



Scenario Planning to Guide GHG Reduction Strategies

The Puget Sound Regional Council (PSRC) is the Metropolitan Planning Organization (MPO) for the Seattle metropolitan area and central Puget Sound region of Washington state. With its 2050 Regional Transportation Plan (RTP), the metropolitan transportation plan, PSRC provides strategies to reduce the region's transportation greenhouse gas emissions (GHGs) through land use planning, expansion of transportation choices, road pricing, and decarbonization of the transportation fleet.

State and Regional GHG Reduction Targets

In 2017, the Puget Sound Clean Air Agency adopted the following regionwide greenhouse gas emission reduction targets for the four-county central Puget Sound region:

1. Reduce GHGs emissions by 50 percent below 1990 levels by 2030.
2. Reduce GHG emissions by 80 percent below 1990 levels by 2050.

PSRC included these targets in their Regional Growth Strategy (VISION 2050) and the 2050 RTP.

Planning for a Growing Region

In its role as a regional planning council, PSRC develops a regional growth plan as required by the Washington Growth Management Act. Passed in 1990, this act requires local governments in rapidly growing and urbanized counties to develop and adopt comprehensive plans. In 2023, House Bill 1181 further added a requirement to address climate change and resiliency in the state's planning framework. The bill adopted goals to encourage infill development, reduce urban sprawl and encourage efficient multimodal transportation systems, which must be used to guide the development of city and county development regulations and comprehensive plans.

PSRC's regional growth plan is a key planning product that informs the RTP, regional economic strategy, and local comprehensive plans. PSRC's current regional growth plan, VISION 2050 outlines land use and transportation strategies, such as compact, focused development and support for low-carbon transportation options to address the regional GHG reduction targets set by the Puget Sound Clean Air Agency. Specifically, the plan includes a goal to focus 65 percent of the region's population growth to regional centers and in proximity to high-capacity transit stations. Seventy-five percent of job growth would be focused on these same areas to increase access, decrease commute times, and encourage non-single occupancy vehicle (SOV) commutes.

Four-Part Strategy

PSRC first established the agency's Four-Part Greenhouse Gas Strategy to reduce GHG emissions in its VISION 2040 plan in 2010 and carried it through to the VISION 2050 plan. The strategy includes four types of actions to reduce emissions:

Highlights

- State leadership on climate reduction goals
- Plan effectiveness analysis
- Support and guidance for local governments from planning agencies
- Technical evaluation of projects for federal funding

Context

PSRC serves as the MPO as well as the regional transportation planning organization (RTPO) for the Washington state central Puget Sound region, which includes King, Kitsap, Pierce, and Snohomish counties. These counties include 82 municipalities, about 6,300 square miles of land, and over 4.3 million people.



Integrating Greenhouse Gas Assessment and Reduction Targets in Transportation Planning



U.S. Department of Transportation
Federal Highway Administration



1. **Land Use:** implementing VISION 2040 and the Regional Growth Strategy, furthering the goal of balancing jobs and housing, focusing growth in centers and providing for efficient communities
2. **User Fees:** transitioning the region over time to a user fee/roadway pricing system
3. **Choices:** continuing to provide travelers with options to the single-occupant vehicle
4. **Technology:** supporting development of technology to dramatically reduce tailpipe emissions

