Agenda

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

Meeting:	Metro Technical Advisory Committee (MTAC) and Transportation Policy Alternatives Committee (TPAC) Workshop
Date:	Wednesday June 21, 2023
Time:	9:00 a.m. to 12:00 p.m.
Place:	Virtual meeting held via Zoom Connect with Zoom Passcode: 721459 Phone: 888-475-4499 toll free

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9:00 a.m.	**Call meeting to order, introductions, and committee updates**	TPAC Chair Kloster
9:07 a.m.	**Public communications on agenda items**	
9:08 a.m.	**Consideration of MTAC/TPAC workshop summary, April 19, 2023** Edits/corrections sent to Marie Miller marie.miller@oregonmetro.gov	TPAC Chair Kloster
9:10 a.m.	**2023 Regional Transportation Plan (RTP): Updated system performance and climate analysis** Purpose: Discuss additional details from the RTP system and climate analysis that highlight the impact of pricing and transit investments on RTP outcomes.	Eliot Rose, Metro
10:10 a.m.	**2024 Urban Growth Management Decision: housing market Filtering and displacement trends** Purpose: Continue MTAC's engagement in topics that relate to the 2024 urban growth management decision.	Ted Reid, Metro Madeline Baron Justin Sherrill Nick Chun, ECONorthwest
11:10 a.m.	**Construction Career Pathways Overview and Update** Purpose: To provide TPAC and MTAC with a program overview and progress update on the Construction Career Pathways and the Regional Workforce Equity Agreement.	Andre Bealer, Metro
12:00 p.m.	**Adjournment**	TPAC Chair Kloster

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ការគោរពសិទ្ធិពលរដ្ឋរបស់ ។ សំរាប់ព័ត៌មានអំពីកម្មវិធីសិទ្ធិពលរដ្ឋរបស់ Metro ឬដើម្បីទទួលពាក្យបណ្តឹងរើសអើងសូមចូលទស្សនាគេហទំព័រ www.oregonmetro.gov/civilrights។
បើលោកអ្នកត្រូវការអ្នកបកប្រែភាសានៅពេលអង្គប្រជុំសាធារណៈ សូមទូរស័ព្ទមកលេខ 503-797-1700 (ម៉ោង 8 ព្រឹកដល់ម៉ោង 5 ល្ងាច ថ្ងៃធ្វើការ) ប្រាំពីរថ្ងៃ ថ្ងៃធ្វើការ មុនថ្ងៃប្រជុំដើម្បីអាចឲ្យគេសម្រួលតាមសំណើរបស់លោកអ្នក ។

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2023 Metro Technical Advisory Committee (MTAC) Work Program

As of 6/14/2023

NOTE: *Items in* ***italics*** *are tentative;* ***bold*** *denotes required items*

All meetings are scheduled from 9am - noon

	MTAC/TPAC joint workshop, June 21, 2023 Agenda Items • 2023 RTP: Updated system performance and climate analysis (Eliot Rose, Metro; 60 min) • 2024 Urban Growth Management Decision: housing market filtering and displacement trends (Ted Reid, Metro/ Madeline Baron, Justin Sherrill and Nick Chun, ECONorthwest; 60 min) • Construction Career Pathways Overview & Update (Sebrina Owens-Wilson, Andre Bealer, Metro; 45 min)
MTAC meeting, July 19, 2023 Comments from the Chair • Committee member updates around the region (Chair Kehe and all) Agenda Items • 2024 Urban Growth Management Decision: office-to-residential conversion potential (Ted Reid, 45 min) • 2023 RTP update (Kim Ellis, Metro; 45 min)	**MTAC/TPAC joint workshop, August 16, 2023** Agenda Items • 2023 RTP: Begin discussion on public comments on Public Review Draft RTP, Project List and Appendices (Kim Ellis, Metro; 60 min) • 2023 RTP: Draft ordinance and outline of adoption package (Kim Ellis, Metro; 45 min) • TV Highway Transit and Development Project Update (Jessica Zdeb, 45 min) • *Oregon Toll Program Public Transportation Strategy for the Portland and SW Washington Metropolitan Area (Ally Holmqvist, Metro/ TBD, ODOT; 45 min)*
MTAC meeting, September 20, 2023 Comments from the Chair • Committee member updates around the region (Chair Kehe and all) Agenda Items • Draft regional buildable land inventory (Ted Reid, Metro; 60 min) • 2023 RTP: Draft Public Comment Report and Recommended Changes (Kim Ellis, Metro; 90 min)	**MTAC meeting, October 18, 2023** Comments from the Chair • Committee member updates around the region (Chair Kehe and all) Agenda Items • Draft regional buildable land inventory (continued) (Ted Reid, Metro; 45 min) • **23-XXXX - 2023 RTP** Recommendation to MPAC (Kim Ellis, Metro; 90 min)
MTAC meeting, November 15, 2023 Comments from the Chair • Committee member updates around the region (Chair Kehe and all) Agenda Items • UGB discussion topic: Town & regional centers and CFEC (Update to Title 6) (Ted Reid, Metro; 60 min)	**MTAC meeting, December 20, 2023** Comments from the Chair • Committee member updates around the region (Chair Kehe and all) Agenda Items • State of the Centers update (Ted Reid, Metro; 60 min)

Parking Lot/Bike Rack: Future Topics (These may be scheduled at either MTAC meetings or combined MTAC/TPAC workshops)

- Status report on equity goals for land use and transportation planning
- Regional city reports on community engagement work/grants
- Regional development changes reporting on employment/economic and housing as it relates to growth management
- Update report on Travel Behavior Survey
- Updates on grant funded projects such as Metro's 2040 grants and DLCD/ODOT's TGM grants. Recipients of grants.
- Transit-Oriented Development (TOD) annual report/project profiles report
- Reports from regional service providers affecting land use and transportation, future plans
- Employment & industrial lands
- 2040 grants highlights update

For MTAC agenda and schedule information, e-mail marie.miller@oregonmetro.gov
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2023 TPAC Work Program

As of 6/14/2023

NOTE: *Items in* ***italics*** *are tentative;* ***bold*** *denotes required items*

All meetings are scheduled from 9am - noon

	MTAC/TPAC joint workshop, June 21, 2023 **Agenda Items:** • 2013 RTP: Updated system performance and climate analysis (Eliot Rose, Metro, 60 min.) • 2024 Urban Growth Management Decision: housing market filtering and displacement trends (Ted Reid, Metro/ Madeline Baron, Justin Sherrill & Nick Chun, ECONorthwest; 60 min.) • Construction Career Pathways Overview and Update (Sebrina Owens-Wilson & Andre Bealer, Metro, 45 min.)
TPAC meeting, July 7, 2023 Comments from the Chair: • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) • 2023 RTP: Public Review Draft RTP (Kim Ellis) **Agenda Items:** • **2024-2027 MTIP – Adoption Draft** Recommendation to JPACT (Cho, 45 min) • 2027-30 STIP Revenue Forecast and Allocation to ODOT funding programs (Chris Ford/ODOT staff, 30 min) • 2023 RTP: Draft Chapter 8 (Implementation) (Kim Ellis, John Mermin, 45 min) • 82nd Avenue Transit Project Update (Elizabeth Mros-O'Hara/ TriMet TBD; 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, July 12, 2023** **Agenda Items:** • Freight Commodity Study: Draft Finding (Tim Collins, Metro, 30 min) • Regional Mobility Policy incorporation into the 2023 RTP (Kim Ellis, Metro, 60 minutes) • Draft Transportation System Management & Operations (TSMO) Key Corridors (Caleb Winter, 45 minutes) • 2027-30 STIP overview – development and funding allocation (Chris Ford, ODOT; 30 min)

TPAC meeting, August 4, 2023

Confirmation on meeting TBD – May be cancelled.

Comments from the Chair:

- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)

Agenda Items:

- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

MTAC/TPAC joint workshop, August 16, 2023

Agenda Items:

- 2023 RTP: Begin discussion of public comments on Public Review Draft RTP, Project List and Appendices (Kim Ellis, 60 min)
- 2023 RTP: Draft Ordinance and Outline of Adoption Package (Kim Ellis, 45 min)
- TV Highway Transit and Development Project Update (Jessica Zdeb, 45 min)
- *Oregon Toll Program Public Transportation Strategy for the Portland and SW Washington Metropolitan Area (Ally Holmqvist, Metro/ TBD, ODOT; 45 min)*

TPAC meeting, September 1, 2023

Comments from the Chair:

- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)

Agenda Items:

- **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min)
- Better Bus Call for Projects (Alex Oreschak, Metro/ Cara Belcher, TriMet; 30 min)
- Westside Multimodal Improvements Study (Kate Hawkins, Metro/ Stephanie Millar, ODOT; 45 min)
- *Great Streets Program updates: Final project list (Chris Ford, ODOT; 30 min)*
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

TPAC workshop, September 13, 2023

Agenda Items:

- 2023 RTP: Draft Public Comment Report and Recommended Changes in Response to Public Comment (Kim Ellis, 90 min)

TPAC meeting, October 6, 2023

Comments from the Chair:

- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)

Agenda Items:

- **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min)
- Ordinance 23-XXXX 2023 RTP: Adoption Package, Draft Public Comment Report and Recommended Changes in Response to Public Comment (Kim Ellis, 90 min)
- Freight Delay Study Report Update (Tim Collins; 45 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

TPAC meeting, November 3, 2023 Comments from the Chair: • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • **Ordinance 23-XXXX on 2023 RTP, Projects and Appendices** Recommendation to JPACT (Kim Ellis, 90 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**TPAC workshop, November 8, 2023** **Agenda Items:** • Regional Transportation Safety Performance Report (Lake McTighe, 30 min) • 2027-30 STIP – options being discussed at OTC (Chris Ford, ODOT; 30 min)

TPAC meeting, December 1, 2023 Comments from the Chair: • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) **Agenda Items:** • **MTIP Formal Amendment 23-XXXX** Recommendation to JPACT (Lobeck, 10 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	

Parking Lot: Future Topics/Periodic Updates

- Columbia Connects Project
- 82nd Avenue Transit Project update (Elizabeth Mros-O'Hara & TBD, City of Portland)
- Best Practices and Data to Support Natural Resources Protection
- TV Highway Corridor plan updates
- High Speed Rails updates (Ally Holmqvist)
- MTIP Formal Amendment I-5 Rose Quarter discussion (Ken Lobeck)
- I-5 Rose Quarter Project Briefing (Megan Channell, ODOT)
- I-5 Interstate Bridge Replacement program update
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- RTO Updates (Dan Kaempff)

Agenda and schedule information E-mail: marie.miller@oregonmetro.gov or call 503-797-1766.
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Meeting minutes

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

Meeting: **Metro Technical Advisory Committee (MTAC) and Transportation Policy Alternatives Committee (TPAC) workshop meeting**

Date/time: Wednesday, April 19, 2023 | 9:00 a.m. to noon

Place: Virtual conference meeting held via Zoom

Members, Alternates Attending	Affiliate
Tom Kloster, Chair, TPAC	Metro
Eryn Kehe, Chair, MTAC	Metro
Karen Buehrig	Clackamas County
Jamie Stasny	Clackamas County
Steve Williams	Clackamas County
Allison Boyd	Multnomah County
Sarah Paulus	Multnomah County
Jessica Pelz	Washington County
Dyami Valentine	Washington County
Lynda David	SW Washington Regional Transportation Council
Eric Hesse	City of Portland
Jaimie Lorenzini	City of Happy Valley and Cities of Clackamas County
Jay Higgins	City of Gresham and Cities of Multnomah County
Mike McCarthy	City of Tualatin and Cities of Washington County
Tara O'Brien	TriMet
Chris Ford	Oregon Department of Transportation
Glen Bolen	Oregon Department of Transportation
Laurie Lebowsky-Young	Washington State Department of Transportation
Lewis Lem	Port of Portland
Bill Beamer	TPAC Community Member at Large
Sarah Iannarone	The Street Trust
Indigo Namkoong	Verde
Katherine Kelly	City of Vancouver
Carol Chesarek	Multnomah County Representative, MTAC
Tom Armstrong	Largest City in the Region: Portland
Erik Olson	Largest City in Clackamas County: Lake Oswego
Colin Cooper	Largest City in Washington County: Hillsboro
Aquilla Hurd-Ravich	Second Largest City in Clackamas County: Oregon City
Jessica Engelmann	Second Largest City in Washington County: Beaverton
Laura Terway	Clackamas County: Other Cities, City of Happy Valley
Gary Albrecht	Clark County
Neelam Dorman	Oregon Department of Transportation
Kelly Reid	OR Department of Land Conservation & Development
Manuel Contreas, Jr.	Clackamas Water Environment Services
Cindy Detchon	North Clackamas School District
Nina Carlson	NW Natural
Tom Bouillion	Port of Portland
Fiona Lyon	TriMet
Jerry Johnson	Johnson Economics, LLC
Brett Morgan	1000 Friends of Oregon
Sarah Radcliffe	Habitat for Humanity Portland Region

Members, Alternates Attending	Affiliate
Nora Apter	Oregon Environmental Council
Aaron Golub	Portland State University
Rachel Loftin	Community Partners for Affordable Housing
Preston Korst	Home Builders Association of Metropolitan Portland
Erik Cole	Revitalize Portland Coalition, Schnitzer Properties
Mike O'Brien	Green Infrastructure, Mayer/Reed, Inc.
Craig Sheahan	David Evans & Associates, Inc.

Guests Attending	Affiliate
Barbara Fryer	City of Cornelius
Bryan Graveline	Portland Bureau of Transportation
Cassera Phipps	Clean Water Services
Chris Deffebach	Washington County
Chris Faulkner	Clean Water Services
Dave Roth	City of Tigard
Francesca Jones	Portland Bureau of Transportation
Katie Dunham	North Clackamas Parks & Recreation District
Katie Selin	Alta Planning & Design
Max Nonnamaker	Multnomah County
Melanie Moon	Tualatin Hills Parks & Recreation District
Schuyler Warren	City of Tigard
Vanessa Vissar	Oregon Department of Transportation
Will Farley	City of Lake Oswego

Metro Staff Attending
Alex Oreschak, Ally Holmqvist, Caleb Winter, Daniel Audelo, Eliot Rose, Grace Stainback, John Mermin, Kim Ellis, Lake McTighe, Marie Miller, Matthew Hampton, Molly Cooney-Mesker, Ted Leybold, Tim Collins

Call meeting to order, introductions and committee updates (Tom Kloster, TPAC Chair)
Tom Kloster, TPAC Chair, called the workshop meeting to order at 9:00 a.m. Introductions were made. The meeting format held in Zoom with chat area for shared links and comments, screen name editing, mute/unmute, and hands raised for being called on for questions/comments were among the logistics reviewed.

Committee Updates

- Chris Ford announced a job opening at ODOT Region 1 for a Senior Planner for major projects. Applications are open until April 24. Contact Mr. Ford for further information.
- Laurie Lebowsky-Young announced a job opening at SW Washington Department of Transportation to be posted soon. This position is Engineer III in development review work.
- Eliot Rose noted the Climate and Emission Reduction Grants from EPA toward planning grants to Metro areas and states, to help identify implementation to reducing greenhouse gas emissions. Mr. Rose will be following up to those that submitted applications through Metro for possible requests for more information and letters of support. The link on the grant program was shared: https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants

Public Communications on Agenda Items – none provided

Consideration of MTAC/TPAC workshop summary of February 15, 2023 – No edits or corrections were submitted; summary of February 15, 2023 workshop approved as written.

2023 Regional Transportation Plan: Draft Chapter 3 (Policy) – Continue Discussion (Kim Ellis, Metro) The revised working draft policy chapter was shared. Staff asked for further discussion on recommended draft policies before TPAC recommends to JPACT at their June 2 meeting on release of the draft 2023 RTP for public review, including Chapter 3. Revisions to draft Chapter 3 systems policies included pricing policy revisions, motor vehicle policy revisions, and mobility policy revisions. Additional comments may be submitted to Metro staff to May 3.

Comments from the committee:

- Laurie Lebowsky-Young noted changes is this version regarding auxiliary lanes language including adding or extending an auxiliary lane of more than one-half mile. It was asked if we are doing analysis to see if we're adding capacity. Ms. Ellis noted recent auxiliary lanes added and extended that go beyond the purpose of lanes between interchanges. Policies are intended to call out how they operate independently in the system. If they are not operating as such, we need to evaluate their capacity on the system.

  It was asked when looking at urban areas where interchanges are located on/off the system, how do you ensure that where many interchanges are that may extend past the ½ mile. Ms. Ellis noted we need to be intentional about how this operates and work to get to planned capacity. It doesn't change any of the projects planned in the RTP but we will need to pay attention moving forward on future impacts.

  CFEC language shared in chat: "The following types of proposed facilities must be reviewed as provided in this rule... New or extended auxiliary lanes with a total length of one-half mile or more. Auxiliary lane means the portion of the roadway adjoining the traveled way for speed change, turning, weaving, truck climbing, maneuvering of entering and leaving traffic, and other purposes supplementary to through-traffic movement."

  Further shared in chat: From Chris Ford, ODOT, also in 0830... (b) Notwithstanding any provision in subsection (a), the following proposed facilities need not be reviewed or authorized as provided in this rule:

  (A) Changes expected to have a capital cost of less than $5 million;

  (B) Changes that reallocate or dedicate right of way to provide more space for pedestrian, bicycle, transit, or high-occupancy vehicle facilities;

  (C) Facilities with no more than one general purpose travel lane in each direction, with or without one turn lane;

  (D) Changes to intersections that do not increase the number of lanes, including implementation of a roundabout;

  (E) Access management, including the addition or extension of medians;

  (F) Modifications necessary to address safety needs; or

  (G) Operational changes, including changes to signals, signage, striping, surfacing, or intelligent transportation systems.

  (c) To retain a proposed facility that is included in an existing acknowledged plan adopted as provided in OAR 660-012--0015, a city or county shall review that facility under this rule at the time of a major update to its transportation system plan.

Kelly Reid, DLCD added the amendment that LCDC is considering tomorrow would exempt some capacity-increasing projects from the additional review - namely, projects that are further along in design/development and projects included in voter-approved bonds.

Ms. Lebowsky-Young asked in terms of the projects already in the RTP would this new policy apply. Ms. Ellis noted it would not apply to projects in the 2018 RTP already programmed. New projects brought forward would need to look at the context of the policy and apply those policies in subsequent plans. Asked about concern to this new policy added just 5 days ago, it was asked if enough time for people to comment was given. Ms. Ellis noted there will be a 45-day comment period this summer and the committee will review again before recommending to JPACT with revisions proposed and discussed.

- Karen Buehrig appreciated the conversation where and when these polices are applied. If auxiliary lanes fell into this category and was going into the MTIP, would policies applied to projects being brought into the MTIP that were not initially in the RTP, such as auxiliary lanes? Ms. Ellis noted for a project to be in the MTIP it needs to be in the RTP. Amendments can be made to the RTP for further projects if needed.

  Ms. Buehrig noted that regarding the mobility policy there was interest in learning from the analysis Metro was doing on projects and if any changes or adjustments should be made to the mobility policy. Are we discussing this now or have a planned separate discussion around the implementations of this in the RTP. Ms. Ellis noted we don't have the system results yet and are still working on the modeling work. The state and Metro are working on VMT per capita analysis. Time is needed to study both works. It is expected to have information to share later this summer.

- Eric Hesse noted that in terms of project management process areas to look at for changes could be in policy 3.4 or chapter 8 of the RTP. More clarification around what's new and rules that apply could be worked in. Pricing policies around parking were noted as good solutions. It was asked why pricing policy language was not included in policy 9? Ms. Ellis noted this was intentional based on discussions at the last meeting. There are still questions on where parking pricing would apply. Interest in including parking pricing can be reconsidered with language placed back in.

  Mr. Hesse noted the importance of the pricing study that led to these policies and the framework that was developed. It was asked why language on pricing policy 1 investments was removed. Ms. Ellis noted the focus was defining the outcomes rather than deciding the "how". Clarifications were asked on the changes in the transit policies. Ally Holmqvist noted the High Capacity Transit workgroup was meeting later today for further discussions. Track changes in the draft were in response to comments received on transit policies. Specific language changes were described.
- Mike McCarthy shared a perspective with data on from the last 10 years that showed how increased serious crashes between cyclists, pedestrians and vehicles lead to policies that aimed to make biking and walking safer while balancing travel mode systems that made driving less attractive and using transit. Recently the bike share mode has dropped from 7.2% to 2.7% with crash rates significantly increasing and discouragement to come to the downtown area, which

hurts for a vital regional center. It was questioned policy wise if more costly and capacity restrictive policies on our system was recommended.

- Jessica Pelz appreciated Metro taking comments and including them in the draft. Questions were raised on implementing the mobility policy section. It was noted it says system planning also includes concept plans for designated and urban reserve areas, which Washington County does a lot of. The Urban System Functional Plan does not clearly state what the network system needs to have and getting an adequate collector network to work in these urban reserve areas while planning at the concept level and carrying that forward to the community plan is challenging. It was asked how implementation of greenfield areas on the edge of planning with high density and mass transit is planned in ways that reduce VMT in these policies. Is analysis being planned on density in the UGB areas?

  Ms. Ellis noted the regional functional plan aligned with the RTP and state functional plan for urban planning. Before the concept plan is completed the transit infrastructure and system management plan need to be understood and analyzed how it is expected to perform. The evaluation process will be done by local governments and Metro. Ms. Pelz noted the community plan is treated more as a vision in going forward with all the networks. Planning and modeling is more challenging when looking at the collector networks individually or as whole. Ms. Ellis noted these should be adopted into a TSD.

  It was asked how the implementation of quasi-judicial amendments work in practice where the small-scale amendments need to demonstrate where the proportion impacts conditions. There is concern on issues of proportionality and how we make conditions meet requirements. It was noted that local governments have adopted plans based on system completeness.

- Chris Ford appreciated the staff work on chapter 3. Big changes were noted. The policy on auxiliary lanes was still being reviewed, with ODOT following up with a letter. An earlier letter sent by ODOT was in the packet related to the mobility policy. Reponses from staff was appreciated. ODOT likes some of the pricing policy adjustments but remains concerned over policy action that provides JPACT directing agencies how to spend revenues. It was noted the RTP should be consistent on regional and state goals with language and tone adjustments.

  In terms of the resilience policies, concern with policy 6 on VMT per capita should be consistent with policy 1 so no confusion is given with gas emission reduction targets. The emergency transportation routes are good but should be placed in a different location other than climate or resiliency. In terms of the motor vehicle network, it was appreciated Metro storing the planned system language and providing clarity what the planned system means. It was agreed arterial and freeway policies are different and noted as such. In the glossary, the term capacity should either be cited in the RTP or defined with all other language pertaining to this.
- Karen Buehrig looked forward to further discussions at the May 10 TPAC workshop. It was noted the 3-27 map (Regional Transit Map) was hard to read. It was suggested to take out employment and industrial areas in the central cities area. It's also hard to distinguish HCT on this map which could be shown on a separate map. Transit can be fluid between current time and what TriMet's Forward Together is planning. It was anticipated more discussion would be help on the HCT map and HCT policies at the workshop.

- Laurie Lebowsky-Young agreed with the opportunity to provide more context on the auxiliary lane policies. Interest in learning how this interacts between states with individual transportation plans relating to auxiliary lanes.

2023 Regional Transportation Plan: Project list summaries and draft high-level assessment results
(Eliot Rose, Metro) Information was presented on summarizing the 2023 RTP project list, as well as draft results from the high-level assessment of how projects advance regional goals and from the system analysis of the RTP. Over the next several months, Metro staff will be sharing three different types of information that can help to understand the plan's investments and impacts:
• RTP **project list summaries**, which include aggregate information such as the distribution of projects across different types of investments and different cost categories. These summaries provide information on the spending profile of the RTP as well as context to help understand the two other types of information discussed below.
• The **high-level assessment**, which takes a simple, yes-or-no approach to reviewing whether individual RTP projects have certain features that support RTP goals, and on the share of the RTP budget devoted to different types of projects.
• The **system analysis**, which is a quantitative evaluation of how the RTP performs with respect to specific performance measures and targets that reflect RTP goals and policies.

The project list uses the following characteristics to understand the RTP's investment profile and priorities: by investment scenario, by investment category, and by cost category. The high-level assessment includes ten measures – two for each of the five RTP goal areas (Equity, Climate, Safety, Mobility, and Economy). Each measure asks a simple yes-or-no question that can be answered using maps and analyses from the RTP and the information that lead agencies submit through the RTP call for projects. Metro staff applied the assessment to each of the capital projects and programmatic investments in the RTP to create the draft results.

The draft system analysis results cover system completeness and safety performance measures. Findings include:
• The motor vehicle network is significantly more complete than other modal networks.
• In many parts of the region that the RTP prioritizes for investment – including 2040 centers and mixed-use areas, equity focus areas, and near transit stations – active transportation networks are currently more complete than they are in the region as a whole.
• The RTP completes the bike and pedestrian network along arterials slightly more quickly than in the rest of the region.
• The RTP does not appear to prioritize pedestrian and bicycle investments in equity focus areas, near transit, nor in most areas prioritized for employment growth.
• The region is not on track to meet its Vision Zero safety targets.
• Though bicycle and pedestrian infrastructure is more complete in equity focus areas (EFAs) than in other communities, a higher percent of crashes are still occurring in EFAs.

Note: Chair Kloster left the meeting. The Chair position was then filled by MTAC Chair Eryn Kehe.
Comments from the committee:

- Nina Carlson asked how regional diversity engagement was done and what the criteria was. Molly Cooney-Mesker noted that the survey is being promoted region-wide. We are monitoring participation and increasing promotion in geographic areas with lower participation. In terms of recent and upcoming engagement, we are working with seven community based

organizations who are engaging under-represented communities across the region. We worked with community engagement liaisons to hold language-specific forums last week. We held a community leaders forum and there is an upcoming business leader forum in May, both of which are reaching leaders across the three counties. There will also be an online comment survey during the public comment period this summer, that we will also share region-wide. In the next couple weeks, we will start sharing out the input from recent engagement. Interest was noted in the geographic representation of where outreach is done, and where folks that participated reside. Asked if stipends were offered for participation, this was confirmed.

Ms. Carlson asked, on the roads and bridges, what portion was increased capacity, what is improvement, and does BRT or bus on shoulder improvements come under transit or under R and B. Lake McTighe noted BRT projects are identified as BRT in the project title, and as Transit Capital in the investment category. We can also report back on what percentage of road and bridge projects increase capacity, as we did collect project information on that. Additionally, in the project list there is a question "Project adds a vehicle lane of any type" that identifies projects that add capacity. There do not appear to be any bus on shoulder projects in the draft RTP project list.

- Eric Hesse noted the results with equity and climate categories in thinking how the cost element plays out, especially focused on the cost expenditures when given the different project mix. It was suggested to consider evaluating costs vs number of projects when planning investments. It was noted the challenges with large projects to measure climate and equity (IBR as an example). Also challenging related to climate and equity focus areas with transit service.

  Mr. Rose noted the reason transit service is placed under Roads & Bridges is that usually service is operating a route we already want to have in place. It's not changing the location of service or amount of service, but what impacts the RTP goals. The RTP invests a higher share of long-term resources in equity focus areas and projects on the high injury network. This could represent opportunities to prioritize equity and safety in near-term investments.

  Mr. Hesse noted just to underscore the transit service piece, looks like it constitutes 58% of the $48B of O&M expenditure, which is $27.8B of investment -- more than all of the capital spending in the plan combined ($25.3B), so feels pretty significant to figure out how to relate to our outcomes.

- Karen Buehrig noted the difficulty to describe transit service. It was important to note that transit service and continued transit service within operations are supporting different communities and different equity areas and helping us achieve our goals. The operation side to transit continues transit service. It was acknowledged on the focus of regional analysis to understand what is happening in each county but suggested to add "and its jurisdictions". Some jurisdictions do not have equity areas that report on achieving equity goals which here are regionally defined. Others are addressing investment needs of local communities which could be a limited way of addressing equity in funding projects. It was asked if anticipated the committee will provide a directive on recommendations with projects. Ms. Ellis noted it won't be a directive but continued conversation to gain input and ideas on meeting goals and development of the RTP, which adds more insight into the plan for JPACT and Metro Council.

- Jaimie Lorenzini noted changing the project levels with different project elements and designs may require more Metro help of support to local jurisdictions. Under the high-level assessment draft findings, it was noted the RTP invests a higher share of long-term resources in equity focus areas on projects on the high injury network. This could represent opportunities to prioritize equity and safety in near term investments. It was asked if it could be cross walked between long term vs near term investments. By implementations, how do you see the RTP prioritizing those certain types of investments in the application?

  Mr. Rose noted that 60% of long term goes to projects on the high injury network and 40% goes to projects in the near-term investments on the high injury network. Both are shares of the budget and are ways the RTP can prioritize them. Lake McTighe added I would like to clarify, that just because a project is on the High Injury Corridors, it does not necessarily mean the project is a safety project. For safety projects, I would also like to clarify that a high-level review of the projects revealed that some nominating agencies identified some projects as safety projects that did not meet the definition included in the project solicitation guide. Metro does not have capacity to assess each project, so expanded the definition to include projects that "provide some other benefit to safety."
- Dyami Valentine cautioned to think about when putting in these projects some of these are very conceptual and different from the designed standpoint with level of detail that describe outcomes and projected benefits. Caution should be noted on categorizing with differentiations between percentages. Appreciation to understand further opportunities to amend our project lists to move forward from these project levels. Mr. Rose noted there were some refinements requested from the 2018 RTP based on similar results in safety. It was recommended to capture the outcomes and benefits projected. Changes in descriptions are the most common changes being made.

2024-27 State Transportation Improvement Program (STIP) Region 1: 100% project lists and public comment (Chris Ford, Oregon Department of Transportation) Mr. Ford began the presentation with an overview of what the STIP was, the three phases of STIP Development, and investments in the '24-'27 STIP:

• More than $3 billion in total state and federal resources
• Significant infusions from both HB 2017 and federal infrastructure bill
• Major investment of federal and state funding in bridges
• Significant increase in funding for public and active transportation
• Increased funding for safety
• Greater investments in local government programs
• Investment in ADA curb ramps

The 2024 – 2027 STIP Program Funding Categories include:
FIX-IT (35%) Projects that preserve or fix the state highway system– bridges, pavement, culverts, etc.
SAFETY (6%) Projects focused on reducing fatal and serious injury crashes on Oregon's roads
ENHANCE HIGHWAY (7%) Highway projects that expand or enhance the state highway system
PUBLIC AND ACTIVE TRANSPORTATION (11%) Bicycle, pedestrian, public transportation and transportation options projects & programs
LOCAL GOVERNMENT PROGRAMS (19%) Funding to cities, counties, and others for priority projects
ADA CURB RAMPS (11%) Construction of curb ramps to make sidewalks accessible for people experiencing a disability

OTHER FUNCTIONS (11%) Workforce development, planning, data collection and other programs using federal money

Region 1 Draft 100% List As of February 2023

Category	Amount
ADA	$164.4 m
Bridge	$311.3 m
ARTS	$41.7 m
Ped Bike	$27.5 m
Preservation	$22.1 m
Operations	$25.8 m
Enhance	$15.9 m
Various other	$21.5 m
Total	$630 million

It was noted a *new* Construction Reserve approach was planned for cost escalation pressures that have made it more challenging to accurately estimate construction costs, to help address, some funding categories are using a pooled reserve for construction funds, and ODOT will be able to better distribute construction funds after preliminary engineering, and closer to bid. Details were provided of projects by category. Mr. Ford encouraged questions and input on any of the STIP information with his contact information provided.

Adjournment (Eryn Kehe, MTAC Chair)
There being no further business, workshop meeting was adjourned by MTAC Chair Kehe at 11:58 a.m.
Respectfully submitted,
Marie Miller, MTAC and TPAC Recorder

Attachments to the Public Record, MTAC and TPAC workshop meeting, April 19, 2023

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	4/19/2023	4/19/2023 MTAC and TPAC workshop meeting agenda	041923M-01
2	Work Program	4/12/2023	MTAC work program as of 4/12/2023	041923M-02
3	Work Program	4/12/2023	TPAC work program as of 4/12/2023	041923M-03
4	Draft Minutes	2/15/2023	Draft minutes from February 15, 2023 MTAC TPAC workshop	041923M-04
5	Memo	April 11, 2023	TO: MTAC, TPAC and interested parties From: Kim Ellis, AICP, RTP Project Manager RE: 2023 Regional Transportation Plan – Revised Draft Chapter 3 (System Policies)	041923M-05
6	Attachment 1	4/11/2023	DRAFT: Chapter 3 System Policies to Achieve Our Vision 2023 Regional Transportation Plan	041923M-06
7	Attachment 2	N/A	2023 RTP Glossary of Terms	041923M-07
8	Attachment 3	4/7/2023	Comparison of Revenue and Rate Setting Policies: 2023 RTP Update Draft Pricing Policies and OHP Policy 6	041923M-08
9	Attachment 4	N/A	TPAC/MTAC comments on March Draft of 2023 RTP Ch. 3	041923M-09
10	Attachment 5	March 30, 2023	Project Timeline and Schedule of Engagement and Metro Council and Regional Advisory Committees' Discussions and Actions for 2023	041923M-10
11	ODOT Letter to TPAC	N/A	TO: TPAC From: Chris Ford, ODOT RE: Letter to TPAC regarding the RTP	041923M-11
12	Memo	April 19, 2023	TO: TPAC and interested parties From: Eliot Rose, Senior Transportation Planner RE: Draft 2023 RTP project list summaries, high-level assessment results, and system analysis results	041923M-12
13	Appendix A	4/5/2023	Graphic project list and high-level assessment summaries	041923M-13
14	Appendix B	4/19/2023	Subregional results	041923M-14
15	Appendix C	4/19/2023	High-level assessment methodology	041923M-15
16	Presentation	4/19/2023	Draft 2024-2027 STIP Update	041923M-16
17	Presentation	4/19/2023	2023 Regional Transportation Plan Revised Draft Chapter 3 – System Policies	041923M-17

Item	Document Type	Document Date	Document Description	Document No.
18	Presentation	4/19/2023	2023 draft RTP project summaries and high-level assessment results	041923M-18

Memo

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

Date: June 21, 2023

To: Transportation Policy Alternatives Committee (TPAC), Metro Technical Advisory Committee (MTAC), and interested parties

From: Eliot Rose, Senior Transportation Planner

Subject: 2023 RTP update: Transit and tolling impacts on RTP performance and updated climate analysis

Purpose

As Metro and its agency partners update the Regional Transportation Plan (RTP), much of the conversation has focused on two issues now facing the region that were not accounted for in previous RTP updates:

- **The transit system is facing significant challenges**, including recovering from severe service and ridership declines due to the COVID-19 pandemic, ongoing challenges hiring drivers, concerns about riders' and drivers' safety, and inflationary increases in the cost of new infrastructure and service. The RTP relies on a thriving transit system to achieve the five regional goals of mobility, safety, equity, economy, and climate. Some stakeholders have questioned whether it is realistic to continue to rely on transit to deliver on these benefits in light of the challenges that the system is facing.
- **This will be the first RTP to include significant road pricing**. Previous work by Metro shows that pricing can be very effective at advancing the region's mobility, climate and equity goals – as long as pricing programs are carefully designed to maximize these outcomes.[1] Stakeholders want to know how the pricing that is proposed for the RTP impacts the region's goals, and also how the benefits of pricing compare to potential impacts such as diversion onto unpriced roads.

