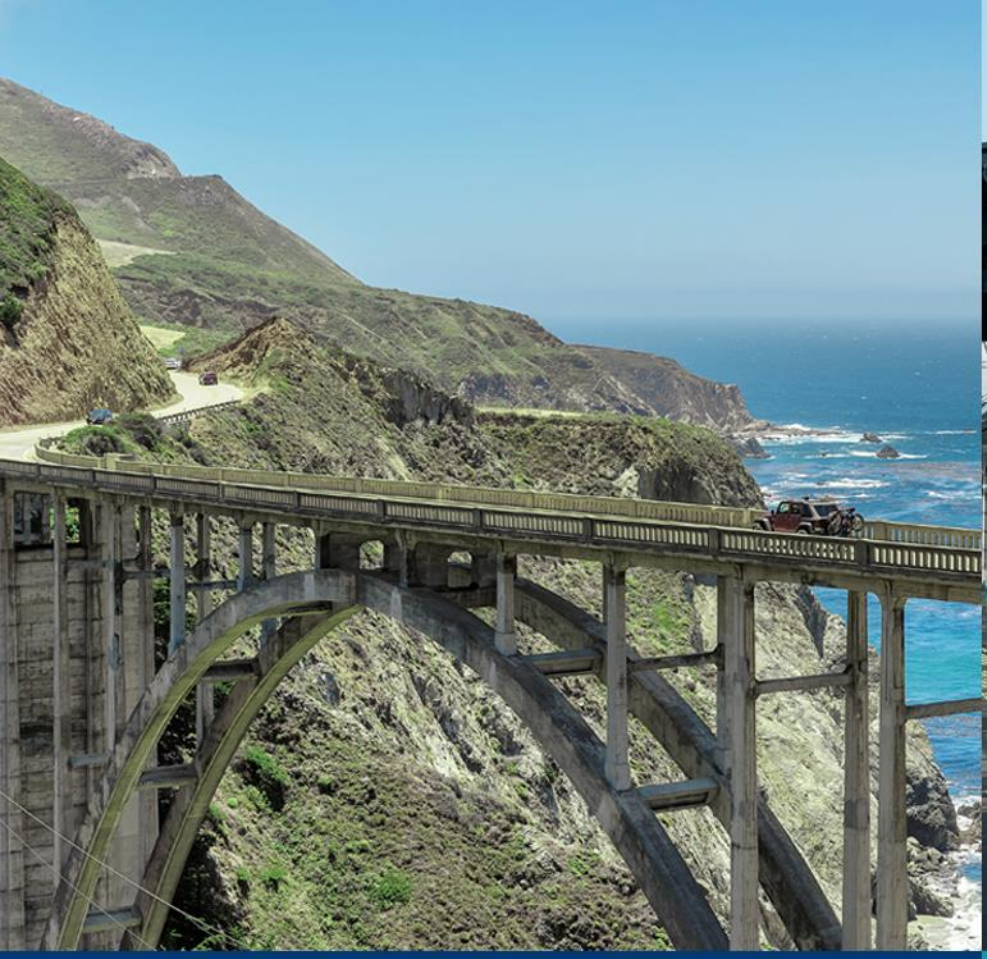
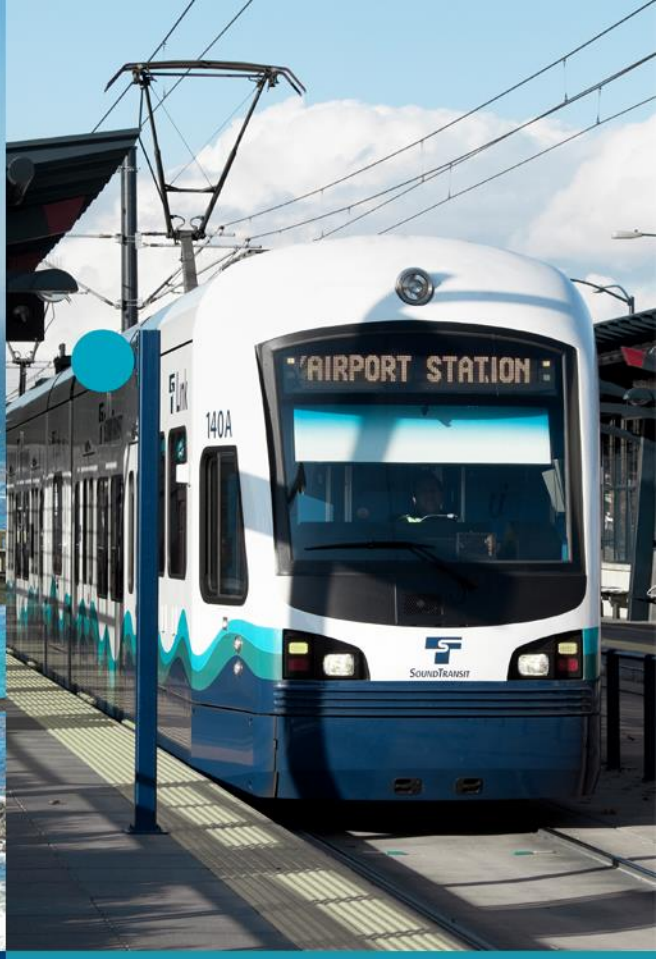




VISION AND ROADMAP
for a Low-Carbon Pacific Coast Transportation System

Pacific Coast COLLABORATIVE

On the Pacific Coast of North America, we are creating an accessible and affordable low-carbon transportation system through strategic investments, public policy, and market transformation. Together, our governments, utilities, businesses, and residents are truly creating the transportation system of the future. In this document, we describe our vision and a roadmap of actions to achieve it.

WHAT IS OUR VISION?

We envision a regional transportation system on the Pacific Coast of North America in which everyone has access to a range of affordable transportation choices that generate little to no greenhouse gases, keep the air clean, reduce vehicle distance traveled while increasing access, and boost the regional economy. Key components of our vision include:

Increased Transportation Efficiency—Prioritize compact land use and completing walking, bicycling, and frequent transit networks. Active and shared travel options allow us to move more people and goods while eliminating fatalities and serious injuries, improving health, providing better access for underserved communities, and reducing greenhouse gas emissions and congestion.

Ubiquitous, Safe, and Affordable Access to Low-Carbon Transportation Options—Integrated land use and transportation systems connect housing, jobs, schools, and communities through a variety of integrated low-carbon mobility solutions. For residents, walking, bicycling, low-carbon transit and ride-sharing, zero emission vehicles (ZEVs), and low-carbon fuels are more available and affordable than the fossil-based options they replace, regardless of income. Companies and government utilize an increasing array of options for low-carbon freight, delivery, non-road equipment, and low-carbon fuels. In cities, and across the region, total vehicle miles traveled declines.

Robust Regional Supply and Demand—Consumers seek out low-carbon transportation options because of clear benefits, reduced barriers, and incentives (while needed). Companies see the West Coast as a prime market for low-carbon technology and infrastructure because of the region's consumer demand, predictable markets, and favorable policies.

One Regional System—Interoperable technologies for vehicle charging and fueling provide drivers with a simple, convenient, and predictable experience—from the beaches of Southern California to the forests of British Columbia and from rural areas to suburbs and downtowns. In and around cities, transit is interconnected, linked with other modes of transportation, and predictable.

Building for the Future—Investments are "future-proof," supporting the convergence of technologies and systems needed for deep decarbonization. This includes ensuring that innovations in battery electric and hydrogen fuel cell vehicles, shared and automated transportation, medium- and heavy-duty technologies, and other transportation modes optimize use of renewable energy and beneficially integrate with the electricity grid.

ABOUT THE PACIFIC COAST COLLABORATIVE

The Pacific Coast of North America represents the world's fifth largest economy, a thriving region of 55 million people with a combined GDP of $3 trillion. Through the Pacific Coast Collaborative, British Columbia, Washington, Oregon, California, and the cities of Vancouver (BC), Seattle, Portland, San Francisco, Oakland, and Los Angeles are working together to build the low carbon economy of the future.

