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 February 16, 2022
Time:	10:00 a.m. to 12:00 p.m.
Place:	Virtual meeting held via Zoom Connect with Zoom Passcode: 692965 Phone: 877-853-5257 toll free

10:00 a.m.	**Call meeting to order, introductions, and committee updates**	Chair Kloster
10:10 a.m.	**Public communications on agenda items**	
10:13 a.m.	**Consideration of MTAC/TPAC workshop summary, Dec. 15, 2021** Edits/corrections sent to Marie Miller marie.miller@oregonmetro.gov	Chair Kloster
10:15 a.m.	**Regional Mobility Policy Update: Case Study Findings** Purpose: Report findings from case study analysis and begin discussion of potential options for updated policy.	Kim Ellis, Metro Glen Bolen, ODOT Lidwien Rahman, ODOT Susie Wright, Kittelson & Associates
11:00 a.m.	**Emerging Trends Initial Findings** Purpose: Report findings from initial analysis of emerging trends, collect feedback, and discuss next steps.	Eliot Rose, Metro Briana Calhoun, Fehr & Peers
11:30 a.m.	**Introduce values/outcomes, key tasks and engagement for the 2023 Regional Transportation Plan (RTP)** Purpose: Introduce key tasks and engagement approach to support development of the 2023 RTP.	Kim Ellis, Metro Molly Cooney-Mesker, Metro
12:00 noon	**Adjournment**	Chair Kloster

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សេចក្តីជូនដំណឹងអំពីការមិនរើសអើងរបស់ Metro

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

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2022 TPAC Work Program

As of 2/9/2022

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

	<u>February 16, 2022 – MTAC/TPAC Workshop</u> **10 am – noon** **Agenda Items:** • Regional Mobility Policy Update: Case Study Findings (Kim Ellis, Metro/ Lidwien Rahman and Glen Bolen, ODOT/Susie Wright, Kittelson & Associates, 45 min) • Emerging Trends Initial Findings (Eliot Rose, Metro/ Briana Calhoun, Fehr & Peers, 30 min) • Introduce values/outcomes, key tasks and engagement for the 2023 RTP (Kim Ellis & Molly Cooney-Mesker, Metro, 30 min)
<u>March 4, 2022</u> 9:00 a.m. – 12:00 p.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) • RFFA update, timeline, next steps (Dan Kaempff) **Agenda Items:** • **2018 RTP Amendment 21-1467 I-205 Toll Project** <u>Recommendation to JPACT</u> (Kim Ellis, Metro/ Mandy Putney & Garet Prior, ODOT, 45 min) • **<u>MTIP Formal Amendment 21-5234</u>** <u>Recommendation to JPACT</u> (Lobeck, 10 min) I-205 Toll Project • **MTIP Formal Amendment 21-****** <u>Recommendation to JPACT</u> (Lobeck, 10 min) • **2023 Regional Transportation Plan Update Work Plan and Engagement Plan –** <u>Recommendation to JPACT</u> (Kim Ellis/ Molly Cooney-Mesker, 30 min.) • Draft 2022-23 UPWP Review & Discussion (John Mermin, 20 min) • DLCD Climate Friendly Equitable Communities (CFEC) Rules – Review & Discussion (Kim Ellis, 30 min) • 2024-27 ODOT Administered Fund Program Allocations & Scoping updates (Chris Ford 5 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>March 9, 2022 – TPAC Workshop</u>** **10 am – noon** **Agenda Items:** • 2019-2021 Regional Flexible Fund – Local Agency Project Fund Exchanges Update (Grace Cho, 20 min) • 2023 RTP policy brief – Safe and Healthy Urban Arterials (John Mermin/Lake McTighe, 45 min) • 2023 RTP policy brief - Congestion Pricing Policy Development (Alex Oreschak / Kim Ellis, 45 minutes)

<u>April 1, 2022</u> 9:00 am – 11:30 a.m.

Comments from the Chair:

- Creating Safe Space at TPAC (Chair Kloster)
- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Lobeck)
- Fatal crashes update (Lake McTighe)

Agenda Items:

- **MTIP Formal Amendment 21-******
  <u>Recommendation to JPACT</u> (Lobeck, 15 min)
- **2022-23 UPWP Resolution 22-5244**
  <u>Recommendation to JPACT</u> (Mermin, 15 min)
- Regional Mobility Policy Update: Shaping the Recommended Policy and Action Plan - (Kim Ellis, Metro/ Lidwien Rahman, ODOT, 60 min)
- Updated 2024-27 MTIP revenue forecast (Grace Cho/Ted Leybold, Metro; 20 min)
- 2024-27 ODOT Administered Fund Program Allocations & Scoping updates (Chris Ford 5 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

<u>April 20, 2022 – MTAC/TPAC Workshop</u>
10 am – noon

Agenda Items:

- Regional Freight Delay and Commodities Movement Study (Tim Collins, Chris Johnson, Kyle Hauger, Metro; 60 min)
- *Interstate Bridge Replacement (IBR) findings on the project (Elizabeth Mros-O'Hara & others TBD)*
- *2020 Census Report Update (Chris Johnson, TBD)*

<u>May 6, 2022</u> 9:00 am – 11:30 a.m.

Comments from the Chair:

- Creating Safe Space at TPAC (Chair Kloster)
- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Lobeck)
- Fatal crashes update (Lake McTighe)

Agenda Items:

- **MTIP Formal Amendment 21-******
  <u>Recommendation to JPACT</u> (Lobeck, 15 min)
- Transportation Equity Analysis for the 2023 RTP (Eliot Rose, Metro, 30 min)
- Transport Work Program update (Caleb Winter, Metro/ Kate Freitag, ODOT, 30 min)
- Enhanced Transit Concepts / Better Bus update (Malu Wilkinson & Alex Oreschak, 30 min)
- 2024-27 ODOT Administered Funding-OTC Program Allocations among Fix-It & Enhance Highway Programs(Chris Ford; 20 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)

<u>May 11, 2022 – TPAC Workshop</u>
10 am – noon

Agenda Items:

- Regional Flexible Funds Allocation (RFFA) Outcomes Evaluation and Risk Assessment review (Dan Kaempff, 30 min)
- 2024-2027 MTIP Performance Evaluation – Approach & Methods (Grace Cho, 30 min)

<u>June 3, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • Regional Mobility Policy Update: Recommended Policy and Action Plan - Discussion (Kim Ellis, Metro/ Lidwien Rahman, ODOT, 60 min) • Emerging Transportation Trends Study Recommendations (Eliot Rose, Metro, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>June 15, 2022 – MTAC/TPAC Workshop</u>** **10 am – noon** **Agenda Items:** • RTP - Equitable Finance 2023 RTP (Lake McTighe, Metro) 45 min • DLCD Climate Friendly & Equitable Communities Rulemaking item (Kim Ellis) • Urban Growth Management Functional Plan Amendments – discussion (Ted Reid & Tim O'Brien, Metro; 60 min)
<u>July 8, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • High Capacity Transit Strategy Update for 2023 RTP (Ally Holmqvist, Metro, 30 min) • Transportation Needs and Disparities Analysis for 2023 RTP (Eliot Rose, Metro, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>July 13, 2022 – TPAC Workshop</u>** **10 am – noon** **Agenda Items:**
<u>August 5, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • **Regional Mobility Policy Update: Recommended Policy and Action Plan** <u>Recommendation to JPACT</u> (Kim Ellis, Metro/ Glen Bolen & Lidwien Rahman, ODOT; 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>August 17, 2022 – MTAC/TPAC Workshop</u>** **10 am – noon** **Agenda Items:**

<u>September 2, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • RTP needs assessment and performance measures (Eliot Rose, Metro, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>September 14, 2022 – TPAC Workshop</u>** **10 am – noon** **Agenda Items:**
<u>October 7, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>October 19, 2022 – MTAC/TPAC Workshop</u>** **10 am – noon** **Agenda Items:**
<u>November 4, 2022</u> 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** <u>Recommendation to JPACT</u> (Lobeck, 15 min) • High Capacity Transit Strategy Update for 2023 RTP (Ally Holmqvist, Metro, 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>November 9, 2022 – TPAC Workshop</u>** **10 am – noon** **Agenda Items:**

December 2, 2022 9:00 am – 11:30 a.m. Comments from the Chair: • Creating Safe Space at TPAC (Chair Kloster) • 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 21-****** Recommendation to JPACT (Lobeck, 15 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**December 21, 2022 – MTAC/TPAC Workshop** **10 am – noon** **Agenda Items:**

Parking Lot: Future Topics/Periodic Updates

- Update on SW Corridor Transit
- Burnside Bridge Earthquake Ready Project Update (Megan Neill, Multnomah Co)
- Columbia Connects Project
- Best Practices and Data to Support Natural Resources Protection
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- RTO Updates (Dan Kaempff)
- 2021 PILOT Grants Update (Eliot Rose)
- Telework affects post COVID on transportation (TriMet/Eliot Rose)

Agenda and schedule information E-mail: marie.miller@oregonmetro.gov or call 503-797-1766.
To check on closure or cancellations during inclement weather please call 503-797-1700.

2022 Metro Technical Advisory Committee (MTAC) Work Program
As of 2/9/2022

January 19, 2022 – 9:30 am – noon Comments from the Chair • Committee member updates around the region (Chair Kloster and all) • Fatal Crashes Update (John Mermin) • CFEC Rulemaking Update (Kim Ellis) • Oregon Transportation Plan online open house (Glen Bolen) • 2022 MTAC overview of meetings/workshops (Chair Kloster) Agenda Items • 2018 RTP Amendment 21-1467 I-205 Tolling Project (Preliminary Engineering) Discussion and Feedback to MPAC (Kim Ellis, Metro/ Mandy Putney, ODOT 25 min) • 2023 RTP Update Vision and Priority Outcomes - Discussion (Kim Ellis, Metro; 35 min) • Title 11 Concept or Comprehensive Planning project updates: (35 min) King City Kingston Terrace Comprehensive Planning (Mike Weston, King City)	**February 16, 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items • Regional Mobility Policy Update: Case Study Findings (Kim Ellis, Metro/ Glen Bolen & Lidwien Rahman, ODOT/ Susie Wright, Kittelson & Associates, 45 min) • Emerging Trends Initial Findings (Eliot Rose, Metro/ Briana Calhoun, Fehr & Peers, 30 min) • Introduce values/outcomes, key tasks and engagement for the 2023 RTP (Kim Ellis & Molly Cooney-Mesker, Metro, 30 min)
March 16, 2022 – 10 am – noon Comments from the Chair • Committee member updates around the region (Chairman Kloster and all) • Fatal Crashes Update (Lake McTighe) Agenda Items • **2023 Regional Transportation Plan Draft Work Plan and Engagement Plan** Recommendation to MPAC (Kim Ellis, Metro; 45 min)	**April 20. 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items • Regional Freight Delay and Commodities Movement Study (Tim Collins, Chris Johnson, Kyle Hauger, Metro; 60 min) • *Interstate Bridge Replacement (IBR) findings on the project (Elizabeth Mros-O'Hara, Metro and others TBD)* • *2020 Census Report Update (Chris Johnson, TBD)*
May 18, 2022 – 10 am – noon Comments from the Chair • Committee member updates around the region (Chairman Kloster and all) • Fatal Crashes Update (Lake McTighe) Agenda Items • Regional Mobility Policy Update: Shaping the Recommended Policy and Action Plan (Kim Ellis, Metro/ Lidwien Rahman, ODOT, 60 min)	**June 15, 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items • RTP – Equitable Finance 2023 RTP (Lake McTighe, Metro, 45 min) • DLCD Climate Friendly & Equitable Communities Rulemaking item (Kim Ellis, Metro, 60 min) • Urban Growth Management Functional Plan Amendments – discussion (Ted Reid & Tim O'Brien, Metro; 60 min)

July 20, 2022 – 10 am – noon Comments from the Chair • Committee member updates around the region (Chairman Kloster and all) • Fatal Crashes Update (Lake McTighe) Agenda Items • Title 11 Concept Planning project update: Sherwood West (Erika Palmer, 30 min)	**August 17, 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items
September 21, 2022 – 10 am – noon Comments from the Chair • Committee member updates around the region (Chairman Kloster and all) • Fatal Crashes Update (Lake McTighe) Agenda Items	**October 19, 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items
November 16, 2022 – 10 am – noon Comments from the Chair • Committee member updates around the region (Chairman Kloster and all) • Fatal Crashes Update (Lake McTighe) Agenda Items	**December 21, 2022 – MTAC/TPAC Workshop** **10 am – noon** Agenda Items

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

- SW Corridor Updates and Equity Coalition (Brian Harper, Metro and others?)
- 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
- Best Practices and Data to Support Natural Resources Protection
- Intro to Greater Portland, Inc. new President/CEO Monique Claiborne – program and event news
- Intro to Patricia Rojas, Metro Program Director of Supportive Housing Services – program news

For MTAC agenda and schedule information, e-mail marie.miller@oregonmetro.gov
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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, December 15, 2021 | 9:30 a.m. to noon

Place: Virtual conference meeting held via Zoom

Members, Alternates Attending	Affiliate
Tom Kloster, Chair	Metro
Karen Buehrig	Clackamas County
Allison Boyd	Multnomah County
Chris Deffebach	Washington County
Eric Hesse	City of Portland
Dayna Webb	City of Oregon City and Cities of Clackamas County
Jay Higgins	City of Gresham and Cities of Multnomah County
Don Odermott	City of Hillsboro and Cities of Washington County
Lewis Lem	Port of Portland
Jamie Stasny	Clackamas County
Peter Hurley	City of Portland
Jaimie Lorenzini	City of Happy Valley and Cities of Clackamas County
Glen Bolen	Oregon Department of Transportation
Carol Chesarek	Multnomah County Citizen
Tom Armstrong	City of Portland
Colin Cooper	City of Hillsboro
Anne Debbaut	Department Land Conservation and Development
Jeannine Rustad	Tualatin Hills Park & Recreation District
Heather Koch	North Clackamas Park & Recreation District
Tom Bouillion	Port of Portland
Darci Rudzinski	Private Economic Development Organizations
Brett Morgan	1000 Friends of Oregon
Kevin Cook	Multnomah County
Ryan Makinster	Home Builders Association of Metropolitan Portland
Dr. Gerard Mildner	Portland State University
Scot Siegel	Largest City in Clackamas County: City of Lake Oswego
David Berniker	Largest City in Multnomah County: Gresham
Teresa Montalvo	Second Largest City in Clackamas County: Oregon City
Steve Koper	Washington County: Other Cities: City of Tualatin
Martha Fritzie	Clackamas County
Laura Kelly	Department Land Conservation & Development
Gordon Howard	Department Land Conservation & Development
Shelly Parini	Clackamas County Water Environmental Services
Carrie Pak	Tualatin Valley Water District
Ramsey Weit	Housing Affordability Organization Representative
Roseann Johnson	Home Builders Association of Metropolitan Portland
Brendon Haggerty	Public Health & Urban Forum, Multnomah County
Idris Ibrahim	TPAC Community Representative
Mark Lear	City of Portland
Erin Wardell	Washington County
Katherine Kelly	City of Vancouver

Theresa Cherniak	Washington County
Guests Attending	**Affiliate**
Sarah Iannarone	The Street Trust
Bob Kellett	Portland Bureau of Transportation
Chris Smith	
Barbara Fryer	City of Cornelius
Lucia Ramirez	Oregon Department of Transportation
Mike McCarthy	City of Tualatin
Warren Schuyler	City of Tigard
Bill Holmstrom	Department Land Conservation & Development
Kevin Young	Department Land Conservation & Development
Mike Weston	City of King City
Eben Polk	Clackamas County
James Feldman	Oregon Department of Transportation
Sarah Seldon	City of Fairview
Ted Labbe	UGI
Susan Shanks	City of Tigard
Evan Manvel	Department Land Conservation & Development
Kristin Greene	Department Land Conservation & Development
Brian Hurley	Oregon Department of Transportation
Brian Martin	City of Beaverton
Ryan Dyar	City of Milwaukie
Ryan Marquardt	Department Land Conservation & Development
Cody Meyer	Department Land Conservation & Development
Cody Field	City of Tualatin
Dan Pauly	City of Wilsonville
Darren Wyss	City of West Linn
Dave Roth	City of Tigard
Garet Prior	Oregon Department of Transportation
Greg DiLoreto	
Hope Pollard	City of Tigard
Jessica Engelmann	City of Beaverton
John Williams	City of West Linn
Mary Phillips	City of Gresham
Matt Crall	Department Land Conservation & Development
Milwaukie Planning Staff	
Laura Terway	City of Happy Valley
Rachael Dawson	Cascade Policy
Andrew Plambeck	Portland Streetcar
Tim Lynch	Multnomah County

Metro Staff Attending

Ted Leybold, Planning Resource Manager	Margi Bradway, Dep. Director Planning & Dev.
John Mermin, Senior Transportation Planner	Grace Cho, Senior Transportation Planner
Lake McTighe, Senior Transportation Planner	Chris Johnson, Research Manager
Ted Reid, Principal Transportation Planner	Tim Collins, Principal Transportation Planner
Eliot Rose, Tech Strategist & Planner	Matthew Hampton, Senior Transportation Planner
Tim O'Brien, Principal Transportation Planner	Kai Oishi, Metro Investment Intern
Marie Miller, TPAC & MTAC Recorder	

Call meeting to order, introductions and committee updates (Chair Kloster)
Chair Tom Kloster called the workshop meeting to order at 9:30 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.

Public Communications on Agenda Items – none provided

Consideration of MTAC/TPAC workshop summary of October 20, 2021 – no edits or corrections

Workshop Purpose (Kevin Young, Department Land Conservation & Development, DLCD) A brief overview of the workshop was provided. This workshop was planned to review current draft rules and gain feedback and suggestions on how these might be applied and implemented in the Portland region. It was noted significant work has already been addressed from the 2040 Growth Concept Metro has done. The DLCD Commission will review rule drafts beginning in March 2022, with May 22 adoption expected.

Climate Friendly Rulemaking Updates (Evan Manvel, DLCD) Mr. Manvel provided information on the background and purpose of the rulemaking. Oregon is not meeting its goals to reduce climate pollution. While some sectors have made significant progress, transportation related climate pollution has increased. If current trends continue, Oregon will come nowhere near to meeting our 2050 goal.

On March 10, 2020, Governor Kate Brown issued Executive Order 20-04, directing state agencies to reduce climate pollution. In response, the Oregon Land Conservation and Development Commission (LCDC) directed their staff to draft updates to Oregon's transportation and housing planning rules, and to convene a rulemaking advisory committee to help guide rule development. The rulemaking will significantly strengthen Oregon's rules about transportation and housing planning. Oregon is committed to increasing equity. Our state has a long history of discrimination and racism, including in our land use and transportation planning decisions. Rulemaking will focus on reducing pollution while also increasing housing choices and creating more equitable outcomes for all Oregonians.

Two categories of rulemaking are being drafted with performance monitoring and reporting under both. One is Regional Planning to meet pollution reduction targets. The second, under discussion at this workshop, are updated land use and transportation rules.

Climate Friendly Areas (Kevin Young, DLCD) As part of the Climate Friendly and Equitable Communities rulemaking, the DLCD is considering rules to facilitate the development of walkable, mixed-use neighborhoods in Oregon's eight metropolitan areas. Because the Portland Metro region has implemented similar requirements, with reference to Metro's adoption of the Climate Smart Strategy adopted by Metro Council in 2014, and incorporated through the Regional Transportation Plan, climate friendly area rules will operate differently in that region, reinforcing the region's Climate Smart Communities program.

Focus areas in the updated planning rules include:
• Climate-friendly areas - an area where residents, workers, and visitors can meet most of their daily needs without having to drive. They are urban mixed-use areas that contain, or are planned to contain,

a greater mix and supply of housing, jobs, businesses, and services. These areas are served, or planned to be served, by high quality pedestrian, bicycle, and transit infrastructure to provide frequent, comfortable and convenient connections to key destinations within the city and region.
• Reform parking management
• Support electric vehicle charging
• High quality pedestrian, bicycle, and transit infrastructure
• Go beyond focus on motor vehicle congestion standards
• Prioritize and select projects meeting climate/equity outcomes

Proposed requirements for the Portland Metro Region have been significantly revised:
• Metro to establish requirement for local government adoption of Region 2040 centers and land use regulations no later than December 31, 2024
• Local governments that have yet to do so shall comply by December 31, 2025
• Cities over 10,000 to report on affordable housing production, mitigation of displacement, and increasing housing choices within Region 2040 centers every six years
Kristin Greene shared the link to the RAC 10 packet with the most up to date draft rules: https://www.oregon.gov/lcd/LAR/Documents/2021-12-17_RAC_10_MeetingPacket_Part_1_.pdf

Comments from the committee:

- Greg DiLorento asked what cities over 10,000 were to report on regarding affordable housing production. Mr. Young noted that part of the housing production strategy to provide affordable housing involved city analysis for their housing needs, what requirements would be needed to boost housing production to meet those needs, and then submitting this report to DLCD for housing review process.
- Karen Buehrig asked for clarification in rules for other Metro jurisdictions with 30% future housing units within these climate friendly areas; were these each jurisdiction, or Metro-wide? Mr. Young noted neither applied to the Portland Metro region as they have already adopted the 2040 plan. There is no 30% requirement for the Metro region.
- Gerald Mildner asked what enforcement was planned if affordable housing was not planned per these requirements. Mr. Young noted the first step is working with local governments to produce what they can and provide assistance, but some level of enforcement would be made if resistance if found. When asked if cities that are producing affordable housing were getting market rate credit for doing so, Mr. Young noted these were all factored in, and the larger process is still under development.
- Tom Armstrong noted that all the 300 section including the alternative transportation review does not apply to the Metro cities. This leads us with a whole in terms of highway impact review, and planning for increasing density. It was noted under Section 130, the inequity analysis seems to have an overlap or backdoor for getting to issues with equity needs analysis. It was asked if more thought to direction on updates to Title 6 with better alignment, in how we get that alternative transportation review in there, how we look at activity levels, and more direction that just 'adopt boundary'.

  Mr. Young noted that as the rules are currently written, the current draft would not allow for that alternative transportation review process, embedded in Section 0.325 of the draft rules. DLCD is open to input on how they can reinforce and support the Climate Smart and 2040

Growth Concept. Kristin Greene noted they are looking at possible extensions to the equity and climate smart work Metro has done, but respectful of not placing extra rules on the region with work already done.