These issues have impacts on all five regional goals, but they are particularly visible in the RTP climate analysis, which considers how transit and pricing work together to help meet the region's greenhouse gas reduction targets using tools that make it easy to estimate how different combinations of transit and pricing impact emissions, and is allowed to assume additional pricing mechanisms that are not captured in the RTP.

This memorandum is intended to help stakeholders understand how transit and pricing influence the outcomes of the RTP, particularly with respect to climate. It consists of three sections. The first two are devoted to transit and pricing. Each section describes the amount and/or type of transit service or pricing included in the RTP, discusses how the available information shapes the RTP's approach to analyzing the impacts of these changes, and describes how transit or pricing contribute to the results of the draft RTP system analysis that Metro staff presented to TPAC in May. The final section provides updated information about the climate analysis Metro staff also presented to TPAC in May. Since May, Metro staff and the consultant explored scenarios that meet the region's climate targets through a combination of increased transit service and changes to how use of the transportation system is priced.

[1] https://www.oregonmetro.gov/regional-congestion-pricing-study

Transit impacts on RTP performance

Transit projects in the 2023 RTP

The 2023 RTP includes significant investments in transit – overall, **transit revenue hours increase by 38% between 2020 and 2045**. This is less than the overall planned growth in transit service that was anticipated under the last RTP update in 2018 (60% between 2015 and 2040). However, the region has continued to make progress in building out the transit network, such that **the number of transit revenue hours that the 2023 RTP forecasts for 2045 is similar to the number that the 2018 RTP forecast for 2040** (10,192 vs. 10,272 hours). In other words, **the region is roughly five years behind on delivering the transit network that was envisioned in the prior RTP**. This is a setback given that strong transit service is central to achieving all five RTP goals. However, in light of the challenges that the transit has system faced recently, it could be considered a success that the 2023 RTP adds new transit service at the rate that it does.

The nature of transit service, and not just the overall amount of that service, has also changed since the region last updated the RTP. This is because the 2023 RTP takes into account how transit agencies are responding to the pandemic, including TriMet's Forward Together service concept, which increases service in equity focus areas and focuses more on providing good service throughout the day and less on providing frequent transit during peak hours compared to previous plans.

Figure 1, Figure 2, and Figure 3 show how the RTP transit network evolves over time by presenting side-by-side maps of the 2020, 2030 and 2045 networks. The investments in these maps include several key regional transit projects. The 2030 network includes the service changes made under Forward Together, new high-capacity transit lines along TV Highway, 82nd Avenue, and the Montgomery Park streetcar line, Better Red and Division FX frequent bus service, and Better Bus improvements throughout the region that help buses move more quickly through traffic. The 2045 network includes light rail on the I-5 Interstate Bridge and along Southwest Corridor; concentrated Better Bus investments in key corridors including Lombard, Cesar Chavez and SW 185th; and Tier 2 high-capacity transit projects.

Figure 1: Draft 2020 RTP transit network

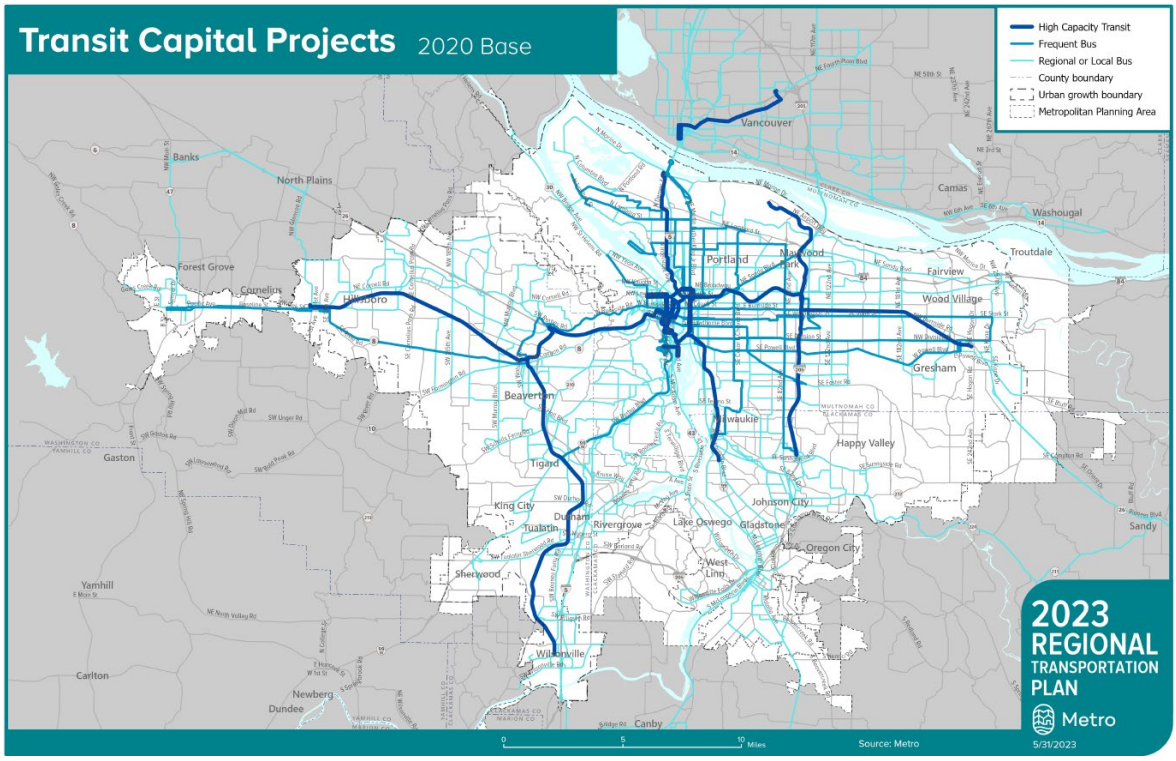


Figure 2: Draft 2030 Constrained transit network

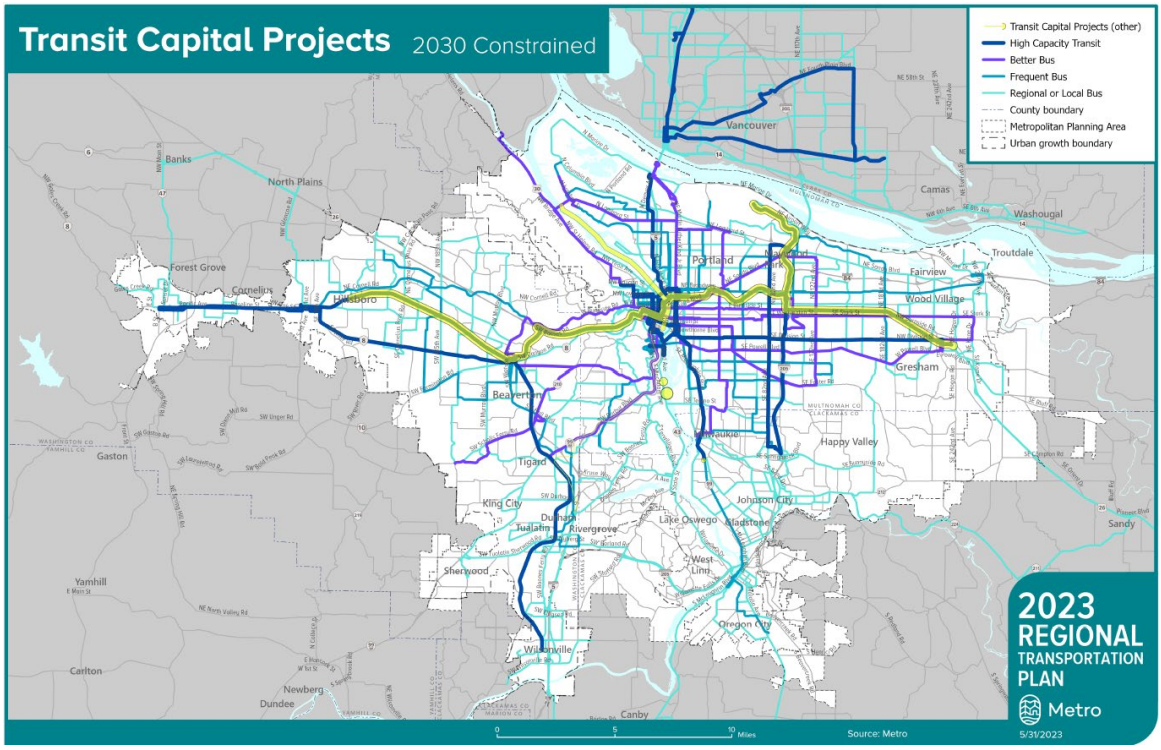
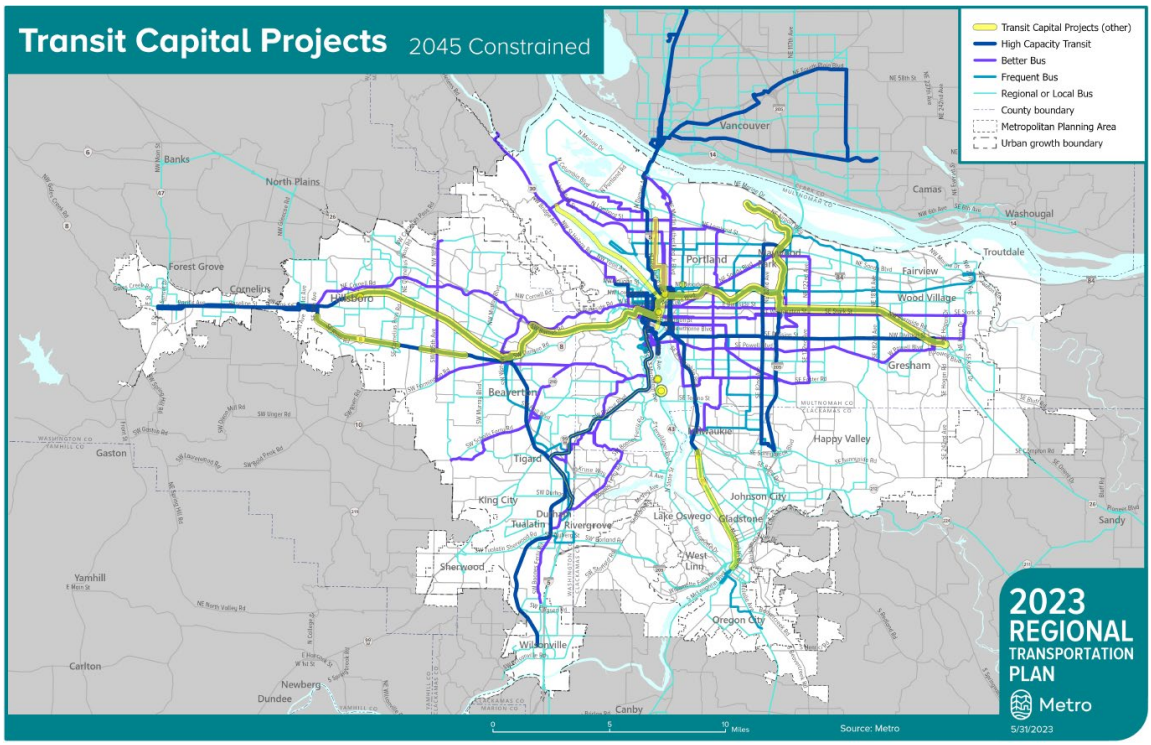


Figure 3: Draft 2045 Constrained transit network



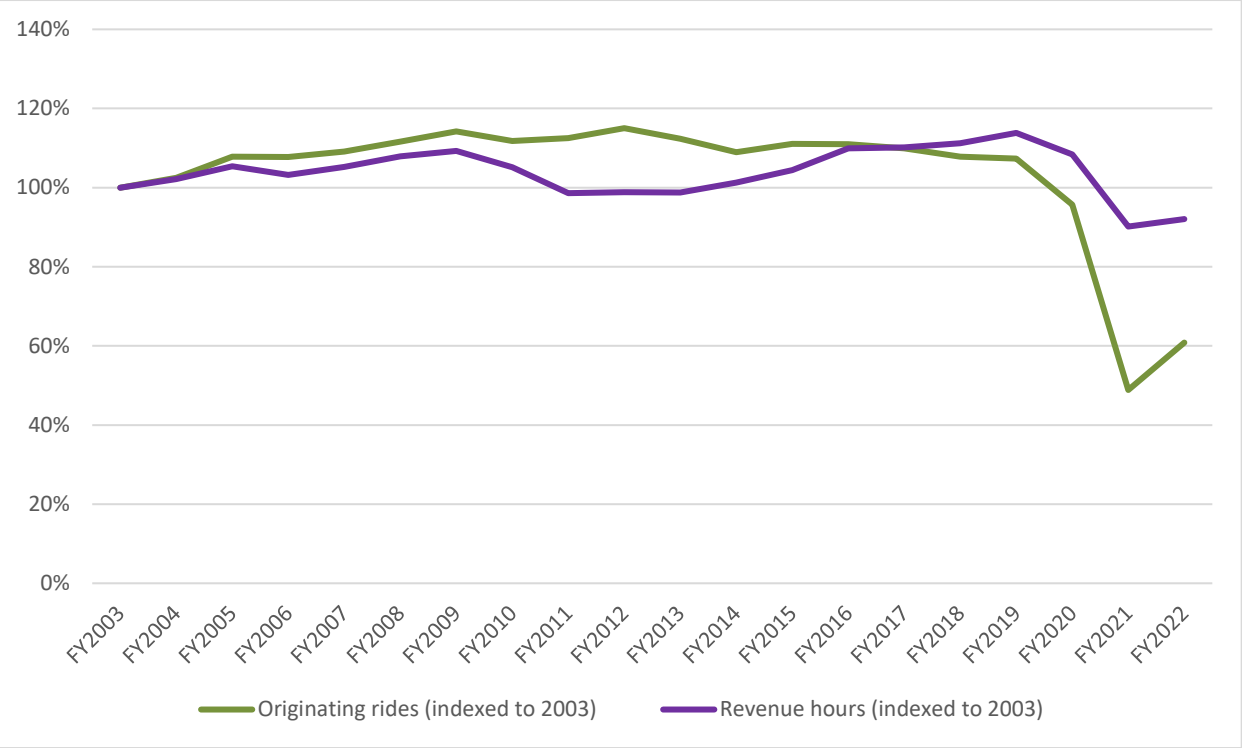
Changing transit ridership

During every RTP update, Metro calibrates its travel model to match the latest data available. This means that the model captures changing dynamics in how people use transit in the region. Throughout the late 2010s – well prior to the COVID-19 pandemic, which caused both ridership and service to plummet – investments in new transit service were drawing fewer riders than in the past. The travel model used in the 2023 RTP update accounts for these changing dynamics. Not only does the 2023 RTP include less new transit service than the 2018 RTP did, it also uses a model that forecasts that this new service will result in more modest ridership growth.

Figure 4 shows how TriMet service and ridership[2] has changed since 2003.

[2] TriMet annual performance report, 2003-22, https://trimet.org/about/performance.htm. This data does not include all transit services in the region, but since TriMet serves over 90 percent of transit rides in the region its data typically reflects regional trends, and the way that TriMet reports this data makes it easy to use this data to track those trends over time.

Figure 4: Percent change in transit ridership (originating rides) and service (revenue hours), 2003-22 (Source: TriMet annual performance report)



The past two decades of transit performance can be broken down into four phases:

- From 2003 to 2009, service and ridership both grew, by 9% and 14%, respectively. The fact that ridership grew faster than revenue hours suggests that new service drew riders at a higher rate than existing service during this period. In other words, new investments in transit were relatively effective at drawing new riders during this period.
- From 2010 to 2013, service declined, but ridership stayed relatively strong, remaining at high levels. The economic recession during this period may have contributed to high levels of transit use; since transit is an affordable alternative to driving ridership often remains high when people's incomes fall.
- From 2014 to 2019, service increased significantly, by roughly 15%, while ridership declined slightly, by 2%. The fact that ridership declined slightly while service increased significantly suggests that new transit service added during this period was not very effective at drawing new riders. Transit agencies in cities across the U.S. observed similar trends during this time. Nationally, non-rail transit trips fell by almost nine percent and rail trips fell by roughly two percent between 2014 and 2019.[3] Analyses pointed to several potential explanations for this decline, including an increased preference among travelers for (and, as the economy strengthened, ability to

[3] Federal Transit Administration, National Transit Database: 2019 National Transit Summaries and Trends, https://www.transit.dot.gov/ntd/2019-national-transit-summaries-and-trends-ntst.

afford) private vehicles, declining gas prices, competition from transportation network companies and other emerging modes, and declining housing affordability, which may have led many lower-income people who are more likely to rely on transit to move to communities where transit was not accessible.[4]

- From 2020 to 2022, transit ridership and service both recovered slowly from severe declines at the onset of the COVID-19 pandemic in 2020, when many people ceased to travel, particularly on public transportation, due to health risks.

The travel model used in the 2018 RTP was calibrated to data from 2003 to 2013, when increased service led to significant increases in ridership and when ridership stayed high even as service declined. The 2023 RTP uses a model that is calibrated to more recent data from 2014 to 2019, when ridership was declining, both in the region and across the U.S., even as service increased. (The pandemic created a severe but temporary decline in both service and ridership; Metro did not calibrate the travel model to pandemic-era data because this data represents passing changes, not long-term trends.) In other words, **the 2023 RTP makes more modest assumptions about how many riders new transit service will draw because the travel model is calibrated to a time when transit was not thriving as much as it had in the region's past**.

These assumptions may change when the region next updates the RTP. At that point, Metro will calibrate the model based on the most recent data available. **If the current changes to transit service have their intended effect and the more equitable, all-day service envisioned under Forward Together – as well as the steps that agencies are taking to address riders' concerns about personal safety – better serve travelers' needs and therefore draw more riders, the next RTP update will reflect this**.

Transit performance results

Although the 2023 RTP expands transit service less than previous RTPs and also assumes that new service will be less effective in drawing riders, transit ridership and mode share still increases significantly under the 2023 RTP.

Table 1: 2023 RTP transit performance results

Measure	2020	2030 Constrained	2045 Constrained
Total daily transit trips	255,159	313,925	440,270
Increase in total daily transit trips	N/A	23%	73%
Transit mode share (all trips)	4.1%	4.5%	5.4%
Transit mode share (work)	7.2%	8.1%	9.5%
Transit mode share (non-work)	2.9%	3.2%	3.9%

Transit mode share is forecast to increase from 4.1% to 5.4% over the lifetime of the RTP – a relative increase of over 30 percent. This is short of the RTP's ambitious target to increase transit, bike, walk and mode share by 200 percent, but it is nonetheless a significant

[4] TransitCenter, Who's on Board 2019: How to Win Back America's Transit Riders, https://transitcenter.org/publication/whos-on-board-2019/.

increase. The RTP assumes that teleworking to continue to increase, but that the majority of workers will continue to do their jobs in person. Transit will likely continue to serve a higher percentage of work trips than other trips because commutes are some of the longest-distance regular trips that people make, and transit is a particularly useful alternative to driving for these longer-distance trips. People are more likely to be able to walk or bike instead of driving for non-work trips because these trips are typically shorter.

Though it has become more costly and challenging to build and operate new transit service, and that service may not attract as many new riders as it one would have**, the RTP still continues to make significant investments in transit service. These investments help to advance the region's goals of offering people a variety of travel options to connect to their destinations, reducing climate emissions, and meeting the transportation needs of people of color and other marginalized people**. Much has changed about transit, but transit's importance to the region has not changed, and neither has the evidence about what makes transit service effective at drawing riders. All other things being equal, **transit services tend to draw more riders – which means that they also support progress toward the region's mobility and climate goals – when they**:

- **Serve areas that are plentiful with housing and jobs**. People make more trips, including transit trips, along corridors where homes and destinations are concentrated, and transit is especially useful when lots of homes and destinations are located within walking distance of stops and stations.
- **Serve areas where high concentrations of people of color and people with low incomes live and work, such as equity focus areas**. People of color and people with low incomes are more likely to rely on transit than others. There are many equity focus areas within the region that also have the density of jobs and homes necessary to support high-ridership transit.
- **Arrive frequently**. People dislike waiting for transit, and frequent transit allows people to show up at their convenience without risking a long wait.
- **Connect origins and destinations quickly**. Many travelers in the region have a choice between taking transit or driving, and they are more likely to take transit when doing so doesn't make for a significantly longer trip. Transit's potential is limited by the fact that it is much quicker and easier to drive than to take transit throughout most of the region.

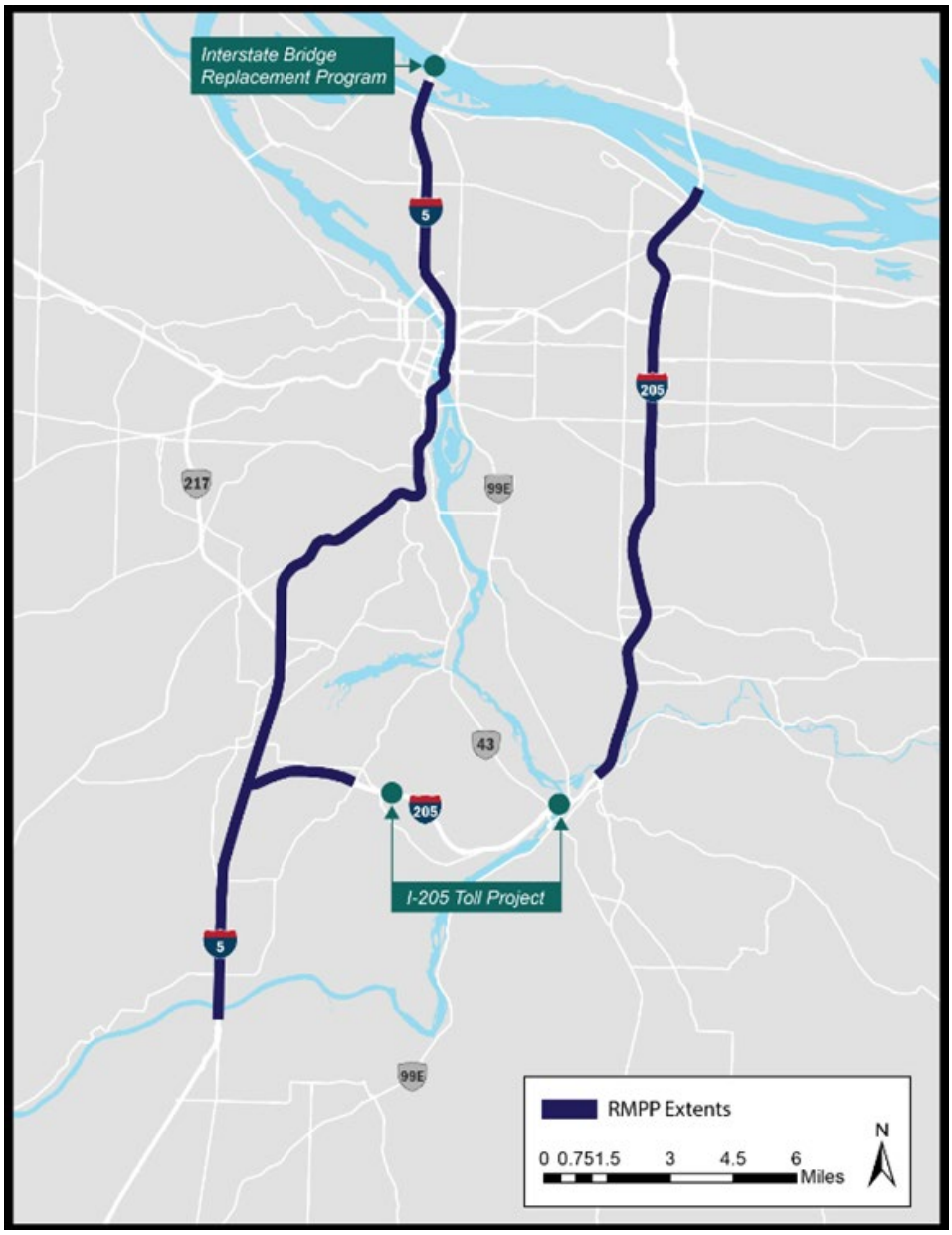
These principles continue to guide transit planning efforts in the region, including the High-Capacity Transit Strategy that is included in the 2023 RTP update.

Tolling impacts on RTP performance

Tolling projects in the RTP

Three different projects in the 2023 RTP include tolling: the Regional Mobility Pricing Project (RMPP), which levies tolls along most of Interstates 5 and 205 within the region; and the Interstate Bridge Replacement and I-205 Tolling projects, which include tolls on I-5 and I-205 within their respective project areas. Figure 5 shows the planned extent of tolling under the 2023 RTP; the I-5 Bridge and I-205 Toll Projects are shown as green dots with call-outs while the Regional Mobility Pricing Project corridors are shown as dark blue lines.

Figure 5: Throughways that are tolled under the 2023 RTP (Source: ODOT)



ODOT is planning extensive changes to the I-5 and I-205 corridors, such as seismic upgrades to critical infrastructure, new auxiliary and travel lanes, and increased transit service. Tolls for these three RTP projects are intended to both manage travel demand and raise transportation revenues. For example, environmental documents for the RMPP state that the purpose and need for the project "is to use congestion pricing on all lanes of Interstate-5 (I-5) and Interstate-205 (I-205) to manage travel demand and traffic congestion on these facilities in the Portland, Oregon metropolitan area in a manner that will generate revenue for transportation system investments."

The exact tolling extents and rates of these projects have already evolved significantly as the projects have developed, and they will continue to evolve as the projects progress through their respective federal planning processes. For instance, each iteration of the RMPP, from the earliest work done as part of the Value Pricing Feasibility Analysis (VPFA), through the Planning and Environmental Linkages (PEL) phase, to ongoing project development for the RMPP Environmental Assessment (EA), has focused on managing congestion and travel demand on I-5 and I-205 in the Portland metropolitan area. As the tolling projects in the RTP continue to advance, there is a high probability that the tolling that is part of each project will continue to evolve. ODOT will make further adjustments to mitigate diversion onto parallel arterials or other impacts revealed through additional modeling and ongoing analysis. The evolutionary nature of this work means that **the tolling that is represented in the RTP is unlikely to match the final tolling that is implemented in the region**. For the RMPP, Metro has helped to model several successive iterations of the project so far, which has helped to highlight how different versions of tolling affect the region, as well as common trends.

The version of the three tolling projects currently included in the 2023 RTP update are based on what was considered to be the best approximation of those projects' current plans as of April 1st, 2023. Collectively, these projects envision charging higher prices in the highest demand hours of the day (peak periods), and in the most congested portions of I-5 and I-205 (as well as in the extents of the I-5 Bridge Replacement and I-205 Tolling Projects) and lower prices in lower demand hours of the day (off-peak periods) and in less congested areas. Current assumptions include low or no overnight tolls since the I-5 and I-205 corridors do not generally experience congestion during these hours.

The effects of road pricing are simulated in several ways in the regional transportation model. During network assignment, tolls are represented in terms of equivalent minutes and potentially cause certain trips to adjust their routing. Elsewhere, tolls are included alongside other monetary costs (auto operating cost, parking cost, transit fare) and potentially influence trip-making decisions related to travel mode and destination location. When projects involve other changes to the transportation system, such as new vehicle lanes or transit service, these changes are modeled as part of the project alongside tolling. Table 2 below summarizes the elements of each of the three tolling projects that are captured in the 2023 RTP update.

Table 2: Key elements of the three 2023 RTP projects that include tolling

Project	Elements captured in the RTP
I-5 Interstate Bridge Replacement Program	• Variable rate tolls for drivers crossing the river ranging from $2.05 - $3.15 between 5 AM and 11PM, with a minimum overnight toll of $1.50 • A new I-5 Columbia River crossing with three through lanes, safety shoulders, and one auxiliary lane in each direction • A 1.9-mile extension of the MAX Yellow Line, including three new stations, from the existing Expo Center Station to a terminus near Evergreen Boulevard in Vancouver • A new arterial bridge for local traffic with a shared use path for pedestrians and bicyclists • Improvements to seven interchanges • Wider shoulders to accommodate express bus-on-shoulder service along I-5 between Victory Boulevard in Portland and State Route 500 in Vancouver
I-205 Toll Project	• Toll rate assumptions for the I-205 Toll Project Draft Environmental Assessment[5] include variable rate tolls for drivers crossing the Tualatin River and Abernethy bridges ranging from $0.55 - $2.20 (per bridge) between 5 AM and 11PM, with a minimum overnight toll of $0.55 (per bridge) • Addition of a third through lane in both directions of I-205 between the Stafford Road exit and OR 43 • A northbound auxiliary lane between OR 99E and OR 213 • Seismic bridge upgrades along I-205; replacement of the Tualatin River Bridges
I-5 and I-205 Regional Mobility Pricing Project	• Preliminary modeling assumptions for the Regional Mobility Pricing Project include variable rate tolls for drivers on I-205 between the Columbia River (north) and the intersection of I-5 (south). Tolls vary by location, direction of travel, congestion levels, and time of day; no tolls are assumed overnight • Consideration of toll rate schedules will be part of the environmental review process, as well as the traffic and revenue analysis, both of which will occur in 2023-24

It is important to note that the 2023 RTP only captures the impacts of tolling as implemented through the three projects discussed above. **The RTP does not account for how rates might be discounted for low-income travelers and other marginalized communities, how revenues might be reinvested to provide affordable and convenient alternatives to tolled trips, or for other adjustments to mitigate the impacts of tolling**. In particular, ODOT has indicated that the allocation of revenues from the RMPP is not being analyzed in the RMPP's Environmental Assessment; therefore, the RTP does not make assumptions as to

[5] I-205 Toll Project Draft Environmental Assessment

how RMPP revenues will be spent or whether those revenues would be reinvested in transit or other travel options. These details are not available yet, and will be determined as the projects progress. See the following section for a general discussion of how reinvesting revenues in transit service would change the GHG and VMT impacts of pricing programs.

Tolling's impacts on travel behavior and RTP system analysis results

Metro's travel model is designed to capture the regional impact of large-scale changes to the transportation system – particularly the aggregate impacts of the hundreds of capital projects that are included in the constrained RTP project list. Metro typically uses the model to compare a scenario consisting of all constrained RTP projects to a No Build scenario that does not include any of these projects in order to highlight the collective impact of the RTP. The large-scale, aggregate nature of the model makes it challenging to identify in detail the regional impacts of any single project, even one as potentially significant as tolling. Metro did not attempt to model or quantify the impacts of tolling in isolation. Metro staff identified several qualitative findings about tolling's impacts based on the modeling results for the constrained RTP scenario and on Metro's experience supporting tolling analyses in the region, particularly for prior iterations of RMPP. Metro's modeling indicates that:

- **Tolling is expected to reduce total regional vehicle miles traveled (VMT)**. VMT is likely to decline, both during peak periods and throughout the day, on the tolled portions of I-5 and I-205. Initial model results show that some solo drivers whose trips would be priced shift to carpooling or using transit. There is likely to be some re-routing of traffic to parallel arterials, which would increase daily VMT on these facilities. However, the potential increase in VMT on parallel arterials is smaller than the anticipated decrease on the tolled throughways, leading to a net reduction in VMT. As ODOT proceeds to develop these projects, it intends to optimize pricing in order to lower VMT just enough to reduce congestion on throughways. According to FHWA, removing even as few as five percent of the vehicles from a congested roadway could enable traffic to flow much more efficiently.[6]
- **Tolling is expected to reduce congestion on I-5 and I-205**. Since tolling reduces VMT on I-5 and I-205, it also frees up capacity, reducing vehicle hours of delay on those tolled throughways both during peak periods and throughout the day. The anticipated diversion to parallel arterials discussed above is not expected to produce substantial additional delay on arterials since most diversion is expected to occur in the off-peak periods, when arterials have excess capacity. Additionally, initial modeling indicates that some vehicles that presently reroute to arterials to avoid congestion on I-5 and I-205 would choose to pay the toll and benefit from a more efficient trip.
- **Tolling will likely lead to an increase in carpooling.** Average vehicle occupancy is expected to increase along all tolled throughways, and particularly on the portions of I-5 that also have High Occupancy Vehicle (HOV) lanes that only allow vehicles with two or more people to use them during peak periods. This increase in carpooling is one of the factors contributing to VMT and congestion reductions under tolling.
- **Tolling will likely encourage people to shift when they travel**. Travelers who have flexible schedules and are price-sensitive are expected to shift some of their trips to

[6] https://ops.fhwa.dot.gov/publications/congestionpricing/sec2.htm

shoulder or off-peak periods instead of paying higher tolls during peak travel times. This "peak-spreading" is one of the factors contributing to tolling's impact on congestion.

Updated Climate Analysis

Background

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.[7] The transportation sector is the largest contributor to greenhouse gas emissions in Oregon and is therefore a key focus of the state's greenhouse gas reduction efforts. 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 emissions. Beginning in 2011, the State set GHG reduction targets for the greater Portland region to meet and has continued to update these targets since, most recently in 2017. The Portland region's targets are:

- A 20 percent reduction in per capita greenhouse gas emissions by the year 2035 (the target for the Climate Smart Strategy adopted in 2014)[8]
- A 25 percent reduction by 2040 (the target for the 2018 RTP)
- A 30 percent reduction by 2045 (the target for the 2023 RTP)
- A 35 percent reduction by 2050 (the target for the 2028 RTP)
- Targets for the years 2041-2049 steadily increase from 26 to 34 percent to maintain progress toward the 2050 target.[9]

These targets are relative to a 2005 base year. They are based on per capita emissions to control for population growth and focus on the impact of transportation policies, programs and plans on GHG emissions. Regional climate targets are designed to ensure that the region and state work together to meet Oregon's transportation-sector GHG reduction goals. This means that regional targets only apply to certain types of emissions, and only certain strategies – those that reduce vehicle miles traveled by households in passenger vehicles and other light vehicles – count toward these targets. It also means that the climate analysis must reflect both the transportation investments and policies in the RTP and the impact of state vehicle and fuel regulations and other state-led actions, including pricing programs.

[7] Oregon Department of Environmental Quality, Oregon Greenhouse Gas Emissions, https://www.oregon.gov/deq/aq/programs/Pages/GHG-Oregon-Emissions.aspx

[8] The Climate Smart Strategy adopted in 2014 was forecasted to achieve a 29 percent reduction by 2035 if fully implemented.

[9] 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

Throughout Spring of 2023, Metro staff have been developing the RTP climate analysis in coordination with RTP technical and policy committees and with the state agencies that oversee the RTP climate analysis. This work has included developing analysis scenarios that reflect the 2023 RTP draft project list and clarifying key background assumptions, such as anticipated teleworking levels and the nature and extent of changes to Oregon's roadway pricing system envisioned by the State. These analyses have demonstrated that **the RTP meets regional climate targets through implementation of the projects and programs in the draft constrained RTP project list in combination with the state-led actions identified in the Oregon Statewide Transportation Strategy (STS), which is Oregon's strategy to reduce transportation-sector GHG emissions**.