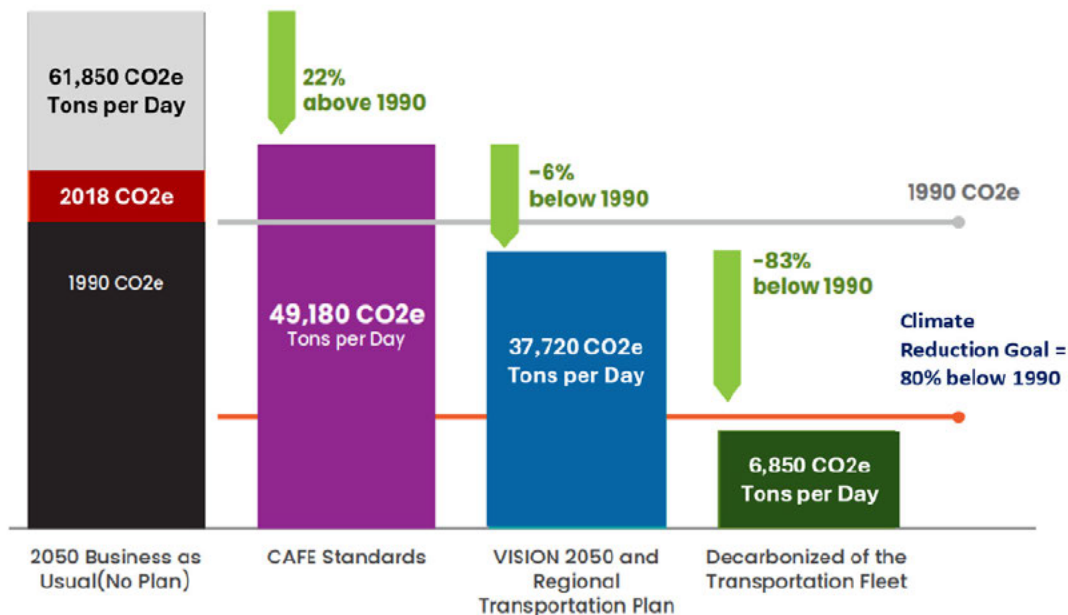


Figure 1: Greenhouse gas emissions reductions from PSRC plans, CAFE standards, and the decarbonization of the transportation fleet. Regional Transportation Plan, 2022.

PSRC's land use strategy intends to encourage population growth within the urban growth area and defined regional geographies, as opposed to sprawling development, to encourage growth near existing and future transit, and to integrate planning for housing and transportation development. Each county and city within the metropolitan area has a designated urban growth area, growth target, and strategies in their comprehensive plan to accommodate the targeted growth in designated areas. PSRC provides guidance and technical assistance for comprehensive plan development. Strategies to encourage growth in targeted growth areas include zoning and development standards, incentives, and infrastructure investments.

Through its regional planning activities, PSRC is working to expand multimodal access to transportation, especially for Justice40¹ designated neighborhoods and otherwise disadvantaged neighborhoods by increasing transit network interconnectivity. Meanwhile, the RTP includes a recommendation to implement a statewide Road Usage Charge, which will make up for lost revenue from fuel sales as the electric vehicle (EV) market share increases and vehicles overall become more fuel efficient. PSRC recommends that funds from this system would be flexible for use in projects that reduce SOV travel, such as active transportation, public transportation, and transportation demand management projects. PSRC's analysis shows that without action on the elements of the adopted Four-Part Greenhouse Gas Strategy in alignment with VISION 2050 and the metropolitan transportation plan, the region will not reach the 2050 climate goals. Furthermore, in addition to implementation of VISION 2050 and the metropolitan transportation plan, maintaining current Corporate

Performance Indicators

PSRC modeled the impacts of its regional transportation plan on the following indicators (in addition to the federally required performance measures):

- Transit boardings
- Vehicle miles traveled
- Proximity to high-capacity transit
- Mode share for work purposes
- Mode share for non-work purposes
- Annual delay per capita
- Miles of travel in heavy or severe congestion
- Travel time for major corridors
- Truck miles traveled
- Congestion on the freight network
- Air quality and greenhouse gas emissions

¹ The Justice40 Initiative is a goal included in *Executive Order 14009: Tackling the Climate Crisis at Home and Abroad*. The goal is for 40 percent of the overall benefits of certain Federal climate, clean energy, affordable and sustainable housing, and other investments to flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution.



Average Fuel Economy (CAFE) standards² and decarbonizing the transportation fleet are necessary to achieving the target of reducing emissions to 80 percent below 1990 level, as shown in Figure 1.

Regional Transportation Plan

PSRC's 2022-2050 RTP is directly informed by VISION 2050. The plan incorporates strategies from the adopted Four-Part Greenhouse Gas Strategy to reduce GHG emissions and achieve the goals of 65 percent of population and 75 percent of employment growth near high-capacity transit. PSRC modeled the expected performance of the plan across a variety of metrics as part of its overall analysis of the plan's impact on PSRC's key policy focus areas for transportation: safety, equity, climate, access to transit, local agency needs, and forward-thinking investments.

