



MEMORANDUM

TO: Transportation Planning Board

FROM: Kanti Srikanth, TPB Staff Director
Erin Morrow, TPB Transportation Engineer
Dusan Vuksan, TPB Transportation Engineer
Mark Moran, Travel Forecasting and Emissions Analysis Program Director

SUBJECT: Research on Peer MPO On-road Transportation Greenhouse Gas (GHG) Reduction Targets

DATE: April 27, 2022

INTRODUCTION

Both the Metropolitan Washington Council of Governments (COG) and the National Capital Region Transportation Planning Board (TPB) have endorsed overall (multi-sector), region-level greenhouse gas (GHG) reduction goals for 2030 and 2050:

- 2030 goal: Reduce GHG emissions 50% by 2030, compared to 2005 levels.¹
- 2050 goal: Reduce GHG emissions 80% by 2050, compared to 2005 levels.²

Although GHG emissions are created in many different sectors (e.g., buildings, transportation, and waste), the above goals are not sector specific. In addition to these general, overall GHG reduction goals, the TPB has been discussing whether it should adopt GHG reduction goals that are specific to the on-road, transportation sector.

This memo documents desk research conducted by TPB staff in March and April 2022 regarding on-road transportation sector GHG emissions reduction targets for peer Metropolitan Planning Organizations (MPOs). The desk research involved a web-based review of relevant transportation planning documents. The 22 selected MPOs are the largest in the country based on 2010 population. The TPB, representing the metropolitan Washington region, is the ninth largest MPO in the U.S.

The information in this memorandum was referenced by TPB staff during the April 20, 2022 TPB work session on climate change mitigation goals and strategies and is being provided at the request of TPB members.

¹ “Metropolitan Washington 2030 Climate and Energy Action Plan” (Washington, D.C.: Metropolitan Washington Council of Governments, November 18, 2020), 3, <https://www.mwcog.org/documents/2020/11/18/metropolitan-washington-2030-climate-and-energy-action-plan/>.

² Climate Change Steering Committee for the Metropolitan Washington Council of Governments Board of Directors, “National Capital Region Climate Change Report,” Final Report (Washington, D.C.: Metropolitan Washington Council of Governments, November 12, 2008), 9, <https://www.mwcog.org/file.aspx?A=R8%2F07kehmpgZBhW7Z%2F6R7fLiQ4aIY28XTL33ZwEgoJo%3D>.

SUMMARY OF FINDINGS

While many MPOs have initiatives supportive of on-road transportation sector greenhouse gas reductions, such as shifting vehicles away from fossil fuels and reducing single occupant vehicle travel, the research did not find any peer MPOs that have voluntarily adopted on-road transportation greenhouse gas reduction targets for their long-range transportation plan (LRTP).

TPB staff found six peer MPOs in three states (California, Oregon, and Colorado) with state legislated on-road transportation greenhouse gas reduction targets. California and Oregon have per capita targets for light-duty vehicles with emissions represented as a percentage reduction below 2005 emissions levels. Colorado has absolute emissions reduction targets, calculated using a future baseline based on the MPO's adopted LRTP.

The reduction targets are described in more detail below. While it is difficult to do a direct comparison between the on-road reduction targets for MPOs in California, Oregon, and Colorado and the regional targets adopted by the COG Board, TPB staff believe that none of the on-road targets for other MPOs are of the same magnitude as the 50% below 2005 levels by 2030 goal being considered by TPB for adoption for the on-road transportation sector. One other factor that complicates comparisons is which GHG emissions are being estimated and tracked. In many cases, on-road, transportation-sector GHG emissions include only those from the motor vehicles themselves (i.e., tailpipe emissions and evaporative emissions). However, for the TPB's Climate Change Mitigation Study (CCMS) of 2021, the analysis included both tailpipe/evaporative emissions AND electricity emissions associated with the operation of electric vehicles (EVs).

MPOS WITH ON-ROAD GREENHOUSE GAS REDUCTION TARGETS

California

Peer MPOs:

- Southern California Association of Governments (SCAG), Los Angeles, CA
- Metropolitan Transportation Commission (MTC), San Francisco, CA
- San Diego Association of Governments (SANDAG), San Diego, CA
- Sacramento Area Council of Governments (SACOG), Sacramento, CA

On-road transportation greenhouse gas reduction requirement: Reduce per capita passenger vehicle greenhouse gas emissions 19% relative to 2005 by 2035

In California, the Sustainable Communities and Climate Protection Act of 2008, also known as SB 375,³ requires MPOs to reduce greenhouse gas emissions from passenger vehicles. The law acknowledges the significant reductions in GHG emissions that can be achieved with vehicle technology; however, the intent of SB 375 is to reduce vehicle travel through land use planning and transportation policy. The four largest MPOs in the state (Los Angeles, San Diego, San Francisco, and

³ Darrell Steinberg, "SB-375 Sustainable Communities and Climate Protection Act," Pub. L. No. 375 (2008), http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=200720080SB375&search_keywords=transportation+planning.