Adopted by the Oregon Transportation Commission in 2018, the STS includes state-led pricing actions, in addition to implementation of clean vehicle and fuel programs and regulations at the state and federal level. The fleet and technology actions cover assumptions such as the share of zero-emission vehicles, the carbon intensity of fuels, the balance of cars and trucks in the passenger fleet, and vehicle turnover. The state-led pricing-actions assumed in the STS include implementation of extensive changes to how transportation revenues are collected in Oregon. The changes envisioned in the STS aim to replace the gas tax in part because the purchasing power of gas tax revenues is declining as individuals drive less and fuel efficiency of vehicles increases. The effectiveness of this revenue source is further eroded because the gas tax is not indexed to inflation, and as a result is inadequate to meet Oregon's transportation needs. These changes to how transportation revenues are raised also aim to reduce GHG emissions by reducing the number and distance of driving trips that people take and by encouraging the use of cleaner modes and vehicles. New revenue mechanisms in the STS include a road user charge that levies per-mile fees on drivers, carbon fees, and additional road pricing beyond what is currently included in the 2023 RTP. These changes are not reflected in the RTP because they are not yet adopted in state policies or regulations, but the climate analysis for the RTP is allowed to include them because these state-led pricing actions are identified in STS and were assumed when the state set the region's climate targets.[10]

In May, Metro staff shared two scenarios with TPAC, one of which represented the draft 2023 RTP update and currently-adopted state plans and policies as closely as possible, and the other of which included all of the state-led pricing actions identified in the STS in addition to the investments and pricing reflected in the draft 2023 RTP. The former scenario did not meet regional climate targets; the latter exceeded them. This analysis also revealed that the impact of changes to these state-led pricing actions on VMT and GHG emissions far exceeds the impact of changes to other inputs related to the region's climate strategies, such as the amount of transit service and active transportation infrastructure. This is due to three factors. First, pricing has the potential to significantly reduce VMT and GHG emissions, as discussed in the Climate Smart Strategy. Second, the RTP's financial constraint requirements significantly limit the amount by which other climate strategies, such as providing frequent transit service, can

[10] OAR 660-044-0030(4)(a): https://secure.sos.state.or.us/oard/viewSingleRule.action;JSESSIONID_OARD=Pk5WeLsr40n1ZMdFGJr943D9KeHyA7LSgdLuG_bsnXZJvNrXnI8x!-286176765?ruleVrsnRsn=293065

be "turned up." Third, VisionEval, which is the model that the State requires Metro to use in the RTP climate analysis, is more sensitive to pricing.

The results from these two scenarios demonstrate that **the region is on track to meet climate targets if the draft 2023 RTP is fully implemented and state-led actions in the STS (including implementing additional congestion pricing and VMT road user fees) come to fruition.** When Metro staff shared these results in May, several TPAC members commented that meeting climate targets through pricing alone would lead to inequitable outcomes, and that using revenues from new pricing to improve transit service and other travel options would better support the region's equity, climate and mobility goals.

Updated scenario analysis

In order to better understand the difference that reinvesting pricing revenues Metro staff and consultants developed two new scenarios, one of which looks at how much pricing would be needed if the region attempted to meet its targets through pricing alone, and another that examines how much pricing would be needed – and how much transit service might increase – if the region met its targets by pricing and using the revenues to increase transit service. This brings the total number of 2023 RTP climate scenarios developed to date up to four:

- **RTP23 + adopted plans (AP):** Includes all RTP investments and throughway pricing, as well as currently adopted plans and policies assumed in the STS, and excludes the pricing and revenue mechanisms described as "additional" under the scenarios below.
- **RTP23 + STS:** Includes RTP investments and throughway pricing as well as all additional pricing and revenue mechanisms included in the STS. These consist of a combination of fees and taxes that are modeled as per-mile fees.
- **Target 1:** Includes RTP23 investments and throughway pricing as well as the amount of additional pricing and revenue mechanisms from the STS that are necessary to meet regional climate targets by using pricing to manage travel demand.
- **Target 2:** Includes RTP23 investments and throughway pricing as well as the amount of additional pricing and revenue mechanisms from the STS that are necessary to meet regional climate targets by using pricing to manage travel demand – assuming that all revenues from these new pricing mechanisms generated within the region are reinvested in increasing transit service.[11] To create this scenario, the consulting team supporting this analysis tested several different levels of pricing and corresponding increases in transit service until they identified the scenario that meets regional climate targets using the smallest amount of additional pricing.

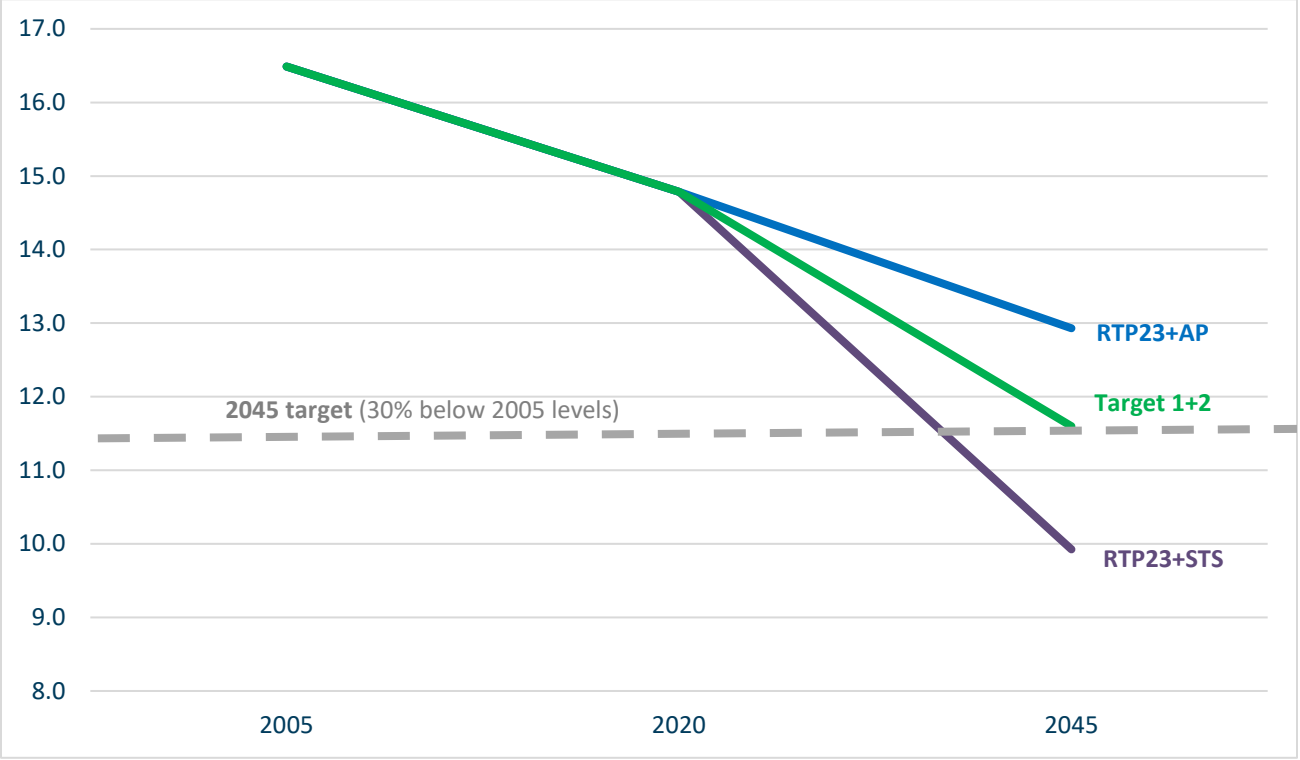
Table 3 and Figure 6 below show the assumptions and results for these four scenarios.

[11] This scenario assumes that 50 percent of revenues from the STS pricing and revenue mechanisms for toward funding increases in transit service, and that investments in transit service would be consistent with the mix of transit modes (e.g., local bus, frequent bus, light rail) and transit service costs reflected in the 2023 RTP constrained investments. See the appendix for a technical discussion of the development of the Target 2 scenario.

Table 3: Assumptions and results by scenario

	RTP23 + AP	RTP23 + STS scenario	Target 1 (pricing)	Target 2 (pricing + transit)
Throughway pricing	RTP pricing on portions of I-5 and I-205 averaging $0.11/mi.	STS pricing on the entire throughway and arterial network averaging $0.13/mi. ($0.17/mi. on throughways and (averaging $0.17/mi.	$0.09/mi. on the entire throughway network.	$0.07/mi. on the entire throughway network.
Per-mile fees	None	Maximum allowable STS levels, roughly $0.10/mi.	$0.06/mi.	$0.05/mi.
Transit service	RTP levels of transit service	RTP levels of transit service	RTP levels of transit service	77% increase above RTP levels of transit service
Per capita VMT reductions (vs. 2005 levels)	22%	40%	30%	30%
Meets targets?	No	Yes (exceeds)	Yes (meets)	Yes (meets)

Figure 6: Daily VMT per capita by scenario compared to regional targets



These results demonstrate that **there are multiple paths to meeting regional climate targets through a combination of increased pricing and other climate strategies including demand management, system management, and increased investment in alternatives to driving**. The two target scenarios shown above represent two pathways to meeting the region's targets – one that does so entirely by using additional pricing to cover the gap between RTP emissions and regional targets and one that covers this gap through a

combination of pricing and reinvestment in transit – but there are likely other pathways to meeting (or exceeding) regional targets that involve either different mixes of pricing and new transit investments or reinvestment of pricing revenues in other high- and moderate-impact GHG reduction strategies identified in the region's Climate Smart Strategy. Metro staff do not recommend further exploring these scenarios at this point due to the significant uncertainty surrounding whether and how the many changes to transportation pricing assumed in the STS will be implemented. However, **any new pricing program will likely produce new revenues that can be invested in a variety of GHG reduction strategies**.

This reinvestment is critical, because the results also show that **the region can meet its climate targets while also advancing mobility and equity goals if revenues from new pricing programs are reinvested in other GHG reduction strategies**. Relying on pricing alone to reduce VMT and GHG emissions from driving, as tested in the Target 1 scenario, would require charges of 9 cents per mile on throughways and 6 cents per mile on roads throughout the region in order to meet regional climate targets. If revenues from new pricing are invested in transit, which also reduces VMT and GHG emissions, the region could meet its targets at the cost of an additional 7 cents per mile on throughways and 5 cents per mile on roads, as tested in the Target 2 scenario – roughly 25% lower than under Target 1. The lower levels of pricing and higher levels of transit service would both minimize additional costs for drivers and provide affordable alternatives to priced vehicle trips.

The two target scenarios are for research purposes only to illustrate the potential impact of implementing state-led STS pricing actions in combination with reinvestment of revenues from new pricing programs on reducing VMT and GHG emissions. Additional technical analysis and policy discussion would be needed to ensure implementation of any pricing programs is fair and efficient, and that comprehensively considers the synergistic effects of different policies and strategies and their impacts on communities and advancing the RTP goals.

Next steps

The information in this memorandum will be incorporated into chapter 7 of the public review draft RTP, which is scheduled for release on July 10th. Following that, it may be updated in response to public comments or as new information becomes available before the 2023 RTP is finalized this fall.

Work also continues to prepare an analysis of the mobility policy measures for throughway reliability and vehicle miles travel per capita. This information will be brought forward for discussion at the July and August TPAC and MTAC workshops.

Appendix: Technical memorandum on the updated climate analysis

TO: Eliot Rose, Kim Ellis, Matt Bihn, Thaya Patton; Metro
FROM: Jonathan Slason, Reid Haefer; RSG
DATE: June 14, 2023
SUBJECT: Transit Reinvestment Effects into the RTP23 Target Rule Scenario

This technical memorandum analyzes a range of RTP 23 outcomes that increase the amount of transit supply beyond that within the fiscally constrained scenario. The analysis explores the impact of reinvesting a portion of these additional revenues derived from pricing policies included in the Oregon STS to expand the transit service and revenue miles. The analysis uses the Metro VisionEval 3.0 model developed for the RTP23 climate modeling and target rule setting.

Beginning in 2012, the State set GHG reduction targets for the greater Portland region to meet and has continued to update these targets since, most recently in July 2022. The Portland region's targets are:

- A 20 percent reduction in per capita greenhouse gas emissions by the year 2035 (the target for the Climate Smart Strategy adopted in 2014)[12]
- A 25 percent reduction by 2040 (the target for the 2018 RTP)
- A 30 percent reduction by 2045 (the target for the 2023 RTP)
- A 35 percent reduction by 2050 (the target for the 2028 RTP)

Targets for the years 2041-2049 steadily increase from 26 to 34 percent to maintain progress toward the 2050 target.[13] The targets are relative to a 2005 base year. They are based on per capita emissions to control for population growth and focus on the impact of transportation policies, programs and plans on GHG emissions. Regional climate targets are designed to ensure that the region and state work together to meet Oregon's transportation-sector GHG reduction goals. This means that regional targets only apply to certain types of emissions, and only certain strategies – those that reduce vehicle miles traveled by households in passenger vehicles and other light vehicles – count toward these targets.

The RTP23 Target Rule Scenario has been developed to account for the investments and policies within Metro's control and influence, referred to as levers. The scenario also accounts for a range of policies that are state led and outside of Metro's control; these are referred to as uncertainties. The Target Rule Scenario uses several specific values for the levers given the financial constraint and detail by which those investments and policies have been vetted in the RTP process.

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[12] The Climate Smart Strategy adopted in 2014 was forecasted to achieve a 29 percent reduction by 2035 if fully implemented.

[13] 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

Levers include:

- roadway lane miles, parking pricing and supply, teleworking rates (assumed at a specific value similar to teleworking rates observed during fall of 2022), transit powertrains and fuels, and the transit supply.

Uncertainties include:

- PAYD insurance participation, proportion of social costs and externalities paid, freeway congestion charges, arterial congestion charges, VMT taxes and RUC, and fuel taxes.

The pricing and user cost components in the Target Rule Scenario are summarized in **TABLE 4**. The scenario and data reflect varying a wide range of the uncertainties while holding the levers fixed (given their fiscal and policy constraints).

TABLE 4: TOTAL REVENUE THAT MEETS TARGET RULE (2023$ DOLLARS IN YEAR 2045)

FISCALLY CONSTRAINED TRANSIT SCENARIO	AVG COST PER MILE	MAX COST PER MILE	AVG DAILY REVENUE	MAX DAILY REVENUE	AVG ANNUAL REVENUE	MAX ANNUAL REVENUE
Congestion Charges (freeway and arterial)	0.0930	0.134	2,257,338	$3,225,135	$823,928,326	$1,177,174,243
Modeled Other Gas Tax Substitutes (VMT, Soc, Env)	0.055	0.091	$1,233,589	$ 2,094,887	$ 450,260,019	$ 764,633,736
Modeled Fuel Taxes	0.008	0.00997	$ 188,844	$229,594	$68,927,892	$83,801,851
Totals	0.1564	0.235	$3,679,771	$ 5,549,616	$1,343,116,237	$2,025,609,830

The analysis indicates that a range of user costs and pricing values are possible, all while achieving the DVMT per capita target rule. At the high end of the range just over $2 Billion (2023$) of additional revenue could be collected through the various pricing strategies in 2045. Although it is unlikely that the full amount of this revenue would be available to reinvest (due to recover costs and program administration) this value was used as the high bookend to inform this analysis.

The concept considered in the following analyses uses the revenue collected from regional pricing strategies to fund additional transit services. This first required developing a cost for the transit system being modeled within the VisionEval scenarios. The transit input is based on revenue miles of service by specific transit mode. A weighted average cost per revenue mile is the most simple approach which can then be used to scale the overall revenue miles between a low and high value using the TMIP-EMAT interface.

TriMet provided a summary of operational and capital costs sent to the National Transit Database which indicated an average cost of $26 per revenue mile. This is close to the roughly $800 million in

budgeted costs associated with running the 34 million revenue miles in 2020, an average of $23 per revenue mile.[14]

This round of modeling in the RTP23 Target Rule Scenario allows for a wide range of transit investments between a low of and a high value. The lowest value is the RTP23 value (at the EMAT-Value of -0.9) and the RTP18 at EMAT Value 0 and at the high end an estimated 130 million revenue miles (EMAT value 1) that might be supported by approximately $2 billion of additional funding directed to fund transit. The $2 billion is estimated to be near the higher end of the amount of additional revenue possibly derived from user costs assessed to users in the Metro region as identified above in **TABLE 4**.

TABLE 5 summarizes the user costs across the various pricing elements including total congestion charges, with a breakdown of freeway and arterial charges (note: total congestion fees are not the sum of freeway and arterial since some users travel on both facilities and would be double counted), Pay-as-you-Drive Insurance (PAYD), VMT fees, social and environmental costs, and fuel taxes. The PAYD insurance is not a revenue to the region or the state, but it is a marginal per mile user cost and therefore shown in this table but excluded from the revenue estimate in **TABLE 4** above.

TABLE 5: USER COSTS FOR SCENARIOS THAT ACHIEVE THE TARGET RULE (CURRENT YEAR DOLLARS IN YEAR 2045)

	MODELED CONGESTION FEES (FREEWAY AND ART) PER MILE	FREEWAY	ARTERIAL	MODELED PAYD	MODELED OTHER GAS TAX SUBSTITUTES (VMT,SOC, ENV)	MODELED: FUEL TAXES	MODELED TOTAL COST PER MILE (2022$)
Mean	**$0.093**	**$ 0.125**	**$0.062**	**$ 0.143**	**$ 0.055**	**$0.0084**	**$ 0.30**
Median	**$0.095**	**$0.133**	**$0.067**	**$ 0.156**	**$ 0.056**	**$0.0083**	**$ 0.29**
Max	**$0.134**	**$ 0.173**	**$0.098**	**$ 0.171**	**$ 0.091**	**$0.0100**	**$ 0.39**
Min	**$0.025**	**$ 0.005**	**$0.001**	**$ 0.034**	**$ 0.003**	**$0.0074**	**$ 0.24**

For the subsequent analysis, the level of PAYD insurance was held constant at 27%. From the RTP23 Target Rule analysis, it was noted that 27% is the low end of the scale (allowing all other variables to vary) for scenarios that achieve the 11.5 DVMT per capita Target Rule. Because the PAYD insurance is a policy more than revenue collection component it was fixed for this analysis. This reduced the level of noise in the analysis with one less variable.

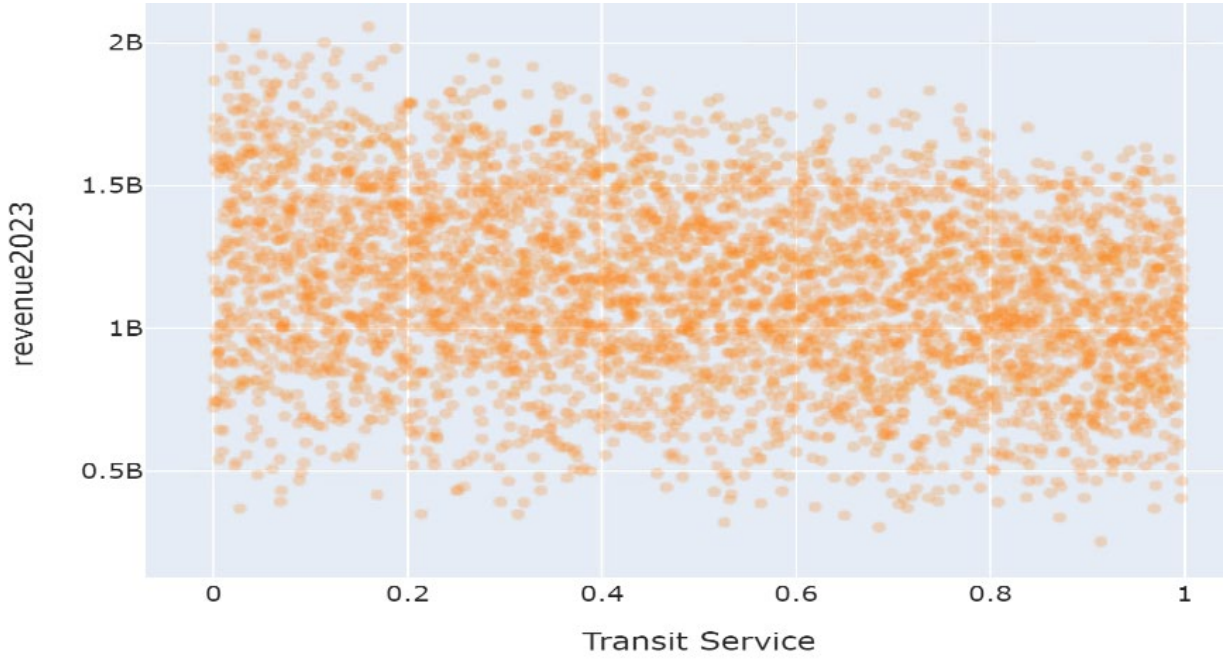
To explore the effects of using the revenue collected from the pricing policies to invest in additional transit services, a handful of guiding questions were developed. These questions frame the remainder of the memo.

Question 1: What amount of revenue would be reinvested into transit service?

[14] TriMet 2023 Adopted Budget

The relationship shows that as transit service (x-axis) increases, the revenue (derived from user costs) decreases. This relationship between providing options may then allow some users to avoid driving a vehicle, reducing the net revenue to fund the system. This relationship reinforces the value that transit service is not often funded with road pricing money.

FIGURE 7: TOTAL REVENUE RELATIVE TO TRANSIT SERVICE



Question 2: What would happen if we had all that transit service?

This question simply tests the outcomes that could result if we offer higher levels of transit service. **FIGURE 8** shows the relationship between the level of transit and the DVMT per Capita target.

FIGURE 8: VMT RELATIVE TO TRANSIT SERVICE

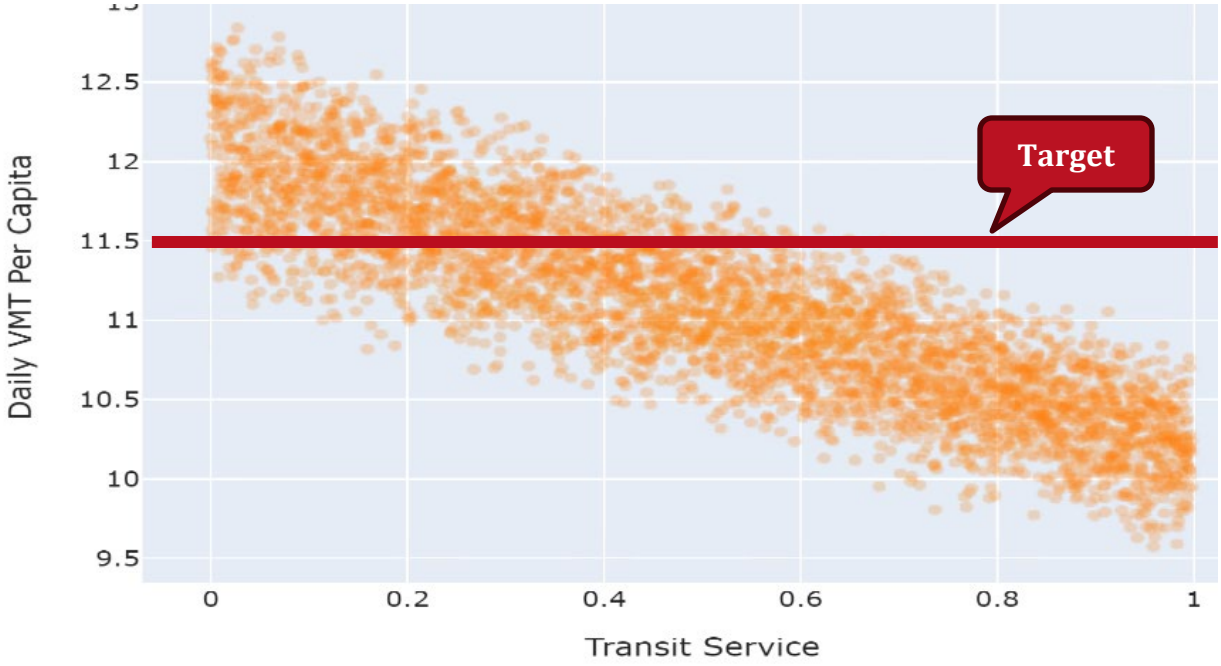


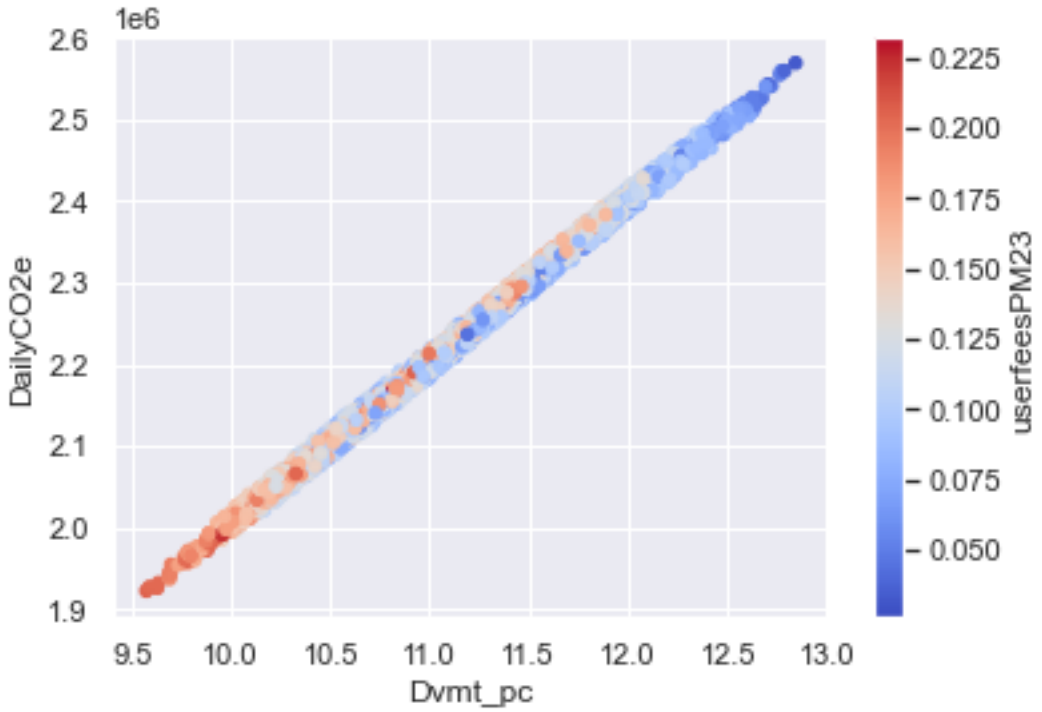
FIGURE 8 illustrates the range of scenarios that attain the target rule while providing a multitude of transit service levels. It also identifies that among the thousands of scenarios, transit service greater than EMAT value 0.7 (i.e., around 107 million revenue miles) appears to provide sufficient mobility options to exceed the Target Rule in all scenarios (there are no dots above the horizontal line).

Question 3: What would happen if we funded the highest transit service tested?

This question explores the results when the EMAT value is 1 and there are about 130 million revenue miles of service. **FIGURE 9** shows the relationship between the user costs which include: congestion charges, VMT taxes and RUC, social and environmental costs, and fuel taxes.

The figure shows that under the high transit supply scenarios, all DVMT per capita is below 11 (aligning with **FIGURE 8**) and as road user costs increases there are decreases in Daily CO2e emissions and DVMT.

FIGURE 9: ROAD USER CHARGES, VMT, AND GHG UNDER MAXIMUM TRANSIT (EMAT=1) (2023$)



Question 4: How do we fund this transit service?

This question explores the relationship between the level of transit service, the DVMT per capita target and the road user costs. Revenue to fund the transit service (**TABLE 4**) is a direct relationship between the per mile road user costs and the amount of DVMT which those costs are assessed on. **FIGURE 10** shows the effects of both pricing (road user costs) and the provision of transit on the ability to meet the target rule.

The graph shows that at the DVMT per capita target (vertical line) a large number of scenarios combining different levels of transit service and pricing can achieve the target rule. It illustrates that in the RTP23 Target Rule scenario with a Fiscally Constrained transit supply, the total road user costs are near the higher end of the spectrum (darker colors on right vertical axis).[15] The chart illustrates that as transit increases, road user costs can reduce while still attaining the DVMT per capita target rule.

This relationship however doesn't capture the situation that as the road user costs fall when transit supply increases, the net revenue in the system is also affected.

[15] Figure shows the results with the PAYD at 27% resulting in higher road user costs. The Table 1 and 2 values reflects a higher use of PAYD insurance, reducing the costs for other road user cost components.

FIGURE 10: TRANSIT SERVICE, DVMT PER CAPITA, AND ROAD USER COSTS (2023$)

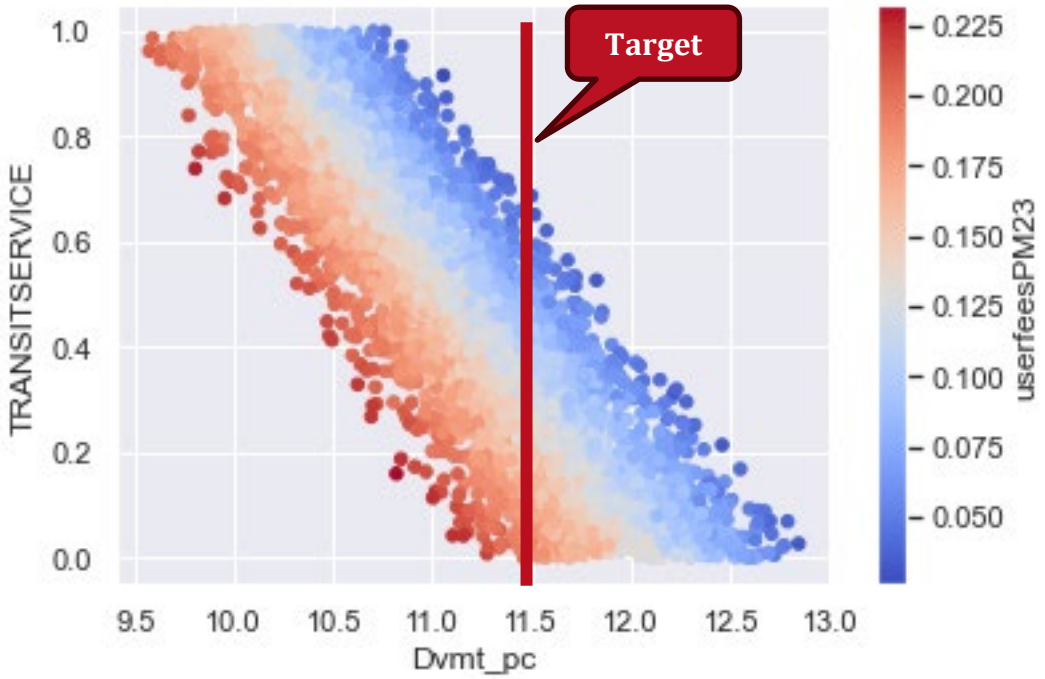
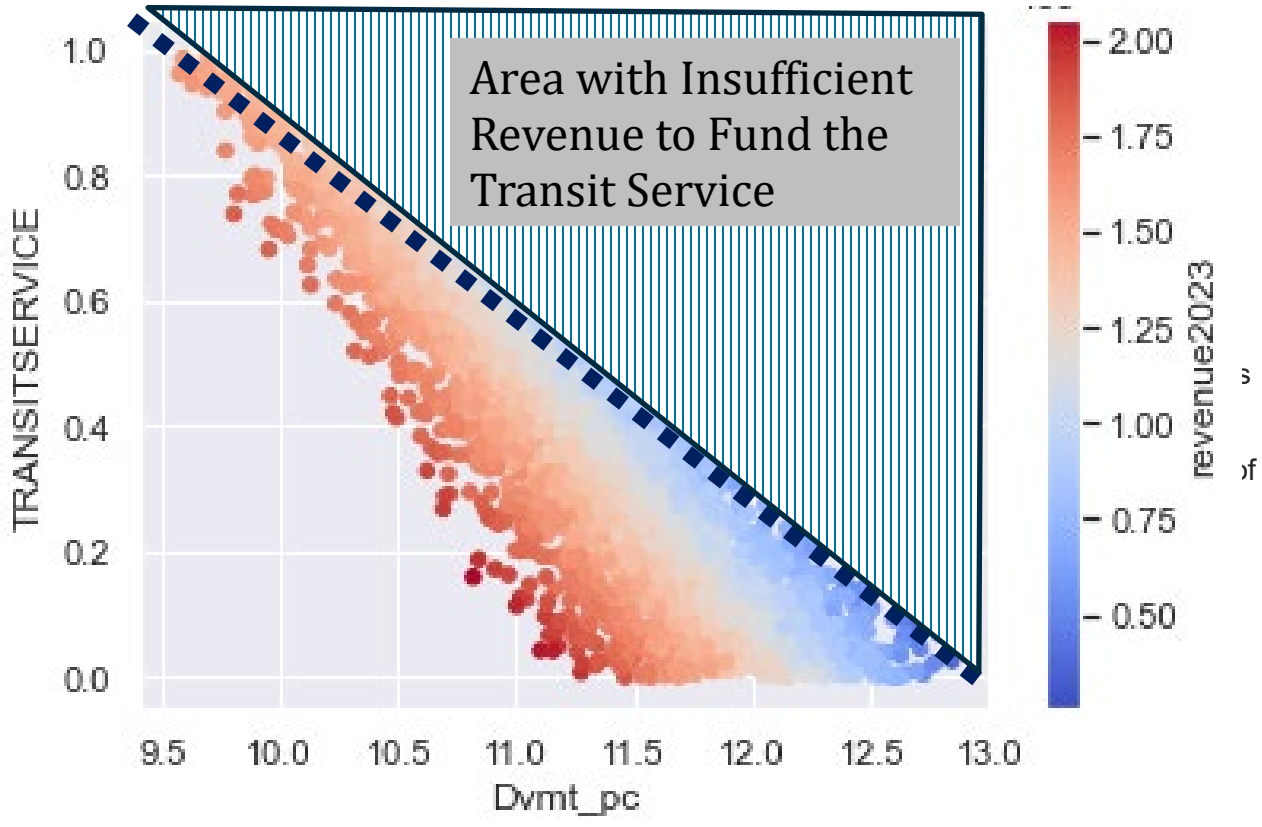


Figure 5 shows the revenue collected in the region (right vertical axis) and whether that revenue is sufficient to fund the additional transit services above that in the RTP23 fiscally constrained scenario. The blocked triangle in the top right block the scenarios which fail to generate sufficient revenue to fund the level of transit (left vertical axis).