PSRC emphasizes that decarbonizing the transportation fleet will be crucial to meeting its climate reduction goals. By transitioning to zero-emission vehicles, PSRC expects that the region will be able to reduce its GHG emissions to 83 percent below 1990 levels by 2050. Many transit agencies have also now made commitments to transition to zero-emission vehicles over the next 20 years, and the freight community is also pursuing a transition to a zero-emission future. PSRC and the Puget Sound Clean Air Agency (PSCAA) jointly manage a Regional EV Collaborative to support this transition and provide an information sharing forum and technical resources for local governments and other stakeholders. Building from work done by the State of Washington, PSRC and PSCAA are considering the development of a Regional EV Plan to further advance this work.

In addition to addressing climate, the focused investments in the RTP further advance VISION 2050's goal for central Puget Sound's transportation system. For example, compared to the base year of 2018, the plan results in a 262 percent increase in the number of households within ½ mile of high-capacity transit stations, a 246 percent increase in annual transit boardings, and a 15 percent reduction in daily vehicle miles traveled per capita, among other measures. An equity lens is applied throughout the performance metrics, addressing the impacts and opportunities resulting from the plan for PSRC's six identified equity focus areas: people of color, people with low income, older adults, youth, people with disabilities and people with limited English proficiency.

Project Prioritization for Federal Funding

PSRC uses a competitive selection process to distribute the Federal Highway Administration Surface Transportation Block Grant (STBG) and Congestion Mitigation and Air Quality (CMAQ) program funds it manages. This project prioritization system helps align transportation funding and implementation to VISION 2050 and the RTP. Both projects applying for STBG funds and CMAQ funds are subject to the same criteria, anchored in its regional policies and priorities, but are weighted differently, as shown in Table 1.

Equity considerations are woven throughout all of the criteria. For the distribution of Federal Transit Administration funds, PSRC has a unique process that disaggregates the federal formula to identify the amount earned due to services provided by each of the region's transit operators. This amount is then distributed accordingly to those agencies, and the balance of funding is distributed via an Equity Formula process to ensure improvements for PSRC's equity focus area populations.

Table 1. PSRC Project Evaluation Criteria

Scoring Framework	STBG	CMAQ
A. Identification of Equity Populations	n/a	n/a
B. Development Growth and/or Manufacturing / Industrial Center	28	13
C. Mobility and Accessibility	24	12
D. Outreach and Displacement	12	10
E. Safety and Security	16	15
F. Air Quality/Climate Change	20	50
TOTAL	100	100

² The National Highway Transportation Safety Administration sets CAFE standards, which regulate fuel consumption standards for light duty vehicles. These standards require vehicles to travel a minimum number of miles per gallon of gasoline consumed. If CAFE standards were to change to allow light duty vehicles to consume gasoline at a higher rate per mile traveled, GHG emissions would increase.



Key Takeaways

- **State leadership.** Strong climate reduction goals from higher levels of government support or require regional and local agencies to take steps to reduce GHG emissions.
- **Plan effectiveness analysis.** PSRC has a strong data analysis practice and conducted a review of its RTP in relation to achieving GHG reduction targets. This analysis helped identify which strategies would be the most crucial to meeting PSRC's climate reduction goals and also revealed that business-as-usual policies would lead to additional GHG as the region grows in population.
- **Local government support.** It is helpful to provide guidance and support to local governments on strategies that address GHG emissions, such as PSRC's climate guidance and the Regional EV Collaborative, allowing municipalities flexibility in their approaches to address emissions.
- **Consistency.** Evaluating projects for air quality and climate change benefits regardless of funding source establishes a strong standard that all projects should strive to be consistent with the Regional Growth Strategy and RTP's policy objectives.

Resources

- VISION 2050: A Plan for the Central Puget Sound Region. <https://www.psrc.org/sites/default/files/2022-02/vision-2050-plan%20%281%29.pdf>
- VISION 2050 Climate Change and Resilience Guidance. <https://www.psrc.org/media/6869>
- PSRC Regional Transportation Plan. <https://www.psrc.org/media/5934>
- PSRC Funding Program. <https://www.psrc.org/our-work/funding/project-selection>
- Puget Sound Regional EV Collaborative (REV). <https://pugetsoundrev.org/>
- Washington State Department of Ecology: Reducing Greenhouse Gas Emissions website. <https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions>