SYNOPSIS OF METRO'S LEADERSHIP ON CLIMATE CHANGE

In 2008, Metro and its partners adopted desired outcomes to ensure greater Portland's ongoing success. One outcome is demonstrated leadership in addressing climate change. Metro is advancing this outcome at the policy and operational levels in all four of its public service lines: land use and transportation; parks and natural areas; solid waste management, waste reduction and recycling; and operation of the Oregon Zoo, the Oregon Convention Center, Portland'5 Centers for the Arts and the Portland Expo Center.

Planning and Development climate priorities

Meeting statewide pollution reductions targets

Metro supports Oregon's strong commitment to reducing greenhouse gas (GHG) pollution. The Oregon Legislature adopted statewide pollution reduction targets. The legislature also directed the Land Conservation and Development Commission (LCDC) to adopt specific reduction targets for cars, trucks, buses and other transportation-related pollution in metropolitan areas like greater Portland to ensure overall statewide pollution reduction targets are met. For greater Portland, the targets, first adopted in 2011, were updated in January 2017.

Metro worked closely with the Oregon Department of Transportation on the Climate Smart Strategy. The strategy was adopted in 2014 by Metro's Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council with broad regional support. LCDC approved the strategy in 2015.

Implementing the Climate Smart Strategy

Metro and its partners work together to implement the Climate Smart Strategy. Here's a brief list of implementation actions currently underway:

- Implementing the Region 2040 Growth Concept, greater Portland's long-range land use and transportation strategy for managing growth and building vibrant communities and job centers with walking, biking and transit connections while also protecting farm and forest land. An update is planned in 2020-21. (1995-ongoing)
- Expanding 2040 Planning and Development Grant Program criteria and eligibility to include Climate Smart policies and actions in local plans. (2015-ongoing)
- Advocating at the state and federal level for investments in improved transit, roads and bridges; for speedier transitions to cleaner, low-carbon fuels and more efficient cars and trucks; for a robust cap-and-invest program and other Climate Smart Strategy actions including House Bill 2017 and House Bill 2020. (2015-ongoing)
- Focusing Regional Travel Options Grant Program criteria to increase the emphasis on climate smart actions for FY 15-17 and FY 17-19 grant cycles. (2015-17)
- Using the Transit Oriented Development Program to stimulate private construction of multi-unit and multi-family housing, affordable housing and mixed-use projects near transit. The program also invests in "urban living infrastructure" like grocery stores and other amenities, and provides technical assistance to communities and developers. (1996-ongoing)
- Shifting funds allocated through the Regional Flexible Fund Allocation Process towards more effective Climate Smart investments, including make the most of our existing roads, bike and pedestrian safety retrofits, and new MAX and enhanced transit service. (2017-19 and 2022-24 cycles)

- Adopting an updated Regional Travel Options Strategy that advances Climate Smart Strategy investments and activities, including trip reduction services for commuters, vanpools and carpools, Safe Routes to Schools and tools to connect people to demand-responsive transit options. (2018)
- Adopting the 2018 Regional Transportation Plan and supporting the Regional Transit Strategy, Regional Transportation Safety Strategy, Regional Freight Strategy and Emerging Technology Strategy, all of which are called for in the Climate Smart Strategy and will help reduce greenhouse gas pollution from all vehicles.