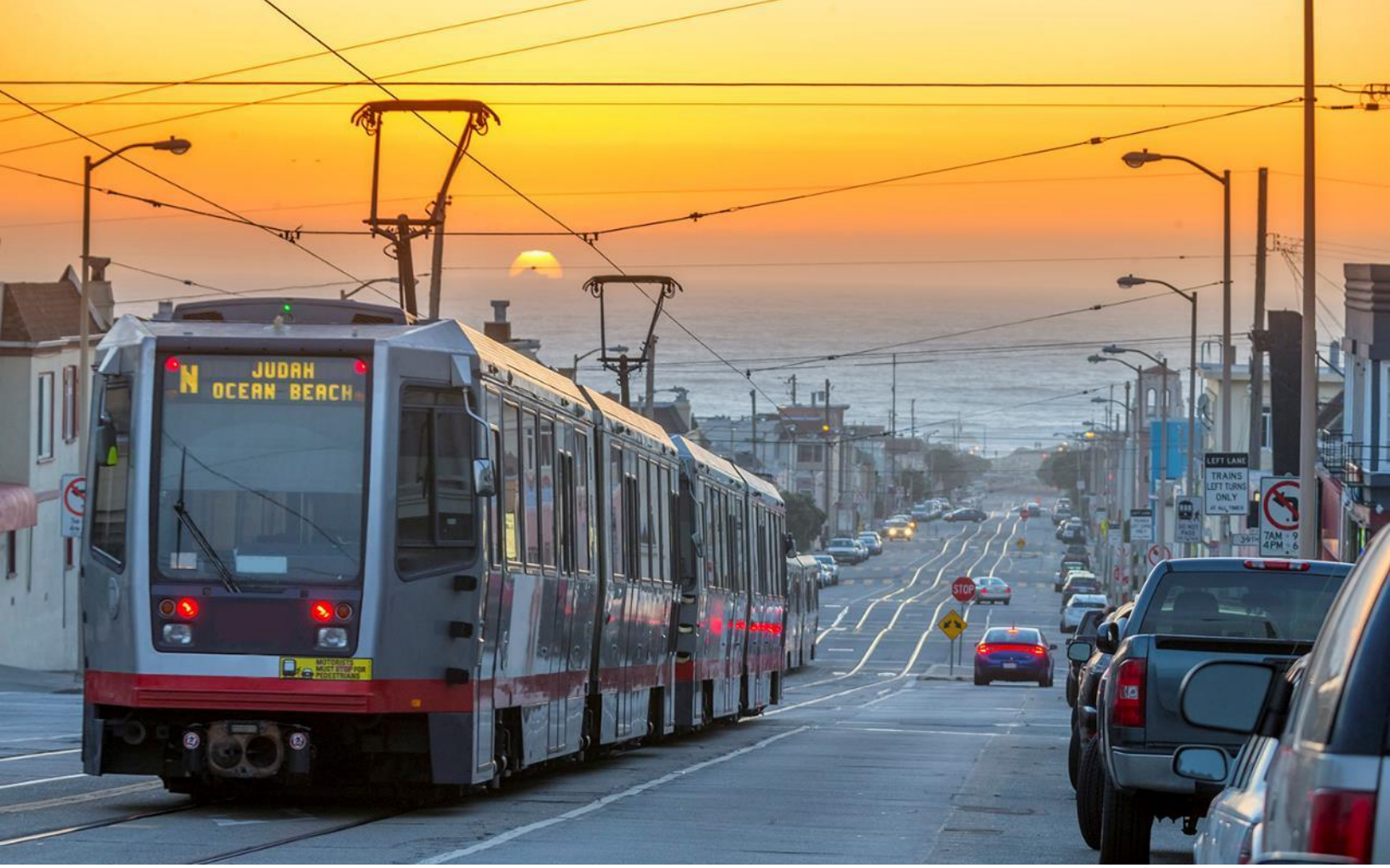
In 2016, PCC partners committed to transition the West Cost to clean modes of transportation and reduce greenhouse gases from the transportation sector through a variety of actions on increased mobility, zero-emission vehicles, and low-carbon fuels.

