

# CLIMATE CHANGE MITIGATION GOALS & STRATEGIES

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## To Recommend to the TPB: Options

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Transportation Planning Board, Work Session on Climate Change Mitigation Goals and Strategies  
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# DISCUSSION TOPICS

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- Adopt on-road transportation sector greenhouse gas (GHG) reduction goals
- Adopt on-road transportation GHG reduction strategies as planning priorities
- Affirm on-road transportation GHG reduction strategies to be further explored (implementation issues, collaborative discussion)



# GHG REDUCTION GOALS: ON-ROAD SECTOR

Agreed: Adopt GHG reduction goals for on-road transportation  
(For 2030 and 2050)

Discuss: What level of GHG reductions (below 2005 levels)?

Option	Title	GHG Reduction Goal (Below 2005 levels)	Notes
A	Aspirational	50% by 2030 80% by 2050	No identified pathway to attain 2030 goal, based on Climate Change Mitigation Study (CCMS).
B	Ambitious	32% by 2030 80% by 2050	Data driven (CCMS scenarios Com.2, 3 and 4), 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).
C	Pragmatic	23% by 2030 OR 29% by 2030 80% by 2050	Data driven and based on strategies supported by majority/plurality of TPB member jurisdictions. Ambitious compared to peer MPOs (staff research memo).



# GHG Reduction Strategies: Adoption

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Agreed: Adopt seven of the CCMS transportation strategies as planning priorities at this time.

Discuss: Level of 2030 implementation for 4 of the 7 strategies.

Option 1 (COMBO.6):





High end of implementation levels assumed in CCMS and as listed in the TPB member survey)

Option 2 (COMBO.5):

More modest level of implementation for 2030 (no change for 2050).



# Levels of implementation: Options

No.	GHG Reduction Strategy	High-end of CCMS Scenarios (COMBO.6)	More Modest Level (COMBO.5)
1 (C9)	Improve <b>walk/bike access to all</b> TPB identified <b>high-capacity transit stations</b>	50% increase in bicycle access trips	25% increase in bicycle access trips 
2	Increase Walk/Bike mode of travel - <b>Complete the TPB's National Capital Trail Network</b>	Unbuilt portion of the NCTN (55%) would be completed by 2030	Same as COMBO.6.
3 (C14)	<b>Transportation System Management &amp; Operations (TSMO) improvement measures</b> at all eligible locations.	Both TSMO and some level of connected and automated vehicles (CAVs) by 2050	TSMO, but without CAV contributions in 2050 
4 (C2)	Develop an <b>electric vehicle charging network</b>	Considered part of "C1," so not quantified separately	Same as COMBO.6.
5 (C1)	<b>Convert vehicles to clean fuels.</b>	<ul style="list-style-type: none"> <li>• 100% of new light duty vehicles sold;</li> <li>• 50% of new medium/heavy duty trucks sold;</li> <li>• 100% of all buses <u>on the road</u></li> </ul>	<ul style="list-style-type: none"> <li>• 50% of new light duty vehicles sold;</li> <li>• 30% of new medium/heavy duty trucks sold;</li> <li>• 50% of all buses <u>on the road</u></li> </ul> 
6 (C3)	<b>Add additional housing units</b> near TPB-identified high-capacity transit stations and in COG's Regional Activity Centers.	+77,000 by 2030 and +126,000 by 2050 compared to amounts in COG Cooperative Forecasts Round 9.1a	Same as COMBO.6.
7 (C8)	<b>Reduce travel times on all public transportation bus services.</b>	15% by 2030 and 30% by 2050 (relative to 2020 travel times)	10% by 2030 and 20% by 2050 (relative to 2020 travel times) 



No meaningful change in GHG reduction



Lower GHG reductions lower due to the change



# GHG Reduction Strategies: Further exploration

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## Agreed:

Seven other CCMS strategies not ready to be adopted as planning priorities at this time.

Various implementation aspects (ability to act at local level, fiscal implications, addressing equity implications, etc.) need to be further discussed and fully understood.

## Recommend:

Advise technical staffs at local, state and regional level to examine and discuss the ideas and implementation issues associated with these seven strategies.



# GHG Reduction Strategies: Explore Further

Ref.	Description of Goals / GHG Reduction Strategy	Adopt	Explore	Other
1	<b>C4a. Take action to shift growth in jobs and housing</b> from locations currently forecast (COG Cooperative Forecasts) to locations near TPB-identified <b>high-capacity transit stations</b> and in COG's <b>Regional Activity Centers, within jurisdictional</b> boundaries, to improve the jobs-housing balance locally.	29%	65%	6%
2	<b>C 5. Make all public bus transportation in the region fare-free</b> by 2030.	23%	73%	3%
3	<b>C6. Make all public rail transportation in the region fare-free</b> by 2030.	7%	73%	20%
4	<b>C7. Price workplace parking for employees.</b> In 2030, prices in <b>Activity Centers</b> would vary between \$12-\$14/day. In 2050, prices in Activity Centers would vary between \$12-\$14/day and be approximately \$6/day outside of Activity Centers. (2020 dollars to be adjusted for inflation)	27%	43%	30%
5	<b>C11. Convert a higher proportion of daily work trips to telework.</b> By 2030, convert 25 percent of daily work trips and by 2050 convert 40 percent of work trips to telework.	38%	45%	17%
6	<b>C12. Charge a new fee per vehicle mile of travel (VMT)</b> by motorized, private, passenger vehicles in addition to the prevailing transportation fees and fuel taxes. In 2030, the fee would be 5 cents/mile and in 2050, the fee would be 10 cents/mile	10%	67%	23%
7	<b>C13. Charge a “cordon fee” of \$10 per motorized vehicle trip</b> for all vehicles entering Activity Centers in the core of the District of Columbia, by 2030.	3%	63%	34%