  Appendix J of the 2018 RTP summarizes adopted projects and programs and their greenhouse gas pollution reduction potential. The appendix also summarizes findings from monitoring and analysis conducted through the 2018 RTP update. Detailed analysis of the plan found its projects and programs make satisfactory progress towards implementing the Climate Smart Strategy and, if fully funded and implemented by 2040, can reasonably be expected to meet the state-mandated targets for reducing per capita greenhouse gas pollution from passenger cars and small trucks (light-duty vehicles) for 2035 and 2040. By 2040, the plan, together with advancements in fleet and technology, is expected to reduce annual per capita greenhouse gas pollution from passenger cars and passenger trucks by 46 percent (compared to 2015 levels). (2018)
- Monitoring and assessing air quality to meet regulatory requirements for more than two decades. Since 2010, Metro expanded the region's air quality analysis to include greenhouse gas pollution from on-road transportation sources. An agreement among Metro and the Oregon Department of Environmental Quality (DEQ) requires Metro to estimate greenhouse gas pollution as part of periodic air quality assessments of the Regional Transportation Plan and the Metropolitan Transportation Improvement Program. This may become a federal requirement in the future. (ongoing)
- Supporting the 2020 Transportation Task Force to build community will to fund and build planned regional transportation investments to serve greater Portland's growing and changing needs and improve safety, advance equity, manage congestion and reduce greenhouse gas pollution. (2019-ongoing)
- Establishing a new Partnerships and Innovative Learning Opportunities in Transportation (PILOT) grant program to test ways to provide more equitable access to new transportation technologies and shared or active transportation options around greater Portland, including ride-hailing, car and bike sharing, ride matching and micro-transit. (2019-ongoing)
- Expanding the Transportation System Management and Operations Grant Program criteria and emphasis on 2018 RTP priorities for transportation investments, which are to improve safety, advance equity, manage congestion and reduce greenhouse gas pollution. (2019)
- Completing an update to the regional transportation design guide to increase the number of livable streets and trails and help achieve broader regional and community goals, including better safety for all modes and reducing greenhouse gas pollution in the greater Portland region. (2019)

Parks and Nature climate priorities

Parks and Nature is a leader in helping greater Portland mitigate climate change by protecting, restoring and enhancing natural areas that effectively capture and store carbon pollution (sequester) and provide cooler, shadier and healthier places for people and animals. Although climate change mitigation was not an

initial goal of Metro's Parks and Nature program it still contributes significantly through two primary approaches -- carbon sequestration and land protection.

Direct carbon storage in Metro natural areas and nature parks

Since 1995, Metro planted more than four million trees and shrubs, including more than three million since passage of the 2013 Natural Areas Levy. Metro actively manages the forests in its portfolio to create long-term health and resiliency to changing climate and wildfire. Metro also manages thousands of acres of prairie and savanna (grasslands) and wetlands that also store carbon, retaining it in the soil rather than the trunks of trees. While in a stable system, forests store more carbon, carbon stored in soil is less vulnerable to rapid loss due to wildfire.

Land protection for climate mitigation

Since 1992 Metro acquired more than 17,000 acres of parks and natural areas. About 14,000 acres were acquired thanks to voter-approved bond measures in 1995 and 2006. These areas protect water quality, wildlife habitat and provide access to nature. They also sequester carbon for the long-term since they are not subject to market pressures for conversion. Land protection and creation of nature parks also facilitates more successful multi-family development and the many related climate benefits that come with it. Access to nature close to home for urban residents can reduce the need for private single family yards.

Property and Environmental Services climate priorities

Regional Waste Plan

Reducing pollution from products the region makes, buys, uses and discards

Every product people buy has a "life." It begins when raw materials are extracted from the earth, continues through manufacturing of the product, goes on through shipping and use of the item, and concludes with recycling or disposal. GHG pollution is created throughout this "life cycle." Metro and local cities and counties are working to reduce pollution in all of these stages guided by the new 2030 Regional Waste Plan (RWP). The plan focuses on reducing environmental impacts and improving services and economic benefits to communities of color and others.

"Upstream" (extraction and manufacturing)

In this stage of the product life cycle, Metro's actions and opportunities are mostly in the policy arena. Policy tools like extended producer responsibility (EPR) make industry responsible for the costs and management of their products after use, which can drive companies to re-design their products with more attention to environmental considerations, including carbon intensity and recyclability. Examples of this include Oregon E-Cycles (electronics) EPR programs and similar programs in other states. Other EPR examples Metro works on are the Oregon Bottle Bill, PaintCare and the not-yet-passed Household Hazardous Waste EPR bill. Significant greenhouse pollution reduction opportunities remain in the plastic packaging and carpet markets.