Figure 11: Financially Feasible Transit Scenarios



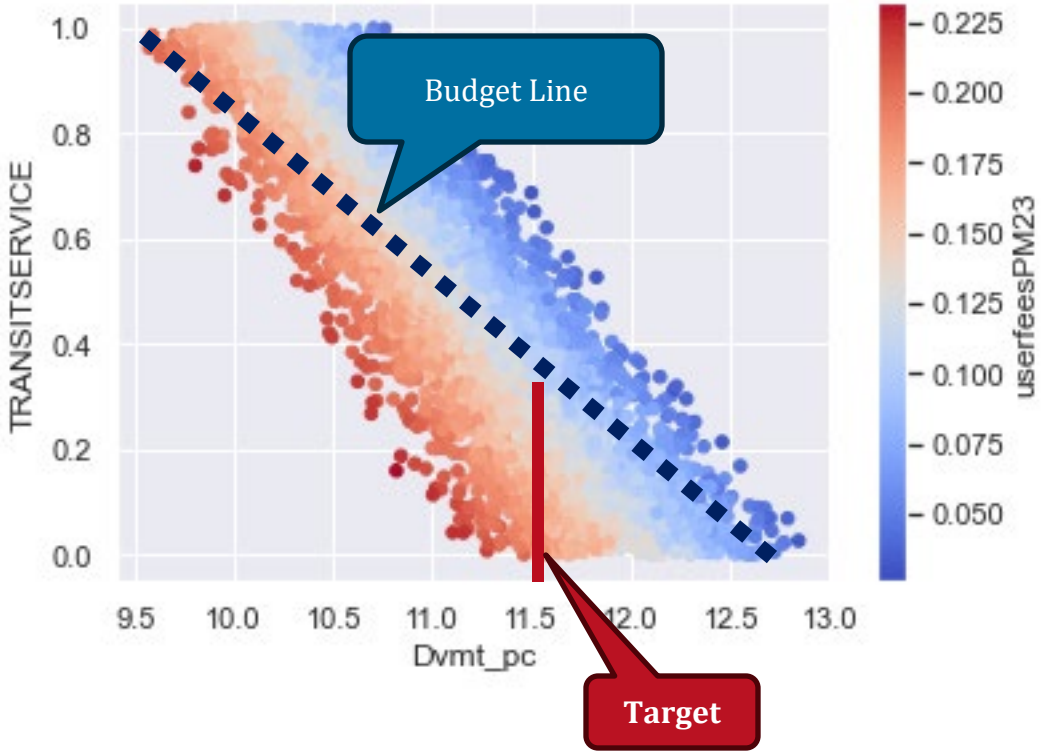
Understanding the revenue and transit supply linkage allows for greater exploration of how reinvesting the revenues into the transit supply can reduce DVMT or reduce road costs, or both.

FIGURE 12 shows the budget line from Figure 5, assuming that 100% of the revenue collected can fund the transit supply. If a smaller share of the revenue is available to fund the transit, then that line shifts left and becomes steeper.

Within the bottom left corner of the chart are feasible scenarios that generate sufficient revenues to fund the transit supply. At the high top left corner of the chart, with the EMAT=1 level of transit (130 million revenue miles) it would require the highest road user costs, however, providing the carrot (transit options) and the stick (higher road user costs), results in the lowest DVMT per capita option (9.5).

Alternatively, focusing on the target rule of 11.5 DVMT per capita. The chart suggests that approximately 100 million revenue miles of transit (EMAT = 0.4) can be provided with an average road user charge of around 12-13 cents per mile. If road user fees increase at the same amount of transit, then the DVMT per capita would decrease. If the provision of transit is less than the 0.4 value, then user costs need to increase to attain the target DVMT.

FIGURE 12: ROAD USER COSTS, TRANSIT, AND DVMT PER CAPITA (2023$)

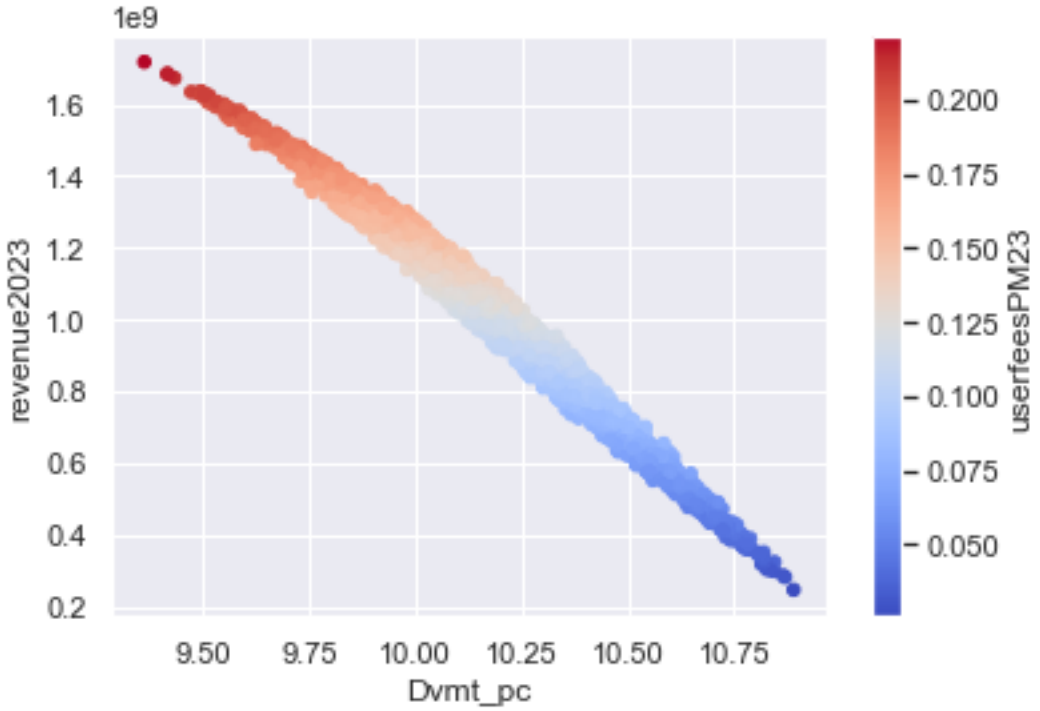


Question 5: What if we funded the maximum amount of transit?

This question centers on exploring the effects of the additional transit and how that might affect the ability to meet the Target Rule and what perceived value in user cost savings would that additional transit have. The maximum level of transit supply is estimated using the RTP23 Target Rule scenario summarized in **TABLE 4**. The user costs identified in that model suggest that nearly $2 billion (2023$) would be collected annually in the Metro target rule area in 2045.

This analysis suggests that the amount of user costs may not be sufficient to generate the revenue needed to fund this level of transit (~$2 billion in revenue needed vs around 1.7 billion shown in the chart). If this level of transit were provided the DVMT target would be met plus offer sufficient travel options that user fees can be lower than alternatives with fewer transit miles.

FIGURE 13: REVENUE, USER FEES, AND DVMT PER CAPITA TARGETS AT MAX TRANSIT (EMAT=1)



The maximum transit offering suggests that user fees could be around $0.035 per mile (2023$) and achieve a 11 DVMT per capita, if other revenues could be used to fund the transit.

Question 6: How do these scenarios compare??

- **RTP23 + Adopted Plan Trajectory** (i.e., pricing on the throughways, no RUC): The fiscally constrained 48 million revenue miles of transit by 2045 along with an average user cost of $0.064 per mile (2023$). The DVMT per capita is 13.2 which does not meet the target rule.
- **RTP23 + STS State Inputs** (i.e., freeway and arterial congestion pricing, PAYD, RUC, Social and Environmental costs): The fiscally constrained 48 million revenue miles of transit by 2045 along with an average user cost of $0.23 per mile (2023$). The DVMT per capita is 10.3, achieving the target rule.

- **RTP23 Target Rule Scenario 1** (i.e., regional RTP inputs and agreed range of state led policies): The fiscally constrained 48 million revenue miles of transit by 2045 along with an average user cost of $0.204 per mile (2023$). The DVMT per capita of 11.5 achieves the target rule with a minimum participation rate of 27% in the PAYD insurance program. The average user cost decreases to $0.157 per mile (2023$) when the PAYD participation rate is optimized, resulting in an average 77% adoption rate.
- **RTP23 Target Rule Transit Reinvestment Scenarios** (i.e., RTP Target Rule scenario exploring the effects of investing pricing revenue in additional transit services):
    - **Full reinvestment:** This scenario uses the approximately $2 billion in additional user fees generated in the region to fund up to 130 million revenue miles of transit service in 2045, a net increase of 171% from the RTP23 fiscally constrained estimate for 2045. This would produce an effective user cost of $0.035 per mile (2023$) and reduce DVMT per capita below the target. The net user cost is considered an “effective tax rate”, because that level of transit investment would require actual fees around $0.235 per mile to create the revenue to fund transit and incentive to mode shift.
    - **Revenue Funded Transit:** This scenario includes a range of transit funding that is less than the full expansion, with the costs of the service covered by the per mile user fees generated in the region. For 12 – 13 cents per mile (2023$) approximately 85 million revenue miles of transit can be funded in 2045 (an increase of 77% from the RTP23 fiscally constrained forecast), supported by the nearly $1 billion in additional annual revenue from regional pricing initiatives. This scenario would achieve the 11.5 DVMT per capita target rule. Higher transit services can be funded, with the net result of increasing per mile costs to achieve the necessary revenue while also pushing DVMT per capita lower. The balanced funding scenario is challenging because of the interaction between user costs, DVMT, revenue, and transit supply. As transit supply increases, the cost also increases, but the road user revenues to pay for it decreases in the absence of higher per mile fees.

ECONorthwest
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DATE: December 22, 2022
TO: Ted Reid, Dennis Yee, Metro
FROM: Mike Wilkerson, Becky Hewitt, Madeline Baron, James Kim, Jolie Brownell, ECONorthwest
SUBJECT: METRO RESIDENTIAL READINESS PROJECT – TASK 4: HOUSING MARKET FILTERING MEMORANDUM - REVISED

Background and Purpose

The Metro Regional Government (Metro) has contracted with ECONorthwest to assist in revising some of its regional housing planning and growth management approaches, data, and processes. This project will set the stage for upcoming growth management decisions (particularly the 2024 urban growth management decision) and help Metro more deeply integrate market realities, infrastructure, governance needs, and equity into those decisions.

The outcomes of this effort will help provide a fuller accounting of trade-offs of growth management alternatives and recognize the factors beyond land availability that influence the region's ability to accommodate growth in ways that meet a full spectrum of needs. It will also help Metro implement upcoming changes to statewide requirements related to housing needs and equitable regional housing allocations.

As Metro considers how the anticipated prices and rents of new housing stock that could be built across the region align (or do not align) with the region's overall housing needs by income, it is important to consider all the ways in which new housing supply relates to housing affordability, and how that can change over time. This includes, but is not limited to, "filtering" and depreciation of older housing stock, how new supply impacts the rate of filtering, impacts on price escalation due to the balance between supply and demand (elasticity), and the potential for localized increases in market demand that could cause gentrification and displacement.

This memorandum describes these concepts and market functions, summarizes relevant literature evaluating these impacts, and incorporates local data and examples to illustrate how these factors are playing out in the Metro region. It draws on published literature; a recent, relevant housing market primer prepared by ECONorthwest; and local market data. It is beyond the scope of this effort to conduct a full regression analysis or detailed longitudinal study of home prices and rents regionwide, but ECONorthwest did analyze available rent and home sales data from the Metro region for patterns that suggest whether and to what extent these impacts are occurring in the region. The memorandum also includes several examples of housing in the region to illustrate how these trends and patterns can play out for a specific property.

Introduction

What Drives Housing Markets and Property Value?

Property values are driven by the balance between supply and demand. Prices tend to rise when demand exceeds supply. The pace of price changes depends on the availability of alternatives (e.g., prices rise faster when there are few desirable units to choose from) and changes in demand preferences (e.g., unit types or locations).

Housing markets are subject to the laws of supply and demand, though they are greatly influenced by government interventions. Price reflects buyers' and sellers' willingness to pay and the amount of housing that is demanded and supplied at a given time.[1]

To understand how new housing supply affects the value of existing housing and how property values and affordability change over time, it is important to understand that the value of real estate is a combination of the value of the structure (which tends to depreciate over time and requires maintenance and repair) and the value of the land/location (which can change over time with localized and regional/national trends). The value and desirability of a given residential property at any given time will depend on how old the structure is and how it has been maintained or modified since it was built, how well the structure meets current household needs and preferences, and how desirable the location is, among other factors.

What is Filtering?

Filtering is "the process by which housing ages and depreciates in value relative to newer housing so that it becomes affordable to moderate- and low-income households over time."[2] New construction starts the process of filtering through a "migration chain" where newly constructed units "create vacancies in the existing housing stock and expand housing options for those looking to relocate."[3] When subsequent households relocate, they create new vacancies for other households, thus creating a chain of vacancy and migration. The longer the migration chain continues, the more likely it is for the older housing supply to filter down and become available to lower-income occupants.

The filtering process "is critically important to a functional housing market that meets the needs of a range of households and allows for some housing choice for current and new residents of a community."[4] The addition of new housing in a regional housing market allows the migration chain to continue and creates opportunities for households with moderate-incomes or low-incomes to live in units that were once new and priced at the top end of the market. In contrast, when there are no new housing units built in a region, filtering often does not occur and fewer units become more affordable through the filtering process. When demand exceeds supply,

[1] HDR and ECONorthwest, *Oregon Transportation and Housing Study* (Oregon: Oregon.gov, 2020), https://www.oregon.gov/odot/Planning/documents/TransitHousing_PrimerWithGlossary.pdf

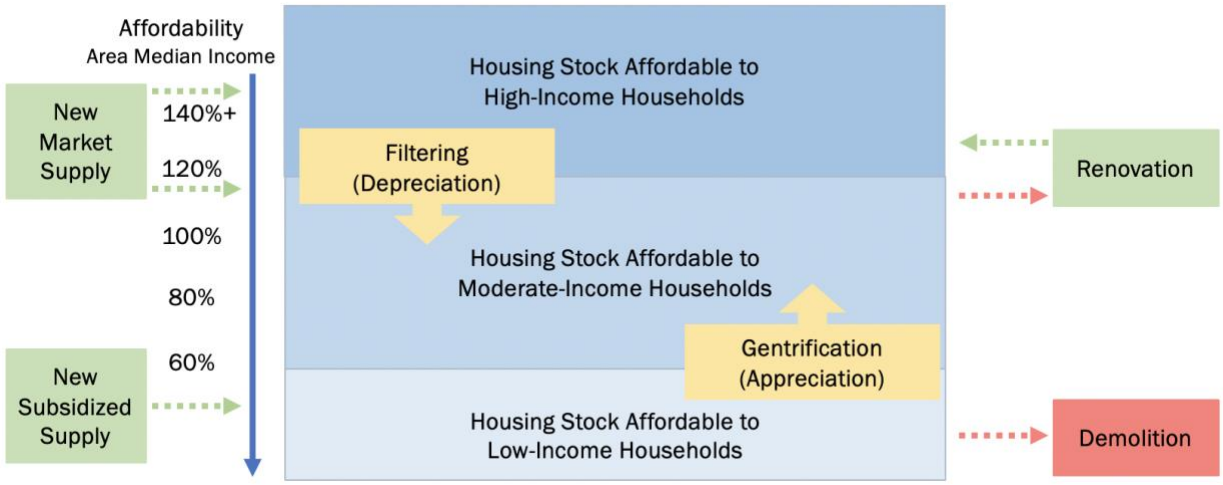
[2] *Ibid*.

[3] *Ibid*.

[4] *Ibid*.

filtering can also occur in reverse. Reverse filtering or upward filtering occurs when "low-cost housing occupied by lower-income households is bought and renovated to meet the demand from higher-income households."[5] This is illustrated in Figure 1.

Figure 1. Filtering vs. Reverse Filtering
Source: ECONorthwest



Notes: Filtering is when new, more expensive housing becomes relatively more affordable over time. Gentrification is when older, less expensive housing becomes relatively less affordable due to increased demand from higher-income households.

Literature Summary

Effects of Filtering on Affordability

The main debate within the filtering literature is broader than filtering itself; the key question is whether filtering is enough to achieve better affordability overall, particularly for lower-income households.[6] Recent studies [7, 8] and the larger research literature, including ECONorthwest's previous work, demonstrate that "**the filtering process is insufficient to create an adequate supply of stable, safe, affordable housing for low-income households** – this part of the housing stock requires ongoing, meaningful investments in subsidized or regulated[9] affordable housing as well as public-private-partnerships with mission-oriented housing developers."[10]

[5] HDR and ECONorthwest, 2020.

[6] Josh Lehner, "Housing Does Filter," *Oregon Office of Economic Analysis*, May 25, 2016, https://oregoneconomicanalysis.com/2016/05/25/housing-does-filter/

[7] Miriam Zuk and Karen Chapple, "Housing Production, Filtering and Displacement: Untangling Relationships," (Urban Displacement Project, University of California, Berkeley, 2016), https://escholarship.org/uc/item/7bx938fx

[8] Chapple et al., 2022.

[9] 'Subsidized or regulated affordable housing' refers to housing that has deed or other financial requirements to restrict the rents or sales prices at the property, or to restrict the incomes of residents who live at the property, so that the unit is affordable to households with incomes in a specified range of the area median income.

[10] HDR and ECONorthwest, 2020.

This is because filtering takes time, as discussed in the next section, does not reach the lowest levels of affordability in a housing market, and can be reversed when demand exceeds supply. Also, the filtering migration chain can break or end due to increases in demand from "household formation, a unit being used as a second home, out-of-metro migration," or from "landlords not reducing rents enough to fully fill vacancies."[11]

In addition, "when a market is undersupplied and demand outpaces supply (marked by rapidly rising prices), filtering can operate in reverse, resulting in the gentrification of places and displacement of low-income residents. In this case, low-cost housing occupied by lower-income households is bought and renovated to meet the demand from higher-income households."[12] Filtering does not guarantee protection from gentrification (or upward filtering) and displacement.[13]

Because the effects of filtering are not easily observable until decades or generations later, many people question the effectiveness of filtering in ensuring the availability of housing that is affordable.[14, 15] Additionally, some worry that the housing that does filter down may have deteriorated too much to be habitable.

Filtering Rates and the Impact of Supply at a Regional Scale

To understand how filtering works and contributes to housing market dynamics, many researchers have studied how quickly housing units filter down or depreciate relative to real incomes. To do so, they measured the percentage difference in the incomes between previous and new occupants after controlling for differences in housing quality, local amenities, and inflation.

While some studies[16,17] show that filtering can begin to occur within five years of new housing construction, "**the filtering process can take decades, or even generations**" due to the long lifespan of residential construction.[18]

The most well-documented study of filtering showed that housing in the U.S. depreciates (relative to new units) at a rate of 0.49 percent to 0.58 percent per year for ownership units and

[11] Mast, 2019.

[12] HDR and ECONorthwest, 2020.

[13] Chapple et al., 2022.

[14] *Ibid*.

[15] Josh Lehner, "Construction, Housing Supply, and Affordability," *Oregon Office of Economic Analysis*, February 15, 2022, https://oregoneconomicanalysis.com/2022/02/15/construction-housing-supply-and-affordability/

[16] Evan Mast, "The Effect of New Market-Rate Housing Construction on the Low-Income Housing Market" (Upjohn Institute Working Paper No. 19-307, Upjohn Institute, Kalamazoo, MI, 2019), http://dx.doi.org/10.2139/ssrn.3426103

[17] Karen Chapple et al., "Housing Market Interventions and Residential Mobility in the San Francisco Bay Area" (Federal Reserve Bank of San Francisco Community Development Working Paper No. 2022-1, San Francisco, CA 2022), https://www.frbsf.org/community-development/wp-content/uploads/sites/3/housing-market-interventions-and-residential-mobility-in-the-san-francisco-bay-area.pdf

[18] HDR and ECONorthwest, 2020.

2.37 percent to 2.71 percent per year for rental units.[19] The study evaluated national panel data from the American Housing Survey (AHS) between 1985 and 2011, including properties built before 1985, and concluded that most of filtering occurs within the first 40 years of construction. The filtering rates are lower in New England, the Middle Atlantic, and the Pacific regions, and the author explains "the regional differences in house price inflation contributes to differences in filtering rates."[20] In other words, **filtering rates are lower in places where housing prices have grown faster and housing underproduction or supply challenges persist**.

Another study confirmed that fast-growing regions like California with higher housing prices have lower filtering rates. Researchers found that **a median-income housing unit in California could take roughly 15 years to filter down to occupants at 80 percent of the median income and almost 50 years to filter down to occupants at 50 percent of the median income**. The same fundamentals are at play affecting high prices and lower filtering rates: a lack of new supply.[21]

An international study based in Finland also concluded that filtering could occur in the near-term.[22] The researchers found greater filtering rates in Finland and explained that the difference in filtering rates between Finland and the U.S. is likely related to greater socioeconomic gaps, income inequality, and residential segregation.

Filtering (and Reverse Filtering) at a Neighborhood Scale

While most research (as summarized above) shows that adding housing moderates price increases at a regional scale, there is some question as to how new housing supply affects filtering and reverse filtering (with potential for gentrification and displacement) in the area immediately surrounding the new housing. This is described in the introduction to a recent study:

> *There's a growing debate among housing advocates over the neighborhood-level impacts of market-rate housing development. On one side are those who think new market-rate units — unsubsidized homes whose price often places them beyond the reach of lower- and middle-income households — make nearby housing more affordable by increasing availability and relieving pressure on the existing housing stock. This is known as the "supply effect." An opposing view, however, is that new housing only attracts more wealthy households, brings new amenities to the neighborhood (including the housing*

[19] Stuart S. Rosenthal, "Are Private Markets and Filtering a Viable Source of Low-Income Housing? Estimates from a 'Repeat Income' Model," *American Economic Review* 104, no. 2 (2014): 687-706, https://www.aeaweb.org/articles?id=10.1257/aer.104.2.687

[20] *Ibid*.

[21] Zuk and Chapple, 2016.

[22] Cristina Bratu et al., "City-wide effects of new housing supply: Evidence from moving chains" (VATT Institute for Economic Research Working Paper No. 146, VATT Institute for Economic Research, Helsinki, Finland, 2021), https://www.doria.fi/handle/10024/181666

itself), and sends a signal to existing landlords that they should raise their rents. This "amenity effect" or "demand effect" thus makes housing less affordable.[23]

This study, a synthesis of other recent papers, notes that five of six recent relevant studies find evidence that new market-rate housing makes nearby rental housing more affordable across the income distribution, with one study finding mixed results.[24]

One study found that new market-rate buildings in large cities[25] decreased rents of nearby units by 5 to 7 percent relative to units slightly farther away.[26, 27] Filtering began the same year the construction was completed and continued for at least another three years.

Another recent study shows the potential for both filtering and reverse filtering to occur across and within smaller geographical spheres. The study estimated the filtering rates across and within six metropolitan statistical areas (MSAs)[28] and found great variation in filtering rates, including "rapid downward filtering in Chicago and Detroit to upward filtering in Washington, D.C. and Los Angeles." [29] Moreover, the researchers found that the filtering rates *within* MSAs vary substantially more than the filtering rates across MSAs. Thus, even within MSAs that, on average, are experiencing upward filtering, some neighborhoods are seeing downward filtering creating more affordable housing options. The study, using data from 1993 to 2018, found that upward filtering occurred in areas closest to city centers and that neighborhoods seeing downward filtering were outside of city centers.[30] Given the timing, this likely reflects a trend of increasing demand for urban living during this period.

[23] Shane Phillips, et al. (2021). "Research Roundup: The Effect of Market-Rate Development on Neighborhood Rents." UCLA: The Ralph and Goldy Lewis Center for Regional Policy Studies. Retrieved from https://escholarship.org/uc/item/5d00z61m

[24] Phillips, et al., 2021

[25] The study included a sample of 1,483 buildings constructed between 2010-2019 in 11 cities: Atlanta, Austin, Chicago, Denver, Los Angeles, New York City, Philadelphia, Portland, San Francisco, Seattle, and Washington, D.C.

[26] Brian J. Asquith et al., "Supply Shock Versus Demand Shock: The Local Effects of New Housing in Low-Income Areas," (Upjohn Institute Working Paper No. 19-316, Upjohn Institute, Kalamazoo, MI, 2019), https://doi.org/10.17848/wp19-316

[27] Nearby units are defined in the study as units within 250 meters (roughly one or two city blocks) and units further away are defined as those within 600 meters (slightly over a third of a mile and 8 to 10 minutes by walking).

[28] Atlanta, Chicago, Detroit, Los Angeles, Minneapolis, and Washington, D.C.

[29] Liyi Liu and Doug McManus and Elias Yannopoulos, "Geographic and Temporal Variation in Housing Filtering Rates," *Regional Science and Urban Economics 93*, no. C (2020), https://www.aeaweb.org/conference/2021/preliminary/paper/GebsZrYS

[30] *Ibid*.

Local Data: Filtering in the Metro Region

Filtering of Rental Units in the Portland Metro Area

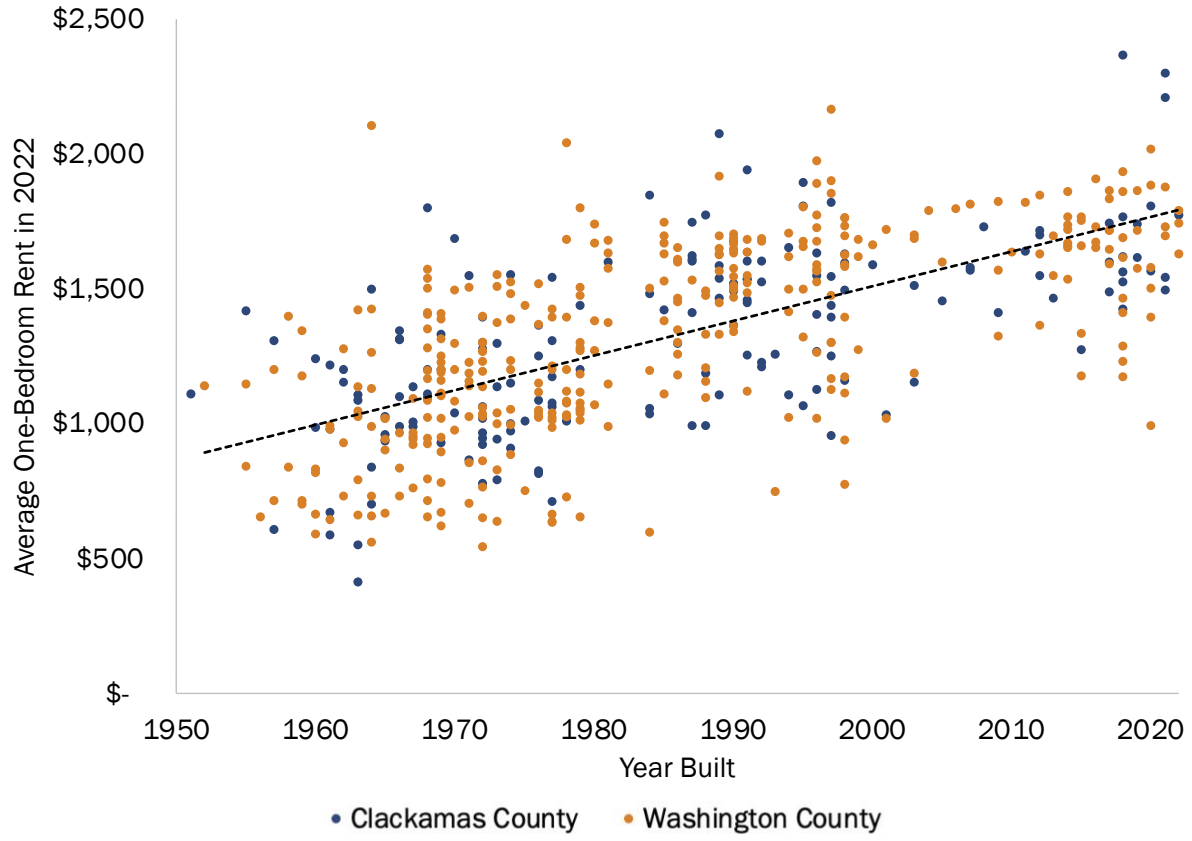
Regional Patterns

To identify long-term price effects of filtering in the Portland metropolitan area, ECONorthwest compared the relative affordability of housing built in different years using building-level rent data and recent sales transactions. If filtering is occurring, older units should have lower rents (and sales prices) on average. The lower rents/sales prices, in turn, would be more affordable to households in the region. However, this approach does not control for changes in building quality for housing built during different time periods due to shifts in the demand for onsite amenities and more stringent building codes. The analysis separates suburban areas (using Clackamas and Washington Counties as a proxy) from more urban areas (using Portland's Central City Plan District as a proxy) to test for differences in different parts of the region.

ECONorthwest's analysis shows a general downward trend in rents relative to building age in Clackamas County and Washington County: one-bedroom units have higher average monthly rents in newly built multifamily buildings than in older buildings (see Figure 2).

Figure 2. Average Multifamily One-Bedroom Monthly Rents by Year Built in Clackamas County and Washington County, Year Built Since 1951

Source: ECONorthwest, CoStar

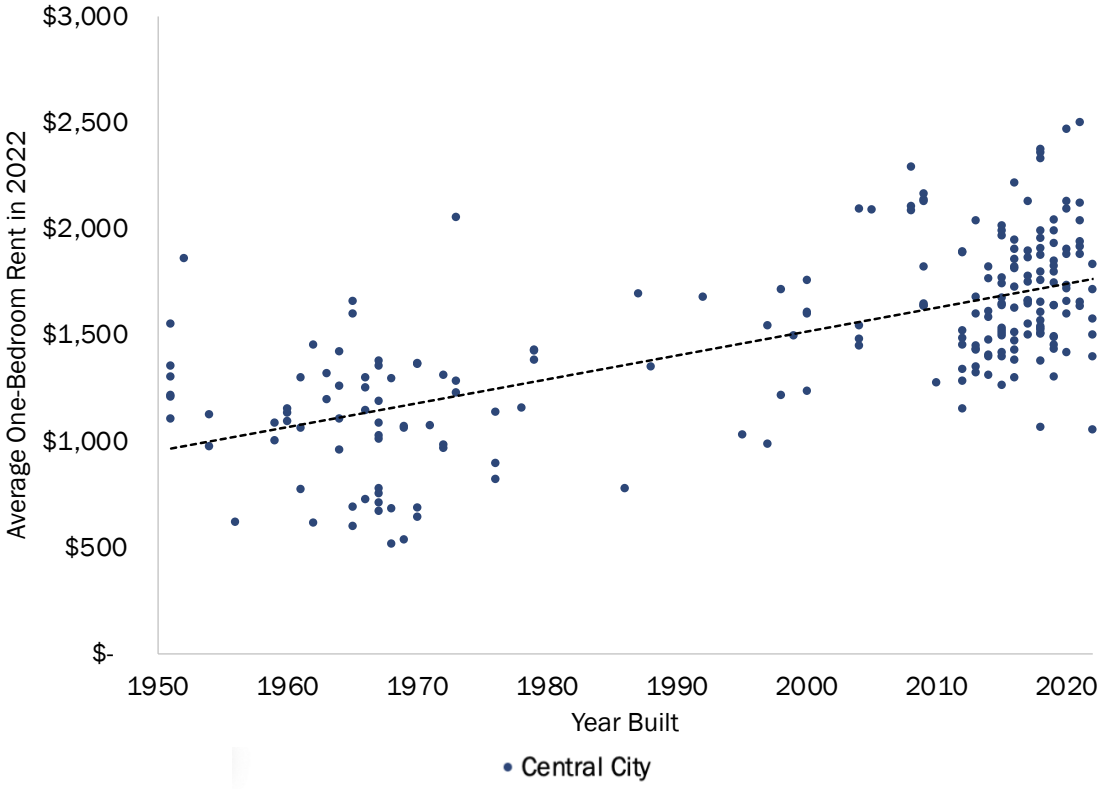


As the figure demonstrates, each decade of a building's age is associated with about $125 lower one-bedroom monthly rents, without controlling for other factors.[31] It also shows that rents vary across building ages as some older buildings have higher rents than newer buildings. Building age is just one of many factors influencing the price of rent, along with other considerations like location, amenities, size, or accessibility to employment and locational amenities.

In Portland's Central City Plan District (Figure 3), the data shows each decade of a building's age is associated with about $106 lower one-bedroom monthly rents,[32] when looking only at buildings constructed since 1951 (for consistency with the Washington County and Clackamas County analysis).

Figure 3. Average Multifamily One-Bedroom Monthly Rents by Year Built in Portland Central City Plan District, Year Built Since 1951

Source: ECONorthwest, CoStar

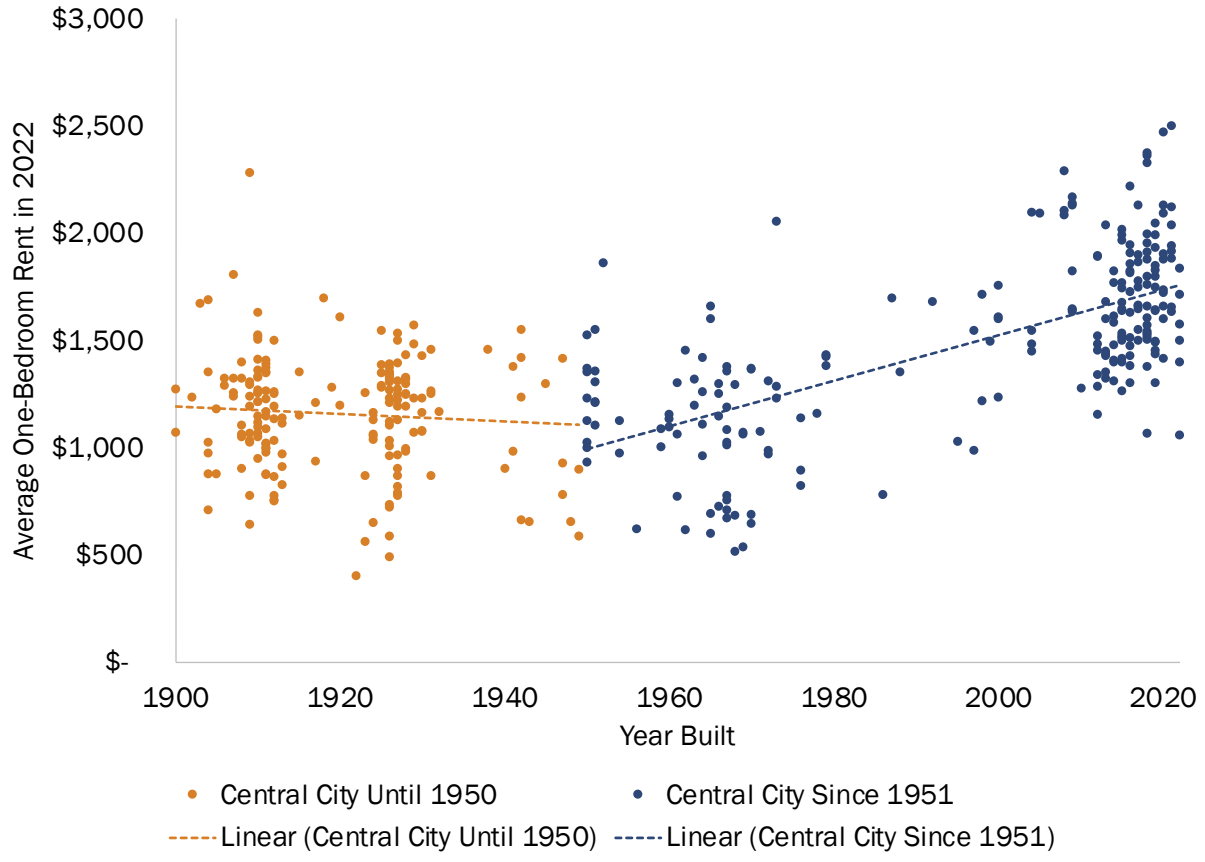


[31] The analysis does not account for variation in construction types across the observed sample; trends in finish qualities and expectations, which can impact rent levels; neighborhood amenities such as transit access; school districts; difference in local property tax rates; and many other factors that could be accounted for in a multivariate regression. The regression analysis in the figure shows that building age explains about 42 percent of the variation in one-bedroom rents.