Parking Management and Electric Vehicle Charging (Evan Manvel, DLCD) The presentation began noting that DLCD is considering updating parking rules in Oregon's eight metropolitan areas and supporting electric vehicle charging. It was noted that parking mandates force people who don't own or use cars to pay indirectly for other people's parking. Carless households tend to be the poorest households. Parking demand varies significantly from development to development; about one-sixth of Oregon renter households own zero vehicles. Rules should reflect that.

The proposed rules encourage the diversity of parking needs to be met by the diversity of development. The rules would reduce costly parking mandates for desired types of development, such as smaller housing types, small businesses, and historic buildings. Rules would also reduce mandates in certain areas, where parking demand is lower per unit: areas with a higher concentration of jobs and housing, and walkable areas well-served by transit.

The rules give communities options to improve parking management. Those who adopt best practice parking policies would get more flexibility. The rules require more populous cities do more management of on-street parking, through studying parking usage and using permits or meters to manage location or time-specific demand. Good parking management reduces how much non-drivers subsidize those who drive.

The rules address negative impacts of large parking lots by requiring lots be designed to be pedestrian-friendly and include either solar power or trees. The rules also would require 50% of new residential parking spaces be capable of electric vehicle charging (with conduit and electric capacity, but not yet wiring or chargers). Electric vehicles are a key part of meeting Oregon's climate pollution reduction goals.

Removing requirements to include parking in each development does not mean no parking will be built. Two decades of experience with lower parking mandates have demonstrated lender requirements and market dynamics usually result in parking being built. However, just like today's parking rules, cities must sometimes deal with "spillover" parking, and where more people are trying to park than spaces exist. This calls for improved management of on-street parking spaces, not one-size-fits-all mandates.

Comments from the committee:

- Ted Labbe provided support for the draft rules. The section on parking was especially important for developing climate adaptation, with opportunity to go farther to reintegrate infrastructure into climate strategies. Further comments from Urban Greenspaces Institute on the draft rules was shared via chat link: https://drive.google.com/file/d/1ZC-cfwJrBQ8wuuK3jW19cMReLdMDROPH/view?usp=sharing
- Schuyler Warren added there are tax credits for EV charging infrastructure. These are limited but do help on costs with infrastructure. Its possible more subsidy funding statewide will be developed. One 2040 scenario in Tigard has removed all parking minimums due to financial

development challenges and the wish not to have as much parking. When cities get out of the way of parking requirements the market responds adequately to community needs.

- Glen Bolen asked if design issues were addressed in the draft rules. It was suggested to have standard polices across all jurisdictions using the lower volume, lower classifications when developing driveway, street and residential parking rules. Safety and access for pedestrians is a top issue with ODOT.
- Karen Buehrig asked what specifically will be applied in the Metro region and what decision making would be developed. Also, how do these rules interface with the RTP functional plan regarding parking and street designs there? Mr. Manvel noted the EV charging is expected to be widely applied in the Metro region. DLCD has had a series of meeting with Metro jurisdictions and staff with developing consideration of three options.

  Kristin Greene noted the equity focus is important and be in compliance with parking rules from the mandates Mr. Manvel presented. Immediate validation in all regions by March 2023 is option 1. Option 2 is work with what Metro has on the books, commit with RTP updates and coordination. Option 3 is apply regulations/standards in the Metro area with current adoption of the framework plan to be applied by 2026. Urgency to enact climate rules was given by the Governor's order, to complete by 2024.

- Eric Hesse noted that more clarity on that second RTP-based option on parking could be helpful as the region discusses how we can move forward with all due urgency.
- Gerald Mildner asked about the EV mandate requirement for new development or all existing parking garages, and who pays for this. Mr. Manvel noted that as drafted, new development would have this requirement as retrofit for communities up to 50,000, or 20% of value. If the retrofit cost is over 20% value, this would apply as a cost exception.
- Mike McCarthy supported the goals to make bike/walk better options in neighborhoods. It was noted the challenges with traffic circling around blocks looking for available parking with extra pollution from vehicles. Mr. Manvel added cities struggle managing parking between free and convenient space, and those available, but all come with costs.
- Heather Koch asked how we are coupling parking reductions and management with secure transit access as well as ample funding for active transportation infrastructure. I'm thinking of major transit cuts at moment, and how a lot of great bond funding, etc. makes evident the overwhelming need for more active transportation investments.
- Don Odermott noted business areas want density, but if parking is priced inadequately it drives customers away. Vehicles Miles Traveled (VMT) has increased with limited parking in urban development without transit options, which is not the same throughout the region.
- Barbara Fryer noted many residents in Cornelius have to drive to their location of work with limited transit options. It was encouraged that parking mandates be scaled via city size with amount of mass transit available.

High Quality Pedestrian, Bicycle, Transit, and Street Infrastructure (Bill Holmstrom, DLCD)
Moving Beyond Motor Vehicle Congestion Standards (Bill Holmstrom, DLCD)
Prioritize and Select Projects meeting Climate and Equity Outcomes (Bill Holmstrom, DLCD)
Bill Holmstrom presented information DLCD is considering updating rules guiding transportation and land use planning in Oregon's eight metropolitan areas.

Since 1991, the Transportation Planning Rules (TPR or OAR Chapter 660, Division 12) have set transportation planning requirements for all Oregon cities and counties. These rules are designed to ensure coordinated land use and transportation planning, that plans include all modes of transportation, and in metropolitan areas, that plans increase transportation choices and reduce reliance on the automobile.

It has become clear over the last decade that Oregon's existing rules are not sufficient to meet our Metropolitan Greenhouse Gas Reduction Targets. To reduce climate pollution, local governments need to improve their plans so different land uses are more connected, encouraging a walkable mix of destinations and accelerating investments in walking, biking and transit. To achieve these objectives, LCDC is expected to update the state's transportation planning requirements for local transportation plans and will deliver additional health, equity, and economic benefits to residents of Oregon.

In collaboration with community service providers, planners and members of a Rules Advisory Committee, Department of Land Conservation and Development (DLCD) staff are proposing amendments to existing rules, resulting in updated state and local plans that meet the state's greenhouse gas reduction goals. DLCD and other state agency partners including the Oregon Department of Transportation will provide are range of new and amplified services to local governments to help meet greenhouse gas reduction goals, including grants, technical assistance, tools, and publications, to help local governments adopt plans that meet or exceed the state's greenhouse gas reduction goals.

The amended rules would require local governments in metropolitan areas to:
• Plan for greater development in transit corridors and downtowns, where services are located and less driving is necessary;
• Prioritize system performance measures that achieve community livability goals;
• Prioritize investments for reaching destinations without dependency on single occupancy vehicles, including in walking, bicycling, and transit;
• Plan for and manage parking to meet demonstrated demand, and avoid over-building of parking in areas that need housing and other services;
• Plan for needed infrastructure for electric vehicle charging; and
• Regularly monitor and report progress.

The scope and scale of these requirements will vary by jurisdiction. The amendments will align with other state strategies to reduce transportation related climate pollution. Finally, it is important to note these amendments are intended to align with and support other priorities such as equity, safety, public health, and housing.

Comments from the committee:

- Karen Buehrig noted the advantage to having regional plans to build on as helpful, but would this including competing guides with the Regional Functional Plan and how would requirements to comply be implemented between them? Inventories and requirements related to inventories are a concern, as well as ranking and tiered priorities. With different funding sources and ability to know the range of projects ranked and how they would specifically apply to our system planning effectively would be helpful.

Mr. Holmstrom noted the layers of requirements can be made clearer on how these fit with regional requirements of Metro. DLCD started this discussion focusing on state locations that didn't have what Metro has already established. It was noted the TPR applies to jurisdictions in the Metro area which will continue to be the underlying framework. Some specific rules talk about just the Portland area and gives some flexibility including inventories. DLCD encourages suggestions that result in making adjustments in the drafts.

- Erin Wardell noted that yes, Metro has been successful in the coordination with transportation planning. The way we do the financially constrained project list in the RTP work for our region. If asked do the financially constrained project lists at the regional level work with local jurisdictions lying on top of each other is questionable. They could have projects prioritized in a different way between RTP, County transportation systems, and City transportation plans. The interaction between all our transportation plans and ODOT needs to be addressed more specifically. We have some control over local jurisdiction but when you bring in the ODOT facilities and requirements to follow those standards potential for confusion and difficulties to untangle exist. It is possible some of the draft rules inadvertently tear apart what good coordination has already accomplished.
- Don Odermott noted from their recent presentation to the Hillsboro Council some takeaways. There was a vast inventory need for infrastructure, with 35-40% of that delivered by private sector, notably located in local streets. The other needs come from multimodal improvements, parks and trails. It has been noted system planning embracing walkable areas with sidewalks and bicycle facilities. It was noted that our ability to bring the development check list to the table requires a solid legal foundation, including the goal to close the gap with sidewalks and safety features between development areas. It was noted that retaining the performance measures was critical.
- Mike McCarthy noted hearing the different rules in the Portland area and how they would be implemented. It would help to have a document that outlined them. What would change in Metro from these rules? Mr. Holmstrom noted the difficulty with existing rules combined with regional function plan requirements. A check list developed from the most recent advisory committee could be provided, with future work with Metro staff helping put this together.
- Chris Deffebach noted that something like a crosswalk between existing METRO, TPR and new CFEEC would be helpful.
- Evan Manvel provided the link draft check list page starting on page 31 of the document: https://www.oregon.gov/lcd/LAR/Documents/2021-12-17_RAC_10_MeetingPacket_Part_1_.pdf
- Erin Wardell noted the checklist in the packet is somewhat useful but really doesn't address these specific requirements of 'how' to do the transportation planning. It just says you have to amend your TSP to be compliant. We need to understand what compliance means.
- Eric Hesse noted a disconnect between RTP performance measures, that while yes, we are certified under climate smart, we are falling short on our gas reduction targets. These rules discussed with other plans need to consider the regional goals and process.
- Peter Hurly added From RTP performance monitoring, Appendix J, page 9: "The RTP...is not expected to meet regional policy targets for vehicle miles of travel, mode share and completion of the active transportation network by 2040, as shown in Chapter 7 of the plan."

- Cody Meyer noted the state was looking at reducing greenhouse emissions via VMT reduction targets for Metropolitan areas. Section 160 aims to connect new technology for actions taken beyond requirements. The various plans meeting targets are designed to be closely aligned with current processes and build on regional network framework, including the RTP.
- Karen Buehrig noted the need for more clarity within these goals about the organizations responsible. As Section 160 is written not, this is not clear. It was suggested to provide a table for the Metro area with identification on changes in the rules specifically.
- Gerald Mildner noted VMT targets have various elements of study, so may not provide consistency for targets. Some areas have limitation to transit for employment access in the region, forcing more people to drive cars. Planning new city formations and annexation areas with required mobility access can help make goals easier. It was suggested that changes in the UGB be contingent on goals. Everything in plans have effects and should be reviewed.
- Ted Labbe noted that if you look at unincorporated urban areas within the region the 2nd and 3rd largest populations are unincorporated Washington and Clackamas Counties. Noting the need for green infrastructure it was asked how Metro could leverage investments and knowledge with the Parks & Nature department to coordinate climate strategies regionally.
- Kevin Young noted that green infrastructure requirements across the region would be challenging, and this focus of rulemaking applied to land use and transportation. DLCD is committed to provide resources after rulemaking to reach targets and beyond.

Review Schedule, Wrap up, and Follow-up Survey (DLCD and Metro staff) Bill Holmstrom presented details regarding upcoming rulemaking scheduled. The RAC will meet Dec. 17 to review revised rules including updated scenario planning rules. In January rule refinements and impact statement reviews will be made.

Presentations to LDCD will take place February through May, with more reviews on rules and impact statement, discussion on policy questions, public hearings and adoption. Opportunities for input was provided:

Non-Commission Input

• Complete Post-Meeting Survey
• Direct staff contact (email or phone) available on website
• Written testimony to Rulemaking Advisory Committee

Commission Input

• February 3, 2022
• First hearing March 31/Apr 1, 2022
• Adoption hearing May 19, 2022

The link to the follow up survey: https://www.surveymonkey.com/r/PractitionerMeetingsFollowUp
Further consideration on input and written comments: DLCD.CFEC@dlcd.oregon.gov

Adjournment (Chair Kloster)
There being no further business, workshop meeting was adjourned by Chair Kloster at 11:53 a.m.
Respectfully submitted,
Marie Miller, MTAC and TPAC Recorder

Attachments to the Public Record, MTAC and TPAC workshop meeting, December 15, 2021

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	12/15/2021	12/15/2021 MTAC and TPAC workshop meeting agenda	121521M-01
2	Memo	12/7/2021	TO: MTAC members and interested parties From: Marie Miller, Metro RE: 2022 Metro Technical Advisory Committee (MTAC) Meeting Schedule	121521M-02
3	Memo	12/7/2021	TO: TPAC members and interested parties From: Marie Miller, Metro RE: 2022 Transportation Policy Alternatives Committee (TPAC) Meeting Schedule	121521M-03
4	Draft minutes	10/20/2021	Draft minutes from MTAC/TPAC Oct. 20, 2021 workshop	121521M-04
5	Meeting packet	March 22, 2021	Climate-Friendly and Equitable Communities Rulemaking Advisory Committee MEETING 5	121521M-05
6	Meeting packet	Sept. 8, 2021	Climate-Friendly and Equitable Communities Rulemaking Advisory Committee MEETING 8	121521M-06
7	Meeting packet	10/22/2021	Climate-Friendly and Equitable Communities Rulemaking Advisory Committee MEETING 9	121521M-07
8	Meeting packet	12/6/2021	Climate-Friendly and Equitable Communities Rulemaking Advisory Committee MEETING 10	121521M-08
9	Presentation	12/15/2021	Climate-Friendly and Equitable Communities	121521M-09

oregonmetro.gov/mobility

Memo

Date: February 9, 2022

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

From: Kim Ellis, Metro Project Manager
Lidwien Rahman, ODOT Project Manager

Subject: Case Study Analysis Findings and Discussion Draft Regional Mobility Policy Report

PURPOSE

The purpose of this memo is to introduce and seek feedback on:

- Case study findings (See Attachment 1)
- Recommended measures and potential measurement options described (See Attachment 2)

DISCUSSION QUESTIONS

- Questions on the case study findings?
- Questions or feedback on the recommended measures?
- Questions or feedback on the mobility policy measurement options?

BACKGROUND

Metro and the Oregon Department of Transportation (ODOT) are working together to update the policy on how we define and measure mobility in the Portland region.

The current 20-year old mobility policy is contained in both the 2018 Regional Transportation Plan (RTP) and Policy 1F (Highway Mobility Policy) of the Oregon Highway Plan (OHP). The policy relies on a vehicle-based measure of mobility (and thresholds) to evaluate current and future performance of the motor vehicle network during peak travel periods. The measure, also known as the v/c ratio, is the ratio of motor vehicle volume to motor vehicle capacity of a given roadway. [1]

What is the Regional Mobility Policy?

State, regional and local transportation plans have many policies; the mobility policy is just one of them.

Last updated in 2000, the region's mobility policy relies on a vehicle-based measure of mobility and thresholds adopted in the Regional Transportation Plan (RTP) and Policy 1F of Oregon Highway Plan (OHP). The measure is referred to as the volume-to-capacity ratio (v/c ratio).

In the past, people often thought of mobility as our system of roads and how we use them—the way traffic flows throughout the day. And, historically, planners and engineers have evaluated performance of transportation systems using the v/c measure for these purposes:

- System planning for the future*
- Evaluating transportation impacts of local comprehensive plan amendments*
- Mitigating development impacts
- Managing and designing roads

An improved mobility policy should consider and balance mobility for people riding a bus or train, biking, walking or moving goods. It should consider why, where, and when people need to travel, how long it takes to reach a destination, how reliable the trip is and if the system is safe for all users.

* The focus of this update.

[1] For example, when the v/c ratio of a roadway equals 0.90, 90 percent of the roadway's vehicle capacity is being used. At 1.0, the vehicle capacity of the roadway is fully used.

The 2018 RTP failed to meet state requirements for demonstrating consistency with the OHP Highway Mobility Policy (Policy 1F) under the current mobility targets for state-owned facilities in the region. As a result, ODOT agreed to work with Metro to update the mobility policy for the Portland area in both the 2018 RTP and OHP Policy 1F.

Figure 1. 2018 RTP Plan Priorities

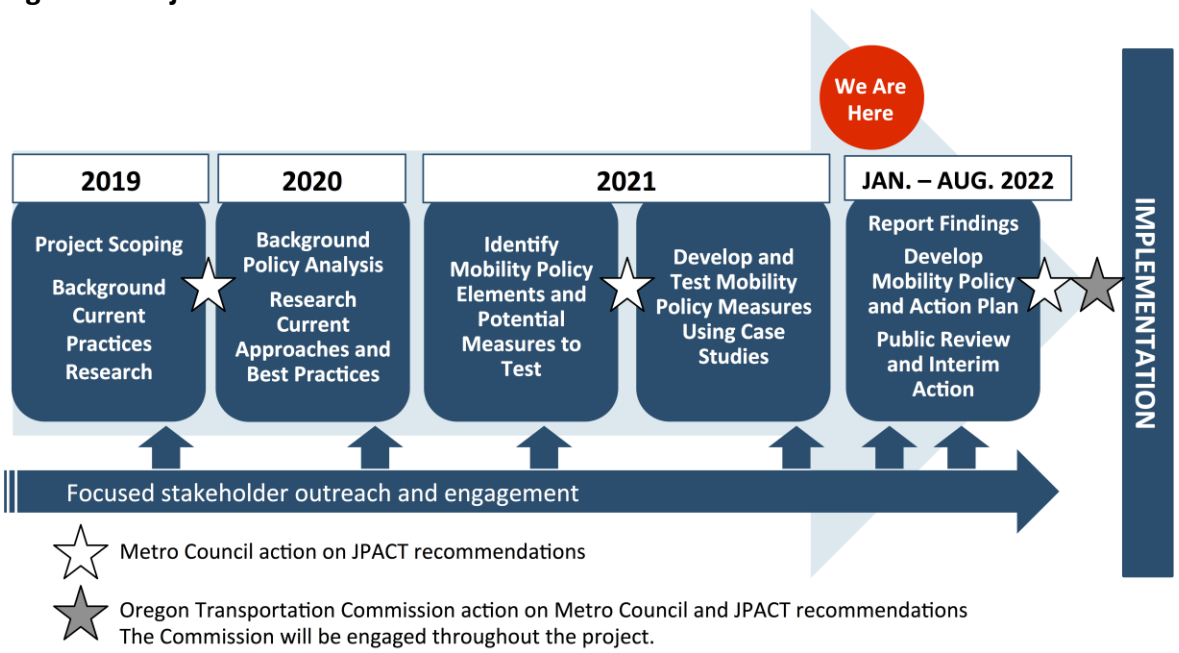
The 2018 RTP is built around four key priorities of advancing equity, mitigating climate change, improving safety and managing congestion – shown in **Figure 1**. The mobility policy update was defined and adopted unanimously in Chapter 8 of the 2018 RTP. At that time, JPACT and the Metro Council recognized this work was important to better align how we measure mobility and adequacy of the transportation system for people and goods with the RTP policy goals for addressing equity, climate, safety, and congestion.

JPACT and the Metro Council also recognized the updated policy must support other state, regional and local policy objectives, including implementation of the 2040 Growth Concept and the region's Climate Smart Strategy. This comprehensive set of shared regional values, goals and related desired outcomes identified in the RTP and 2040 Growth Concept, as well as local and state goals continue to guide the policy update.

Project timeline

Shown in **Figure 2**, the Regional Mobility Policy update began in 2019 and will be completed in Fall 2022 for use in the 2023 Regional Transportation Plan update.

Figure 2. Project Timeline



Overview of How We Got Here

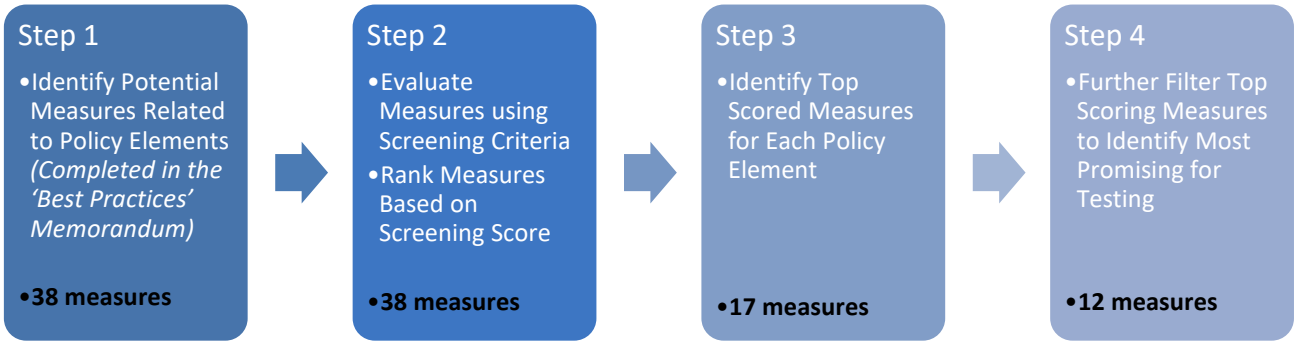
An overview of the process used to identify the mobility policy elements and measures to be evaluated follows.

From Fall 2019 to June 2020, the Transportation Research and Education Center (TREC)/Portland State University documented current mobility-related performance measures and methods being used in the Portland region, statewide and nationally. The Portland State University's Synthesis Research on Current Measures and Tools reviews the existing mobility policy and summarizes current practices in measuring multimodal mobility.

In 2020, the project team reviewed previous input from historically marginalized and underserved communities and other stakeholders from the 2018 Regional Transportation Plan update, development of the Get Moving 2020 investment package and the Scoping Engagement Process for this effort. Based on this review and additional feedback received through two workshops with the TPAC and MTAC in fall 2020, six key transportation outcomes were identified as integral to how we view mobility in the Portland region.

In Fall 2020, TPAC and MTAC also provided feedback on criteria to be used to screen and select potential mobility performance measures for testing that address one or more mobility policy elements. In Winter 2021, the Consultant team applied the screening criteria through a four-step process (shown in **Figure 2**) to narrow a list of 38 potential mobility measures to 12 potential mobility measures that appear most promising for testing and further evaluation through case studies this summer. A technical memo and supporting documents describing the screening process is available on the project website.

Figure 2: Screening Process to Inform Selection of Mobility Measures for Testing



In spring 2021, the project team engaged policymakers, practitioners, community leaders and other stakeholders to review and provide feedback on the draft mobility policy elements and potential measures to include in the updated policy. Throughout May and June 2021, the project team engaged stakeholders through online forums, briefings and committee meetings. The four online forums included two forums for planning, modeling and engineering practitioners, a forum for goods and freight professionals, and a forum for community leaders. A total of about 130 people participated in the forums. Project staff also presented and received feedback at County Coordinating Committees (staff and policy), MTAC, TPAC, the Metro Policy Advisory Committee (MPAC), JPACT and the Metro Council – representing more than 350 individual points of input.

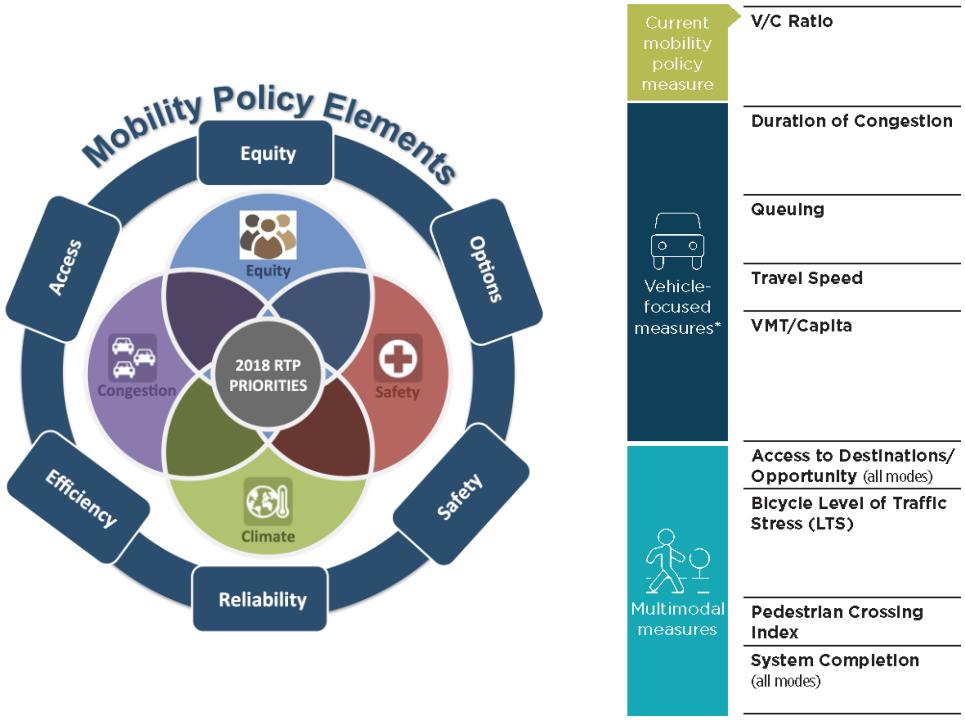
Key themes from Spring 2021 stakeholder input included:

- **Equity and climate should be explicit** in the updated mobility policy
- **Many aspects of access** are important to mobility:
  - Access to places
  - Access to travel options
  - Affordability is key to access
- **Efficient use of the transportation system** is important to mobility
- **Quality, seamless connections between travel options** are important to mobility
- **Ensure that all elements are reflected** across the measures
- **Ensure measures are focused on people and places**, many seem vehicle-focused
- **Avoid redundancy in the measures**
- **Ensure flexibility to allow for different measures in different contexts** (land use and transportation functions), **without being overly complex**

A Stakeholder Engagement Report documenting the engagement process and input received is included in the meeting packet for reference. The Report and supporting Appendices are also available on the project website: www.oregonmetro.gov/mobility.

In June 2021, JPACT and Metro Council recommended the mobility policy elements and measures in **Figure 3** be further evaluated and tested. The recommendation was informed by past research and input, the technical screening process and subsequent stakeholder input.

Figure 3: Regional Mobility Policy Elements and Measures Evaluated



The case studies research focused on learning more about each of the potential new mobility measures and potential ways in which the measures could be applied across different land use/transportation contexts and planning applications – focusing on system planning and plan amendments.

The case study findings **(attachment 1)** and preliminary mobility policy recommendations **(attachment 2)** from this research and subsequent stakeholder input and direction from JPACT and the Metro Council will be used by the project team to develop a recommended mobility policy for the 2023 RTP and proposed amendments to Policy 1F of the OHP, including measures, targets/standards and methodologies.

NEXT STEPS

A schedule of engagement activities is under development. A summary of the remaining steps in the process (and anticipated schedule) follows.

Report Case Study Findings **February to May**

Staff will report research findings from the case studies and potential measurement options to inform developing a recommended mobility policy for the RTP and proposed amendments to Policy 1F of the OHP. Staff will continue to engage TPAC and MTAC. The project team also recommends convening a policymakers forum with expert panel for MPAC, JPACT and the Metro Council later this spring. The purpose of this forum is to share this work and help inform how the region moves forward.

Draft Updated Mobility Policy and Action Plan to Implement Policy **May to July**

Staff will continue to engage TPAC and MTAC in developing an updated regional mobility policy and implementation plan for public review and discussion by JPACT, MPAC, and the Metro Council. This work will include drafting policy language for the 2023 RTP and guidance related to use and applicability of the recommended performance measures, targets/standard, data, methodologies and processes.

In addition, the project team will develop guidance to jurisdictions on how to balance multiple policy objectives and document adequacy, i.e. consistency with the RTP and OHP, in both transportation system plans (TSPs) and plan amendments, when there are multiple measures and targets in place. Finally, the project team will recommend considerations for future local, regional and state actions outside the scope of this project to implement the new policy and to reconcile differences between the new TSP and plan amendment measures and targets and those used in development review and project design processes.

Conduct "Tentative" Approval Process **August 2022**

During this time, a 45-day public comment period and hearings are anticipated. Additional refinements will be recommended to address feedback received during the public comment period for consideration by MPAC, PACT and the Metro Council during the "tentative" approval process.

Pending "tentative" approval and direction by the JPACT, the Metro Council and expressed support from the OTC, the updated policy will be applied in development of the 2023 RTP. In addition, the recommended policy will be forwarded to the OTC for consideration as an amendment to the OHP 1F (Table 7 and related policies for the state-owned facilities in the Portland region). Pending adoption of the 2023 RTP by JPACT and the Metro Council and amendment of the OHP by the OTC, the updated policy will guide development of regional and local transportation plans and studies, and the evaluation of potential impacts of plan amendments and zoning changes subject to the Transportation Planning Rule.

/Attachments

Attachment 1. System Planning and Plan Amendment Case Study Analysis

Attachment 2. Discussion Draft Regional Mobility Policy Report

System Planning and Plan Amendment Case Study Analysis

February 2022

Introduction

Metro and the Oregon Department of Transportation (ODOT) are working together to update the regional mobility policy and related mobility measures for the Portland metropolitan area. The goal of this update is to better align the policy and measures with the comprehensive set of shared regional values, goals, and desired outcomes identified in Metro's Regional Transportation Plan (RTP) and 2040 Growth Concept, as well as with local and state goals.

The policy also needs to be updated to better define expectations about mobility for different travel modes based on land use context and state and regional functional road classifications in the Oregon Highway Plan and RTP. The updated policy will describe the region's desired mobility outcomes and more thoroughly and explicitly define mobility for people and goods traveling through the transportation system in the Portland area.

The project team followed a four-step process to narrow a list of 38 mobility performance measures identified through a review of best practices to the 12 most promising. Based on further evaluation, eight of the 12 measures were advanced for testing through case study applications. Table 1 on the following page shows the eight measures tested through the case studies. These measures are further explored through case study applications included in this memorandum.

What we want to learn from the case studies:

1. How well does the measure help compare outcomes in Equity Focus Areas (EFAs) to other areas?
2. How sensitive is the measure to changes in land use?
3. How could measures that are not sensitive to land use changes be applied in plan amendments?
4. Does Metro's Dynamic Traffic Assignment (DTA) model identify different needs than the travel demand model at the system level? Does it offer significantly different post-processed intersection volumes?

Table 1. Mobility Measures Evaluated and Tested

Current mobility policy measure	**V/C Ratio**	The ratio of traffic volume to the capacity of a roadway link or intersection during a specified analysis period.
 Vehicle-focused measures*	**Duration of Congestion**	Hours of congestion (HOC) is the number of hours within a time period, most often within a weekday, where a facility's congestion target (such as v/c ratio or acceptable speed) is exceeded or not met.
	Queuing	The extent of vehicles queued on intersection approach lanes, including on and off ramps, during a specified analysis period (typically a peak hour).
	Travel Speed	Average or a percentile speed between origin-destination pairs, during a specific time period.
	VMT/Capita	Compares the number of miles traveled by motorists within a specified time period and study area to the number residents or employees in the area. VMT/capita can indicate how much people who live and work in a study area must drive to meet their obligations and daily needs.
 Multimodal measures	**Access to Destinations/ Opportunity** (all modes)	The number of essential destinations within a certain travel time or distance, by different modes.
	Bicycle Level of Traffic Stress (LTS)	Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.
	Pedestrian Crossing Index	The percent of a corridor or roadway segment meeting the pedestrian crossing target spacing.
	System Completion (all modes)	The percent of planned facilities that are built within a specified network or on a specified corridor/roadway segment.

*These measures impact travel by bus transit and may be able to evaluated for transit trips specifically, such as travel time and speed.

Question 1:
How well does the measure help compare outcomes in Equity Focus Areas (EFAs) to other areas?

Answer:

Each of the measures allows equity focus areas to be compared with non-equity focus areas or to the area as a whole. The measures that are best for identifying disparities and prioritizing projects that address them are **access to destinations** and **system completeness**.

Question 2:
How sensitive is the measure to changes in land use?

Answer:

The current measure (**V/C ratio**) and each of the vehicle-focused measures are sensitive to land use changes. When measured with the regional travel demand model, neither V/C ratio nor travel speed is very sensitive to small changes in land use; however, when the model volumes are post processed and applied at the intersection level, V/C ratio is very sensitive to small land use changes, especially in congested conditions. **Travel speed** can only be applied at the link level, so is slightly less sensitive to land use changes.

Access to destinations is sensitive to land use changes, but assessing whether a comprehensive plan amendment or zone change translates into increased access to destinations is difficult. The measure can tell you if an area has high access to destinations. In these areas, adding more people would increase the number of people with access. It can also tell you where residential areas are lacking in access because of a lack of transportation options, or if land use changes (such as adding more non-residential uses) would help increase access to destinations.

VMT/capita is sensitive to land use changes at the system level and is good for comparing different subareas. Small land use changes would not be reflected at the regional or even sub area level and could give misleading results if looked at for a single Transportation Analysis Zone (TAZ).

The multimodal measures including **bicycle level of transportation stress (BLTS)**, **pedestrian crossing index**, and **system completion** are not impacted by changes in land use although major changes in land use could change the desired roadway cross-sectional elements. Roadway volumes are used to determine BLTS for mixed traffic roadways only, and therefore is sensitive to land use changes in specific conditions.

Question 3:
How could measures that are not sensitive to land use changes be applied in plan amendments?

Answer:

For a measure such as **system completion** that is not sensitive to land use changes, it could be applied to plan amendments as follows:

- Identify system gaps and deficiencies (all modes) impacted by the plan amendment.
- Determine whether the planned system is adequate considering bicycle and pedestrian access needs and desired crossing spacing and consider whether the proposed land use change is likely to increase access to destinations or reduce the area's VMT/capita.

Question 4:
Does Metro's Dynamic Traffic Assignment (DTA) model identify different needs than the travel demand model at the system level? Does it offer significantly different post-processed intersection volumes?

The DTA model is currently calibrated on a project-by-project basis. Calibration is important because the DTA model is capacity-constrained and assigns trips to network links based on congestion and volumes. When a link is reaching or at capacity, the model will no longer assign trips to that link and will instead assign trips along alternative routes or to the next analysis hour.

The regional travel demand model (RTDM), on the other hand, is not capacity-constrained. A link volume can exceed the link capacity. This can result in unrealistic forecast link volumes on major roadways during peak periods, when in reality many drivers will reroute their trip to avoid delays.

The DTA model is a more rigorous tool than the RTDM. It is currently most often used for corridor and subarea level analysis. The DTA model is currently set up for the AM and PM peak periods of the day only.

Based on a review of travel speed output within Oregon City for the 2015 base year and 2040 constrained networks, the DTA model shows less congested peak hours on major roadways. Comparing post-processed intersection volumes using the two models, volumes and queuing projections are less with the DTA model outputs compared to the RTDM outputs at the major intersections. Therefore, when intersection solutions are developed solely based on future intersection volumes developed from the RDTM, there is potential to overbuild solutions and even induce demand. Instead of focusing on minimizing delay at a specific intersection, potentially shifting a bottleneck downstream, it may be more useful to consider overall progression of a facility.

Fact Sheet

Congestion Measures

Travel speed, **V/C ratio**, and **queuing** are vehicle-focused measures that support reliability and efficiency outcomes. Current uses of the interim regional mobility policy rely heavily on V/C ratio to determine where congestion is unacceptable and to identify needed improvements and mitigations. It may be possible to use travel speed, V/C ratio, and queuing measures in tandem for peak period analysis, depending on the methodologies used and questions that need to be answered by the analysis.

Current mobility policy measure		Evaluating Outcomes for Equity Focus Areas	System Planning: Applying a Target to Identify Needs and Develop Plan	System Planning: Setting Standard based on Plan	Plan Amendments: Large-Scale/ Areawide: Show measurable impact (from added trips, any mode)	Plan Amendments: Large-Scale/ Areawide: Identify mitigations if standard exceeded	Plan Amendments: Small-Scale/Site-Specific: Show measurable impact (from added trips, any mode)	Plan Amendments: Small-Scale/Site-Specific: Identify mitigations if standard exceeded
Vehicles	V/C Ratio	A	▮▮✚	▮▮✚	▮▮✚	▮▮✚	▮▮✚	▮▮✚
Vehicles	Duration of Congestion	A	▮▮✚	▮▮✚	▮▮✚	▮▮✚	▮▮✚[5]	▮▮✚
Vehicles	Queuing		▮▮✚[1]	▮▮✚[1]	▮▮✚[1]	▮▮✚[1]	▮▮✚[1]	▮▮✚[1]
Vehicles	Travel Speed	A	▮▮✚[2]	▮▮✚[2]	▮▮✚	▮▮✚[3]	▮▮[4]✚[4]	▮▮[3]✚[3]

▮▮=Thruway ✚=Arterial/Collector

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

1. Off-ramps only.

2. The target travel speed on arterials/collectors should have a maximum consistent with area context and the desired posted speed and a minimum threshold for congestion.

3. Intersection v/c ratio analysis can be used to help identify mitigations to improve travel speed.

4. Travel demand model or microsimulation can support the analysis but the impact may be very minimal.

5. Travel demand model or microsimulation can support the analysis but the impact will be negligible.

Case studies: what did we learn?

The study team applied congestion metrics through several case studies from regionwide reviews to subarea sensitivity testing. Key questions reviewed were whether the DTA model identifies different results, what differences occur when using different congestion measures, and how sensitive the measures are to land use changes.

Useful Findings

V/C ratio and travel speed show very similar locations and levels of congestion depending on the thresholds used. Travel speed is more relatable to the public for policy discussions, is consistent with how systems are managed, and switches to a target that cannot be inappropriately applied at the intersection level. Hours of congestion can be applied effectively with either V/C ratio or travel speed. This measure can be used to look at the severity of congested areas and help prioritize bottleneck improvements. It will need to be part of the policy, but it would only be sensitive to change

at the system planning level or following major changes in roadway pricing or capacity. Lower travel speed targets would be needed for arterials than for throughways as a percentage of posted or free-flow speed given the presence of traffic signals. Signal delay results in average speeds below posted or free-flow speed, even in uncongested time periods.

Based on the case studies, the DTA model shows less congested peak hours on major roadways. Comparing post-processed intersection volumes using the two models, volumes and queuing projections are less with the DTA model outputs compared to the RTDM outputs at the major intersections.

When measured with the regional travel demand model and reported at the link level, neither V/C ratio nor travel speed are very sensitive to small changes in land use; however, when the model volumes are post processed and applied at the intersection level, V/C ratio is very sensitive to small land use changes, especially in congested conditions. Travel speed can only be applied at the link level, so is slightly less sensitive to land use changes.

Considerations for the mobility policy

If travel speed is used in the mobility policy, major considerations include:

What speed variable will be the denominator for determining a travel speed threshold?

Options include posted speed, free-flow speed and base link speed from the travel demand model.

- For this analysis, the base link speed from the 2015 travel demand model was used because it was a readily available output that could be easily incorporated into GIS-based calculations. Base link speed is not a measured or designated speed; it is an input that is part of the travel demand model. It is often close to or equal to the posted speed, but it can vary from the posted speed if needed to yield accurate travel times in calibration.
- Whichever speed variable is used, a dataset where the model output and the speed variable data have the same link segmentation will need to be created to simplify requests to Metro and/or the calculation process. Posted speed was not used for this analysis due to the effort required to match the two datasets for use in the calculations.

Key Takeaways

- Travel speed is relatable and consistent with facility management
- Travel speed reduces overemphasis/over design on long-term intersection operations
- Intersection v/c still has a place in planning and near-term mitigations
- Hours of Congestion will need to be considered in the policy for either congestion metric
- Queuing will need to be considered in the policy for either off-ramps only or for arterial intersections as well

How would thresholds be decided?

- 75 percent is currently used by ODOT for the Portland Region Traffic Performance Report (PRTPR) and Corridor Bottleneck Operations Study (CBOS).
- 75 percent may not make sense on roadways that are controlled (versus uncontrolled roadways such as freeways). Roadways that have more traffic control, such as signals and roundabouts, will experience more delay and slower speeds. Thresholds or targets would need to take that into consideration. Potentially using a threshold based on measured speeds (like average travel speed for the link) would provide a realistic base for developing a threshold.
- 75 percent may not make sense for roadways that have low posted speeds (or base link speeds). Minor variations of travel speed (such as a change in 2 mph) would show large percentage changes.

Guidance would need to be developed related to calibration and validation of Metro models in relation to speed if it is going to be used as a measure with a target.

Currently, most of the speed-related measures are used for relative comparisons between various alternatives, not as a measure against a target.

Metro modeling staff notes that there is some calibration related to travel times, which has a direct relationship to travel speeds. The base year link speeds are generally set to yield accurate travel times in calibration. Horizon year speeds may be adjusted when speed changes are known or expected in future year models.

Should the DTA model be used for congestion-based metrics?

Overall, the DTA model provides volumes that are more spread out on the system and likely more realistic for peak travel periods, decreasing volumes on throughways that are congested and adding volumes to parallel arterial routes. Similar to in-the-field conditions, the DTA theoretically never has a V/C ratio greater than 1.0, which would help with target and threshold setting. The RTDM will assign trips to a link even if it is at or over capacity already, which is not possible on the ground.

Although more realistic, Metro does not have a regional DTA. It would take significant time and resources to develop and calibrate the DTA for each area of the region.

It is unclear if there is any feedback to MetroScope/land use and demographic allocation with the current DTA model. The entire region would need to be covered by a DTA model to get that type of feedback into the regional MetroScope and land use tools.

The region's agencies may have other tools like HERS, Fixit, RITIS, etc. that would be more useful for considering land use changes.

If V/C ratio is used in the mobility policy, major considerations include:

- The comparison of post-processed volumes from the RTDM model and the DTA model confirm that volumes from the RTDM are likely to be overestimated in congested areas and could result in overbuilt solutions that induce demand. Consideration should be given to specifying the use of DTA for intersection analysis for plan amendments where the targets are applied as standards to ODOT facilities. Alternatively, an adjustment could be made to the V/C targets or an adjustment could be made to the forecast traffic volumes when a DTA model is not available.

Questions for Stakeholders

- Which measure should be used for congestion, and should it be applied to arterials in addition to throughways?
- If so, should it be applied to all arterials or just those outside of 2040 centers?
- What thresholds/targets should be applied based on the measure selected?

Fact Sheet

Efficiency Measures

Both **VMT per capita** and **access to destinations/opportunity** reflect how well the land use and transportation systems are coordinated and work together, and both respond to the same types of changes in those systems. Neither of these measures evaluates how well the transportation system itself operates.

		System Planning		Plan Amendments: Large-Scale/ Areawide		Plan Amendments: Small-Scale/Site-Specific	
	Evaluating Outcomes for Equity Focus Areas	Applying a Target to Identify Needs and Develop Plan	Setting Standard based on Plan	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded
VMT/Capita[11]	AB	●	●	●	●[1]	Caution[4]	●[5]
Access to Destinations[11]	AB	●	●	●[2]	●[3]	●[2]	●[3]

● =Area

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

B. Measure relates to increased access to non-auto modes which are accessible to people without access to vehicles.

1. Mitigations would need to be changes in land use or significant travel demand management (TDM) measures

2. Land use changes would increase or decrease the number of destinations that are accessible but not how far the area of accessibility is

3. Mitigations would need to be changes in land use or significant changes in the transportation network.

4. When looked at in a localized area, VMT/capita may increase for the localized area while contributing to lower VMT/capita for the jurisdiction. This would occur if the projected VMT/capita for the localized area were projected to be below the jurisdiction's average. It would indicate that increased development in that area is more efficient than other areas.

5. Mitigations would need to be changes in land use or land use intensity which may not be effective based on the land use patterns and surrounding transportation network. If not effective, would need to mitigate with TDM or TSMO.

Case studies: what did we learn?

VMT/capita metrics for land use subareas were compared to regional and citywide averages and to the current Oregon Transportation Planning Rule (TPR), which targets a VMT/capita reduction of 5 percent and requires that new plans increase VMT/capita by no more than 5 percent. Proposed updates to the TPR may require further reductions in VMT/capita.

VMT/Capita

Whether measured using a ratio metric (VMT/capita and VMT/employee) or a rate metric (Home-based VMT/capita and Commute VMT/employee), VMT/capita is projected to decline from 2015 to 2040 in greater Portland and in several plan areas. Where VMT/capita is

VMT/Capita...

- Can be modeled and forecasted, showing if the planned land use and transportation systems are moving in the right direction, more efficient to serve
- Demonstrates if planned land use changes result in less vehicle travel
- Can show incremental improvements

projected to increase, those increases are small (less than 5 percent) and in conformance with TPR guidance that cities should limit VMT/capita growth to 5 percent or less. The variation between VMT/capita results can be attributed to increasing the availability of non-driving travel options and increased density and mixing of land uses.

The sensitivity testing conducted in the Colwood and South Hillsboro plan amendment study areas indicates that VMT/capita metrics are reliably responsive to modeled land use changes. In-depth sensitivity testing to evaluate how different infrastructure packages would affect these metrics has not been completed.