"Mid-stream" (use)

Metro's work, and future opportunities, in this part of the life cycle are primarily in education efforts, advocacy for transparency of product information and the power of the public purse. A few examples:

- Culturally responsive, co-created waste prevention and recycling educational programs like Trash for Peace, the regional Master Recyclers program and residents of Home Forward multifamily communities. This model is being replicated in Washington County.
- Age- and culturally-responsive engagement on climate change and youth provided in middle and high schools across the region, including a new peer-to-peer program in which high school youth design and lead engagements with middle school students.
- Providing consumers with the tools and information to make informed decisions about climate impacts of their purchasing options.
- Using public dollars to prioritize the purchase of low-carbon products and services

"Downstream" (discards)

Continuing to recycle the right materials in the right way brings significant reductions in greenhouse gas pollution because recyclables replace petroleum in the manufacture of products. In addition, using recycled materials to make new products takes less energy than using mined or harvested materials. In 2017, recycling in Oregon resulted in greenhouse gas pollution reductions of 3.3 million metric tons of CO2 equivalent. The greater Portland region was responsible for roughly half of the reductions.

The progress results from a suite of policies and programs developed and implemented by Metro and cities and counties in the greater Portland. These include: the recyclables collection services provided to every property and business; the Business Recycling Requirement implemented by Metro; the Recycling At Work technical assistance program provided by local governments and supported by Metro; and comprehensive education programs like RecycleOrNot.org, the Recycling Information Center, and the tens of thousands of students, adults and families reached through in-person presentations, workshops and partnerships.

Food waste

Metro also focuses on food, the single largest component of garbage –nearly 20 percent of landfilled material. Food scraps are a primary contributor of methane pollution from landfills. Methane's greenhouse impact is at least 24 times greater than carbon dioxide.

In July 2018 the Metro Council adopted a Food Scraps Policy requiring the separation and collection of food scraps at food service businesses and the delivery of those scraps to facilities that turn them into compost and energy. The policy also supports food waste prevention and edible food donation.

Metro is working closely with local cities and counties, food generating businesses and community organizations to prepare for implementation of the requirement. The work is supported by the Food Waste Stops with Me outreach campaign. The initiative was developed in partnership with Oregon Restaurant and Lodging Association and connects food service businesses to resources and technical assistance to help prevent food waste, and helps businesses donate edible nutrient-dense food and set up successful food scraps composting programs.

Regional waste hauling

Greening the collection fleet

Metro, local cities and counties and haulers work to reduce diesel particulate pollution, in particular, from garbage, recycling and yard debris collection trucks. Black carbon from diesel pollution is a significant contributor to climate change. Black carbon particles released to the atmosphere absorb heat which can

increase air temperatures. These particles also fall on snow and ice fields, absorb light and release heat which increases the rate of melting.

Metro ran a program that retrofitted 119 collection trucks with diesel particulate filters, local cities and counties enacted requirements to require cleaner emission vehicles, haulers have converted vehicles to compressed natural gas, and Metro and the Columbia-Willamette Clean Cities Coalition submitted a grant proposal for partial funding of an electric-powered collection truck to field test in the greater Portland region.

Long-haul trucking of waste to landfill

Metro is working to reduce pollution from the transport of garbage from Metro's transfer stations to the Columbia Ridge landfill. A new 10-year contract that begins in January 2020 will require increased fuel efficiency and more garbage hauled per load. Metro anticipates an eight percent reduction in GHG pollution as a result. Metro also is working to increase use of renewable diesel derived from low carbon and sustainable feedstock. With renewable diesel's reduced carbon footprint, Metro could create a significant reduction in greenhouse pollution compared to current B5 (five percent biodiesel) fuel use.

Non-road equipment

Metro inventoried air quality impacts of off-road equipment used to process waste and recyclables at transfer stations and other solid waste facilities. The study used 2016 survey data to estimate the fleet's contribution of key pollutants, including particulate matter (PM), nitrogen oxides (NOx), hydrocarbons (HC), carbon monoxide (CO) and carbon dioxide (CO_2). This analysis identified opportunities for improvement, which will be addressed through the Regional Waste Plan.

