# Slide 1:

# Presentation Title: TPB Climate Change Mitigation Study of 2021

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Access for All Advisory Committee

November 12, 2021

Slide 2: Study Purpose

Assess the actions and levels of implementation needed to reduce on-road transportation greenhouse gas (GHG) emissions to meet COG’s 2030 and 2050 goals

* 50% below 2005 levels by 2030
* 80% below 2005 levels by 2050

Slide 3: Study Overview

Review of past studies

* Conduct review of climate change mitigation studies in the COG region (Phase I, performed by TPB staff)

Literature Review

* Conduct Phase II literature review of climate change mitigation studies and climate action plans

List of scenarios and actions

* Develop a limited list of scenarios and associated GHG reduction actions to explore

Tool/model selection

* Select tools/models for the analysis

Analysis

* Calibrate and validate the selected tools and models; conduct analysis using the selected tools

Report

* Document and present findings in a draft and final report

Slide 4: Review of Past TPB and COG Studies

Conducted by TPB staff

Summarized the major findings of past TPB and COG studies

* “What Would it Take?” Scenario Study (2010)
* Multi-Sector Working Group Study (2015-2016)
* Long Range Plan Task Force Study (2017)
* 2030 Climate and Energy Action Pan (2020)

Memorandum finalized in March 2021

Summary of findings presented to the TPB in May 2021

Slide 5: Literature Review

Conducted by consultant team

Reviewed state and local climate action plans in the Washington region

Reviewed climate plans from outside the region, as well as national-level policies that influence GHG reduction

Addressed questions:

* How have other regions throughout the country and the world achieved GHG reductions? Or plan to achieve GHG reductions?
* What strategies work? How were strategies implemented? By whom?

Literature review was sent to the TPB in July 2021

Slide 6: List of Scenarios and Actions

Developed by consultant team

Presentation to the TPB in September 2021 (slides, technical memorandum, and video)

Identified three pathways for GHG reductions

* Mode Shift and Travel Behavior (MSTB)
* Vehicle Technology and Fuels
* Transportation Systems Management and Operations (TSMO)

Presented findings of preliminary analysis of two “top-down” scenarios

* What level of VMT reduction would be needed to meet the 2030 and 2050 goals?
* What level of technology adoption would be needed to meet the 2030 and 2050 goals?

Slide 7: List of Scenarios and Actions

Pathway

1. Vehicle Technology and Fuels Improvements

Scenario

* VT.1 - Vehicle Technology and Fuels Improvement Scenario
* VT.2 – Amplified Vehicle Technology and Fuels Improvement Scenario

1. Mode Shift and Travel Behavior

Scenario

* MS.1 - Mode Shift Scenario
* MS.2 - Amplified Mode Shift Scenario
* MS.3 - Amplified Mode Shift Scenario Plus Road Pricing

1. Transportation Systems Management and Operation (TSMO)

Scenario

* TSMO - Transportation Systems Management and Operations Improvement Scenario

1. Combined Pathways

Scenario

* COMBO.1 – Combined Scenario (VT.1, MS.1, TSMO)
* COMBO.2 – Combined Scenario with More Aggressive Technology Emphasis (VT.2, MS.1, TSMO)
* COMBO.3 – Combined Scenario with More Aggressive Mode Shift Emphasis (VT.1, MS.3, TSMO)
* COMBO.4 – Combined Scenario with Aggressive Actions Across All Pathways and Shared Connected and Automated Vehicle (CAV) Future (VT.2, MS.3 and shared CAV assumptions)

Slide 8: Tool/Model Selection

Completed by consultant team

Sketch planning tools and models selected to analyze individual strategies and combinations

* For vehicle technology and fuels strategies, use of fleet analysis tools (VISION) along with sketch analysis
* For MSTB strategies, use of TRIMMS analysis tool combined with limited analysis using the regional travel demand model
* For TSMO strategies, apply adjustments to emissions rates based on literature review and scale based on congestion

Spreadsheet-based model developed for study to analyze effects of scenarios

Sensitivity analysis to be conducted using electric power carbon intensity

* Building on Integrated Planning Model (IPM)

Slide 9: Analysis and Final Report

Technical analysis is currently underway

Presentation of results to the TPB expected in December 2021

Final report expected in January 2022

Slide 10: Study Documents

Link

<https://www.mwcog.org/documents/2021/07/15/tpb-climate-change-mitigation-study-of-2021-climate-change-greenhouse-gas-scenario-planning/>

See staff if you are unable to access this information

Slide 11: Contact Information

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