Meeting minutes

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting:	JPACT & Metro Council RTP Workshop 5 – Working Together to Tackle Climate Change
Date:	Thursday, November 10, 2022
Time:	7:30 a.m. to 9:30 a.m.
Place:	Fully remote via Zoom-https://us06web.zoom.us/j/83111107022
Purpose:	The workshop will focus on hearing discussion around updates to the Climate Smart Strategy in the RTP.
Outcome(s):	Direction on desired approach to the Climate Smart Strategy.

Attendance

Members present	Affiliation
Councilor Shirley Craddick (JPACT Chair)	Metro Council
Councilor Gerritt Rosenthal	Metro Council
Councilor Duncan Hwang	Metro Council
Councilor Mary Nolan	Metro Council
Councilor Christine Lewis	Metro Council
Councilor Juan Carlos Gonzalez	Metro Council
Mayor Travis Stovall	Cities of Multnomah County
Rian Windsheimer	Oregon Department of Transportation
Mayor Pro Temp Ty Stober	City of Vancouver
Ali Mirzakhalili	Oregon Department of Environmental Quality
Commissioner Paul Savas	Clackamas County
JC Vannatta (alternate)	TriMet
Mayor Jeff Dalin (alternate)	Cities of Washington County
Carley Francis	Washington Department of Transportation
Art Pearce (alternate)	Portland Bureau of Transportation
Council President Kathy Hyzy (City of Milwaukie)	Cities of Clackamas County
Commissioner Nafisa Fai	Washington County

Members excused	Affiliation
Commissioner Jessica Vega Pederson	Multnomah County
Curtis Robinhold	Port of Portland
Commissioner Temple Lentz	Clark County

Staff present	Affiliation
Margi Bradway	Metro
Connor Ayers	Metro
Kim Ellis	Metro
Jaye Cromwell	Metro
Eliot Rose	Metro
Chris Ford (alternate)	Oregon Department of Transportation
Brandy Steffen	JLA Public Involvement
Camille Pearce	JLA Public Involvement

Takeaways

Below are the major themes from the workshop discussions:

- Building on implementing adopted land use plans and increased transit service (including high capacity transit) consistently identified as top priorities followed by completing bicycle and pedestrian connections and investing in system management and operations.
- Use an equity lens to determine a combination of strategies that work together to achieve Climate Smart Strategy and state mandated carbon reduction goals.
- Have deeper conversations on how these strategies will work together in practice, recognizing it will look different in each community.
- Look at California and other leaders in climate action for research, best practices, and strategies.
- Advocate for legislature support and alignment on investment priorities to support funding goals that lead to the successful implementation of the Regional Transportation Plan (RTP).

Welcome and Introductions

JPACT Chair, Councilor Shirley Craddick began the final workshop by emphasizing the importance of discussing climate change in the RTP since the region is already seeing the impacts of climate change through events like heat waves, atmospheric rivers, wildfires, and flooding. She encouraged the group to think about what can be done to decrease greenhouse gas (GHG) emissions and which strategies will make the biggest difference. The 2023 RTP is a great opportunity to show how government, community, businesses, and individuals can come together to solve problems that affect everyone.

Brandy Steffen, JLA facilitator, then gave an overview of meeting protocols, Zoom features, and the agenda.

Presentations

Margi Bradway, Deputy Director of Planning, Development, & Research at Metro discussed the development of the 2014 Climate Smart Strategy, which included focus groups and extensive outreach to learn about the most important community concerns related to climate change. Community members said addressing climate change is incredibly important and asked for economic and health disparities to be considered and addressed. Metro also heard that the most vulnerable community members are most in need of transportation options, further defining climate change as an equity issue.

As commuter patterns and trends have changed due to the pandemic, the update to the RTP is an opportunity to get ahead of the trends and address future community needs. Significant driver shortage and financial constraints need to be considered when planning for climate action. Margi also discussed how the previous workshop topics are integral solutions for the climate conversation including updating high capacity transit (HCT) strategy to expand the transit system, utilizing congestion pricing to fund near-term strategies, creating safe and healthy urban arterials, considering technology's role in reducing GHG emissions, and recognizing housing and land use policy as a key piece to decreasing and shortening trips.

Top 10 things to know about Climate Smart

Kim Ellis, Principal Transportation Planner at Metro reviewed strategies and key factors to help support the region's climate goals. In 2014, Metro Council and JPACT adopted the Climate Smart Strategy with broad regional support in response to state mandates for the region to achieve a 20 percent reduction in carbon emissions from passenger cars and small trucks by 2035 to be on track to meeting the broader statewide goals for 2050.[1] The 2023 RTP is expected to achieve a 30 percent reduction by 2045.

"A mix of strategies and policies are going to be needed. We also recognize that while everybody has a role in implementing the strategy and achieving reductions, it's going to look different in each community."

- Kim Ellis
Principal Transportation Planner, Metro

Kim emphasized that development of the Climate Smart Strategy reaffirmed the region's commitment to implement the 2040 growth plan with local and regional climate action in mind. Investing in communities in ways that support local visions will help us reach those targets and other goals. She said that it will take a mix of strategies of policies, with efforts from the community and government at all levels. It's also important to be mindful that climate smart strategies and investments may look different in each community.

Brandy asked the group for clarifying questions and comments:

- The first Climate Smart Strategy was very ambitious, and it provided a platform for the region to advocate for more revenue at the state level to advance implementation. They asked the group to discuss what is needed in terms of revenue to achieve the current climate goals. It will be necessary to align legislatures and leaders with the plan and support the financial objectives to achieve these goals.
    - Kim said Metro understands costs have increased significantly and the RTP will include updated financial revenue forecast.
- Technology and electrification have played a major role in achieving climate goals and the market should not be ignored. They also mentioned the commute shed needs to be considered and recognize that people are moving to where housing is affordable.
    - Margi agreed these are the issues the region is wrestling with and she encouraged the group to consider 2040 centers and transit corridors, as well as technology and electrification trends. Where is the greatest opportunity to reduce GHG emissions?
- Funding appears when there's an effective strategy or plan that is broadly supported; there is a critical need for funding to achieve these climate goals. This is a political problem, so there needs to be political solutions.
    - Another appreciated that sentiment. They acknowledged that Metro staff have been working on understanding past performance and what investments will minimize climate impact and most significantly reduce GHG emissions. They encouraged the group to really engage on this so they can determine what strategies seem more

[1] In 2007, the Oregon Legislature first set statewide climate change goals to reduce emissions by at least 75 percent below 1990 levels by 2050. In 2020, Executive Order 20-04 directs the state to reduce GHG emissions to least 80 percent below 1990 levels by 2050 to avoid catastrophic climate change impacts.

viable.

- Has Metro has done an economic forecast to see if these strategies are possible?
    - Kim said that the state agencies have done the math and included expected population growth in these calculations.
- How do mode shifts translate into transit ridership?
    - Kim noted there are multiple performance targets in the RTP that were developed independently. The RTP update is an opportunity to align and refine mode share targets to fit GHG goals.
    - Margi also noted the workshop feedback will help Metro develop modal targets and align modal goals. The group's input on mode shifts is what Metro is looking for in this discussion.

Group Activity & Discussion

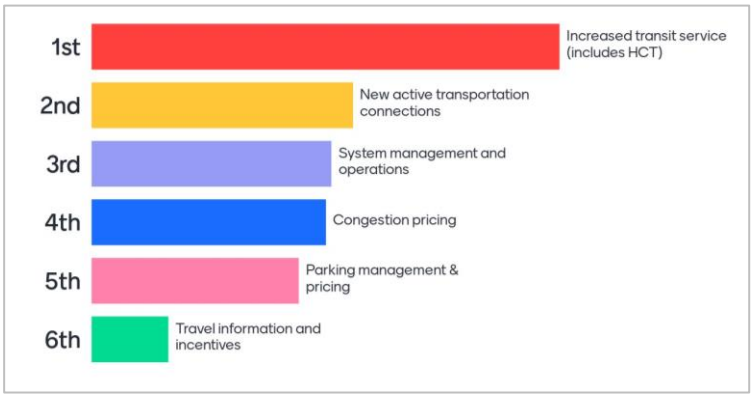
As part of the 2023 RTP update, Metro revisited the research on the strategies identified in the Climate Smart Strategy. For the group activity, Brandy led the participants through a series of questions focused on the strategies and their analysis in the workshop packet. The six key strategies include:

- Congestion pricing
- Parking management and pricing
- Increased transit service (includes HCT)
- New active transportation connections
- Travel info and incentives
- System management and operations

Below is a summary of the group's response and discussion on these questions. For more information on the strategies and their analysis, see **Appendix C**.

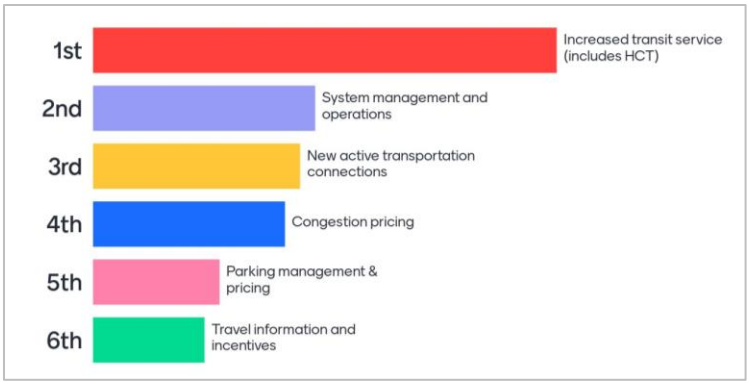
What are your top 3 strategies identified in Climate Smart that you would like to see implemented?

The majority of the group identified "Increased transit service (includes HCT)" as their top priority with "New active transportation connections" and "System management and operations" as their second and third priorities, respectively.



Which 3 strategies identified in Climate Smart would be most beneficial to people living in the Metro area?

The majority of the group said "Increased transit service (includes HCT)" would be most beneficial to the people living in the Metro area. Additionally, the ranked "System management and operations" and "new active transportation connections" as their second and third priorities, respectively. These results mirror the first question.



Brandy paused after the first two questions for discussion. The participants had the following questions and comments:

- In Washington County it's about making sure there are connections between residential communities and employment centers like Nike and Intel. The "hub and spoke system" is not beneficial. Instead, direct transit routes between cities are needed to reflect the current and planned employment, land, and commute patterns.
- Does the group agree that transit investments are the top priority?
    - One participant said their community needs highway capacity expansion. Housing is too expensive, so people are moving out of the area and further away from their jobs.
    - Another person said that is more about land use more than transit. They want to implement strategies effectively and quickly with the lowest cost without causing major disruption. They would like to see a cost-benefit analysis.
    - Margi said that a return on investment will be considered in this work. The analysis can combine strategies to identify synergies and inform priorities. Metro wants to hear the group's opinion as leaders and advocates for the region.
- Investments follow priorities. The results speak to prioritizing transit and moving people via mass transit rather than individual vehicles seems like the most climate friendly approach. Bringing active transit into the mix can also help make those connections to systems management. Putting attention on the highway will cause eventual failure of the system because it will create more congestion.
- When will they have an opportunity to have deeper discussions?
    - Margi reiterated that the workshops are one step of the process to inform the region's priorities and that there will be more discussions in the RTP update to discuss budget constraints and a prioritized project list. Today it is important to know what the update to the Climate Smart Strategy should focus on that can help inform priorities.

> "What do we as cities and counties do to ensure we are providing opportunities for people to live their full lives closer to the places they can afford rather than forcing them to drive long distances to have gainful employment."
>
> *- Kathy Hyzy,*
> *City of Milwaukie Council President*

Are there strategies that are not currently included in Climate Smart that you think could have a significant impact on reducing GHG emissions?

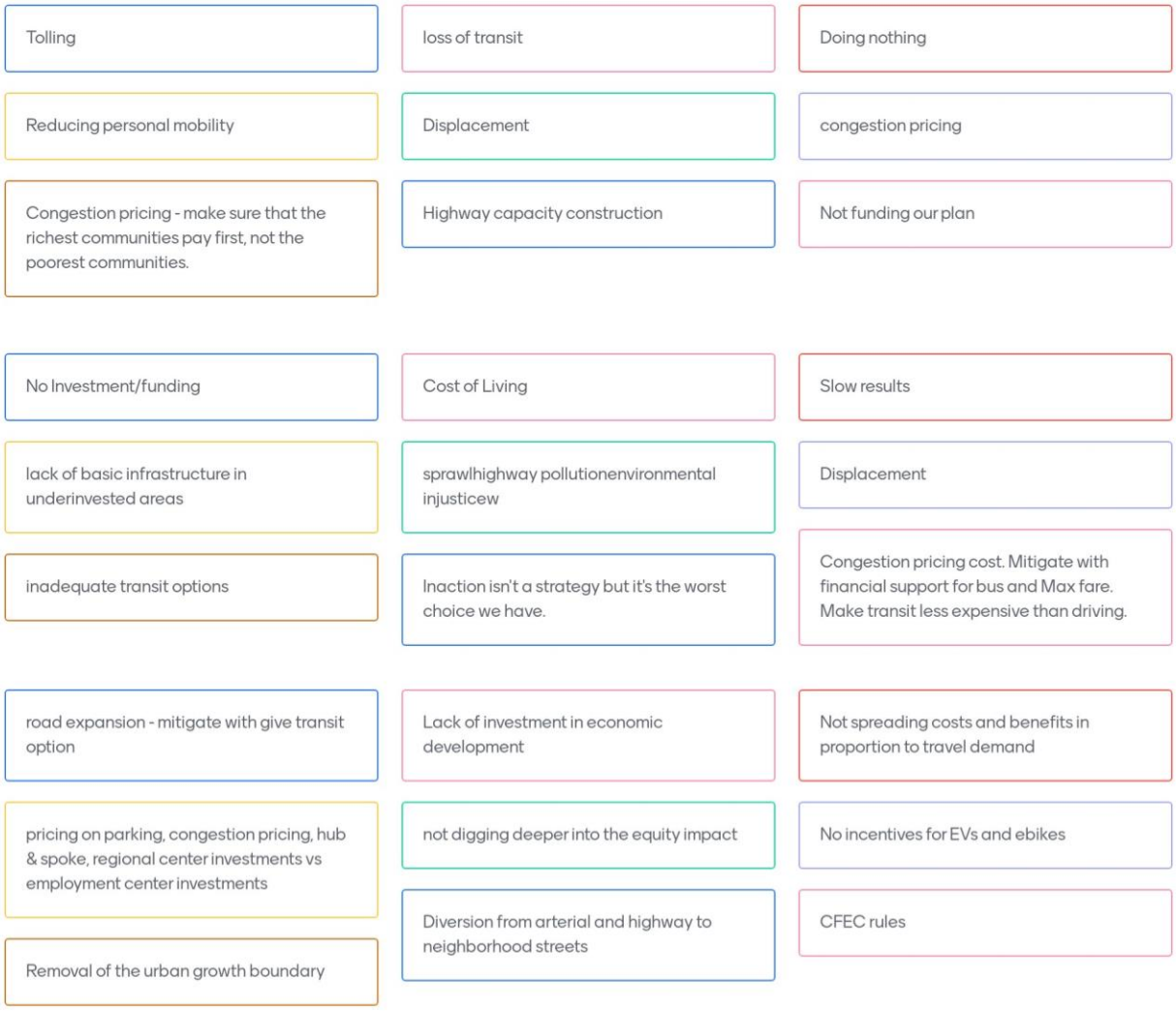
The group felt land use, affordable housing, and telework strategies would provide significant reductions in GHG emissions. The word cloud below was generated based on the participant's responses. Larger words indicate more ideas submitted by multiple people.

The following captures the group's discussion:

- Technology can be useful; recording behavior is a great way to gather feedback. If vehicle miles traveled (VMT) fees are implemented, the driver will need feedback on their climate impact, which can be a very powerful tool.
- There are lots of techniques available to the group. They suggested looking at California and other cities or jurisdictions that assess the effectiveness of various techniques and strategies. Whose experience can help us make informed decisions?
    - Margi mentioned the expert panel on GHG modeling included several California experts. Metro is currently working on developing a GHG modeling tool to support the RTP and Climate Smart Strategy updates and future planning efforts.
    - Kim offered the following resources in the chat related to the modeling work completed so far:
        - Toolbox of potential strategies adopted as part of Climate Smart in 2014: https://www.oregonmetro.gov/sites/default/files/2015/05/27/CSC_toolbox-actions2014_12_09.pdf
        - List of actions for 2015 and 2016 adopted as part of Climate Smart: https://www.oregonmetro.gov/sites/default/files/2015/05/27/CSC_Short%20List-2014_12_09.pdf
        - Strategy toolbox research from the Climate Smart process; https://www.oregonmetro.gov/sites/default/files/2015/05/29/planning_and_development_regional_trans_reduction_strategies_and_the_benefits_they_bring_to_the_region_october_2011.pdf
- Many of the strategies listed here relate to the commute shed, such as land use, affordable housing, telework, and income equity. When the housing market forces people further away from jobs and public transit doesn't offer services in all areas, this issue becomes intertwined and hard to separate.

Are there strategies that you feel could have a negative impact on your community? If so, what is the best way to mitigate those impacts?

The majority of the group agreed doing nothing, and lack of funds would have a negative impact on communities and the region. Other thoughts are shown in the image below:



The following captures the group's discussion:

- There is a tension between goals that the group wants to achieve and how to pay for it. The way to pay for these services will have an impact on families that are already having a tough time financially; so, it's essential to view these solutions with an equity lens and intentionality.
- In terms of an equity lens, who will be most impacted by congestion pricing and is it considered a regressive policy?
    - There are strong preferences for and against congestion pricing. Currently transportation funding in Oregon relies heavily on gas taxes. This revenue stream, which requires more driving, is in direct conflict with the Climate Smart Strategy.
- Policies can result in unintended consequences. For example, several models were designed for affordable housing, but those areas are becoming too expensive, and the people the system is trying to serve are being pushed out.

  - Vancouver has the lowest median family income for this reason. The equity lens described above needs to be applied to the entire Metro area to develop a solution that works for all.
  - Another person echoed these comments. SW Washington doesn't control its own destiny. These policies discussed affect areas in different ways and it's important to consider these differences openly as part of a shared destiny.

- It seems a mix of strategies is the ideal option. How can these strategies work together to reduce VMT and use that statistic as the most valuable metric while limiting harm or weight on certain populations?
- Deeper discussions would be extremely valuable for policy analysis.

"There's a deep sense of a high cost of living, of tax burden, on families at all levels. I just want to acknowledge that [tension] and call it out. […] This is one of the reasons why we've really tried to lead this process with an equity lens. It's much more than a lens. It's a really deep, transformative intentionality to help us do it the right way."

- Juan Carlos Gonzalez
Metro Council

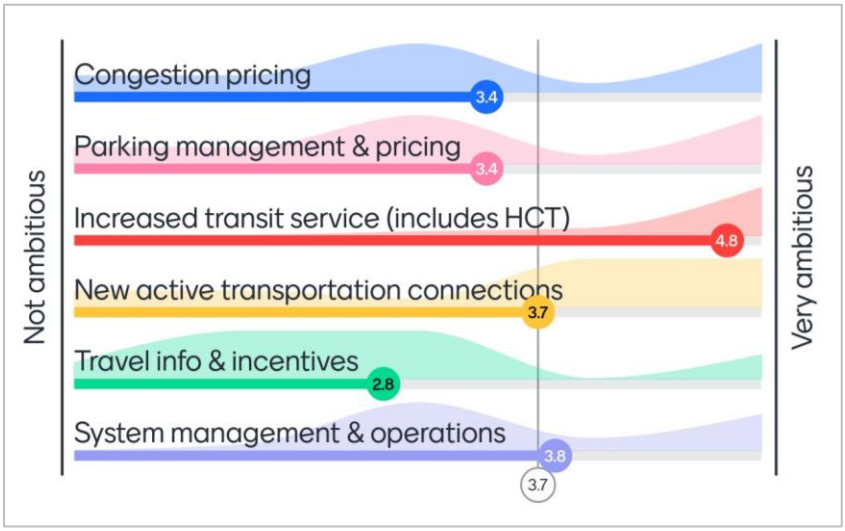
How ambitious do you want to be in pursuing each of the following strategies, rated high/medium impact in reducing GHGs in Climate Smart?

The majority said they would be very ambitious in pursuing "Increased transit service (includes HTC)" and moderately ambitious with "New active transportation connections" and "System management and operations." This parallels the group's thoughts from the first two questions.

The following captures the group's discussion:

- There is a balance between money and accountability. The strategies need to be determined by data and then determine how to allocate the funding.
- An increase in transit is in alignment with what Washington County needs. How quickly can the conversation shift into results?
  - Brandy then asked the group to consider what are the strategies that would fulfill those quick needs? What are the most important short-term projects that can be considered?
    - TriMet's Service Recovery Plan is a good start. Safe access to transit and moving forward with the Tualatin Valley Highway work are also great short-term options. Individual community needs should be determined through assessments and data.
- How will these strategies intersect with mobility and other plan goals? How can the group connect these issues?
  - Kim noted these discussions are informing Metro on how to update the RTP and project list. Metro Council will take these discussions into consideration and determine how to move forward based on the group's feedback. The plan is to work with local governments, TriMet, and ODOT to address all of the outcomes.

- Consider a complete network to address safety concerns.
- Need to find funding to build and develop these strategies. To increase transit opportunities, it's important to support TriMet. The group needs to also consider the Urban Growth Boundaries. Also integral to the success of these strategies is legislative support.



- The Vancouver Climate Strategy will be adopted next month and it includes all vehicles. The Metro Climate Smart Strategy does not include all vehicles. It needs to include air travel within the GHG inventory. Portland International Airport counts for half of the transportation GHG for the area and this factor needs to be discussed.

Next Steps & Closing

Metro Councilor Craddick reviewed the next steps of discussing calls for projects, which will be an integral piece to achieving the goals of the RTP. She thanked everyone for the productive conversations.

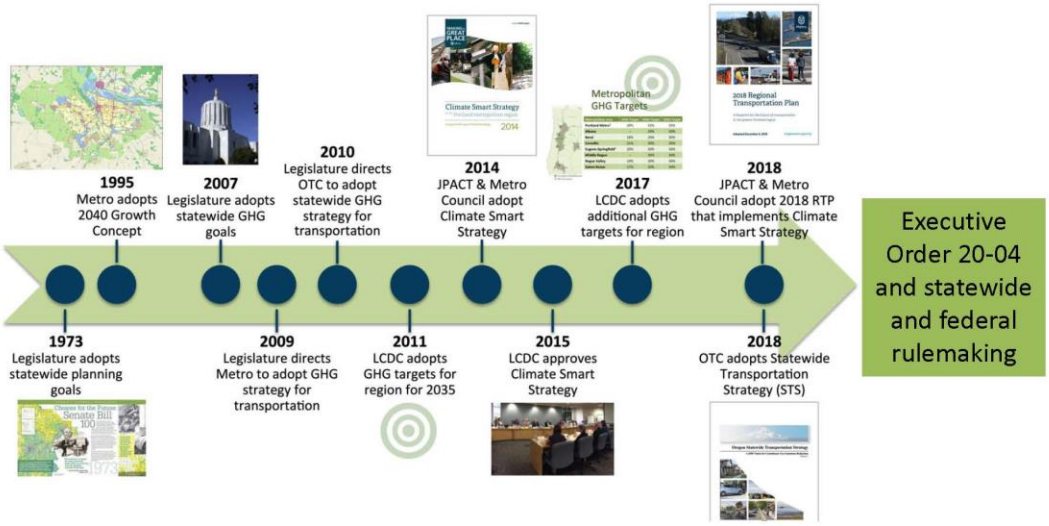
Appendix A: PowerPoint Slides

AGENDA REVIEW

Facilitator: Brandy Steffen

JLA Public Involvement

It was adopted in 2014 in response to state legislative mandates.



5

Our targets are in addition to reductions anticipated from changes to fleet and technology.

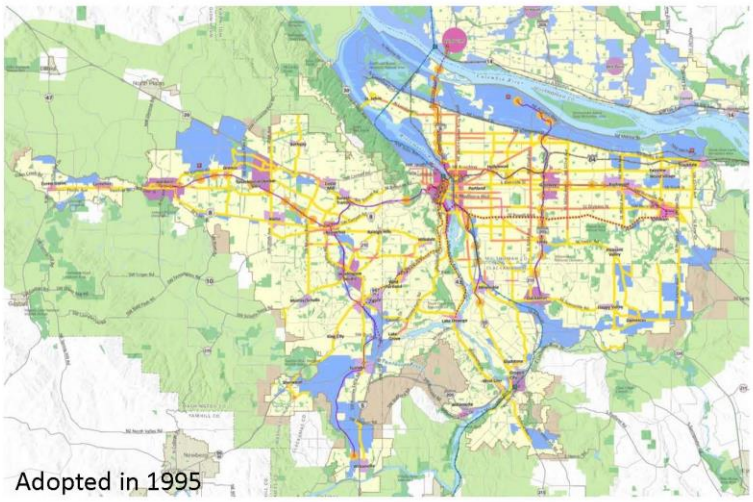
OAR 660-044 adopted by the Oregon Land Conservation and Development Commission in 2011 and amended in 2017 and 2022

Metropolitan area	2035 Target	2040 Target	2045 Target	2050 Target
Portland Metro[1]	20%	25%	30%	35%
Albany	--	20%	25%	30%
Bend	18%			
Corvallis	21%			
Eugene-Springfield[2]	20%			
Middle Rogue	--			
Rogue Valley	19%			
Salem-Keizer	17%			

Meeting these targets sets us on a trajectory to meet state goals adopted in 2007 to reduce total GHG emissions from all sources to 75% below 1990 levels by 2050

6

It reaffirmed the 2040 Growth Plan as our platform for local and regional climate action.



Adopted in 1995

Implemented through adopted community and regional plans

Building toward six desired outcomes

7

We found that investing in communities in ways that support local visions for the future helps get us there.

Climate Smart Strategy | Largest potential carbon reduction impact*

Community Design (Policy with Investment)
- Walkable communities and job centers facilitated by compact land use in combination with walking, biking and transit connections

Transit (Investment)
- Expanded transit coverage
- Expanded frequency of service
- Improvements in right-of-way to increase speed and reliability of buses and MAX

Climate Smart Strategy | Moderate potential carbon reduction impact*

Active Transportation (Investment)
- New biking and walking connections to schools, jobs, downtowns and other community places

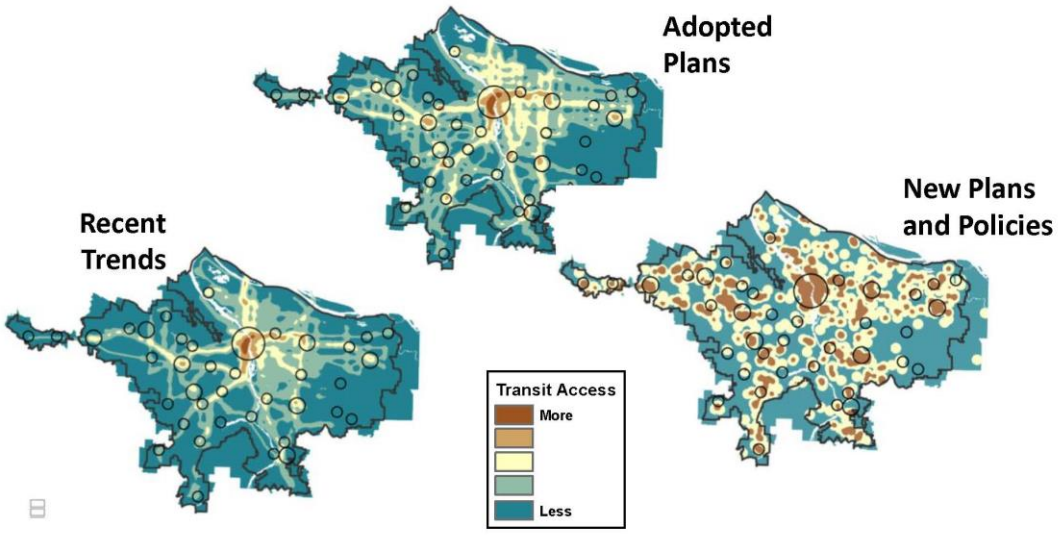
Travel Information and Incentives (Investment)
- Commuter travel options programs
- Household individualized marketing programs
- Car-sharing and eco-driving techniques

System Management and Operations (Investment)
- Variable message signs and speed limits
- Signal timing and ramp metering
- Transit signal priority, bus-only lanes, bus pull-outs
- Incident response detection and clearance

8

Source: *Understanding Our Land Use and Transportation Choices Phase 1 Findings* (January 2012), Metro.

We found that significant investment in transit is key.



9

Extensive, inclusive engagement built the Climate Smart Strategy.

10

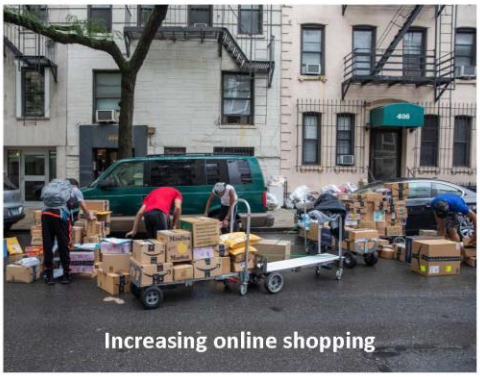
And from 2015-2017, we made significant progress on transit, thanks to the state.

House Bill 2017

11

The world has since changed dramatically.

Declining transit service and ridership



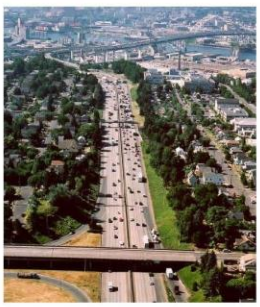
Increasing online shopping

12

It's time to review how we are doing and what updates may be needed.

Adopted in 2014 and approved by LCDC in 2015

New state policies and requirements bring new tools to support reducing emissions.



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Mentimeter Polls

Learn more about the Regional Transportation Plan at:

Metro

Kim Ellis, AICP
RTP Project Manager
kim.ellis@oregonmetro.gov

oregonmetro.gov/rtp

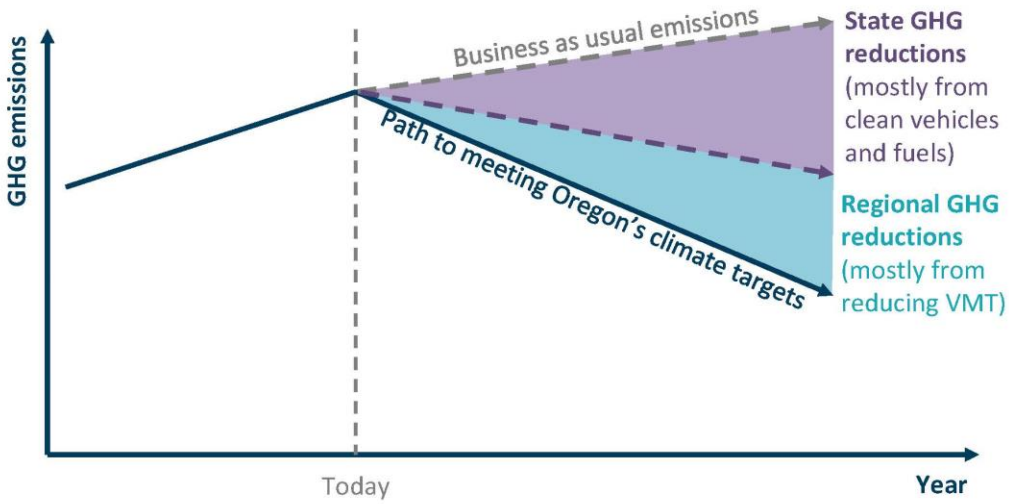
Supplemental Slides

Meeting GHG targets requires changes to both technology and behavior

Relative impact of transportation strategies on GHG reductions (ODOT, Statewide Transportation Strategy)

Clean vehicles and fuels are expected to account for a majority of GHG reductions in the long term, but we can't meet Oregon's targets without pricing, travel options, and system management. 19

The region and state work together



The State estimates business-as-usual emissions and GHG reductions from State-led clean vehicle and fuel strategies and sets regional GHG reduction targets designed to make up the gap between State-led strategies and Oregon's targets. 20

State/federal leadership on clean vehicle and fuel strategies

Strategy	Federal	State
EV rebates	Up to $2,500 for new EVs	Up to $5,000 for new/used Evs
EV charging on roads	$5b for charging on interstates	Build $100m worth of chargers on state highways, plan and allocate funding for other chargers
EV charging in buildings		Building codes require certain new developments to include EV-ready parking spaces.
Clean vehicle standards	Set national standards	Clean Car (all new cars are ZEVs by 2035) and Clean Truck Standards (75% of new medium- and heavy-duty trucks are ZEVs by 2035)
Clean fuel standards	Set national standards	Clean Fuels Program (reduce carbon intensity of fuels 37% below 2015 levels by 2030) and Clean Electricity Standards (carbon-neutral by 2040)

21

Progress in implementing Oregon's GHG strategies

What's working?	What's raising concerns?
Manufacturers are building cleaner cars.	People are buying more trucks and hanging onto old vehicles.
Clean vehicles are becoming more affordable.	Clean vehicles still are more expensive than gas-powered vehicles and fuel prices are lower than expected.
Transit agencies are electrifying buses.	Further advances in technology and investments in charging/fueling equipment are needed to support a complete transition to clean buses.
It is easy for most people to charge at home, and many new buildings will be EV-ready.	Providing chargers for people who currently live in multi-family buildings is challenging.
E-bikes and -scooters are becoming more available, affordable and popular.	There is not the same level of State funding and support for e-bikes, e-scooters, and EV car share as for personal EVs.

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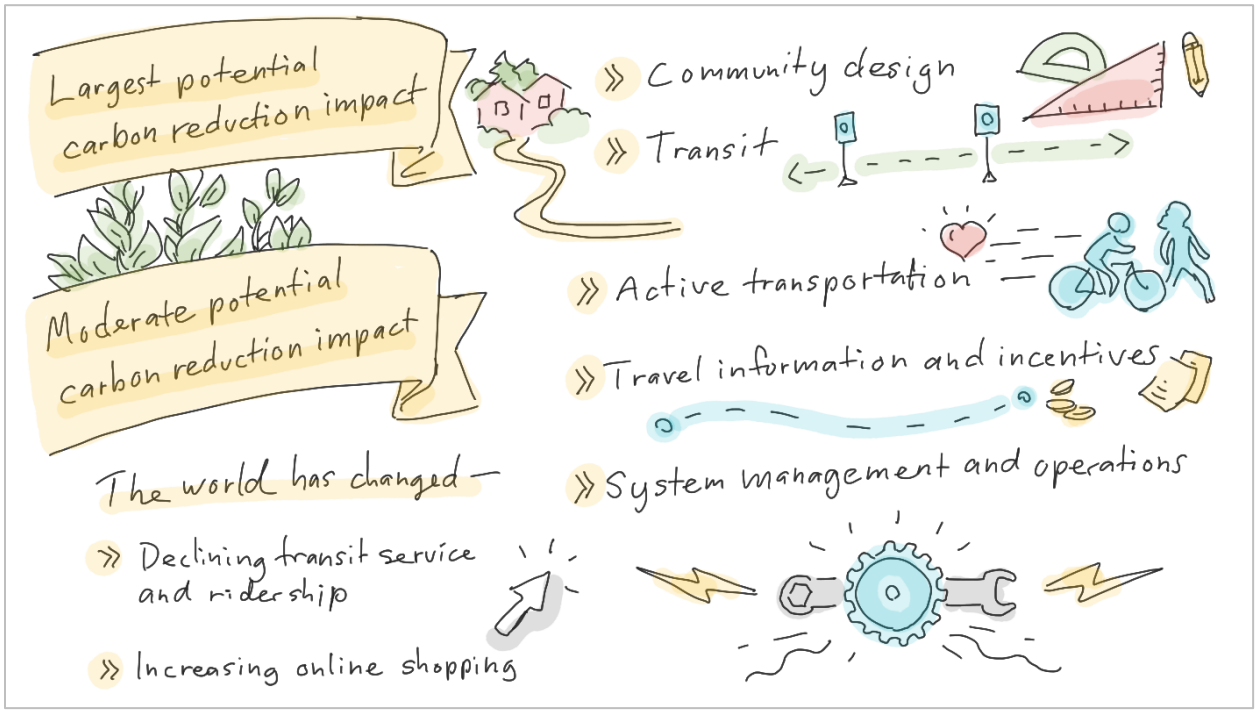
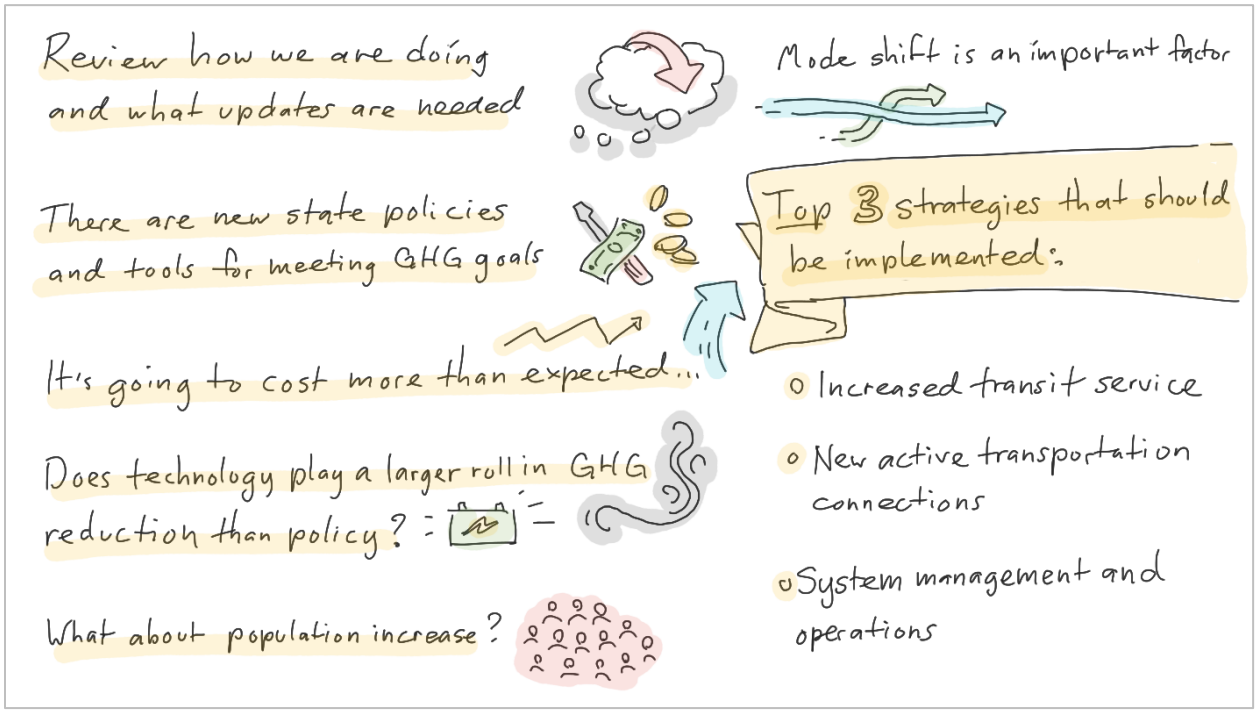
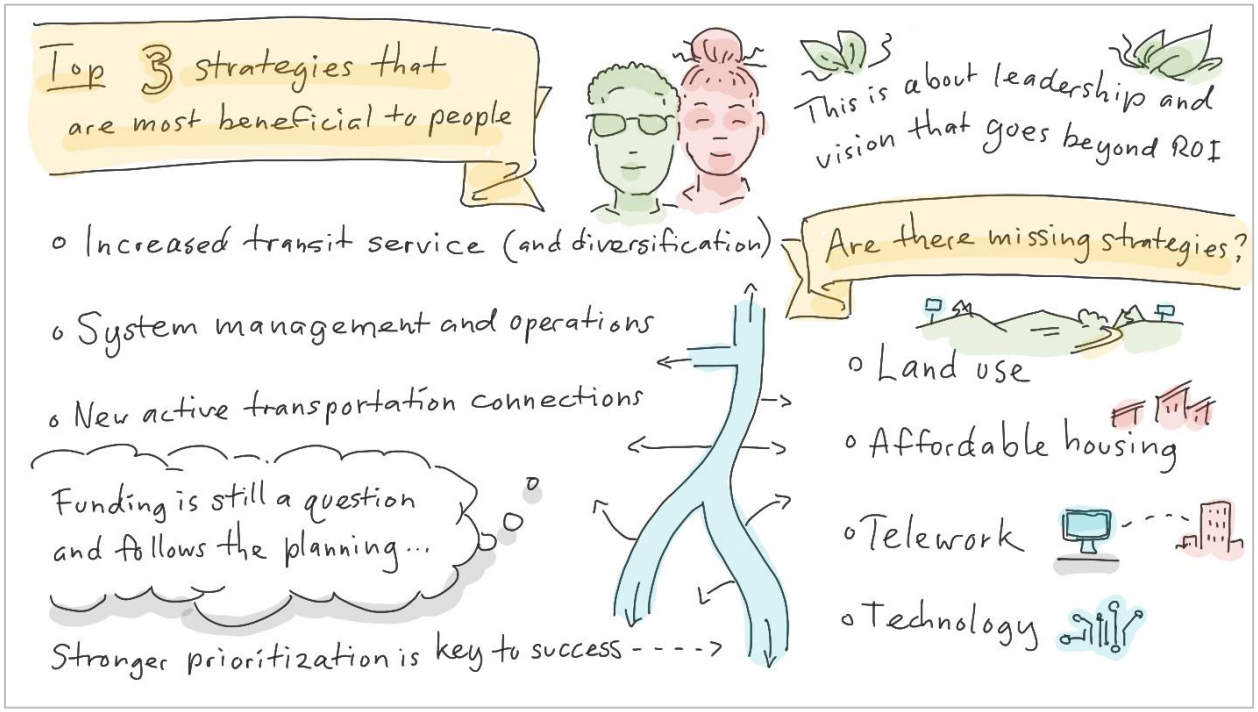
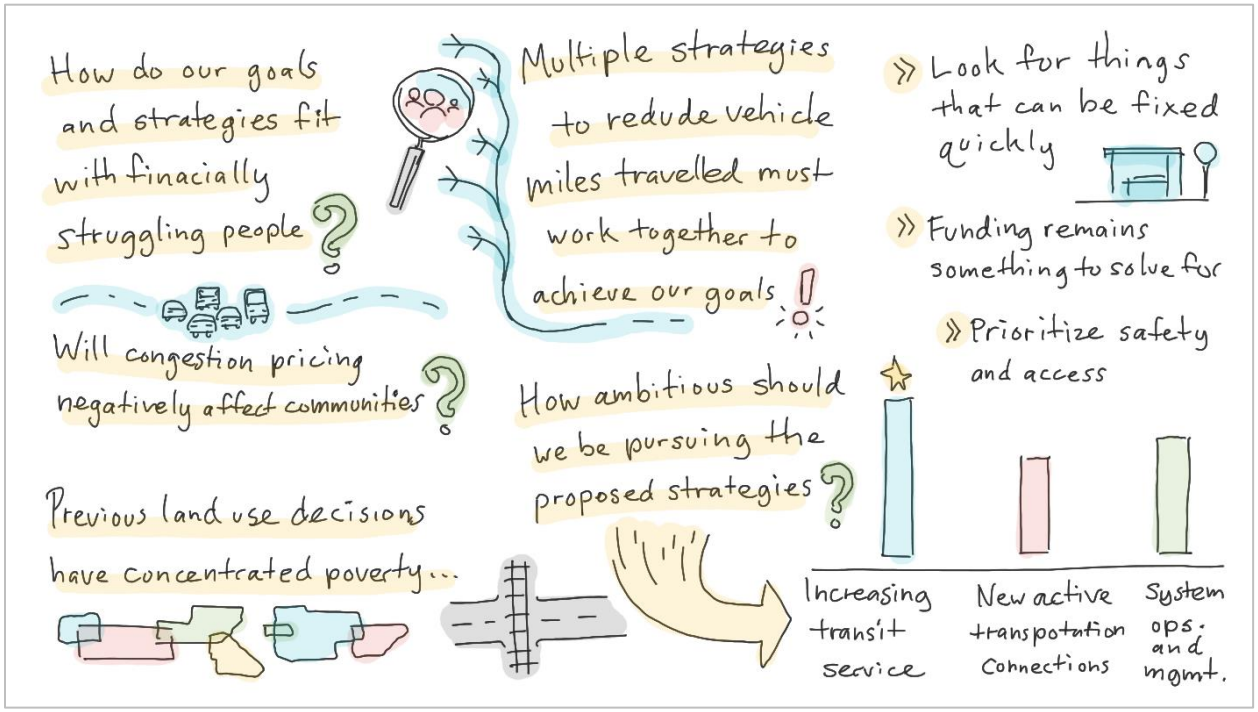
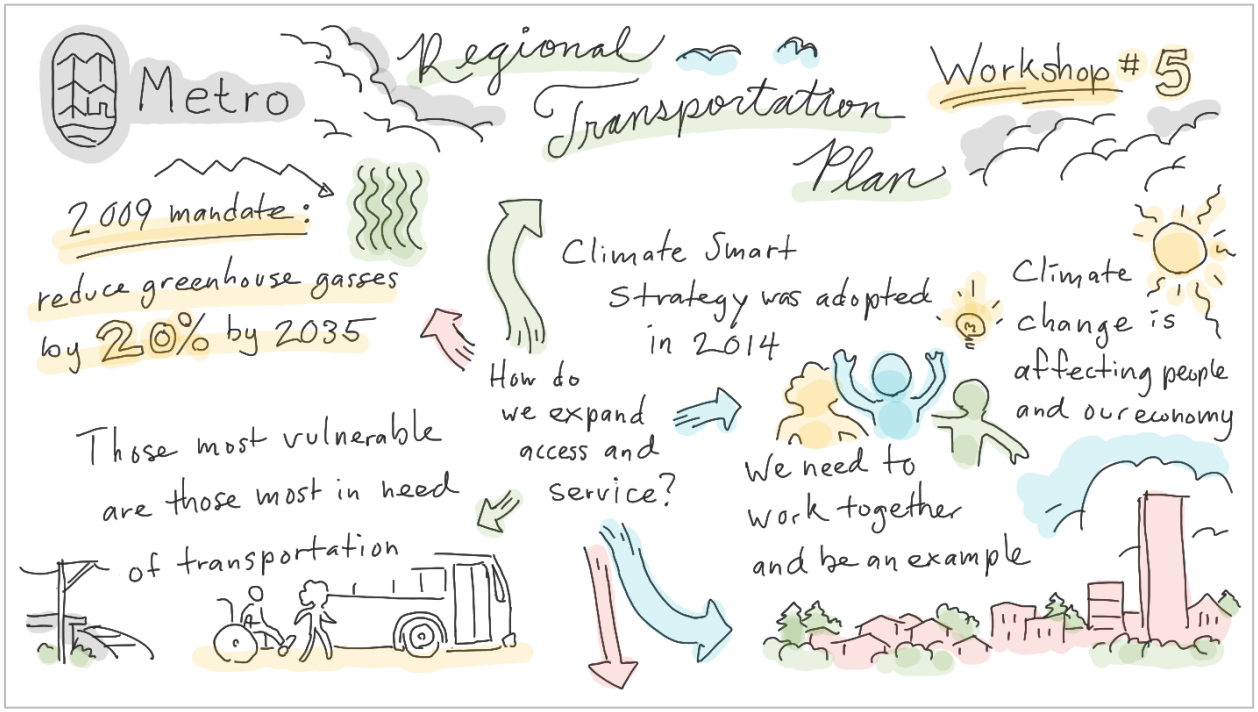
Appendix B: Visual Illustrations

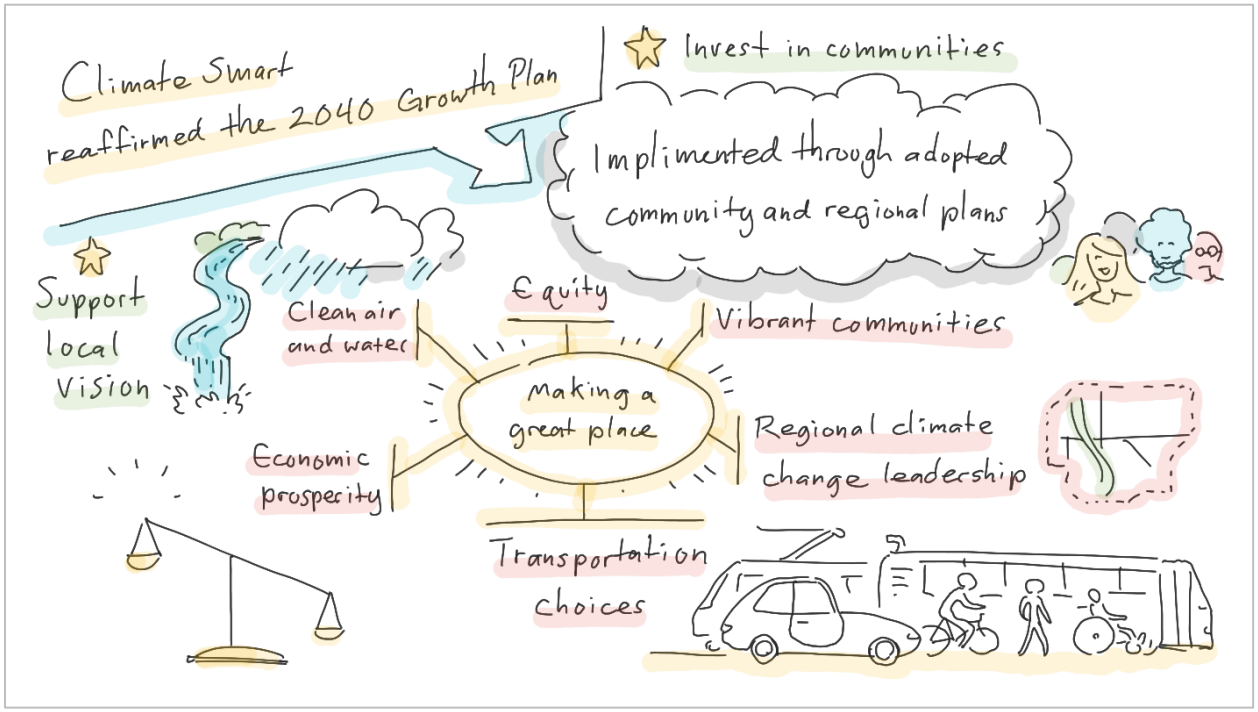





Top 3 strategies that are most beneficial to people
This is about leadership and vision that goes beyond ROI
o Increased transit service (and diversification)
o System management and operations
o New active transportation connections
Funding is still a question and follows the planning...
Stronger prioritization is key to success
Are there missing strategies?
o Land use
o Affordable housing
o Telework
o Technology


How do our goals and strategies fit with finacially struggling people
Will congestion pricing negatively affect communities
Previous land use decisions have concentrated poverty...
Multiple strategies to redude vehicle miles travelled must work together to achieve our goals
How ambitious should we be pursuing the proposed strategies
» Look for things that can be fixed quickly
» Funding remains something to solve for
» Prioritize safety and access
Increasing transit service
New active transportation Connections
System ops. and mgmt.


Metro
Regional Transportation Plan
Workshop # 5
2009 mandate:
reduce greenhouse gasses
by 20% by 2035
Climate Smart Strategy was adopted in 2014
Climate change is affecting people and our economy
How do we expand access and service?
Those most vulnerable are those most in need of transportation
We need to work together and be an example


Climate Smart reaffirmed the 2040 Growth Plan
Invest in communities
Implimented through adopted community and regional plans
Support local vision
Clean air and water
Equity
Vibrant communities
Making a great place
Economic prosperity
Regional climate change leadership
Transportation choices

Appendix C: Other Resources

Agenda

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting:	JPACT & Metro Council RTP Workshop 5
Date:	Thursday, November 10th, 2022
Time:	7:30 a.m. to 9:30 a.m.
Place:	Fully remote via Zoom-https://us06web.zoom.us/j/83111107022
Purpose:	The workshop will focus on hearing discussion around updates to the Climate Smart Strategy in the RTP.
Outcome(s):	Direction on desired approach to the Climate Smart Strategy.

7:30 a.m. **Welcome & Introductions**
- Councilor Craddick, JPACT Chair

7:40 a.m. **Context and Background**
- Top 10 Things to know about Climate Smart, Margi Bradway, Kim Ellis & Eliot Rose, Metro *(25 min)*

8:15 a.m. **Discussion**
- Questions, polls, and discussion, Facilitated by Brandy Steffen, JLA Public Involvement

9:25 a.m. **Next steps & Adjourn**
- Councilor Craddick, JPACT Chair

NOVEMBER 2022

CLIMATE SMART STRATEGY

Metro

2023 Regional Transportation Plan Update

Climate Smart Strategy: Background on greenhouse gas emissions targets, policies, and analytical tools

Prepared for Metro Council, JPACT members and interested parties

The Portland region's climate targets

Climate change is the defining global challenge of the 21st century. And as the recent increase in climate-induced wildfires and extreme weather events has demonstrated, it is likely to have significant impacts on the Portland region.

In 2009, the Oregon Legislature set goals to reduce greenhouse gas (GHG) emissions 10 percent below 1990 levels by 2020 and at least 75 percent below 1990 levels by 2050.[1] More recently, Executive Order 20-04 set new emissions reduction goals that call for the State of Oregon to reduce its GHG emissions at least 45 percent below 1990 emissions levels by 2035 and at least 80 percent below 1990 levels by 2050.[2] These updated goals are consistent with the reductions that climate scientists now believe are necessary to avoid catastrophic climate change impacts.

The transportation sector is the largest contributor to greenhouse gas emissions in Oregon. It is therefore a key focus of the state's greenhouse gas reduction efforts. And the State, recognizing the role that regional transportation plans (RTPs) play in influencing transportation policies, projects, and outcomes, has relied on RTPs to help reduce transportation emission. Beginning in 2012, the State set GHG reduction targets for Oregon's metropolitan areas to meet, and has continued to update these targets since. For the 2023 RTP update, the Portland region's targets are:

- A 20 percent reduction in per capita greenhouse gas emissions by the year 2035
- A 25 percent reduction by 2040
- A 30 percent reduction by 2045
- A 35 percent reduction by 2050
- Targets for the years 2041-2049 steadily increase from 26 to 34 percent in order to maintain progress toward the 2050 target.[3]

It is important to note that **these targets focus on per capita reductions achieved by reducing light vehicle trips and travel which includes passenger vehicles (cars, pickup trucks and SUVs) and commercial trucks with a** vehicle weight rating of 10,000 pounds or less. Only certain kinds of reductions count toward these targets:

Regional targets are focused on reducing vehicle use, not on making fuels and vehicles cleaner and more efficient. Regional transportation plans have typically focused on providing sustainable travel options, coordinating transportation and land use, and other actions that allow people to drive less.

[1] Oregon Department of Environmental Quality, Oregon Greenhouse Gas Emissions, https://www.oregon.gov/deq/aq/programs/Pages/GHG-Oregon-Emissions.aspx
[2] https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf
[3] Oregon Administrative Rule 660-044-0020, https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3093 https://www.oregon.gov/lcd/LAR/Documents/2022-01_Div44.pdf

The State is the primary regulator of vehicles and fuels sold in Oregon. Oregon's climate rules recognize this division of responsibilities, and require that RTPs primarily focus on reducing GHG emissions by reducing vehicle miles traveled (VMT) per person. Regional targets are designed to "fill the gap" between the State's overall GHG reduction goals and the reductions that are expected to be achieved through State-level policies and actions identified in the Statewide Transportation Strategy (STS), which aim to advance Oregon's transition to cleaner, low-carbon fuels and zero and low-carbon emissions vehicles. Metropolitan areas can only take credit for GHG reductions from making vehicles and fuels cleaner if they can demonstrate that they are taking actions that go above and beyond the STS. This means that in most cases, the GHG reduction targets above are functionally the same as VMT per capita reductions.

Regional targets only apply to emissions from light-duty passenger and commercial vehicles, and reductions in emissions from heavy-duty vehicles (e.g., freight trucks with a gross vehicle weight rating greater than 10,000 pounds) **do not count** toward these targets.

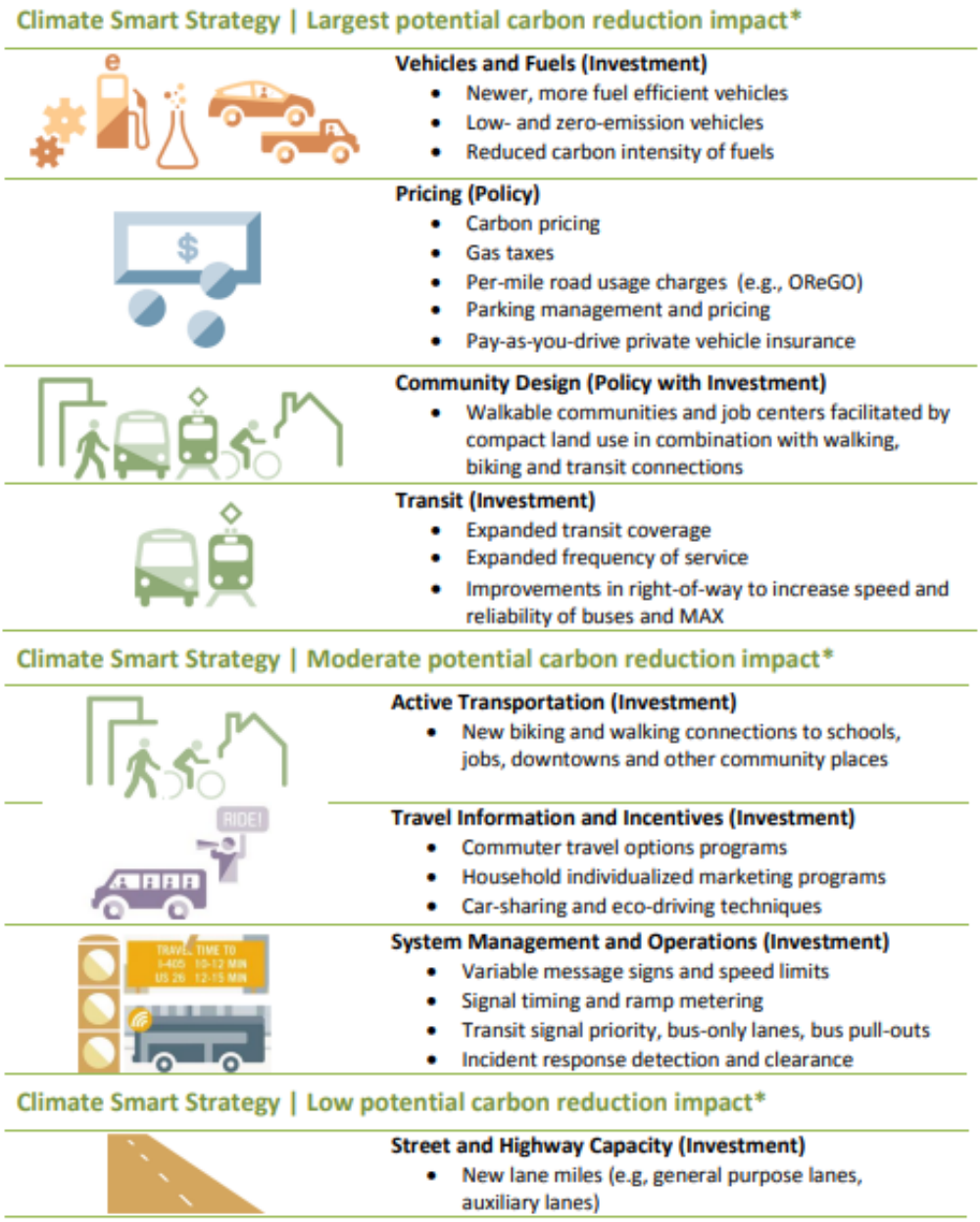
Population growth is accounted for in progress toward regional targets. All things being equal, a region with a higher population will produce more total greenhouse gas emissions than one with a lower population, because more people means more driving and therefore more emissions. To control for the influence of growth, and to focus instead on the influence of transportation policies and investments, the targets above apply to per capita GHG emissions, not total emissions.

The greater Portland region's climate strategy

In 2014, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council adopted the Climate Smart Strategy[4] with broad regional support from community, business and elected leaders. The Strategy, which was approved by the Land Conservation and Development Commission in 2015, was based on extensive stakeholder and public input, scenario planning and analysis. As part of the process, Metro conducted detailed modeling and analysis of various GHG scenarios and estimated the potential for a variety of strategies to reduce transportation-related GHG emissions, and identified the most effective strategies. These GHG reduction strategies are summarized below in Figure 1.

[4] https://www.oregonmetro.gov/climate-smart-strategy

Figure 1: Climate Smart Strategy (Policies and Investments by potential GHG reduction impact)



Source: Understanding Our Land Use and Transportation Choices Phase 1 Findings (January 2012), Metro.

The Climate Smart Strategy and related policies (see Appendix B) were adopted in the 2018 Regional Transportation Plan and will be reviewed and updated in 2023 to ensure ongoing compliance with Oregon's GHG emissions reduction targets. The monitoring report that was included as part of the 2018 RTP concluded that the Portland region was making satisfactory progress implementing the Climate Smart Strategy, but was not able to directly compare the GHG emissions from the RTP to the state-mandated targets because different tools were used to set the targets than were used to analyze performance of the RTP (see the GHG forecasting tools section).

In order to help stakeholders gauge progress toward climate targets, the RTP also reported on the implementation of individual strategies and assumptions from the climate strategy. It found that the

RTP met or exceeded targets for expanding transit service, locating housing in compact communities, managing parking, and increasing bicycle travel. However, the RTP fell short of targets for reducing VMT per capita, building bicycle and pedestrian infrastructure, and tripling walk, bike and transit mode share.

The 2023 RTP update will include an update to the Climate Smart Strategy and supporting RTP policies and investments, as needed, to meet the region's state-mandated greenhouse gas emissions reduction targets. The update will consider how best to account for more recent changes to federal and state climate-related policies and updated regional congestion pricing-related policies, and whether the strategies and key assumptions underlying the region's Climate Smart Strategy are being implemented and continue to be realistic, including:

- **Federal climate rulemaking**[5] is underway that would require State departments of transportation (State DOTs) and metropolitan planning organizations (MPOs) to establish declining carbon dioxide (CO_2) targets for on-road motor vehicle emissions. As proposed, the draft rule does not mandate the level of reduction the targets should achieve. Rather, State DOTs and MPOs would have flexibility to set targets that are appropriate for their communities and given their respective climate policies and other policy priorities - so long as the targets would reduce emissions over time and align with the Biden Administration's target of net-zero emissions, economy-wide, by 2050.[6] Comments are due by Oct. 13, 2022.
- New **Climate-Friendly and Equitable Communities land use and transportation rules** that support implementation of the Climate Smart Strategy. Adopted by the Land Conservation and Development Commission in July 2022, the new rules require cities and counties to designate walkable, compact mixed use areas[7] that are served by transit and other sustainable transportation options, reform parking management, plan for high quality pedestrian, bicycle and transit infrastructure, prioritize and select projects meeting climate and equity outcomes and demonstrate that land use and transportation system plan updates reduce per capita vehicle miles traveled.
- State updates to the STS that are expected to account for **new policies and programs to support the transition to cleaner, low carbon vehicles and fuels**. Since 2018, the State has adopted new policies and programs to support clean vehicles and fuels in response to Executive Order 20-04.[8] See Appendix A for an overview of these and other state policies and programs are under development.
- Updates to **congestion pricing policies** in the RTP. Research suggests that pricing can be very effective at reducing GHG emissions, and pricing is the only high-effectiveness strategy in Climate Smart Strategy that has not yet been implemented in the region.

[5] https://www.federalregister.gov/documents/2022/07/15/2022-14679/national-performance-management-measures-assessing-performance-of-the-national-highway-system

[6] Executive Order 13990 (https://www.federalregister.gov/documents/2021/01/25/2021-01765/protecting-public-health-and-the-environment-and-restoring-science-to-tackle-the-climate-crisis) and Executive Order 14008 (https://www.energy.gov/sites/default/files/2021/02/f83/eo-14008-tackling-climate-crisis-home-abroad.pdf)

[7] For the Portland region, these areas are the 2040 Centers, including the Portland Central city and regional and town centers

[8] https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf

- The **impact of the COVID-19 pandemic on travel behavior and the transportation system** - in particular the significant loss of transit riders due to health concerns and the resulting cuts in service, which have been exacerbated by an ongoing shortage of transit drivers.

GHG forecasting tools

Since 2010, ODOT and Metro have been developing, testing, and refining tools to measure and forecast transportation-related GHG emissions. There are three main tools that have been used to develop GHG reduction targets and assess regions' progress toward these targets.

The regional travel model

The regional travel model has been the primary tool that Metro uses to evaluate the impact of transportation projects and policies. It is a complex model that simulates travel behavior based on surveys detailing individuals' tripmaking and on a detailed representation of the regional transportation system. Metro also uses a land use and economic model and various off-model tools (including MOVES, which is a tool developed by the EPA that is required in clean air analysis, and is used to convert travel model outputs into GHG emissions) in concert with the travel model when developing the RTP.[9] The term "travel model" is used in this memorandum as a shorthand way of referring to this entire suite of tools.

The travel model will likely remain the primary tool for quantifying greenhouse gas reductions, as well as other performance measures, for the 2023 RTP. There are three reasons for this. First, it is a detailed and nuanced tool that takes into account the complex interrelationships between land use, trip cost, the availability of different travel options, congestion, socioeconomic characteristics, and other factors that determine how people travel in the region. Second, the travel model has been widely used to assess regional plans and projects, which makes it easier for stakeholders to interpret results. Third, federal regulations require the use of a travel model in developing an RTP.

That said, there are two important limitations to the regional travel model. First, it is a complex tool that is labor-intensive to program and run, so it is not the best tool for quickly assessing the relative effectiveness of different GHG reduction strategies or for conducting "what if" assessments that explore how different combinations of strategies could impact emissions. Second, results from the travel model are not directly comparable to those from VisionEval (see below), which is the tool that the State used to set regional GHG reduction targets – an issue that the State noted when reviewing GHG results from the 2018 RTP. As described in the following section, Metro has been developing and testing a regional-scale version of VisionEval to support the 2023 RTP update. One of the goals of this work is better understand how VisionEval works at the regional scale and improve our understanding of the differences in results between VisionEval and the regional travel model and to be able to estimate greenhouse gas emissions from the 2023 RTP and directly compare forecasted emissions and corresponding VMT per capita to the region's state-mandated targets.

VisionEval and GreenSTEP

VisionEval is a scenario planning tool that examines how people respond to changes in the transportation system based on aggregate inputs about the transportation system (e.g., factors like lane-miles and transit service), detailed assumptions about current and future travel options and costs, research on the impact of different changes on travel behavior, detailed demographic and socioeconomic data, and other information.

[9] Modeling 101 Workshop, May 23, 2022. Information available: https://www.oregonmetro.gov/modeling-services

VisionEval is designed to allow users to evaluate large numbers of scenarios and explore how different combinations of future conditions might affect performance measures like VMT and GHG emissions. It is also the tool that the State uses to set regional greenhouse gas reduction targets (which it does by using VisionEval to assess progress toward state GHG reduction goals due to state-level clean vehicle and fuel strategies, determining the gap between the results of these strategies and the targets, and identifying the reductions in VMT per capita that may be needed to fill this gap). As such, **VisionEval is well-suited for assessing progress toward the GHG reduction target and estimating potential reductions from many of the additional strategies that may be needed to meet these targets**. In addition, **Metro may recommend using VisionEval to demonstrate compliance with GHG reduction targets if staff find that technical differences between VisionEval and the travel model make it challenging to compare results and targets that are based on two different tools**.

However, VisionEval is not as detailed of an analysis tool as the travel model. The model forecasts people's behavior based on the destinations that they typically travel to and on the specific travel time, options, and conditions between their origin and destination, whereas VisionEval looks at fleet changes and aggregate effects of policies on GHG and VMT.

GreenSTEP is a scenario planning tool, similar to VisionEval, that the State used to set regional GHG reduction targets prior to 2017. The State has since promoted VisionEval as a replacement for GreenSTEP in setting and assessing progress toward state and regional targets. GreenSTEP and VisionEval are broadly similar, but they use different inputs and calculations, so **GHG targets and results from one RTP cycle are not directly comparable to those from other cycles or development of the Climate Smart Strategy in 2014.**

Different tools for different uses

GHG analysis is complex, and must speak to a variety of audiences – including the public, decision-makers, state and federal regulators, and partner agency staff. As reinforced by the Climate Expert Panel convened by Metro in June 2022[10], **there is no single best tool for the job, all of the available tools have their limitations, and the results are only as sound as the assumptions behind each tool. All of these tools are only useful insofar as they support Metro and its partner agencies in taking action** to reduce carbon emissions and protect people from the impacts of climate change.

Though VisionEval and the travel model have their differences, **they share many of the same strengths and limitations**. Both are generally well-suited to capture how land use, population change, roadway capacity, transit service, transportation costs, and travel time affect travel behavior. Both are capable of accounting in detail for how changes to fuels and vehicles affect GHG emissions. Both are also limited when it comes to analyzing induced demand, pedestrians' and bicyclists' behavior, or how people respond to travel demand management strategies (other than those that involve pricing). However, **the strengths of these tools generally align with the strategies that research suggests are most effective at producing significant long-term VMT reductions** (or avoiding further increases) – including implementing pricing, expanding and improving transit service, and limiting new roadway capacity.[11]

[10] https://www.oregonmetro.gov/events/climate-and-transportation-expert-panel/2022-06-22

[11] For examples of research highlighting the impact of these strategies, see: Handy et al., State-Level Strategies for Reducing Vehicle Miles of Travel (2017); CDC, Strategies for Health-Oriented Transportation Projects and Policies: Reduce Vehicle Miles Traveled (VMT); Salon, The Effect of Land Use Policies and Infrastructure Investments on How Much we Drive (2015), Gately and Reardon, The Impacts of Land Use and Pricing in Reducing Vehicle Miles Traveled (2021).

VisionEval is better suited to evaluate and compare the relative effectiveness of different packages of GHG reduction strategies. It is also responsive to state climate policies. The travel model is better suited to conduct the final analysis of the RTP, and its use is required by federal regulations. Technically, the main question that Metro and its partner agencies face in using these two separate tools in the RTP update is how to compare and translate results between the two, so that the initial VisionEval analysis of GHG scenarios leads to a final RTP that meets GHG reduction targets.

Initial Climate Smart Strategy review: preliminary findings and considerations for the 2023 RTP update

In preparation for updating the 2023 RTP, Metro staff is creating a **Climate Smart Strategy (CSS) Scenario**[12] **in VisionEval** that represents the 2014 Climate Smart Strategy as currently adopted in the 2018 RTP, but with the updated growth forecast (households and jobs) adopted in 2020 for use in the 2023 RTP update. This scenario will be based on adopted policies and plans, including regional assumptions about implementation of VMT-reducing strategies in the 2018 RTP and State assumptions about Oregon's transition to cleaner, low carbon fuels and more fuel-efficient vehicles from the 2013 Statewide Transportation Strategy.[13]

Table 1 summarizes how Metro staff is using the inputs in VisionEval to represent some of the key strategies[14] adopted in the Climate Smart Strategy. **This is designed to help build understanding of how the current Climate Smart Strategy is represented in VisionEval.**

At the workshop, Metro staff will be asking for input on whether the assumptions underlying the region's Climate Smart Strategy are realistic, how certain assumptions should be updated, and if new or updated policies and additional GHG reduction strategies that are not currently included in Climate Smart Strategy should be reflected in the updated strategy. Initial feedback from agency partners on these questions is provided in the packet.

Table 1 does not include any recommendations on how strategies should be updated, but it does include notes on current values and/or trends for many inputs. This information should be considered when updating Climate Smart Strategy assumptions as part of the 2023 RTP update. The table also distinguishes between regional assumptions that are set by Metro and its partner agencies through the RTP and assumptions that are set by the State.

As of November 2022, ODOT is in the process of updating the latter based on several new policies and programs described in Appendix A, and intends to provide these updated assumptions for use in the 2023 RTP update. **Though State assumptions are not set through the RTP process, they are included in this document to help improve understanding of key factors behind VMT and GHG results more thoroughly**.

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[12] Though the assumptions used in creating this scenario mirror those used for the 2018 RTP as closely as possible, neither the assumptions nor the results are identical because of the differences between GreenStep, VisionEval and the regional travel model discussed in the previous section.

[13] https://www.oregon.gov/odot/Planning/Pages/STS.aspx. In 2018, the Oregon Transportation Commission adopted an amendment to incorporate the STS as part of the Oregon Transportation Plan (https://www.oregon.gov/odot/Planning/Pages/Plans.aspx). The 2013 STS assumptions do not reflect recent updates to State clean vehicle and fuel policies (see Appendix A). As of August 2022, ODOT staff are working to develop VisionEval assumptions that reflect these updates.

[14] VisionEval is a complex tool with hundreds of detailed inputs. Table 1 focuses only on inputs that reflect key strategies adopted in the CSS. Information on all VisionEval inputs can be found at https://visioneval.org/docs/model-inputs.html.

The Climate Smart Strategy was incorporated in the 2018 RTP in 2018, and meeting the region's targets depends in large part upon implementing the policies and investments in the RTP. However, recent data suggests that some of the assumptions underlying the Climate Smart Strategy may need to be updated, and that these revisions may impact the region's progress toward meeting its targets. Table 1 highlights some of the key assumptions in the Climate Smart Strategy that may need to be updated, and that could have a significant impact on how we meet our GHG targets.

Table 1: Key transportation assumptions in Climate Smart Strategy Scenario

Assumption	Climate Smart Strategy Scenario in VisionEval for 2035	Notes on recent[15] data and trends
Climate Smart Strategy Assumptions		
Transit Service	Transit service grows roughly in proportion with the region's population.	Between 2010 and 2019, transit service hours grew by 4%, roughly half the rate of population growth.[16] The region plans to increase transit service significantly,[17] but agencies have cut service during the COVID pandemic and that have continued due to challenges hiring drivers.
Employer-based Travel Options Programs	30% of workers receive regular travel options programming.	Based on data from the Regional Travel Options program, 5.5% of workers currently receive regular travel options programming.
Household-based Travel Options Programs	45% of households receive regular travel options programming.	Based on data from the Regional Travel Options program, less than 1% of households currently receive regular travel options programming.
Parking pricing and management	Consistent with the 2018 RTP, most of the region's 2040 centers and many of its frequent transit corridors include managed parking, and parking is priced in central Portland and at selected other destinations throughout the region.[18]	The new Climate-Friendly and Equitable Communities rules call for increasing the use of parking management and pricing in 2040 centers and within proximity of frequent transit service.
Pay-As-You-Drive (PAYD) Insurance	40% of the region uses PAYD insurance.	Some insurers offer PAYD insurance, but usage of PAYD insurance in Oregon is not increasing as envisioned in the STS.[19] The STS envisioned 20% of Oregon households had PAYD insurance by 2020 and almost 100% of households by 2035.
Fleet and technology assumptions from the State at the time of adoption of the Metropolitan GHG Reduction Target Rule in 2011		
Gas Prices	Gas prices are $6.75 per gallon[20]	

[15] As of April 2022.
[16] TriMet, TriMet Service and Ridership Statistics, November 30, 2021. https://trimet.org/about/pdf/trimetridership.pdf.
[17] Metro, Regional Transit Strategy, 2018 Regional Transportation Plan, December 6, 2018.
[18] See the 2018 RTP, Figure 6.30, p. 6-44 and 2018 RTP Appendix M, p. 20 to p.25. https://www.oregonmetro.gov/sites/default/files/2020/07/29/2018-RTP-Appendix_M-Regional-Analysis.pdf
[19] ODOT, STS Implementation Monitoring Report, p. 26. https://www.oregon.gov/odot/Planning/Documents/STS-2018-Monitoring-Report.pdf.
[20] This price is in 2010 dollars and approximates the STS Vision inputs and was provided by the State for use during development of the Climate Smart Strategy. This equates to $9.17 per gallon in 2022 dollars.

Assumption	Climate Smart Strategy Scenario in VisionEval for 2035	Notes on recent[15] data and trends
Electricity Prices	Electricity prices are $0.23 per kWh[21]	
Commercial Fleet Age	The average lifetime of commercial vehicles is 7.6 years.	Commercial vehicle lifetimes currently average 14.2 years and are increasing.[22]
Fleet Electrification	24% of commercial light-duty trucks are hybrid or electric.	Currently, less than 1% of heavy-duty vehicles are hybrid or electric. One recent forecast[23] estimates that 7% of the heavy-duty fleet will be hybrid/electric by 2030, rising to 49% in 2040. This does not account for state policies promoting clean heavy-duty vehicles.
Commercial Fleet Share	20% of light-duty commercial vehicles are trucks/SUVs and 80% are cars.	58% of light-duty commercial vehicles are trucks, and that percentage has been increasing.[24] The STS Vision assumed 35% are trucks/SUVs and 65% are cars.
Household Fleet Share	20% of light-duty passengers vehicles are trucks/SUVs and 80% are cars.	80% of new U.S. vehicle sales are trucks, and that percentage has been increasing.[25]
Household Vehicle Fleet Age	The average lifetime of passenger cars is 7 years and 7.7 years for trucks/SUVs.	Passenger vehicle lifetimes currently average 11.9 years and are increasing.[26]

Potential strategies to produce additional VMT per capita and related GHG reductions

In support of the 2023 RTP update, Metro staff proposes to use VisionEval to conduct a preliminary analysis of VMT per capita and related GHG reductions under the 2018 RTP (as a next step), and will update regional technical and policy advisory committees and the Metro Council on the results at future meetings, including whether the updated RTP seems likely to meet its VMT per capita and related GHG reduction targets. Staff also proposes to evaluate the draft 2023 RTP project list using VisionEval as part of the system analysis conducted following the Call for Projects in Spring 2023.

Below are some of the strategies that are likely to produce significant additional reductions – focusing on the strategies identified in the Climate Smart Strategy (See Figure 1) with the greatest potential carbon reduction potential, as well as on strategies that are well-represented in the GHG analysis tools discussed above – if additional action is needed to meet the region's targets.

[21] This price is in 2010 dollars approximates the STS Vision inputs and was provided for use during development of the climate Smart Strategy. This equates to $0.23 per kWh in 2022 dollars.
[22] Brusseau, D., Aging Trucks Create More Service Opportunities, NTEA News, https://www.ntea.com/NTEA/Member_benefits/Industry_leading_news/NTEANewsarticles/Aging_trucks_create_more_service_opportunities.aspx?fbclid=IwAR3mkimdcKilEbdqwvYYSwODX5Hop5g6odQWuQdIt9cJ37I30kwxgv209PU
[23] Ledna, C., et. al., Decarbonizing Medium- & Heavy-Duty On-Road Vehicles: Zero-Emission Vehicles Cost Analysishttps://www.nrel.gov/docs/fy22osti/82081.pdf
[24] Bureau of Transportation Statistics, U.S. Automobile and Truck Fleets by Use, https://www.bts.gov/content/us-automobile-and-truck-fleets-use-thousands
[25] FRED Blog, Long-term trends in car and light truck sales, March 15, 2021. https://fredblog.stlouisfed.org/2021/03/long-term-trends-in-car-and-light-truck-sales/
[26] Bureau of Transportation Statistics, Average Age of Automobiles and Trucks in Operation in the United States, https://www.bts.gov/content/average-age-automobiles-and-trucks-operation-united-states

Pricing: Multiple agencies, including ODOT, Metro and the City of Portland, are currently working on plans to price roadways in the Portland region in order to both manage demand and raise revenues for future transportation investments. The 2023 RTP update is anticipated to include updated policies and new projects that expand the region's approach to pricing. **Pricing presents a major opportunity to reduce GHG emissions since pricing is the only high-impact strategy identified in Climate Smart that has not yet been implemented at scale**. The Regional Congestion Pricing Study analyzed a variety of potential approaches to pricing and found that all of them reduced VMT, ranging from a minor reduction to a 7.6 percent decrease.[27] This analysis focused on pricing's potential to help manage travel demand, and does not account for additional VMT per capita and related GHG reductions that could result from reinvesting a share of the resulting revenues in other climate strategies such as those discussed below.

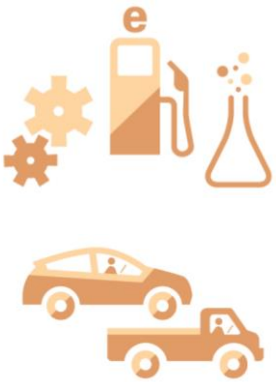
Increasing transit service: Increasing transit service has long been a focus of Metro and its partners' efforts to implement the 2040 Growth Concept, expand travel options, improve air quality and reduce GHG emissions. This strategy also has significant potential benefits for equity and mobility. The 2018 RTP exceeded Climate Smart Strategy targets for increasing transit service, both in general and in the region's housing and job centers. However, the COVID-19 pandemic reduced transit ridership and necessitated cuts to transit service that weren't anticipated in the 2018 RTP. As a result, it may take additional funding to achieve the level of transit service – and corresponding per capita VMT and GHG reductions – envisioned in the 2018 RTP, and even more to increase transit-related GHG reductions beyond what was expected in 2018. Some resources may be available through pricing (though constitutional restrictions on how revenue raised from vehicles and fuels can be spent may limit how pricing revenues can be spent on transit); others may be available through the new funding programs created as part of the Bipartisan Infrastructure Law.

Expanding parking management and pricing: Managing and pricing parking can have a similar impact on VMT and GHG emissions as road pricing. In addition, parking pricing can also be applied in a more targeted fashion to destinations that are easy to reach by modes other than driving. Currently, very few places in the region have managed or priced parking, and in most cases the rules and fares that are in place are not designed to manage demand and encourage the use of transit and other modes instead of driving. The new Climate Friendly and Equitable Communities (CFEC) rules seek to change this by requiring the implementation of managed/priced parking in designated regional centers and station communities. The RTP is generally aligned with the CFEC rules, which calls for significantly expanding the use of managed parking in the region in 2040 centers and in areas near frequent transit service. However, the RTP currently anticipates a modest level of parking management in most communities that implement it. This means that there is an opportunity for local governments to implement parking management and pricing in a coordinated fashion that is guided by best practices in managing demand, and implement the new CFEC rules in a way that maximizes GHG reductions.

Plan and build compact and multimodal communities: Coordinating land use and transportation planning has been a core focus of Metro and its partners' efforts for decades. In the context of the RTP, this has meant building a multimodal transportation system that connects the

[27] Metro, Regional Congestion Pricing Study, p. xiii and Appendix D.i. https://www.oregonmetro.gov/sites/default/files/2021/10/05/Regional%20Congestion%20Pricing%20Study%20-%20final%20report%20-%20Metro.pdf

centers and communities identified in the 2040 Growth Concept.



Take additional action to accelerate the adoption of clean vehicles and fuels: Oregon's climate regulations generally direct Metro, cities and counties to focus on reducing GHG emissions by reducing VMT per capita. They require Metro to assume that complementary State clean vehicle and fuel programs and policies will be implemented, and to use assumptions provided by the State that account for these programs and policies when calculating progress toward GHG reduction targets. However, the State also allows Metro to take credit for GHG reductions from clean vehicle and fuel strategies as long as they can demonstrate that these strategies are additive to State policies and programs.

Given how high interest in clean vehicles and fuels is in the Portland region – zero-emission vehicle (ZEV) ownership rates in each of the region's three counties exceed those in any other Oregon county by 50% or more, and collectively Multnomah, Washington and Clackamas Counties account for three-fifths of the state's registered ZEVs – there may be opportunities to implement unique and innovative programs. However, the State already assumes a high level of ZEV penetration in the Portland region, and agencies in the region have so far generally focused on greening their own fleets instead of increasing consumer usage of ZEVs. It will likely take detailed analysis and coordination between local, regional and State agencies to identify what, if any, additional actions that the RTP could take to significantly increase adoption of clean vehicles and fuels and that are not duplicative of State policies and programs.

As noted above, the recommendations above are focused on implementing strategies that are identified by the Climate Smart Strategy as having a high impact on GHG reductions. It may also be possible to increase GHG reductions from the medium-impact strategies shown in Figure 1 above.

Next steps

Metro staff recommend that Metro Council and regional policy and technical advisory committees first identify what assumptions may need to be updated or revised to account for new information and changes to policies, strategies and other assumptions since 2018 and then identifying which high-impact and medium-impact strategies that have the greatest potential to reduce GHG emissions should be focused on in the update the Climate Smart Strategy.

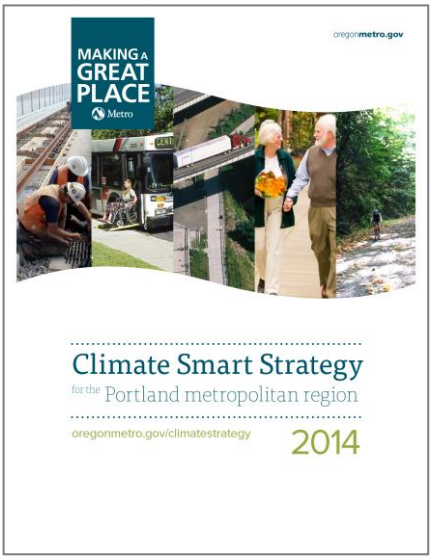
Next steps include:

- Engaging JPACT and the Metro Council in updating the Climate Smart Strategy at a joint workshop on November 10 to build a shared understanding of the Climate Smart Strategy and state requirements to reduce per capita VMT as the way to demonstrate meeting GHG emissions reduction targets. **At the workshop, Metro staff will be asking for input on whether the assumptions underlying the region's Climate Smart Strategy are realistic, how certain assumptions should be updated, and if new or updated policies and additional GHG reduction strategies that are not currently included in Climate Smart Strategy should be reflected in the updated strategy**. Initial feedback from agency partners on these questions is provided in the packet in Appendix C.

- Working with a consultant team to support greenhouse gas analysis in the 2023 RTP update, including some of the tasks listed below:
    - Estimating likely VMT per capita and related GHG reductions under the 2018 RTP and 2023 RTP using VisionEval, to help assess whether the RTP is on track to meet its targets for 2040 and 2045.
    - Conducting a sensitivity analysis of the additional VMT per capita and related GHG reductions that could result from increasing implementation of certain carbon reduction strategies.
    - Mapping how household-based VMT per capita varies across the region, which will help identify communities with higher and lower levels of per person transportation-related GHG emissions, as well as support the implementation of the Climate-Friendly and Equitable Communities rules and the updated Regional Mobility Policy.

3.2.3 Climate leadership policies

Climate change may be the defining challenge of this century. Global climate change poses a growing threat to our communities, our environment and our economy, creating uncertainties for the agricultural, forestry and fishing industries as well as winter recreation. The planet is warming and we have less and less time to act. Documented effects include warmer temperatures and sea levels, shrinking glaciers, shifting rainfall patterns and changes to growing seasons and the distribution of plants and animals.



The 2018 Regional Transportation Plan is a key tool for the greater Portland region to implement the adopted Climate Smart Strategy.

For more information, visit www.oregonmetro.gov/climatesmart

Warmer temperatures will affect the service life of transportation infrastructure, and the more severe storms that are predicted will increase the frequency of landslides and flooding. Consequent damage to roads and rail infrastructure will compromise system safety, disrupt mobility and hurt the region's economic competitiveness and quality of life. Our ability to respond will have unprecedented impacts on our lives and our survival.

Transportation sources account for 34 percent of greenhouse gas emissions in Oregon, largely made up of carbon dioxide (CO_2). Since 2006, the state of Oregon has initiated a number of actions to respond including directing the greater Portland region to develop and implement a strategy for reducing greenhouse gas emissions from cars and small trucks.

3.2.3.1 Climate Smart Strategy (2014)

The Regional Transportation Plan is a key tool for the greater Portland region to implement the adopted Climate Smart Strategy and achieve greenhouse gas emissions reduction targets adopted by the Land Conservation and Development Commission in 2012 and 2017.

As directed by the Oregon Legislature in 2009, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) developed and adopted a regional strategy to reduce per capita greenhouse gas emissions from cars and small trucks by 2035 to meet state targets. Adopted in December 2014 with broad support from community, business and elected leaders, the Climate Smart Strategy relies on policies and investments that have already been identified as local priorities in communities across the greater Portland region. Adoption of the strategy affirmed the region's shared commitment to provide more transportation choices, keep our air clean, build healthy and equitable communities, and grow our economy – all while reducing greenhouse gas emissions.

The analysis of the adopted strategy demonstrated that with an increase in transportation funding for all modes, particularly transit operations, the region can provide more safe and reliable transportation choices, keep our air clean, build healthy and equitable communities and grow our economy while reducing greenhouse gas emissions from light-duty vehicles as directed by the Legislature. It also showed that a lack of investment in needed transportation infrastructure will result in falling short of our greenhouse gas emissions reduction goal and other desired outcomes. The Land Conservation and Development Commission approved the region's strategy in May 2015.

3.2.3.2 Climate Smart Strategy policies

The Climate Smart Strategy is built around nine policies to demonstrate climate leadership by reducing greenhouse gas emissions from cars and small trucks while making our transportation system safe, reliable, healthy and affordable. The policies listed below complement other RTP policies related to transit, biking and walking, use of technology and system and demand management strategies.

Climate Smart Policies	
Policy 1	Implement adopted local and regional land use plans.
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Policy 6	Provide information and incentives to expand the use of travel options.
Policy 7	Make efficient use of vehicle parking spaces through parking management and reducing the amount of land dedicated to parking
Policy 8	Support Oregon's transition to cleaner fuels and more fuel-efficient vehicles in recognition of the external impacts of carbon and other vehicle emissions.
Policy 9	Secure adequate funding for transportation investments that support the RTP climate leadership goal and objectives.

3.2.3.3 Climate Smart Strategy toolbox of potential actions

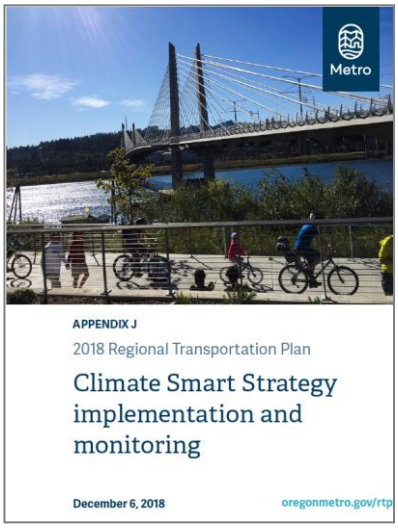
The responsibility of implementation of these policies and the Climate Smart Strategy does not rest solely with Metro. Continued partnerships, collaboration and increased funding from all levels of government will be essential. To that end, the Climate Smart Strategy also identified a comprehensive toolbox of more than 200 specific actions that can be taken by the state of Oregon,

Metro, cities, counties, transit providers and others to support implementation. These supporting actions are summarized in the *Toolbox of Possible Actions (2015-2020)* adopted as part of the Climate Smart Strategy. The actions support implementation of adopted local and regional plans and, if taken, will reduce greenhouse gas emissions and minimize the region's contribution to climate change in ways that support community and economic development goals. The Climate Smart Strategy's *Toolbox of Possible Actions* was developed with the recognition that existing city and county plans for creating great communities are the foundation for reaching the state target and that some tools and actions may work better in some locations than others. As such, the toolbox does not mandate adoption of any particular policy or action. Instead, it emphasizes the need for many diverse partners to work together to begin implementation of the strategy while retaining the flexibility and discretion to pursue the actions most appropriate to local needs and conditions.

Local, state and regional partners are encouraged to review the toolbox and identify actions they have already taken and any new actions they are willing to consider or commit to in the future. Updates to local comprehensive plans and development regulations, transit agency plans, port district plans and regional growth management and transportation plans present ongoing opportunities to consider implementing the actions recommended in locally tailored ways.

3.2.3.4 Climate Smart Strategy monitoring

The Climate Smart Strategy also contained performance measures and performance monitoring targets for tracking implementation and progrss. The purpose of the performance measures and targets is to monitor and assess whether key elements or actions that make up the strategy are being implemented, and whether the strategy is achieving expected outcomes. If an assessment finds the region is deviating significantly from the Climate Smart Strategy performance monitoring targets, then Metro will work with local, regional and state partners to consider the revision or replacement of policies and actions to ensure the region remains on track with meeting adopted targets for reducing greenhouse gas emissions.



Appendix J reports on implementation progress since 2014. The analysis found the 2018 RTP makes satisfactory progress towards implementing the Climate Smart Strategy, but more investment, actions and resources are needed to ensure the region achieves mandated greenhouse gas emissions reductions.

Appendix J reports on implementation progress since 2014, and found the 2018 Regional Transportation Plan makes satisfactory progress towards implementing the Climate Smart Strategy and, if fully funded and implemented, can reasonably be expected to meet the state-mandated targets for reducing per capita greenhouse gas emissions from passenger cars and small trucks (light-duty vehicles) for 2035 and 2040.

The analysis also found that more investment, actions and resources will be needed to ensure the region achieves the mandated greenhouse gas emissions reductions defined in OAR

660-044-0060. In particular, additional funding and prioritization of Climate Smart Strategy investments and policies that substantially reduce greenhouse gas emissions will be needed.

3.2.3.5 Transportation preparedness and resilience

The topic of preparedness and resilience has broad implications across all sectors of the economy and communities throughout the region. Natural disaster can happen anytime, affecting multiple jurisdictions simultaneously. The region needs to be prepared to respond quickly, collaboratively and equitably, and the transportation system needs to be prepared to withstand these events and to provide needed transport for fuel, essential supplies and medical transport. Advance planning for post-disaster recovery is also critical to ensure that communities and the region recover and rebuild important physical structures, infrastructure and services, including transportation – it can make communities and the region stronger, healthier, safer and more equitable.

What are the risks we face?

Climate change, natural disasters, such as earthquakes, urban wildfires and hazardous incidents, and extreme weather events present significant and growing risks to the safety, reliability, effectiveness and sustainability of the region's transportation infrastructure and services. Flooding, extreme heat, wildfires and severe storm events endanger the long-term investments that federal, state, and local governments have made in transportation infrastructure. Changes in climate have intensified the magnitude, duration and frequency of these events for many regions in the United States, a trend that is projected to continue. There is much work going on locally, regionally, statewide and across the country to address these risks.

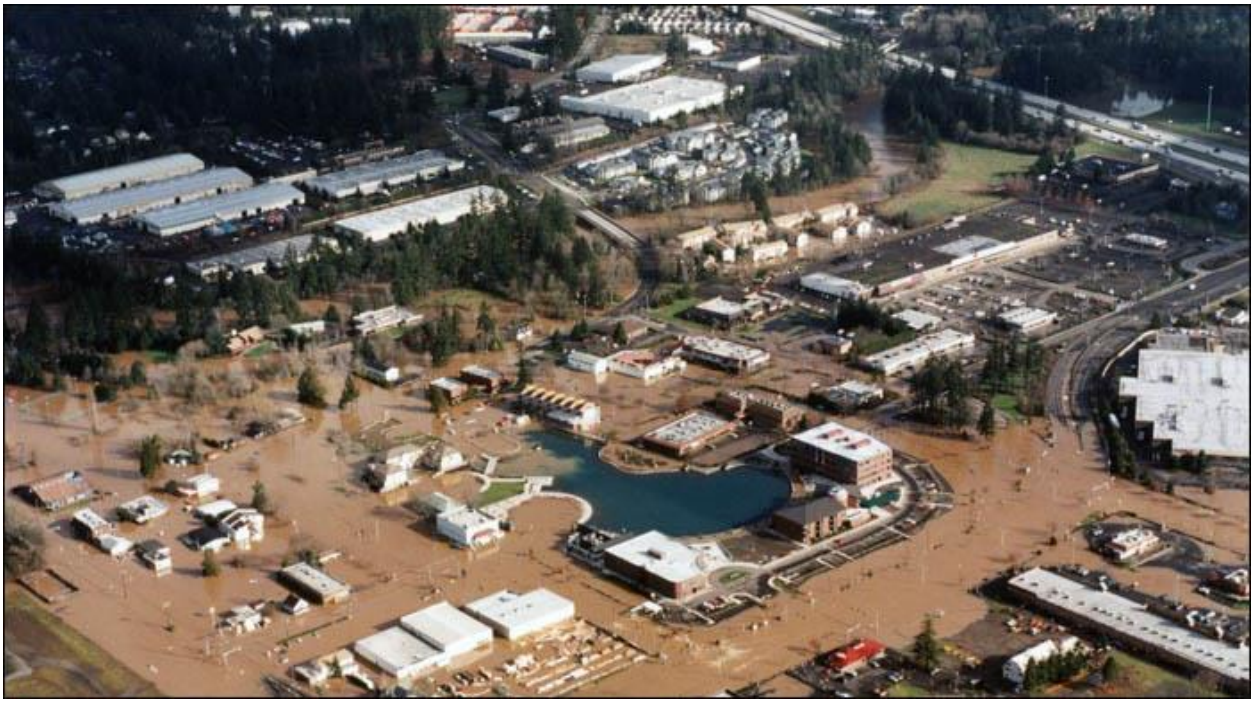
Regional collaboration and disaster preparedness

The Regional Disaster Preparedness Organization (RDPO) is a partnership of government agencies, non-governmental organizations, and private-sector stakeholders in the Portland metropolitan area collaborating to increase the region's resilience to disasters. RDPO's efforts span across Clackamas, Columbia, Multnomah, and Washington counties in Oregon and Clark County in Washington.

According to the 2013 Oregon Resilience Plan, Oregon's buildings and lifelines (transportation, energy, telecommunications, and water/ wastewater systems) would be damaged so severely that it would take three months to a year to restore full service in areas such as the Portland region. More recently, a 2018 report from the Oregon Department of Geology and Mineral Industries (DOGAMI) on the Portland region describes significant casualties, economic losses and disruption in the event of a large magnitude Cascadia subduction zone earthquake.

RDPO
Regional Disaster Preparedness Organization
Unified. Prepared. Resilient.

The Regional Disaster Preparedness Organization (RDPO) is a partnership of government agencies, non-governmental organizations, and private-sector stakeholders in the Portland metropolitan area collaborating to increase the region's resilience to disasters. For more information, visit www.rdpo.net.



While transportation infrastructure is designed to handle a broad range of impacts based on historic climate patterns, more planning and preparation for climate change, earthquakes and other natural disasters and extreme weather events is critical to protecting the integrity of the transportation system and improving resilience for future hazards.

Potential opportunities for future regional collaboration in support of transportation preparedness and resilience include:

- Partner with the RDPO to update the region's designated Emergency Transportation Routes (ETRs) for the five-county area, which were last updated in 2006. These routes are designated to facilitate all-hazards emergency response activities, including those of medical, fire, law enforcement and disaster debris removal in the immediate aftermath of an earthquake or other major event. The project will use data from the DOGAMI study to apply a seismic lens to determine whether the routes have a high likelihood of being damaged or cut-off during an earthquake and determine whether other routes may be better suited to prioritize as ETRs as a result. Some considerations for emergency recovery will also be incorporated into the updated ETR criteria and recommendations for future work. See Chapter 8 (Section 8.2.3.10) for more information.
- Consider climate and other natural hazard-related risks during transportation planning, project development, design and management processes.
- Conduct a vulnerability assessment for the region, documenting climate and other natural hazard-related risks to the region's transportation system and vulnerable populations, and potential investments, strategies and actions that the region can implement to reduce the vulnerability of the existing transportation system and proactively increase the transportation system's resiliency.

- Optimize operations and maintenance practices that can help lessen impacts on transportation from extreme weather events and natural disasters. Examples include more frequent cleaning of storm drains, improved plans for weather emergencies, closures and rerouting, traveler information systems, debris removal, early warning systems, damage repairs and performance monitoring.
- Integrate green infrastructure into the transportation network when practicable to avoid, minimize and mitigate negative environmental impacts of climate change, natural disasters and extreme weather events.
- Protection and avoidance of natural areas and high value natural resource sites, especially the urban tree canopy and other green infrastructure, in slowing growth in carbon emissions from paved streets, parking lots and carbon sequestration and addressing the impacts of climate change and extreme weather events, such as urban heat island effects and increased flooding.
- Avoidance of transportation-related development in hazard areas such as steep slopes and floodplains that provide landscape resiliency and which are also likely to increase in hazard potential as the impacts of climate change increase.

Appendix B: New State clean vehicle and fuel strategies since 2018

Since 2018, the State has adopted new policies and programs to support clean vehicles and fuels in response to Executive Order 20-04.[1] The Every Mile Counts Program and its coordinated STS Multi-Agency Implementation Work Plan are focused on reducing greenhouse gas emissions and implementing the STS.

Recent actions include the formation of climate offices within ODOT and ODEQ and the statewide CFEC rulemaking by the LCDC and the Department of Land Conservation and Development (DLCD). In addition, several Oregon vehicles and fuels legislative actions and Environmental Quality Commission (EQC) rules are expected to be in place by the end of 2022 that will help greatly advance the STS goals to "clean up every mile" and associated air quality impacts:

1. Clean Car Standards Program (ZEV1) (EQC adopted in 2005)
2. Clean Fuels Program (CFP1) (HB2186, 2009)
3. Clean Electricity Standard (HB2021, 2021)
4. Advanced Clean Truck Rules (ACT) (EQC adopted in November 2021)
5. Climate Protection Program (CPP) (EQC adopted in December 2021)
6. Clean Fuels Program Expansion (CFP2) (EQC expected adoption in 2022)
7. Clean Car Standards Program Expansion (ZEV2) (EQC expected to initiate rulemaking mid-2022)

The first three are expected to achieve by 2026 a roughly 10 percent reduction in state GHG emissions. The Climate Protection Program is an overarching policy that will restrict sales of fossil fuel sales in the state across multiple sectors increasingly each year starting in 2022. The latter programs are critical to implementing that policy to ease the transition to a low carbon future for all vehicle groups. Some credit trading is allowed prior to 2030, which makes it hard to predict exact forecasts in the near term. The ZEV programs when fully implemented should roughly conform to the goals set out in SB1044.

[1] https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf

2023 Regional Transportation Plan Update

Climate Smart Strategy Update

Jurisdictional Partner Comments

October 2022

092722 Clackamas County Staff Comments on Climate Smart Strategies

1. **Do you have specific feedback on the assumptions identified in Table 1** of the staff memo:

   Transit Service – Use updated information from TriMet on assumptions on return of service. Document.

   Employer Based Travel Options Programs – why are only 5.5% of workers receiving regular travel options programming? Why would we assume that it is more? How does this change with increased work from home options?

   Household Based Travel Options Programs – The assumptions on this should change because they are dramatically different that they are today. The Climate Smart Plan should be clear on what specific actions / programs are needed to change the "trend" to the "assumption."

   Parking and Pricing Management – No recommended changes to the assumptions.

   Pay As You Drive Insurance – The assumption should be reduced since PAYD insurance is not being used as was envisioned.

   No Comment on **- Gas Prices; Electricity Prices; Commercial Fleet Age; Fleet Electrification; Commercial Fleet Share; Household Fleet Share**

   Household Vehicle Age – Since vehicles are so expensive, it seems that 7 years is too low of a number.

2. **Are there new or updated policies and additional carbon reduction strategies that are not currently included in the Climate Smart Strategy that should be reflected in the updated strategy?**

   Pricing – Can both Roadway Pricing, as being implemented by ODOT and Road User Charge Fee / VMT Fee across the region be "tested" for their impact on reducing VMT?

   Increased Transit Service – How can Climate Smart discuss not just "more transit service" but type and where? What are the actions that need to be taken to get people to use the transit service?

   Expanding Parking Management and Pricing – The assumptions for this do not need to be changed. The CFEC rules that limit mandated parking may create more demand for parking (since there is less available parking), which then will result in a greater need to manage the demand through pricing.

   Plan and Build Multimodal Communities – There is a need to take actions to create jobs closer to where people live so that it will be easier for people to use multimodal options (which are better for shorter trips)

   Take additional action to accelerate the adoption of clean vehicles and fuels – Create a high tax for environmental damage on internal combustion engine vehicles

3. **What issues and policy questions are you interested in exploring as we update our strategy** during this time of change and uncertainty?

   1. Better understanding of how the ODOT Roadway Pricing will reduce VMT verses a VMT Fee/Road User Charge in the Metro area. Build the understanding of the laying of Roadway Pricing and its effectiveness on reducing VMT.

   2. How the Climate Strategy could be influenced by taxes and incentives, instead of voluntary adoption of the strategies. Often the most successful strategies for bringing about real change

are those based on taxes and incentives. Driving and greenhouse gas emissions is currently incentivized in many ways. For example, increasing the cost of greenhouse gas emissions and providing a very large incentive for driving zero or low emitting vehicles.

3. Land use –The current land use pattern is one of the most significant drivers of greenhouse gas emissions because our land use pattern relies upon driving far distances to get to jobs and services and limiting reduces walking and biking because facilities do not exist and the distances may be too far. The CFEC rules to parking minimums are a potential good start.
    a. How can land use codes incentivize high density residential uses within ½ mile of fixed route transit or employment locations? Lower parking standard, higher allowable residential densities?
    b. How can we quantify the benefit of implementing the new CFEC rules, such as the requirement to have capacity for EV charging.
4. Using VisionEval to assess different approaches to GHG reductions sounds like a good idea.
5. How can different vehicle registration fees, such as a very large vehicle registration fee on internal combustion vehicles, and no vehicle registration fee for no emission vehicles, influence the Climate Smart Strategies?
6. Impact of a VMT+EMISSIONS Charge – Assessing a VMT charge for internal combustion engines vehicles for the basis of cost of road improvements/maintenance/enforcement AND a very large greenhouse gas emissions charge. Low emission vehicles could be charged a fee bases on the cost of road improvements/maintenance/enforcement, and receive a large credit for the greenhouse gases that are not emitted.

4. **What opportunities do you see for the region to move forward should our analysis show we need to do more** to meet our VMT per capita reduction targets and climate goals?

While local land use changes to development codes are almost entirely under local control – that is the place to start, there also needs to be a better understanding of how to incentive builder/developers so places are built to their planned densities.

Depending on the outcomes of the analysis, local governments could consider adopting higher vehicle registration fees.

5. **Other comments or suggestions you would like to share?**

While the Climate Smart Strategies are all reasonable actions, Table 1 demonstrates that more needs to be done to achieve the various goals. What tools are needed to achieve effective change before it is too late? Incentives are needed for the implementation of measures that reduce greenhouse gas emissions and disincentives (carbon tax?) for existing approaches that result in production of greenhouse gases.

It would be helpful to know if the changes to the Transportation Planning Rule related the Climate Friendly and Equitable Communities will make an impact on the regions potential of achieving the goals set forth in the Climate Smart Strategies.

PBOT Comments to Kim on 9/12 RTP CSS presentation questions

September 26, 2022

PBOT Comments on Climate Smart Scenario memo from 9/14 TPAC-MTAC Workshop

Overall

We're concerned with the slow pace of Climate Smart Strategy (CSS) work, especially since so much of the work creating a revised Reference Case has already been done and could begin to be validated with TPAC. Failing to share an updated Reference Case undermines our ability to understand the magnitude of the VMT Gap in a timely manner and thus impedes discussion of scenario development reflective of the policies, programs and projects the RTP will need to prioritize to eliminate the gap. We are increasingly concerned that TPAC, MPAC, Metro Council, and JPACT will have inadequate time for the challenging conversations around road and parking pricing, parking reform, and TDM implementation that are likely necessary to close the VMT/capita gap and ensure compliance with 660-44-0020 requirements.

To help us and the other regional partners and their policymakers understand how and when these important issues will be discussed and our ability to iteratively deliberate and decide on key emergent questions and additional evaluation, please share at your earliest possible convenience with TPAC a specific process and schedule for discussion of:

- Assumption changes and a revised Reference Case
- VMT/capita Gap and any other assumptions (e.g., fuel and electricity prices and STS implementation, or lack thereof, especially around fleet transition and state pricing)
- Scenario development
- Scenario results discussion
- Metro's plan to use "best available science" to evaluate induced demand (i.e., what beyond-the-model tools will Metro use to address the induced demand weaknesses in the RTDM?)
- Use of scenario results in project evaluation

Assumptions in Table 1

We do not believe the transit service levels, PAYD insurance, and employee and household travel options participation rates are realistic given trends to date and should be revised to create a new draft Reference Case for TPAC review as soon as possible. Much of the work needed to support revising the assumptions has already been done by Metro staff, as provided the packet produced for the Expert Panel in June.

In addition, gas and electricity price, commercial fleet age, fleet electrification, commercial fleet share, household fleet share, and household vehicle age assumptions should be updated for the 2023 RTP to reflect more realistic number based on the best available data. For example, gas prices assumed by the STS and CSS for 2022 are more than double current gas prices, and the share of light duty passenger vehicles that are SUV's is four times the STS/CSS assumption. Recognizing that the state has some responsibility for updating these assumptions, the region should also be engaging with the state agencies to ensure any updated assumptions are reasonable.

It will also be essential to be updating and strengthening assumptions around the demand management roadway pricing and parking management mechanisms being deployed in the region and reflected in the

PBOT Comments to Kim on 9/12 RTP CSS presentation questions

September 26, 2022

RTP, given what the RCPS and other analyses from around the nation and industry have demonstrated (including our previous work on VisionEval) is likely needed to meet ambitious VMT/capita reduction targets.

We have questions about this language on pdf p. 160 in the September 14 TPAC packet:

> "In support of the 2023 RTP update, Metro staff proposes to use VisionEval to conduct a preliminary analysis of VMT per capita and related GHG reductions under the 2018 RTP (as a next step), and will update TPAC and MTAC on the results at a future meeting, including whether the updated RTP seems likely to meet its VMT per capita and related GHG reduction targets."

We would like to confirm that this is referring to the development of a new Reference Case? The "Climate Smart Proxy" is based on dramatically outdated assumptions; it's critical that Metro share the evaluation based on a Reference Case using updated assumptions for each of the items in Table 1. Otherwise, the results are likely to be misleading. Also, conducting this "preliminary analysis" as soon as possible is highly desirable to give the region a sense of the VMT gap needing to be closed by the RTP to inform our other RTP workplan elements during the remainder of the update.

We also have concerns that VisionEval may not be the right tool to evaluate a project list, given its insensitivity to induced demand and VE's inability to show changes in bicycle and pedestrian mode share outputs. Rather, it is likely better suited for use in framing up key policy and program approaches needed to be applied in conjunction with projects that will be generate a higher utilization of multimodal infrastructure investments and help manage demand for low and no occupancy automobile trips.

New or Updated Policies

The 2023 RTP will need updated policies to reflect CFEC requirements, including a focus on VMT reduction and new parking reforms. Stronger road pricing, parking pricing, parking management, and mixed-use development requirements may be needed to put us on track to achieve targets, especially by 2030 which is when the scientific community is pointing to the need for significant reductions to avoid the most catastrophic outcomes from climate change.

The current language of the climate policies is not outcome oriented. We recommend revising the policies to focus on outcomes rather than process. Please see our comments on page 164 of the 9/14/22 TPAC packet, attached to the email.

Additional Carbon Reduction Strategies

As noted, the primary missing strategy in CSS is pricing, including demand management tolling, a regional and/or local Road User Charge to manage demand in the region above the gas tax replacement RUC, and parking pricing in centers and corridors across the region.

PBOT Comments to Kim on 9/12 RTP CSS presentation questions

September 26, 2022

Several strategies will also need to be significantly expanded. The relatively weak household and employer travel options programs will need to be significantly expanded, with significant financial incentives provided by employers, residential property managers, Metro, and local governments.

For transit service to be more effective, an evaluation of needed transit-supportive strategies is necessary. Investing in additional transit service without additional regional and local transit-supportive actions would likely continue to produce marginal outcomes for transit ridership.

Metro should also evaluate strategies being implemented in California and Colorado to mitigate for VMT increases from adding SOV capacity to highways and arterials. We can't have one part of the boat rowing forward while the other part rows back.

Issues and Policy Questions to Explore

AS we update the climate smart Scenario for the region, it will be important not only to be understanding and addressing how to ensure maximum efficacy of emission reduction strategies is identified and implemented, but also ensuring that we are understanding and addressing the risk of potential VMT and GHG increasing policies, practices and investments that we are continuing to undertake or considering doing. From that perspective, we think the following questions are crucial for the region to also be exploring through this RTP update, and other CFEC implementation efforts:

- How do CSS policies and strategies connect with, and support, the RTFP policies 3.08.220 on Transportation Solutions and 3.08.230 on Performance Targets and Standards and the "significant SOV capacity language?"

- How do CSS policies and strategies connect with, and support, the region's Congestion Management Process? When and how will the Congestion Management Process be updated to reflect VMT reduction requirements?

- How is/will OHP Policy 1.G.1 be operationalized and implemented within the Metro region?

- How will "best available science" tools to evaluate induced demand be implemented in the 2023 RTP in time for the call for projects and scenario evaluation (e.g., a scenario reflecting travel demand needs after implementing VMT reduction strategies sufficient to achieve 660-044 requirements)?

Opportunities to Move Forward

There's a strong correlation between strong Regional Congestion Pricing policies and actions and achieving our climate, mobility, safety, and equity goals and objectives. Ensuring that we are linking the development of regional congestion pricing policy and parking management with the financial and system management assumptions and our performance evaluation relative to priority RTP outcomes is a key opportunity to ensure this key tool is used as effectively as possible.

PBOT Comments to Kim on 9/12 RTP CSS presentation questions

September 26, 2022

Other Comments

In conclusion, timeliness is of the essence in order that scenarios that meet VMT reduction targets are used to inform the Needs Analysis and the Call for Projects. We need to move Climate out of first gear to sync with the other elements of the RTP workflow in a way that will enable the technical analyses and policymaker consideration needed to develop understanding and consensus around the important new moves that the region must take to address the multiple crises and associated opportunities we face.

The analysis of the adopted strategy demonstrated that with an increase in transportation funding for all modes, particularly transit operations, the region can provide more safe and reliable transportation choices, keep our air clean, build healthy and equitable communities and grow our economy while reducing greenhouse gas emissions from light-duty vehicles as directed by the Legislature. It also showed that a lack of investment in needed transportation infrastructure will result in falling short of our greenhouse gas emissions reduction goal and other desired outcomes. The Land Conservation and Development Commission approved the region's strategy in May 2015.

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TriMet comments on Climate Smart Strategy Memo from 9/13/22

- **Do you have specific feedback on the assumptions identified in Table 1** of the staff memo:

- Are the key transportation assumptions underlying the region's Climate Smart Strategy realistic?

  In reviewing the assumptions, and how far off we are from the objectives set, perhaps they are too aspirational vs. actual based on available funding.

  We do support the assumptions regarding service growth in this decade, but are uncertain about whether future assumptions are achievable or too aspirational. TriMet is currently projecting 38% service growth over current levels through 2027 (assuming operator hiring progresses), but have yet to identify funding sources to support 4% growth through 2045. Beyond 2027, our current estimates may cover slight annual increases in service hours (can share more details if needed) to address reliability and capacity issues, but no more major service increases unless additional revenue is committed. There will also be additional costs to factor in to support service growth, including expansion of facilities, new bus garages and the higher costs of zero emission fleet, which need to be accounted for to reflect the true costs of service expansion.

- Should certain assumptions be updated?

  Strategies that reduce VMT and those that are most likely to lead to modeshift are those that will make the most impact in achieving our climate goals.

    - Transit Service growth – see above

    - Parking pricing and availability makes a big impact on mode choice. It is still often cheaper to pay for parking for a family rather than multiple transit passes if families do not already participate in any discounted monthly pass programs. Should the pricing assumption be updated to include more forms of pricing beyond parking?

    - Travel options programming assumptions– it seems that we are quite far off on achieving these assumptions. Is there a way to instead/in addition measure the expansion of fare discount programs rather than just employer-based vs. household-based RTO outreach? It seems as though "received information about RTO programs" is not the best metric to measure whether behavior is actually changing. Perhaps there are ways to track expansion of fare (or other travel option) discount programs and availability of those to higher percentages of the population instead of employer-based program outreach? Employer-based travel options programs are only one of the fare discount programs.

- Are there new or updated policies and additional carbon reduction strategies that are not currently included in Climate Smart Strategy that should be reflected in the updated strategy?

    - Prioritizing transit speed (specifically in-roadway transit priority treatments) and travel time over parking makes an impact in people choosing to ride transit. Could we include and track growth in number of transit priority improvements or transit travel time savings growth?

  - In the long term - urban design to support transit and increased housing and employment density are critical to be able to support transit service growth that will actually lead to increased ridership. Interested in if there is a way to include any assumptions regarding transit-supportive design and land use to ensure that transit has a competitive advantage.

  - Affordable housing along transit and access to opportunity. Is there a way to include increased access to opportunity via transit? Seems like one of the greatest opportunities to regain ridership will be to expand affordable multi-family housing closer to jobs and regional centers, which will reduce travel times and increase availability of high capacity transit to more people.

- **What issues and policy questions are you interested in exploring as we update our strategy** during this time of change and uncertainty?
  - Focus on the best strategies to achieve mode shift to transit and how we double-down on those investments.

- **What opportunities do you see for the region to move forward should our analysis show we need to do more** to meet our VMT per capita reduction targets and climate goals?

  - E-bikes seem to be growing as a car replacement as their price and technology is improving. Is that adequately accounted for in this strategy? It is a small segment compared to transit mode shift but an important piece to reflect.

Washington County comments on TPAC 9/14/2022 Climate Smart Strategy presentation and memo dated 9/7/22

Washington County comments in italic

Do you have specific feedback on the assumptions identified in Table 1 of the staff memo:

- Are the key transportation assumptions underlying the region's Climate Smart Strategy realistic?
- Should certain assumptions be updated?
- Are there new or updated policies and additional carbon reduction strategies that are not currently included in Climate Smart Strategy that should be reflected in the updated strategy?

Yes, the assumptions should be updated.

Transit service funding and projects: *Consider assuming transit service increases with wage growth at least for the share tied to local employer and employee payroll tax revenue. Looking at past trends, consider growth in federal transit revenue as well. Assume HCT expansion per project list in 2023 RTP (hopefully include TV Hwy and SW Corridor, which were not in 2018) and other transit speed and reliability projects if they prove to provide realistic travel time savings. A tougher challenge will be to estimate transit service levels per increased cost/hour.*

Employer-based travel options and household based options*: Revisit this assumption with updated data on the share of employers offering incentives – I do not know where the 5.5% is based for employers or 1% the household-based is based on and evaluate how effective these incentives have been.*

Parking pricing and management*: Consider parking availability and management into this factor. Parking requirements have changed since Climate Smart was initiated. This should be updated data on pricing and availability as part of travel demand model.*

PAYD:- *drop unless more new programs are established (see Road User Charge below)*

Fleet and technology assumptions*: Assume a higher share of EV in the metro area – tied to the higher average income than statewide and greater share of EV purchases.*

What issues and policy questions are you interested in exploring as we update our strategy during this time of change and uncertainty?

Investment, policy and density. *Explore how past investments and policies are supporting increased density and reduced VMT/capita compared to w/out investments and policy. Some of this analysis may be required by CFEC but be open to different methods. Document what tools/incentives are most effective. Support increased density through transportation investments and other subsidies/tax credits for housing, commercial and employment development in centers, corridors, employment areas and equity focus areas. Be open to supporting development in new centers and corridors not previously identified in the original 2040 concept that support higher job and housing growth.*

Washington County comments on TPAC 9/14/2022 Climate Smart Strategy presentation and memo dated 9/7/22

Neighbor counties VMT. *Consider effect of increased VMT in our region due to increased commuting/traffic from adjacent counties and consider effect of improved transit and travel options to meet this small but growing share of the region's VMT.*

What opportunities do you see for the region to move forward should our analysis show we need to do more to meet our VMT per capita reduction targets and climate goals?

EV Charging- *Support increased EV charging and other policies that make it easier to shift to EV use.*

Broaden EV use. *Support schools, transit, trucks to take advantage of new truck and bus fuel reduction incentives at federal level with Inflation Reduction Act and at State level if available.*

Telecommute. *Revise assumptions in travel demand model to assume a higher work from home percentage and related VMT/capita changes. With a greater share of white collar jobs, the Portland region should be above statewide averages which can affect VMT and GHG in the region.*

Pricing/tolling/RUC and cost of driving overall. *Better understand cost elasticity of owning and operating a vehicle to reducing VMT and adjust policies to encourage higher EV use and other travel options.*

Road User Charge. *When implemented by the State, consider increased fees (over gas tax revenue levels) to support needed multimodal transportation investments with GHG benefits.*

Other comments or suggestions you would like to share?

The memo describes the differences and challenges between using the Eval and the results of the Regional Travel Demand Model to estimate GHG. Continue to track work at federal level and elsewhere, that improve tools for consistent GHG analysis across the country to develop a consistent method of assessing effectiveness. Having two different approaches to estimating GHG reductions could be an advantage in being able to estimate ranges of effectiveness or success for now.

Do not try to measure GHG impact on a project by project basis. Projects tend to be multi-factored – added turn lane capacity and sidewalks can improve auto times and make it easier to access transit, walk and bike for example. Look at the Transportation Plan as a whole at the 20-year time, not near term.

Evaluate policy strategies and their effectiveness on reducing GHG. VMT will be come less important of a measure as EV use increases.

Analysis of the effectiveness of the Climate Friendly Equitable Communities requirements would be helpful to help shape how to focus efforts in the Metro area and any revisions from statewide approach.

ODOT Region 1 and Climate Office comments on
9/13/22 TPAC Climate Smart Strategy Materials

Do you have specific feedback on the assumptions identified in Table 1 of the staff memo: Are the key transportation assumptions underlying the region's Climate Smart Strategy realistic? Should certain assumptions be updated?

Are there new or updated policies and additional carbon reduction strategies that are not currently included in Climate Smart Strategy that should be reflected in the updated strategy?

ODOT Climate Office comments on Table 1:

- Several assumptions are based on "Allowed state actions and conditions at time of GHG target rule adoption". This may explain what appears to be $6.75 price, vehicle age, and other assumptions in the CSS (first) column. This should be noted. Some footnotes are missing.
- High levels of transit service is a key CSS assumption to meet the target, trends are pointing away from those assumptions.
- Key local policy actions are missing; transit vehicles & fuels, active transportation.
- One state-led value does not match STS Vision: Commercial Fleet Share 35% are trucks/SUVs and 65% are cars.
- Recommend adding other State-led actions, such as those related to laws on veh/fuels regulations, e.g. HD Trucks vehicle mix, Fuel and Electricity carbon intensities by vehicle group. These actions have made significant progress with the Advance Clean Trucks (ACT) & HB 2021 legislation on electricity carbon intensity.
- Note what year the RTP assumptions are for – 2035? 2040?
- Make sure to use/note correct year dollars for monetary units (looks like 2005$).

ODOT Region 1 Comments:

- The OTC's Strategic Action Plan includes increasing the rate of vehicle fleet electrification. The State is now actively investing to help kick-start that transition.
- The Climate-Friendly Equitable Communities rulemaking will both reduce parking and result in increased housing density in areas with good multi-modal transportation choices.
- HB 2001 provides for more infill housing in previously developed areas where there are more likely to be good transit and multi-modal choices than in green-field development.

What opportunities do you see for the region to move forward should our analysis show we need to do more to meet our VMT per capita reduction targets and climate goals?

The planned 2040 Refresh should provide an avenue with which to investigate land use changes that can be supported with fewer and shorter vehicular trips.

If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we've already crossed paths.

So, hello. We're Metro – nice to meet you.

In a metropolitan area as big as Portland, we can do a lot of things better together. Join us to help the region prepare for a happy, healthy future.

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