



600 NE Grand Ave.
Portland, OR 97232-2736

Council work session agenda

Tuesday, January 7, 2020

2:00 PM

Metro Regional Center, Council Chamber

Revised 01/06

2:00 Call to Order and Roll Call

2:05 Safety Briefing

Work Session Topics:

2:10 FY19-20 Budget Note Report Back: Annual Housing Report [18-5338](#)

Presenter(s): Elissa Gertler, Metro

Attachments: [Budget Note Report - Annual Housing Report](#)
[Work Session Worksheet](#)

2:25 FY19-20 Budget Note Report Back: Climate Mitigation and GHG Emissions Data [18-5326](#)

Presenter(s): Sasha Pollock, Metro
Aaron Breakstone, Metro

Attachments: [Synopsis of Metro's Leadership on Climate Change](#)
[Budget Note Response Form - GHG Emissions Data](#)
[Supplemental Information for GHG Emissions Data](#)
[Budget Note Response Form - Climate Mitigation](#)
[Metro Currently Allocated Resources](#)
[Work Session Worksheet](#)

2:55 Regional Investment Strategy: Transportation [18-5327](#)

Presenter(s): Andy Shaw, Metro

Attachments: [Transportation Investment Measure](#)
[Task Force Recommendations](#)

3:55 Chief Operating Officer Communication

4:00 Councilor Communication

4:05 Adjourn

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FY 19-20 Budget Note Report Back:

Annual Housing Report

Work Session Topics

Metro Council Work Session
Tuesday, January 7, 2020
Metro Regional Center, Council Chamber

Annual Housing Report Budget Note Staff Report

Summary of Budget Note

“Capitalizing on the work of the Growth Management Plan and Equitable Housing Initiative, as well as the preparation for a 2040 Growth Concept update, Planning Department staff will convene a conversation about what tools and policies may benefit from annual housing needs and pipeline analysis, and what shape an annual housing report might take to be most relevant for meeting housing needs across the region and at all income levels.”

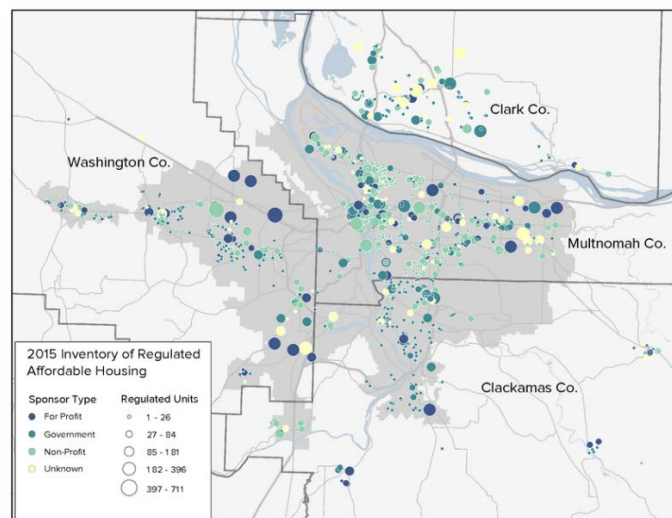
Resources Currently Allocated

Metro’s current work in reporting on regional housing needs and development is grounded in two key programmatic areas: Urban Growth Management and the Equitable Housing Initiative. These programs typically involve Planning and Development, Research Center, Communications, and OMA staff.

Urban Growth Management:

- **Biannual inventory of regulated affordable housing:**

Responding to Title 7 (Housing Choice) of the Metro Urban Growth Management Functional Plan, Metro staff completes an inventory of regulated affordable housing every two years. This involves data coordination with various cities, counties, non-profits, the state, and HUD. The inventory covers a four-county area, which includes Clark County. The most recent inventory was released by Metro in 2018. This effort requires approximately .05 FTE from Planning and Development and .2 FTE from the Research Center in years when the inventory is being completed, for a total of .25 FTE.



- **Regional Housing Needs Analysis**

To support the Metro Council’s urban growth management decisions, Metro staff periodically conducts a regional housing needs analysis. Under state law, Metro is required to complete this analysis at least every six years. This analysis is conducted to determine the adequacy of growth capacity inside the urban growth boundary and includes documentation of historic residential development trends, a household forecast, a buildable land inventory and extensive scenario modeling. The analysis also includes information about forecasted housing costs for different household income brackets, ages and sizes.

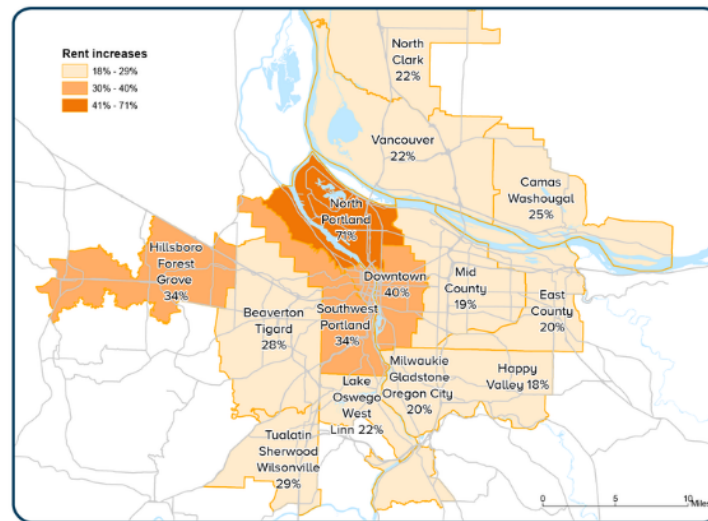
Conducting this analysis is a multi-year effort that involves Metro staff from several departments, coordinated by Planning and Development staff. Planning and Development devotes approximately .25 FTE and the Research Center devotes approximately 1.1 FTE to growth management tasks that most directly relate to housing needs analyses, for a total of approximately 1.35 FTE per year over the course of 1.5 to 2 years.¹ Communications and OMA support are also standard practice, but are not estimated here. In addition to Metro staff resources, this process entails extensive engagement and coordination with cities, counties, and communities in the region.

- **Regional Snapshots**

Since 2015, Metro has produced Regional Snapshots, a web-based communications effort that uses data and multimedia storytelling to describe how regional policies, programs and projects affect people’s lives. Produced approximately quarterly, Regional Snapshots is a way to communicate technical information with a broad range of audiences and to reflect a more diverse perspective on how Metro’s work affects real people. In addition to topics such as transportation, equity, and the economy, housing and growth management are regular topics for Regional Snapshots. This program requires about 2.0 FTE between Planning and Development and Communications.

Renters in some parts of our region have faced increases of over 70% in just half a decade

Percent change in cost of rental housing, 2011 to 2015



Source: Multifamily NW, Axiometrics, Johnson Economics

- **Implementation of HB 2001 and HB 2003**

HB 2001 and HB 2003 were signed into law in the summer of 2019, and staff are focused on facilitating their effective implementation. HB 2001 requires some cities and counties to allow a more diverse mix of “middle housing” such as duplexes, triplexes and quadplexes in zones that allow single-family detached housing. HB 2003 directs the state and large cities to conduct housing needs analyses and to develop production strategies.

¹ Planning and Development and Research Center devote more FTE to growth management decisions in the 1.5 to 2 year period preceding a Council decision, but those efforts often do not specifically relate to housing needs analyses.

The Oregon Land Conservation and Development Commission has begun the administrative rulemaking process for both bills. Metro staff participates in the rulemaking advisory committees. In that capacity, staff advocates for rules that enhance the likelihood that a variety of needed housing will be built, with particular focus on advancing affordability. Staff’s proposal suggests that Metro use its existing advisory committee structures to provide venues for cities, counties and others to share best practices related to these bills. Metro staff’s role in this work is approximately .25 FTE as part of the overall urban growth management work program.

Equitable Housing Initiative:

- **Affordable Housing Bond implementation**

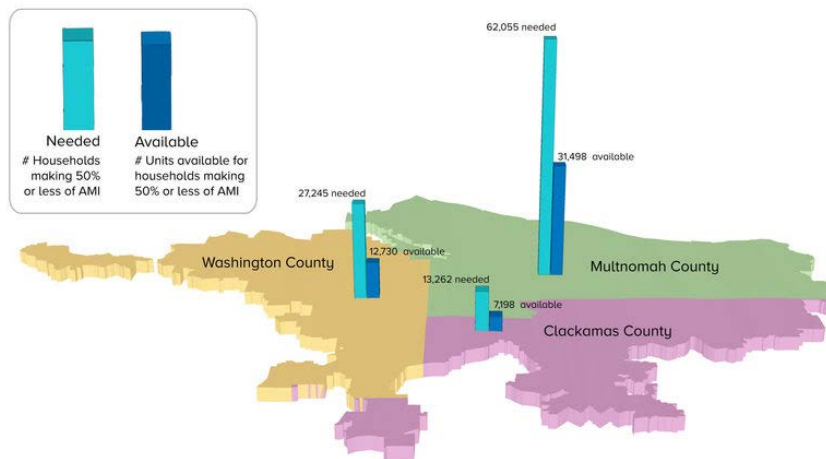
In 2018, regional voters approved a \$652.8 million affordable housing bond measure to create 3,900 permanently affordable homes across greater Portland for seniors, working families, veterans and others who need them. Planning and Development and Communications staff dedicated to bond implementation total approximately 6 FTE. As part of our oversight responsibilities, staff will produce an annual report to Council that includes outcomes in unit production, households served, and racial equity metrics.

Staff Proposal— Narrative

“What shape might an annual housing report take to be most relevant for meeting housing needs across the region and at all income levels”?

There is a shortage of affordable housing relative to need in all three counties of the Portland metro area

Demand vs. supply of units affordable to households making 50% or less of area median income (AMI).



Linking our analytical work with our policy and development goals has been a fundamental strength of how Metro accomplishes its work. Reporting is most relevant when it helps Metro and our partners take concrete, measurable action. Similarly, Metro has been a leader in communicating complex technical data to a wide range of audiences to help make the information useful, meaningful, and actionable.

The proposal below links together policy, reporting, communication and implementation elements to ensure that new reporting work can help lead to more housing development across the region.

Enhanced Reporting:

- **Improve and expand the Biannual Housing Report**

To implement the policy direction of Title 7 (Housing Choice) of the Urban Growth Management Functional Plan, Metro currently works with cities, counties, housing providers and others to update a regional (four-county) inventory of regulated affordable housing on a biannual basis. The most recent inventory was released in 2018. Staff believes that the report could be made more useful and proposes improving and expanding the content in future reports by including, for instance:

- Inventory of regulated affordable housing (existing effort).
- Snapshot of Housing Choice (Section 8) vouchers by county (existing effort included in the biannual inventory).
- Inventory of all existing housing stock by housing type, including middle housing types (new proposal).
- Additional information about income levels throughout the region (existing effort included in the biannual inventory).
- Additional information about race and ethnicity mix in the region (new proposal).
- A new “Housing Policy Tracker,” intended to provide a snapshot of policies and financial tools used by cities and counties² in the region to advance housing choices and affordability (new proposal).
- Statistics on the mix of lands zoned for various housing types by city and county (new proposal).
- Statistics on regional housing production (new proposal).

Staff also proposes improving engagement in and awareness of the report through discussions at MPAC, MTAC, CORE and other related advisory bodies. These discussions can inform, among other things, the refresh of the region’s Growth Concept and related housing policies that Council will consider in the next several years. Staff proposes that the report scheduled to be released in 2020 reflect these proposed improvements as well as other feasible additions that stakeholders may help us identify.

While continuing to produce an enhanced version of the required biannual report will not require new staff resources in Planning and Development, procuring new data and being able to use it effectively may require resources for acquisition and analysis above and beyond current resources allocated in Research Center.

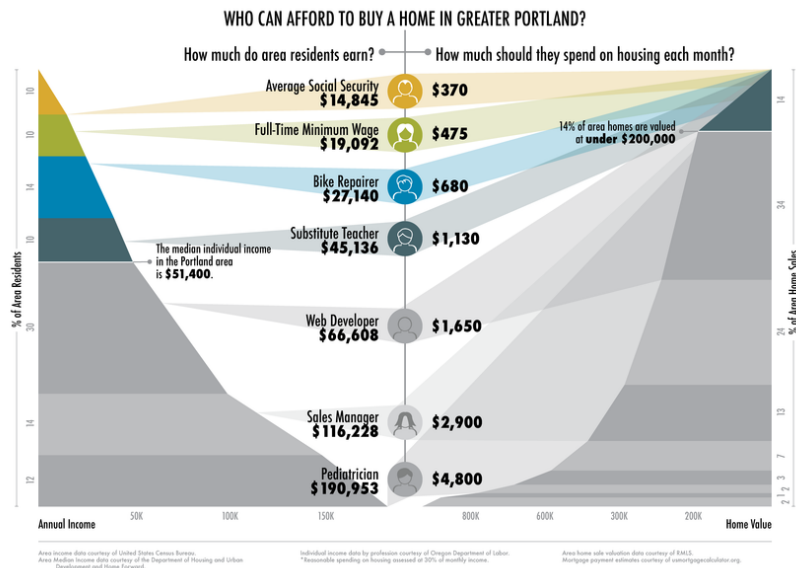
Statistics to Stories:

- **Annual Regional Housing Snapshot**

The Regional Snapshot has become one of our most effective tools for sharing stories of how growth affects everyone in our region, and for bringing statistics and data to life through infographics, expert commentary, personal profiles, and events. In addition to generating content, Metro Council and staff are able to disseminate the information through social media channels, public presentations and events, and by sharing with other interested parties and users of the information. Previous Housing Snapshots (see below) have generated significant web traffic and community and stakeholder interest.

² Source of information will be surveys or interviews with city and county staff.

- Example: [Housing Snapshot 1](#)
- Example: [Housing Snapshot 2](#)



Staff proposes that as part of the Regional Snapshots editorial calendar, an Annual Housing Snapshot be produced that illuminates key issues and opportunities for each year, and in addition to generating and disseminating content, resources from the Regional Snapshots speakers budget be allocated to the production of a public event, forum or other meeting format that allows for discussion of current issues, highlighting of regional best practices, and grows regional capacity to address housing needs for all. The resources to continue the Regional Snapshots program require an ongoing commitment to the 2.0 Planning and Development and Communications FTE and to the materials and services costs associated with producing Regional Snapshots and Speakers Series events.

Policy and Partnerships:

- **Invest in Best Practices**

State and local partners will be working over the next several years to implement HB 2001 and HB 2003, and Metro has the opportunity to continue prioritizing investments in communities that are demonstrating best practices. Our region also has a wide network of regional affordable housing experts who offer significant academic and practical knowledge about housing needs analysis and production who have offered to share their expertise with Metro as we seek to enhance regional housing needs analysis.

Staff proposes that MPAC and MTAC play a key role in leading discussions highlighting ways that local jurisdictions are meeting their housing needs and addressing production issues.

In addition, staff proposes to convene conversations with regional housing analysis and development experts to seek additional information, input and ideas about what could be included in both an Enhanced Bi-Annual Housing Report and an Annual Regional Housing Snapshot. These proposals do not require new staff or financial resources, but they do require Council support to yield successful public events and inclusive committee discussions that can inform future Council policy and program decisions.

While it is early in the 2040 Growth Concept Refresh process, input received from these forums can help set the stage for future policy proposals Council may want to consider for inclusion in that work.

Solutions aren't one-size-fits-all.
 With grant support from Metro's Equitable Housing Initiative, cities and counties are working on housing affordability strategies customized to their community.

 Beaverton Retain market-rate affordable housing in its urban core and seek at-risk properties to convert to regulated affordable housing	 Oregon City Create educational materials to help developers and homeowners construct missing middle housing and ADUs
 Milwaukie Integrate cottage cluster-style housing for senior and workforce housing	 Washington County Modify community plans and codes to eliminate barriers to affordable housing
 Tigard/Portland Mitigate displacement & expand access to opportunity for low income residents as part of the SW Corridor light rail project	 Wilsonville Policy/funding strategies to promote equitable housing based on identified market gaps

Source: Metro Equitable Housing Grants, awarded 2016. ADU = Accessory Dwelling Unit

Staff Proposal – Resources

Expanded housing reporting, convening, communicating, and partnering are all elements of work that can be incorporated into the existing FTE in Planning and Development and Communications. Regional Snapshots funding includes limited M & S for Communications that needs ongoing support. As noted, there may be additional costs for acquiring and analyzing new data in Research Center.

FTE

Classification	Regular Status/LD	# of FTE	Position Cost
Planning and Devt.	n/a	n/a	n/a
Research Center	n/a	0.1 ³ (See footnote)	n/a
Communications	n/a	n/a	n/a

Budget

Account	Description	Ongoing/One-time	Amount

A note about what is not proposed

The original budget note suggests consideration of an annual housing report that includes a housing needs and production pipeline analysis. For reasons described below, staff has recommended a somewhat different approach to meet the objectives of the budget note.

³ Research Center has included additional housing data acquisition and support as part of a larger package of new data needs that will be submitted as modification requests in the RC department budget. The 0.1 FTE to support this effort is included in that package of options.

- HB 2003 was signed into law after the budget note was drafted. HB 2003 tasks OHCS with conducting (one-time) regional housing needs analyses around the state, including for the greater Portland region. HB 2003 also directs OHCS to – for each city and Metro – estimate existing housing stock, conduct a housing shortage analysis and estimate housing necessary to accommodate growth. In these analyses, OHCS is directed to classify housing needs by housing type and affordability. A Metro analysis could be redundant and/or present different results.
- There are significant data limitations for conducting analyses of existing housing needs. This is particularly the case for accurately reporting rents for existing housing stock below the county level of geography. This same challenge will exist for the work to be completed by OHCS.
- The housing market is regional. Staff understands Council and stakeholder interest in presenting city level housing needs analyses, but believe that this would not be a purely analytic exercise. Asserting housing needs at the city or county level requires making normative statements about where people should live, what kind of housing they should live in and how much they should spend. There are subjective factors inherent in all of those assertions. Staff notes that this same issue will exist for the work to be completed by OHCS under HB 2003.

Risk Analysis

Political risks

The greater Portland region has a long history of discussing housing affordability and choice as well as the appropriate balance of regulations, incentives, voluntary actions, local control vs. regional control, and market forces. Any efforts to engage on the topic are likely to again stimulate those debates. In the past, Metro has concluded that additional affordability regulations won't necessarily result in more housing being built. Efforts to exert more regulatory control tend to elicit mistrust from the private sector and local jurisdictions. Efforts to rely on voluntary or incentive-based approaches tend to elicit mistrust from affordable housing advocates.

Policy risks

Success in producing additional housing for low-to-middle income households will depend on effective political leadership at multiple levels and supportive market conditions. Housing development will not occur purely as a consequence of additional information being reported more regularly.

Metro staff generally expects that middle housing production resulting from HB 2001 implementation will occur over a longer time period and will not result in wholesale changes to single-family neighborhoods in the shorter term. Likewise, staff anticipates that housing production responses around the region may be uneven due to local zoning code implementation as well as market conditions. To mitigate risks, staff intends to work to maximize housing production that may result from this bill.

In the case of HB 2003, staff notes significant challenges with data availability for conducting the housing needs analyses described in the bill. Staff also notes that this kind of analysis necessarily has subjectivity built in, which may conflict with stakeholders' expectations for objective analyses. Lastly, it will be challenging for OHCS to meet the ambitious statutory deadlines for completion of housing needs analyses. Staff will work to be supportive of this effort.

Financial risks

Financial risks associated with this proposal are limited to the staffing expenses described herein.

STAFF REPORT FOR WORK SESSION

FY19-20 BUDGET NOTE REPORT BACK: COUNCILOR LEWIS BUDGET NOTE 1

Date: December 30, 2019
Department: Planning & Development
Meeting Date: January 7, 2020

Prepared by: Elissa Gertler
Ext 1752
elissa.gertler@oregonmetro.gov
Presenter(s) Elissa Gertler
Length:

ISSUE STATEMENT

As part of the 2019-2020 budget process, Metro Councilors provided budget notes articulating policy issues and ideas that departments could consider how best to address and respond to Council direction. The material included here is intended to respond to this budget note from Councilor Lewis:

“Capitalizing on the work of the Growth Management Plan and Equitable Housing Initiative, as well as the preparation for a 2040 Growth Concept update, Planning Department staff will convene a conversation about what tools and policies may benefit from annual housing needs and pipeline analysis, and what shape an annual housing report might take to be most relevant for meeting housing needs across the region and at all income levels.”

ACTION REQUESTED

Does Council direct staff to move forward with the proposal as described? Does Council recommend changes to what is being proposed? Does Council have any additional questions about the proposal?

IDENTIFIED POLICY OUTCOMES

This budget note is intended to align with Metro’s policy goals adopted as part of our Urban Growth Management and Equitable Housing Initiative programs. The proposed additional reporting about housing needs and development is intended to provide a wider range of useful and relevant information that can inform future Council policy and investment decisions relating to land use, affordable housing, economic development and transportation.