WHY IS IT IMPORTANT?

Transportation accounts for approximately 40% of regional greenhouse gas emissions. Transforming the sector is needed to achieve mid-century goals and avoid catastrophic climate change. Transformation will also lead to healthier lives, lower costs to people and businesses, stronger communities, cleaner air, and a more robust regional clean economy. To accomplish our goals by 2050 we need to accelerate change now and be well underway by 2030.

Benefits of Low-Carbon Transportation

 Improved health and productivity	if 100% of new passenger vehicle purchases in 10 US States were zero emission, improvements in air quality would mean 200,000 fewer missed days of work each year, nearly $20.5 billion in annual health savings, and over 2,000 fewer premature deaths. Source: Clean Air Future: Health and Climate Benefits of Zero Emission Vehicles, American Lung Association, 2016
 Less risk of accident	Risk of being in an accident is reduced 90% by taking public transit instead of commuting by car. Source: American Public Transportation Association
 Stronger local economies	Every $1 invested in public transportation generates $4 in returns to the local economy. Source: American Public Transportation Association
 New clean energy jobs	By 2030, the electric vehicle industry alone is projected to create 570,000 net jobs. These jobs tend to be higher paying, so real wages across the economy grow. Source: Gearing Up: Smart Standards Create Good Jobs Building Cleaner Cars, BlueGreen Alliance and American Council for an Energy-Efficiency Economy, June 2012
 Lower fleet costs	Fleet owners save over $2,800 per year with a ZEV versus a comparable gasoline vehicle. Electric vehicles cost less than half as much to operate and maintain on average. Source: BC Fleet Champions Program, Fraser Basin Council, 2018
 Lower household costs	Households can save $10,000 per year by taking public transportation and living with one less car. Source: American Public Transportation Association
 Lower costs for cities	The lifetime cost of an electric transit bus is 12.5% lower than a diesel equivalent, considering purchase price, fuel, and maintenance. Cost savings rise to 45% when health care and carbon costs are considered. Source: Electric Bus Analysis for New York City Transit, Columbia University, 2016



HOW WILL WE ACHIEVE OUR VISION?

Transformations in markets, infrastructure, and behaviors must accelerate quickly. This means rapidly increasing affordability and access to active, shared, and low-carbon mobility options for all income levels throughout our urban and rural communities. We must increase use of low-carbon mobility choices, including transit, ride-sharing, bicycling, and walking—as well as land use and development that support these mobility choices. For those that continue to need a vehicle for personal or business uses, we need to support policies and programs that remove barriers to accessing ZEVs. In addition to passenger vehicles, this includes low-carbon and zero emission technologies and infrastructure for medium and heavy-duty vehicles engaged in the transportation of people and goods. Being nimble as new technologies, strategies, and opportunities emerge will enable us to achieve our long-term goals.

Market transformation at this scale cannot be done alone. It will require actions by individuals, businesses, utilities, and other key institutions. Our governments have a large role to play in creating policies and programs that deeply influence how people move through the region, our cities, and our communities and the carbon-content of the fuels they use.

Below, we lay out a roadmap of goals and actions to move us toward our regional vision of creating the low-carbon transportation system of the future. Individual PCC partners will follow their own paths to achieve our regional vision. Some are already implementing the policies, programs, and partnerships described below and some are planning to. Others are exploring these and other options with stakeholders.