[32] The analysis does not account for variation in construction types across the observed sample; trends in finish qualities and expectations, which can impact rent levels; neighborhood amenities such as transit access; school districts; difference in local property tax rates; and many other factors that could be accounted for in a multivariate regression. The bivariate regression analysis in the figure shows that building age explains about 43 percent of the variation in one-bedroom rents.

The pattern observed in the data above applies only to apartments that were built since the 1950s and have not been demolished. Looking at older buildings in the Central City Plan District (built in 1950 or earlier), there is almost no difference in average one-bedroom rents across building age, as shown in Figure 4. (The same analysis is not repeated for Clackamas County and Washington County because there were too few properties built earlier than 1950.) There are several possible explanations for this. First, older properties that had depreciated are more likely to have been demolished because building upkeep and renovation costs were too high, leaving only the most desirable properties that are worth reinvestment and can attract reasonable rents. Second, older properties can remain in the market at relatively competitive rent levels due to architectural or historical significance. The demand from a narrow segment of renters and investors and efforts to retain such buildings may outweigh the effects of building age and deterioration on rent levels.

Figure 4. Average Multifamily One-Bedroom Monthly Rents by Year Built in Portland Central City Plan District
Source: ECONorthwest, CoStar



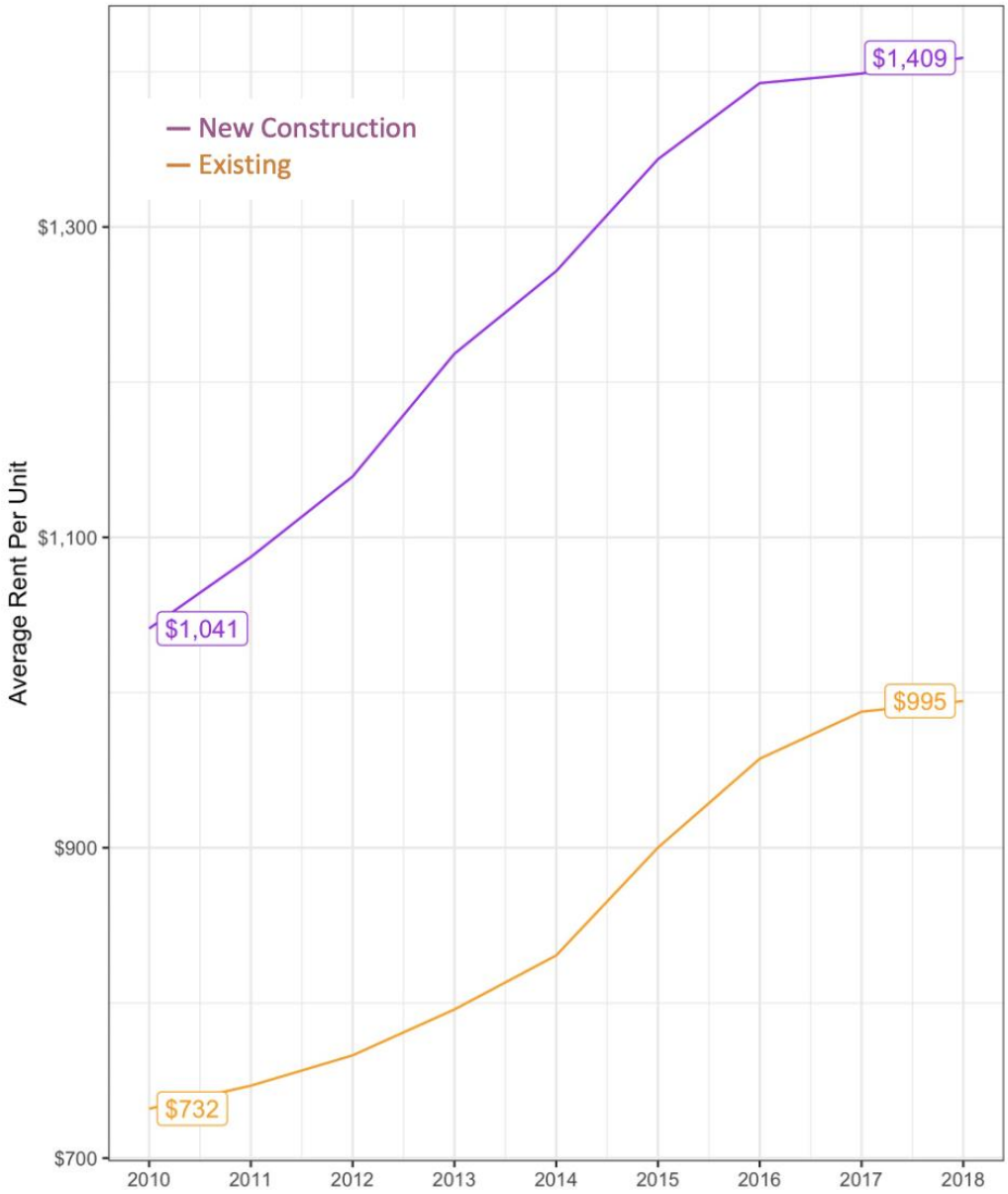
Rent Premium Over Time

Due to data limitations, it is more difficult to track rents for particular buildings longitudinally (over time) at a regional scale. However, an analysis by ECONorthwest for the City of Beaverton in 2018 looked at rent trends over time for apartments in the Metro region, separating

new construction from older housing stock. The analysis showed that rents for both new construction and older housing stock grew at about 4 percent per year and showed a relatively consistent rent premium of about 42 percent for new construction between 2010 and 2018 (see Figure 5).[33]

Figure 5. Multifamily Rent Premium and Trends for New Construction vs. Existing Apartments, 2010-2018

Source: ECONorthwest using data from CoStar[34]



Note: Rent amounts are reported in nominal dollar values and are not adjusted for inflation.

[33] ECONorthwest memorandum to City of Beaverton: "Beaverton Vertical Housing Development Zone Displacement Analysis," June 15, 2018

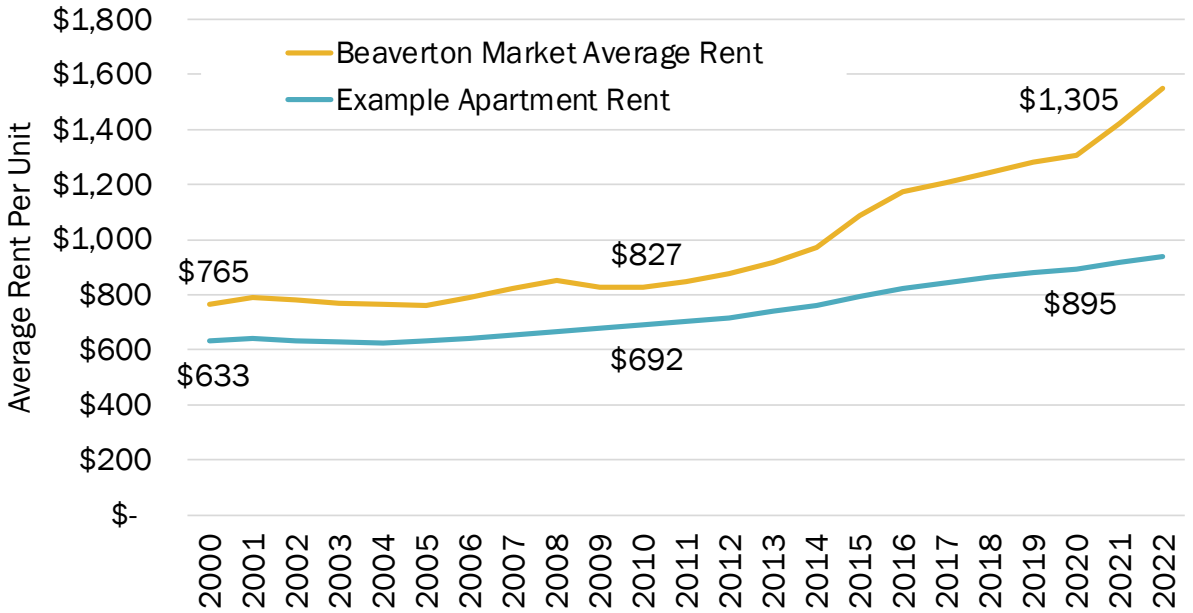
[34] *Ibid*.

Illustrative Examples of Filtering for Rental Housing

Looking at an example apartment built in 1998 illustrates how rents can change over time relative to the market. The example property in Beaverton was relatively affordable even when it was new, with a rent circa 2000 that was 18 percent below the Beaverton market average rent[35]. This gap was sustained through 2010. However, the difference between the example property and the market average grew during the 2010s. The addition of new apartments with higher rent premiums into the existing housing stock pushed the market average rent 58 percent higher between 2020 and 2010. Meanwhile, the average rent for the example property grew only 29 percent. By 2020, the average rent for the example property was 31 percent below the market average rent in Beaverton.

Figure 6. Average Rents at Example Apartment Property Over Time Compared to Beaverton Market, 2000 to 2022

Source: CoStar



[35] The market average rent for Beaverton apartments is for a subset of apartments that CoStar categorizes as having 2, 3, or 4 stars on its 5-star rating system to indicate building quality. It captures the price of typical apartments (including new construction) while excluding extremely high-quality or extremely low-quality ones.

Filtering Observed in Single-Family Home Sales Prices

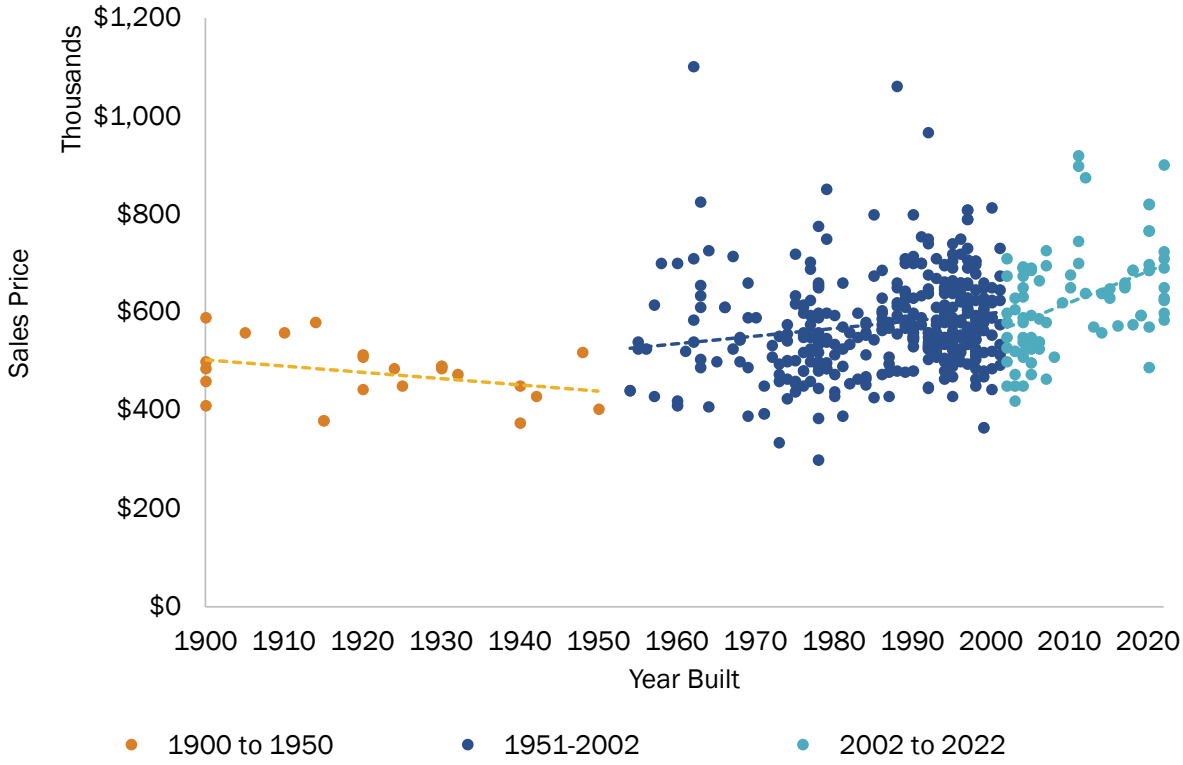
ECONorthwest analyzed relative prices across single-family homes built in different years and identified illustrative examples comparing pairs of similar homes built at different times. If filtering is occurring, sales prices should be lower in older units on average than in newly built units. Lower-priced units are more likely to be purchased by lower-income households.

Regional Patterns

Outside the City of Portland, the relationship between single-family home sales prices and the year built depends on the decades the units were built in, as shown in Figure 7. For units built in 1950 or earlier, there is a very weak but slightly negative relationship (i.e., the sales prices are *lower* for new units on average). For units built between 1951 and 2002, there is a very weak but slightly positive relationship (i.e., the sales prices are *higher* for newer units on average). Finally, for units built in the last 20 years, there is a stronger and positive relationship: each decade of building age is associated with about $63,000 lower sales price.[36]

Figure 7. Recent Sales Prices of Single-Family Homes Outside of Portland*

Sources: ECONorthwest, Metro Regional Land Information System (RLIS)



* Notes: The data is a subset of sales prices recorded in RLIS. Filters are 3 or 4 bedrooms, unit size of 1,500 to 2,500 sq. ft., lot size of 4,500 to 9,000 sq. ft., and sales transaction in September, October, or November of 2022.

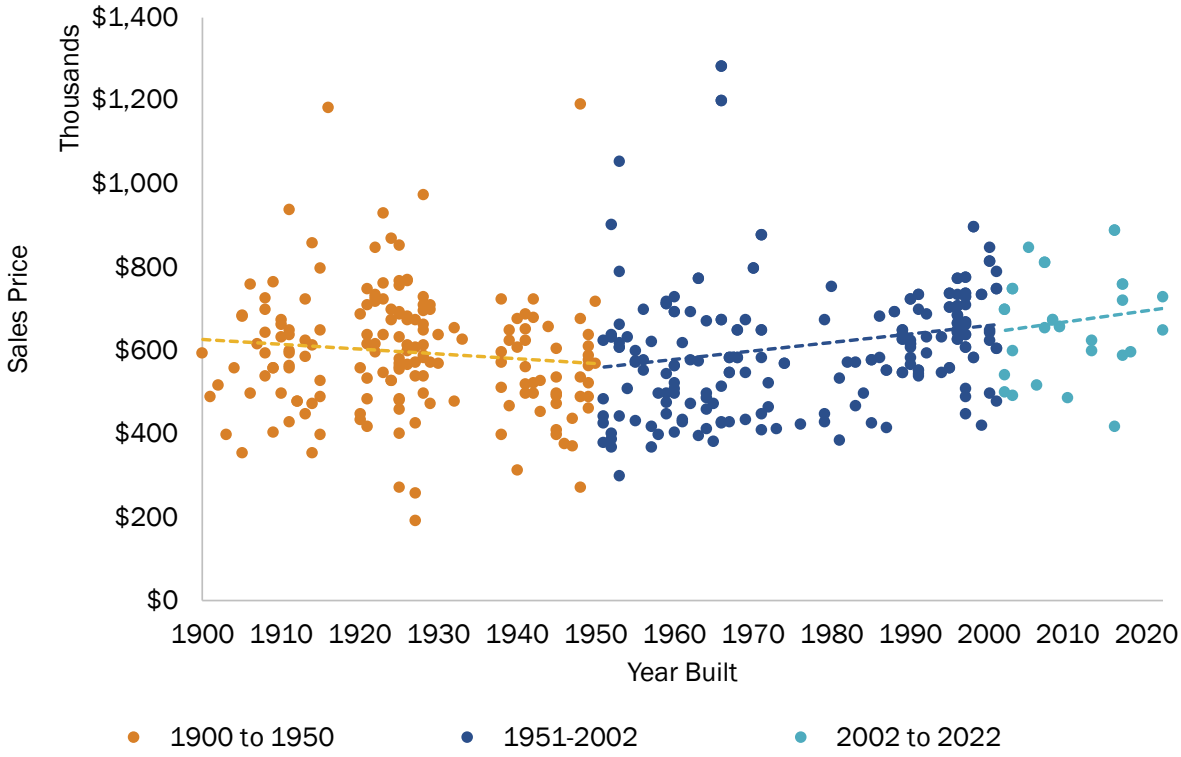
The findings diverge for Portland, as shown in Figure 8. Similar to outside of Portland, there is a very weak but slightly negative relationship for units built in 1950 or earlier and there is a very

[36] The building age in the most recent two decades explains about 19 percent of the variation in sales prices.

weak but slightly positive relationship for units built between 1951 and 2002; the relationship between sales price and year built is not noticeably different for units built in the last 20 years.

Figure 8. Recent Sales Prices of Single-Family Homes in Portland*

Sources: ECONorthwest, Metro Regional Land Information System (RLIS)



* Notes: The data is a subset of sales prices recorded in RLIS. Filters are 3 or 4 bedrooms, unit size of 1,500 to 2,500 sq. ft., lot size of 4,500 to 9,000 sq. ft., and sales transaction in September, October, or November of 2022.

The data suggests that single-family sales prices decline (on average) over time relative to overall market prices, but the effect is limited (without controlling for other factors) and disappears for housing that is more than 70 years old.

Illustrative Examples of Filtering in Single-Family Homes

To find illustrative examples of filtering, ECONorthwest used a matched-pairs approach using data from Zillow on the prices of detached single-family units that were constructed and sold in 2022 and prices of older homes that sold in the past 12 months and at least once before. To attempt to mitigate some of the differences in neighborhood characteristics, ECONorthwest considered the distance between the comparison units, primary school district boundaries, and major roadways that could divide a part of a neighborhood from another. To mitigate some of the differences in building characteristics, ECONorthwest considered unit size, building height, façade, heating and cooling features, and garage size (i.e., number of vehicles that a garage can accommodate).[37] ECONorthwest also excluded renovated units based on information available

[37] A more robust analysis that requires a level of effort beyond the amount needed for the illustrative examples in this section could involve a statistical method (such as a multiple linear regression analysis) that controls for a variety of building and neighborhood characteristics.

from unit images and descriptions. Still, the illustrative examples are not perfect comparisons. Examples include both units in Urban Growth Boundary (UGB) expansion areas and units in infill areas.

For each example unit, ECONorthwest calculated the ratio between the sales price and average market price to gauge *relative affordability*. The average market prices are from Zillow Home Value Index (ZHVI) Single-Family Homes Time Series, which are available monthly and by ZIP Code. Calculating this affordability metric allows a comparison of housing prices in different years. If the metric is above 1.0, then the sales price is above the market average. If the metric is below 1.0, then the sales price is below the market average. This metric does not indicate a unit's affordability to a household because it does not compare the sales prices to a measurement of household income such as the area median income, and because the affordability of ownership units depends not only on the housing price and household income but also on mortgage payment terms and interest rate, which vary over time.

Example 1: Aloha

The two comparison units in Aloha on the next page are similarly sized, detached single-family units located within a mile of one another. In this example, the newer unit carries a price premium relative to the older unit (relative affordability of 1.21 for the newer unit vs. 0.97 for the older unit compared to the zip code overall as of the most recent sale), despite having much higher Homeowners Association (HOA) dues, which would tend to constrain how much a buyer would be willing and able to pay. Although the older unit appreciated about 63 percent from 2006 to late 2021, it became relatively affordable compared to other housing prices in the same area (relative affordability of 1.06 in 2006 vs. 0.97 in 2021).

Figure 9. Aloha Units

Source: Zillow

Newer Unit
Built Year: 2020
Unit Size: 1,825 sq. ft. (4 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 2
HOA Dues: $667 per year

Last Sales Date: March 21, 2022
Last Sales Price: $622,000 ($341 per sq. ft.)
Last Sales Price Relative Affordability: 1.21

Older Unit
Built Year: 2005
Unit Size: 1,815 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: December 30, 2021
Last Sales Price: $475,000 ($262 per sq. ft.)
Last Sales Price Relative Affordability: 0.97

Previous Sales Date: July 3, 2006
Previous Sales Price: $292,000 ($161 per sq. ft.)
Previous Sales Price Relative Affordability: 1.06

Example 2: Tigard

The two comparison units in Tigard are located in residential neighborhoods, about 1.5 miles from each other. They are about equally close to the local elementary and middle schools. The newer unit carries a price premium relative to the older unit (relative affordability of 1.22 for the newer unit vs. 1.02 for the older unit compared to the zip code overall as of the most recent sale). The older unit did not start more affordable (relative affordability of 1.27 in 2005) but became more affordable over time (relative affordability of 1.01 in 2021).

Figure 10. Tigard Units

Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,153 sq. ft. (4 beds, 2 baths)
Parcel Size: 6,528 sq. ft.
Garage Spaces: 2
HOA Dues: $1,008 per year

Last Sales Date: March 15, 2022
Last Sales Price: $788,582 ($366/sq. ft.)
Last Sales Price Relative Affordability: 1.22

Older Unit
Built Year: 2004
Unit Size: 2,295 sq. ft. (3 beds, 3 baths)
Parcel Size: 7,405 sq. ft.
Garage Spaces: 2
HOA Dues: $175 per year

Last Sales Date: July 14, 2022
Last Sales Price: $675,000 ($294/sq. ft.)
Last Sales Price Relative Affordability: 1.01

Previous Sales Date: February 25, 2005
Previous Sales Price: $365,000 ($159/sq. ft.)
Previous Sales Price Relative Affordability: 1.27

Example 3: Oregon City

The two example properties are less than 1 mile from each other. In this example, the newer unit is more expensive than the older unit (relative affordability of 1.28 vs. 1.06), despite the fact that the older unit is slightly larger and on a slightly larger parcel. However, the older unit became relatively less affordable over time (relative affordability of 1.06 in 2022 compared to 0.88 in 2006).

Figure 11. Oregon City Units

Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,583 sq. ft. (4 beds, 3 baths)
Parcel Size: 6,534 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: October 14, 2022
Last Sales Price: $769,950 ($298/sq. ft.)
Last Sales Price Relative Affordability: 1.28

Older Unit
Built Year: 2006
Unit Size: 2,819 sq. ft. (4 beds, 3 baths)
Parcel Size: 7,405 sq. ft.
Garage Spaces: 2
HOA Dues: $0 or no data

Last Sales Date: June 3, 2022
Last Sales Price: $660,000 ($234/sq. ft.)
Last Sales Price Relative Affordability: 1.06

Previous Sales Date: June 26, 2006
Previous Sales Price: $295,330 ($105/sq. ft.)
Previous Sales Price Relative Affordability: 0.88

Example 4: Roseway Neighborhood in NE Portland

The two example properties in northeast Portland are located just under 1 mile from each other. The older property is closer to NE Sandy Boulevard and thus has slightly better access to commercial uses, though the two properties are about equal distance from a grocery store. In this example, both units are more affordable than the average market price for the area, and the older unit is more affordable than the newer unit at the most recent sale (relative affordability of 0.83 for the older unit vs. 0.90 for the newer unit). However, the older unit appreciated significantly from 2007 to 2021 (about an 87 percent increase in value) and became relatively less affordable than it had been (relative affordability of 0.83 vs. 0.76 when built).

Figure 12. Roseway Units

Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 1,520 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,500 sq. ft.
Garage Spaces: 1
HOA Dues: $0 or no data

Last Sales Date: August 30, 2022
Last Sales Price: $550,000 ($362/sq. ft.)
Last Sales Price Relative Affordability: 0.90

Older Unit
Built Year: 2008
Unit Size: 1,502 sq. ft. (3 beds, 3 baths)
Parcel Size: 2,613 sq. ft.
Garage Spaces: 1
HOA Dues: $0 or no data

Last Sales Date: June 28, 2021
Last Sales Price: $471,000 ($314/sq. ft.)
Last Sales Price Relative Affordability: 0.83

Previous Sales Date: November 16, 2007
Previous Sales Price: $252,500 ($168/sq. ft.)
Previous Sales Price Relative Affordability: 0.76

Example 5: Southwest Neighborhood in Gresham

The two example properties in Gresham's Southwest Neighborhood (south of Powell Boulevard / Route 26) are about 0.6 miles from each other. The older home is more affordable than the newer home (relative affordability of 1.22 for the older home vs. 1.29 for the newer home). Although the price of the older unit more than doubled since 2000, it became relatively affordable over time when compared to other housing prices in the same area (relative affordability of 1.32 when new vs. 1.22 after 20 years).

Figure 13. Southwest Gresham Units

Source: Zillow

Newer Unit
Built Year: 2022
Unit Size: 2,214 sq. ft. (4 beds, 3 baths)
Parcel Size: 7,840 sq. ft.
Garage Spaces: 3
HOA Dues: $0 or no data

Last Sales Date: April 8, 2022
Last Sales Price: $673,000 ($304/sq. ft.)
Last Sales Price Relative Affordability: 1.29

Older Unit
Built Year: 2000
Unit Size: 2,205 sq. ft. (4 beds, 3 baths)
Parcel Size: about 10,000 sq. ft.
Garage Spaces: 3
HOA Dues: $0 or no data

Last Sales Date: September 22, 2022
Last Sales Price: $630,000 ($286/sq. ft.)
Last Sales Price Relative Affordability: 1.22

Previous Sales Date: September 25, 2002
Previous Sales Price: $295,500 ($118/sq. ft.)
Previous Sales Price Relative Affordability: 1.32

Conclusion

There is relatively strong evidence that filtering does occur in housing markets, though it varies based on local conditions and can sometimes occur in reverse, potentially resulting in gentrification, when older properties become more valuable. Adding new housing to a regional housing market creates opportunities for higher-income households to move into newer units while older units "filter" down to households with lower incomes. This process occurs over a long period of time, though there are studies suggesting short-term effects as well. Filtering occurs more slowly in places where housing markets are undersupplied, and strong demand has pushed prices upward. Filtering through deterioration and age reverses when there are renovations and other significant upgrades to older properties.

Many recent studies also conclude that new housing supply does more to alleviate upward pressure on rents in the vicinity of the new development than to increase that pressure. However, filtering alone is not enough to provide housing affordable to the lowest-income households, and does not protect from future market pressures.

Housing market patterns and trends within the Metro region show potential evidence of filtering (older units have lower rents and sales prices on average, at least over the first 70 years after construction) and of premiums for new construction. However, construction quality has also increased over time, which could account for some of this effect. As the literature would suggest, filtering appears to be slower where housing prices are higher and housing price/rent growth has been greater (e.g., Portland's central city). Moreover, the effects of filtering appear to disappear after a certain building age, possibly due to significant reinvestments in more desirable properties, demolition of less desirable properties, or a value premium associated with architectural or historical significance of an aged building.

Taken together, this suggests that new construction helps mitigate price and rent increases at a regional and neighborhood level and can allow older units to become relatively more affordable, but filtering provides only modest increases in relative affordability (at best) for new housing over the course of a 20-year planning horizon.

Metro Technical Advisory Committee

Metro Residential Readiness Project

Market Functions, Gentrification, and Displacement Trends

June 21, 2023

ECONorthwest

ECONOMICS · FINANCE · PLANNING

Introductions

Madeline Baron

Senior Project Manager

Justin Sherrill

Technical Manager

ECONorthwest

ECONOMICS • FINANCE • PLANNING

Nick Chun

Data Analytics Manager

Metro Residential Readiness Project

Research and analysis to guide Metro's 2024 Urban Growth Management Decision

Updates to development capacity / supply model


Development Readiness


Population & Development Trends


Housing Filtering & Market Functions


Gentrification & Displacement Risk


Office-to-Residential Conversion Potential


Middle Housing Potential


Existing Housing Needs

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Gentrification & Displacement Risk


Office-to-Residential Conversion Potential


Middle Housing Potential


Existing Housing Needs

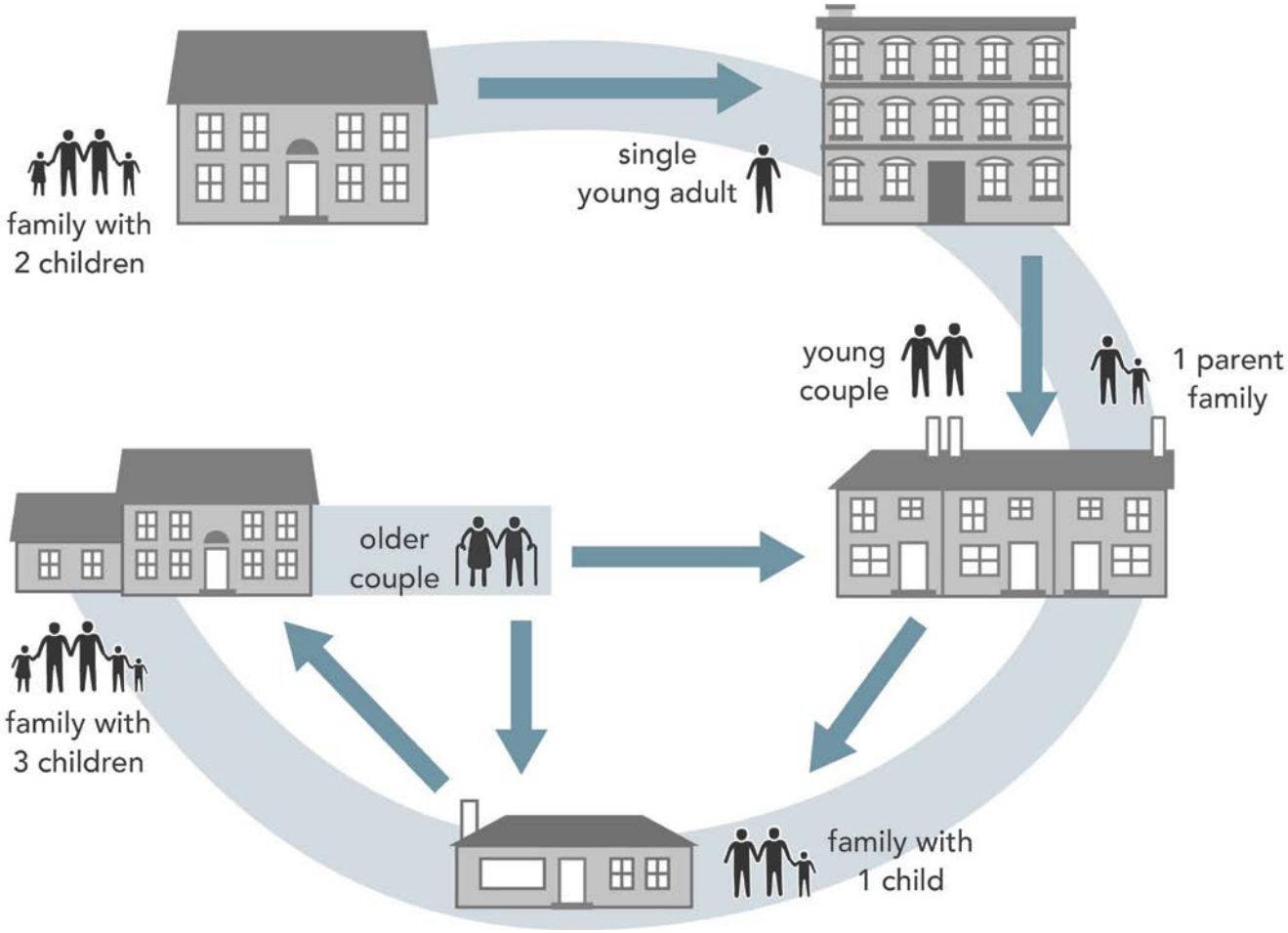
Purpose

- Summarize changing home prices and demographics relating to gentrification and displacement pressure.
- Use a displacement risk typology to highlight areas at risk of additional gentrification and involuntary displacement.
- Help Metro focus on the housing types that are most important for meeting the region's affordability needs.

Housing Filtering & Market Functions

How Housing Markets Function

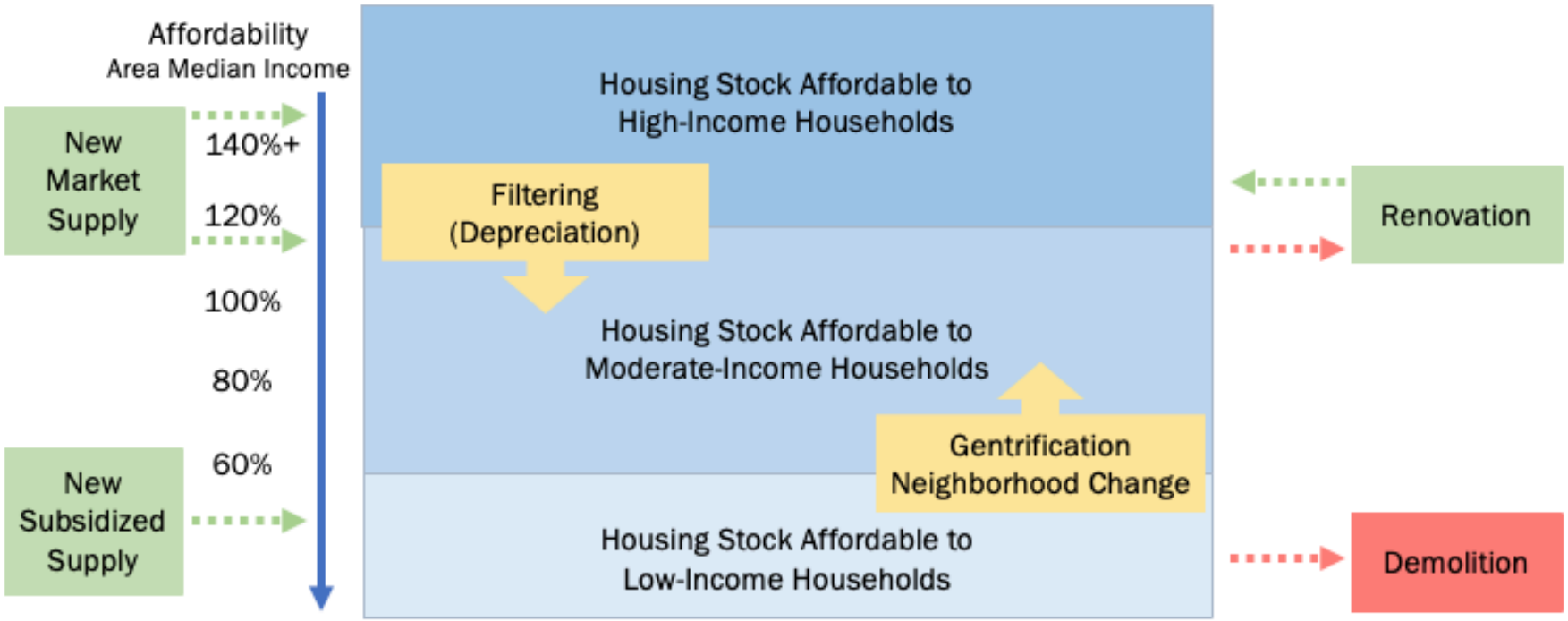
- Housing markets are subject to the laws of supply and demand, though they are greatly influenced by government interventions
- Housing markets need a range of housing types to meet the diversity of housing needs
- Household preferences vary, and are influenced by cost, location, size, and amenities
- New units cannot directly replace old units; they join the stock of housing from which consumers choose



Adapted from: Clark, William A.V., and Frans M Dieleman. 1996. Households and Housing. New Brunswick, NJ: Center for Urban Policy Research

How New Supply Enters the Market

- New supply enters the market at high prices
- Over time, housing depreciates and becomes more affordable
- As higher income households move into the new stock, their old units depreciate and become available for lower-income households to occupy
- *New supply is necessary to allow the market to filter over time*



Source: ECONorthwest

Importance of New Supply

- In recent decades, many markets have been underproducing housing with big consequences
- Housing underproduction correlates with:
  - Homelessness via price increases and reduced vacancies
  - Greenhouse gasses and vehicle miles traveled
  - Homeownership disparities by race and ethnicity
  - Economic and racial segregation
- Markets need to meet future need (new households arriving/forming) AND existing need (units for people experiencing homelessness, units for households who are cost burdened)
- Undersupply is challenging to dig out from

How Does New Supply Affect Prices/Rents of Existing Housing?

