHG) emissions, equity, congestion, EV incentives, user fees, and other elements as possible future scenarios, such a scenario analysis is not part of the transportation conformity analysis performed for Visualize 2050.

To elaborate, the air quality conformity process refers to a very specific set of tasks that metropolitan planning organizations (MPOs) and states are required to conduct on its transportation plan and transportation improvement program (TIP) if the MPO is in non-attainment of federal standards for air quality. Both the Plan and the TIP have specific federal requirements to adhere to including that the projects, programs and policies in these should be based on funding that is reasonably expected to be available and should be based on the latest set of officially adopted planning assumptions. In essence, the Plan and TIP cannot be a “what if” analysis as examined in a scenario analysis.

About ROADWAYS:

21. How do express lanes help improve air quality or help achieve climate goals?

- The TPB has many goals which the transportation projects aim to achieve, such as providing affordable and convenient multimodal options, promoting livable and prosperous communities, increasing transportation-related safety, and enhancing environmental protection (which includes air quality). Visit the plan [webpage](#) for more information about priority strategies designed to achieve one or more of the TPB’s goals. It is not expected that every proposed transportation project or policy will make progress on every goal.

Regarding the ability of express lanes/high-occupancy toll (HOT) lanes to help air quality, the Federal Highway Administration (FHWA) noted, “Like their HOV counterparts, HOT lanes have the potential to help improve air quality where they are implemented. High-occupancy lanes might help to reduce harmful impacts to the environment associated with congestion, especially by encouraging the use of multi-passenger vehicles or mass transit systems.”³

22. How do express lanes help improve congestion?

- Express lanes have the potential to reduce congestion in several ways depending upon, among other things, their location and operational environment. If express lanes are located parallel to regular lanes that are congested, then by shifting vehicles to the express lanes congestion on the regular lanes could be reduced. Express lanes that generate revenues could be used to provide a new transit service which reduces the number of vehicles and thus congestion. Express lanes designed to allow vehicles with more than a certain number of people to travel for free will promote the formation of carpools and vanpools which reduce the number of vehicles and thus reduce congestion. Overall Express lanes have the potential to provide new more reliable travel options and reduce congestion.

23. Why are there so many roadway widening projects?

- The TPB’s planning area covers a large area – about 3,800 square miles and includes a large roadway network with more than 17,000 lane miles of different functional classes (Interstates, HOT lanes, parkways, major and minor arterials, local roads, etc.) The roadway network serves thousands of communities – residential, commercial, mixed use, which generate large number of vehicular trips – about 12M (including transit trips) for work and non-work purposes and logs about 120M vehicle miles in a typical day. Several operating conditions at the community/local levels related to safety, congestion, and access merit attention and widening a segment of a roadway are at times what the local transportation agency determines to be the best solution.

24. What are the meaningful alternatives, with comparative scenarios, to the roadway expansions/extensions?

- Both COG and TPB have conducted a myriad of scenario studies to estimate the effects of different futures and assumptions on the region. The following studies provide additional details:
 - “What Would It Take? Transportation and Climate Change in the National Capital Region.” Final Report. Washington, D.C.: National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, May 18, 2010. <http://www.mwcog.org/uploads/pub-documents/qF5eXVw20110617114503.pdf>.
 - “CLRP Aspirations Scenario, TPB Scenario Study.” Final Report. Washington, D.C.: Metropolitan Washington Council of Governments, September 8, 2010. http://www.mwcog.org/store/item.asp?PUBLICATION_ID=409.

³ “Page 1, HOT Lanes, Cool Facts,” Pamphlet (Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration, April 2012).

- “An Assessment of Regional Initiatives for the National Capital Region: Executive Summary, Technical Report on Phase II of the TPB Long-Range Plan Task Force.” Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, December 2017. <https://www.mwcog.org/documents/2017/12/20/long-range-plan-task-force-reports-projects-regional-transportation-priorities-plan-scenario-planning-tpb/>.
- “An Assessment of Regional Initiatives for the National Capital Region: Technical Report on Phase II of the TPB Long-Range Plan Task Force.” Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, December 20, 2017. <https://www.mwcog.org/documents/2017/12/20/long-range-plan-task-force-reports-projects-regional-transportation-priorities-plan-scenario-planning-tpb/>.
- “TPB Climate Change Mitigation Study of 2021: Scenario Analysis Findings.” Final Report. National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, January 7, 2022. <https://www.mwcog.org/tpb-climate-change-mitigation-study-of-2021/>.
- “TPB Climate Change Mitigation Study of 2021: Additional Transportation Scenarios Analysis: TPB Survey Identified Scenarios.” Final Report. National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, June 3, 2022. <https://www.mwcog.org/events/2022/5/18/tpb-climate-work-session/>.
- “A Summary of the TPB and COG Scenario Study Findings: Informing Planning for the Metropolitan Washington Region.” Draft Report. National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, November 3, 2022. <https://www.mwcog.org/events/2022/11/4/tpb-technical-committee/>.
- “Appendix A: Detailed Findings, Scenario Study Findings, Informing Planning for the Metropolitan Washington Region.” Draft Report. National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, November 3, 2022. <https://www.mwcog.org/events/2022/11/4/tpb-technical-committee/>.

25. For the road extensions that connect to other major arteries, is there adequate exploration of the mileage possibly saved or environmental degradation incurred?

- As part of the National Environmental Policy Act (NEPA), implementing agencies that have individual projects financed entirely or in-part by federal agencies are required to analyze the impacts of the project both on travel and the environment which includes considerations of potential impacts to the social and natural environment.

26. How can you claim these projects enhance access, transit, or reduce greenhouse gases?

- The TPB has many different goals, including improving reliability and efficient system operations, providing affordable and convenient multimodal options, and improving air quality (for both criteria pollutants and GHG emissions). Some proposed projects may help attain some goals but may not be helpful with other goals.

27. What are the benefits of allowing trucks in express lanes?

- Trucks are a necessary part of the transportation system, moving cargo and supplies used by everyone (e.g., groceries, appliances, and factory equipment). Most people prefer to limit the amount of truck traffic on local roads even though such traffic cannot be eliminated on local roads. If trucks are allowed in express lanes, that will reduce truck traffic on parallel roads, such as minor and major arterials. Trucks must pay a toll to use the express lanes providing additional revenue for other transportation improvements including transit.

About TRANSIT:

28. Why aren't there more transit projects being done sooner?

- Projects are at varying stages of development with transit projects usually taking longer and being more expensive to implement. Available funding also limits the number and types of projects that can be developed. Also, the projects presented for this comment period are only those that impact system capacity so many other types of transit projects agencies are working on are not reflected here, like bus replacements, bus stop improvements, and other transit enhancements.

About BICYCLES AND PEDESTRIANS:

29. How are pedestrians and bicyclists included in these projects?

- Please review the detailed project description sheets available via the Project Summary Table which explain the non-motorized accommodations planned for each project.

30. Why are trails projects not included?

- Trails are not part of the air quality modelling analysis. Only vehicle or transit capacity impacting projects are included in this comment period because of their potential to impact future attainment of air quality goals and thus must go through a multi-month modeling analysis to make this determination. Trail planning and construction continues to be active in the region, and trails will be reflected in the final plan's project list.