Low-Carbon Mobility for Everyone

Vibrant and sustainable West Coast cities continue to attract people, companies, and investment. Measures that will increase quality of life and reduce emissions can include:

- Advancing transportation and land use policies that prioritize active and shared travel options while increasing equitable and affordable access to clean, shared vehicles
- Leveraging public and private investment in publicly-accessible urban, suburban, and rural electric vehicle charging, hydrogen fueling, and active mobility infrastructure
- Increasing system connectivity across low-carbon and zero emission modes of transportation, such as suburban transit facilities with shared ride pick-up and drop-off zones as well as zero emission vehicle parking and charging
- Implementing electric vehicle-ready building codes and policies that require new and existing buildings to accommodate robust charging infrastructure
- Implementing policies and programs to encourage or require that shared and automated vehicles are zero emission and high occupancy
- Increasing active, high occupancy and zero emission areas of urban centers over time, consistent with West Coast cities' commitments under the C40 Fossil Fuel Free Streets Declaration

State and Provincial Policy

State and provincial governments play key roles in creating enabling environments for low-carbon mobility markets to grow rapidly as well as catalyzing investment and helping innovative policies and programs flourish in urban and rural areas. Measures that will accelerate the transition to zero and low carbon mobility can include:

- Prioritizing investments in transportation efficiency, specifically walking, bicycling, and transit networks
- Adopting policies supporting fleet automated vehicles that are electric and shared (known by the acronym FAVES)
- Supporting market transformation for vehicles and fuels, including adopting and implementing ZEV supply mandates
- Investing in regionally-aligned light, medium, and heavy-duty ZEV incentives (financial and non-financial) for consumers and businesses
- Increasing ambition for state and provincial clean fuels programs over time
- Catalyzing public and private investment in vehicle charging and zero and low-carbon fueling infrastructure to equitably serve our populations, including underserved communities in urban and rural areas
- Developing and providing broad access to bulk purchasing programs for low and zero emission vehicles, including passenger vehicles, transit buses, other medium and heavy-duty vehicles, non-road equipment, and low carbon transportation fuels
- Supporting state vehicle efficiency standards and working against the rollback of ambitious U.S. federal standards

REGIONAL ZERO EMISSION VEHICLE AND TRANSIT GOALS

To deeply decarbonize our transportation systems by mid-century, we must move aggressively as a region to zero-emission light-, medium-, and heavy-duty vehicles. This transition will require ambitious market transformations by 2030 to ensure we are on the right path. As guideposts and indicators of our overall progress, we are committed to:

- No later than 2050, all new passenger vehicle sales will be ZEVs, consistent with our states' and province's membership in the International ZEV Alliance.
- Major West Coast Cities will work with urban transit agencies to procure only zero-emission transit buses by 2025, consistent with commitments under the C40 Fossil Fuel Free Streets Declaration.

Equity and Affordability

The PCC is committed to improving equitable access to low-carbon and zero emission technologies and solutions. Measures that will create affordable and accessible choices across a range of mobility options can include:

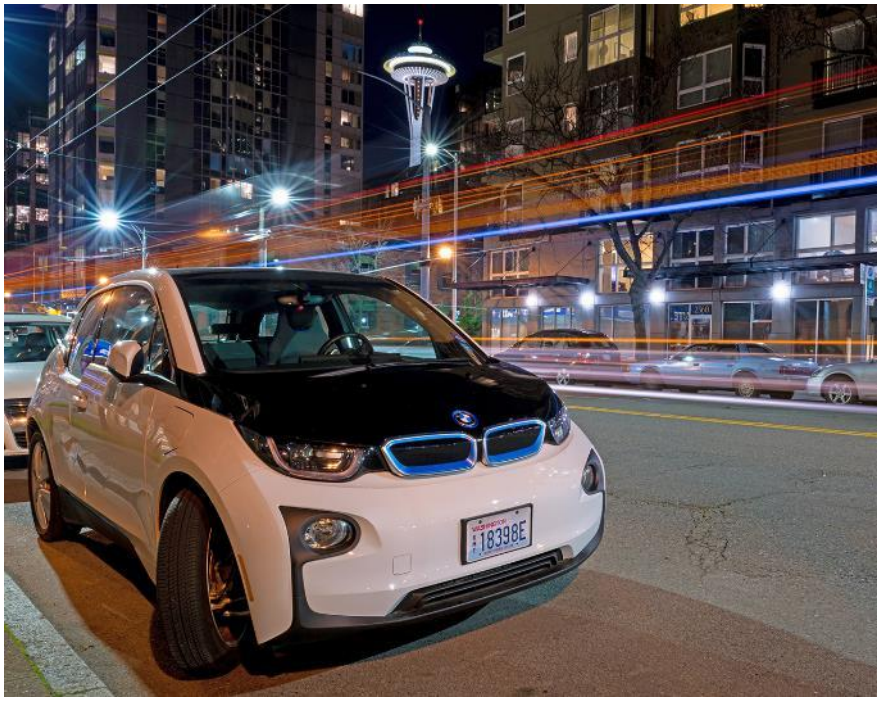
- Increasing access to safe low-carbon transit, ride sharing, and active mobility (e.g. walking and bicycling) choices that increase connectivity between where people live and their schools, jobs, businesses, and services
- Investing in transportation solutions that reduce emissions and improve health in communities with transportation-related air quality concerns
- Developing policies and programs to provide ZEV purchase incentives for low-income and underserved consumers—and developing awareness campaigns and other programs that transform the market for affordable ZEVs
- Locating public electric vehicle charging and hydrogen fueling stations in or near multi-family buildings, and in low-income and rural communities, with design features to encourage customer use
- Developing workforce and job opportunities in low-carbon transportation markets for historically low income and underserved communities, including charging and fueling infrastructure installation, operations and maintenance, existing building upgrades to support charging infrastructure, participation in the shared mobility economy, and other areas that build wealth and empower people