- At the regional level, new housing supply impacts prices and rents via the supply elasticity and via filtering

- **Supply elasticity** is the relationship between changes in market supply and average market prices
  - Bringing housing supply in line with demand helps to moderate price and rent increases; areas with too much supply will see prices/rents fall
  - Supply elasticity requires 100,000's of units to reduce average prices statewide
  - Building this many units would induce demand and restore price equilibrium – muting the impacts on price

How Does New Supply Affect Prices/Rents of Existing Housing?

- **Via filtering,** national research[1] estimates that housing depreciates:
  - 2.37% - 2.71% per year for rental
  - 0.49% - 0.58% per year for ownership
- Filtering will never lead to housing prices/rents becoming affordable to very low income households
  - Housing for these households will always need public subsidy
- Filtering takes a long time and can move in reverse when a regional housing market is undersupplied

[1] Stuart S. Rosenthal, "Are Private Markets and Filtering a Viable Source of Low-Income Housing? Estimates from a 'Repeat Income' Model," American Economic Review 104, no. 2 (2014): 687-706, https://www.aeaweb.org/articles?id=10.1257/aer.104.2.687

How Does New Supply Affect Prices/Rents of Existing Housing?

- Research[2] and opinions are mixed on how new housing supply impacts the prices/rents of existing housing at the local level
  - The "supply effect" suggests that new units relieve pressure in undersupplied markets and moderate price increases nearby
  - The "amenity effect" or "demand effect" suggests that new housing units attract wealthy households, brings new and different amenities to an area and signals to landlords to raise rents
- Most quantitative studies suggest the supply effect occurs
- But personal experiences, neighborhood change, and cultural displacement are real

[2] Shane Phillips, et al. (2021). "Research Roundup: The Effect of Market-Rate Development on Neighborhood Rents." UCLA: The Ralph and Goldy Lewis Center for Regional Policy Studies. Retrieved from https://escholarship.org/uc/item/5d00z61m

Gentrification and Displacement Analysis

Two Ways to Look at Gentrification and Displacement

Socioeconomic Vulnerability

- Evaluate where there are concentrations of populations who might be at risk of displacement
- Snapshot in time, distribution of households across the region

Gentrification Trends and Typology

- Identify areas where demographics and/or housing market conditions have shifted relative to regional averages
- Identify areas where gentrification may be underway

Two Ways to Look at Gentrification and Displacement

Socioeconomic Vulnerability

- Hispanic households
- Households of color (non-White, non-Hispanic)
- Population without a bachelor's degree (age 25-64)
- Low-income renter households (<$50,000)
- Population with low English proficiency
- Households with disabilities (physical or cognitive)

Static analysis: as of 2021

Gentrification & Displacement Typology

- Renter households
- Households of color
- Households without a bachelor's degree
- Low-income households
- Home values / rents

- Change in homeowner households
- Change in White households
- Change in households with bachelor's degree
- Change in median household income
- Change in home values / rents

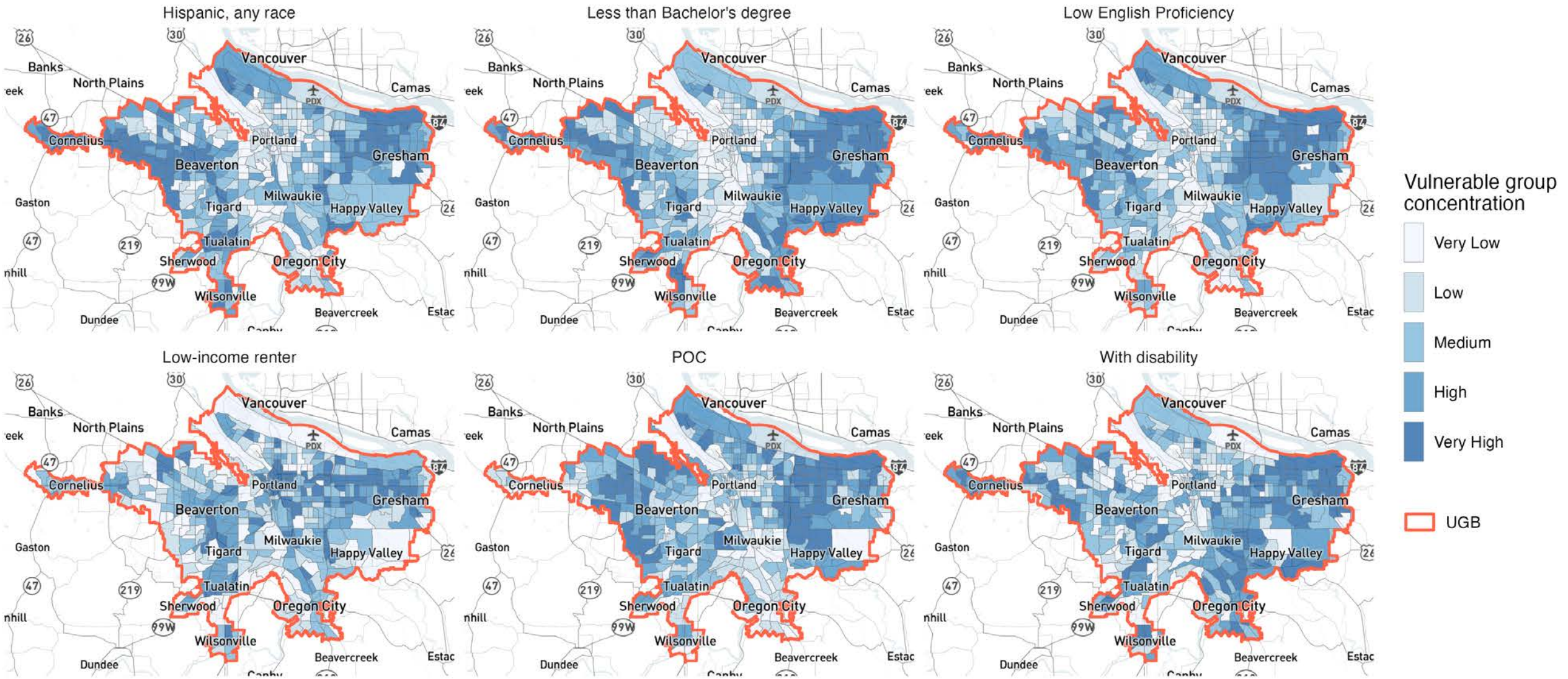
Dynamic analysis: change from 2010-2021

Socioeconomic Vulnerability

Socioeconomic Vulnerability

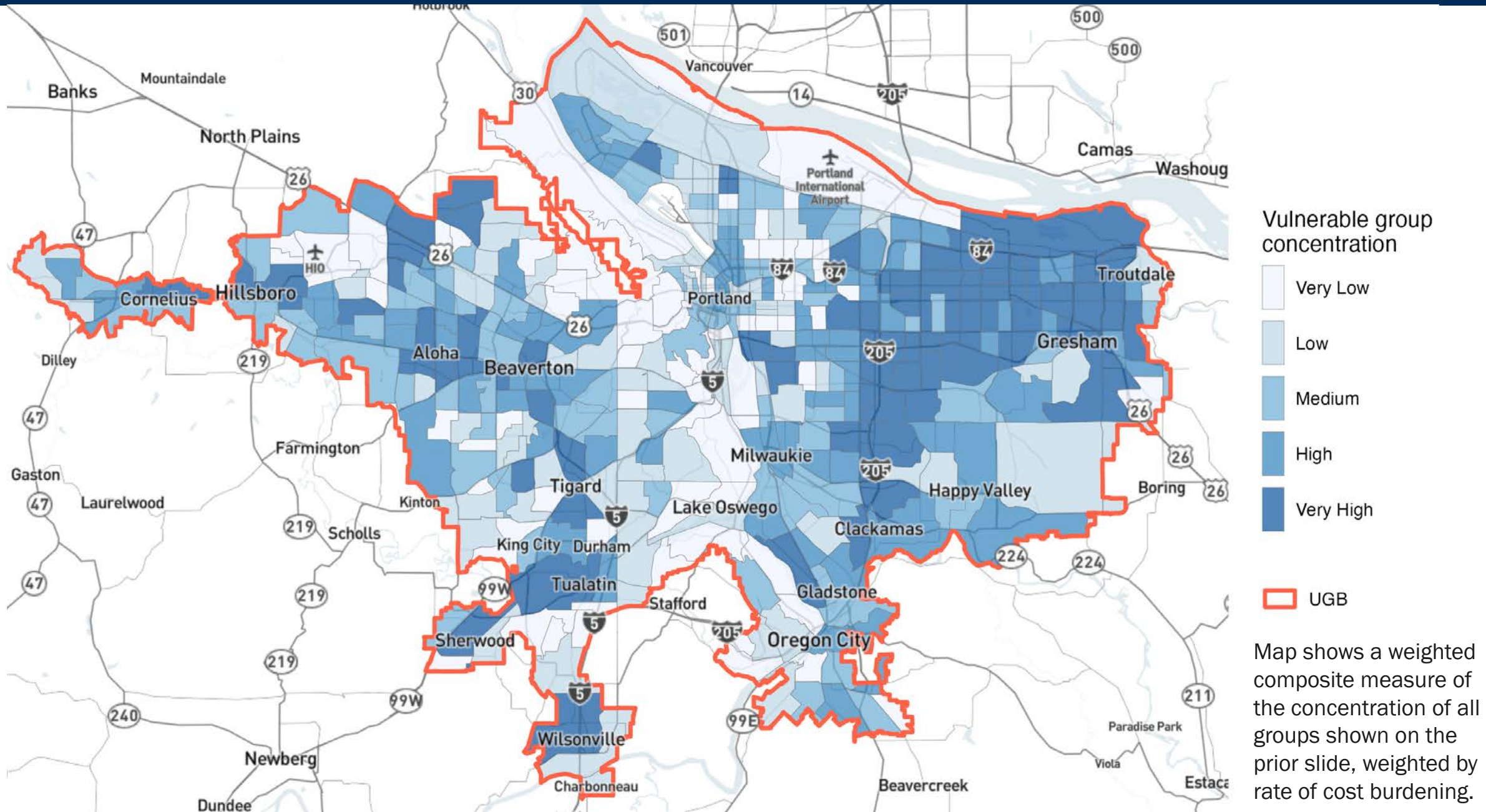
- Six demographic groups who display heightened vulnerability via disproportionate rent burdening (in weighted order high to low)
  1. Low-income renter households (<$50,000)
  2. Population without a bachelor's degree (age 25-64)
  3. Households of color (non-White, non-Hispanic)
  4. Households with disabilities (physical or cognitive)
  5. Hispanic households
  6. Population with low English proficiency (age 5+)

Concentrations of Populations who May be Vulnerable to Displacement



Maps show concentration of each population within census tracts around the region, using quintile distributions of each tract's share of the region's population of the group.

Socioeconomic Vulnerability Concentrations, Weighted Composite



Gentrification Trends and Typology

Gentrification Typology: Approach

- ECONorthwest developed a modified version of the gentrification and displacement typology model created in 2018 by Dr. Lisa Bates and staff from the City of Portland Bureau of Planning & Sustainability
- ECONorthwest extended the geographic scope of the Portland Model to the entire Metro region
- The model characterizes each census tract's past gentrification trajectory, and, by extension, current displacement risk based on demographic and housing market changes between 2010 and 2021
  - The prior model analyzed demographic and housing market changes beginning in 2000

Gentrification Typology: Sources & Methods

- ECONorthwest model uses Census and HUD data from 2010, 2015, and 2021, as well as RLIS tax lot data
- Model uses a variety of demographic and housing market variables
- Each census tract is compared to the three-county region
- Resulting typologies
  - Early-Stage Gentrification: contains vulnerable populations and is susceptible or experiencing either demographic or housing market changes
  - Mid-Stage Gentrification: contains vulnerable populations and is experiencing both demographic and housing market changes
  - Late-Stage Gentrification: contains vulnerable populations, experienced demographic changes, and housing market has appreciated

Gentrification Typology: Caveats

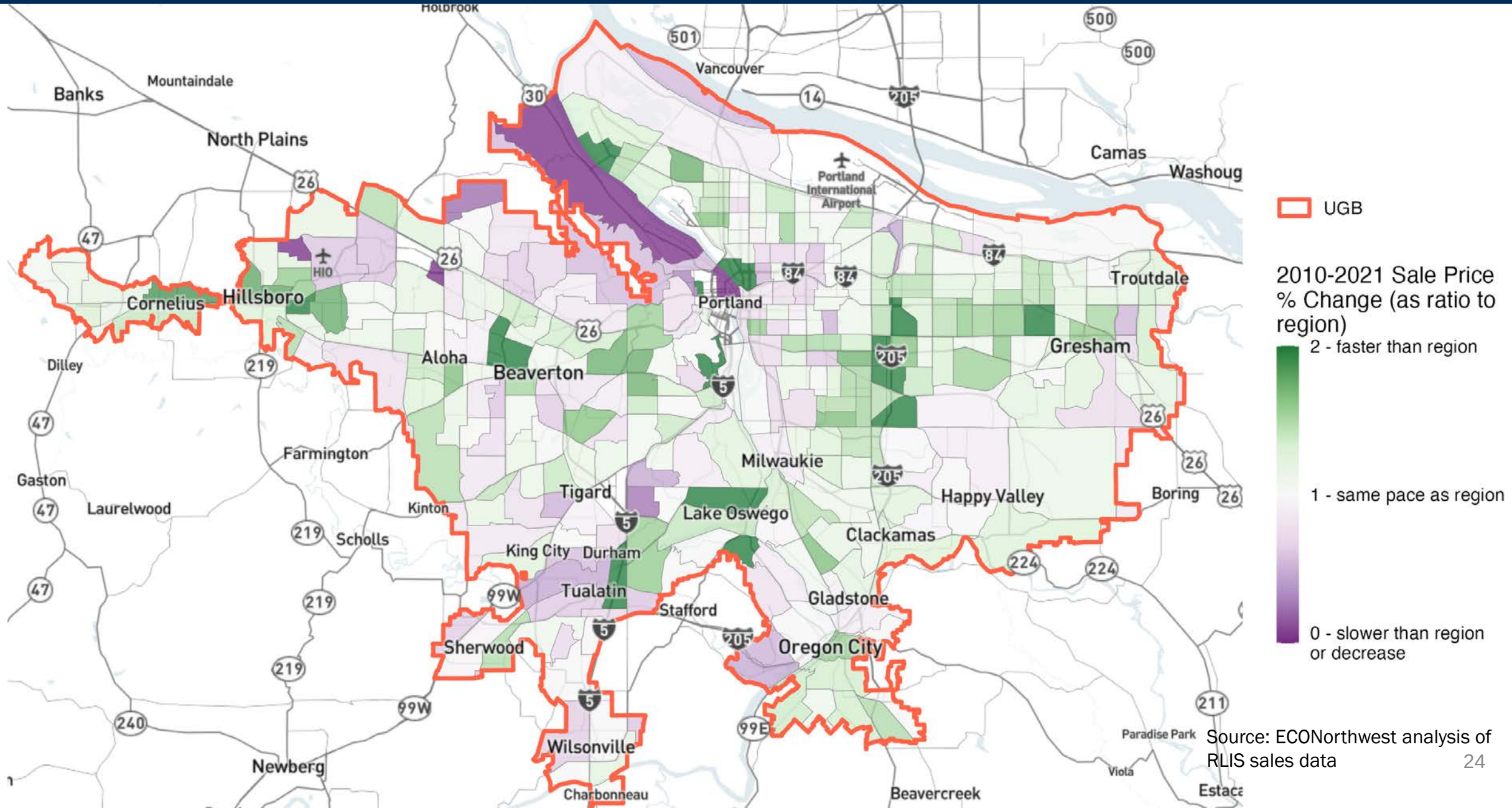
Data is imperfect

- Census data tends to undercount certain BIPOC populations
- Census rent data is a lagging and imprecise indicator of market trends
- Geographies and data definitions have changed over time in some cases
- Margins of error can be high for smaller geographies and smaller population groups

Typology system is imperfect

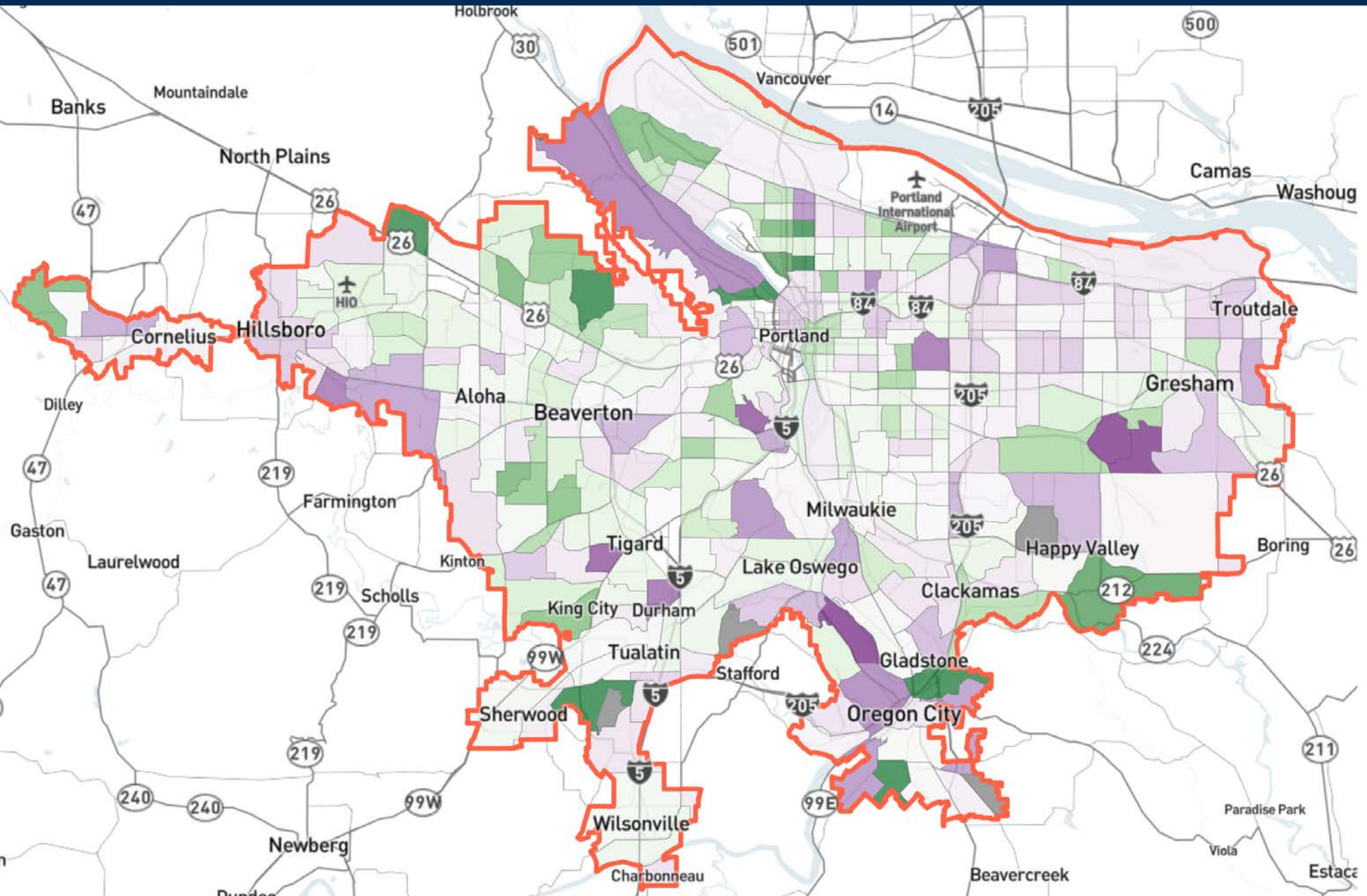
- Measuring gentrification is complex
- Some combinations of indicators don't neatly fit a typology
- Data limitations make measuring less accurate
- Data does not encompass all important indicators and factors related to gentification

Gentrification Trends: Sale Price Appreciation



Source: ECONorthwest analysis of RLIS sales data

Gentrification Trends: Rent Appreciation



UGB

2010-2021 Rent
% Change (as ratio to region)

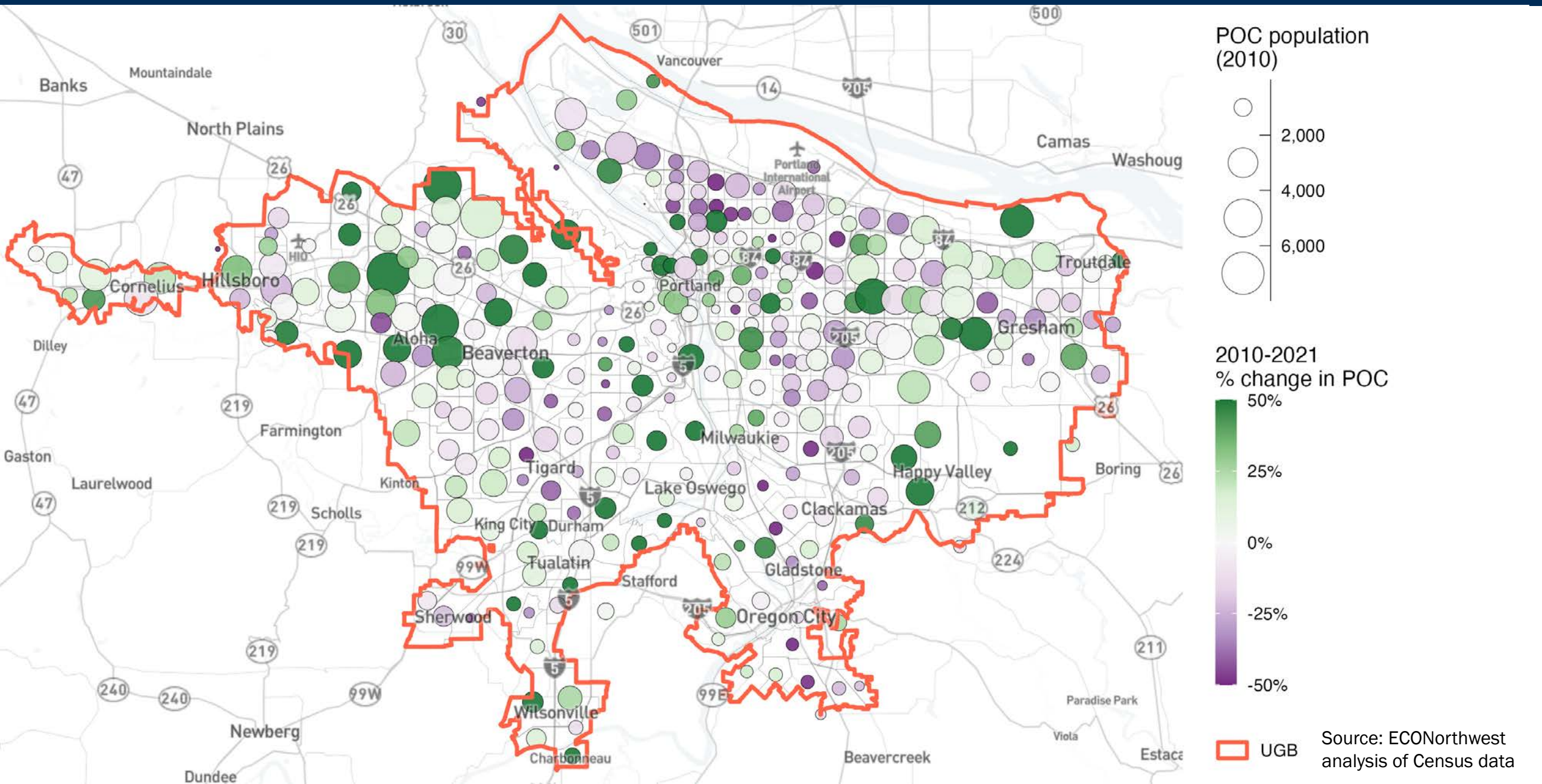
2 - faster than region

1 - same pace as region

0 - slower than region or decrease

Source: ECONorthwest analysis of Census rent data

Gentrification Trends: Change in BIPOC population



Potential Policy Responses to Prevent Gentrification and Involuntary Displacement in Redeveloping Areas

Policy Response Context

- Gentrification and involuntary displacement can take many forms and are inherently hard to predict, measure, and track
- No region or city has figured out how to stop gentrification and involuntary displacement
- Policies and programs geared to prevent involuntary displacement are working in the context of powerful market dynamics and systems
- A wide array of tools can and should be used to mitigate involuntary displacement

Potential Metro Policy Responses: Overview

Potential Metro policy responses to prevent / mitigate gentrification and involuntary displacement could include:

- A. Supporting Affordable Housing Development
- B. Preserving Existing Affordable and Low-Cost Housing Stock
- C. Supporting Lower-Income Renters and Homeowners
- D. Addressing Broader Community Impacts

A) Support Affordable Housing Development

Funding & Financial Support

- Housing Funding
- Target TOD Program Grant Funding
- Develop a Regional Housing Trust Fund
- Capitalize a Revolving Loan Fund

Policy

- Create a Right-to-Return or Preference Policy for Metro-Funded Affordable Projects
- Public Property Disposition for Affordable Housing Policy
- Require or encourage Metro jurisdictions to implement policies, incentives, or requirements to support mixed-income development in UGB expansion areas and areas targeted for redevelopment
- Encourage Metro jurisdictions to offer property tax and/or impact fee reductions or exemptions for regulated affordable housing

B) Preserve Existing Affordable and Low-cost Housing Stock

Funding & Financial Support

- Capitalize a Revolving Loan Fund
- Support Preservation Efforts of Low Cost Market Rentals
- Support Preservation Efforts for Expiring Regulated Projects

Data

- Inventory of Manufactured Housing Communities
- Inventory of Low-Cost Market-Rate Multifamily Housing
- Survey of Tenant Conditions

C) Support Lower-Income Renters and Homeowners

Funding & Financial Support

- Fund Homeownership Assistance
- Home Repair Assistance
- Legal Aid and Tenant Education
- Capacity Building for Community-Based Organizations

D) Address Broader Community Impacts

Funding & Financial Support

- Support culturally specific assets, amenities, or businesses that may be vulnerable to rent increases
- Capacity building for Community-Based Organizations

Policy

- Require Community Impact Reports for Infrastructure Investments

Potential Metro Policy Responses

1	Additional Affordable Housing Funding
Category	**Support Affordable Housing Development / Preservation**
Description	Metro could provide additional gap funding for affordable housing development, such as a second bond.
How it helps	Regulated affordable housing creates stability for lower-income renters. In neighborhoods in transition, it can prevent or mitigate involuntary displacement (by providing an affordable option within the neighborhood). It can also create opportunities for lower-income households to live in high-amenity areas that might otherwise be too expensive for them. Gap funding programs, like the 2018 bond, offer critical funding to make affordable housing development financially feasible despite below-market rents.
Why Metro	Metro has the authority to levy taxes and set regional policies to direct where affordable housing might help mitigate or prevent displacement. Metro could direct gap funding for affordable housing into areas targeted for upzoning or redevelopment as a preventative or mitigating measure. Funding could also be directed to urban growth boundary expansion areas to ensure new neighborhoods have mixed incomes.

2	Target TOD Program Grant Funding
Category	**Support Affordable Housing Development / Preservation**
Description	The new strategic plan for Metro's TOD grant funding program suggests required regulated affordability in projects. As the program considers where investments in affordable housing would benefit the region most, it could could direct funding toward areas at risk of gentrification and displacement.
How it helps	Transit station areas are targets for investment and redevelopment across much of the region. Some are also home to larger shares of households who are more vulnerable to displacement. Investments that include affordable units can both support TOD goals and help maintain some affordability in these areas as (re)development occurs.
Why Metro	Metro already operates the TOD grant program as a way to support implementation of regional land use and transportation goals. The TOD program can help to ensure that both new developments and neighborhoods serve a variety of incomes.

3	Develop a Regional Housing Trust Fund
Category	**Support Affordable Housing Development / Preservation**
Description	Metro could work with public, private, and or philanthropic partners to establish a regional housing trust fund to support regulated affordable housing projects.
How it helps	An affordable housing trust fund would allow Metro to leverage funding from other entities, including the private sector, to meet affordable housing goals. It might also create opportunities to use the funding in more flexible ways that can better align with the capital needs for housing preservation, as described in other strategies. In addition, it could provide acquisition funding for vacant or underutilized land that could be offered for affordable housing development.
Why Metro	Metro could act as the regional entity coordinating public and private investments. Metro's new housing division could oversee the Housing Trust Fund and align its policy goals with Metro's regional development goals, particularly focusing in areas at risk of gentrification to prevent involuntary displacement, or in areas of high-opportunity to encourage mixed-income neighborhoods. Metro can help to define where affordable housing goes in the region and can bear the expense of holding land until development is ready to proceed.

4 Capitalize a Revolving Loan Fund

Category	Support Affordable Housing Development / Preservation
Description	Metro could work with public, private, and or philanthropic partners to capitalize a revolving loan fund to provide financing for regulated affordable housing projects. Revolving loan funds are typically seeded with public or philanthropic funding, which often takes higher risk positions to attract other types of capital. Once they are seeded, revolving loan funds are repaid by the projects they fund over a certain time period (e.g., 10 or 15 years).
How it helps	Revolving loan funds typically offer below-market interest rates and favorable lending terms to projects thereby reducing the cost of development and increasing feasibility. They can fill financing gaps where projects have a hard time securing other financing (e.g., site acquisition, predevelopment). They can potentially also provide options for acquisition of lower-cost market-rate housing to stabilize or convert it to regulated affordable housing.
Why Metro	Revolving loan funds need to be large enough to make an impact on a wide array of projects; it is common for loan funds to be capitalized with $50-$60 million, often with MPOs or other regional entities coordinating. As a public entity, Metro can act as a seed funder and reduce or eliminate the investment return it seeks or take higher risk positions. This allows the fund to blend “patient capital” with other types of funding, like mission-oriented lenders, to reduce the overall interest rate charged to projects.

5	Create a Right-to-Return or Preference Policy for Metro-Funded Affordable Projects
Category	Support Affordable Housing Development
Description	When funding affordable housing projects in areas with greater displacement risk, Metro could establish a policy requiring that the project give preference to households who can prove they were displaced from the neighborhood.
How it helps	Regulated affordable housing can stabilize neighborhoods but because it is scarce, many displaced residents may not be able to secure a unit. The policy would give displaced residents, or residents at risk of involuntary displacement the ”right to return” to the neighborhood and receive a priority for the newly created affordable units.
Why Metro	Metro could provide a regional methodology and consistency that would go far in creating common understandings, goals, and systems for implementation. Metro could coordinate these activities for local governments, affordable housing providers, and residents. This policy could apply to projects specifically developed in areas experiencing gentrification and or at risk of displacement. Metro could align it with areas it is targeting for growth or increased zoning capacity.

6	Public Property Disposition for Affordable Housing Policy
Category	**Support Affordable Housing Development**
Description	Metro could create a policy requiring it to give affordable housing developers the right of first refusal on Metro-owned parcels when it intends to dispose of its real property. The policy would require sites to be evaluated for residential development suitability. The policy would stipulate if the disposition included a land write down and if the parcel must be in an area experiencing gentrification or at risk of displacement.
How it helps	This type of policy helps affordable housing developers compete against larger or better-capitalized real estate companies in strong and quickly moving real estate markets. Regulated affordable housing can stabilize neighborhoods but it is a long and complex process to find sites, secure funding, and build the project.
Why Metro	Like many other public agencies, Metro acquires real property from time to time across the region.

7	Require Jurisdictions to Support Mixed-Income Development in Expansion or Redevelopment Areas
Category	Support Affordable Housing Development
Description	As part of its planning requirements, Metro could require jurisdictions to implement policies, incentives, or requirements to support mixed-income development in Urban Growth Boundary expansion areas or areas targeted for redevelopment.
How it helps	The high cost of new construction and greenfield development can make it difficult to provide a range of affordability levels within urban growth expansion areas. Newly constructed housing, especially single-detached housing, is often unaffordable to low- and moderate-income households without a subsidy or incentive. Redevelopment areas can also benefit from mixed-income developments to ensure that neighborhoods continue to offer housing options for a range of income levels as redevelopment occurs.
Why Metro	Metro oversees growth management planning efforts for the region and can require jurisdictions to implement specific policies aligned with regional growth goals.

Potential Metro Policy Responses

8	Encourage Jurisdictions to Offer Incentives for Regulated Affordable Housing
Category	Support Affordable Housing Development
Description	As part of its planning requirements, Metro could encourage jurisdictions to offer property tax and or impact fee reductions or exemptions for regulated affordable housing development.
How it helps	Property tax abatements and impact fee exemptions or reductions help to reduce the cost of building or operating affordable housing, thereby increasing development feasibility. These types of incentives are especially helpful for regulated affordable housing which typically require many incentives, subsidies, and funding sources to develop.
Why Metro	Offering tax abatements or impact fee reductions or exemptions is a local policy decision, meaning that different options are available in different jurisdictions across the region. Encouraging Metro jurisdictions to offer one or more financial concessions to affordable housing could help provide a more consistent level of local support for affordable housing. Metro oversees growth management planning efforts for the region and can require jurisdictions to implement specific policies aligned with regional growth goals.