Tools for partners – grants and resources

Investment and Innovation Grants

Metro's Investment and Innovation Grants support businesses and non-profits involved in reducing waste through reusing, recycling, composting or making energy from greater Portland's waste.

At the same time, the program helps foster economic opportunities and provides other benefits for people historically left out of the garbage and recycling system, particularly communities of color.

In 2018, 14 grants were awarded representing more than $2.45 million in investment, which will leverage an additional $2.38 million in matching funds. Metro will double its investment in the coming year awarded $6 million in grants.

Measurement

The 2030 Regional Waste Plan will measure greenhouse gas pollution using a consumption-based inventory. Metro completed a baseline inventory in 2018 in partnership with Oregon DEQ using 2015 data. There are two established and complementary methodologies for inventorying pollution:

a) Consumption-based: Pollution produced locally and abroad due to the greater Portland region's consumption of energy, goods and services.

b) Sector-based: Pollution produced in greater Portland from the transportation, residential, commercial, industrial, and agriculture sectors, including electricity produced elsewhere but used locally.

The consumption-based inventory more fully captures the climate impacts of individual and institutional behaviors by establishing "ownership" of all pollution associated with consumption. Metro will conduct regular updates to this inventory and is currently working to develop a long-term greenhouse gas measurement strategy.

Internal sustainability program

Metro facilities and visitor venues

Metro also strives to walk its talk and lead the way in its operations. Metro adopted a climate goal to reduce pollution from operations to 80 percent below 2008 levels by 2050. Metro's 2010 Sustainability Plan identified agency-wide strategies and actions to reach the 2050 climate goal.

According to a greenhouse gas inventory completed for FY2016-17, Metro decreased operational greenhouse gas pollution by nearly 46 percent since tracking began in 2008, reductions that are ahead of the 2025 target. The progress was largely due to energy efficiency initiatives and the purchase of renewable energy.

Metro currently is creating a targeted climate action plan focused on high impact actions across all sources of greenhouse gas pollution, including increased energy efficiency and renewable energy, waste hauling innovations, electric vehicles and low carbon fuels, and sustainable purchasing.

Metro is also a leader by example, in particular in its most iconic and visited venues. Visitor venues-specific climate change work is highlighted below.

Clean air construction standard for Metro projects

Diesel exhaust is the largest source of black carbon particles in the United States. When it comes to global warming, the importance of black carbon is second only to carbon dioxide. Metro, Port of Portland, City of Portland and Multnomah, Clackamas and Washington Counties are working together to identify the most viable, impactful and cost-effective contracting policy options to reduce diesel pollution from construction. Together, the agencies created a Clean Air Construction Standard that creates common contracting specifications that will simplify compliance for contractors working for various agencies in the greater Portland region.

The Clean Air Construction Standard (CACS) includes two components: 1) idle reduction requirements that take effect January 1, 2020; and 2) phased-in diesel engine requirements, beginning with the oldest engines, to that take effect January 1, 2021.

Metro also initiated a project to adopt the standard for Metro projects above a certain dollar threshold. This project will directly reduce diesel pollution from public construction sites, benefiting the health of contractors, public employees and residents, in addition to the climate benefits.

Metro Visitor Venues climate mitigation work

The Metro Visitor venues are members of the WAVE Pacific Northwest Sustainable Development Coalition. The coalition works to accelerate pollution reduction, social justice and youth engagement at large public assembly buildings, sports arenas, performing arts centers, zoos, aquariums, etc. All Metro visitor venues were early adopters of the Ocean Blue straw-less movement. The venues dim and adjust lights during bird

migrations to mitigate impacts. And, each venue approaches its work with sustainability top of mind. Some examples:

- During 2004, the Oregon Convention Center was the first convention center to earn the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) for Existing Buildings certification. In 2008, OCC achieved the Silver level. In 2014, OCC earned LEED® Platinum, the highest level of certification, making it one of only two platinum certified convention centers in the U.S. Oregon Convention Center has a 2 megawatt solar array on its roof, one of the largest solar power arrays on a convention center in the U.S. Its 6,500 solar panels produce 25-30 percent of the facility's electricity. In addition OCC's waste diversion policy ensures events within the center comply with Metro's sustainability values.
- The Portland Expo Center has the largest storm-water green wall in the country, treating more than 10,000 cubic feet of runoff annually.
- With Metro's help, regional hotel partners are making great strides in limiting single-use plastics. Travel Portland and the Oregon Restaurants and Lodging Association are working to eliminate single use shampoo, conditioner and lotion containers and to make other improvements in waste prevention and reduction.
- Conservation and education are in the Oregon Zoo's mission. That requires action on climate change. The Zoo is a leader in educational efforts that inspire people to make small changes each day that benefit the environment for animals and people.
- The Oregon Zoo Education Center was designed to use net zero energy. It was named one of the 10 most innovative projects in the nation and is setting the standard in design and sustainability. It also was honored with The American Institute of Architects Committee on the Environment Award, the industry's best-known award for sustainable design excellence..

Other Metro initiatives and legislative climate mitigation work

Regional investment strategies

Affordable housing bond

The housing bond framework adopted by the Metro Council (Resolution No. 18-4898) will help ensure affordable housing is created in high-opportunity communities with good access to transit, travel options and services, reducing the need for residents to drive for daily trips and therefore reducing climate pollution.

Parks and Nature bond

The 2019 Parks and Nature bond measure referred to voters by the Metro Council (Resolution No. 19-4988) includes climate resilience criteria alongside racial equity criteria in each of its program investment areas. Each project bond must identify at least one climate criterion it will help satisfy. The criteria are listed in Exhibit A of Resolution No. 19-4988.

The climate criteria are focused on resilience and adaptation to help lead into a changing future. Just as important, the program's protection and restoration of forests, wetlands, and other natural spaces provides significant climate mitigation benefits too. And finally, the bond will invest approximately $40 million in the

greater Portland region's trail system, expanding active transportation opportunities for commuting and pollution-free recreation.

Transportation funding measure

The Metro Council and Regional Transportation Funding Task Force are working to improve and modernize the greater Portland region's transportation system while also reducing climate pollution despite a growing population.

To advance this goal, the Metro Council and task force are working to ensure that projects approved by voters advance the Portland region's Climate Smart Strategy and the 2018 Regional Transportation Plan by making significant investments in transit, biking and walking. One important way to reduce pollution is to provide more people more reliable, accessible travel options that reduce the need to drive to work, school and other destinations. The Metro Council and task force explicitly included reductions in vehicle miles traveled and climate pollution among the outcomes any measure should advance.

Metro and the task force are using a transportation corridor-based approach to selecting the best investments. Each of the possible investment corridors was assessed for its potential to reduce climate pollution. This assessment, along with analysis of benefits for racial equity and safety, was central to the selection of specific corridors and the projects that should be implemented in them. In addition to corridors, the potential measure also likely will include support for a number of programs like: Better Bus, Active Transportation Connections, and Safe Routes to School to help make transit, walking and biking safer, more accessible and reliable for residents to help reduce driving and climate pollution. Another potential investment program could support the full electrification of the region's transit fleet, reducing carbon pollution from busses.

Legislative and other external advocacy

During the 2019 Legislative Session Metro Council explicitly sought to address Climate Change and Climate Mitigation. The council adopted the following principles:

Metro supports efforts to combat and adapt to climate change and to meet the state's goals for reducing greenhouse gas emissions. Metro and its regional partners are committed to the Climate Smart Strategy, which includes actions needed to achieve state targets for reducing greenhouse gas emissions from transportation. The state should provide financial support for implementation of the Climate Smart Strategy.

Metro spent much effort during the session advocating for HB 2020, which would have put a price on climate pollution and reinvested auction proceeds from a cap and invest system into mitigation projects such as Climate Smart Strategy and other projects to increase climate mitigation work. Metro's advocacy will continue in future legislative sessions, guided by the leadership of the elected Metro Council.