POLICY QUESTION(S)

The intent of the budget note and of the staff proposal is to seek ways that Metro can play a role in facilitating development that meets housing needs across the region and at all income levels. Metro has a range of initiatives and programs where encouraging affordable housing production is a central goal. This budget note asked staff to consider ways to provide new, improved, and enhanced ways of collecting, analyzing, and reporting on data about housing needs in the region so that future policy

questions that affect affordable housing will be informed by the best data and analysis of needs and opportunities possible.

The policy questions before Council today are: Does the proposal for enhanced reporting and communications meet the Council’s goal of understanding which tools and policies might benefit from additional analysis? Will this additional analysis be useful to help inform future Council policy decisions? Will this additional information help Council work with partners more effectively to create more affordable housing?

POLICY OPTIONS FOR COUNCIL TO CONSIDER

Council may decide to move forward with the recommendations as proposed, with changes, or not at all.

STAFF RECOMMENDATIONS

Staff recommendations are contained in the attached budget note response document.

STRATEGIC CONTEXT & FRAMING COUNCIL DISCUSSION

The question Council asked staff to report back on was: “What shape might an annual housing report take to be most relevant for meeting housing needs across the region and at all income levels”?

Linking our analytical work with our policy and development goals has been a fundamental strength of how Metro accomplishes its work. Reporting is most relevant when it helps Metro and our partners take concrete, measurable action. Similarly, Metro has been a leader in communicating complex technical data to a wide range of audiences to help make the information useful, meaningful, and actionable. The attached proposal links together policy, reporting, communication and implementation elements to ensure that new reporting work can help lead to more housing development across the region.

The greater Portland region has a long history of discussing housing affordability and choice as well as the appropriate balance of regulations, incentives, voluntary actions, local control vs. regional control, and market forces. In the past, Metro has concluded that additional affordability regulations won’t necessarily result in more housing being built. Efforts to exert more regulatory control tend to elicit mistrust from the private sector and local jurisdictions. Efforts to rely on voluntary or incentive-based approaches tend to elicit mistrust from affordable housing advocates.

Success in producing additional housing for low-to-middle income households will depend on effective political leadership at multiple levels and supportive market conditions. Housing development will not occur purely as a consequence of additional information being reported more regularly.

ATTACHMENTS

Budget Note Staff Report Form

[For work session:]

- Is legislation required for Council action? Yes No
- If yes, is draft legislation attached? Yes No

- What other materials are you presenting today? none

***FY 19-20 Budget Note Report Back:
Climate Mitigation and GHG Emissions Data***

Work Session Topics

Metro Council Work Session
Tuesday, January 7, 2020
Metro Regional Center, Council Chamber

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's 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 (NO_x), hydrocarbons (HC), carbon monoxide (CO) and carbon dioxide (CO₂). 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 (CACCS) 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.

Budget Note Response Form - Greenhouse Gas Emissions Data

Summary of Budget Note

The budget note directs staff to propose a greenhouse gas (GHG) emissions data program to enable the calculation of regional sector- and consumption-based emissions inventories.

Resources currently allocated

Systems-based inventory

Developed by Metro with consultant support in 2010, this inventory estimated GHG emissions associated with the Metro jurisdictional boundary for 2006 in response to Resolution 08-3971.¹ Relying on evolving U.S. Environmental Protection Agency (EPA) data and analysis methods, this hybrid inventory was considered provisional and experimental because it did not reflect a fully vetted protocol for GHG accounting at the regional level. However, it significantly expanded the typical scope of GHG inventories and provided timely information that supported Metro's early climate mitigation communications internally as well as externally with local, regional, and state partners.

This effort relied on technical assistance and guidance from a consultant at a cost of \$8,500 and approximately 0.3 FTE of staff time. There are no plans to update this inventory in its current form.

Consumption-based emissions inventory

GHG emissions associated with the products and services consumed in the Metro region is one of the key indicators in Metro's 2030 Regional Waste Plan, adopted by the Metro Council in March 2019. In order to estimate life cycle GHG emissions for the purposes of the Regional Waste Plan, the Oregon Department of Environmental Quality (DEQ) developed a consumption-based emissions inventory in 2018 for the tri-county area using the same methodology it uses for the state as a whole. This inventory estimated the emissions generated locally, nationally and internationally as a result of the goods and services consumed by the region in 2015.

DEQ contributed staff time and expertise outside of any formal agreement in recognition of a valued partnership. On the part of Metro, this effort required a \$3,000 purchase of economic data from a private vendor and approximately 0.1 FTE of staff time. At present, it is expected that a similar effort will be conducted with each Regional Waste Plan reporting period every 1-3 years.

Transportation emissions estimation program

The Research Center's established on-road mobile source emissions modeling program, which supports efforts related to the RTP and the Climate Smart Strategy, amounts to an estimated average annual 0.08 FTE. This estimate includes technical work associated with estimating emissions of several dozen pollutants rather than GHGs alone, and it accounts for the highly intermittent nature of the demand for this work.

Staff Proposal – Narrative

Climate change is clearly one of the most important challenges facing the global community today. Metropolitan regions are well situated to take meaningful action to respond to this challenge and, in

¹ Metro Resolution 08-3971, "For the Purpose of Designating a Council Project and Lead Councilor for the Climate Change Action Plan," adopted on August 21, 2008.

recognition of this, the Metro Council adopted leadership on climate change among the six desired outcomes for the region in 2008.² In establishing a robust, ongoing regional GHG emissions inventory data program, the Metro Council would take an important step toward assuming a leadership role in the region. Furthermore, in choosing to conduct this work internally and build the associated staff expertise, Council would be signaling a long-term commitment to a rigorous approach to action on climate change.

Inventory types

Sector- and consumption-based GHG emissions inventories constitute two distinctly different approaches to estimating the GHG emissions associated with a particular geographic area, in this case a metropolitan region.

- A **sector-based inventory** is the more traditional of the two and accounts for emissions produced within the region; examples include heating/cooling buildings, driving cars, and cooking food.
- A **consumption-based inventory**, by contrast, accounts for emissions produced around the world due to the consumption of energy, goods, and services by residents and businesses in the region; examples include the manufacturing and transport of foreign goods.

When considered in tandem, the two inventory types provide a broader understanding of the region's impact on climate change and a more nuanced means for identifying opportunities to reduce regional GHG emissions.

Protocols

Established protocols provide clear direction on GHG emissions inventory data sources, calculation, and reporting methodologies. Chief among these are the "U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions" (US Community Protocol) and the "Global Protocol for Community-Scale Greenhouse Gas Emission Inventories" (GPC). While differences exist between the two protocols, they are not significant enough to impact the resource estimates included in this proposal. Therefore, staff recommends that the selection of the most appropriate protocol be deferred until an actual work program is in place.

Proposed GHG emissions inventory data program ("Expanded Option")

Staff recommends the establishment of a program to enable the calculation and periodic update of two complementary regional GHG emissions inventories as follows:

1. Sector-based inventory: Establish a data acquisition and maintenance program housed within the Research Center to put the necessary data and tools in place to calculate and annually update a sector-based GHG emissions inventory for the tri-county area. This program will be structured such that data sources and calculation methods align to the maximum extent possible with the annual sector-based inventory produced by DEQ as well as being compliant with one of the two main protocols referenced above. This inventory would support GHG

² Metro Resolution 08-3940, "For the Purpose of Affirming a Definition of a "Successful Region" and Committing Metro to Work with Regional Partners to Identify Performance Indicators and Targets and to Develop a Decision-Making Process to Create Successful Communities," adopted on June 26, 2008.

monitoring and reporting needs in advance of scheduled updates to the Regional Transportation Plan (currently every five years).

2. Consumption-based inventory: Continue collaboration with DEQ to produce periodic updates to the consumption-based emissions inventory for the tri-county area referenced above. This will be done according to an update schedule that satisfies the reporting needs of the Regional Waste Plan, estimated here to be every three years. In recognition of the critical role of DEQ staff, it is recommended that this relationship be formalized by way of a memorandum of understanding (MOU) or an intergovernmental agreement (IGA).

Proposal assumptions

- The inventories would be calculated using estimated emissions, as the nature of GHGs is such that community-wide emissions are typically estimated rather than being directly measured. Staff acknowledges the emergence of technological platforms potentially enabling more widespread direct measurement than has historically been feasible and is in the process of seeking more detailed information from vendors.
- The inventories would be calculated according to the following parameters:
 - Geography: tri-county area
 - Time period: calendar year
 - Pollutants: all covered in chosen protocol
 - Emitting sources: all covered in chosen protocol
 - Reporting units: metric tons CO2 Equivalent
- The recommended data program would be integrated with the proposal being developed concurrently in the response to Budget Note #2 (Regional Climate Change Mitigation Strategy).
- The recommended data program does not explicitly account for producing any historical inventories that may be needed to establish baseline conditions associated with targets established by an eventual regional climate action plan. It is assumed that these activities would be included in the estimates for ongoing resources, but this carries a degree of uncertainty.
- The recommended data program includes technical support to both internal departments as well as local partners.
- The recommended data program includes coordination with and technical review by appropriate state agencies, including DEQ and DOE, during development of both inventories.
- The inventory data would be shared on one or both of the By the Numbers and RLIS data hosting platforms.
- The proposal does not include internal coordination and communications support that would be needed from other Metro departments, including Communications, Planning, and Property and Environmental Services.
- The recommended data program does not cover GHG emissions associated with Metro's business operations. These emissions are addressed by a separate inventory at a different scale.

Additional considerations

This proposal represents the preferred alternative among three that staff developed for consideration in response to this budget note. Another alternative (the "Basic Option") would accomplish much of what is included in this proposal, with the notable differences being (1) the exclusion of an apparatus for providing technical support to local partners, and (2) continued reliance on DEQ assistance in the

absence of a formalized agreement. The third alternative (the “Consultant-led Option”) would rely on a consultant for the majority of the technical work while retaining the same internal and external support mechanisms as the preferred alternative outlined in this document.

Staff Proposal – Resources

Resource estimates for all three proposal alternatives are included in the table below, with the preferred alternative designated in bold. All activities associated with this proposal are assumed to reside within the Research Center.

	One-time FTE	Ongoing FTE	One-time M&S	Ongoing M&S	FY 20-21 cost	Ongoing cost
Basic	1.0	0.5	\$22,500	\$2,500	\$207,500	\$95,000
Expanded	1.5	0.75	\$22,500	\$2,500	\$300,000	\$150,000
Consultant-led	1.0	0.75	\$35,000	\$25,000	\$220,000	\$163,750

It should be noted that this budget note represents one of multiple data requests to the Research Center that will collectively be presented to Council in a holistic manner during a department-level briefing.

Risk Analysis

Political risks

Several jurisdictions within the Metro region either already have climate plans and associated GHG emissions inventory programs in place or are actively working towards establishing them. The calculation methods and data sources used in producing these inventories can be expected to vary according to technical assumptions, political considerations, and geographic scale. Therefore, the potential exists for conflicting numbers in the form of either (1) two inventories calculated for the same jurisdiction by different parties, or (2) the sum of constituent inventories being compared to a regional inventory.

Financial risks

While the resource estimates included in this proposal are the result of a thorough research and outreach effort internally and externally with relevant state agencies, the recommended GHG emissions inventory data program amounts to work that has not been done before at Metro in a comprehensive and continuous manner. Therefore, it is important to acknowledge that the resource estimates include a degree of uncertainty. The availability of data and the level of effort associated with gathering data for several work elements are difficult to accurately estimate in advance of the actual work. For this reason, the estimates included in the proposal reflect an assumed 25% contingency.

Another financial risk to consider relates to staff turnover. This proposal recommends that Metro staff, as opposed to an outside consultant, conduct the majority of the work associated with establishing and maintaining the regional GHG emissions inventory data program. Therefore, to the degree that most of the institutional knowledge and technical expertise developed in establishing the program would reside in one or several members of Metro staff, there is a risk of periodically needing to repeat previous orientation and knowledge building efforts in the event of staff departures.

Policy risks

Metro's policy framework on climate change stems mainly from several resolutions passed in 2008 in which the Metro Council gave clear direction for the agency to demonstrate leadership on climate change and for staff to collaborate with regional partners in creating a regional Climate Action Plan to meet state-mandated GHG emissions reduction targets.³⁴ A regional GHG emissions inventory program was central to this policy direction. In addition, current Council priorities including the Regional Solid Waste Plan and Regional Transportation Plan (a key tool for implementing the adopted Climate Smart Strategy) rely on GHG emissions inventory data as indicators of success. Therefore, in light of these key policy dependencies, it could be perceived as a failure to follow through if Metro simply leaves GHG data assessment to the state instead of establishing its own durable regional inventory program.

³ Metro Resolution 08-3971, "For the Purpose of Designating a Council Project and Lead Councilor for the Climate Change Action Plan," adopted on August 21, 2008.

⁴ Metro Resolution 08-3940, "For the Purpose of Affirming a Definition of a "Successful Region" and Committing Metro to Work with Regional Partners to Identify Performance Indicators and Targets and to Develop a Decision-Making Process to Create Successful Communities," adopted on June 26, 2008.

Supplemental Information for Greenhouse Gas Emissions Data Budget Note Response Form

Background

This document is intended to provide additional detail on the staff proposal presented in the Greenhouse Gas Emissions Data Budget Note Staff Report. The proposal was the primary outcome of a project undertaken by Metro staff to address specific directives articulated in a Metro Council budget note, namely “to 1) analyze the agency’s data needs for inventorying the region’s greenhouse gas emissions using both a sector-based inventory and a consumption-based inventory and 2) to create a proposal to address those data needs that identifies a variety of approaches and the costs associated with each approach.”

The following sections outline the activities undertaken as part of the project, the stakeholders and factors considered, and the proposed regional greenhouse gas (GHG) emissions inventory data program.

Project Approach

The project team included staff from several Metro departments with a range of perspectives and areas of expertise. The initial phase of the project consisted of research and outreach conducted to catalog past and current Metro GHG emissions estimation activities as well as those ongoing at key partner agencies. Additional outreach was directed at expected consumers of potential regional GHG emissions inventories to ensure a thorough understanding of the needs that the inventories would be designed to serve.

The team then devised the structure of the proposed program and estimated the resources necessary to establish and maintain it.

Guiding Principles

Several core principles were identified by the project team in coordination with key stakeholders:

- Serve current/programmed Metro GHG emissions estimation needs
- Maximize alignment with GHG emissions estimation activities taking place at partner agencies
- Ensure that proposed methods are valid and defensible

GHG Emissions Inventory Overview

A GHG inventory represents an accounting of emissions of multiple gasses known to contribute to climate change, expressed in units of mass associated with a distinct geographic area. While direct measurement of GHG emissions is possible in certain instances, GHG inventories for relatively large geographic areas are typically calculated using estimated rather than directly measured emissions. This is done for two reasons, the first of which being that direct measurement of GHG emissions in a comprehensive manner at anything larger than the micro scale is effectively infeasible due to technological constraints. Secondly, even if such direct measurement were possible, the resulting inventory would consist of a single total with no understanding of the contributions of different types of

activities. Therefore, the inventories considered here consist of emissions estimates calculated by multiplying activity data (e.g. vehicle miles travelled, electricity consumed) by emission factors (expressed as a rate in terms of units of mass per unit of activity), normalizing the resulting quantities of emissions for individual gasses based on the strength of their effect on global warming, and then summing these normalized values to arrive at a total quantity of estimated GHGs emitted.

This project concerns itself with the two types of GHG emissions inventory that are generally considered to be the most appropriate and applicable to analysis at the community (i.e. municipal, regional) scale:

1. A sector-based emissions inventory accounts for GHG emissions associated with activities taking place within the geography of interest.
2. A consumption-based emissions inventory accounts for life-cycle (i.e. production to disposal) GHG emissions associated with consumption of goods and services by residents and businesses within the geography of interest.

A third type of inventory that is beyond the scope of this project but worth mentioning here is an internal operations emissions inventory, typically conducted by local governments and businesses, which accounts for GHG emissions associated with the business operations of the organization in question. This type of inventory is conducted at a more detailed scale and is most appropriately interpreted as a “drill-down” of the community-level inventory types referenced above, as many of the emissions in an internal operations inventory are assumed to be accounted for in a more aggregate manner in a community inventory.

GHG Emissions Estimation Protocols

Established protocols provide clear direction on community (i.e. city, county, region) GHG emissions inventory data sources, calculation, and reporting methodologies. Chief among these are the *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (US Community Protocol) and the *Global Protocol for Community-Scale Greenhouse Gas Emission Inventories* (GPC).

Recent/Current Metro GHG Emissions Estimation Activities

Regional Systems-based Inventory

In 2010 Metro, with consultant support, developed an inventory of estimated GHG emissions associated with the Metro jurisdictional boundary for 2006. This inventory, which blended sector- and consumption-based accounting approaches, was intended to establish a snapshot of the carbon footprint of the region in order to focus planning efforts to achieve long-term GHG emissions reductions from all sectors. The approach used in conducting this inventory relied on a national U.S. Environmental Protection Agency (EPA) framework published in 2009 (“Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices,” EPA, Office of Solid Waste and Emergency Response) as guidance in developing methods and data sources, while adjusting or replacing individual components with more geographically relevant data where possible.

It is important to note that, since the state of the practice surrounding consumption-based GHG accounting at the regional level was still developing at the time, this approach was considered

provisional and experimental. However, it significantly expanded the typical scope of GHG inventories and provided timely information that supported Metro's early climate mitigation communications internally as well as externally with local, regional, and state partners. There are no plans to update this inventory in its current form.

Regional Consumption-based Inventory

GHG emissions associated with the products and services consumed in the Metro region is one of the key indicators in Metro's 2030 Regional Waste Plan, adopted by the Metro Council in March 2019. In order to align with a new focus on the holistic nature of the regional waste system, GHG emissions were estimated for the full life cycle of products, materials, and services consumed in the region, from production to disposal. This consumption-based approach is increasingly being used by states and local governments to better understand how the choices and behaviors of their residents, businesses and governments impact climate change.

Development of the baseline consumption-based emissions inventory for the 2030 Regional Waste Plan was conducted by the Oregon Department of Environmental Quality (DEQ) in 2018 using the same methodology for the tri-county area that it uses for the state as a whole. This inventory estimated the emissions generated locally, nationally and internationally as a result of the goods and services consumed by the region in 2015 at around 46% of the state's total consumption-based emissions. Two-thirds of these emissions were estimated as coming from how products are made and less than one percent from the disposal of products or packaging after use.

RTP

The Research Center conducts a regional emissions analysis with each update to the Regional Transportation Plan (RTP), in which on-road mobile source emissions are estimated for base and forecast years using the regional transportation model coupled with EPA's Motor Vehicle Emission Simulator (MOVES) model. Until October 2017, the regional emissions analysis was performed primarily for the purposes of federally mandated air quality conformity determinations. While the region is no longer required to demonstrate conformity, regional emissions analyses continue to be conducted to estimate the emissions of GHGs and other pollutants associated with the RTP, major transportation projects subject to the National Environmental Protection Act (NEPA), and other initiatives.

Climate Smart Strategy

In HB 3543 (2007), the Oregon Legislature adopted statewide GHG reduction targets for all sectors. In HB 2001 (2009) and SB 1059 (2010), the Legislature directed the Land Conservation and Development Commission (LCDC) to adopt targets for reducing light-duty vehicle transportation-related GHG emissions in metropolitan areas consistent with the overall target from HB 3543. Those regional targets, first adopted in 2011, were updated in January 2017 to extend to 2050.

Metro was directed by HB 2001 and by LCDC rules to develop a plan for meeting its regional GHG reduction target in coordination with the Oregon Department of Transportation (ODOT). After a vigorous and collaborative regional process, this plan – known as the Climate Smart Strategy – was adopted by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council with broad regional support in 2014 and approved by LCDC in 2015. The development of the strategy was informed by a detailed modeling analysis of various scenarios conducted by Metro, in partnership with

ODOT, to identify the types of transportation-related mitigation strategies that would have the greatest potential for long-term reductions in GHG emissions and meet state targets for the year 2035.

Incorporated into the RTP in 2018, the Climate Smart Strategy included a set of performance measures and monitoring targets for tracking implementation and progress. One of the monitoring targets that is evaluated for these purposes is the estimated reduction in annual per capita GHG emissions from light-duty vehicles by 2035 and 2040 compared to 2015 levels. These estimated reductions were calculated and reported during the most recent update to the RTP by the Research Center using the approach described above that combines Metro's regional transportation model with the EPA's MOVES model. This analysis is documented in Appendix J to the 2018 RTP.

Regional Barometer

Metro Council adopted legislation in 2008 outlining six desired outcomes for the region and, in following years, approved the concept of a dashboard that would allow Metro staff and members of the public to measure regional progress toward these outcomes. An ongoing cross-departmental project is in the process of implementing this dashboard concept in the form of a web-based data hub called "By the Numbers" that will house a series of Regional Barometer Measures designed to assess the region's status vis-a-vis the outcomes.