The 2018 RTP evaluated VMT/capita and VMT/employee for multiple scenarios; however, the small differences between the fiscally-constrained and strategic scenarios indicates that either VMT/capita is not particularly sensitive to infrastructure changes alone or that the strategic infrastructure package includes elements that would both reduce and increase VMT/capita.

Access to destinations/opportunity

Access to destinations/opportunity can be estimated with great accuracy and precision for existing conditions and with much less accuracy and precision for future (forecasted) conditions. Metro's travel model includes forecasts for jobs and population growth, but does not forecast changes in the locations of community destinations. Analysts must either make assumptions about the future locations of community destinations or assume they will not change over the next 10-20 years.

Travel times by different modes, which are inputs to the measure, can be estimated with great accuracy for existing conditions but not for forecasted conditions, due to how the model estimates transit travel time and its relatively coarse assessment of traffic congestion. The 2018 RTP found that the travel demand model is limited in its ability to evaluate walking and bicycling modes, due to the model's scale of analysis and assumptions about travel behavior. Therefore, while access to destinations/opportunity can be accurately evaluated for walking and bicycling under existing conditions, it cannot be accurately evaluated under forecasted conditions.

Key Takeaways

Regional Transportation Plan

- All scenarios have decreases in average VMT/capita but none achieve the 10 percent target.
  - » No-Build: -1.2%
  - » Constrained: -4.0%
  - » Strategic: -4.0%

Central City MMA

- Home-based VMT/capita of 4.2 compared to 11.0 in region overall
- Able to double population and jobs with minimal increase in VMT/capita
- Able to reduce VMT/employee by 72 percent

Oregon City MMA

- VMT/employee increases by 1.8 percent for the subarea; Oregon City increases by more than 2 percent (conforming to the TPR requirement that new plans not increase VMT/capita by more than 5 percent)

South Hillsboro Community Plan

- Despite the plan area's pedestrian-oriented design and mixed-use town center land uses, people living in South Hillsboro (10.9) would generate more VMT/capita than all residents of Hillsboro (8.5), at an amount close to the Metro Region average (10.5). This demonstrates that infill is more efficient than urban growth areas. This indicates that infill development can support more efficient vehicle travel than development in urban growth areas.
- People working in South Hillsboro (9.2) would generate VMT/employee close to the Metro Region average (9.5) and lower than the Hillsboro average (10.7). This demonstrates the benefit of adding more housing to support Hillsboro jobs.

Useful Findings

TSPs and comprehensive plans collectively can reduce VMT/capita; however, the contributions of specific projects are challenging to measure when considered individually.

When looked at in a localized area, VMT/capita may increase for the localized area while contributing to lower VMT/capita for the jurisdiction as a whole. This would occur if the projected VMT/capita for the localized area were projected to be below the jurisdiction's average. It would indicate that increased development in that area is more efficient than in other areas.

The case studies indicate VMT/capita can be applied at the system planning level and for larger land use changes. For smaller scales, the measure should be used with caution when an increase results in a potential reduction for the larger area, as described above.

The measure is not sensitive to small transportation changes and can show increased VMT/capita when evaluating individual capacity-increasing projects that may be needed to support efficient development.

Access to destinations can be applied at the regional level, but is challenging to apply at the local jurisdiction or subarea plan levels because it requires staff with specialized skills and access to detailed datasets and spatial analysis tools. The measure can also be challenging when evaluating land use and zoning changes in small areas, since the eventual outcomes of zoning changes can be hard to predict.

Considerations for the mobility policy

Both VMT/capita and access to destinations/opportunity reflect the efficiency of land use and travel, and how well land use and the transportation system are coordinated to reduce reliance on the automobile. Of the two, VMT/capita can be evaluated in congruent ways for both existing and future conditions, and can be evaluated for multiple scales, from plan amendments to regional evaluations.

VMT/capita could be applied through the regional mobility policy using the following approach:

- Apply VMT/capita as a primary system performance measure alongside performance measures that evaluate both system operations and system completeness. VMT/capita can be applied in the following ways:
  - **Identifying system needs and system adequacy during system planning:** For TSPs and large subarea plans, forecasted VMT/capita can be compared to existing conditions to determine if land use changes or improvements to multimodal access are needed or would help to reduce VMT/capita.
  - **Evaluating the transportation/mobility impacts of land use decisions in plan amendments:** For TSPs and large subarea plans, forecasted VMT/capita can be compared to the existing condition to determine if the plan amendment would result in a reduction in VMT/capita or an increase, which could have a negative impact that requires mitigation or changes to the plan.
  - **Evaluating mitigations when a threshold of significance is exceeded:** For system planning and subarea planning, Metro's TDM can be used to evaluate the VMT/capita differences between plan alternatives with different levels of land use density and mix of land uses.

Access to destinations/opportunity could still be used as a planning tool, especially when:

- Planning networks for specific travel modes, to ensure they meet community needs;
- Evaluating alternative land use and transportation scenarios in a comprehensive plan; and
- Measuring overall system usefulness for different populations within greater Portland.

Questions for Stakeholders

- Should VMT/capita be incorporated into the mobility policy to ensure that all plans and plan amendments contribute to reaching the regional target?
- If so, should the thresholds/targets be consistent with the TPR targets for Metro?*

*Note: Proposed updates to the TRP to include Climate-Friendly and Equitable Communities (CFEC) may include VMT/capita reduction targets.

Multimodal Measures

The measures evaluated in the case studies to help assess the multimodal system and its safety and comfort for all users included **system completion**, **bicycle level of traffic stress (BLTS)**, and **pedestrian crossing index**. These measures support equity, access, safety, efficiency and options.

			System Planning		Plan Amendments: Large-Scale/ Areawide		Plan Amendments: Small-Scale/Site-Specific	
		Evaluating Outcomes for Equity Focus Areas	Applying a Target to Identify Needs and Develop Plan	Setting Standard based on Plan	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded
	LTS	AB	✚	✚	✚[1]	✚[1]	NO	NO
	Ped. Crossing Index	AB	✚	✚	✚[2]	✚	✚[2]	✚
	System Completion	AB	▮▮✚	▮▮✚	✚[3]	✚	✚[3]	✚

▮▮=Thruway ✚=Arterial/Collector

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

B. Measure relates to increased access to non-auto modes which are accessible to people without access to vehicles.

1. Only sensitive to large changes in volumes or looking at access to LTS routes

2. Can document impact on warrants for a protected crossing

3. Can document impact on signal warrants, and number of trips added to system by mode, and if they are impacting an incomplete mode, but difficult to calculate their impact or proportionate share

Case studies: what did we learn?

LTS

LTS analyses most often use a target of 2, which is the minimum LTS level that will encourage most of the potential bike-riding population to consider riding. A BLTS 2 target can be difficult to meet, especially on high-speed roadways. Most local system planning does not attempt to meet a BLTS 2 on all non-freeway throughways and arterials because it is cost-prohibitive. Often, completing the system is prioritized over creating a fully low-stress system. However, many system plans do identify a portion of their bicycle network that is intended to be low stress.

Pedestrian Crossing Index

Metro does not currently have a full pedestrian crossing dataset, but there is an Open Street Maps (OSM) dataset that can be accessed. The OSM dataset is a useful first step toward creating a full pedestrian crossing dataset for the region. It will take significant effort to update the data to be usable for regionwide and subarea analyses, including determining completeness of the dataset and updating or creating attributes. Attributes that are necessary or desirable include roadway ID for the street that is crossed, milepoint of the crossing, roadway classification that is linked to target setting (i.e., regional design classification), and type of crossing (e.g., marked, signalized, enhanced).

ODOT has a pedestrian crossing inventory for their roadways and has a process and script for calculating the pedestrian crossing index. ODOT's methodology is not easily applied to the OSM data because the script requires an identified set of study roadways. The case studies used a manual process, but if pedestrian crossing index

is moved forward as a measure for the RMP, a script similar to ODOT's could be created to streamline the process. Additional effort will also be needed to update the OSM dataset to include the street crossed and identify the target spacing for each roadway using Metro's *Designing Livable Streets and Trails Guide* and ODOT's *Blueprint for Urban Design.*

System Completion

The system completion measure can be used in system planning in several ways, including:

- **Establishing the planned system:** An outcome of system planning is creating a vision for the future transportation system, most often by mode or service. These planned networks become the base for the system completion calculation. Once there is a planned regional or local network established through system planning, future plan amendments, developments, and projects can determine whether the networks are helping further the completion of the planned system. Targets for completion of the planned system can be set, evaluated and monitored over time.
- **Comparing alternatives:** Once they have envisioned the overall planned system, many agencies find they will be unlikely to be able to acquire the funding to fill all the gaps in the system. Determining the system completion of a fiscally constrained system can show the need for additional funding for completing the multimodal networks.

Useful Findings

Bicycle Level of Traffic Stress

Setting a low-stress target for all roads or certain roadway classifications (arterials, for example) is not practical to achieve. However, BLTS is a tool that should be used to identify a network of low-stress routes (current and future) that connect as many destinations as possible with low-stress routes. The low-stress designation can be part of the system completion assessment for those routes.

Pedestrian Crossing Index

Applying the pedestrian crossing index using spacing targets from the *Livable Streets Guide* and *Blueprint for Urban Design* is useful for identifying areas potentially in need of additional crossings; however, a facility-specific target should be set through local planning. This target could then be used as part of an assessment of system completion.

Key Takeaways

- Complete system definition should be set through system planning and include lanes, turn lane policy, bicycle, pedestrian, transit and TSMO/TDM components
- Setting a low-stress target for all roads or certain roadway classifications (arterials, for example) is not practical to achieve
- Crossing spacing targets and LTS should be used to plan the complete system

System Completeness

System completeness can be used to identify needs, but the term "complete" needs to be defined through system planning. The definition should include level of street connectivity, future number of through travel lanes, policy on turn lanes, type and locations of planned bicycle and pedestrian facilities, target pedestrian crossing spacing, type and location of planned transit facilities and service and TSMO/TDM plan elements.

The definition of "complete" will vary based on modal functional classification and design classification, and can be refined by facility in system plans.

Considerations for the mobility policy

In planning modal networks and identifying transportation projects that enhance the comfort and safety of the multimodal network for all users, the following could be considered:

- Define the complete walking and biking networks that maximize access to destinations with low-stress routes and address disparities in EFAs.
- Identify locations where lack of safe crossings is limiting access to destinations for people walking, biking and riding transit. Set spacing targets for each facility based on the changing land use context.

- Identify high-priority locations for additional or enhanced crossings that connect low-stress walking and biking routes and provide access to transit or that are in high-crash locations.
- For the vehicle network, identify the number of through lanes and turn lanes or merge lanes (if applicable) that will be considered the maximum cross-section within the planning horizon. Identify strategies such as demand management, congestion pricing, complete non-auto modal networks, and land use changes to ensure access and mobility in the area.
- Metro and local agencies will set the planned system by planning modal and service networks. Some or all of the following could be included in the system completeness evaluation:
  - » Pedestrian, which could include planned crossings based on pedestrian crossing index
  - » Bicycle, which could include a low-stress network based on bicycle LTS
  - » Transit
  - » Vehicle, which could build off policies in Chapter 3 of the RTP, such as street connectivity/spacing and maximum number of through lanes
  - » TSMO
  - » TDM

Once a complete system is defined, evaluation of land use plan amendments should focus on whether the amendment changes the definition of the complete system for the facilities in the plan area.

Questions for Stakeholders

- Which measure(s) should be incorporated into the mobility policy?
- If only system completeness is included in the policy, should any guidance be provided about the use of pedestrian crossing index and/or bicycle level of traffic stress?

Attachment A:
Supporting Materials

Memo

Oregon Department of Transportation

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

Date: February 7, 2022

To: Kim Ellis, Metro, and Lidwien Rahman, ODOT

From: Susan Wright, PE and Molly McCormick, Kittelson & Associates, Inc.
Sarah Peters, Fehr & Peers

Project: Regional Mobility Policy Update

Subject: Task 7.1 and 7.2: System Planning and Plan Amendment Case Study Analysis - **DRAFT**

INTRODUCTION

Metro and the Oregon Department of Transportation (ODOT) are working together to update the regional mobility policy and related mobility measures for the Portland metropolitan area. The goal of this update is to better align the policy and measures with the comprehensive set of shared regional values, goals, and desired outcomes identified in Metro's Regional Transportation Plan (RTP) and 2040 Growth Concept, as well as with local and state goals.

There is also a need to update the mobility policy to better define expectations about mobility for different travel modes based on land use context and state and regional functional classification(s) of roads in the Oregon Highway Plan and RTP. The updated policy will describe the region's desired mobility outcomes and more robustly and explicitly define mobility for people and goods using the transportation system in the Portland area.

The project team followed a four-step process to narrow a list of 38 mobility performance measures identified through a review of best practices to the 12 most promising. Based on further evaluation, 8 of the measures were advanced for testing through case study applications. Table 1 shows the 8 measures tested through the case studies.

Table 1. Mobility Measures Being Evaluated and Tested

Current Mobility Policy Measure	V/C Ratio	The ratio of traffic volume to the capacity of a roadway link or intersection during a specified analysis period.
Vehicle Focused Measures	Duration of Congestion	Hours of congestion (HOC) is the number of hours within a time period, most often within a weekday, where a facility's congestion target (such as v/c ratio or acceptable speed) is exceeded or not met.
	Queuing	The extent of vehicles queued on intersection approach lanes, including on and off ramps, during a specified analysis period (typically a peak hour).

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	Travel Speed	Average or a percentile speed for a network segment or between key origin-destination pairs, during a specific time period.
	VMT/Capita	Compares the number of vehicle miles traveled by motorists within a specified period and study area to the number of residents or employees in the area. VMT/capita can indicate how much people drive to meet their obligations and daily needs, and can be evaluated for specific types of travel, such as home-to-work commutes.
Multi-modal Measures	Access to Destinations/Opportunities	The number of essential destinations (such as jobs, schools, services, etc.) within a certain travel time or distance, by different travel modes.
	Level of Traffic Stress (LTS)	Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.
	Pedestrian Crossing Index	The percent of a corridor or roadway segment meeting the pedestrian crossing target spacing.
	System Completion	The percent of planned facilities that are built within a specified network or on a specified corridor/roadway segment.

The measures outlined above are further explored through case study applications included in this memorandum. What we want to learn from the case studies includes:

- How well does the measure help compare outcomes in Equity Focus Areas (EFAs) to other areas?
- How sensitive is the measure to changes in land use?
- How could measures that are not sensitive to land use changes be applied in plan amendments?
- Does Metro's Dynamic Traffic Assignment (DTA) model identify different needs than the travel demand model at the system level?
- Does the DTA model result in significantly different post-processed intersection volumes for use at the intersection level?

Travel Speed, V/C Ratio, and Queuing

Travel speed is the average or a percentile speed for a network segment or between key origin-destination pairs, during a specific time period.

Volume to capacity ratio (v/c) is the ratio of traffic volume to the capacity of a roadway link or intersection during a specified analysis period.

Queuing is the extent of vehicles queued on intersection approach lanes, including on and off ramps, during a specified analysis period (typically a peak hour).

Travel speed, v/c ratio, and queuing measures are vehicle-focused measures that support reliability and efficiency outcomes. Current uses of the interim regional mobility policy relies heavily on v/c ratio to determine where congestion is unacceptable and to identify improvements and mitigations. Travel speed, v/c ratio, and queuing measures may be able to be used in tandem for peak period analysis depending on the methodologies used and questions that need to be answered by the analysis. The project team explored the following questions for these measures, as summarized in the following sections:

- For travel speed thresholds, does the DTA model identify different needs than the travel demand model at the system level?
- Does the DTA model result in significantly different post-processed intersection volumes for use at the intersection level?
- Do different definitions of "congestion" identify different needs at the system level?
- How sensitive are the model outputs to changes in land use?

Does the DTA model identify different needs than the travel demand model at the system level?

One question that the project team explored was whether investing the time and effort to calibrate a region-wide Dynamic Traffic Assignment (DTA) model would be beneficial to identifying regional needs and developing the RTP. The DTA model is currently calibrated based on a project-by-project basis. For example, the Oregon City subarea was calibrated as part of another project in the region, which is why this section focuses on that subarea. Calibration is important because the DTA model is a capacity-constrained model that assigns trips to network links based on congestion and volumes. When a link is reaching or is at capacity, the model will no longer assign trips to that link and will instead assign trips along alternative routes or to the next analysis hour. The link volumes should never exceed the link capacity. The regional travel demand model (RTDM), on the other hand, is not capacity constrained. A link volume can exceed the link capacity. This can result in unrealistic forecast link volumes on major roadways during peak periods when in reality many drivers will reroute their trip to avoid delays.

As noted by Metro modeling staff, the DTA model is a more rigorous tool than the RTDM and currently most often used for corridor and subarea level analysis. In addition, the DTA model is currently set up for the AM and PM peak periods of the day only. Although the trip assignments are more realistic in the DTA model than the RTDM for the peak periods, link volumes are fairly similar between the two models during non-congested time periods.

With pros and cons to both models, the project team reviewed travel speed output within Oregon City for the 2015 base year and 2040 constrained networks. Figures 1 through 4 compare the DTA and RTDM output by showing if each link is congested for one or two hours within the AM or PM peak period. DTA output is represented by the thicker lines and RTDM by the thinner lines. "Congested" is defined in this exercise as when a link travel speed is less than 75 percent of the base link speed. The base link speed is often, but not always, similar to the posted speed limit .

Figure 1. Congestion (Travel Speed Threshold) Oregon City – 2015 Base Year AM Peak Period

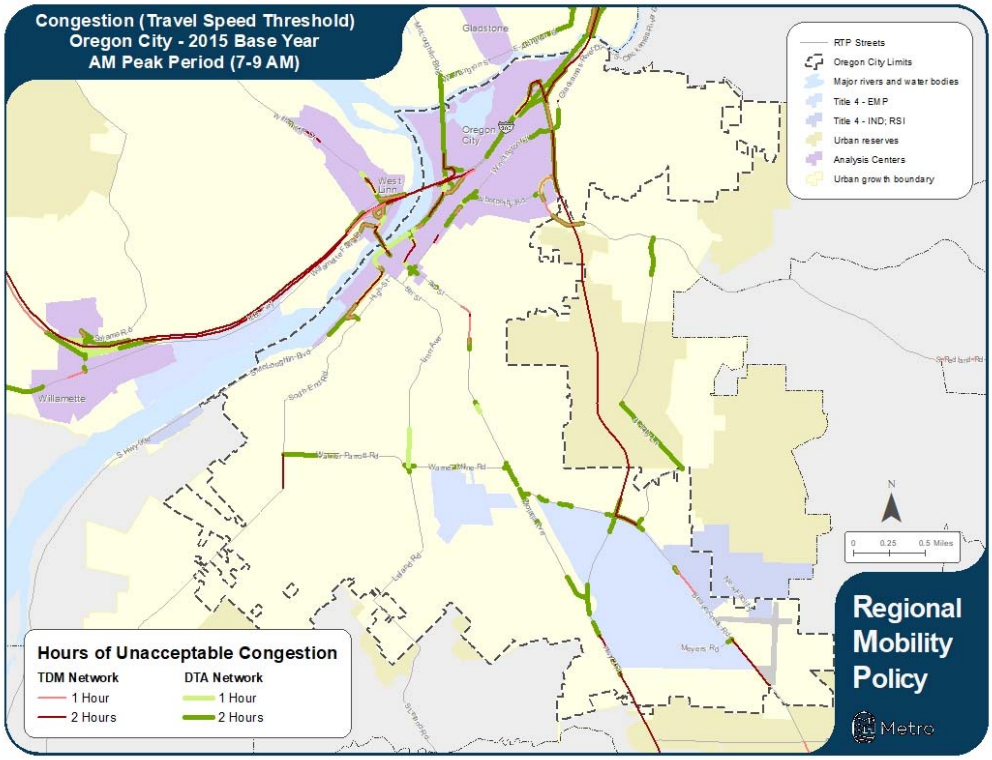


Figure 2. Congestion (Travel Speed Threshold) Oregon City – 2015 Base Year PM Peak Period

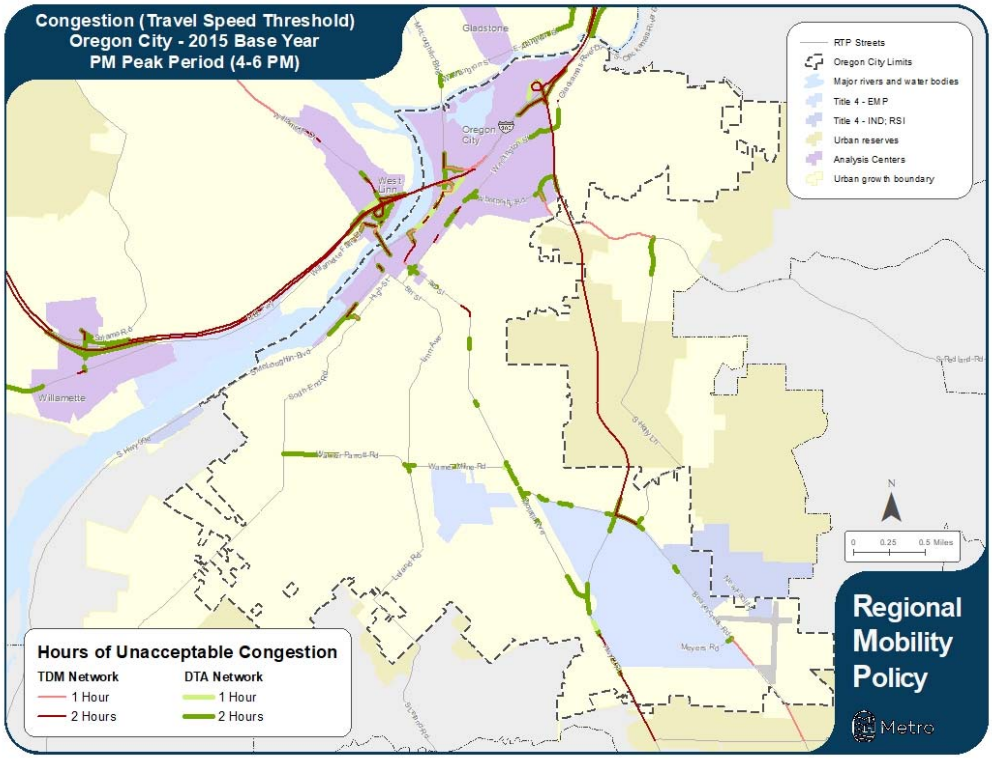


Figure 3. Congestion (Travel Speed Threshold) Oregon City – 2040 Constrained AM Peak Period

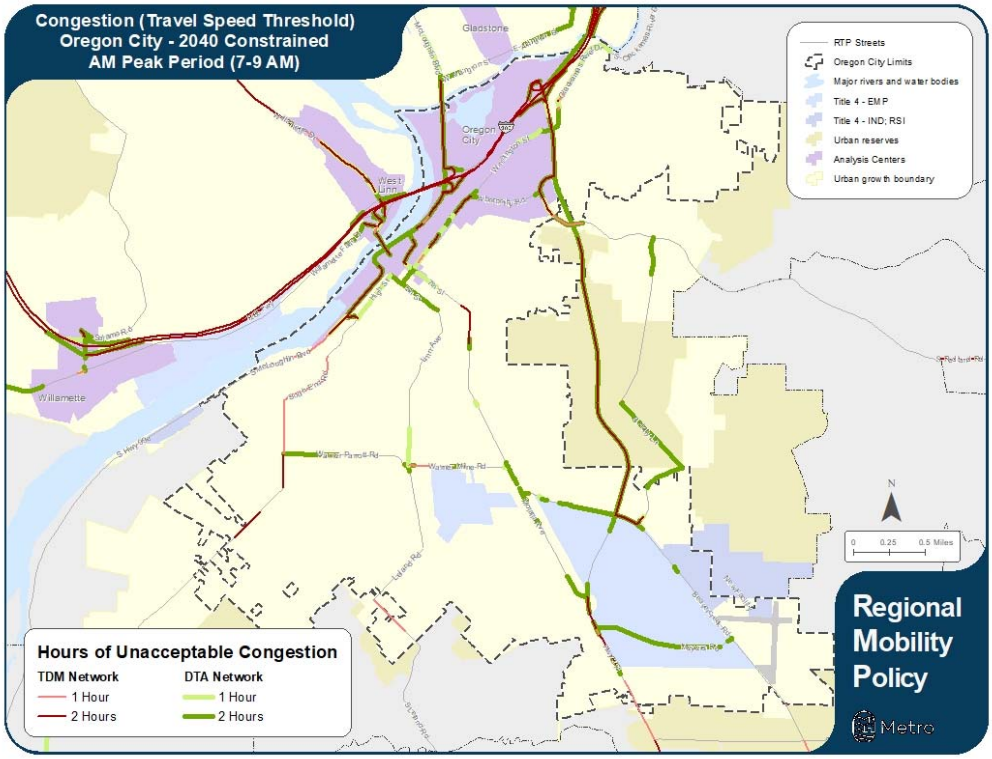
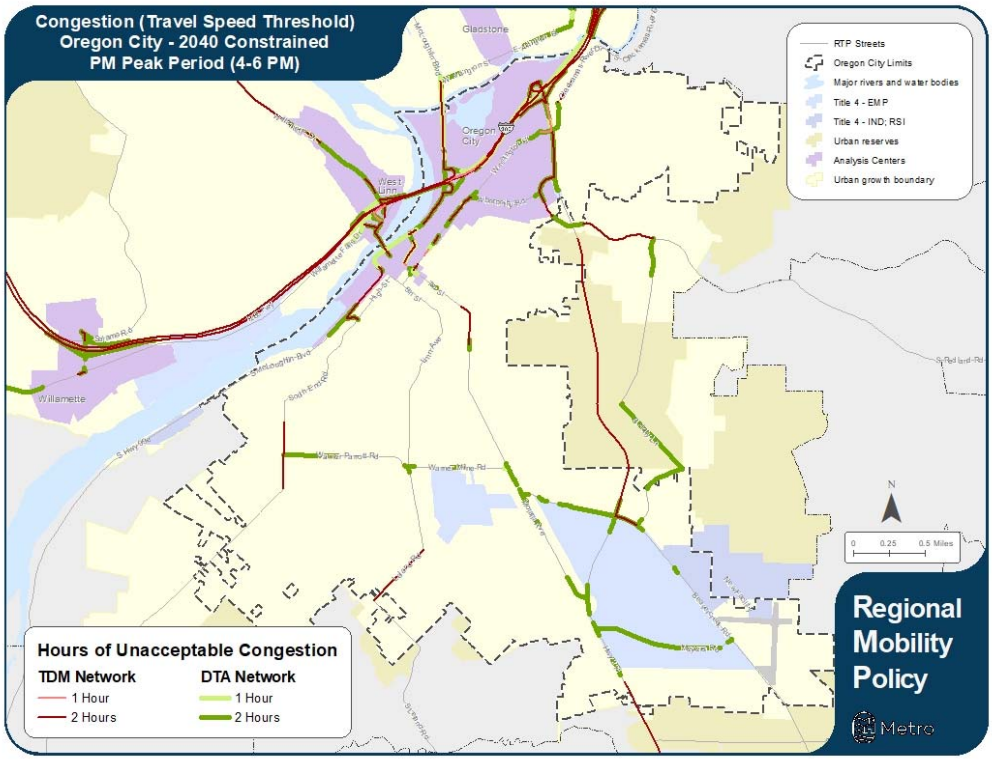


Figure 4. Congestion (Travel Speed Threshold) Oregon City – 2040 Constrained PM Peak Period



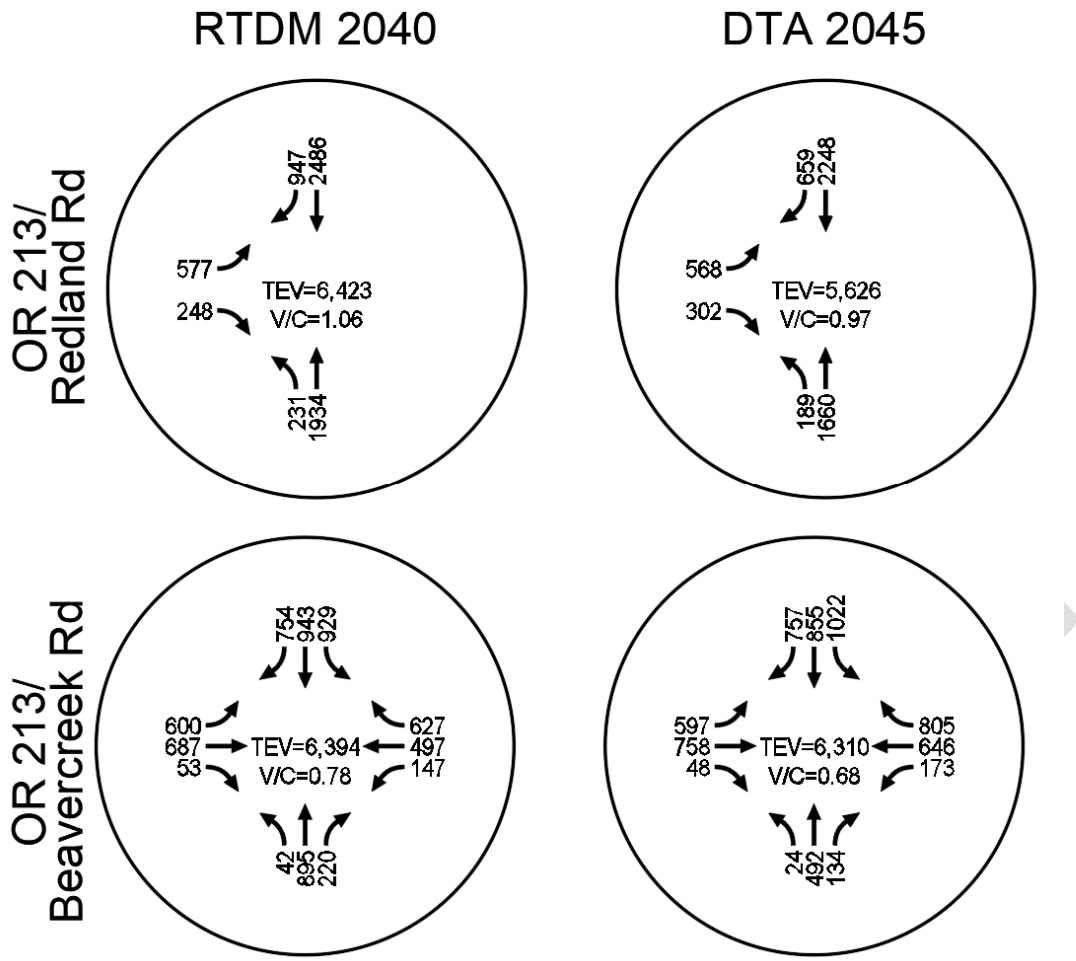
The DTA model shows less congested peak hours on major roadways and more congested hours on parallel routes. For example, the 2040 constrained PM peak period figure shows I-205 as congested for the two analysis hours based on RTDM output, where the DTA output shows segments between the ramps operating at an acceptable travel speed for one or two of the analysis hours. Based on RTDM output, OR 213 is also shown as congested for two hours with adjacent Holly Lane-Maplelane Road operating acceptably. The DTA output suggests that OR 213 operates acceptably and segments of the alternative route are congested for the two analysis hours.

Does the DTA model result in significantly different post-processed intersection volumes for use at the intersection level?

Model link volumes from the RTDM (base 2015 and future 2040) and DTA (base 2015 and future 2045) were used to develop future year turning movement counts at the two study intersections analyzed in the OR 213 Alternative Mobility Target case study: OR 213/Beavercreek Road and OR 213/Redland Road. In addition to link volumes, existing 2017 traffic counts from the case study were also utilized. The forecast traffic volumes were developed by applying the post-processing methodology presented in the National Cooperative Highway Research Program (NCHRP) Report 255 Highway Traffic Data for Urbanized Area Project Planning and Design.

The intersection operations analysis was conducted using Synchro 10, which is a software tool designed to assist with operations analyses in accordance with Highway Capacity Manual 6th Edition (HCM 6) methodologies. Because Synchro 10 does not report overall intersection v/c ratios, the overall intersection v/c ratios were hand-calculated in accordance with the methodologies outlined in ODOT's Analysis Procedures Manual (APM). Exhibit 1 summarizes the results of the intersection operations analysis. Attachment A contains the operations analysis worksheets.

Exhibit 1. Comparison of Regional Travel Demand Model and Dynamic Traffic Assignment Model Post-processed Future Volumes and Intersection V/C Ratios



TEV = Total entering volume

A queuing analysis was also conducted at the signalized study intersections using Synchro 10. Table 2 summarizes the 95th percentile queues during the weekday PM peak hour. Attachment A contains the queuing analysis worksheets.

Table 2. Comparison of Regional Travel Demand Model and Dynamic Traffic Assignment Model Post-processed Future Volumes and 95th Percentile Queues

Intersection	Movement	Volume			Queuing		
		RTDM	DTA	Difference	RTDM	DTA	Difference
OR 213/ Beavercreek Road	EBL	600	597	-3	450	448	-2
	EBT	687	758	71	372	413	41
	EBR	53	48	-5			
	WBL	147	173	26	136	167	31
	WBT	497	646	149	286	380	94
	WBR	627	805	178	488	842	354
	NBL	42	24	-18	92	56	-36

	NBT	895	492	-403	679	296	-383
	NBR	220	134	-86	114	20	-94
	SBL	929	1022	93	639	738	99
	SBT	943	855	-88	445	393	-52
	SBR	754	757	3	426	431	5
OR 213/ Redland Road	EBL	577	568	-9	529	519	-10
	EBR	248	302	54	321	429	108
	NBL	231	189	-42	496	398	-98
	NBT	1934	1660	-274	351	258	-93
	SBT	2486	2248	-238	1421	954	-467
	SBR	947	659	-288	351	150	-201

in Table 2, the largest volume and queuing reductions when using the DTA model instead of the RTDM are seen on OR 213, which is a primary north-south route. This aligns with the DTA methodology that reroutes trips onto alternative routes when users begin to experience delay due to high volumes.

Finding: When intersection solutions are developed solely based on future post-processed volumes, there is potential to overbuild solutions and even induce demand. Instead of focusing on minimizing delay at one spot location, it may be more useful to consider overall progression of a facility. There are locations where a spot treatment only shifts a bottleneck to the next intersection.

Note About Post-Processed Intersection Volumes

It is important to note that this post-processing methodology gives a false level of precision no matter whether the DTA or RTDM are used. Both models utilize the same transportation analysis zone (TAZ)-level inputs to estimate trips generated from a TAZ and assign them to the network. The model does not know where specific land uses are located within the TAZ or where all the driveway accesses are located. For example, trips generated by a grocery store with a driveway access to a facility on the east side of a TAZ may be assigned to enter the model network on a link south of the TAZ. Because of this, the link volume outputs immediately adjacent to the TAZ may not be realistic even though their assigned route based on origin and destination will overall be appropriate.

In addition, and because the model networks are not as detailed as the on-the-ground transportation system, the model may not have a specific local street link within the network. Similar to the driveway location example, the assigned trips make not load onto the network at the exact appropriate origin or destination, but the overall route will be intentional. Although it is the methodology currently used to determine turning movement volumes, the process utilizes link volumes that are better suited for a macro-level analysis instead of an intersection-level analysis.

Do different definitions of "congestion" identify different needs at the system level?

The project team explored two measures that could be used to determine locations of "congestion": v/c ratio and travel speed. Both measures can be provided as or calculated from link-level output from the regional models. The project team reviewed region-wide v/c ratio and travel speed output for the 2015 base year and 2040 constrained networks. For v/c, the current interim regional mobility policy thresholds were used to define "congested" links, which vary by roadway facility. Targets for the midday peak hour are either 0.99 or 0.90, first hour PM peak period targets are either 1.1 or 0.99, and second hour PM peak period targets are 0.99. For travel speed, "congested" was defined as when a link travel speed is less than 75 percent of the base link speed. The base link speed is often similar to the posted speed limit but is not exactly equal to it for all model links.

Figures 5 through 8 compare v/c and travel speed output by showing if each link is congested based on the above thresholds for one or two hours within the midday or PM peak period. V/C-based congestion output is represented by the thicker lines and travel speed-based by the thinner lines.

Figure 5. Congestion Measure Comparison Region-wide – 2015 Base Year Midday Peak Period

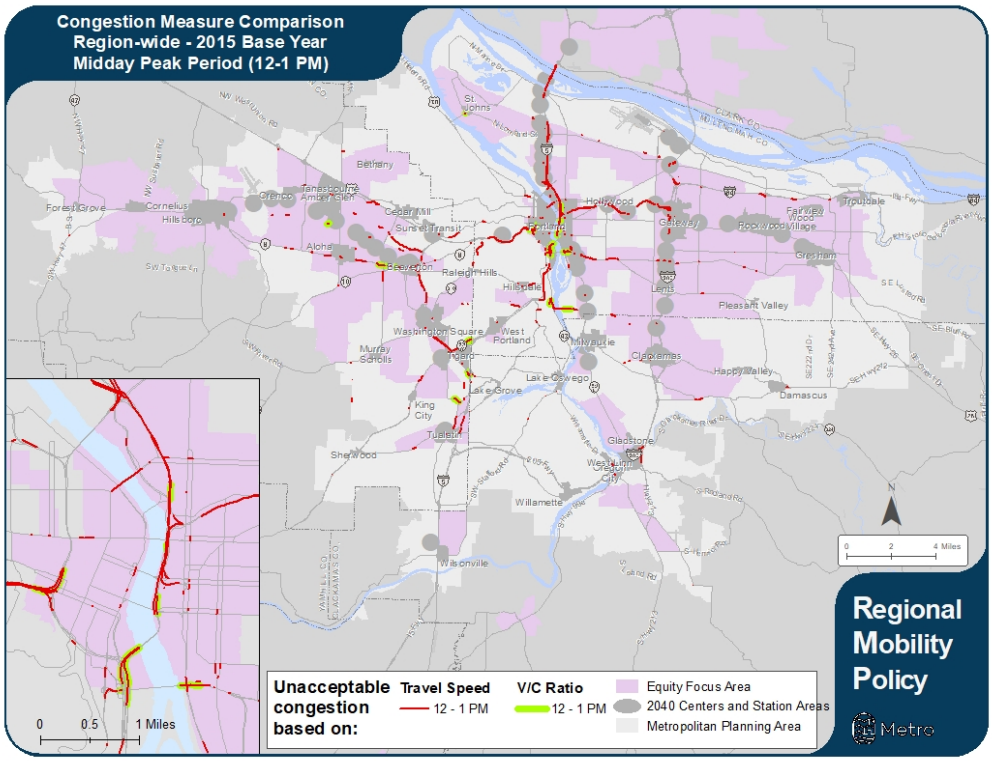


Figure 6. Congestion Measure Comparison Region-wide – 2015 Base Year PM Peak Period

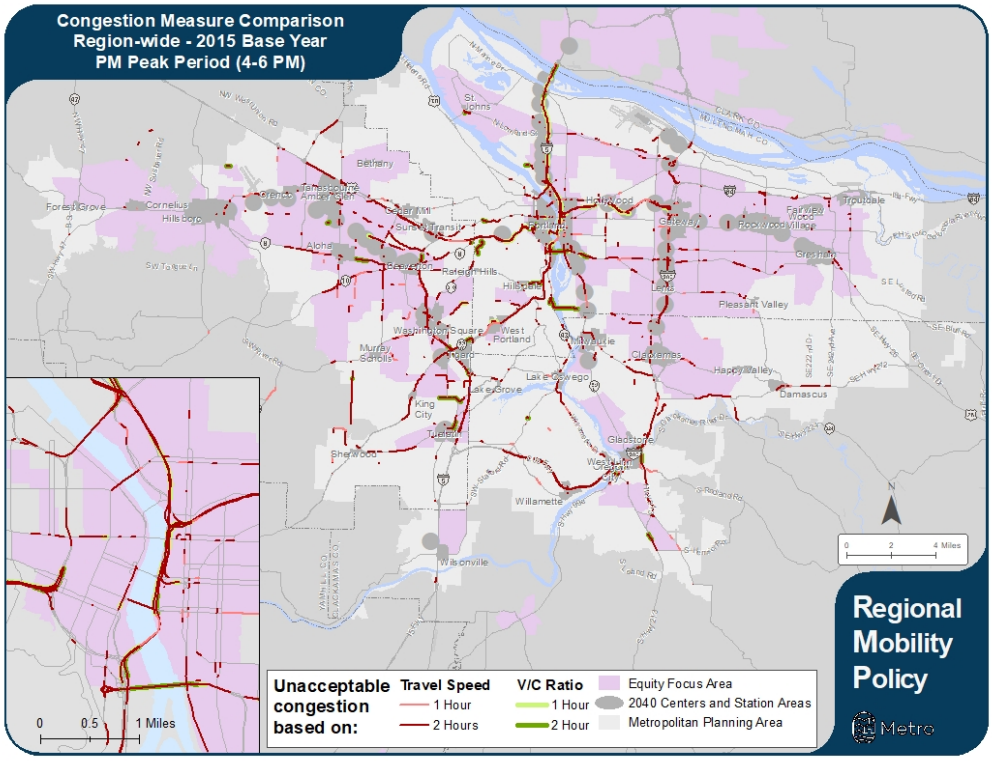


Figure 7. Congestion Measure Comparison Region-wide – 2040 Constrained Midday Peak Period

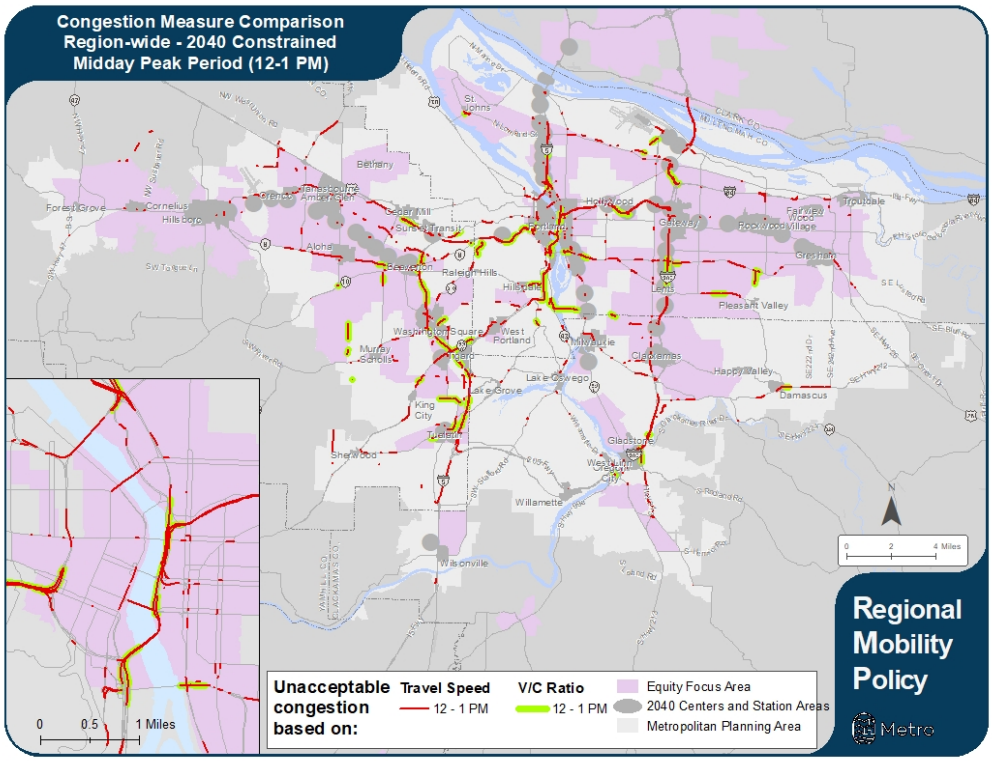
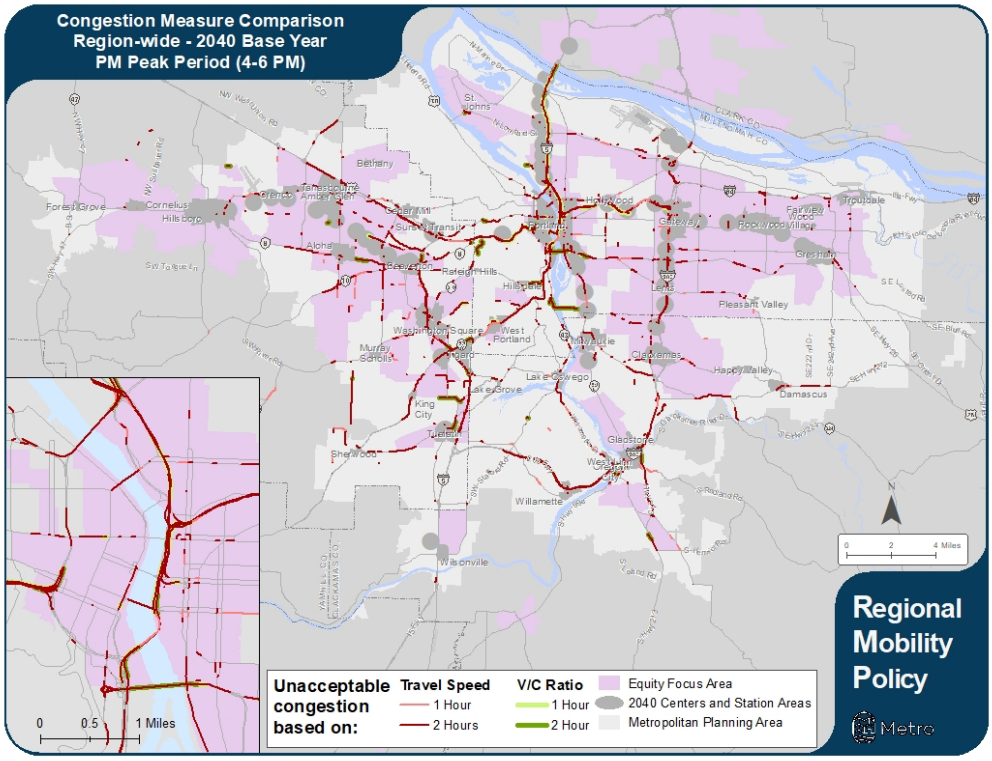