Fleets and Public Facilities

We walk the talk to accelerate market development and increase the visibility of low-carbon and zero emission mobility options. Measures to position us as leaders can include:

- Adopting “buy-first” policies for ZEVs in public fleets, preferring them over fossil fuel vehicles where there are appropriate ZEVs available for fleet duty cycles
- Increasing public fleet ZEV procurement targets over time as more types of ZEVs become available, including medium-duty and heavy-duty vehicles and non-road equipment

- Investing in charging and fueling for ZEVs at state, provincial, and city facilities for employees and/or the public
- Implementing public employee training and awareness programs



Medium- and Heavy-Duty Vehicles

Recognizing that much freight moves through our ports and regional transportation systems, the West Coast has an important role to play in leading innovation in freight transportation and other modes of medium-duty, heavy-duty, and non-road transportation. Measures to drive innovation in this sector can include:

- Transitioning to low-carbon and zero emission alternatives to fossil diesel fuel in trucks, ships, ferries, and other modes
- Shifting freight transport from heavy-duty diesel vehicles to more fuel-efficient modes, such as rail or sea
- Developing West Coast low-carbon and zero emission fuel corridors within our region and connecting to the rest of North America
- Electrifying non-road equipment at ports, airports, and other public and private facilities, including encouraging and supporting development of new technologies

Partnerships

We recognize that government can do much to accelerate the transition to low-carbon and zero emission energy and transportation systems, but we are far from alone in driving this trend. We are building and strengthening partnerships by:

- Working with vehicle manufacturers and dealers to increase the availability, variety, and affordability of ZEVs in the region
- Working with the private sector to invest in electric vehicle charging and hydrogen fueling infrastructure
- Working with utilities, equipment manufacturers, research institutions, and others to minimize grid impacts of transportation electrification through smart and responsive technologies, load management, and real-time communications systems
- Working with low-carbon fuel producers and providers to expand the supply and lower the carbon-intensity of transportation fuels
- Collaborating regionally in our work with Electrify America and Electrify Canada to support and guide investments in electric vehicle charging infrastructure
- Encouraging West Coast businesses to convert their fleets to ZEVs and work with employees to prioritize trips via transit, walking and bicycling where possible. For businesses with vehicle fleets, encouraging them to join EV 100 and the West Coast Electric Fleets pledge
- Advancing regulatory efforts that encourage utilities to invest in electrified transportation to make it simpler for ratepayers to adopt ZEV technologies while enhancing grid reliability
- Working collaboratively with non-profit partners in their efforts to accelerate the transition to low-carbon and zero emission mobility options

- Increasing consumer awareness of low-carbon and zero emission mobility options through strategies such as brand-neutral marketing and ride-and-drive events

Accountability

We hold ourselves accountable to working collaboratively as a region toward our shared vision. The PCC will track progress and issue updates on our region's transition to low-carbon transportation, including key indicators of: use of low-carbon mobility options in cities, reduced vehicle miles traveled, and regional market development for low-carbon and zero emission vehicles and fuels.