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Transportation Planning Board



# CCM Planning Elements

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- Greenhouse Gas (GHG) reduction goals specifically for on-road transportation sector
  - Short term (2030)
  - Long term (2050)
- GHG Reduction strategies – Multi-modal, Multi-pathway
  - Land-use, Highway, Transit, Non-motorized
  - Clean Fuel, Reduced VMT, Improved Operational Efficiency



# GHG Reduction Goals: On-road Sector

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1. 50 percent below on-road sector GHG emissions in 2005 by 2030
  2. 80 percent below on-road sector GHG emissions in 2005 by 2030
- 31 responses:  
65% Adopt / 16% Explore appropriate level / 19% Other
  - Comments associated with Other response note CCMS finding that 2030 goal is not attainable OR implies support to assess what actions are viable to inform appropriate level of GHG reduction goals.
  - Climate Change Mitigation Study (CCMS) tested ten scenarios and found that the 2030 50% goal would be extremely challenging to attain. The scenario with the most aggressive assumptions (COMBO.4) attained only 38% reduction.



# GHG Reduction Strategies: Adopt

No.	Description of Goals / GHG Reduction Strategy	Adopt	Explore	Other
1	<b>C1. Convert vehicles to clean fuels.</b> In 2030, 100% of new light duty vehicles sold; 50 percent of new medium/heavy duty trucks, and 100% of all buses on the road will be clean fuel vehicles. In 2050, 100% of new light duty vehicles sold, <u>100%</u> of new medium/heavy duty trucks sold, and 100% of all buses on the road will be clean fuel vehicles.	45%	42%	13%
2	<b>C2. Develop an electric vehicle charging network</b> in the region to support an accelerated shift of light-duty passenger cars and trucks to electric vehicles.	81%	13%	6%
3	<b>C3. Add additional housing units</b> , above current COG Cooperative Forecasts, (approximately 77,000 by 2030 and 126,000 by 2050) near TPB-identified high-capacity transit stations and in COG's Regional Activity Centers.	57%	33%	10%
4	<b>C8. Reduce travel times</b> (relative to 2020) on all public transportation bus services. In 2030, travel times are reduced by 15 percent, and in 2050, travel times are reduced by 30 percent.	58%	39%	3%
5	<b>C9.</b> Implement projects or programs to <b>provide walk/bike access to all TPB identified high-capacity transit stations.</b> (Survey Question C9)	90%	0%	10%
6	<b>Complete the TPB's National Capital Trail Network</b> to increase walk and bike trips throughout the day.	87%	0%	13%
7	<b>C14. Implement traffic operational improvement measures</b> at all eligible locations, including advanced ramp metering, enhanced incident management systems, active signal controls, and transit bus priority treatments.	77%	17%	6%



# GHG Reduction Strategies: Explore Further

Ref.	Description of Goals / GHG Reduction Strategy	Adopt	Explore	Other
1	<b>C4a. Take action to shift growth in jobs and housing</b> from locations currently forecast (COG Cooperative Forecasts) to locations near TPB-identified <b>high-capacity transit stations</b> and in COG's <b>Regional Activity Centers, within jurisdictional</b> boundaries, to improve the jobs-housing balance locally. <b>See Note</b>	29%	<b>65%</b>	6%
2	<b>C 5. Make all public bus transportation in the region fare-free</b> by 2030.	23%	<b>73%</b>	3%
3	<b>C6. Make all public rail transportation in the region fare-free</b> by 2030.	7%	<b>73%</b>	20%
4	<b>C7. Price workplace parking for employees.</b> In 2030, prices in <b>Activity Centers</b> would vary between \$12-\$14/day. In 2050, prices in Activity Centers would vary between \$12-\$14/day and be approximately \$6/day outside of Activity Centers. (2020 dollars to be adjusted for inflation)	27%	<b>43%</b>	30%
5	<b>C11. Convert a higher proportion of daily work trips to telework.</b> By 2030, convert 25 percent of daily work trips and by 2050 convert 40 percent of work trips to telework.	38%	<b>45%</b>	17%
6	<b>C12. Charge a new fee per vehicle mile of travel (VMT)</b> by motorized, private, passenger vehicles in addition to the prevailing transportation fees and fuel taxes. In 2030, the fee would be 5 cents/mile and in 2050, the fee would be 10 cents/mile	10%	<b>67%</b>	23%
7	<b>C13. Charge a “cordon fee” of \$10 per motorized vehicle trip</b> for all vehicles entering Activity Centers in the core of the District of Columbia, by 2030.	3%	<b>63%</b>	34%

**Note:** On a related question (Part C, 4b.) about the jurisdiction/ agency position on “Take actions to shift growth in jobs and housing from locations currently forecast (COG Cooperative Forecasts) to locations near TPB-identified high-capacity transit stations and in COG’s Regional Activity Centers across the region to improve the jobs-housing balance, regionally.”

- 27% responded that they lacked the specific authority to take any actions;
- 47% responded that the actions taken to balance jobs and housing within their jurisdiction would contribute to balance jobs and housing regionally; and
- 27% chose Other.