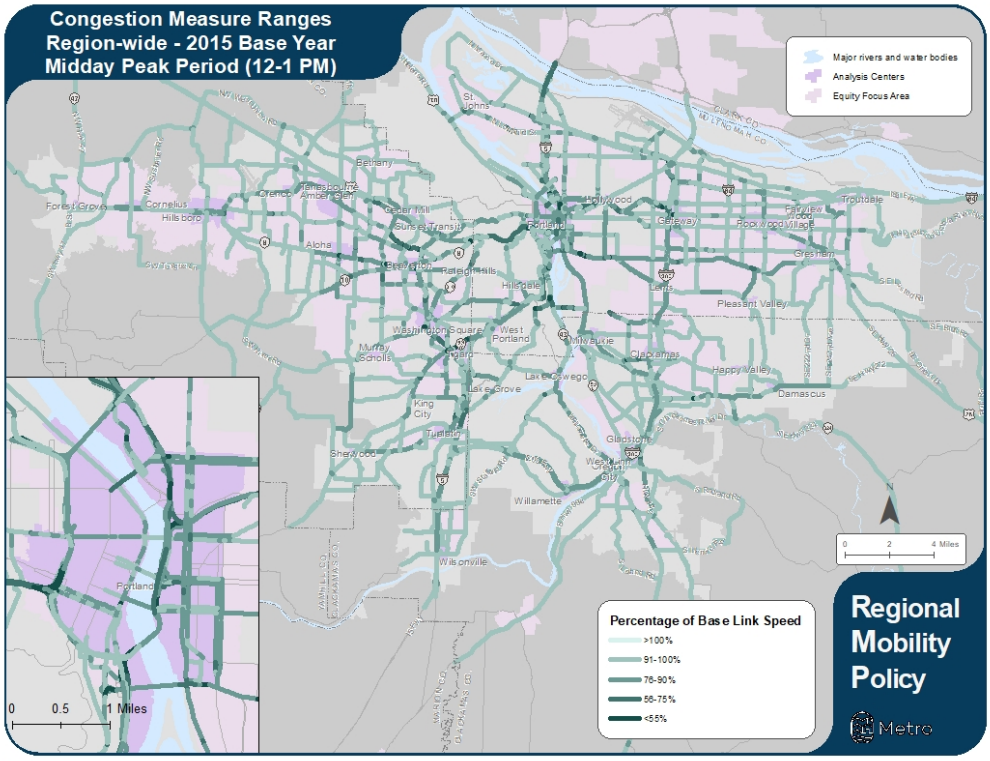
Figure 8. Congestion Measure Comparison Region-wide – 2040 Constrained PM Peak Period



With the thresholds used, v/c-based "congested" links were also "congested" based on the 75 percent travel speed threshold. Travel speed-based congestion was highlighted on more of the network and for more of the analysis period. For example in the 2040 constrained PM peak figure, there are several sections of OR 8 shown as congested based on v/c thresholds between SW 185th Avenue and SW Murray Boulevard. Those same segments are shown as congested based on travel speed and additional segments between SW 170th Avenue and SW Murray Boulevard are highlighted as well..

Findings: Travel speed is an interesting measure because it can use the same percentage-based threshold for all the roadway facilities, instead of determining different v/c ratio thresholds based on the facility type. Base link speeds, which could use posted speed limits, are set on a facility-by-facility basis. In addition to the facility type, the local context and safety considerations of the roadway are used by agencies to set posted speed limits. Posted speed limits can vary along a corridor based on these additional factors and help represent the intended use of the facility. In addition, travel speed is a direct output of the regional models, simplifying the process for calculating the measures. Measured data is also more easily captured through probe data. It is also a measure easily understood by the traveling public, as direction and map-based apps are more common. The biggest challenge to utilizing travel speed as the primary link-level congestion metric is the lack of historic use in the region for the non-highway network and a need to better understand the implications of determining certain thresholds. Figures 9 through 12 show the travel speed and v/c ratio ranges for the region, instead of showing just locations where a threshold is passed. If link travel speed and/or v/c ratio are part of the mobility policy, region-wide data will need to be further reviewed to recommend targets and thresholds.

Figure 9a and b. Congestion Measure Ranges Comparison Region-wide – 2015 Base Year Midday Peak Period



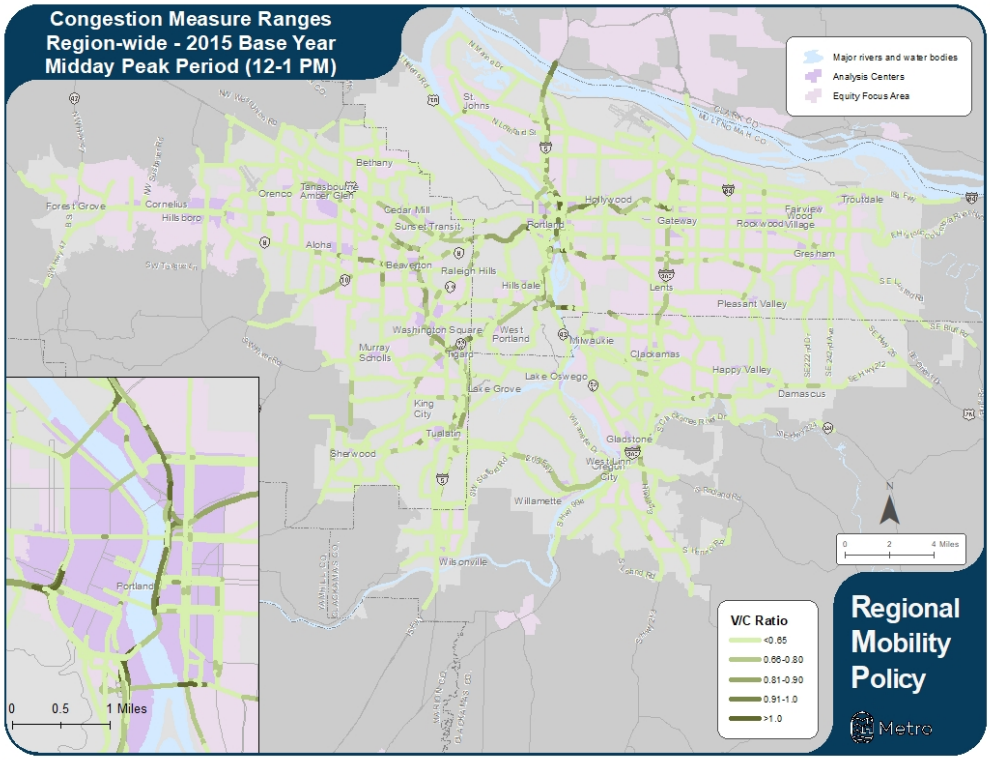
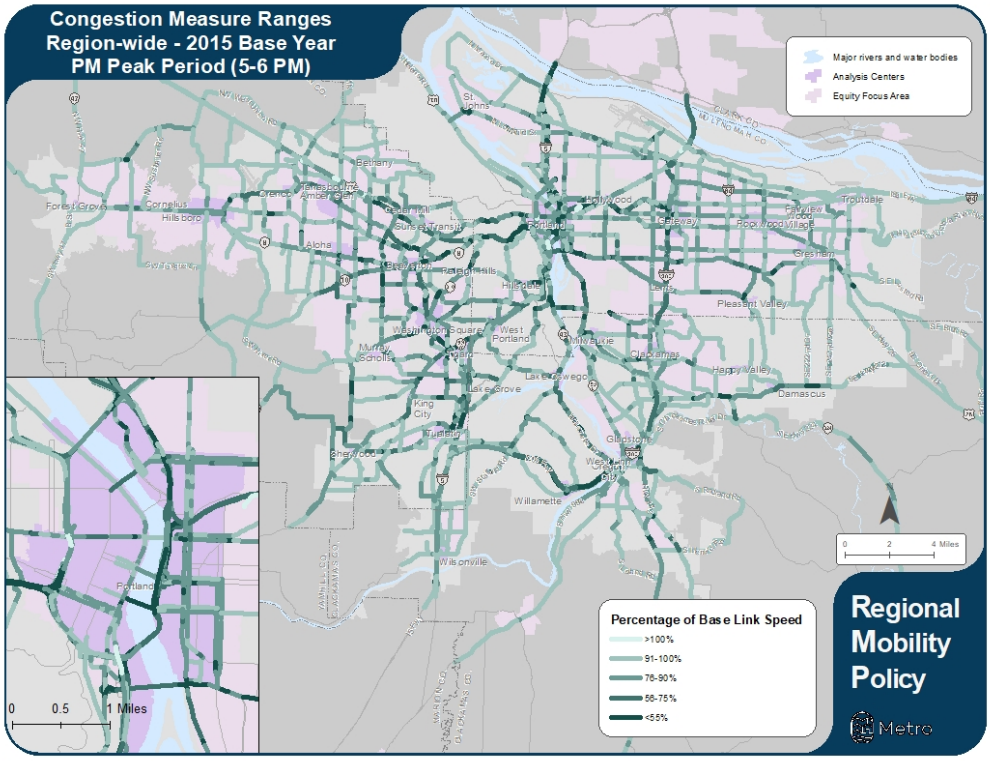


Figure 10a and b. Congestion Measure Ranges Comparison Region-wide – 2015 Base Year PM Peak Period



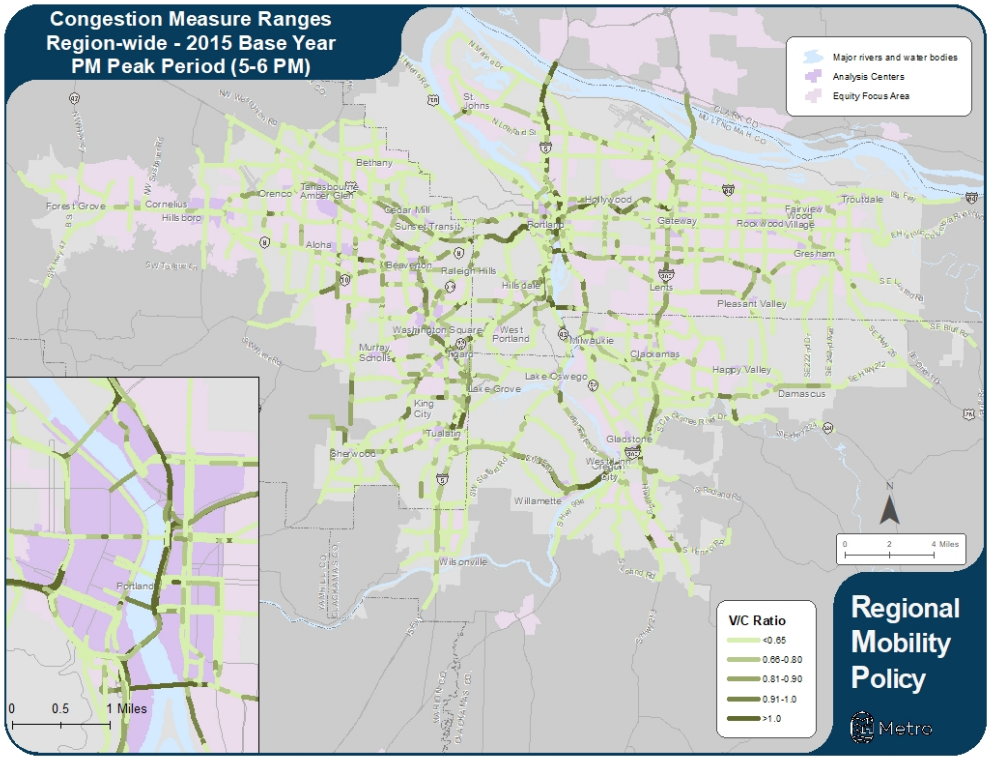
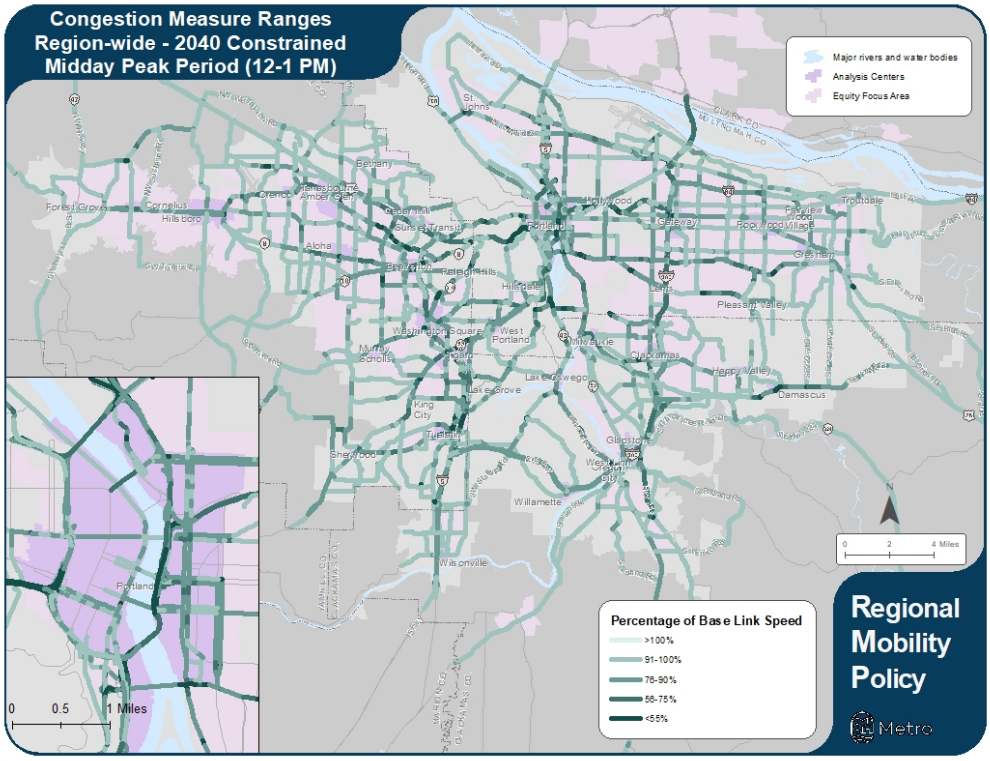


Figure 11a and b. Congestion Measure Ranges Comparison Region-wide – 2040 Constrained Midday Peak Period



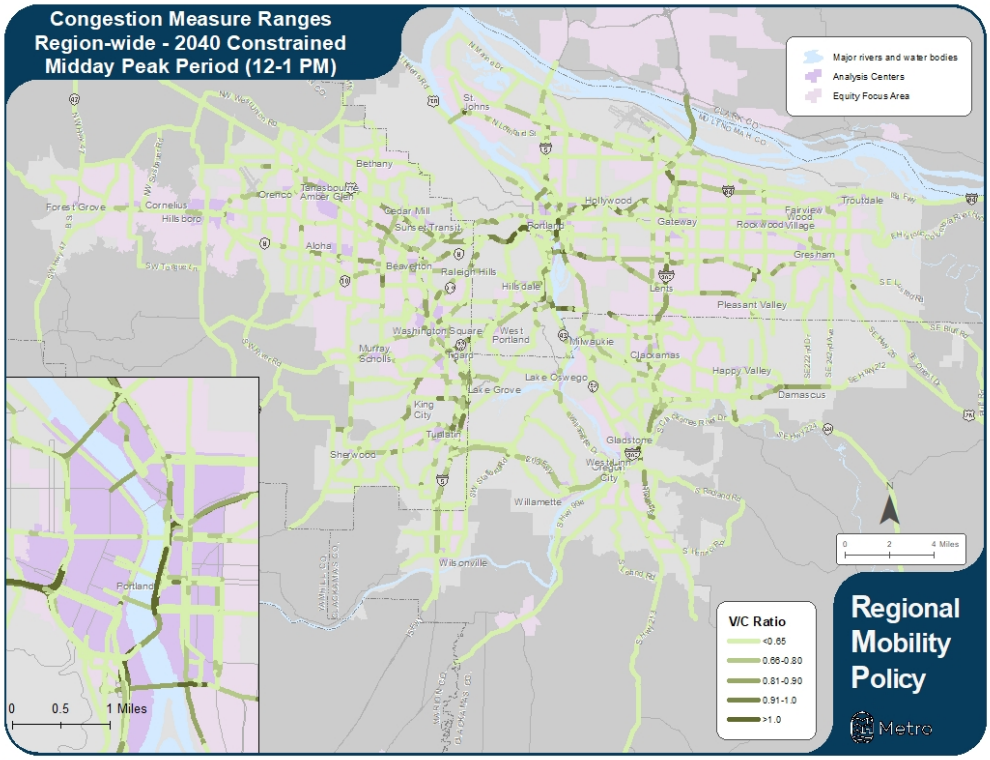
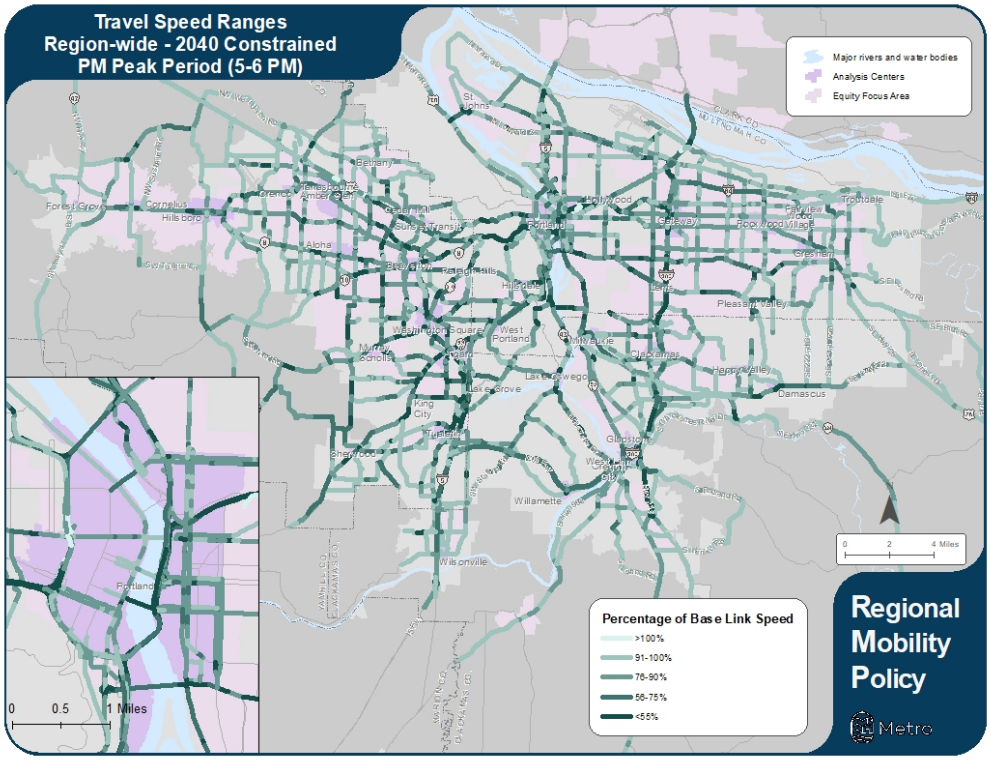
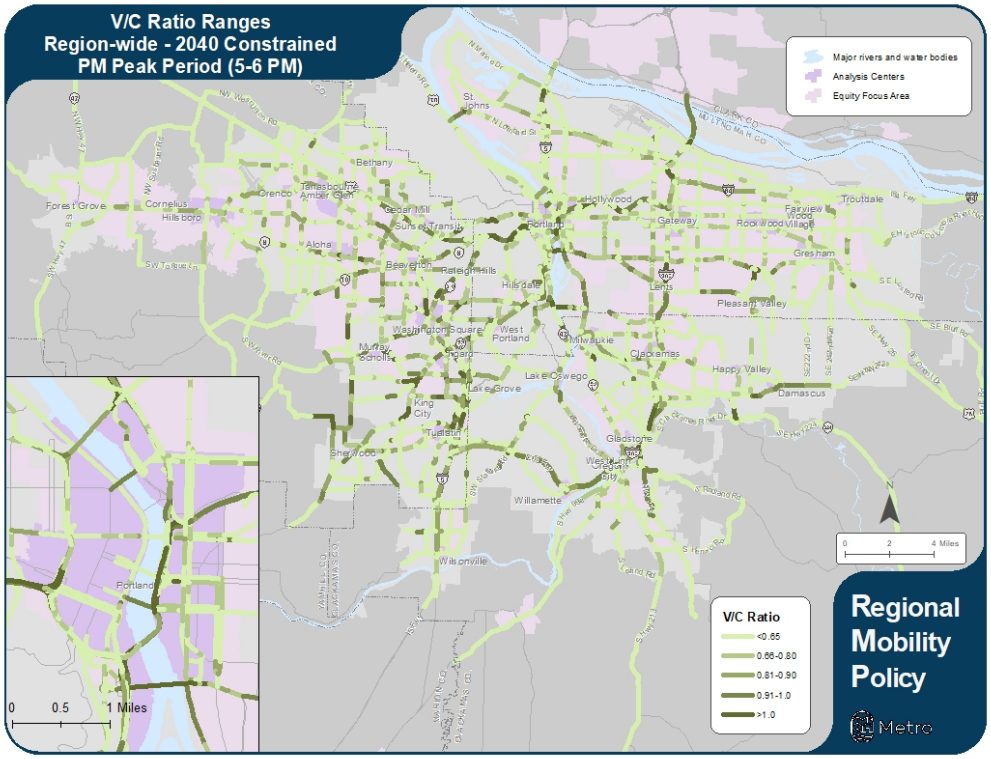


Figure 12a and b. Congestion Measure Ranges Comparison Region-wide – 2040 Constrained PM Peak Period





How sensitive are the model outputs to changes in land use?