9 Support Preservation Efforts of Low Cost Market Rentals

Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could support the preservation of low-cost market rentals by creating or expanding programs and funding for the acquisition and rehabilitation of these properties. The funding sources for preservation efforts would be the same as those for development. Public recapitalization would include regulations on the long-term affordability of the property.
How it helps	Because regulated affordable housing is so scarce, most low-income households live in unregulated (market rate) housing. Some units may be low cost due to their location, age, condition, or amenities. Often these properties have deferred maintenance that requires substantial recapitalization to fund, and typically requires big increases in rent, leading to displacement. These units can be preserved and rehabilitated with long-term affordability restrictions and new mission-oriented management, but this is challenging to do.
Why Metro	Metro has the authority to levy taxes and set regional policies to direct housing investments and mitigate or prevent displacement. Metro could direct preservation funding into areas it is targeting for upzoning or redevelopment as a preventative or mitigating measure.

Potential Metro Policy Responses

10	Support Preservation Efforts for Expiring Regulated Projects
Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could support the preservation of regulated properties with expiring affordability restrictions by creating or expanding programs and funding for recapitalization. The funding sources for preservation efforts would be the same as those for development. Many sources, including the Oregon Housing and Community Services Department and the Network for Oregon Affordable Housing track project expiration dates and work to create preservation plans ahead of time.
How it helps	Regulated affordable housing properties have affordability restrictions for a period of time, typically between 15 and 30 years, but increasingly up to 60 or even 99 years. While most of these properties are already operated by mission-oriented developers, some projects may have deferred maintenance and capital repairs to aging building systems. Paying for these capital needs typically requires recapitalization with new public dollars and new funding restrictions.
Why Metro	Just like development efforts, Metro can help fund preservation efforts to mitigate or prevent displacement. Metro could direct preservation funding into areas it is targeting for upzoning or redevelopment as a preventative or mitigating measure.

11 Revolving Loan Fund

Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could work with regional partners to establish a revolving loan fund to provide deferred or low-interest loans for property owners who undertake health, safety, accessibility, and/or efficiency improvements with an agreement to limit rent increases. Older apartment buildings run by independent owners may be less likely to be renovated over time and require major upgrades that would require tenants to move out, but they also tend to be slower to raise rents and provide lower cost options for tenants.
How it helps	Revolving loan funds can provide gap financing for specified types of projects through deferred or low-interested loans. These come with the expectation that the borrower repays the full principal plus interest over the life of the loan but offer a more lenient structure than traditional lenders. These funds can give property owners of low-cost market rate multifamily buildings an incentive to make upgrades that benefit tenants and the community, while avoiding rent increases that may increase risk of displacement for low-income tenants.
Why Metro	Metro has experience with administering funding for affordable housing development through the Metro Bond and could help to set regional goals for preserving low-cost market rate housing. This fund could target areas with higher displacement pressures and where local jurisdictions do not have similar incentives for property owners.

12 Inventory of Manufactured Housing Communities

Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could establish a regional inventory of manufactured housing communities, building on work by Washington County and the Oregon Housing and Community Services Department, in order to better understand the current landscape (and risks) for this housing type.
How it helps	Manufactured housing often provides some of the most affordable homeownership opportunities available in a community. Tracking the current status of manufactured housing communities across Metro can provide jurisdictions with necessary data to identify targeted outreach opportunities, develop local zoning regulations, and support the purchase and preservation of manufactured homes as permanently affordable housing.
Why Metro	Metro can provide consistent regional data to inform local decisions by jurisdictions with manufactured housing communities that may not have the capacity to collect and track this data internally. This may be particularly relevant for places where new investments increase redevelopment pressures on affordable housing types like manufactured homes. An inventory could be the first step in developing programs for manufactured home preservation or conversion to resident or nonprofit ownership.

13	Inventory of Multifamily Housing
Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could build on its current regional multifamily housing inventory by identifying low-cost (unregulated) market rate housing and track information and trends relating to property sales.
How it helps	Tracking low-cost market rate housing can be challenging, since landlords are not obligated to report metrics in the same way as regulated affordable housing. However, this data can help to provide data and insights to inform policy decisions and targeted interventions to prevent displacement.
Why Metro	Data about low-cost market rate housing could be made widely available with a similar approach to Metro's existing inventory, which is a useful tool for regional partners conducting planning, development, and financing activities related to housing. Since Metro already has an established method of collecting and distributing this data, it would likely be an efficient leader for this initiative.

14	Survey of Tenant Conditions
Category	**Preservation of Existing Affordable and Low-cost Housing Stock**
Description	Metro could conduct surveys of tenants in low-cost market rate apartments to gather information about conditions, rent trends, and critical needs to track risks and changes that could indicate displacement pressures.
How it helps	Tenant experiences can help to expand on data about the housing market and understand what other factors may influence housing options and displacement pressures. Alongside other efforts for tracking affordable units, reporting on conditions directly from tenants can monitor the effectiveness of policy decisions with residents.
Why Metro	Conducting a tenant survey at the regional level allows for a more comprehensive assessment of housing conditions that can highlight concentrations of disparities in cost burden, rent increases, and other indicators. Metro could also conduct this work as a supplement to the existing inventory of new affordable housing and other new tracking initiatives.

15 Fund Homeownership Assistance

Category	Support Lower-Income Renters and Homeowners
Description	Metro could provide funding for down payment assistance or other types of assistance (such as homeownership readiness programs) to support existing renters to become homebuyers in areas at risk of gentrification and displacement. This might be especially important in areas where Metro is establishing parks, trails, or transportation infrastructure.
How it helps	Down payment assistance and educational programs can help low- and moderate-income residents to achieve homeownership by removing initial barriers for many first-time homebuyers. Some households may be able to qualify for a mortgage but lack the upfront capital for a down payment or the experience with navigating the homebuying process. Homeownership can work to stabilize households who currently rent and allow them to build equity in their home.
Why Metro	While many jurisdictions throughout the region have their own programs for down payment assistance or partnerships with nonprofit organizations, some areas may not have the local resources to fund and implement this type of homebuyer support to the necessary scale. Although Metro would not likely directly implement a program for individual homebuyers, it could help to increase existing services in areas with higher vulnerability to gentrification and displacement and expand this opportunity to areas that do not currently offer it.

16 Home Repair Assistance

Category	Support Lower-Income Renters and Homeowners
Description	Metro could provide funding to support existing lower-income households who own their homes in areas at risk of gentrification and displacement with home repair and foreclosure prevention programs. Home repairs may cover a range of projects, including critical health and safety work, accessibility improvements, or weatherization and efficiency upgrades. It could also include loans or grants for special assessments levied by condominium homeowners' associations that threaten the affordability and stability of a homeowner's unit. Foreclosure prevention can include legal support, counseling, or emergency loans.
How it helps	Home repairs and foreclosure assistance helps households to avoid displacement by addressing maintenance problems or legal issues that may force a homeowner to sell their house. Home repair support can also help homeowners who require specific accessibility features to continue living in their home. Additionally, efficiency upgrades can reduce households' recurring utility costs, contribute to climate goals, and proactively extend the life of housing units for existing homeowners.
Why Metro	Individual jurisdictions may be limited in the amount of local funds they are able to contribute to home repair programs. Although there are programs available in many areas, Metro could fill gaps in service and provide funding to ensure that existing programs can serve more households, particularly in areas that new infrastructure, parks, or trails may attract interest in flipping older housing stock.

17	Legal Aid and Tenant Education
Category	Support Lower-Income Renters and Homeowners
Description	Metro can support organizations that directly provide legal aid and tenant education services to individuals, including free or low-cost legal advice, rent assistance, utility assistance, and information about tenant rights. Metro can build on the wide array of services that operate across the state and region, or within specific cities and counties.
How it helps	Legal aid and tenant education helps to ensure that households at risk of displacement know their rights. These organizations can also help to direct people to the appropriate resources and navigate different levels of government policy.
Why Metro	Although Metro may be limited on establishing its own legal protections for tenants, it can provide funding and capacity-building assistance to support efforts that help individuals to navigate local and state policies and available programs.

18	Capacity Building for Community-Based Organizations
Category	Address Broader Community Impacts
Description	Metro could provide capacity building support for community-based organizations (CBOs) that provide services to lower-income renters and homeowners. It can particularly focus on those operating in areas at greater risk of gentrification and displacement and those focused on housing affordability, neighborhood stabilization, or affordable housing development.
How it helps	CBOs provide a wide range of services that help to stabilize households and prevent displacement, which can include education about tenant protections or homeownership, outreach with local businesses or property owners, and culturally specific services like translation and interpretation.
Why Metro	Metro can contribute funding and capacity to partner organizations who may be more efficiently able to lead initiatives to prevent gentrification and displacement within local communities. While Metro may not have the specific local relationships with communities, it can help with targeted outreach, funding, referrals, and convening partners.

19	Support Culturally Specific Assets at Risk of Displacement
Category	Address Broader Community Impacts
Description	Metro can support culturally specific assets, amenities, and businesses at risk of involuntary displacement due to redevelopment or rent increases. Aligned with goals in the Greater Portland Economic Recovery Plan, Metro could establish policies to support BIPOC and or microenterprises struggling in the post-COVID 19, high-inflation economy.
How it helps	Small and culturally specific businesses, amenities, and community assets are particularly vulnerable to rent increases, direct displacement, and larger economic changes. Policies and programs targeted to these important community assets can help to mitigate displacement pressures. Nationally, BIPOC-owned businesses were disproportionately impacted by the COVID 19 pandemic.
Why Metro	Metro plays an important role in economic development and must help jurisdictions balance the needs for housing, businesses, and community assets. Metro is in a good position to help provide funding and coordination and can encourage partnerships to address inequities that may result from redevelopment efforts.

20	Require Community Impact Reports for Infrastructure Investments
Category	Address Broader Community Impacts
Description	As Metro invests in broader community infrastructure programs – parks, transit (along with TriMet), or community and event spaces – it should consider evaluating the broader community impacts that these projects can have as it relates to housing, displacement risk, and changing neighborhoods, in addition to other equity considerations related to equitable distribution of benefits and needed investments.
How it helps	Understanding the connections between larger public investments and rent / home price appreciation or cultural change in a neighborhood can help Metro and other jurisdictions plan ahead for community stabilization before investments are made.
Why Metro	Since Metro plays a role in prioritizing and funding large scale infrastructure investments (in partnership with other agencies), it should take an active role in understanding the implications of these investments on gentrification and displacement pressure. It can potentially also fund and make investments in community stabilization efforts to complement infrastructure investments.

Policy Response Summary

- Programs, policies, and affordable housing funding could be tailored to targeted areas at risk of involuntary displacement or high opportunity areas unlikely to see affordable housing development occur
- Programs, policies, and funding could be directed to areas such as 2040 centers, corridors, main streets, and station communities to accommodate new housing
- Preservation of existing affordable housing is just as important as new development – unregulated low-cost market rentals can be preserved to have lasting affordability
- Tenant protections, education, and support are critical to ensure vulnerable populations know their rights and can fight discrimination

Policy Response Summary

- Metro can incent affordable housing development via increased funding
  - Metro can generate more funding
  - Metro can coordinate regional funding efforts
  - Metro can serve as patient capital or take high-risk positions to attract other types of capital
- Metro can attach policy requirements to its funding programs to promote equitable distribution and utilization of funds

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CONSTRUCTION CAREER PATHWAYS REGIONAL FRAMEWORK

The Construction Career Pathways Project (C2P2) Public Owner Workgroup (Workgroup) is comprised of 16 public agencies tasked with developing a regional approach to recruiting and retaining women and people of color in the construction trades. Since July 2018, Oregon Metro convened the C2P2 Workgroup to develop a regional approach to construction workforce equity for the Greater Portland metropolitan area. Over the course of nearly a year, the Workgroup met as a whole and in subcommittees to identify regional strategies and potential investments that will grow the number of people of color and women in the construction trades.

This Regional Framework (Framework) summarizes a series of strategies needed for creating and sustaining a diverse construction workforce. It offers high level guidance to Public Owners committed to fostering the diverse workforce needed to meet projected construction demand.[1] The attached toolkit provides Public Owners with practical approaches to implementing the strategies outlined in this Framework. The Framework and toolkit are not procurement documents or contracts.

Buy-in from multiple public agencies and cross-sector collaboration with labor, community-based organizations, contractors, educational institutions, and others, will be essential to ensure impact at a regional scale. The toolkit provides guidance on how to create impactful partnerships to diversify the workforce. If successful, the Framework can elevate a truly regional, collaborative approach that will create a robust pipeline of work, a consistent demand for workers, and an unprecedented opportunity to make transformative investments that will lift Greater Portland residents out of poverty.

This Framework provides seven essential points Public Owners should integrate into their practices in order to ensure success and truly move the needle toward achieving construction workforce equity. The accompanying toolkit provides additional details and guidance to Public Owners as they implement the recommendation their relevant policies, programs, and procurement practices.

I. SET CLEAR WORKFORCE DIVERSITY GOALS

Public Owners should establish regionwide targeted hire goals to increase diversity in the construction workforce (see below). The toolkit provides guidance on additional goals Public Owners may consider in order to create a demand for diverse construction workers, and a ramp up period timeline to ensure success.

A. A minimum of **20% of total work hours** in each apprenticeable trade shall be performed by **state-registered apprentices**;

B. A minimum of **14% of total work hours** shall be performed by **women and women-identified persons** – both journey and apprentice-level workers;

C. A minimum of **25% total work hours** shall be performed by **persons of color** – both journey and apprentice level workers.

[1] For more information about projected demand, see the Metro *Regional Construction Workforce Market Study*: https://www.oregonmetro.gov/sites/default/files/2018/07/02/C2P2-regional-construction-workforce-market-study-07022018.pdf.

II. SET PROJECT THRESHOLDS

Public Owners will set a project cost threshold to trigger targeted hire goals and set a "tiered" system to determine tracking requirements. The threshold tiers recommended in the toolkit are based on the Public Owner's typical project size and cost. Agencies should consider and adopt the thresholds outlined in the toolkit or set modified thresholds based on their typical project size and their capacity to monitor compliance.

III. TRACK AND REVIEW PROGRESS ON GOALS

Public Owners should utilize a software tracking system – such as Elations, LCPtracker, B2GNow - to streamline reporting and compliance. Adopting a data-driven approach will facilitate the enforcement of targeted hire goals and help Developers/Prime Contractors troubleshoot any issues that may arise. Collecting this data regionally helps to create and allows for monitoring and reassessment of progress towards workforce goals. The toolkit provides a list of approaches to collecting workforce data, along with a set common data points all Public Owners should commit to collecting in order monitor their progress towards achieving workforce diversity goals.

IV. DEVELOP A WORKFORCE AGREEMENT

Workforce Agreements are enforceable contracts that govern the terms and conditions of employment for all workers on a given construction project. They serve as a useful mechanism to align practices to ensure diversity goals are met and allow for clear tracking and monitoring of contractors by Public Owners, community-based organizations, and certified firms. Workforce Agreements avoid costly delays due to labor disputes or shortages of workers, and contractually ensures that publicly funded projects are completed on time and on schedule for the benefit of taxpayers.[2] They offer Public Owners increased oversight of numerous contractors and unions on large projects. The toolkit contains a series of terms that are critical to achieving workforce diversity goals and should be considered when negotiating a Workforce Agreement.

V. IMPLEMENT WORKSITE ANTI-HARRASSMENT AND CULTURE CHANGE STRATEGIES

To support, cultivate and grow a positive jobsite culture, Public Owners should require an approved worksite harassment prevention strategy. Programs such as Alteristic's Green Dot or the Carpenter's Positive Jobsite Culture Training programs ensure all employees, regardless of race, gender, or creed, are guaranteed a safe and respectful working environment. [3] By working together, Public Owners, trades, and contractors can put practices in place that can help eliminate hostility and bullying in the construction industry.

VI. COLLECTIVELY INVEST IN WORKFORCE SUPPLY

Public Owners acknowledge that a regionwide workforce diversity policy must be paired with a coordinated approach to recruitment, training, and retention of women and people of color. Public Owners must engage labor, industry groups, and community-based organizations to address ongoing barriers that prevent people of color and

[2] Labor Agreements, Project Labor Agreements, Community Workforce Agreements, and Community Benefits Agreements are other legally enforceable contracts that when implemented, can result in diversity outcomes on public projects.
[3] Alteristic's Green Dot Violence Prevention program is a bystander intervention strategy that aims to prevent and reduce power-based personal violence at school campuses and workplace environments, including sexual harassment and bullying. Green Dot develops curriculum and training materials using strategic planning, bystander mobilization, interpersonal communication, and coalition building. The Green Dot program was successfully implemented as part of the project labor agreement for the Multnomah County Central Courthouse and can be a model adapted for projects and jobsites across the region. More information can be found at: https://alteristic.org/services/green-dot/.

women from entering the construction industry. Public Owners should also direct funds towards increasing the number of qualified women and people of color in the construction industry. The toolkit offers three ways Public Owners can facilitate a continuous investment in the construction workforce.

VII. ESTABLISH REGIONAL COLLABORATION

The success of the recommendations outlined in this Framework depends on implementation. Public Owners must institutionalize a coordinated structure and process to get a sense of their collective progress and calibrate their efforts as needed. Public Owners should also develop clear roles for external stakeholders (trades, contractors, industry groups, certified firms, and community-based organizations) to ensure efforts are coordinated, complementary, and not duplicative. The toolkit outlines a process for regional coordination, including a committee structure and suggested functions.

VIII. NEXT STEPS

The undersigned agree to participate on a Regional Implementation Committee (Committee) to create an action plan for adopting and the implementing the recommendations of the Framework within each agency and coordinating on a regional scale. The Committee will also engage external stakeholders (trades, contractors, industry groups, certified firms, and community-based organizations) to collaboratively, creatively, and continuously to truly move the needle on diversifying the construction workforce and placing workers into career paths that deliver economic prosperity.

Materials following this page were distributed at the meeting.

2023 RTP system analysis update: transit, tolling and climate

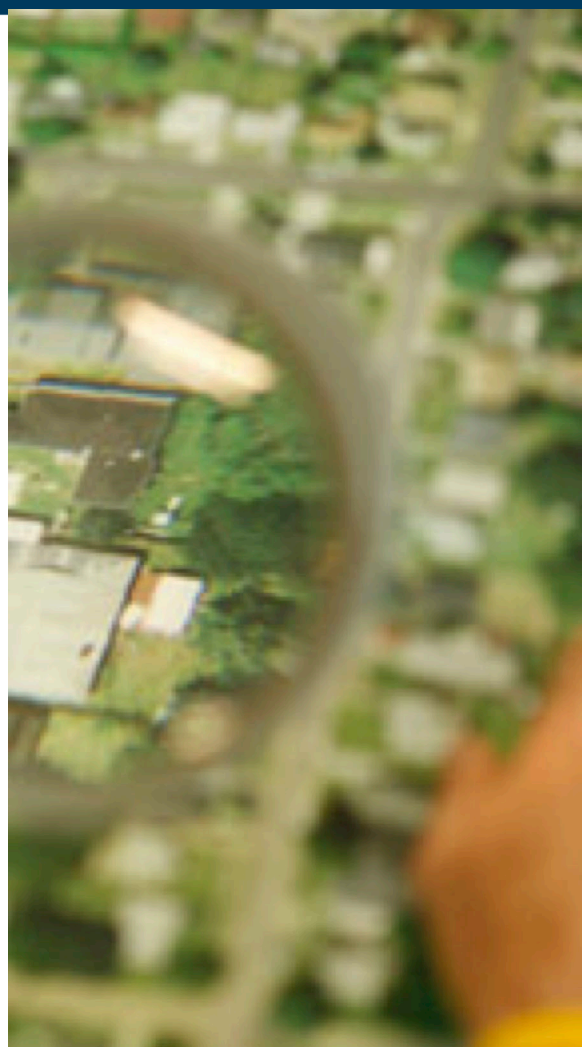
Transportation Policy Alternatives Committee & Metro Technical Advisory Committee workshop

June 21, 2023

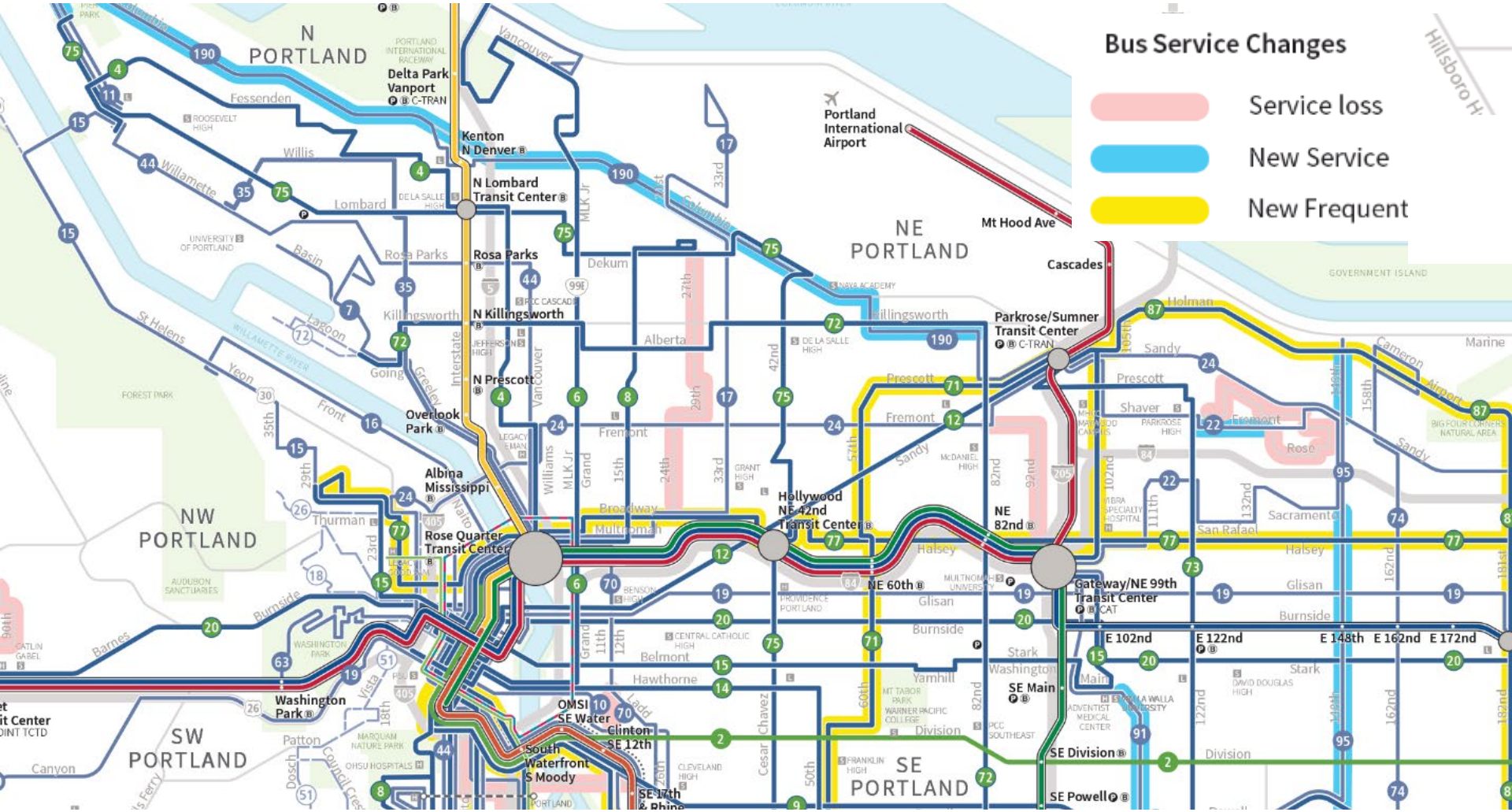
Today's purpose

Continue discussion of key aspects of the system analysis:

- Describe RTP transit investments and their impact on performance
- Clarify how tolling is included in the RTP and discuss impacts on system performance.
- Provide more detail on how state-led pricing and regional climate strategies contribute to meeting climate targets.

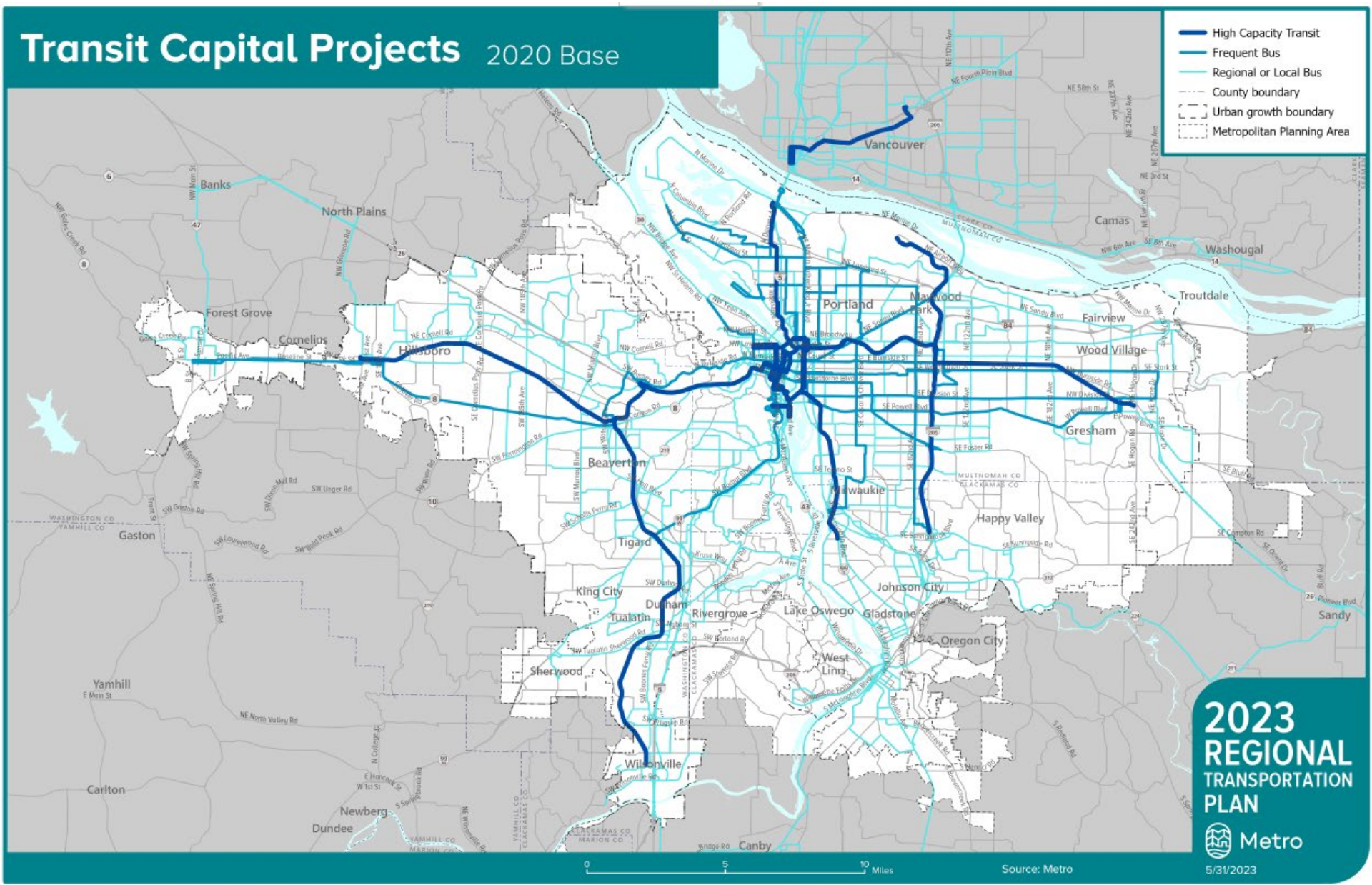


Growing and changing transit service

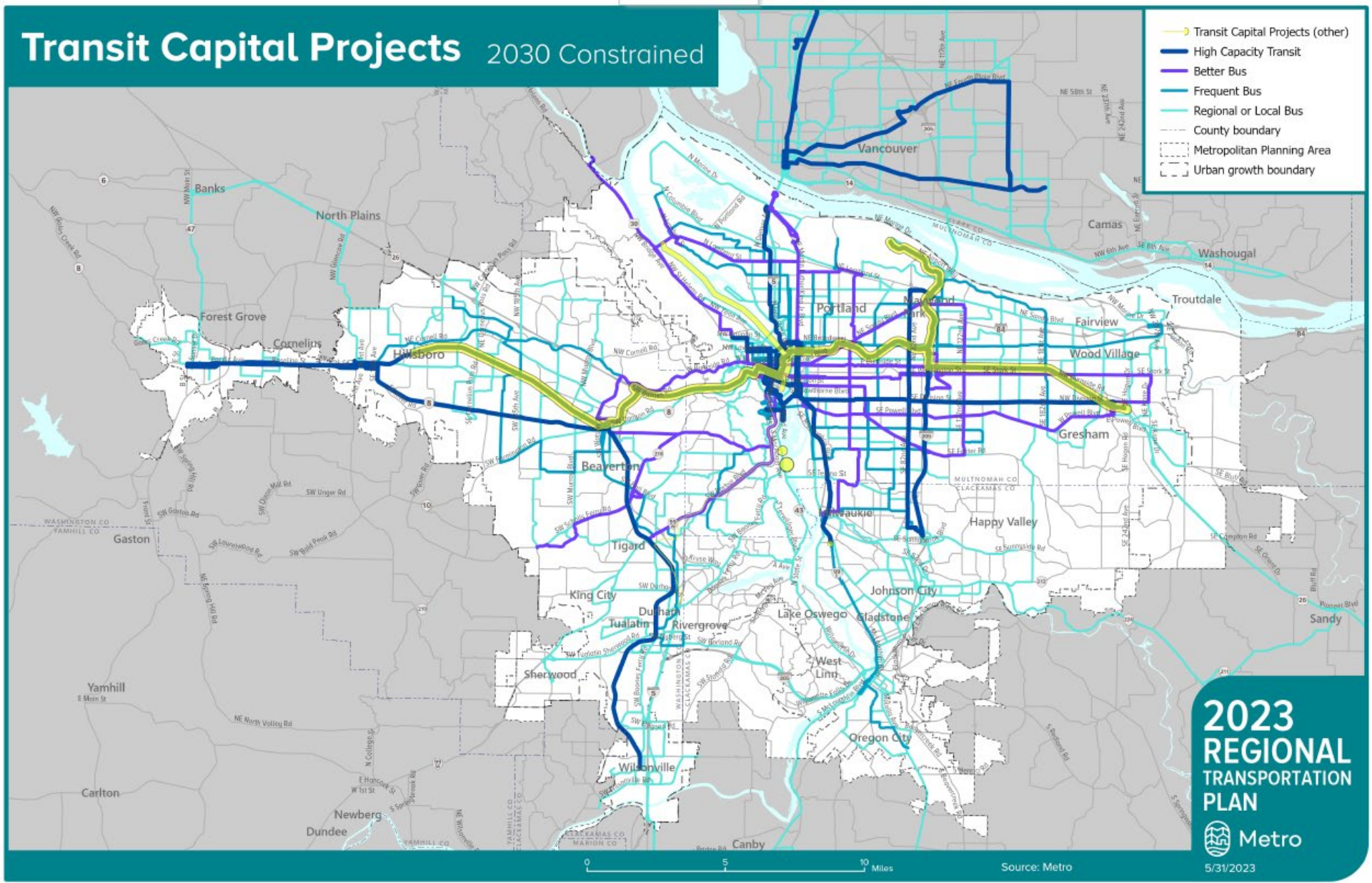


The RTP continues to grow the transit network, but the nature of that service changes, focusing more on frequent service throughout the day, particularly in equity focus areas, and less on serving peak hour commute trips.