HOW ARE WE DOING SO FAR?

Throughout our integrated energy and transportation system, we are beginning to see low-carbon and zero emission mobility options emerge as reflected in the indicators below.

Development of the Low-Carbon Transportation System of the Future on the West Coast

Up to 70% of trips from low-carbon transportation	In Seattle from 2000 to 2016, walking, bicycling, transit, and ridesharing jumped from 50% to 70% of trips, while drive-alone trips decreased from 50% to 30%. Similarly, in 2017 50% of trips in Vancouver were by walking, bicycling, or transit. Source: A Closer Look at Seattle's Rising Transit Ridership, Seattle Department of Transportation; City of Vancouver
100% zero emission transit	Procurement targets for zero emission transit buses in Los Angeles (by 2030), King County (by 2034), San Francisco (2035) and Vancouver, British Columbia. Source: CityScale; King County; Vancouver Mayor's Office
Over 7.2 million	Population of PCC partner cities (Vancouver, Seattle, Portland, San Francisco, Oakland, and Los Angeles) that have developed transit-oriented development policies allowing more people easier access to public transit and reducing trips by car. Source: Transit BC, City of Seattle, Oregon Metro, Metropolitan Transportation Commission, City of Oakland, Los Angeles County Metropolitan Transportation Authority
Over 3.1 million bikeshare trips	Trips made using bike share services since July 2016 in Vancouver, Seattle, Portland, San Francisco, Oakland, and Los Angeles through public, private, and public-private partnership bikeshare programs. Source: Vancouver Bike Share Inc., Seattle Department of Transportation, Portland Bureau of Transportation; Ford GoBike. Metro Bike Share
17,500 chargers	Public ZEV charging in California, Oregon, and Washington. British Columbia has over 1,300 EV charging stations. Hydrogen fueling stations are also beginning to emerge, with 37 stations now in the region. Source: U.S. Department of Energy Alternative Fuels Data Center; British Columbia Ministry of Environment and Climate Change Strategy
1,350 miles	The length of the I-5 portion of the West Coast Electric Highway, with fast-charging stations for ZEVs every 25-50 miles from the border of Mexico through British Columbia. Source: West Coast Electric Highway

Over 350,000	Zero and low emission vehicles on the road in the fast-growing West Coast market. ZEV sales have grown nearly 25% annually in the last three years. Source: Tracking Progress – Zero-Emission Vehicles and Infrastructure, July 2017, Oregon Department of Transportation; WA EV Registration by County, West Coast Green Highway June 2017 PEV Summary
Over 3.7 million	Population of West Coast cities with EV-ready building codes, including Vancouver, San Francisco, and Oakland. Seattle is also in the process of developing EV-ready codes. Source: 2016 US Census
7,000 residents	Los Angeles residents participating in the BlueLA program, which provides residents of disadvantaged communities with self-service access to electric vehicles. Source: Shared-Use Mobility Center
9 billion gallons	Amount of gasoline and diesel fuel energy replaced by alternative fuels in British Columbia, Oregon, and California under Low-Carbon Fuel Standards since the inception of their programs. This has prevented about 31 million tons of greenhouse gas emissions, equivalent to emissions from over 6 million passenger cars for one year. Source: Environment and Climate Change Canada; British Columbia Ministry of Energy, Mines, and Petroleum Resources; Oregon Department of Environmental Quality; California Air Resources Board

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California Governor

Jay Inslee
Washington Governor

Kate Brown
Oregon Governor

John Horgan
BC Premier

Gregor Robertson
Vancouver Mayor

Jenny Durkan
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