Focused sensitivity testing on the congestion-based metrics was conducted for the TV Highway study area. The sensitivity testing scenarios used the 2040 model network as a base, with updated population and employment levels from 2015 and 2027 scenarios depending on the scenario. **Error! Reference source not found.** describes how model year variables were assigned to the sensitivity testing scenarios reviewed for congestion-based metrics.

Table 3: Congestion-based Sensitivity Testing Scenario Definitions

Scenario	Variables from model year			Impacted TAZs
	Households	Employment	Model Network	
Scenario 3 – South Hillsboro No growth	2015	2015	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 4 – South Hillsboro Minimal growth	2027	2027	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 5 – South Hillsboro Household-only growth	2040	2015	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 6 – TV Highway Aloha growth	Increased by 50%	Increased by 50% (TAZ 1137 only)	2040FC	1336, 1337, 1338

Source: Metro Travel Demand Modeling staff, 2021.

Figures 13 through 16 compare the sensitivity testing scenario model travel speed output with the 2040 Constrained output. Based on this comparison, travel speed is not very sensitive to land use changes.

For Scenarios 3 through 5, which focus on land use adjustments within the large South Hillsboro development area, the travel speed changes were mostly seen on arterials instead of throughways. Arterials often have lower posted speeds (or base link speeds which were used for the sensitivity testing calculations) and will therefore see more of a percentage impact for a minor travel speed change like from 24 to 22 MPH. The travel speed changes are almost all in direct correlation to the land use change. In Scenario 3 for example, the scenario removed the household and employee growth that was added to the 2040 Constrained model, reducing trips to and from the South Hillsboro area. As expected, the travel speeds increase between the 2040 Constrained model output and the Scenario 3 output in places where changes occur. For Scenario 6, no significant travel speed changes occurred, suggesting that travel speed is not sensitive to smaller scale plan amendments. The adjusted TAZs are also located along TV Highway, where higher posted speeds (or base link speeds) do not show small changes in travel speed as a significant percentage change.

Figure 13. Sensitivity Testing Scenario 3 (Travel Speed Ranges) TV Highway – 2040 PM Peak

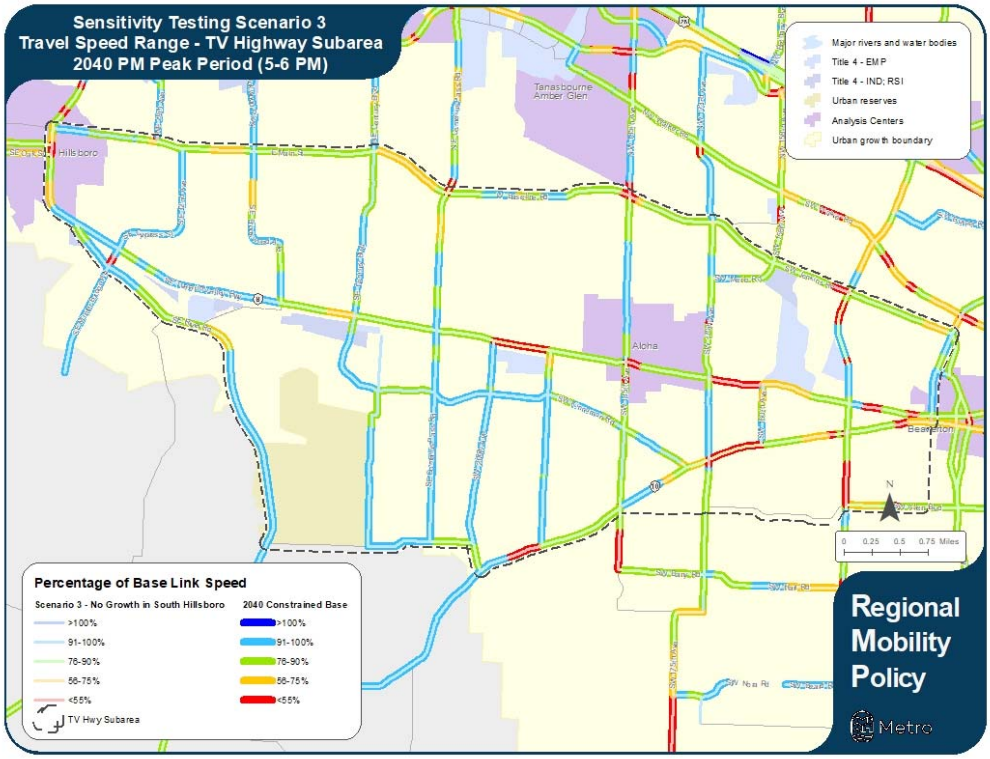


Figure 14. Sensitivity Testing Scenario 4 (Travel Speed Ranges) TV Highway – 2040 PM Peak

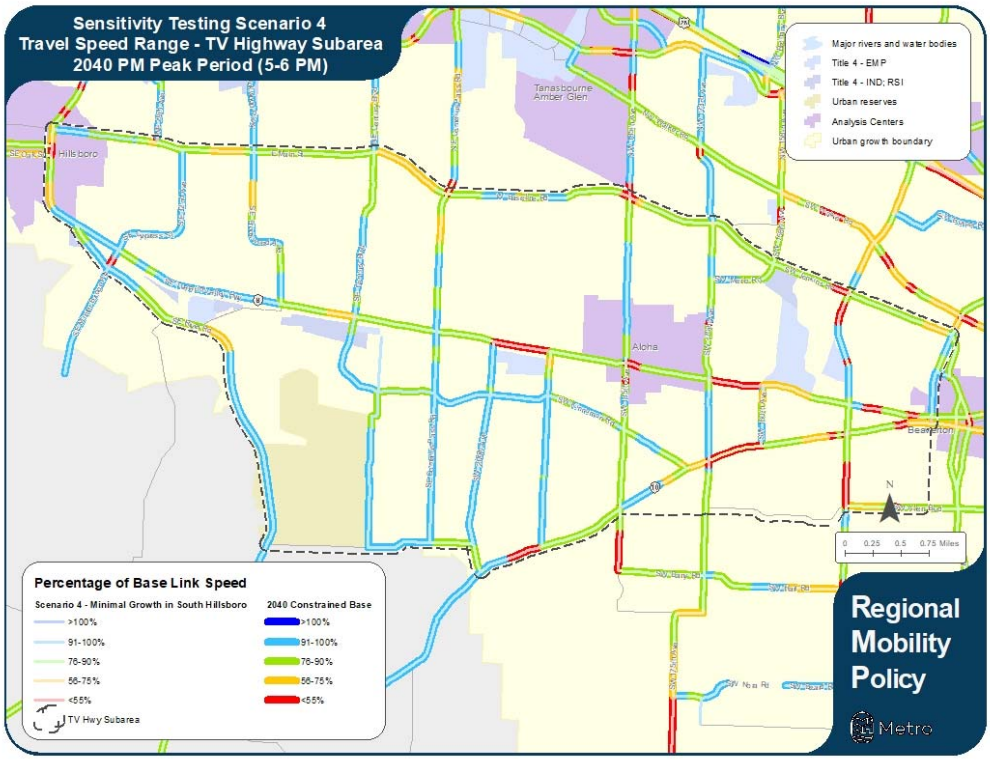


Figure 15. Sensitivity Testing Scenario 5 (Travel Speed Ranges) TV Highway – 2040 PM Peak

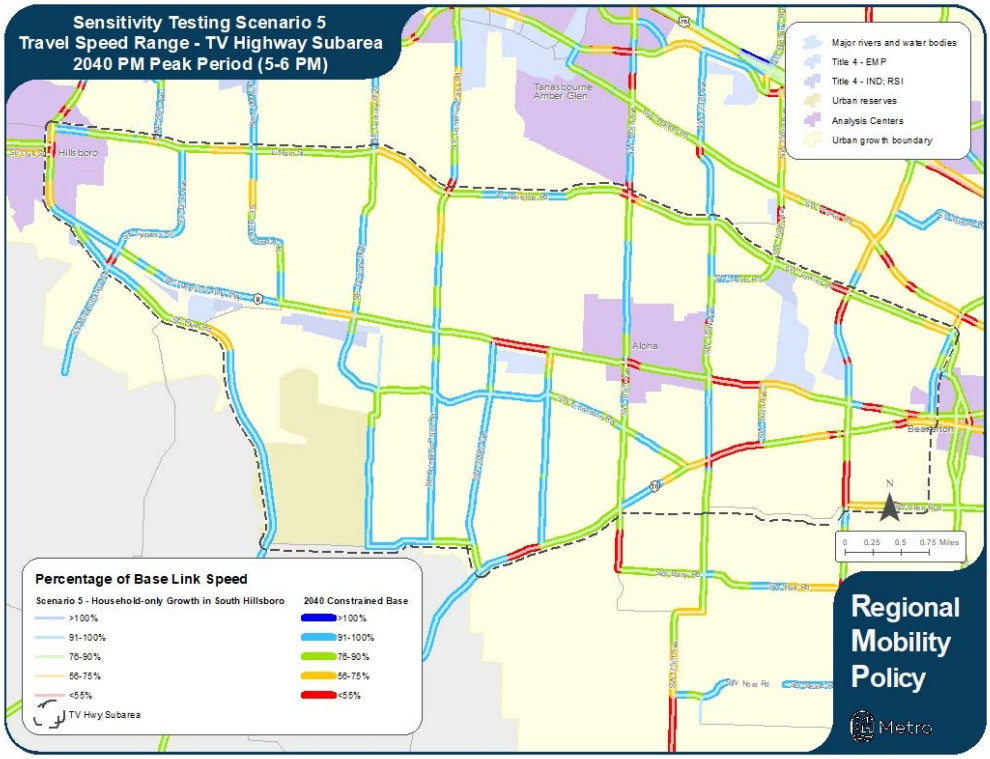
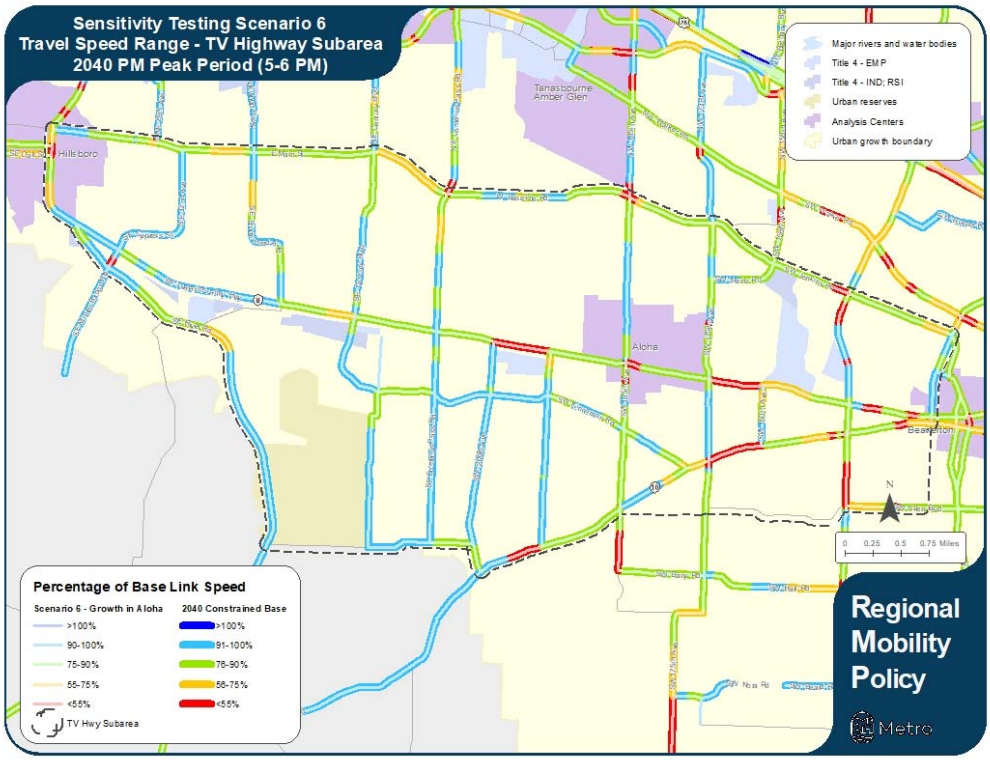


Figure 16. Sensitivity Testing Scenario 6 (Travel Speed Ranges) TV Highway – 2040 PM Peak



Policy Considerations

If travel speed is utilized in the mobility policy, major considerations include:

- What speed variable will be the denominator for determining a travel speed threshold? Options include posted speed, free flow speed, and the base link speed from the travel demand model.
    - For this analysis, the base link speed from the 2015 travel demand model was used because it was a readily available output that could be easily incorporated into GIS-based calculations. Base link speed is not a measured or designated speed; it is an input that is part of the travel demand model. It is often close to or equal to the posted speed, but it can vary from the posted speed if needed to yield accurate travel times in calibration.
    - Whichever speed variable is used, it is recommended to create a dataset where the model output and the speed variable data have the same link segmentation. This will simplify requests to Metro and/or the calculation process. Posted speed was not used for this analysis due to the effort requires to match the two datasets for use in the calculations.
- How would thresholds be decided?
    - 75% is currently used by ODOT for the Portland Region Traffic Performance Report (PRTPR) and Corridor Bottleneck Operations Study (CBOS)
    - 75% may not make sense on roadways that are controlled (versus uncontrolled roadways such as freeways). Roadways that have more traffic control, such as signals and roundabouts, will experience more delay and slower speeds. Thresholds or targets would need to take that into consideration. Potentially using a threshold based on measured speeds (like average travel speed for the link) would provide a realistic base for developing a threshold.
    - 75% may not make sense for roadways that have low posted speeds (or base link speeds). Minor variations of travel speed (such as a change in 2 MPH) would show large percentage changes.
- Guidance would need to be developed related to calibration and validation of Metro models in relation to speed if it is going to be used as a measure with a target. Currently, most of the speed related measures are used for relative comparisons between various alternatives, not as a measure against a target.
    - Metro modeling staff notes that there is some calibration related to travel times, which has a direct relationship to travel speeds. The base year link speeds are generally set to yield accurate travel times in calibration. Horizon year speeds may be adjusted when speed changes are known or expected in future year models.

Should the DTA model be used for congestion-based metrics?

- Overall, the DTA model provides volumes that are more spread out on the system and likely more realistic for peak travel periods, decreasing volumes on throughways that are congested and adding volumes to parallel arterial routes. Similar to in-the-field conditions, the DTA theoretically never has a v/c ratio greater than 1.0, which would help with target

and threshold setting. The RTDM will assign trips to a link even if it is well over capacity already, which is not possible on the ground.

- Although more realistic, Metro does not have a regional DTA. It would take a lot of time to actually develop and calibrate the DTA for each area.
- It is unclear if there is any feedback to Metroscope/land use and demographic allocation with the current DTA model. The entire region would need to be covered by a DTA model to get that type of feedback into the regional Metroscope and land use tools.
    - The region's agencies may have other tools like HERS, Fixit, RITIS, etc. that would be more useful for considering land use changes.

If v/c ratio is utilized in the mobility policy, major considerations include:

- The comparison of post-processed volumes from the RTDM model and the DTA model confirm that volumes from the RTDM are likely to be overestimates in congested areas and could result in overbuilt solutions that induce demand. Consideration should be given to specifying the use of DTA for intersection analysis for plan amendments where the targets are applied as standards to ODOT facilities. Alternatively, an adjustment could be made to the v/c targets or an adjustment could be made to the forecast traffic volumes when a DTA model is not available.

Are the measures useful and practical for system planning?:

Throughways: Travel speed and v/c ratio are both useful for planning on throughways. The two measures trend very similarly when looking at congestion but travel speed has some advantages over v/c ratio. Travel speed is already used by ODOT for reporting on the highway network and is more relatable to the public, allowing them to understand and more meaningfully weigh in on targets.

Queuing at ramp terminals continues to be a good planning measure for safety as well as mobility.

Arterials: Although v/c has been used traditionally, travel speed has some benefits over v/c including that it provides a holistic view of travel progression through a corridor. Posted speed limits can vary along a corridor based on the land use context and intended us of the facility so the target can reflect if it's operating as intended. .

Are the measures sensitive enough to use for plan amendments?

Travel speed is not very sensitive to land use changes and will not be useful for small scale plan amendments. Travel speed has similar disadvantages to v/c ratio when applying the target as a standard to plan amendments in that if the facility is already complete with regard to number of travel lanes, the standard may not be able to be met. The policy should consider not applying a congestion target when the facility is considered complete with regard to travel lanes.

Duration of Congestion (Hours)

Hours of congestion (HOC) is the number of hours within a time period, most often within a weekday, where a facility's congestion target (such as v/c ratio or acceptable speed) is exceeded or not met. HOC is a measure of recurring congestion versus travel time reliability measures which evaluate both recurring and non-recurring congestion.

HOC is a vehicle-focused measure that supports reliability and efficiency outcomes. Current uses of the interim regional mobility policy heavily relies on v/c ratio to determine where congestion is unacceptable, but as explored above, travel speed is another option that could be used and that is easily available from the regional models. The project team wanted to explore the following questions for these measures, as summarized in the following sections:

- Do different definitions of "congestion" identify different needs at the system level?
- How sensitive are the model outputs to changes in land use?

Do different definitions of "congestion" identify different needs at the system level?

There are several potential measures that could be used to determine "congested" hours for HOC. The project team explored two that are already being considered as part of the regional mobility policy update and that can be provided as or calculated from link-level output from the regional models: v/c ratio and travel speed.

Similar to the comparison in the previous section, the project team reviewed region-wide v/c ratio and travel speed output for the 2015 base year and 2040 constrained networks to determine HOC based on each measure. For v/c, the current interim regional mobility policy midday peak hour threshold was used to define "congested" links, which vary by roadway facility. Targets for the midday peak hour are either 0.99 or 0.90, varying by roadway facility. For travel speed, "congested" was defined as when a link travel speed is less than 75 percent of the base link speed. The base link speed is often similar to the posted speed limit but is not exactly equal to it for all model links. These v/c and travel speed thresholds were applied to each link for each hour of the day to determine the number of hours each link was "congested". It is worth noting that the analysis hours are all based on clock hours. So if a link is "congested" from 7:30-9:30AM, it will be reported as only being congested for one hour (8:00-9:00AM).

Figures 17 and 18 compare v/c-based and travel speed-based HOC by model link. v/c-based HOC output is represented by the thicker lines and travel speed-based by the thinner lines.

Figure 17. Hours of Congestion Measure Comparison Region-wide – 2015 Base Year

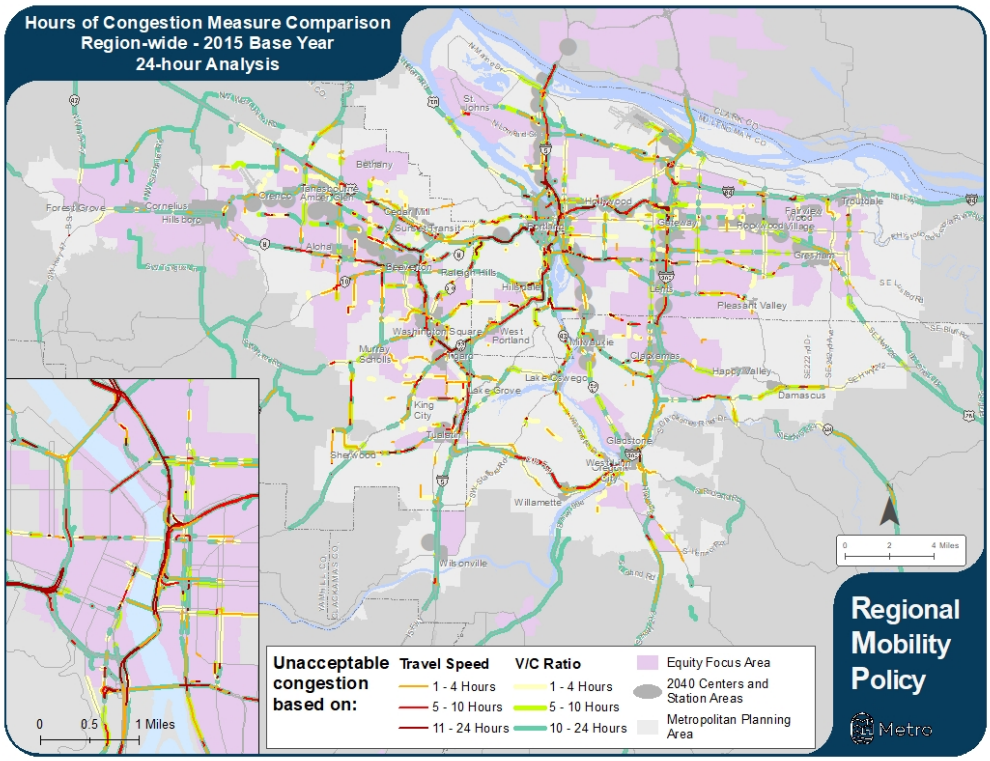
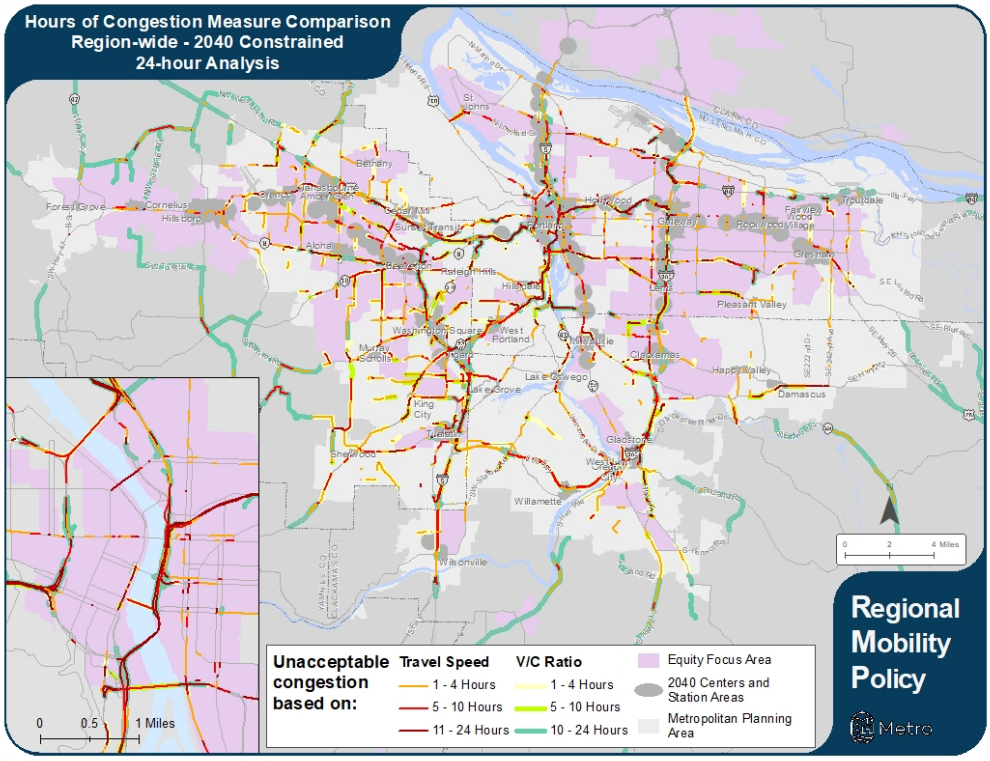


Figure 18. Hours of Congestion Measure Comparison Region-wide – 2040 Constrained



As shown in the figures, most links that have at least one hour of daily congestion based on either metric also experience congestion based on the other metric. In addition, the majority of the links that experience the highest HOCs are modeled to have sustained hours of congestion whether based on v/c or travel speed. The difference between number of hours of congestion reported between v/c and travel speed-based thresholds is not consistent throughout the region. In some areas, v/c-based HOC is higher, and the opposite is true for other areas.