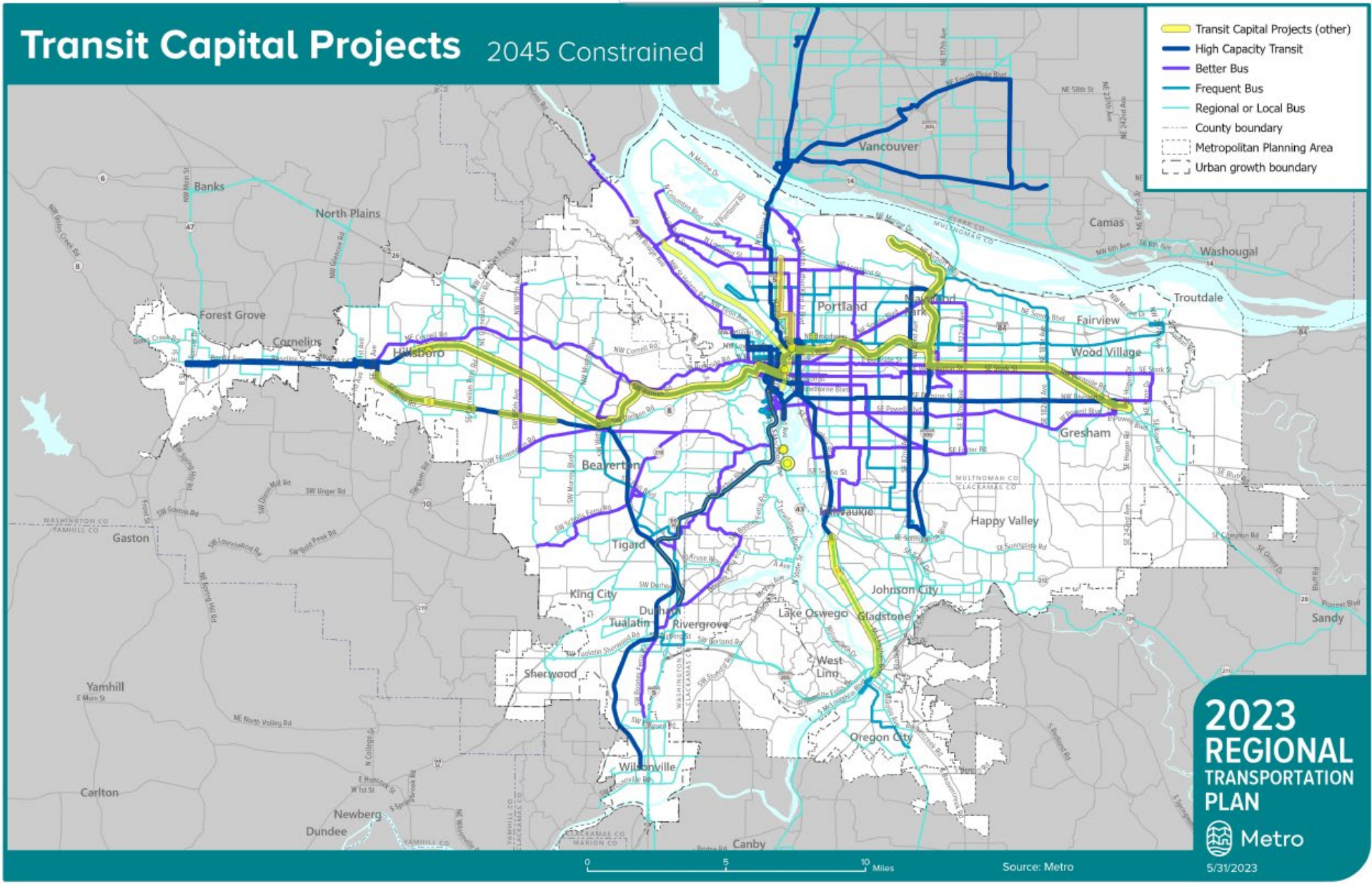
RTP transit service: 2020 base year



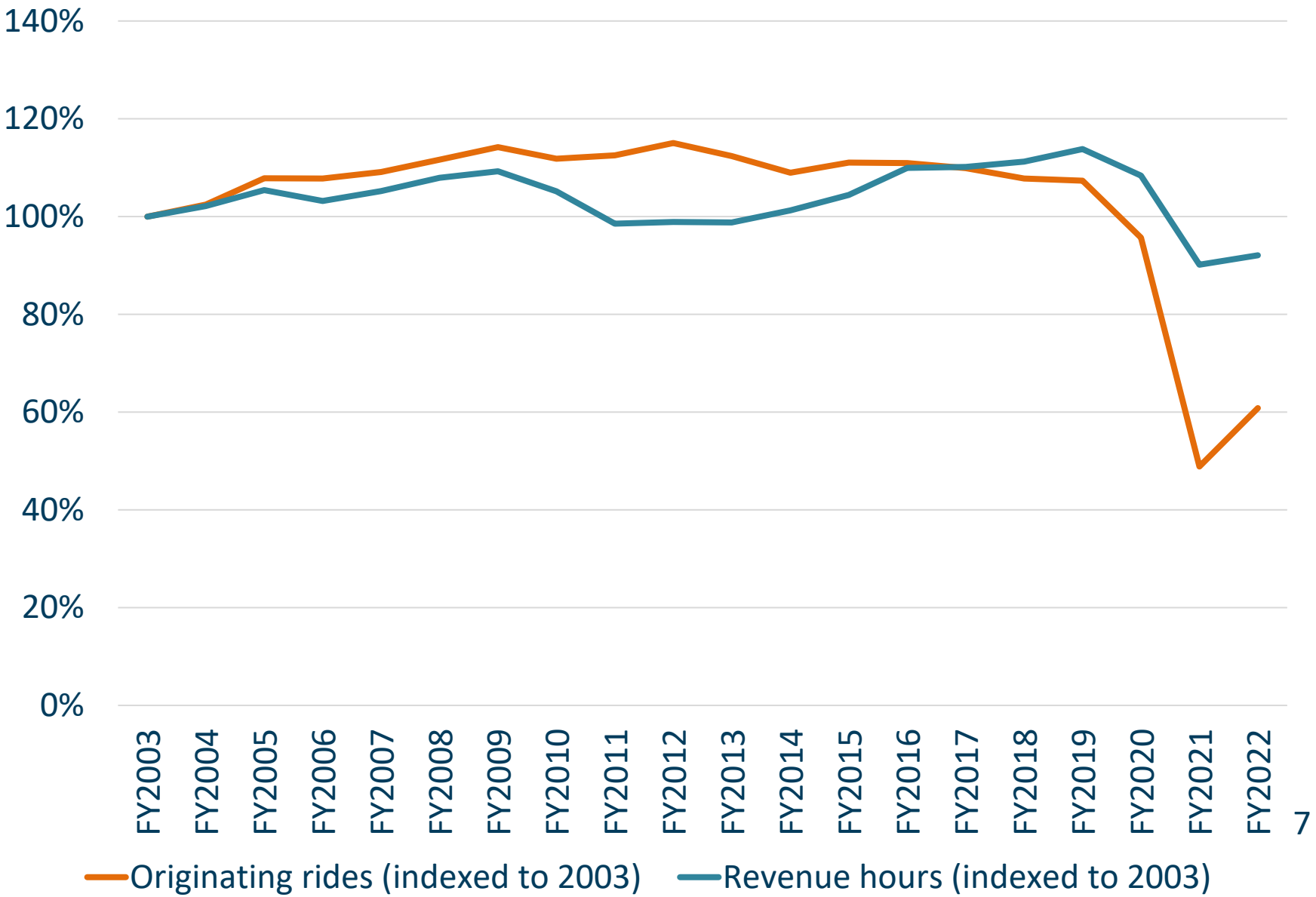
RTP transit service: 2030 constrained



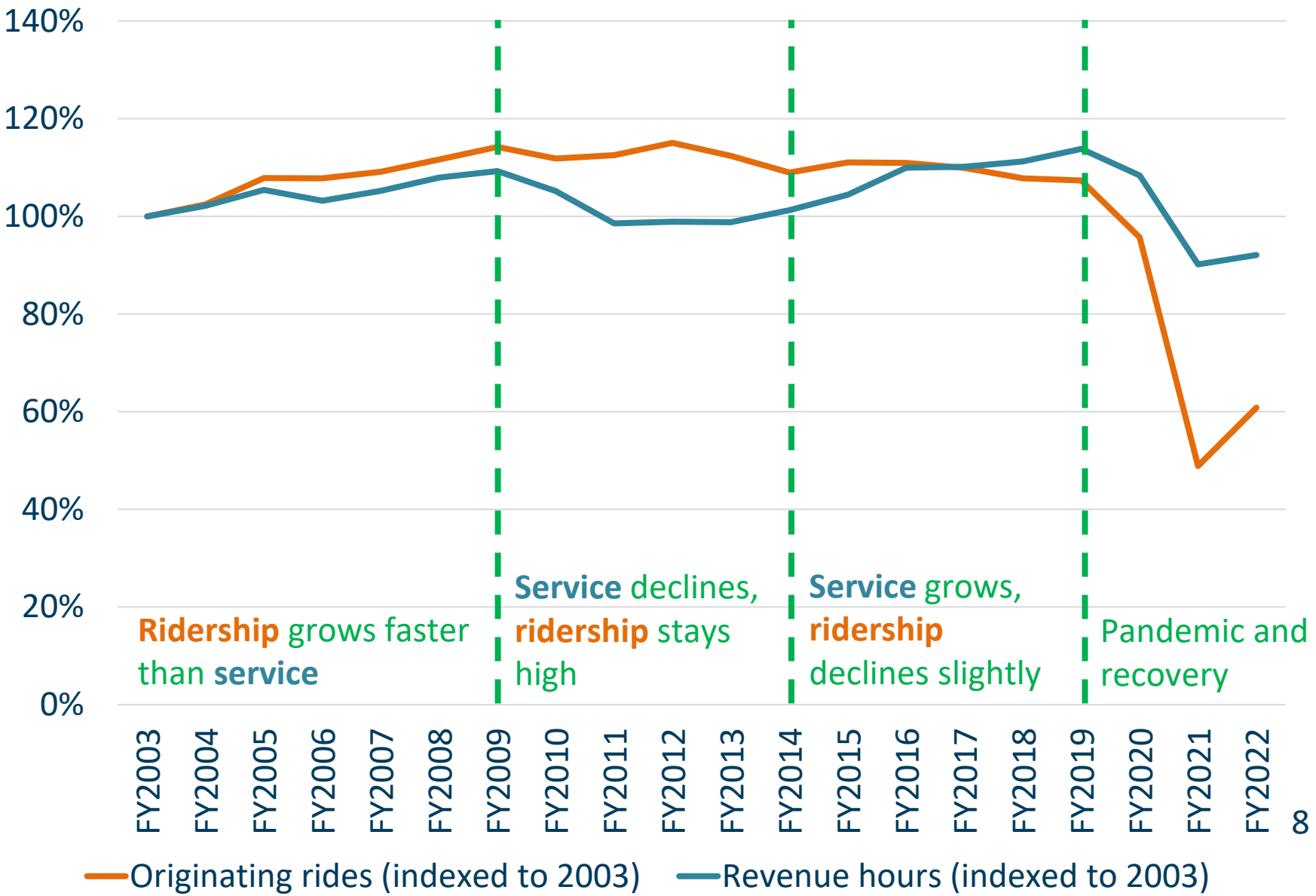
RTP transit service: 2045 constrained



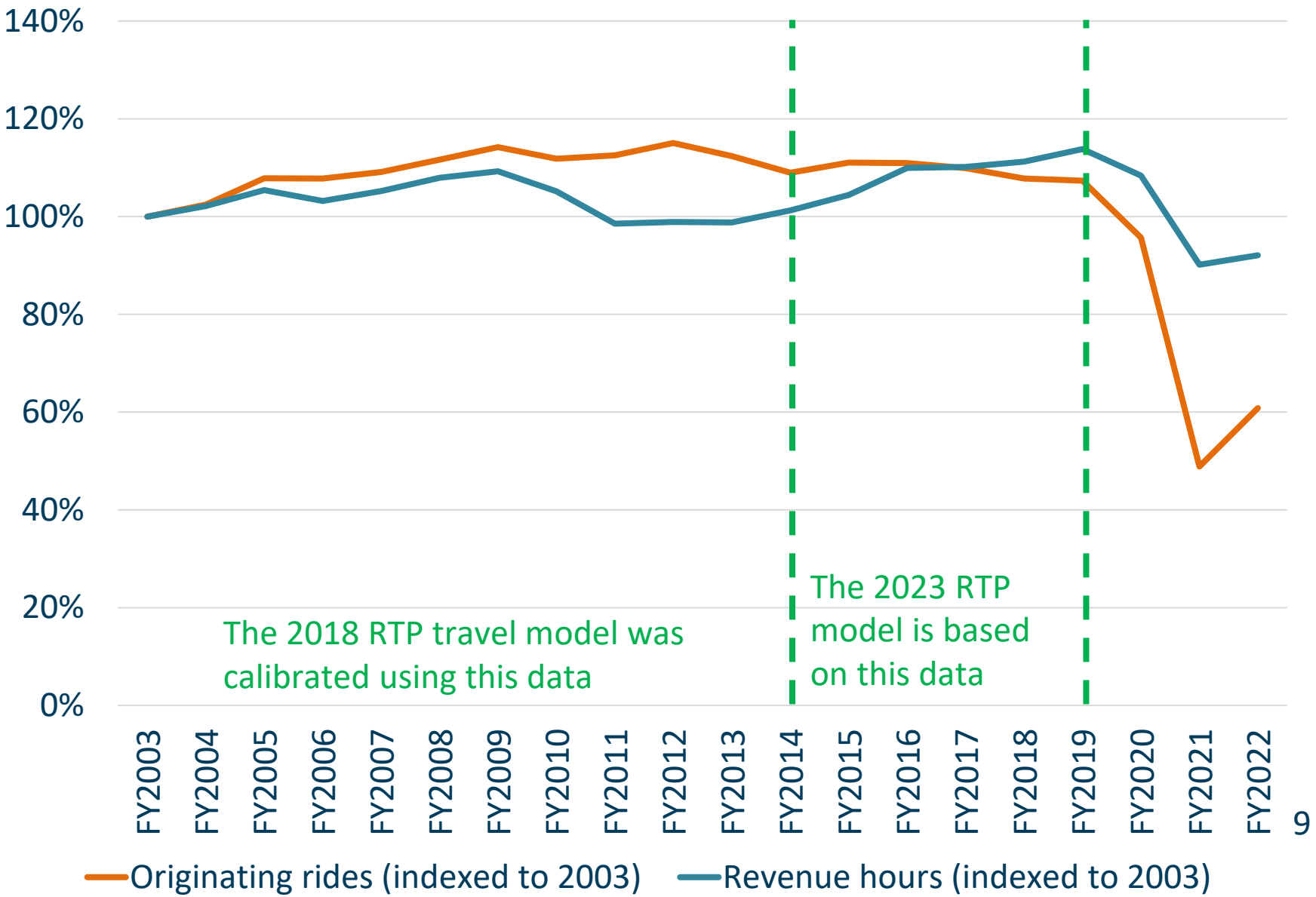
Transit service and ridership, 2003-22



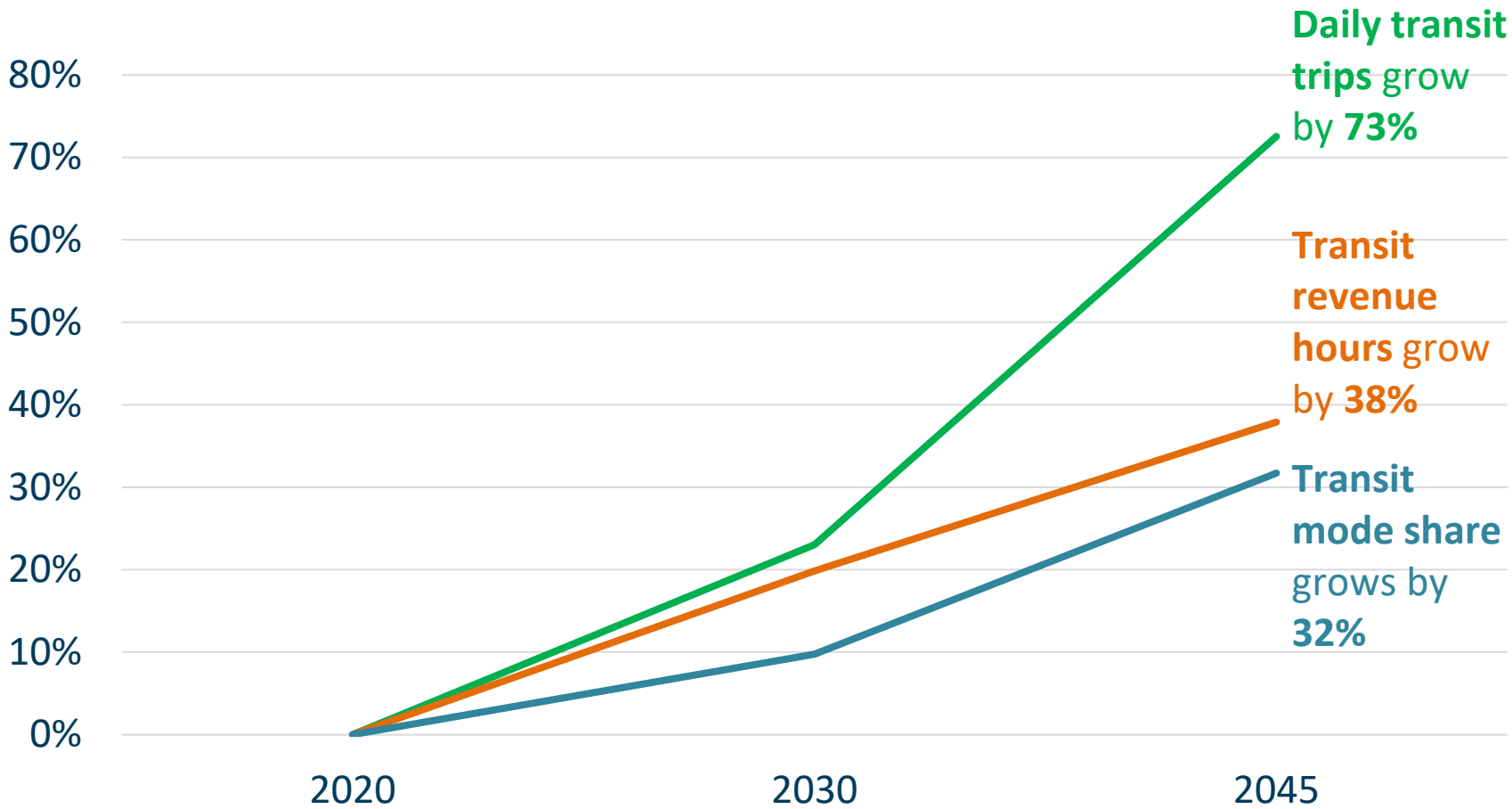
Transit service and ridership, 2003-22



Transit service and ridership, 2003-22

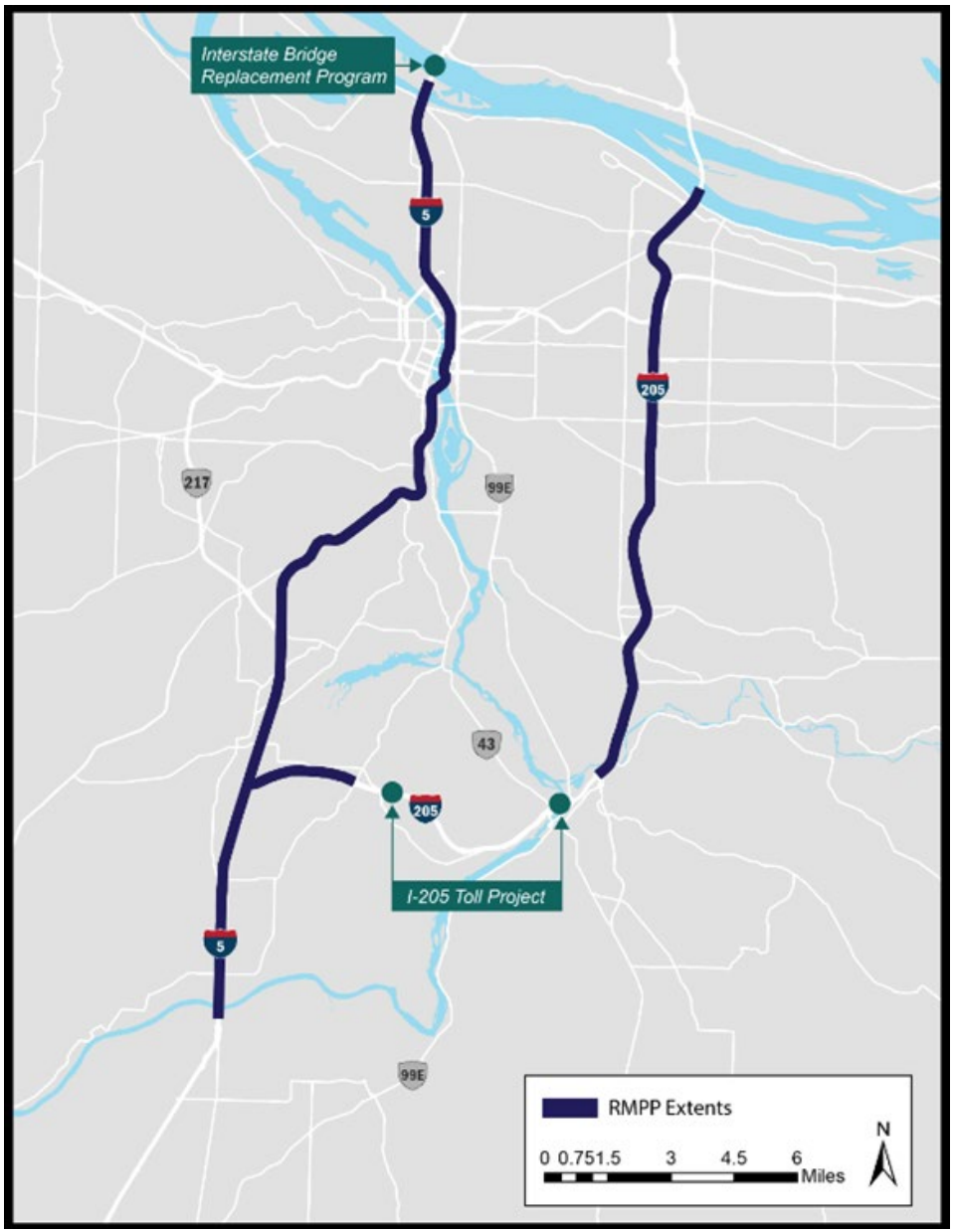


Transit service and ridership growth under the 2023 RTP



The RTP continues to make significant investments in transit service. These investments help to advance the region's mobility, climate and equity goals.

Throughway pricing in the RTP



Tolls are collected both on the I-5 Bridge and I-205 Toll Projects (green dots with call-outs) and in Regional Mobility Pricing Project corridors (purple lines)

Throughway pricing projects in the 2023 RTP

Project	Elements
I-5 Interstate Bridge Replacement Program	• Bridge tolls ranging from $1.50 - $3.15 • A new I-5 Columbia River crossing • An extension of the MAX Yellow Line • A new arterial bridge for local traffic • Improvements to interchanges • Wider shoulders for express bus-on-shoulder service
I-205 Toll Project	• Tolls on 2 bridges ranging from $0.55 - $2.20 per bridge • A third through lane on I-205 • A northbound auxiliary lane on I-205 • Seismic bridge upgrades
I-5 and I-205 Regional Mobility Pricing Project	• Toll rate schedules to be developed in 2023-24

See the accompanying memo for more details on these projects.

The RTP provides a partial picture of how tolling impacts the region

- These three projects include both tolls and changes to the transportation network.
- Toll rates and schedules will continue to evolve as projects are further developed.
- Details are not yet available about how projects may mitigate the impact of tolling.
- Metro staff did not use the travel model to isolate and quantify the impacts of tolling in these three projects.
- Findings are based on system analysis results and Metro staff experience supporting prior tolling analyses.

Tolling's impact on regional goals and performance measures

- Tolling is expected to reduce total regional vehicle miles traveled.
- Tolling is expected to reduce congestion on I-5 and I-205 without significantly increasing delay on parallel arterials.
- Tolling will likely lead to an increase in carpooling.
- Tolling will likely encourage people to shift when they travel.

Draft results: climate

● The draft RTP meets regional climate targets by implementing the projects and programs in the project list in coordination with state-led actions to reduce transportation-sector GHG emissions.

- The Statewide Transportation Strategy (STS) identifies state-led strategies to replace or supplement the gas tax and make vehicles and fuels cleaner.
- The May TPAC presentation showed that STS pricing assumptions have a significant impact on VMT and GHG emissions.

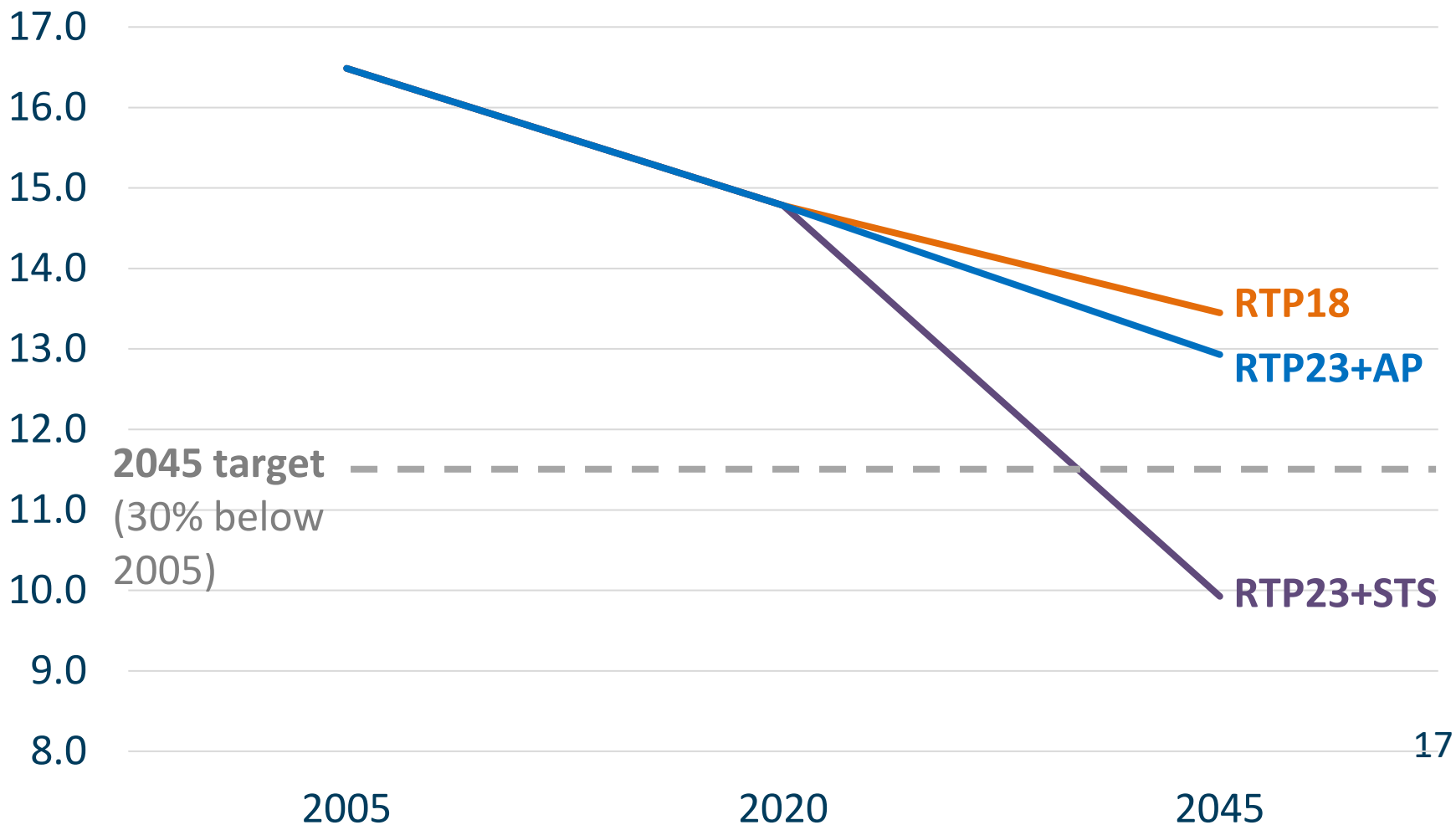
Today Metro staff are providing more details on what these pricing assumptions mean for the region.

May scenarios – key assumptions

	RTP23 + AP (Adopted state Plans)	RTP23 + STS
Throughway pricing	RMPP, IBR, and I-205: avg.~$0.11/mi on I-5 and I-205	$0.13/mi on throughways and arterials
Additional gas taxes / equivalents	None	Maximum allowable STS levels, roughly $0.10/mi

May scenarios - results

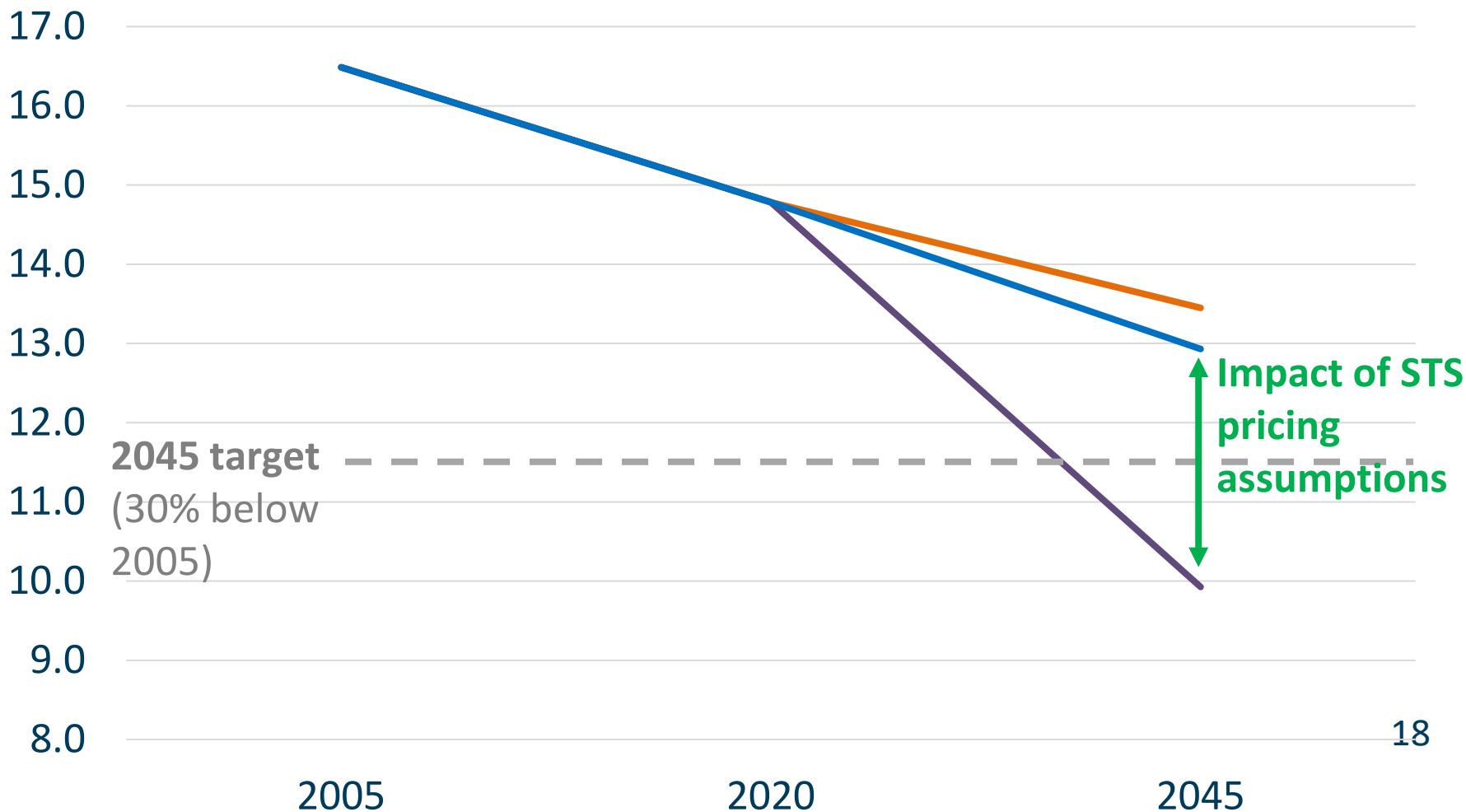
Daily VMT per capita by scenario vs. regional climate target



Source: RSG VisionEval analysis

May scenarios - results

Daily VMT per capita by scenario vs. regional climate target



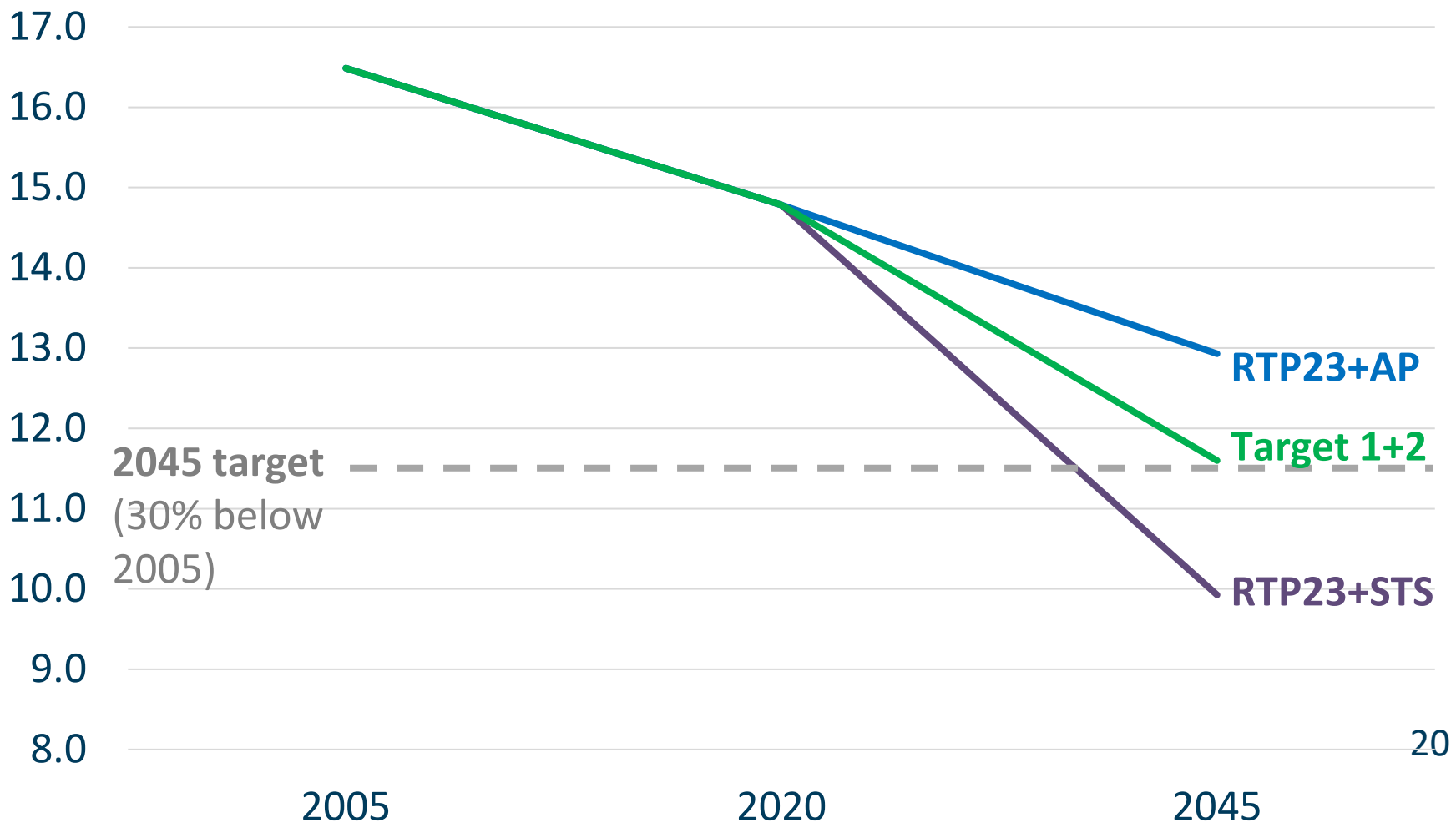
Source: RSG VisionEval analysis

Target scenarios – key assumptions

	Target 1 (pricing)	Target 2 (pricing + transit)
Throughway pricing	$0.09/mi	$0.07/mi on throughways and arterials
Additional gas taxes / equivalents	$0.06/mi	$0.05/mi
Transit service	RTP levels of transit service	77% increase above RTP levels of transit service

Target scenarios - results

The region meets its targets by assuming a combination of STS pricing and reinvestment of revenues in other climate strategies.



Source: RSG VisionEval analysis

Lessons from this analysis

- There are multiple paths to meeting climate targets through a combination of additional STS pricing and other strategies.
- It will likely take additional pricing and other actions beyond what is included in the 2023 RTP for the region to meet its climate targets.
- The region can meet its climate targets while also advancing mobility and equity goals if revenues from new pricing programs are reinvested in other GHG reduction strategies.

These findings can help to **guide Metro and its partners in advocating for pricing that benefits the region** as the state takes steps to implement STS pricing. They do not:

- Change the results of the RTP climate analysis.
- Identify specific transit projects for additional funding.

Next steps

- July 10: The information presented today will be included in chapter 7 of the public review draft RTP when it is released.
- July-August: TPAC and MTAC workshops to discuss draft results of new mobility policy measures: throughway reliability and vehicle miles travel per capita.
- August-September: The information presented today may be updated in response to public comments or new information.
- October-November: Technical and policy committees consider recommending the final RTP for adoption.

Discussion questions

- What questions or feedback do you have about these results?
- Are there opportunities to address the issues discussed today through further analysis after the RTP is adopted?

eliot.rose@oregonmetro.gov
oregonmetro.gov