REGIONAL ELECTRIC VEHICLE DEPLOYMENT PLAN COORDINATION

Recent efforts by the Transportation Planning Board regarding climate change mitigation

Mark S. Moran Program Director, Travel Forecasting and Emissions Analysis, COG/TPB

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National Capital Region Transportation Planning Board

Agenda Item #4

Overview

- Background
- Climate Change Mitigation Study (CCMS) of 2021
- Recent TPB efforts
 - TPB member survey
 - Additional consultant analysis: CCMS #2
 - TPB member discussions on Apr. 20 and May 18
- Next steps



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Background

- After the adoption of the 2030 Climate and Energy Action Plan (CEAP) and the interim regional GHG reduction goal of 50% below 2005 levels by 2030, the TPB was considering the possibility of developing reduction goals and strategies specific to <u>on-road transportation</u> that could be incorporated into its long-range planning process
- To inform its discussions & potential action on this, the TPB commissioned the Climate Change Mitigation Study (CCMS) of 2021
- The results were presented to
 - The TPB in December 2021
 - The CEEPC in January 2022



CCMS of 2021

- CCMS of 2021 analyzed the GHG reduction potential of 10 scenarios.
- Each scenario was composed of two or more GHG reduction strategies, which could be grouped into three broad areas:
 - Vehicle technologies & fuels (VT, e.g., electric vehicles)
 - Mode shift and travel behavior (MSTB)
 - Transportation systems management and operations (TSMO)
- For the CCMS, we chose to make the transportation-sector goals <u>identical</u> to the regional goals, i.e., 50% by 2030 and 80% by 2050 (compared to 2005 levels)
- <u>None</u> of the 10 analyzed scenarios was able to attain the study's 50% 2030 reduction goal.
- 1 to 6 of the 10 scenarios were able to attain the study's 80% 2050 reduction goal, depending on assumptions about the cleanliness of the electrical grid.



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Recent TPB efforts: TPB member survey

- After reviewing & discussing findings from the CCMS, TPB wanted to determine what actions its 23 member jurisdictions would be able to adopt as transportation planning priorities
- Between late Feb. & early April, TPB members were surveyed on the topic of adopting GHG reduction <u>goals</u> and <u>strategies</u> that were <u>specific to the on-road transportation sector</u>
- Major findings from the TPB member survey
 - A majority of the respondents were in favor of adopting transportation-sector-specific GHG reduction goals, but the levels for those goals were still being debated
 - A majority or plurality of the TPB members were ready to adopt 7 of the 14 strategies as planning priorities
 - For the remaining 7 strategies, however, the TPB sentiment was that more study would be required



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Recent TPB efforts: TPB member survey

• 7 <u>strategies</u> received majority or plurality <u>support</u> in TPB survey

Strategy	Question #	% voting to adopt
Develop an electric vehicle charging network	C2	81%
Convert vehicles to clean fuels	C1	45%
Add additional housing units	C3	57%
Reduce travel times on bus transit	C8	58%
Implement projects or programs to provide walk/bike access to all TPB-identified fixed-guideway transit stations, a.k.a. high-capacity transit (HCT) stations	C9	90%
Complete the TPB's National Capital Trail Network	C10	87%
Traffic operational improvements (TSMO)	C14	77%



Recent TPB efforts: TPB member survey

• 7 <u>strategies</u> were <u>not</u> yet ready to be adopted by TPB, and thus <u>require further study</u>

Strategy	Quest. #	% voting to explore further
Shift growth in jobs and HHs from locations forecasted in the Coop. Forecasts to locations near TPB-identified HCT stations and COG's Regional Activity Centers, restricting shifts such that they do not cross jurisdictional boundaries	C4a	65%
Make all bus transit fare free by 2030	C5	73%
Make all rail transit fare free by 2030	C6	73%
Price workplace parking for employees, with set values	C7	43%
Convert a higher proportion of daily work trips to telework	C11	45%
Charge a new VMT fee	C12	67%
Charge cordon fee of \$10 per motorized vehicle in DC core	C13	63%



Recent TPB efforts: Additional analysis

- As noted earlier, 7 <u>strategies</u> received majority or plurality support in TPB survey
 - Each strategy has an associated assumed level of implementation
 - ICF conducted a 2nd analysis, "<u>CCMS #2</u>," that analyzed the GHG reduction potential of the 7 supported strategies at <u>two</u> levels of implementation:
 - <u>High</u>, e.g., 100% of new light-duty vehicles sold in 2030 will be EV.
 - <u>Moderate</u>, <u>though still aggressive</u>, e.g., 50% of new lightduty vehicles sold in 2030 will be EV.