Given that one of the six desired outcomes consists of leadership on climate change, the Regional Barometer includes a regional GHG inventory as one of its measures. The current Regional Barometer, scheduled to go public in December 2019, makes use of the existing 2015 consumption-based emissions inventory as well as on-road vehicular GHG emissions estimated in the 2018 RTP. Future phases of the Regional Barometer would incorporate the regional inventories potentially resulting from the proposal outlined here.

Metro Operations

In 2003, the Metro Council set an ambitious target for business operations to be sustainable within one generation. To this end, the Council adopted goals in five key categories: climate, waste, toxics, water and habitat. Metro's Sustainability Plan, adopted in 2010, identifies strategies and actions to achieve the goals and sets a baseline, indicators, and interim targets to measure progress over time.

Metro conducts periodic inventories of GHG emissions associated with internal operations to track progress over time toward Metro's climate goal and to understand trends and manage emissions from specific sources and activities. The most recent inventory estimated emissions for 2017 (fiscal year 2016-17), following on previous 2008 (baseline) and 2013 (fiscal year 2012-13) inventories.

Current Partner Agency GHG Emissions Estimation Activities

State of Oregon

DEQ produces a sector-based inventory annually and a consumption-based inventory every five years, with both inventories accounting for GHG emissions associated with the entire state. These are the primary GHG emissions inventories published by the State.

The sector-based inventory is calculated using reported data from DEQ's Greenhouse Gas Reporting Program, waste emissions estimates from DEQ's Materials Management section, and modeled emissions estimates from EPA's State Inventory Tool (SIT). Approximately eighty percent of the annual emissions in the most recent inventory years are derived from data reported directly to DEQ through its Greenhouse Gas Reporting Program. This program collects greenhouse gas emissions information annually from major emitting sources in Oregon, including industrial facilities with air quality permits, fuel distributors, natural gas and electricity suppliers and large landfills. Emissions estimates for sources that do not report directly to DEQ, such as agriculture, are primarily developed using the SIT, whose emissions are estimated utilizing a modeling approach that relies on the disaggregation of national data.

Oregon's consumption-based inventory was originally developed by Stockholm Environment Institute (SEI)'s US Center under contract to DEQ and, when first published by SEI in 2011, constituted the first such inventory at the sub-national scale in the United States. Subsequently updated twice by DEQ, the consumption-based inventory follows the commodities purchased by Oregon's consumers and assigns to these commodities their total life-cycle emissions, from cradle (the production phase) to grave (the post-consumer disposal phase). It considers the purchase of a final good or service by an Oregon consumer as the act that determines whether a commodity's life-cycle emissions should be in or out of the inventory, regardless of where the consumption or emissions actually occur.

The consumption-based inventory relies on highly segmented spending data as its primary input, and its emissions estimates are based on consideration of four different types of consumers (households, federal government, state/local government, and business capital and investment), 536 different commodities, five life-cycle phases (production, pre-purchase transportation, wholesale/retail, use, and post-consumer disposal), and three locations (in-state, other-US, and foreign).

City of Portland/Multnomah County

The City of Portland's Bureau of Planning and Sustainability (BPS), in conjunction with Multnomah County, produces a sector-based inventory annually and a consumption-based inventory that is updated periodically. Both inventories account for GHG emissions associated with the entirety of Multnomah County. The sector-based inventory has been conducted annually since 1990 and is used to inform policy and planning to reduce emissions. It followed the US Community Protocol for a number of years but switched to the GPC with the 2017 inventory published in 2019 in order to comply with international commitments associated with membership in C40 Cities. The consumption-based inventory has been calculated twice to date by DEQ, with BPS staff compiling input data and DEQ adapting the statewide inventory tool to Multnomah County.

Other Jurisdictions

A number of other jurisdictions in the region have either previously produced or are taking steps toward producing GHG emissions inventories. In response to another budget note (FY20 Budget Note #2), a concurrent effort to the one detailed here is underway to propose a regional climate change mitigation strategy. This project's outreach to partner jurisdictions includes a survey that asks for, among other things, details on any past/current/future GHG emissions inventories as well as feedback on how they could benefit from a coordinated regional inventory data program. At the time of writing, the deadline for survey responses has not yet arrived and so a current summary is not yet available.

Anticipated GHG Emissions Inventory Data Consumers

The proposed GHG emissions inventory data program would serve the needs of a range of programs internal to Metro as well as potentially enabling partner jurisdictions to more easily and consistently develop their own inventories.

Regional Mitigation Strategy

The work that culminated in the proposal detailed here was carried out in close coordination with the work associated with the response to Budget Note #2 that is proposing a regional climate change mitigation strategy. Monitoring and reporting of progress toward regional GHG emissions reduction targets established by that strategy would be done using GHG emissions estimates from the inventory program proposed here.

Regional Transportation Plan

The RTP would make use of the GHG emissions estimates for the transportation sector in the sector-based inventory to support monitoring and reporting needs.

Regional Waste Plan

The 2030 Regional Waste Plan calls for reporting on sets of key and goal indicators at least every three years, and it relies on a regional consumption-based GHG emissions inventory to quantify the key indicator of GHG emissions associated with the products and services consumed in the Metro region.

Regional Barometer

Phase 2 of the Regional Barometer would update the “By the Numbers” web-based data hub to incorporate a regional sector-based GHG emissions inventory as the measure used to track the emissions and waste indicator.

Local Jurisdictional Partners

To the degree that community-scale GHG emissions inventories have historically been developed in a somewhat fragmented manner across the region, a regional inventory program conducted by Metro would provide an opportunity for a more coordinated regional approach that could produce several potential benefits. First, a regional inventory data program would serve as a template for partner jurisdictions to follow and would therefore promote consistency in data sources and calculation methods. In addition, the presence of an established regional framework would make it easier for jurisdictions developing inventories for the first time to begin their work. Furthermore, if a high level of methodological alignment were to be established between the state, region, and city/county levels, certain aspects of the data collection effort could be coordinated and rendered more efficient. One example is the process of requesting usage data from utilities which, if unified, would be beneficial to all parties.

GHG Emissions Inventory Data Program Proposal

In order to focus attention on several key tradeoffs and decision points, staff determined that structuring the proposal in the form of three alternatives was most appropriate. It is assumed that any new FTE would be housed within the Research Center regardless of alternative.

Basic Option

The basic option would satisfy the requirements of the budget note and establish a robust GHG emissions inventory data program. It would entail the development of a new sector-based inventory by Metro staff that is compliant with either the US Community or GPC protocol. Given that the protocols are very similar and further deliberation is required, the choice of the preferred protocol does not impact the estimated level of effort and it is assumed that this decision would occur during development of the work plan. With respect to the consumption-based inventory, this alternative assumes the continuation of the arrangement that produced the baseline inventory for the 2030 Regional Waste Plan, whereby Metro staff compile input data and DEQ staff adapt the statewide inventory tool to the tri-county area.

Expanded Option

The expanded option would supplement the basic option with additional resources designed to produce a more durable program with farther reach. It assumes additional staff capacity for outward-facing technical support and coordination to assist partner jurisdictions with conducting and interpreting results of their own inventories. Additionally, the expanded option would include staff time to pursue formalization of the relationship with DEQ pertaining to the consumption-based inventory in the form of a memorandum of understanding (MOU) or an intergovernmental agreement (IGA). Furthermore, this alternative would allocate resources to enable exploration of advanced topics such as forecasting and the potential applicability of emerging data sources such as direct measurement of emissions using mobile sensors.

Consultant-led Option

The consultant-led option would rely on a consultant with subject matter expertise to conduct the majority of the technical work necessary to produce the sector- and consumption-based inventories. The consultant would develop the necessary software tools to calculate the inventories as well as preparing materials to present results. The consultant-led option would assume the same level of investment in staff knowledge building as the basic option and the same level of investment in technical support to local partners as the expanded option.

Making GHG Emissions Inventory Data Accessible

Staff recommends that the GHG emissions inventory data be made available to internal and, potentially, external consumers via one or both of the By the Numbers and RLIS data hosting platforms. The feasibility and nature of this arrangement would ultimately depend on details related to considerations to be addressed during development of the work plan, namely data formats and update schedules.

Budgetary Implications

Given the current lack of a GHG emissions inventory program within Metro, there is very little in the way of existing or programmed budget resources associated with activities such as those included in the proposal. The Research Center's established on-road mobile source emissions modeling program, which supports efforts related to the RTP and the Climate Smart Strategy, amounts to an estimated average annual 0.08 FTE. This estimate includes technical work associated with estimating emissions of several dozen pollutants rather than GHGs alone, and it accounts for the highly intermittent nature of the demand for this work.

Table 1. Comparative Table of Proposal Alternatives (resource estimates include 25% contingency to account for uncertainty)

		Basic Option	Expanded Option	Consultant-led Option
FTE	One-time	1.0	1.5	1.0
	Ongoing	0.5	0.75	0.75
M&S	One-time	\$22,500	\$22,500	\$35,000
	Ongoing	\$2,500	\$2,500	\$25,000
Benefits		<ul style="list-style-type: none"> Aligns with state methodologies Quick start-up 	<ul style="list-style-type: none"> Aligns with state methodologies More durable than Basic option Demonstrates long-term commitment Engages partner jurisdictions 	<ul style="list-style-type: none"> Aligns with state methodologies Leverages consultant expertise Allows Metro staff to focus on regional coordination and support
Risks		<ul style="list-style-type: none"> Relies on DEQ goodwill for consumption-based inventory Potential for periodic loss of institutional knowledge in the event of staff turnover Lack of regional coordination 	<ul style="list-style-type: none"> Potential for periodic loss of institutional knowledge in the event of staff turnover Potential for conflicting numbers between inventories for identical geographies using different methodologies 	<ul style="list-style-type: none"> Metro less involved in technical details than in other options Potential for appearing less engaged Higher ongoing costs

Budget Note Response Form - Regional Climate Mitigation

Budget Note Narrative

Our region is calling for greater leadership on climate mitigation. Although Metro has adopted a climate goal for internal operations¹, incorporated climate leadership into its six desired outcomes², and implemented climate criteria into policies and programs across departments, it is clear that Metro has an opportunity to take the next step for climate action and catalyze a coordinated regional strategy.

The budget note directs staff to develop a work plan and identify employee capacity needed to create a coordinated, regional strategy to mitigate climate change, including but not limited to:

- Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions
- Evaluate opportunities for new climate mitigation work through Metro’s external-facing programs
- Work with local jurisdictions to determine their climate needs and identify ways in which Metro can support their work
- Develop multi-jurisdictional benchmarks for greenhouse gas reduction in key timelines (e.g. 2030, 2050) and a regional strategies and a roadmap to meet those goals
- Identify regional climate goals for the impacts of Metro’s external-facing work and what progress looks like for Metro
- Effectively communicate our strategy and our successes.

Resources currently allocated

Climate mitigation is embedded in much of the work that occurs throughout Metro, and few people have climate work explicitly called out in their job descriptions, so it is difficult to calculate the amount of staff resources currently allocated. The attached document entitled “Metro Current Climate Mitigation Allocated Resources” is an attempt at this calculation, and the total resources are summarized below, but there are a few assumptions that impact the calculation.

- Much of the existing climate mitigation work calculated is not done exclusive of other desired regional outcomes, including Equity, Vibrant communities, Economic prosperity Safe and reliable transportation, and Clean air and water. If the time spent on each of these desired outcomes was calculated in a similar fashion it is likely every staff position would add up to more than 1 FTE since these issues are interconnected and improving one helps to improve others.
- Because of the overlapping work described above, the department-level FTE shown in the table below are not strictly comparable in an apples-to-apples sense, but they do give a good sense of the level of climate-related effort each department now makes.
- The in-progress refresh of Metro’s Vision 2040 has explicitly committed at both Council and staff levels to addressing climate change as a crucial action element. Staff recommend that Council be aware of this fact and consider any resources they wish to devote to climate mitigation work in light of the Vision 2040 effort and its potential outcomes. The current Vision 2040 work plan envisions ramping up staff and Council work after fall of 2020.

Currently Allocated Resources

Department	FTE	Cost
Parks & Nature	.3	\$41,400
Planning & Development	6.15	\$935,650
Property & Environmental Services	22.3	\$9,800,000
Research Center	.08	\$32,000
Visitor Venues	3.3	\$377,300
GAPD/Other	.25	\$61,300
Total	32.38	\$11,247,650

¹ <https://www.oregonmetro.gov/how-metro-works/green-metro>

² Metro Resolution 08-3940, “For the Purpose of Affirming a Definition of a “Successful Region” and Committing Metro to Work with Regional Partners to Identify Performance Indicators and Targets and to Develop a Decision-Making Process to Create Successful Communities,” adopted on June 26, 2008.

Staff Proposal – Narrative

Climate change is one of the most critical issues facing both the global and local communities. Metropolitan regions are well situated to take meaningful action to respond, and, in recognition of this, the Metro Council adopted leadership on climate change among the six desired outcomes for the region in 2008. As is evident above and in the attached “Synopsis of Metro’s Leadership on Climate Change” Memo, significant climate mitigation work is already occurring throughout Metro. The goal of this budget note would be a coordinated effort that provides the Metro Council and local governments with the technical support and information they need to make substantive climate mitigation impact through policy changes and investments as well as to effectively communicate about these efforts. Below are three alternative proposals to move this work forward.

Consistent throughout the three proposals is the introduction of a new “climate coordinator” who can take Metro’s climate leadership to the next level and provide more regional stewardship and visibility on climate mitigation as well as providing coordination and support for existing climate mitigation programs throughout the agency.³

The climate coordinator could also engage with local jurisdictions to share best practices, support their current efforts, help facilitate the exchange of information and amplify their efforts as well as engage them in Metro’s climate related programs. As part of the research for this response local jurisdictions were surveyed about their climate action work. Out of 16 responding jurisdictions six have no plan and no expectation of a plan in the future. Three are working on a plan, three others have plans that were focused on internal operations, and only four currently have broader community focused Climate Action Plans. The responses from the jurisdictions on why they have not taken action ranged from “no requests to do anything” to “lack of legal mandate” but mostly focused on lack of resources and staff capacity as well as competing priorities. Depending on the level of investment made, Metro’s support of local jurisdictional partners could range from providing basic technical and policy support, coordination and collaboration to collaboratively creating a regional climate strategy and implementation plan that is ratified and supported by the Metro Council and local jurisdictions.

A few notes as the Metro Council considers expanding its work on regional climate action – first, it is important to acknowledge the geography and politics of the region. Anecdotally, it seems that in places where until recently there has been a lack of political will to pursue climate action, there now seems to be an interest in working on this issue, but resources are limited and the issue can still be highly politicized. One local government staffer indicated that because many local jurisdictions are finally moving forward in developing their own climate efforts, it is important for their community members to feel local ownership on this issue. This is particularly important in the two counties that include significant areas outside of Metro’s jurisdiction.

Second, none of these proposals include time explicitly focused on the potential effects of climate change on migration into the region. It is understandable that this issue is of significant interest to the Metro Council, as it is critical to understand if the agency is to appropriately plan for future population growth. However, at this time this issue is not well understood and there is extremely limited available research. The Metro Research Center is coordinating with government and academic partners to develop more research on this topic, but to date that collective has been unable to deploy significant new resources. However, with a dedicated climate coordinator, Metro can begin exploring climate migration, and potentially identify new resources for the Research Center and the broader community to conduct meaningful, science-based research on this issue. Local media and stakeholders in Metro’s growth planning process are already paying attention to climate change as a potential factor in migration, so this topic will only become more central to the ability of Metro to successfully plan for the region’s future.

³ Because climate mitigation work is already so central to the work that is already occurring at Metro there are some opportunities for expanded climate efforts that are not reflected in this document, but would significantly increase Metro’s capacity to support local and regional efforts to reduce GHG emissions. These include additional funding for Congestion Pricing Technical Analysis, the Regional Mobility Policy Update and the Build Small Coalition (passed to Metro from DEQ in 2017 but which will need ongoing Metro funding starting in 2020 to continue). These are in addition to other projects that are already part of the baseline budget including Food Waste reduction, Vision 2040 Refresh and many others.

Third, during the process to produce this proposal, staff completed a cursory inventory of current work being done at Metro and our partners jurisdictions, effectively completing the first of the outcomes directed by this budget note – the outcomes of this work are covered in this report and its appendices. However, should significant expanded spending on climate mitigation be prioritized it is recommended that this inventory be done more thoroughly.

And finally, Metro does not have to, and shouldn't, do this work alone. Like Metro, many of our local jurisdictional partners have already invested significant resources in climate mitigation work, and as the climate crisis worsens, efforts to reduce GHGs and mitigate the most devastating impacts of climate change will continue to expand. Publicly committing significant resources to reduce GHG emissions could help to identify and leverage partnerships with other public, private and non-profit partners. Regardless of what level of funding the Metro Council chooses, it is important that this effort include close coordination with local, regional and state partners in order to get more done and minimize duplication of work.

Climate and Equity

Climate mitigation is a topic particularly fraught with historic and systemic inequities and injustices. Those most impacted by the impacts of climate change, both locally and globally, are those who have produced the fewest GHG emissions. Individuals with low incomes and individuals of color are not only among the most impacted, but they are also least able to withstand the impacts of climate change.

It is imperative that Metro explicitly focus resources on tying climate mitigation to the good work we are already doing on Diversity, Equity and Inclusion. Best practices for ensuring that equity is truly embedded in climate policies require:

- Explicit commitments to equity and vulnerable populations in the mission and values of regional climate policies,
- Deeply engaging community members in processes so as to learn about their priorities, needs and challenges,
- Ensuring outcomes and implementation expand equity, and
- After implementation, policies are analyzed to ensure equity outcomes are met.⁴

In our communication efforts in particular, it is important that climate mitigation work is tied concretely and explicitly to our work on Diversity, Equity and Inclusion so that this is not seen as a pivot from one to another, but rather as an integration of deeply related issues that impact one another and are both fundamental for creating a vibrant community for all. Well-funded Metro facilitation of regional climate strategy could help ensure an equity lens is applied to all regional Climate efforts and that action plans are focused on an equitable and just climate future that reduces climate pollution equitably and addresses historical and systemic inequities.

Finally, there has been some exploration by regional partners and Metro staff of moving beyond an equity lens and addressing climate mitigation and climate adaptation through an indigenous lens. While this work is nascent it is something that this program should stay involved in and explore further.

A. "Communication and Coordination":

This approach would achieve the following outcomes articulated in the budget note:

- **Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions**
- **Evaluate opportunities for new climate mitigation work through Metro's external-facing programs**
- **(Effectively) communicate our strategy and our successes.**

This approach would allow Metro to better leverage currently allocated funds. By carving .5 FTE of the currently funded Resiliency Program Manager position this approach would allow coordination of existing and future climate work without significant new investments would create a climate coordinator. While this nesting is not ideal, Resiliency work⁵ and Climate mitigation work generally deal with different systems and both have significant need for investment, it does allow for a

⁴ Taken from "Making Equity Real in Climate Adaptation and Community Resilience Policies and Programs: A Guidebook" by The Greenlining Institute - <http://greenlining.org/publications/2019/making-equity-real-in-climate-adaption-and-community-resilience-policies-and-programs-a-guidebook/>

⁵ As currently defined Metro's Resiliency work focuses on reducing vulnerability to Natural Hazards and Climate impacts as well as social and economic threats to the region.

modest focus on coordinating current projects, identifying opportunities for new climate mitigation work but would not allow a significant expansion of our engagement with local jurisdictions to support their work on climate.

This approach would require additional one time investments for research, communications materials and community engagement. It would allow some coordination of climate related implementation of regional funding measures such as the Affordable Housing and Parks and Nature bonds, with other current projects. Should funding remain at this level it is unlikely that significant new regional projects on climate mitigation could be spearheaded by Metro, but this would allow more engagement with projects initiated by other partners such as the renewal of the Multnomah County/Portland Climate Action Plan or any new state level programs or policies that are developed in the near future (see risks section).

B. “Expanded Regional Effort”:

This approach would achieve the following outcomes articulated in the budget note:

- **Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions**
- **Evaluate opportunities for new climate mitigation work through Metro’s external-facing programs**
- **Work with local jurisdictions to determine their climate needs and ways in which Metro can support their work**
- **Develop multi-jurisdictional benchmarks for greenhouse gas reduction in key timelines (e.g. 2030, 2050) *OR* a regional strategies and a roadmap to meet those goals**
- **Effectively communicate our strategy and our successes.**

This approach expands the Climate Coordinator position to its own FTE and increases one time communications funding in addition to the one time investments outlined above. It also includes some additional Parks & Nature staffing in order to better implement the Parks Bond with a climate lens.

Funding for a one time summit of local, regional and state partners to begin to craft regional goals *OR* an implementation strategy on climate mitigation is also included - it is unlikely that one gathering could cover both so a gathering focused on implementation strategy would likely need to focus on current state level emissions targets or more stringent targets that had somehow been predetermined, for example if the legislature passes more stringent limits similar to those proposed in the 2019 Cap & Invest measure, which are 45 percent below 1990 emissions levels by 2035 and 80 percent below 1990 emissions levels by 2050.⁶

Finally this option provides one time funding for deep dive research to take the solutions described in “Project Drawdown”⁷ and determine which would be most effective when implemented in our region.

C. “Regional Climate Framework”:

This approach would achieve all the outcomes articulated in the budget note:

- **Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions**
- **Evaluate opportunities for new climate mitigation work through Metro’s external-facing programs**
- **Work with local jurisdictions to determine their climate needs and ways in which Metro can support their work**
- **Develop multi-jurisdictional benchmarks for greenhouse gas reduction in key timelines (e.g. 2030, 2050) and a regional strategies and a roadmap to meet those goals**
- **Identify regional climate goals for the impacts of Metro’s external-facing work and what progress looks like**
- **Effectively communicate our strategy and our successes.**

To significantly reduce GHG emissions in the region, sustained leadership and a substantive investment will be required. This approach would allow significant coordination not only within Metro but with our local, regional and state partners with the goal of creating and implementing a regional climate framework in the next five years. To put this in budgetary context, the four years of planning, community engagement and communications to create and implement Climate Smart Strategy required an *annual* investment of approximately \$1 million. Much work on climate mitigation is already occurring

⁶ [Oregon HB 2020 \(2019\)](#)

⁷ www.Drawdown.org

which should be leveraged, including the Vision 2040 Refresh, the update of the Functional plan, ongoing implementation of the 2018 Regional Transportation Plan, the implementation of the 2030 Regional Waste Plan and others. Because of these existing investments, it is not expected that this effort will require a new investment on the scale of CSS, however, it is imperative that a significant investment be made in planning, community engagement and communications materials.

In addition to all the funding recommended for approach “B”, this option proposes one time spending on consultant capacity to help staff create the work plan that would lead to a coordinated regional climate strategy. This planning work will consist of scope development of planning, engagement and technical analysis across sectors and would allow for engagement of partners (JPACT, MPAC, and Community Based Organizations) and state agencies to help develop the work plan. This proposal also increases staff capacity in Communications and makes the regional summit an annual occurrence rather than a one-time gathering.

The work planning process will further refine these increased staffing recommendations and may identify new needs for FTE funding for PES and Planning and Development not reflected in the table below. This work would consist of both expanded climate mitigation work for Metro’s external-facing programs and help supporting local jurisdictional partners’ integration of climate smart policies into their plans and operations. Additionally, should work on climate mitigation increase significantly there will be a need for reliance on existing staff, in particular DEI staff, that are not reflected in this request.

Risk Analysis

Overarching risk

Metro is already spending significant amounts on climate mitigation work throughout the agency. However, without coordination there is the risk that current work is less visible, less coordinated, less efficient, and less cohesive than is ideal for the goal of Metro playing a leading role on climate mitigation. For example, Metro is not currently telling one cohesive story about its existing climate work. In the past, significant agency resources have been expended to create climate mitigation implementation plans, communications strategies and other policy proposals but when funding for a coordinator position ended in 2011, this work atrophied and for the most part none of the good recommendations of this significant effort came to fruition.

Exterior Risks

There are a number of ongoing processes that may influence Metro policy, projects and staffing moving forward:

- Oregon Cap-and-Invest policy - expected to be reconsidered next session. Previous versions of this bill have included project funding to implement Climate Smart Strategy and new statewide emissions targets and funding to support climate adaptation work statewide.⁸
- **STS Interagency Implementation** – Governor Brown tasked leadership of four state agencies (ODOT, DLCD, ODEQ, and ODOE) to develop an implementation plan for the Statewide Transportation Strategy to reduce GHG emissions.⁹
- **MPO GHG reduction targets review** - By June 1, 2021, LCDC is required to review and evaluate the targets defined in the Metropolitan GHG Reduction rule to determine whether revisions are needed.¹⁰
- Council is expected to refer a **Transportation Investment Initiative** to the voters in 2020. If this is referred and passed it will impact Metro spending as well as regional emissions and climate mitigation efforts.

Political risks

Though this is changing, climate mitigation work, in particular that focused on the reduction of fossil fuel emissions is still a politically charged issue particularly in rural and conservative areas. Any work in this area must balance the urgent need for climate mitigation action with our need to work with partner counties whose boundaries extend significantly beyond Metro’s jurisdictional boundaries or who, while not being within Metro’s jurisdictional boundaries still contribute to the region’s GHG emissions.

⁸ [Oregon HB 2020 \(2019\)](#)

⁹ [Governor’s letter initiating STS implementation](#)

¹⁰ [DLCD Metropolitan GHG Reduction Rule](#)

Financial risks

Climate Change is a problem that could absorb Metro’s entire budget and still not be solved, even locally, so it begs the question of how to balance the need to do something meaningful and the limitations of our resources. In addition – the largest financial risk of climate change is the cost of unchecked climate impacts in the form of heat waves, extreme precipitation and flooding, wildfire and drought and their impact on the region’s health and economy – the less spent on mitigating our GHG emissions the more will be spent on adapting to the impacts of climate change, or rebuilding in their wake.

Policy risks

Metro’s policy framework on climate change stems mainly from several resolutions passed in 2008 in which the Metro Council gave clear direction for the agency to demonstrate leadership on climate change and for staff to collaborate with regional partners in creating a regional Climate Action Plan to meet state-mandated GHG emissions reduction targets.^{11, 12} Metro’s current work on climate change is also driven by Oregon law that led to the production of the current Climate Smart Strategy. To date Metro’s Climate Action Planning has focused on internal operations and Climate Smart Strategy (which was limited to emissions from passenger vehicles) but not on a holistic Regional Climate Action Plan created with our regional partners as was outlined in Resolution 08-3971. Without this there is a risk that Metro could be seen as out of compliance with our own resolution, of not being leaders on this issue but most importantly, of not doing what is needed to make headway on the existential threat of Climate Change.

¹¹ Metro Resolution 08-3971, “For the Purpose of Designating a Council Project and Lead Councilor for the Climate Change Action Plan,” adopted 8-21-08

¹² Metro Resolution 08-3940, “For the Purpose of Affirming a Definition of a “Successful Region” ...” adopted on June 26, 2008.

Staff Proposal Budget Options

Description	Ongoing/One-time	A “Communication and Coordination”	B “Expanded Regional Effort”	C “Regional Climate Framework	Notes
Community Engagement	One time	\$25-30,000 plus management/staff time.	\$25-30,000 plus management/staff time.	\$25-30,000 plus management/staff time.	3 months engagement of 5-6 organizations @ \$5k each
Parks & Nature	One time	\$30,000	\$30,000	\$30,000	research on CO2 sequestration per acre - current and future acquisitions
Communications	One time	\$7-10,000	\$35-50,000	\$35-50,000	“A” - news stories, web landing page and other content; “B”/“C” - Contract for initial convening, messaging and strategy around climate communications
Climate Coordinator	Ongoing	X	\$132,509.90	\$132,510	1 FTE
Parks & Nature Science Staff additional	Ongoing	X	\$18,369	\$18,369	.1 FTE
Regional Climate Summit	One time/ongoing	X	\$30,000	\$30,000	“B” - one time summit; “C” - annual for at least 4 years.
Drawdown Strategy research	One time	X	\$50,000	\$50,000	
Communications	Ongoing	X	x	\$88,685.26	.5-1 FTE to coordinate the contract work and split time between content creation/writing and management- could start mid cycle
Work plan consultant	One time	X	x	\$50-75,000	
Total FY 20-21 costs		\$70,000	\$340,879	\$504,564	
Total ongoing costs		\$0	\$150,879	\$269,564	

Note: The programmatic efforts described would be supported by the related GHG data budget note, the staff recommendation for which appears in a separate document from the Metro Research Center. To effectively ground this coordinated climate work in emissions data, Council should also fund the new GHG Emissions Data budget note at least at the “Consultant led” or “Basic” budget request levels outlined to support approach “A”. Approaches “B”&“C” would work best in conjunction with the staff recommended “Expanded” level in order to fully leverage the connection between data and policy implementation. The resource estimate for the “Expanded” level includes 0.2 FTE dedicated to assisting local partners, in the form of technical support and coordination, with community GHG inventory production. This would help to ensure focus on areas of most significance and to ensure that any new projects are outcomes based.

Metro Currently Allocated Resources – Climate Mitigation

Research Center

These estimates are for activities related to estimating emissions of a suite of several dozen pollutants, not just GHGs. It wouldn't be possible for me to split them out since they're all done under the same umbrella.

The primary purpose of our emissions estimation activities has historically been to demonstrate conformity in conjunction with RTP updates. Our technical methodology has been developed with this in mind and in compliance with the most current EPA guidance related to conformity determinations. While Metro is no longer required to demonstrate conformity, the same set of emissions (including GHGs) is still calculated and reported in the same manner.

The bulk of our emissions estimation work is done in conjunction with RTP updates and is therefore very intermittent, heavy for a few months every 4 years or so and light outside of that. These estimates smooth that out to an annual average.

This process has been automated and streamlined over the years and so the numbers are pretty low. Much of the heavier lifting occurred years ago when I was first setting up the methodology.

There is no M&S here, only FTE.

Nature of Current Work	FTE
Maintaining and updating EPA's MOVES emissions model and input databases	0.02 FTE
Maintaining and updating internal materials (scripts that extract transportation model activity output, calculation spreadsheets)	0.02 FTE
Calculating RTP emissions estimates	0.01 FTE
Climate Smart Strategy support	0.01 FTE
Miscellaneous emissions estimates (corridor studies, T2020, etc.)	0.01 FTE
Technical support to local partners	0.01 FTE
Total	.08 FTE

Property & Environmental Services

Greenhouse gas emissions are produced around the world as a result of the Metro region’s consumption of goods and services. In 2015, the last year for which there is full data, 41 million metric tons of greenhouse gas emissions were generated from the products, materials and services that the region’s residents bought, used and threw away. A core value of the 2030 Regional Waste Plan includes leading efforts to reduce impacts of climate change and many of the actions are focused on reducing greenhouse gas emissions. In addition, one of the Plan’s key indicators for evaluating progress is “greenhouse gas emissions associated with the products and services consumed in the Metro region.” Efforts to reduce emissions span the life cycle of products, from “Upstream” (extraction and manufacturing) focused policies to “Mid-stream” (use) efforts through education, policies and purchasing decisions to “Downstream” (discards) initiatives to recycle the right materials in the right way. In 2017, recycling efforts alone reduced greenhouse gas emissions equivalent to removing 306,000 cars from the road.

Within the downstream part of the life cycle, efforts to reduce diesel particulate emissions and change equipment and fuels used by on-road trucks and off-road equipment at solid waste facilities also result in greenhouse gas emissions reductions.

In addition, PES currently houses coordination of Metro’s Internal Sustainability program, which develops and implements a number of actions intended to help the agency meet its internal operations goal related to greenhouse gas emissions.

Nature of Current Work	Position(s)	FTE equivalent	FY19-20 M&S
Planning, development and implementation of regional waste reduction programs, services and policies, and development and support of state legislative proposals	Waste Reduction Planners and Program Managers	10.5	\$3,176,000
Planning, development and delivery of waste reduction and climate-focused educational programs for youth, adults and families	Waste Reduction Educators and Managers	8	\$584,000
Integration of emissions reduction strategies (fuels and technology) into Metro-operated, contracted and regulated on-road and off-road fleets, and collaborative work with local government and haulers on collection fleets	Solid Waste Planners	0.2	TBD
Grant program for private, for-profit companies and non-profit organizations to leverage work that advances the region’s waste reduction efforts.	Investment and Innovation Grants Program Coordinator and Program Team Members	2.5	\$6,000,000
	Sustainability Coordinator	0.3	\$40,000

Planning, coordination and implementation of greenhouse gas emissions actions in Metro's Internal Sustainability Plan	Climate Analyst	0.8	
	Total	22.3	\$9,800,000

The resources listed above do not include personnel and M&S associated with regulating private recycling facilities in the region. While a step removed from the waste reduction work described below, this oversight is essential to ensuring the functioning of a segment of the recycling system that leads ultimately to greenhouse gas emissions reductions.

Visitor Venues

Work	Amount	FTE
4 employees from across Visitor Venues serving on Sustainability & Asset Mgmt Capital Projects Committees	4 employees x 3 hours per month = ~144 hours per year)	.05 FTE
Zoo policy		.25
Zoo Education		.75
Zoo Communications		.2
Expo center		.2 FTE
P5		.2FTE
Convention Center Sustainability Manager		1 FTE
Convention Center Facility Manager		.25 FTE
Convention Center Sustainability Specialist		.50 FTE
Convention Center Director of Facilities & Operations		.10 FTE
		3.3 FTE

All Visitor Venue climate mitigation efforts

(FTE and M&S investments / expenditures)

Each of the Visitor Venues have a representative serving on Metro's Sustainability and Asset Management Capital Projects committees

(4 employees x 3 hours per month = ~144 hours per year)

- The Metro Visitor venues are members of the WAVE Pacific Northwest Sustainable Development Coalition for regional collaboration of large public assembly buildings, sports arenas, performing arts centers, zoos, aquariums, etc. to accelerate environmental programs that address climate change, social justice and youth engagement. WAVE endeavors to generate scale and impact in the Pacific Northwest to: build a strong, clean energy economy; ensure healthy air and pure drinking water; share economic resources; address social inequities; and, engage and activate the public. (Membership = \$12,500)
- Venues operations team members suggest an agency-wide policy establishing GHG reduction standards for contractors.

Oregon Zoo climate mitigation efforts

Employee resources: .2 FTE Comms, .25 FTE Policy, .35 FTE Education = .75FTE

- The mission of the Oregon Zoo embeds conservation efforts and education into the majority of the venue's work. The Oregon Zoo inspires the community to respect animals and take action on behalf of the natural world, by creating engaging experiences and advancing the highest level of animal welfare, environmental literacy and conservation science.
- In 2019, the zoo established the Oregon Zoo Green Team whose charge is to (1) update the Zoo's Sustainability Plan and (2) find green initiatives/ideas and act on them. The Zoo's Sustainability Plan will be in line with the **sustainability goals set by Metro Council**.
- Some actions taken on the zoo campus in recent years include sub metering a significant portion of the campus, installation of LED lighting, a switch from bottled wine and beer to kegs, a switch from single-use plastic bottled water to aluminum, purchase of green energy from Northwest wind projects, installation of a two-port electric vehicle charging station, replacing water heaters with tankless units, installation of filter water station in employee areas to replace water delivery, installing a high efficiency boiler in the Swamp building, shutting down equipment at night, decommissioning the hippo pool, fixing water leaks, and an efficiency upgrade of Steller Cove.
As a result of these efforts, in FY2017-2018 the zoo experienced 20 percent savings in natural gas use, 11 percent savings in electricity use, and 23 percent in water savings compared to the previous year.
In addition to the Green Team the Zoo Bond Projects demonstrate the zoo's commitment to the agency's sustainability goals. The new Education Center is designed for net zero energy and achieved LEED Platinum certification. Some of the key features include more than 700 solar panels, LED lighting, high efficiency heating and cooling systems, rainwater harvesting, rain gardens, a wildlife garden, salvaged building materials, and bird-friendly glass. The Elephant Lands project earned LEED Gold certification. Some of the sustainable features include: pool filtration, improved storm water management, geothermal system, solar photovoltaic panels on Forest Hall roof, solar hot water, and natural ventilation.
Oregon Zoo's strategies are also aligned with the **Climate Smart Strategy** adopted by Metro Council in December 2014. The zoo works closely with Explore Washington Park in trying to direct visitors towards the use of MAX. The zoo recently installed a bike repair station available to bikers in Washington Park. Zoo facilities have goals to reduce the number of fleet vehicles and transition to more fuel-efficient vehicles.
The Facilities Team ensure compliance with various Metro sustainability measures, including reductions in gas vehicles, improvements to Life Support systems and the positive animal impacts as well as water saving benefits.

Portland Expo Center climate mitigation efforts

~.2FTE Operations staff time devoted to Climate Mitigation efforts

- With aging HVAC systems, the Portland Expo Center has planned for capital improvements averaging \$200,000 per year starting in 2023 for a 10-year period thereby reducing the refrigerant gases, significantly.
(Estimated at \$1.5 million, 2023-2033)
- Expo would like to partner with and benefit from Metro's existing Clean Air Program through PGE and PES.
(Estimated at \$1000-\$1500 per year)
- The visitor venue food and beverage contract specifies a profit share for capital improvements. Expo utilized this revenue share to replace ice machines, recently.
(\$10,000 investment by pacificwild/Expo)
- The Portland Expo team has established agreements with clients and contractors to increase sustainability. For example, last minute load-in procedures can impact heating. As such, clients are encouraged to use "work lights" during setup versus full lighting. Clients receive incremental fees for last minute impacts to incentivize resourcefulness and advance planning in the move in and move out.

Portland's climate mitigation efforts

~.2FTE Operations staff time devoted to Climate Mitigation efforts

- With each capital project to update and upgrade the Portland's theaters, the operations team includes sustainability in the decision-making framework.
- Recently, P5 replaced the chiller for increased efficiency which will be realized in the upcoming fiscal year.
(Total Cost: \$2.4M)
- The Antoinette Hatfield Hall roof replacement will increase energy efficiency at an estimate of 20%.
(Total Cost: \$3.9M)
- In the coming months, the two marquee sign will be upgraded on Broadway and Park to LED lighting which will reduce energy usage by a 20% estimate. Additionally, labor hours will be significant as the manual change of signage takes many hours each year.
- Additionally, the Arlene Schnitzer Concert Hall stage lights have been upgraded to LEDs.
- And, the team now utilizes an electric bike to commute from theater to theater which will reduce some GHGs over the course of its lifetime.

Oregon Convention Center climate mitigation efforts

1 FTE Sustainability Manager

.50 FTE Sustainability Specialist

.25 FTE Facility Manager

.10 FTE Director of Facilities & Operations

1.85 FTE Total

- The Oregon Convention Center is one of two LEED Platinum certified convention centers in the US. In addition to OCC's operations, the client waste diversion policy ensures events within the center comply with Metro's sustainability values. These efforts and the many solar panels on the rooftop make the center one of the most sustainable in the world.

Parks and Nature

Because much of Metro P+N land protection, restoration and long-term management work naturally overlaps with climate change specific strategies, it is difficult to precisely parse how much time staff spend on global climate change mitigation and adaptation (resilience) as opposed to work on habitat and water quality. Core strategies for biodiversity and water quality conservation, such as developing a connected landscape of well-managed protected anchor sites and smaller connector areas within a matrix of healthy private lands and the use of green infrastructure and nature in the city are also core to climate mitigation and resilience. Conservation management for forest, prairie-savanna or wetland health also generally, but not always provides carbon sequestration benefits.

This table presents staff time spent specifically on GCC, including only the conservative marginal addition of time that would not be spent on the same issue in the absence of climate change considerations.

Position	Name	Nature of Current Work	FTE equiv.
Science Manager	Jonathan Soll	Tracking climate change literature, serving on occasional work groups, attending occasional workshops, ensure inclusion of accurate climate change concepts in P+N work and documents.	0.05-0.1
Senior natural res. scientist	Lori Hennings	Staff scientist most engaged in tracking GCC literature and models, attends occasional conference or workshop. Leads Metro work on regional connectivity and coordination with transportation.	0.05-0.1
Natural res. scientists managing our land portfolio	Various (5)	Track GCC literature, incorporate and communicate GCC concepts into regional conservation efforts, site conservation plans and restoration projects.	0.1

Planning and Development

Climate change mitigation and greenhouse gas reduction are inherent to the key programs under Land Use & Urban Development. Management of the urban growth boundary, promoting transit-oriented development, distributing planning grants to assist local jurisdictions in working towards walkable, transit-friendly places, advancing small-format housing, and other activities that work to ensure efficient use of land within the UGB are all essential smart growth practices that promote density and reduce VMT. With the exception of FTE dedicated to the Affordable Housing Bond, staff time spent in support of Metro’s land use planning activities would be considered staff resources already committed towards climate change mitigation.

Program/Project	Gibb	Williams	McLaughlin	Lieb	Alvarado	Larson	Miles	Reid	O’Brien	Small	Total
TOD	0.3	0.4	0.4								1.1
Equitable Housing	0.05			0.05	0.05	0.2		0.05		0.1	0.5
2040 Grants	0.05	0.1	0.1		0.05		0.9	0.05	0.3	0.1	1.65
Land Use Planning	0.25						0.1	0.7	0.4	0.5	1.95
Functional & Framework Plan	0.05							0.2	0.3	0.2	0.75
TOTAL	0.7	0.5	0.5	0.05	0.1	0.2	1	1	1	0.9	5.95

Periodic updates to rtp (every 5 years) implementation of regional transportation program including grants to local governments and nonprofits (ongoing) TSMO including grants to government agencies, within RTO Safe routes to school is a new program with a dedicated staffer, all of their. Pull from the word doc

(existing projects) – RFFA cycle, this year all funded projects were evaluated on how well they advanced climate goals (among others) and in future years will continue to emphasize climate.

Updating policies that will advance state, local and regional GHG emissions efforts: regional mobility policy update, TSMO strategy update,

All of these are tools for implementing the regional transportation plan.

Climate Smart Monitoring

P&D Planning Manager and Principal Planner	Planning, policy and legislative support related to Climate Smart Strategy implementation and monitoring	.1	
RC Modeler	Modeling support related to Climate Smart Strategy implementation and monitoring	.1	

CLIMATE MITIGATION AND GHG EMISSIONS DATA BUDGET NOTE RESPONSE

Date: 12/23/19
Department: COO & Research Center
Meeting Date: 1/7/20

Prepared & Presented by:
Aaron Breakstone x1823,
Sasha Pollack x6907
Length: 45 Min

ISSUE STATEMENT

Staff is reporting back to Council on proposals crafted in response to two FY20 budget notes introduced by Councilor Gonzalez:

- Note #3: Create a coordinated, regional strategy to mitigate climate change
The budget note directs staff to develop a work plan and identify employee capacity needed to create a coordinated, regional strategy to mitigate climate change, including but not limited to:
 - Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions
 - Evaluate opportunities for new climate mitigation work through Metro's external-facing programs
 - Work with local jurisdictions to determine their climate needs and identify ways in which Metro can support their work
 - Develop multi-jurisdictional benchmarks for greenhouse gas reduction in key timelines (e.g. 2030, 2050) and a regional strategies and a roadmap to meet those goals
 - Identify regional climate goals for the impacts of Metro's external-facing work and what progress looks like for Metro
 - Effectively communicate our strategy and our successes.
- Note #5: Ensure Metro has access to the best data on greenhouse gas emissions in Greater Portland
Council directs the Chief Operating Officer, in coordination with the Research Center to
 - Analyze the agency's data needs for inventorying the region's greenhouse gas emissions using both a sector-based inventory and a consumption-based inventory and
 - To create a proposal to address those data needs that identifies a variety of approaches and the costs associated with each approach.

ACTION REQUESTED

Staff is sharing resource estimates associated with these proposals for consideration of inclusion in the FY 20-21 budget.

IDENTIFIED POLICY OUTCOMES

One of the six desired outcomes for the region envisions that "the region is a leader on climate change, on minimizing contributions to global warming." Establishing a regional climate change mitigation strategy and an accompanying greenhouse gas emissions inventory data program to support it would amount to critical steps toward this desired outcome.

POLICY QUESTION(S)

What additional information does Council need in order to discuss climate mitigation and GHG data funding in the upcoming budget conversation?

POLICY OPTIONS FOR COUNCIL TO CONSIDER

Each of the two proposals is structured in the form of three alternatives. Climate Mitigation options are outlined in the table below and show which of the outcomes from the budget note would be achieved by option A, B and C. GHG Emissions Data is described with a narrative description of the three options.

Regional Climate Mitigation Strategy

Outcome	Already Achieved	A “Communication and Coordination”	B “Expanded Regional Effort”	C “Regional Climate Framework
Create an inventory of current climate change mitigation work being done both at Metro and at partner jurisdictions	X	X	X	X
Evaluate opportunities for new climate mitigation work through Metro’s external-facing programs		X	X	X
Work with local jurisdictions to determine their climate needs and identify ways in which Metro can support their work			X	X
Develop multi-jurisdictional benchmarks for greenhouse gas reduction in key timelines (e.g. 2030, 2050) and a regional strategies and a roadmap to meet those goals			Can do this <i>OR</i> regional goals	X
Identify regional climate goals for the impacts of Metro’s external-facing work and what progress looks like for Metro			Can do this <i>OR</i> regional benchmarks	X
Effectively communicate our strategy and our successes.		Additional communication will occur, may not be fully effective.	X	X
Pros		No new ongoing funds needed, closely connected to the newly created Resiliency program	Dedicated ongoing funding for a focused climate coordinator, some capacity to connect and build on internal Metro climate work and connect with partners to support their work	Would allow significant coordination not only within Metro but with our local, regional and state partners with the goal of creating and implementing a regional climate framework in the next five years
Cons		No new climate mitigation work or coordination with partners, will not be seen as meaningful by climate activists, could be seen as detrimental if it relieved pressure to accomplish new work.	Does not allow for strategic long term coordination that would lead to meaningful regional goals or strategy implementation.	Requires significant new and ongoing investments that would potentially take away from other Metro priorities.
Total FY 20-21 costs		\$70,000	\$340,879	\$504,564
Total Ongoing Spending		0	\$150,879	\$269,564

Greenhouse gas emissions data response:

1. Basic Option: The basic option would satisfy the requirements of the budget note and establish a robust GHG emissions inventory data program. It would entail the development of a new sector-based inventory by Metro staff that is compliant with either the US Community or GPC protocol. Given that the protocols are very similar and further deliberation is required, the choice of the preferred protocol does not impact the estimated level of effort and it is assumed that this decision would occur during development of the work plan. With respect to the consumption-based inventory, this alternative assumes the continuation of the arrangement that produced the baseline inventory for the 2030 Regional Waste Plan, whereby Metro staff compile input data and DEQ staff adapt the statewide inventory tool to the tri-county area.
 - Pro: quick start-up
 - Con: limited outward-facing technical support and coordination
2. Expanded Option: The expanded option would supplement the basic option with additional resources designed to produce a more durable program with farther reach. It assumes additional staff capacity for outward-facing technical support and coordination to assist partner jurisdictions with conducting and interpreting results of their own inventories. Additionally, the expanded option would include staff time to pursue formalization of the relationship with DEQ pertaining to the consumption-based inventory in the form of a memorandum of understanding (MOU) or an intergovernmental agreement (IGA). Furthermore, this alternative would allocate resources to enable exploration of advanced topics such as forecasting and the potential applicability of emerging data sources such as direct measurement of emissions using mobile sensors.
 - Pro: durable, demonstrates long-term commitment, engages partners
 - Con: greater burden to understand and explain multiple inventories
3. Consultant-led Option: The consultant-led option would rely on a consultant with subject matter expertise to conduct the majority of the technical work necessary to produce the sector- and consumption-based inventories. The consultant would develop the necessary software tools to calculate the inventories as well as preparing materials to present results. The consultant-led option would assume the same level of investment in staff knowledge building as the basic option and the same level of investment in technical support to local partners as the expanded option.
 - Pro: leverages existing expertise, allows Metro to focus on regional support
 - Con: less technical involvement, potential for Metro appearing less engaged

RECOMMENDATIONS

Within the regional climate change mitigation strategy proposal, to achieve all the goals of the Budget note, Council would need to adopt **Option C, “Regional Climate Framework”**, however, this option would require significant realignment of resources and potentially an abandoning of other council priorities.

Within the greenhouse gas emissions data proposal, the staff recommendation is the **Expanded Option**. This alternative is preferred by staff for its durability, its demonstration of a long-term agency commitment to supporting climate policy with solid analytics, and its commitment to engagement directed at partner agencies.

STRATEGIC CONTEXT & FRAMING COUNCIL DISCUSSION

This presentation directly responds to a Budget Note approved by council and proposes budget increases to expand and coordinate Metro’s climate mitigation and GHG emissions data work.

If council approved the above approaches the new cost would be as follows for new FTE and M&S (from various funding sources):

Climate Mitigation –

- \$504,564 for the 20-21 Budget year
- \$269,564 ongoing

GHG Data -

- \$300,000 for the 20-21 Budget year
- \$150,000 ongoing

Legal Antecedent:

- Metro Resolution 08-3971, “For the Purpose of Designating a Council Project and Lead Councilor for the Climate Change Action Plan,” adopted on August 21, 2008.
- Metro Resolution 08-3940, “For the Purpose of Affirming a Definition of a “Successful Region” and Committing Metro to Work with Regional Partners to Identify Performance Indicators and Targets and to Develop a Decision-Making Process to Create Successful Communities,” adopted on June 26, 2008.
- Established State GHG emissions targets Oregon HB 3543(2007)

BACKGROUND

Our region is calling for greater leadership on climate mitigation. Although Metro has adopted a climate goal for internal operations, incorporated climate leadership into its six desired outcomes, and implemented climate criteria into policies and programs across departments, it is clear that Metro has an opportunity to take the next step for climate action and catalyze a coordinated regional strategy. Investing in a coordinated climate mitigation program and an expanded GHG data program will help to do just that. Over the past 6 months staff have worked to respond to Council’s request to expand Metro’s work in these areas for consideration during budget negotiations.

ATTACHMENTS

Climate Mitigation

- Budget Note Response Form
- Metro Current Climate Work
- Metro Current Allocated Resources Memo

GHG Emissions Data

- Budget Note Response Form
- GHG Data Budget Note Supplemental Memo

- Is legislation required for Council action? Yes No

Regional Investment Strategy: Transportation

Work Session Topics

Metro Council Work Session
Tuesday, January 7, 2020
Metro Regional Center, Council Chamber

REGIONAL INVESTMENT STRATEGY: TRANSPORTATION INVESTMENT MEASURE

Date: 12/26/2019

Departments: GAPD, Planning & Development

Work session dates: Jan. 7 & 14, 2020

Prepared by: Craig Beebe,
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Presenters: Andy Shaw
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Length: 60 min.

ISSUE STATEMENT

People in the greater Portland region are increasingly concerned about growing traffic and unsafe arterial roads across the region. The Metro Council has directed staff to work with community and partners on a potential 2020 transportation investment measure.

At these work sessions, the Council will discuss Tier 1 corridor investment recommendations from the Transportation Funding Task Force. On Jan. 7, the Task Force co-chairs will present recommendations to the Metro Council, with staff providing updated information about the potential outcomes these investments could advance. Following a public hearing on Jan. 13, staff will seek Council direction on what projects in Tier 1 corridors should continue to move forward at the Jan. 14 work session.

ACTION REQUESTED

Provide direction on potential project investments in Tier 1 corridors to continue developing for possible inclusion in a potential regional transportation measure.

IDENTIFIED POLICY OUTCOMES

The Metro Council has directed that a potential measure advance the Regional Transportation Plan, Strategic Plan to Advance Racial Equity, and Climate Smart Strategy; engage diverse partners and community members; and leverage regional and local investments in affordable housing and parks and nature.

The Metro Council approved specific policy outcomes for the potential transportation measure and appointed a Transportation Funding Task Force in early 2019.

In order to advance its desired policy outcomes, the Council has directed staff to develop a measure that focuses investments in key regional travel corridors and also includes regionwide investment programs to spread benefits throughout the region. Council direction on the measure structure is further described in the “Background” section below.

POLICY QUESTION

What potential projects in Tier 1 corridors advance Council’s desired measure outcomes and should move forward for further project development and continued consideration for inclusion in a potential measure?

POLICY OPTIONS FOR COUNCIL TO CONSIDER

Following a summer of in-depth engagement with community-based Local Investment Teams and project development with jurisdictional partners, Metro staff released a preliminary Tier 1 corridor projects and regionwide programs recommendation to the Transportation Funding Task Force on Oct. 18, 2019.

In creating these recommendations, Metro staff considered a number of factors, including:

- Metro Council outcomes for the Transportation Measure
- Task Force outcomes for the Transportation Measure
- Local Investment Team input
- Regional and local plans
- Analysis of transit opportunities on corridor
- Agency staff knowledge of readiness and opportunity
- Metro staff review of consistency with Regional Transportation Plan principles
- Expected scale of potential revenue
- Feasibility of delivering projects within the near future

The Task Force discussed staff's recommendations at meetings on Oct. 30 and Nov. 20. As the Task Force prepared to make its own Tier 1 recommendations, several Task Force members also proposed amendments to add, modify or remove staff-recommended investments in some corridors. The Task Force considered and voted on proposed Tier 1 corridor recommendations at its Dec. 18 meeting in Clackamas.

The Task Force's recommendations and additional feedback/input to Council will be described in a forthcoming memo from the Task Force co-chairs, which will be attached to this worksheet in early January.

In summary, the Task Force recommendations constitute roughly \$3.81 billion in measure investments in Tier 1 corridors, leveraging approximately \$2.13 billion in expected federal and local funds, for a total of approximately \$5.94 billion in recommended Tier 1 corridor investments. The Task Force voted unanimously on the vast majority of these recommendations, placing particular priority on increasing safety and transit investments.

Policy options for the Metro Council include directing staff to work with partners to continue developing all or some of the Tier 1 investments recommended by the Task Force. The Council may also wish to add investments which the Task Force has not included in its formal recommendations for Tier 1 corridors, or provide further clarity or direction to staff on outcomes that should be elevated through further measure development.

STRATEGIC CONTEXT & FRAMING COUNCIL DISCUSSION

Greater Portland is growing quickly. It's fundamental to our future to have a variety of safe, affordable and reliable options for people to get where they need to go – whether they are driving, riding a bus or train, biking or walking.

Metro has been working since early 2018 to lay the foundation of a collaborative, comprehensive investment plan that makes getting around safer, faster and more affordable for everyone. The Metro Council has directed that this plan include investments throughout the region, supporting the many ways people travel. The council has directed that this work must place advancing racial equity and addressing climate change at its core. The council has also directed staff to engage a wide range of community members, partners and leaders to identify smart solutions supported by a broad coalition.

Greater Portland voters' decisive approval of the regional affordable housing bond in 2018 and regional Parks and Nature bond renewal in 2019 demonstrates their eagerness to address the critical issues we face across the region. The Metro Council is now working with jurisdictional partners, housing providers and the community to create needed affordable homes through the bond, and will soon begin a refinement process for implementing the new parks and nature bond. As greater Portland faces the future, a regional transportation measure in 2020 represents a significant opportunity to continue connecting these priorities to make meaningful, strategic investments that improve lives and increase opportunities throughout the region.

BACKGROUND

In December 2018, the Metro Council adopted a Regional Transportation Plan update, following years of engagement that included more than 19,000 engagements with residents, community and business leaders, and regional partners. Through the extensive engagement that shaped the plan, Metro heard clear desires for safe, smart, reliable and affordable transportation options for everyone and every type of trip. The 2018 Regional Transportation Plan is therefore built on key values of equity, climate, safety, and congestion relief.

At work sessions in January 2019, the Metro Council provided guidance on key outcomes, principles and the structure of a potential investment measure to help advance these values. The council also approved a charge for a diverse and regionally inclusive Regional Transportation Funding Task Force. Co-chaired by Commissioners Jessica Vega Pederson and Pam Treece, the Task Force has met 16 times. To date, the Task Force has reviewed Metro Council direction and policy applying to the regional investment measure, identified additional desired outcomes, provided input to Council on priority corridors and regionwide programs, discussed possible revenue mechanisms, and made recommendations on potential Tier 1 investments.

In June, informed by input from the Task Force and an online survey completed by approximately 3,500 area residents, the Metro Council directed staff to move 13 "Tier 1" corridors into further project identification, development and engagement. The council also

identified 16 “Tier 2” corridors that could also be considered for funding if there is revenue capacity. Over summer 2019, three Local Investment Teams toured the Tier 1 corridors and provided feedback to inform staff and Task Force project recommendations.

In September, informed by input from community forums in the spring and Task Force discussions in the summer, the Metro Council provided direction on nine regionwide programs to continue developing for potential inclusion in the measure; these programs would advance Council outcomes and meet community needs beyond the priority corridors identified in the measure. Staff are now developing these program concepts further through engagement with community and jurisdictional partners, with an expectation that they would include approximately \$50 million in total annual investment for 20 years. At the Metro Council’s direction, staff are also continuing to develop a community stability program that would support the development of community-based anti-displacement strategies in corridors funded through the measure. Staff plan to bring a refined program recommendation to the Metro Council in April.

The Metro Council will continue to direct staff in future iterative policy discussions, including direction on options for project investments, possible additional corridors to include in the measure, regionwide programs, revenue mechanisms, oversight and accountability, and implementation. The council could consider referral to voters in late spring.

- Is legislation required for Council action? **Legislation will be required for referral, but staff are not proposing legislation for direction on Tier 1 corridor investments.**



2020 TRANSPORTATION FUNDING MEASURE

Task Force Recommendations for Tier 1 Corridor Investments

In early 2019 the Task Force identified several key values and desired outcomes for the measure. These provided a key guide for the staff recommendation. These values include the following. More details can be found at oregonmetro.gov/transportation.

- Improve safety
- Prioritize investments that support communities of color
- Make it easier to get around
- Support resiliency
- Support clean air, clean water, and healthy ecosystems
- Support economic growth
- Increase access to opportunity for low-income Oregonians
- Leverage regional and local investments



Memo

Date: January 3, 2020
To: Metro Council
From: Commissioner Jessica Vega Pederson and Commissioner Pam Treece, Task Force Co-Chairs
Subject: Tier 1 Corridor Investment Recommendations

Early in 2019, the Metro Council assembled a diverse group of community leaders from throughout greater Portland. You asked us to provide you with advice and recommendations on a potential 2020 transportation funding measure that could make much-needed regional investments in helping people go places reliably and safely in a growing, increasingly congested region. In your charge, you directed us to apply “honest, solutions-focused dialogue” in representing the needs of our constituencies and communities.

It has been an honor for us to serve as the co-chairs of this Task Force. Through sixteen meetings to date, this unique group has articulated shared values, considered community needs, and explored potential priorities for investment. We have thought big, sought consensus as much as possible, and respected the remarkably few places where our views diverge.

Developing our recommendations

In June, with input from the Task Force, the Metro Council prioritized 13 of the region’s busiest and most dangerous travel routes as Tier 1 Corridors for the potential measure; an additional 16 corridors were identified as Tier 2.

Following a summer of engagement with community and jurisdictional partners, Metro staff submitted Tier 1 corridor investment recommendations to the Task Force in October. These recommendations were informed by Council and Task Force outcomes; input from Local Investment Teams and partner jurisdictions; and assessments of readiness, risk and benefits of potential investments. They proposed approximately \$3.11 billion in investments from the measure, leveraging an expected \$2.13 billion in expected federal and local funds.

On Nov. 6 and 20, the Task Force discussed the staff recommendations and amendments proposed by several Task Force members. At our Dec. 18 meeting in Clackamas, we took votes on several motions to formalize our own Tier 1 project recommendations to the Metro Council. We sought to achieve a 75% share of present members in order to advance formal Task Force recommendations. Additionally, as co-chairs we pledged to share the full discussion directly with you to inform your ongoing discussion and direction regarding the potential measure.

The attached packet summarize our Tier 1 project recommendations and key themes of discussion. In addition, staff will send to you the Dec. 18 meeting notes as soon as they are available.

Key themes of Task Force recommendations and discussions

There are several key points we would like to highlight in these recommendations and the Task Force discussions that shaped them.

Remarkable consensus on almost all recommended projects in the Tier 1 corridors. These recommendations increase the total proposed for Tier 1 corridor investments by approximately \$700 million beyond the Metro staff recommendations. Including potential leveraged funds of \$2.2 billion, this increases the total to approximately \$6 billion. Task Force members voting at the December 18 meeting were in unanimous consent about the overwhelming majority of these investments—approximately 99 percent of the total investment. This consensus is testament to both the scale of need and the considerable common ground the Task Force has found in our work together.

One proposed investment, the 82nd Avenue and Airport Way intersection project, reached the 75% support threshold to be an official Task Force recommendation, but did not achieve unanimous consensus. Finally, just one proposed investment—the new connector road from SE 172nd to SE 190th Avenue in the Clackamas-to-Columbia corridor—failed to reach the 75% support threshold to be an official Task Force recommendation, though a majority on Dec. 18 did support this investment.

Prioritizing safer streets and better transit for everyone. The Task Force agreed unanimously on recommending approximately \$650 million dollars in safety and transit investments beyond those included in the initial Tier 1 staff recommendation. These additional recommendations are a clear declaration of the Task Force’s priorities to make key arterials safer for people walking, bicycling, and getting to transit, and to make transit a more reliable, competitive and comfortable option for people throughout the region.

Thinking of a greater regional system. Hundreds of thousands of people in the greater Portland region travel across city and county lines on a daily basis—whether we’re commuting to work or school, running errands or going to appointments, our travel patterns stitch us together as one region with common interests and needs. So it’s no surprise that the Task Force recommendations reflect a truly regional funding measure, with investments across the metropolitan area will help create a more reliable, safer regional transportation system no matter where we live, work or travel—and no matter how we reach the places we need to go.

Contributing to the region’s racial equity, climate and safety goals. The Task Force wants to ensure a transportation investment measure helps advance the region’s ambitious goals for advancing racial equity, reducing carbon emissions, and reducing deaths and serious injuries from crashes. Staff have provided preliminary data on how the Task Force’s Tier 1 recommendations support these goals. Task Force members are eager for more information and contextualization of this data alongside other strategies and policies the region has undertaken in pursuit of its climate, racial equity and safety goals. The Task Force also wants to ensure the measure includes clear commitments and enough funding to implement effective, community-based anti-displacement strategies alongside transportation investments.

Maintaining and aligning with funding for regionwide programs. While these Task Force recommendations focus on Tier 1 corridor investments, Task Force members have voiced their desire to keep funding for the proposed regionwide programs at the scale previously discussed—at least \$50 million per year. These programs would make vital investments in safety, reliability, racial equity and community beyond the identified corridors, extending the proposed measure’s benefits even further across the region.

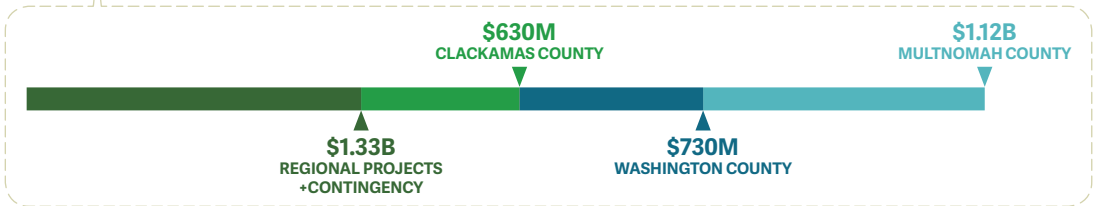
Conclusion

The Task Force has made these recommendations recognizing there is more work ahead to align Tier 1 investments with viable revenue mechanisms, potential Tier 2 corridor investments, and overall measure scale. The Task Force looks forward to supporting the Metro Council in this process of alignment. We are pleased to submit these recommendations and feedback on behalf of the Transportation Funding Task Force. We thank you for the opportunity to serve as co-chairs and look forward to continuing to support and advise the Metro Council in the months ahead.

Let’s get moving.

Corridor Scenario Investment Summary

PROPOSED CORRIDOR FUNDING + **POTENTIAL LEVERAGED FUNDS** = **TOTAL CORRIDOR INVESTMENT**
\$3.81B + **\$2.22B** = **\$6.03B**



CORRIDOR	PROPOSED REGIONAL MEASURE FUNDING	EXPECTED LEVERAGED FUNDS	IDENTIFIED CORRIDOR NEED
Southwest Corridor	\$975M	\$1.4B	\$2.4B
McLoughlin	\$280M	\$20M*	\$350M
Clackamas to Columbia/181st	\$50M / \$100M		\$280M
Sunrise/Hwy 212	\$180M		\$570M
Tualatin Valley Highway	\$520M	\$50M	\$630M
185th Ave	\$200M	\$20M*	\$250M
82nd Ave	\$35M / \$80M / \$395M	\$160M	\$840M
Burnside	\$150M / \$??M / \$120M	\$540M	\$890M
Central City	\$50M / \$170M	\$50M	\$390M
122nd Ave	\$90M		\$160M
162nd Ave	\$90M	\$10M	\$170M
Albina Vision	\$55M		\$75M
Powell	\$140M		\$230M

*TO BE CONFIRMED

REGIONAL PROJECTS | CLACKAMAS COUNTY | WASHINGTON COUNTY | MULTNOMAH COUNTY

DELIVERY AGENCIES

- ODOT** Oregon Department of Transportation
- M** Metro
- TM** TriMet
- PBOT** Portland Bureau of Transportation
- WC** Washington County
- CC** Clackamas County
- PP** Port of Portland
- G** City of Gresham
- MW** City of Milwaukie
- GL** City of Gladstone
- OC** Oregon City

Projects in black have been recommended by the Task Force.

Projects in gray are a future need.

9 Portland Ave Streetscape Abernethy to Arlington (.5 miles)
 Redesign Gladstone main street to improve walking, biking, and downtown revitalization.
\$5-8M

3 Kellogg Creek Dam
 Remove Kellogg dam, drain lake, replace bridge, add multi-use underpass to address major fish passage barrier and add pedestrian and bike facilities.
(\$10-30M)



SW Corridor

Southwest Corridor Light Rail will address congestion in the I-5 corridor and expand the MAX system to growing communities in SW Portland, Tigard and Tualatin, serving more people with fast, affordable high-capacity transit. It will increase access to living wage jobs in Tigard and Tualatin and connect to educational opportunities at PCC Sylvania, OHSU and PSU.

The project includes bicycle and pedestrian network improvements, like protected bike lanes and better sidewalks on Barbur Boulevard. Bus service improvements will complement light rail, including a two-mile shared trackway near Downtown Portland where buses can drive on the tracks to avoid traffic delays. The project will improve safety in a corridor where **42** serious injuries and fatalities occurred between 2007-2017. **32%** of this corridor is in an equity focus area.

The project is paralleled by the **Southwest Corridor Equitable Development Strategy (SWEDS)**, a collaboration of public and private partners working to generate equitable economic opportunity, and preserve and expand affordable housing along the light rail route.



[SEE PROJECT MAP NEXT PAGE]

SW Corridor

SW Corridor MAX Portland to Tigard to Bridgeport Village (11 miles)

Construct light rail line to improve transit in key regional corridor, including stations and multimodal roadway features.

\$975M

[leverages \$1.4B federal/other funds]



- Light rail route
- Station
- P Station with park and ride

Marquam Hill connector

Build a new connection between Barbur and Marquam Hill to improve access to medical services, jobs and educational opportunities.

Shared trackway for buses

Allow buses from Hillsdale, Multnomah Village and Beaverton to avoid traffic delays by driving on 2 miles of paved trackway.

Barbur bridges

Rebuild the 85-year-old Newbury and Vermont trestle bridges on Barbur to current seismic standards with sidewalks and bike facilities.

PCC-Sylvania access

Improve 53rd Avenue to allow people to safely walk and bike between light rail and the Portland Community College Sylvania Campus.

Walking and biking improvements

Build continuous high quality sidewalks, bike facilities and crossings on Barbur between I-405 and the Barbur Transit Center.

Tigard Triangle street improvements

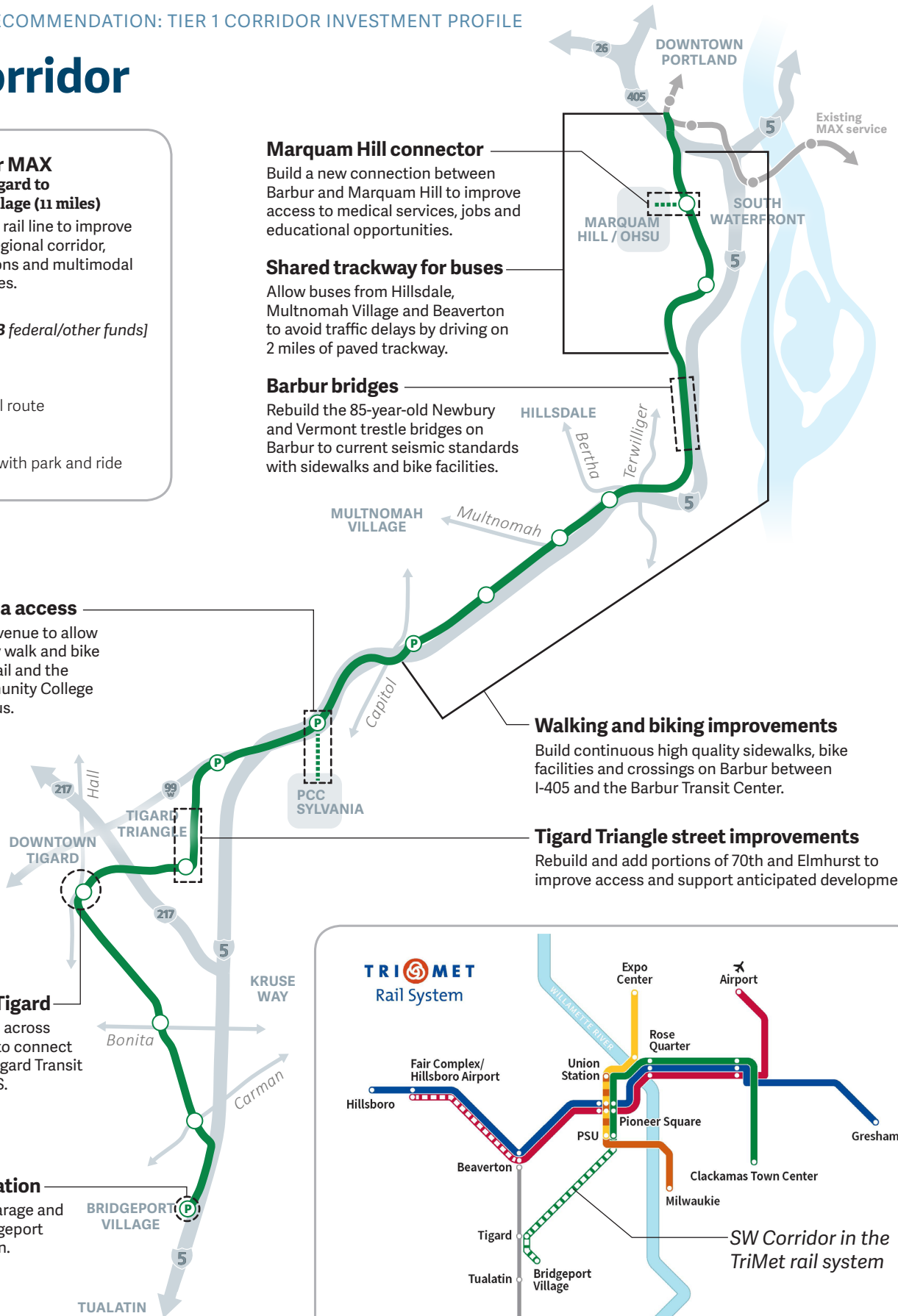
Rebuild and add portions of 70th and Elmhurst to improve access and support anticipated development.

Downtown Tigard

Improve access across Hall Boulevard to connect people to the Tigard Transit Center and WES.

Terminus station

Build parking garage and bus hub at Bridgeport terminus station.



McLoughlin Blvd

McLoughlin Boulevard connects communities in Clackamas and Multnomah counties to jobs, housing, and transit. The corridor serves as an alternative to I-205 and other routes between Portland and Clackamas County, and has been identified by TriMet as a key corridor to increase ridership. Locally, it is a main street for various communities, and provides local access and circulation. There were **133** serious injuries and fatalities on this corridor between 2007-2017. **59%** of this corridor is in an equity focus area.



[SEE PROJECTS MAP NEXT PAGE]

McLoughlin Blvd

8 Park Ave Park & Ride Expansion

Add two levels to existing park & ride facility at current Orange Line terminus.

\$16-19M



1 Enhanced Transit Milwaukie to Oregon City (6.5 miles)

Bus enhancements for Lines 33 and 99 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and rider experience.

\$110-132M



2 Safety Milwaukie to Oregon City (6.5 miles)

Add/improve sidewalks, crossings and lighting to reduce severe injury and fatal crashes.

\$50-75M



10 Corridor Planning Milwaukie to Oregon City (6.5 miles)

Design for longer term transportation improvements including transit.

\$5M



not on map

6 Reedway Bike Overcrossing

Create bike/ped bridge over McLoughlin to cross railroad barrier.

\$12-18M



3 Kellogg Creek Dam

Remove Kellogg dam, drain lake, replace bridge, add multi-use underpass to address major fish passage barrier and add pedestrian and bike facilities.

(\$10-30M)



9 Portland Ave Streetscape Abernethy to Arlington (.5 miles)

Redesign Gladstone main street to improve walking, biking, and downtown revitalization.

\$5-8M



5 Trolley Trail

Design and construction to extend Trolley Trail over Clackamas River to create a more direct trail connection between Gladstone and Oregon City.

\$10-14M



4 I-205 Ramp Improvements

Add dual left turn lanes to McLoughlin at both I-205 ramps to ease congestion, and add bike/ped facilities.

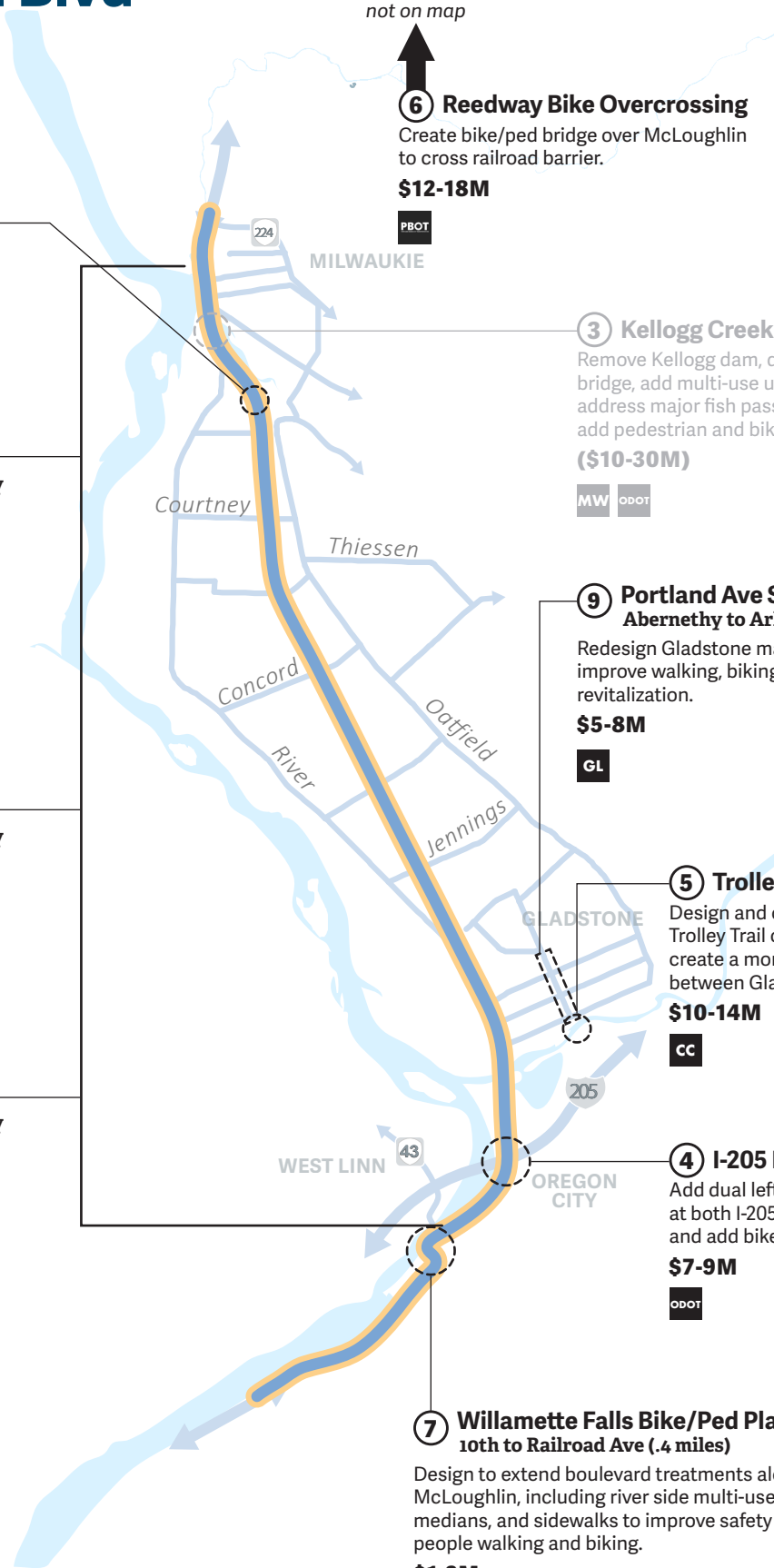
\$7-9M



7 Willamette Falls Bike/Ped Plan 10th to Railroad Ave (.4 miles)

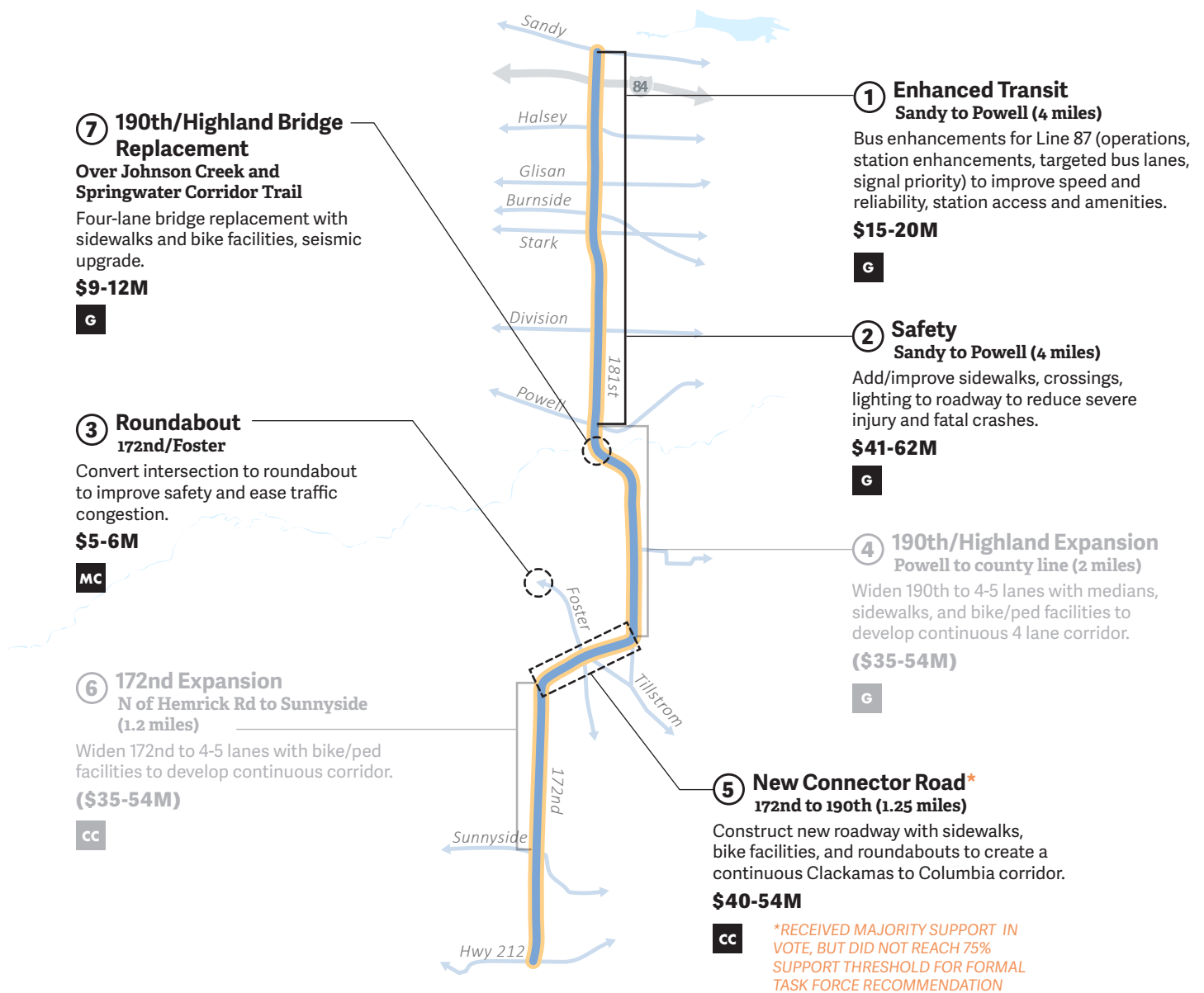
Design to extend boulevard treatments along McLoughlin, including river side multi-use path, medians, and sidewalks to improve safety for people walking and biking.

\$1-2M



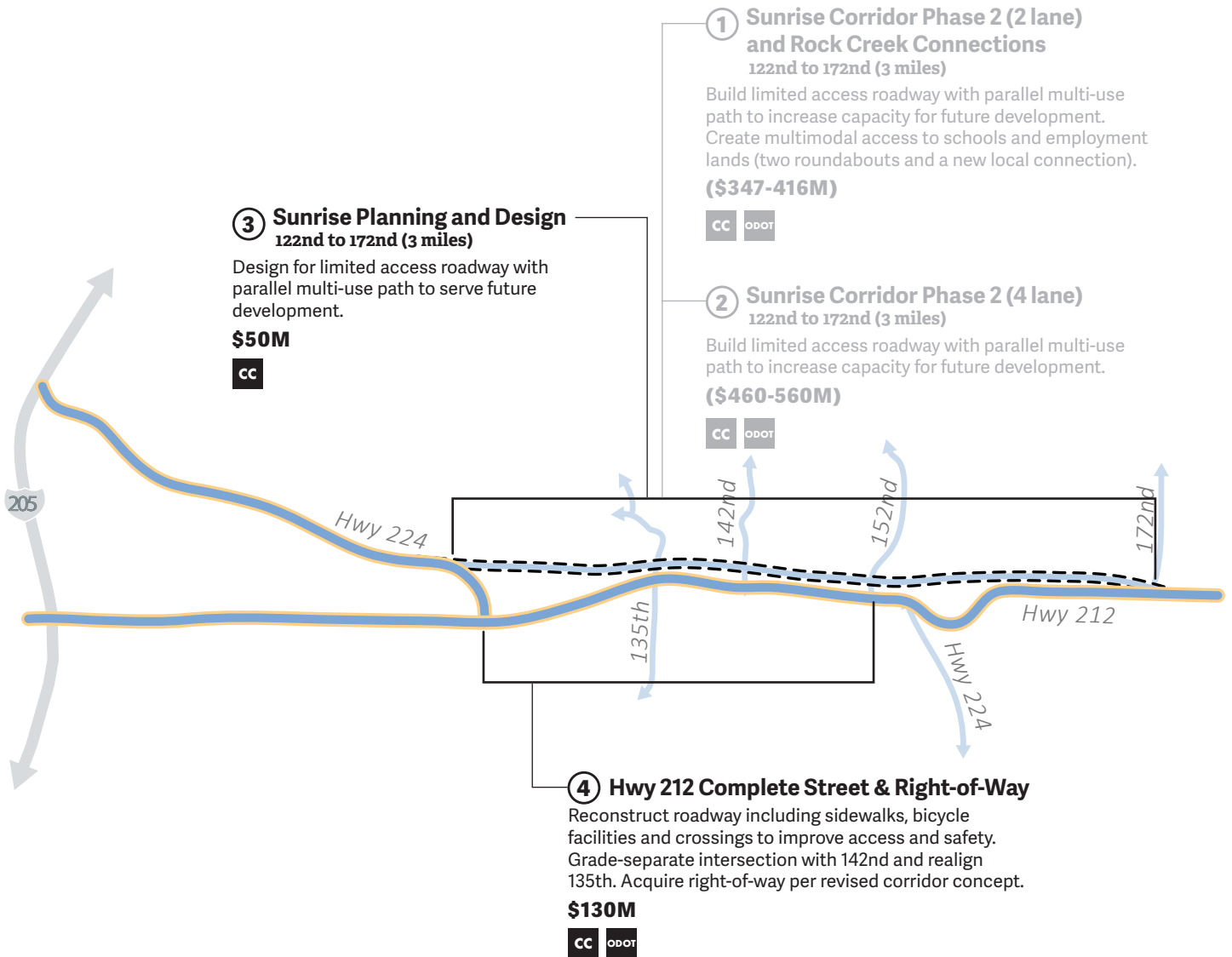
C2C/181st Ave

C2C (Clackamas to Columbia) /181st Avenue is a major North-South connection between rapidly developing Happy Valley and the Columbia Corridor through Western Gresham. It connects I-84 and US 26 (Powell) and is a North-South alternative to I-205. This corridor also connects employment with low-income areas, affordable housing, schools, parks and other neighborhood amenities. There were **68** serious injuries and fatalities on this corridor between 2007-2017. **37%** of this corridor is in an equity focus area.



Hwy 212/Sunrise Corridor

Highway 212 and the Sunrise Corridor connect future residential and employment areas to existing job centers near I-205. The potential future connection is intended to provide access to jobs and affordable housing in Clackamas County and serve as an alternative connection from the future Clackamas-to-Columbia corridor to I-205. The corridor supports freight movement to US 26, provides connections to recreation areas, and is an important bicycle connector. There were **48** serious injuries and fatalities on this corridor between 2007-2017. **32%** of this corridor is in an equity focus area.



TV Highway

Tualatin Valley (TV) Highway connects multiple community centers, including Forest Grove, Cornelius, Hillsboro, Aloha, Beaverton and Portland. The corridor serves many communities of color, limited English proficiency speakers and lower income communities, and supports one of the highest ridership bus lines in the region. The corridor also supports significant freight movement. It has multiple regional trail crossings and serves several Urban Growth Boundary expansion areas. There were **204** serious injuries and fatalities on this corridor between 2007-2017. **85%** of this corridor is in an equity focus area.



[SEE PROJECTS MAP NEXT PAGE]

TV Highway

1 Enhanced Transit
Forest Grove to Beaverton Transit Center (16 miles)

Bus enhancements for Line 57 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and amenities throughout the corridor.

\$83M [could leverage federal funds]

WC TM

7 Canyon/West Slope
117th to Camelot (2.9 miles)

Add/improve walking and biking facilities including crossings.

\$20-24M

WC ODOT

6 Council Creek Trail
Hillsboro to Forest Grove (5.5 miles)

Regional trail connecting Hillsboro, Cornelius and Forest Grove.

\$25-38M

WC

8 Hillsboro Transit Center

Convert transit center and adjacent streets to 2-way to allow buses to circulate more directly (traffic reconfiguration, signal replacements, platform modifications).

\$10-12M

WC H TM

2 3 4 5 Safety and Multimodal Improvements
Forest Grove to 117th in Beaverton

Comprehensive street upgrades to include: pedestrian facilities (sidewalks, lighting, transit improvements, railroad "quiet zone"), bicycle facilities, safety features (medians, crosswalks), stormwater facilities.

\$289-350M

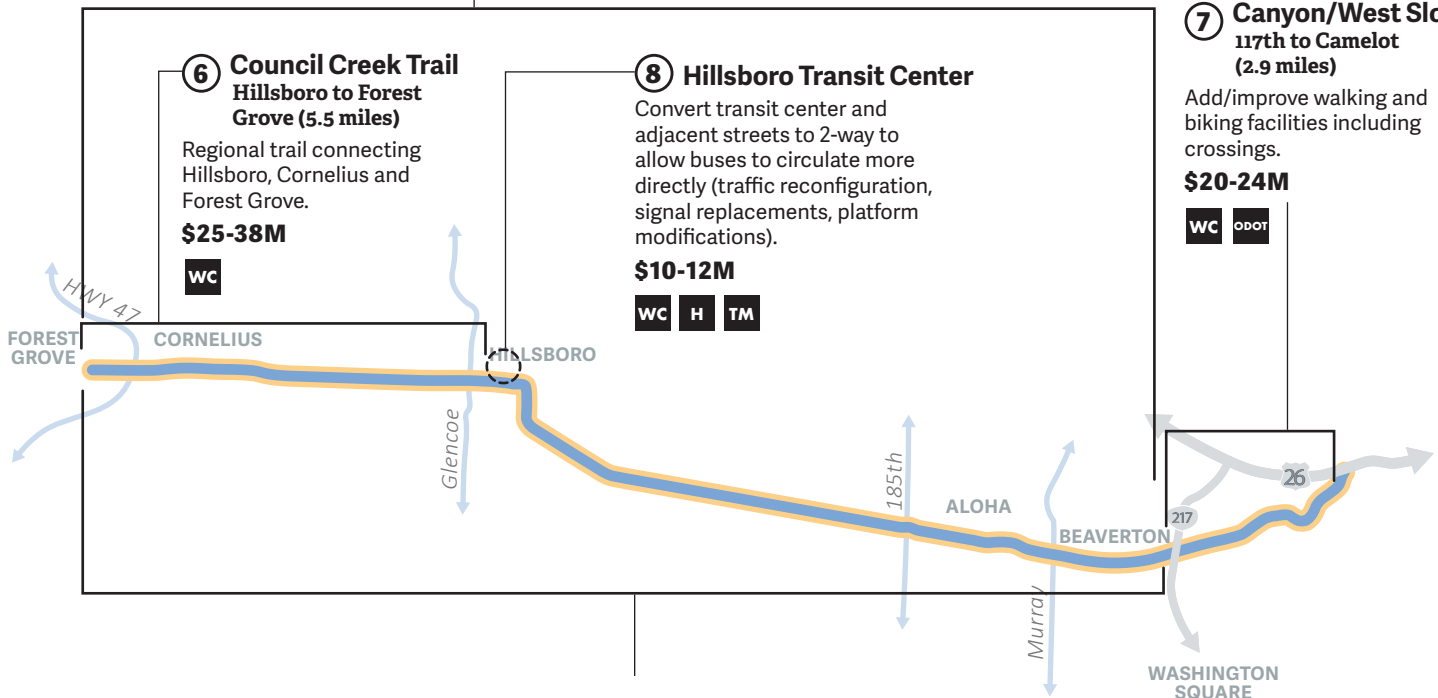
WC ODOT TM

9 Corridor Planning
Forest Grove to Portland Union Station (26 miles)

Planning work for longer-term corridor investments including transit enhancements to improve speed and reliability, station access and amenities. Alternatives analysis for transportation, transit, land use, railroad interface.

\$12-14M

M WC TM



185th Ave

SW 185th Avenue carries up to 65,000 vehicles and over 3,900 people on transit a day. It serves a concentration of communities of color, lower-income communities and provides access to education centers and medical clinics. It has high transit ridership potential, a high safety need, and a concentration (90% of corridor) of equity focus areas. There were 45 serious injuries and fatalities on this corridor between 2007-2017.



1 Enhanced Transit
Rock Creek Blvd to Farmington
 (entire corridor, 5 miles)

Bus enhancements for Line 52 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and rider experience throughout corridor.

\$50-60M



2 MAX Overcrossing
 185th/Baseline

Build bridge for MAX Blue Line over 185th to reduce traffic, and bus and train delays.

\$70-87M



4 Intersection Improvements
 Alexander to Blanton (.25 miles)

Fix intersections to improve safety and efficiency for all users (intersection alignment at Blanton, crossing signal at Alexander).

\$10-14M



3 Mid-block Crossings
 Cascade to West Union
 (4 miles)

Add actuated pedestrian crossings at four locations to improve access for people walking.

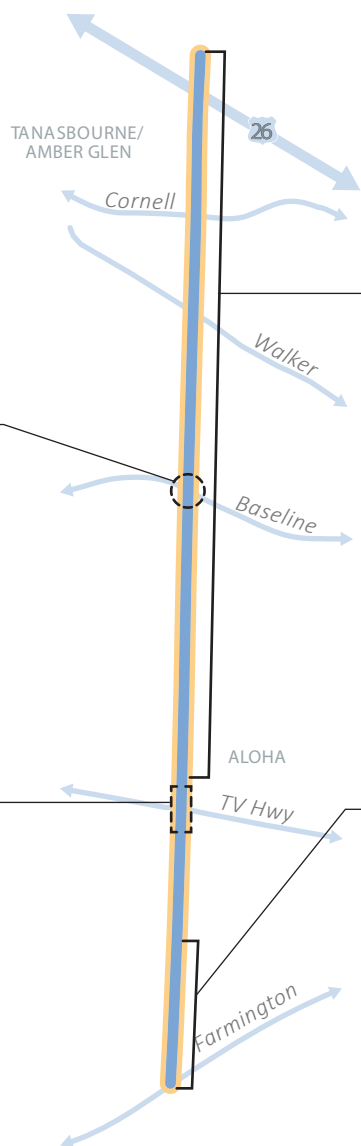
\$8-11M



5 "Complete Street"
 Kinnaman to Farmington
 (.7 miles)

Widen to 3 lanes, add curbs, sidewalks, crossings, lighting, bike facilities, stormwater facilities.

\$24-32M



82nd Ave

82nd Avenue connects Clackamas Town Center, the Jade District, Montavilla and Roseway neighborhoods, and the Portland International Airport. It is an alternative route to I-205 and serves one of the most diverse populations in the region. 82nd Avenue also has the highest bus line ridership in the region and provides access to the Blue, Red, and Green MAX lines. It serves as a main street for various communities, provides local access and circulation, and is a Civic Corridor within the City of Portland. There were **196** serious injuries and fatalities on this corridor between 2007-2017. **74%** of this corridor is in an equity focus area.



4 Alderwood-Killingsworth Path Planning (1 mile)

Design multi-use path to address complete lack of safe walking/biking facility.

\$.5-.6M



3 Safety (Portland) Killingsworth to Clatsop (7 miles)

Add/improve sidewalks, crossings, lighting to reduce severe injury and fatal crashes.

\$140-168M



7 State of Good Repair Killingsworth to Clatsop (7 miles)

Address maintenance issues (rebuild street and signals, address ADA needs) to facilitate jurisdictional transfer from ODOT to PBOT.

\$30M [additional investments needed]



6 Safety (Clackamas) Clatsop to Sunnybrook (2 miles)

Add/improve sidewalks, crossings, lighting to reduce severe injury and fatal crashes.

\$50-83M



2 Airport Way Intersection with 82nd Ave

Partial grade separation to reduce auto congestion and accommodate airport growth.

\$35M [leverages Port of Portland funds]



5 MAX Station Access Planning 82nd Ave Station

Design to improve station access to the west side of 82nd to reduce the need for dangerous pedestrian crossings.

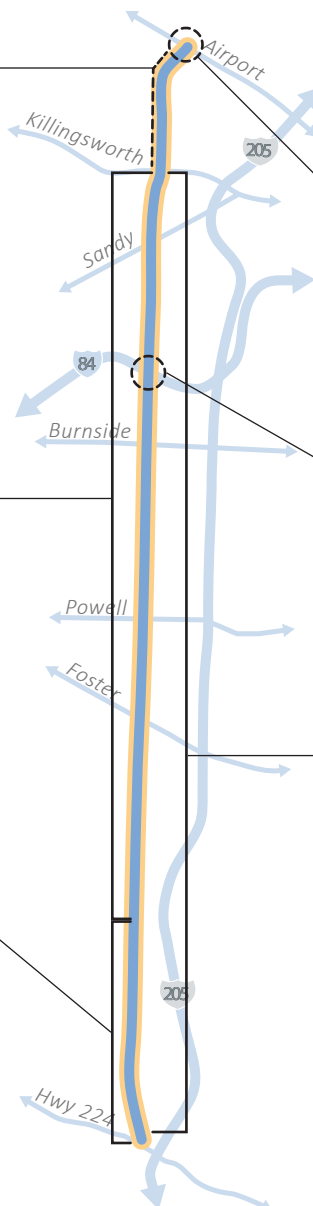
\$1-1.5M



1 Enhanced Transit/ Bus Rapid Transit Killingsworth to Clackamas Transit Center (9 miles)

Bus enhancements for Line 72 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and amenities.

\$200M [could leverage fed. funds]



Burnside

Burnside Street connects Washington County (where it's known as Barnes Rd) and East Multnomah County through downtown Portland. It is a designated "emergency lifeline" route and aids emergency vehicles during disaster recovery efforts. It is a critical Willamette River crossing for all users and a Main Street for numerous commercial centers. It also provides connections to MAX and Gresham Transit facilities. There were **141** serious injuries and fatalities on this corridor between 2007-2017. **71%** of this corridor is in an equity focus area.



6 W 95th Ave Trail
Morrison to Sunset
Transit Center

Multimodal trail along W 95th.
(\$10-13M)

WC

7 "Complete Streets"
89th to Portland city
limit

Widen to 3-5 lanes and build to urban standard (curbs, sidewalks, lighting, bike and stormwater facilities).
(\$32-54M)

WC

2 Earthquake Ready Burnside Bridge
W 3rd to MLK

Replacement or seismic upgrade of Burnside Bridge to improve safety and lifeline route.
\$150M [leverages state/county/federal funds]

MC

3 Safety (Portland)
E 12th to Gresham city
limit (8 miles)

Add sidewalks, crossings, lighting to reduce severe injury and fatal crashes.
\$10-15M

PBOT

4 Safety (Gresham)
Gresham city limit to
Powell (5 miles)

Add sidewalks, crossings, lighting to reduce severe injury and fatal crashes.
\$10-15M

G

5 Transit Center Planning
Sunset and Gresham
Transit Centers

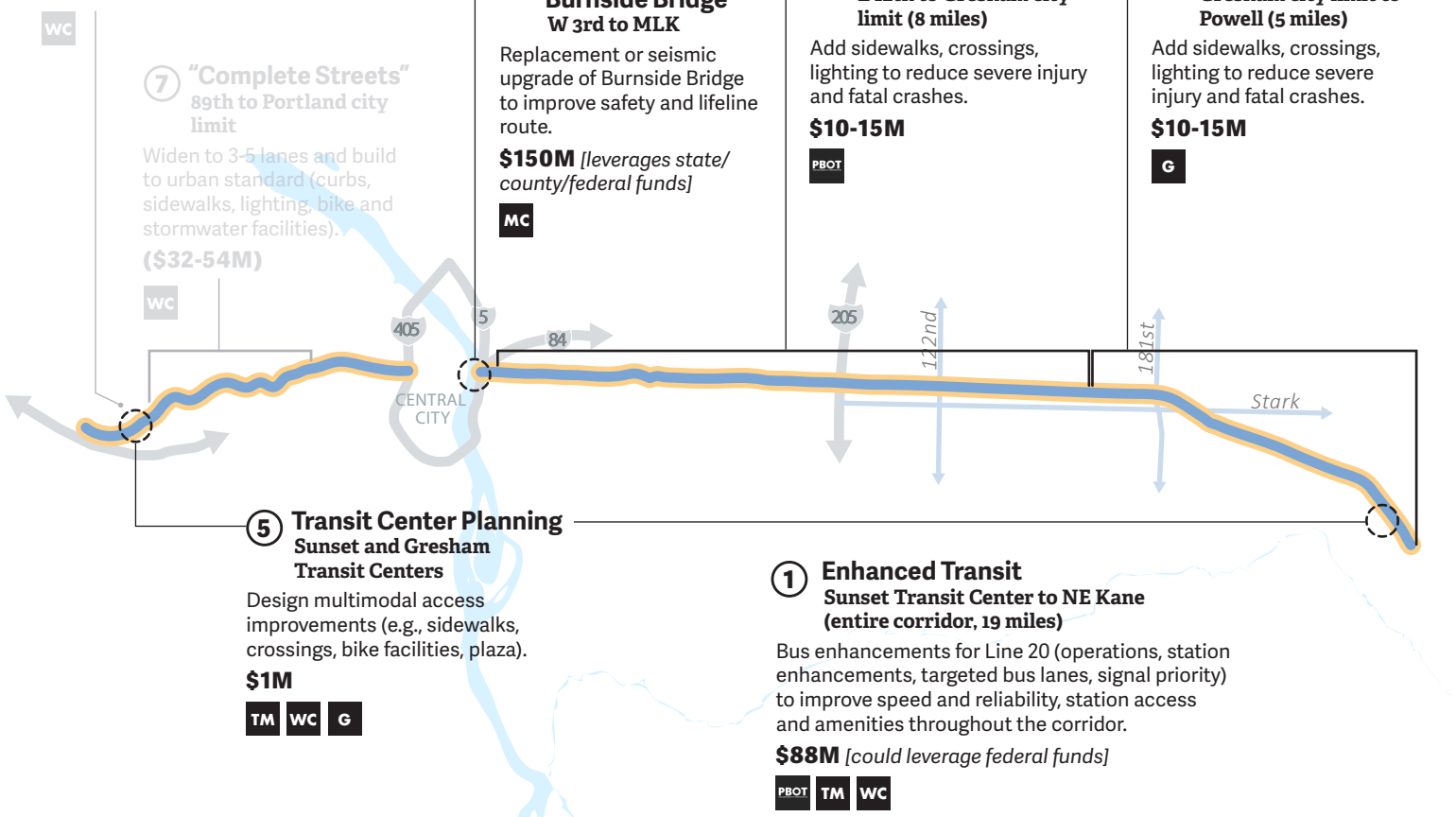
Design multimodal access improvements (e.g., sidewalks, crossings, bike facilities, plaza).
\$1M

TM WC G

1 Enhanced Transit
Sunset Transit Center to NE Kane
(entire corridor, 19 miles)

Bus enhancements for Line 20 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and amenities throughout the corridor.
\$88M [could leverage federal funds]

PBOT TM WC



Central City

The **Central City** is the center of the Metro region and a key engine of the state's economy. It has the largest concentration of jobs and affordable housing in the state and is expected to receive over 30% of the city's projected future growth. The corridor also has a multimodal transportation network with a wide variety of demands on the streets- walking, biking, MAX, streetcar, buses, scooters, freight delivery vehicles, cars and more. All MAX lines and 75% of the region's frequent bus lines serve and pass through the Central City. There were **101** serious injuries and fatalities on this corridor between 2007-2017. **97%** of this corridor is in an equity focus area.



1 Central City in Motion
Across Central City

Treatments to improve walking, biking and transit to make it easier and safer to take transit, walk and bike in the Central City.

\$80-96M

PBOT TM

4 Ross Island Bridgehead
Harrison to Barbur/Naito (1 mile)

Reconstruct streets at west end of Ross Island Bridge to improve access and reduce neighborhood barriers.

\$50-75M

PBOT

3 MAX Tunnel Planning
Goose Hollow to Lloyd Center (3 miles)

Plan and design downtown tunnel to improve speed and reliability of MAX service, and address the region's most significant transit bottleneck.

\$50M

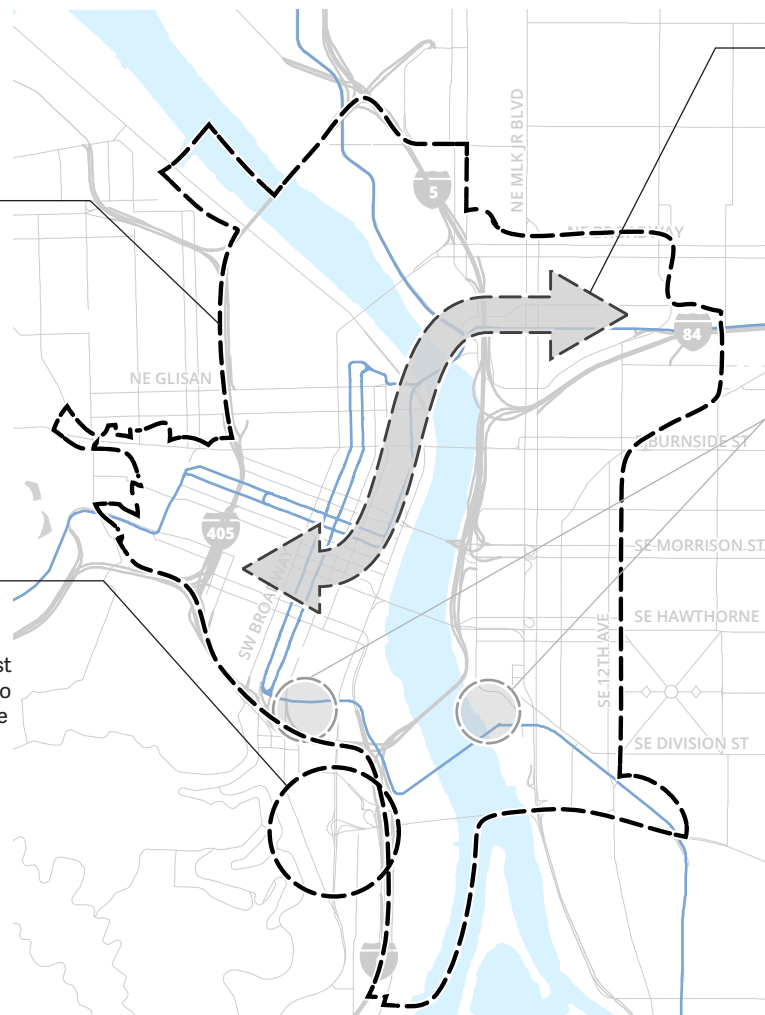
M TM

2 Green Loop Key Connections
SE and SW quadrants

Create bike/ped connections across key barriers for future Green Loop.

(\$10-40M)

PBOT



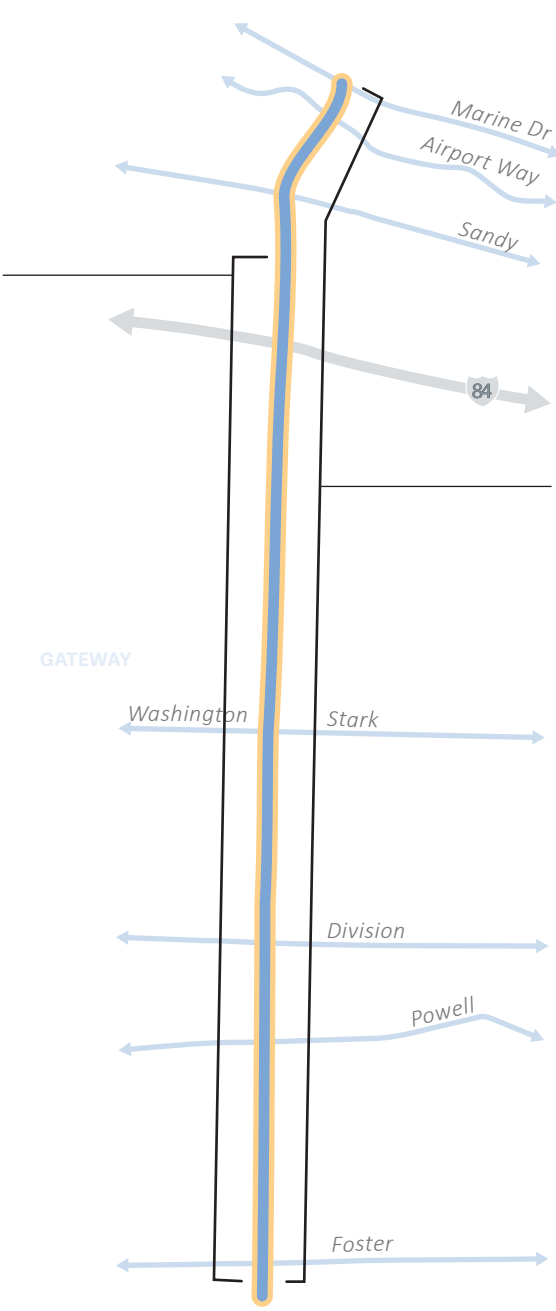
122nd Avenue

122nd Avenue connects Foster Road to Marine Drive. The corridor serves TriMet Line 73 and connects to various East-West transit lines, including the MAX Blue line. It is identified as a Civic Corridor by the City of Portland from NE Sandy to Foster, and provides access to trails, including the Marine Drive trail, I-84 trail, and Springwater Corridor. There were **75** serious injuries and fatalities on this corridor between 2007-2017. **88%** of this corridor is in an equity focus area.



**1 Enhanced Transit
Skidmore to Foster (5.5 miles)**
Bus enhancements for Line 73 (operations, station enhancements, targeted bus lanes, signal priority) to improve speed and reliability, station access and rider experience.

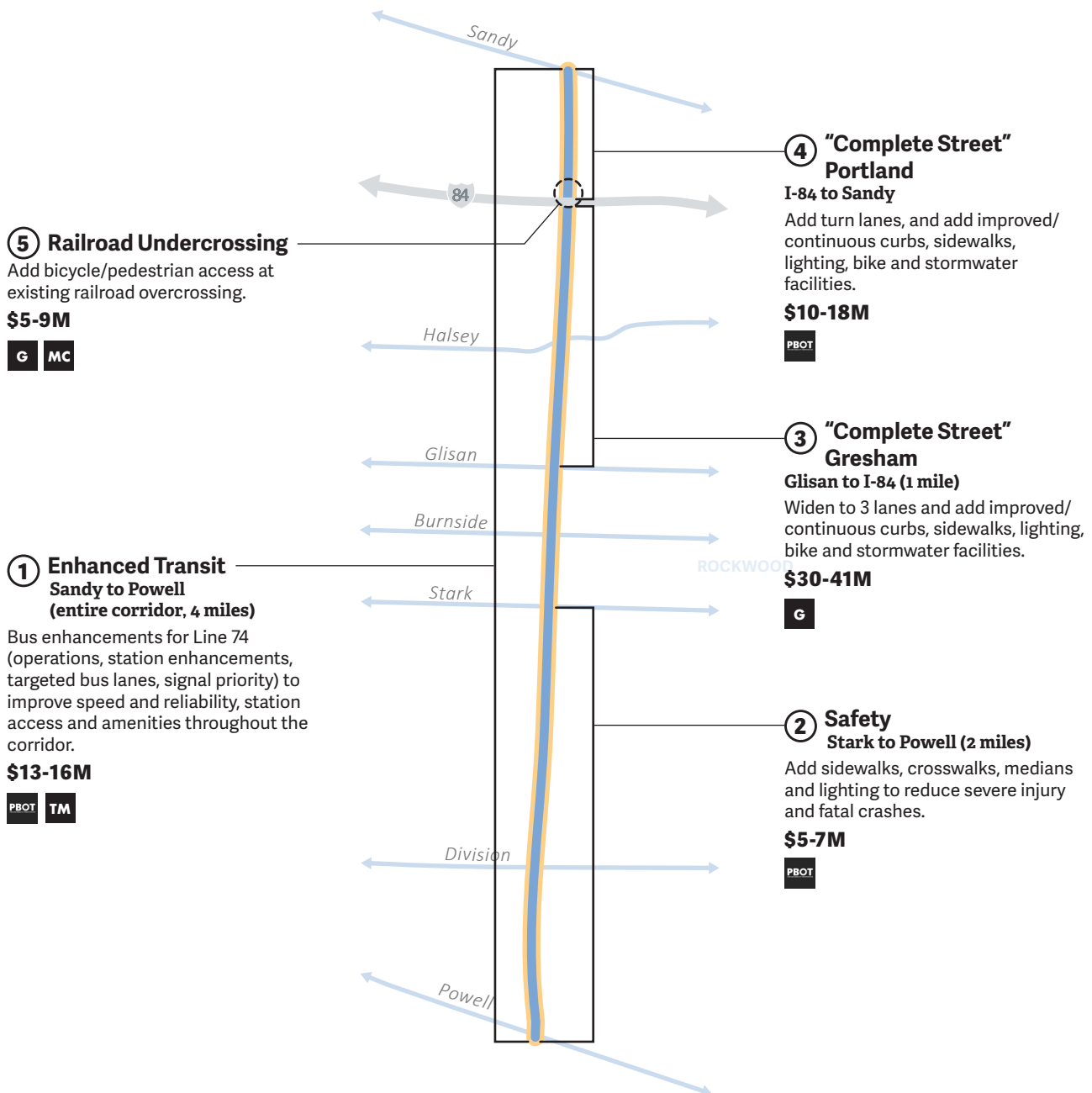
\$15-18M
PBOT TM



**2 Safety
Marine Dr to Foster Rd**
Add proven safety countermeasures (sidewalks, crossings, lighting) to roadway to reduce severe injury and fatal crashes. May include **I-84 trail connection** (add two-way buffered or curb-protected bikeway to extend I-84 trail toward I-205 path), and **Sandy intersection reconfiguration** (convert highway-style ramps at 122nd/Sandy into an urban intersection with signals and crosswalks to improve access and safety).
\$50-68M
PBOT

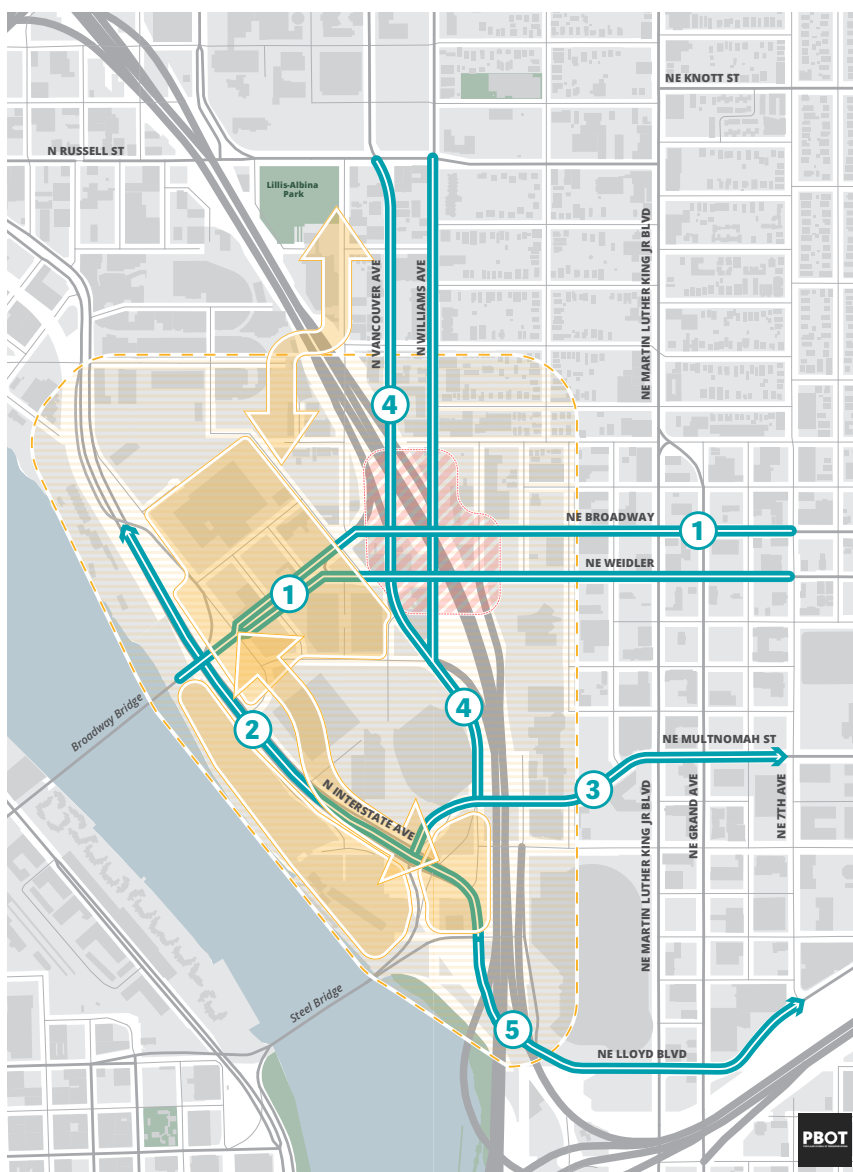
162nd Ave

162nd Avenue connects NE Sandy Blvd and SE Powell Blvd on the border between Portland and Gresham. This corridor serves historically marginalized communities in the Rockwood neighborhood and provides access to schools, residential neighborhoods and commercial areas. It serves as a North-South bus connection to various East-West transit lines and provides access to Powell Butte trails and I-84 trail. There were **34** serious injuries and fatalities on this corridor between 2007-2017. **92%** of this corridor is in an equity focus area.



Albina Vision

The **Albina Vision** concept offers a bold image of a new neighborhood in the historic Lower Albina area of N/NE Portland. The concept includes a reconfigured street grid, large open spaces, and direct access to the Willamette River for all people, especially children. Achieving this long-term vision will require thorough study, extensive public engagement, coordination with existing land-owners, and major public investments. Plans and strategies would synthesize the Portland City Council-adopted Central City 2035 Plan with the Albina Vision concept to establish a groundwork for future investment and expand upon Metro-funded work around public engagement and early design concepts. These projects are intended to provide short-term improvements to the neighborhood as a larger restorative vision is developed. There were **38** serious injuries and fatalities on this corridor between 2007-2017. **100%** of this corridor is in an equity focus area.



1 Broadway/Weidler Streetscape
Broadway Bridge to NE 7th (.6 miles)

Develop an Albina “main street” with street lighting, public art, and enhanced transit stations to improve access and safety for all.

\$8-10M

2 Interstate/N. Portland Greenway
Steel Bridge to NE Tillamook (.8 miles)

Enhanced crossings and a multi-use path to connect the Rose Quarter Transit Center to employment and housing areas further north.

\$13-16M

3 Multnomah Blvd Streetscape
NE Interstate to 7th Ave (.5 miles)

Green street features, lighting and upgraded transit stations to provide safe connections between Lower Albina, Convention Center and Lloyd neighborhoods.

\$5-6M

4 Vancouver/Williams
NE Russell to Multnomah (.8 miles)

Street lighting, better transit stops, and improvements to existing bikeway.

\$7-8M

5 Lloyd Blvd
Steel Bridge to NE 7th Ave (.5 miles)

Multi-use path to strengthen multimodal connection between Albina, Lloyd and SE Portland.

\$3-4M

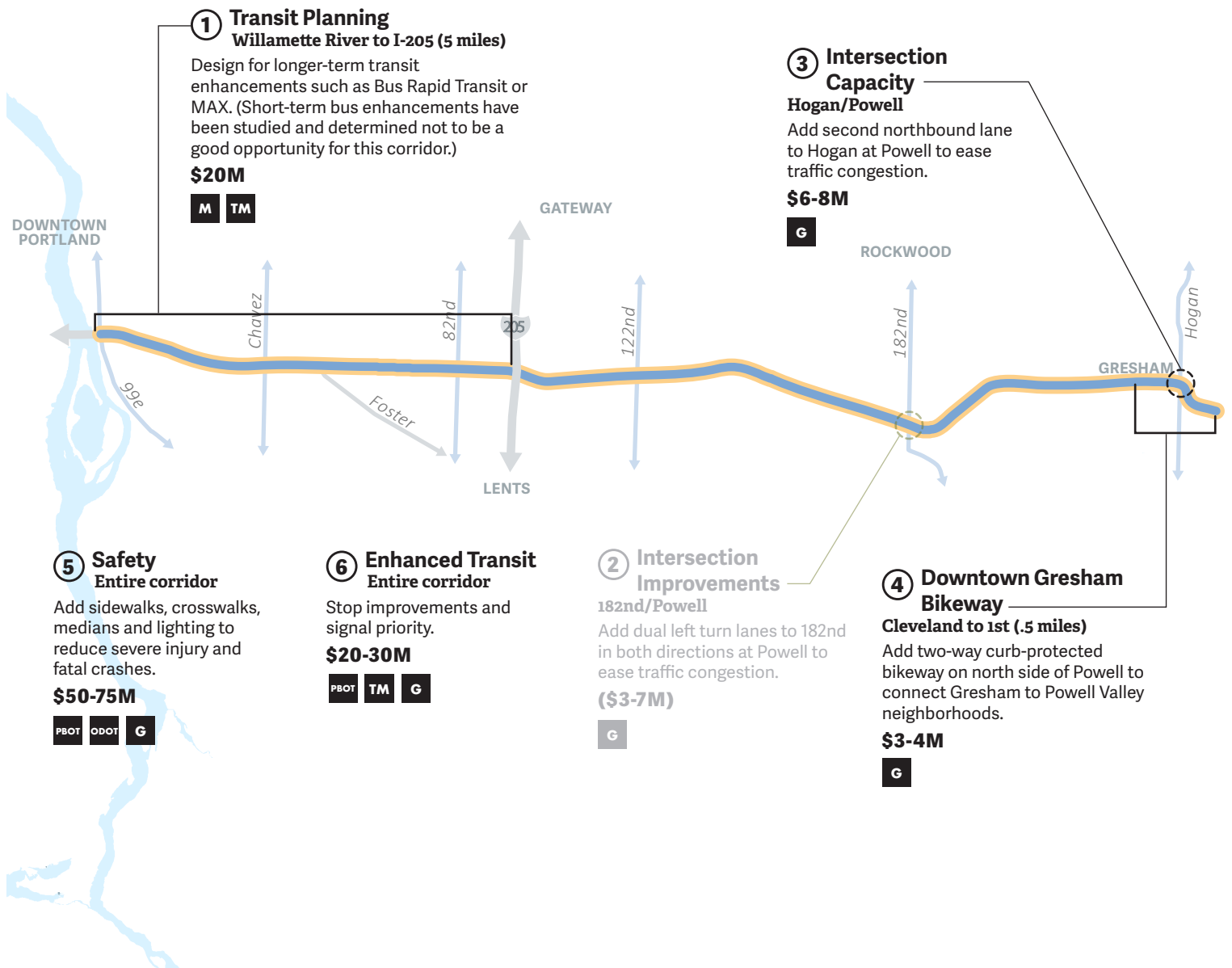
6 Albina Urban Design Strategy
Areawide

Develop plans and strategies to guide Albina Vision implementation. Key elements include: urban design strategy, Rose Quarter TC, bridgehead and river connections, multimodal connections.

\$12M

Powell Blvd

Powell Boulevard links Portland's west side to East Multnomah County for all modes, including freight, and connects historically underserved communities. TriMet identifies Powell as a key corridor to increase ridership. This corridor serves as main street for numerous commercial centers. There were **159** serious injuries and fatalities on this corridor between 2007-2017. **84%** of this corridor is in an equity focus area.



Materials following this page were distributed at the meeting.

1/3/2020 2:40 PM

December 17, 2019

Kathleen George, Chair
Oregon Environmental Quality Commission
Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232-4100

Re: Indirect Source Rules for Construction and Operation

Dear Chair George:

As a Metropolitan Planning Organization (MPO), Metro has over a two-decade history collaborating with the Oregon Department of Environmental Quality (DEQ) on the implementation of air pollution and greenhouse gas reduction strategies. Metro is interested in the concept of addressing air quality impacts through indirect source permitting and believes now is an appropriate time to have this conversation.

While our region's formal federal obligations pertaining to reducing transportation emissions were successfully completed in 2017, Metro remains aware much more needs to be done to achieve our region's air quality and climate goals. For example, Metro is joining other jurisdictional partners to adopt clean diesel construction standards to reduce diesel emissions and pollution hotspots resulting from construction. In addition, Metro continues to partner with DEQ on implementing the Employee Commute Options Program through Metro's Regional Travel Options program. On the horizon, Metro is aware DEQ will apply to participate in the U.S. Environmental Protection Agency's Ozone Advance program to develop and implement proactive strategies to address recent violations of the ozone standards. Metro stands ready to assist in this effort.

We look forward to the discussion around air quality impacts through indirect source permitting and will serve in whatever capacity is helpful to find workable solutions to these very real concerns. Thank you for your leadership.

Sincerely,