Sacramento) have a target to reduce per capita passenger vehicle greenhouse gas emissions 19% relative to 2005 by 2035.⁴

Oregon

Peer MPO: Metro, Portland, OR

On-road transportation greenhouse gas reduction requirement: Reduce per capita greenhouse gas emissions from passenger vehicles 20% below 2005 levels by 2035 and 35% below 2005 levels by 2050

In Oregon, the 2009 Metropolitan Greenhouse Gas Reduction Targets Rule⁵ requires Metro, the Portland area MPO, to develop a strategy to reduce per capita greenhouse gas emissions from light-duty vehicle travel. The reductions do not include vehicle emissions that are likely to result from the use of improved vehicle technologies and fuels. At this time, Metro is the only MPO in the state required to develop, adopt, and implement a plan that meets the targets.

In 2014, Metro adopted its Climate Smart Strategy,⁶ which was incorporated into the 2018 Regional Transportation Plan (RTP). Due to changes in emissions analysis tools, the emissions forecast from the RTP is not directly comparable with the state-mandated reduction targets; however, Metro concluded based in the performance analysis of the plan, the region “can reasonably be expected to meet the state-mandated targets for reducing per capita greenhouse gas emissions from cars and small trucks (light-duty vehicles) for 2035 and 2040.”⁷

Colorado

Peer MPO: Denver Regional Council of Governments (DRCOG), Denver, CO

On-road transportation greenhouse gas reduction requirement: Reduce greenhouse gas emissions from the regional transportation plan (RTP) for forecast years 2025, 2030, 2040, and 2050 by specified amounts.

In Colorado, MPOs are required to reduce greenhouse gas emissions associated with their regional transportation plans (RTP) based on the 2021 Colorado Greenhouse Gas Reduction Roadmap⁸ and SB 260, which set reduction targets for MPOs for 2025, 2030, 2040, and 2050. The baseline for

⁴ Regional Plan Targets: SB 375 Regional Plan Climate Targets. California Air Resources Board, 2022. <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets> (accessed April 20, 2022)

⁵ Oregon Secretary of State Land Conservation and Development Department, “Metropolitan Greenhouse Gas Reduction Targets,” 660-044-0000. <https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3093>

⁶ Metro, “Climate Smart Strategy for the Portland metropolitan region,” 2014.

<https://www.oregonmetro.gov/sites/default/files/2015/05/29/ClimateSmartStrategy-FinalVersion-2014.PDF>

⁷ Metro, “2018 Regional Transportation Plan,” Adopted December 6, 2018.

<https://www.oregonmetro.gov/sites/default/files/2020/07/29/Adopted-2018-RTP-all-chapters.pdf>

⁸ Greenhouse Gas Reduction Road Map Colorado Energy Office, 2021

<https://energyoffice.colorado.gov/climate-energy/ghg-pollution-reduction-roadmap> (Accessed April 20, 2022)

calculating the reduction targets is the GHG forecast from the adopted RTP on the date that the rule was established.

The reduction targets for DRCOG are:⁹

RTP Forecast Year	Baseline Projections (MMT CO2e)	Reduction level (MMT CO2e)	% Reduction from Baseline RTP forecast ¹⁰
2025	14.9	0.27	2%
2030	11.8	0.82	7%
2040	10.9	0.63	6%
2050	12.8	0.37	3%

DRCOG will update its RTP in accordance with this requirement by October 1, 2022.

MPOS THAT DO NOT HAVE ON-ROAD TRANSPORTATION SECTOR GHG TARGETS

Table 1 lists MPOs reviewed that do not appear to have on-road transportation sector greenhouse reduction targets as of April 2022.

⁹ Papsdorf, Ron, “Greenhouse Gas Transportation Planning Rulemaking”, Presentation to the DRCOG Board of Directors, August 18, 2021. [https://drcog.org/sites/default/files/event-materials/GHG Rulemaking update presentaton Board Mtg Aug 18 2021.pdf](https://drcog.org/sites/default/files/event-materials/GHG%20Rulemaking%20update%20presentaton%20Board%20Mtg%20Aug%2018%202021.pdf)

¹⁰ The percentage reductions were calculated by TPB staff and have not been verified by DRCOG.