Findings from CCMS #2

- Regarding the 7 favored GHG reduction strategies
 - Option 1: High levels of implementation (COMBO.6)
 - 2030: 29% reduction in GHG, compared to 2005 levels, with reference electrical grid (35% with clean grid)
 - 2050: 77% reduction in GHG with reference electrical grid (94% with clean grid)
 - Option 2: Moderate levels of implementation (COMB0.5)
 - 2030: 23% reduction in GHG with reference electrical grid (26% with clean grid)
 - 2050: 71% reduction in GHG with reference electrical grid (85% with clean grid)
- ZEV strategies were found to be the most effective transportation-sector GHG reduction strategies



Recent TPB efforts: TPB discussions

- TPB work sessions were held Apr. 20 and May 18 before the regular TPB meetings on those days
- Regarding setting transportation-sectorspecific GHG reduction <u>goals</u>, TPB members were presented with 3 choices (next slide)



Transp.-sector GHG reduction goals

• Transportation-sector GHG reduction <u>goals</u> considered by the TPB at its Apr. 20 and May 18 work sessions

Option	Title	Regional GHG Reduction Goal	Transportation- Sector Goal Under Consideration	Notes
A	Aspirational	50% by 2030 80% by 2050	50% by 2030 80% by 2050	No identified pathway to attain 2030 transportation-sector goal, based on CCMS, CCMS #2, and staff <u>review of peer MPOs</u> .
В	Ambitious	50% by 2030 80% by 2050	32% by 2030 80% by 2050	Data driven (CCMS and 2030 CEAP), yet with unprecedented levels of implementation of clean vehicle and travel reduction strategies. Considered ambitious because some strategies identified by CCMS did not receive majority/plurality support (at this time).
С	Pragmatic	50% by 2030 80% by 2050	23% by 2030 OR 29% by 2030 80% by 2050	Data driven. Based on CCMS #2 and strategies supported by majority/plurality of TPB members. Ambitious compared to peer MPOs (staff research memo).



Transp.-sector GHG reduction strategies

• <u>Levels of implementation</u> for transportation-sector GHG reduction <u>strategies</u> considered by the TPB at its Apr. 20 and May 18 work sessions

No.	Strategy	Option 1: High level of implementation (COMB0.6)	Option 2: Moderate level of implementation (COMB0.5)
1(C2)	Develop an electric vehicle charging network	Considered part of C1, so not quantified separately	Same as COMBO.6
2 (C1)	Convert vehicles to clean fuels	100% of new light-duty vehicles sold 50% of new med./heavy -duty trucks sold 100% of all buses on the road	50% of new light-duty vehicles sold 30% of new med./heavy -duty trucks sold 50% of all buses on the road
3 (C3)	Add additional housing units	+77,000 by 2030 and +126,000 by 2050 compared to amounts in COG Coop. Forecasts, Round 9.1a	Same as COMBO.6
4 (C8)	Reduce travel times on bus transit	15% by 2030 and 30% by 2050 (relative to 2020 travel times)	10% by 2030 and 20% by 2050 (relative to 2020 travel times)
5 (C9)	Implement projects or programs to provide walk/bike access to all HCT stations	50% increase in bicycle access trips	25% increase in bicycle access trips
6 (C10)	Complete the TPB's National Capital Trail Network	Unbuilt portion of NCTN (55%) would be completed by 2030	Same as COMBO.6
7 (C14)	Traffic operational improvements (TSMO)	Both TSMO and some level of connected and automated vehicles (CAVs) by 2050	TSMO, but no CAV contributions in 2050



TPB discussions at its two work sessions

- TPB does not vote at work sessions, but TPB members did provide input on setting transportation-sector goals and strategies
- Transp.-sector goals (Options A, B, and C)
 - No clear consensus on transp.-sector goal levels
- Transp.-sector <u>strategies</u> (Options 1 and 2)
 - No clear consensus on preferred level of implementation for 7 preferred strategies



Next steps

- TPB to decide, possibly via a formal vote, on transportation-sector GHG reduction goals and strategies at its June 15 meeting
- Adopted goals and strategies should become part of the planning priorities, i.e., be added to the 2022 update of the longrange transportation plan (LRTP), Visualize 2045.



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Mark S. Moran

Program Director, Travel Forecasting and Emissions Analysis, COG/TPB (202) 962-3392 mmoran@mwcog.org

mwcog.org/TPB

Metropolitan Washington Council of Governments 777 North Capitol Street NE, Suite 300 Washington, DC 20002