Table 1: MPOs without On-Road Transportation Greenhouse Gas (GHG) Reduction Goals or GHG reporting Requirements

MPO	Multi-sector GHG reduction goals identified	On-road Transportation Sector GHG reduction goals identified	Resources
New Jersey Transportation Planning Authority (NJTPA) (Northern New Jersey)	80% below 2006 emissions levels by 2050 (statewide)	No	https://www.njtpa.org/NJTPA/media/Documents/Planning/Plans-Guidance/Planning%20for%202050/draft%20final/njtpa_climate.pdf
Chicago Metropolitan Agency for Planning (CMAP) (Chicago, IL)	80% below 1990 levels by 2050 (regional)	No	
Puget Sound Regional Council (PSRC) (Seattle, WA)	The Puget Sound Clean Air Agency has set goals of 50% below 1990 levels by 2030 and 80% below 1990 levels by 2050. (regional)	No	https://www.psrc.org/sites/default/files/rtp_full_document_formatted_011322.pdf (draft plan) https://www.psrc.org/sites/default/files/appendix_1_greenhouse_gas_4-part_strategy.pdf

MPO	Multi-sector GHG reduction goals identified	On-road Transportation Sector GHG reduction goals identified	Resources
Boston Region MPO (Boston, MA)	The Commonwealth's Global Warming Solutions Act, signed into law in 2008, set the legally-enforceable goals of reducing GHG emissions by 25 percent below 1990 levels by 2020, and 80 percent below 1990 levels by 2050. (statewide)	In August 2017, the Massachusetts Department of Environmental Protection updated 310 CMR 60.05: Global Warming Solutions Act Requirements for Transportation. This regulation places obligations on MassDOT and Metropolitan Planning Organizations (MPOs) to consider GHG emissions in transportation planning. The MPO does not have goals, but MassDOT has maximum allowable GHG emissions levels established. MPOs in Massachusetts are required to report GHG emissions for their LRTP.	310 CMR 60.00: Air Pollution Control For Mobile Sources Mass.gov https://www.ctps.org/data/pdf/plans/LRTP/destination/Destination-2040-LRTP-20191030.pdf
North Central Texas COG (NCTCOG) (Dallas, TX)	No	No	
Houston-Galveston Area Council (H-GAC) (Houston, TX)	No	No	
Maricopa Association of Governments (MAG) (Phoenix, AZ)	No	No	
Atlanta Regional Commission (ARC) (Atlanta, GA)	No	No	

MPO	Multi-sector GHG reduction goals identified	On-road Transportation Sector GHG reduction goals identified	Resources
Delaware Valley Regional Council (DVRPC) (Philadelphia, PA)	The Connections 2050 plan calls reduction of GHG emissions to a net zero level by 2050 through renewable energy, energy management, the electrification of buildings and vehicles, and improving transit and non-motorized travel options. (regional)	No	https://www.dvrpc.org/Products/21027
Mid-America Regional Council (MARC) (Kansas, City, MO)	Net zero GHG emissions for local government operations by 2030 Net zero GHG emissions for energy generation by 2035 Net zero GHG emissions from homes and buildings by 2040 Net Zero by 2050	No	https://kcmetroclimateplan.org/wp-content/uploads/2021/05/Climate-Action-Plan.pdf
East-West Gateway COG (St. Louis, MO)	No	No	

MPO	Multi-sector GHG reduction goals identified	On-road Transportation Sector GHG reduction goals identified	Resources
Metropolitan Council (Minneapolis/St. Paul, MN)	The region supports state efforts related to the Next Generation Energy Act to reduce all greenhouse gas emissions to 80% below 2005 levels by 2050.	No	https://metro council.org/Transportation/Publications-And-Resources/Planning/2040-Transportation-Policy-Plan-(2018-version)-(1)/2018-Transportation-Policy-Plan-Update/2040-Transportation-Policy-Plan-2018-Update-Overvi.aspx
Baltimore Regional Transportation Board (BRTB) (Baltimore, MD)	No	No	https://www.baltometro.org/newsroom/maximize2045-how-does-brtb-score-projects
Mid-Ohio Regional Planning Commission (MORPC)	No	No	https://www.morpc.org/wordpress/wp-content/uploads/2021/06/2021-REGIONAL-SUSTAINABILITY-AGENDA.pdf
Southwestern Pennsylvania Commission	No	No	
New York Metropolitan Transportation Council (NYMTC) (New York City, NY)	No	No	