When comparing the figures with the 2018 RTP, all roadways segments that are congested for the two analysis hours in the PM peak period are forecast with HOCs of 3 or more, no matter whether v/c- or travel speed-based. The HOC measure highlights more links that experience congestion, which tells a more holistic story of daily congestion impacts for the region and for throughways in particular.

How sensitive are the model outputs to changes in land use?

Focused sensitivity testing on the congestion-based metrics was conducted for the TV Highway study area. The sensitivity testing scenarios used the 2040 model network as a base, with updated population and employment levels from 2015 and 2027 scenarios depending on the scenario. Table 4 describes how model year variables were assigned to the sensitivity testing scenarios reviewed for congestion-based metrics.

Table 4: Congestion-based Sensitivity Testing Scenario Definitions

Scenario	Variables from model year			Impacted TAZs
	Households	Employment	Model Network	
Scenario 3 – South Hillsboro No growth	2015	2015	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 4 – South Hillsboro Minimal growth	2027	2027	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 5 – South Hillsboro Household-only growth	2040	2015	2040FC	1341, 1352, 1353, 1363, 1366, 1367
Scenario 6 – TV Highway Aloha growth	Increased by 50%	Increased by 50% (TAZ 1137 only)	2040FC	1336, 1337, 1338

Source: Metro Travel Demand Modeling staff, 2021.

Figures 19 through 26 compare the sensitivity testing scenario model HOC output with the 2040 Constrained output. Figures 19 through 22 show HOC based on travel speed, where "congested" was defined as when a link travel speed is less than 75 percent of the base link speed. Figures 23 through 26 show HOC based on v/c ratio. For v/c, the current interim regional mobility policy midday peak hour threshold was used to define "congested" links, which vary by roadway facility. Targets for the midday peak hour are either 0.99 or 0.90, varying by roadway facility.

HOC – Travel Speed Threshold

For Scenarios 3 through 5, which focus on land use adjustments within the large South Hillsboro development area, HOC changes were mostly seen on arterials instead of throughways. The HOC changes are all in correlation to the land use change. In Scenario 3 for example, the scenario removed the household and employee growth that was added to the 2040 Constrained model, reducing trips to and from the South Hillsboro area. As expected, the HOC decreases between the 2040 Constrained model output and the Scenario 3 output in places where changes occur. For Scenario 6, no significant HOC changes occurred, suggesting that using a travel speed threshold is not sensitive to smaller scale plan amendments.

HOC – V/C Ratio Threshold

For Scenarios 3 through 5, HOC changes were mostly seen on arterials instead of throughways, especially on TV Highway (major arterial per Metro classifications). The HOC changes are all in correlation to the land use change. In Scenario 3 for example, the scenario removed the household and employee growth that was added to the 2040 Constrained model, reducing trips to and from the South Hillsboro area. As expected, the HOC decreases between the 2040 Constrained model output and the Scenario 3 output in places where changes occur. For Scenario 6, no significant HOC changes occurred, suggesting that using a v/c ratio threshold is not sensitive to smaller scale plan amendments.

Figure 19. HOC Sensitivity Testing Scenario 3 (Travel Speed) TV Highway – 2040 PM Peak

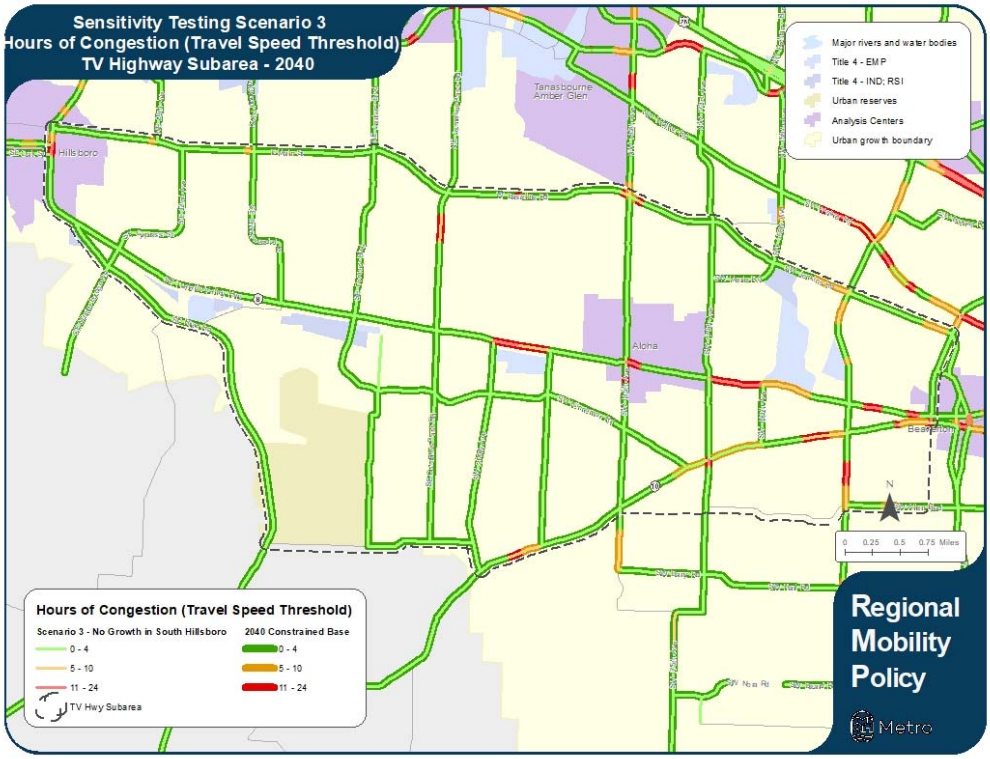


Figure 20. HOC Sensitivity Testing Scenario 4 (Travel Speed) TV Highway – 2040 PM Peak

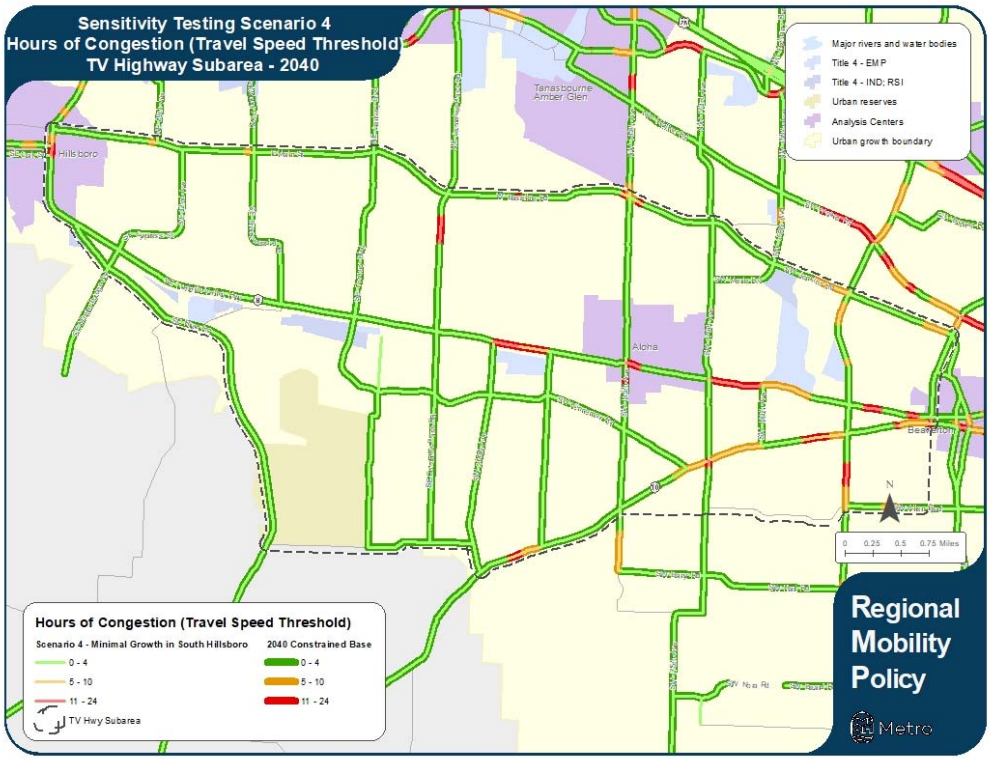


Figure 21. HOC Sensitivity Testing Scenario 5 (Travel Speed) TV Highway – 2040 PM Peak

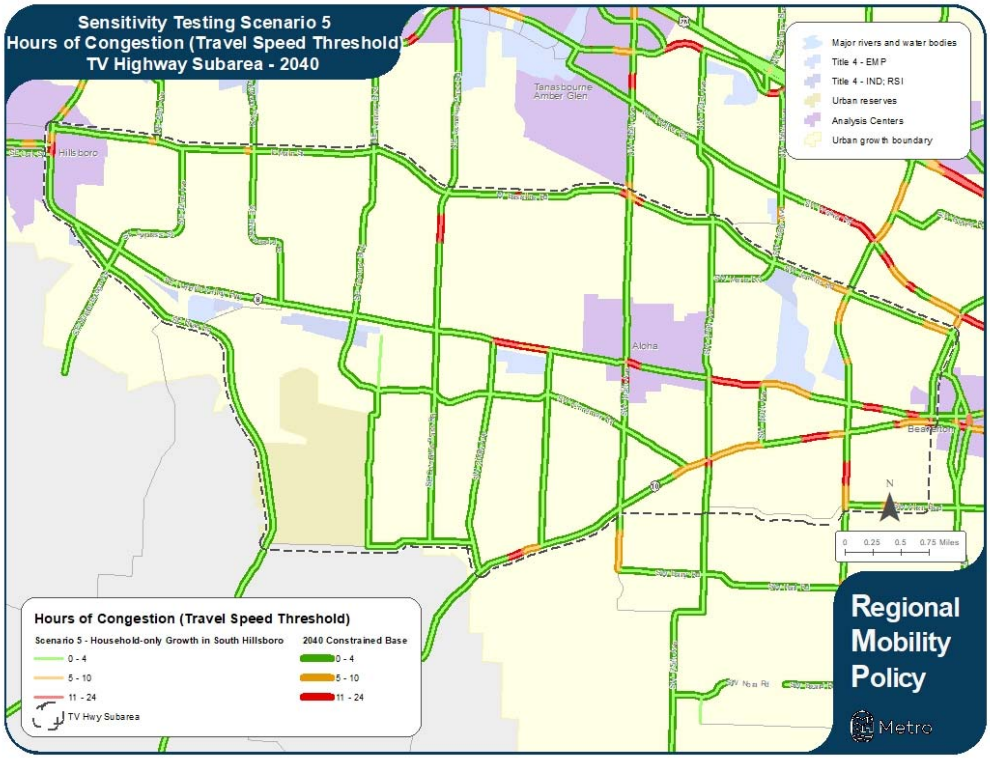


Figure 22. HOC Sensitivity Testing Scenario 6 (Travel Speed) TV Highway – 2040 PM Peak

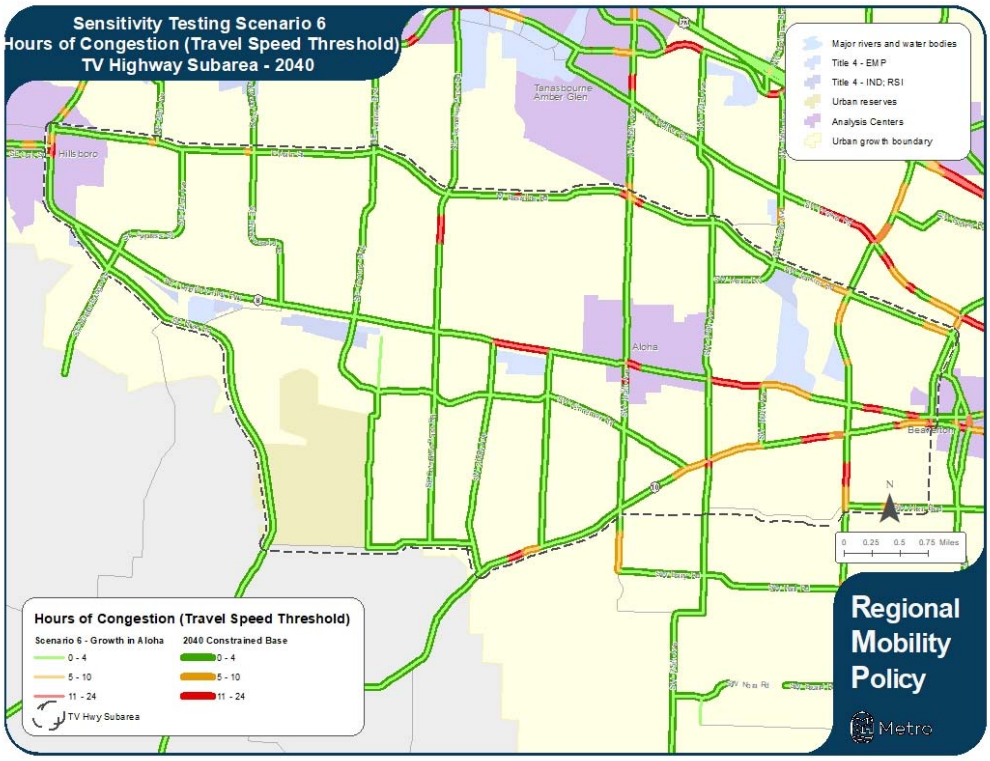


Figure 23. HOC Sensitivity Testing Scenario 3 (V/C Ratio) TV Highway – 2040 PM Peak

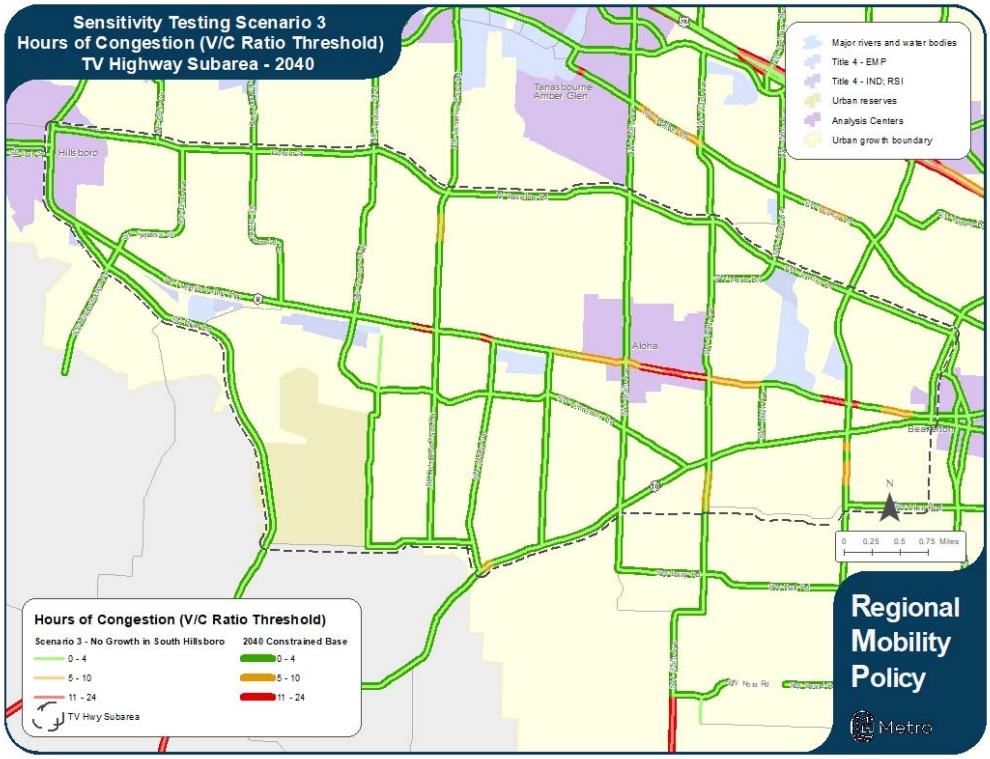


Figure 24. HOC Sensitivity Testing Scenario 4 (V/C Ratio) TV Highway – 2040 PM Peak

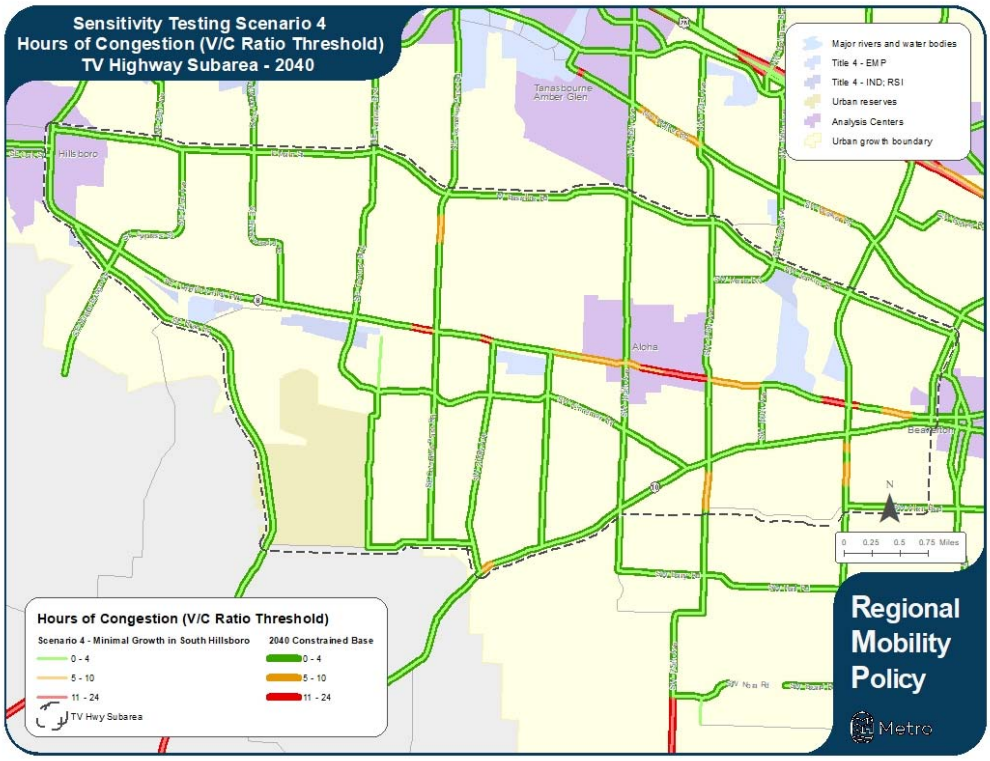


Figure 25. HOC Sensitivity Testing Scenario 5 (V/C Ratio) TV Highway – 2040 PM Peak

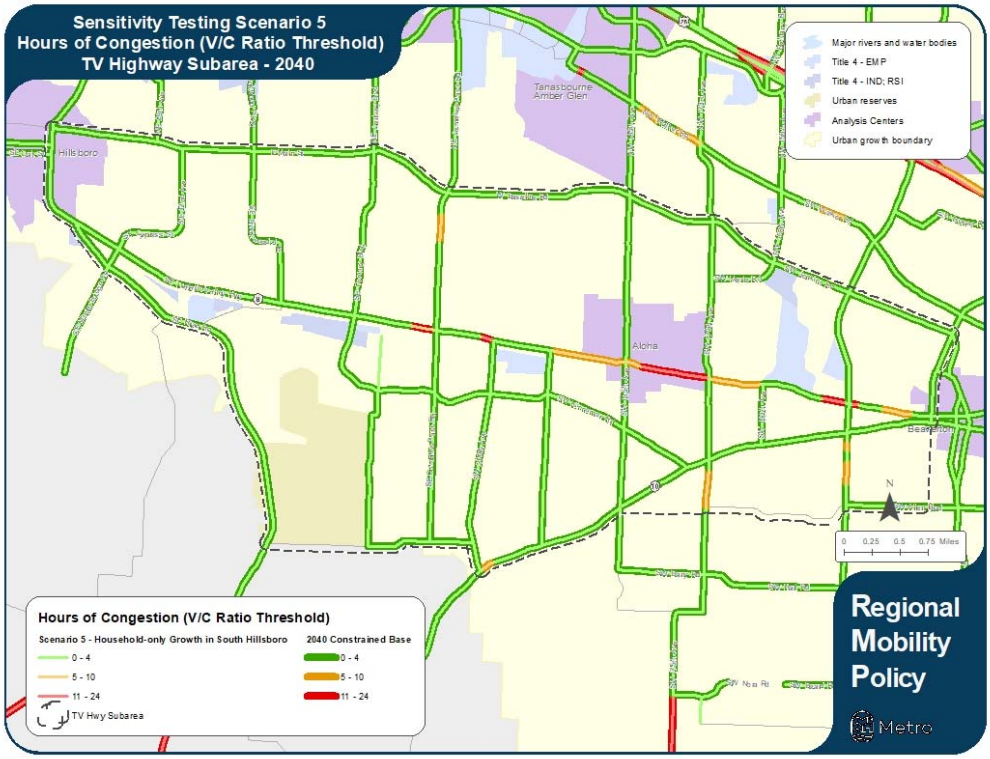
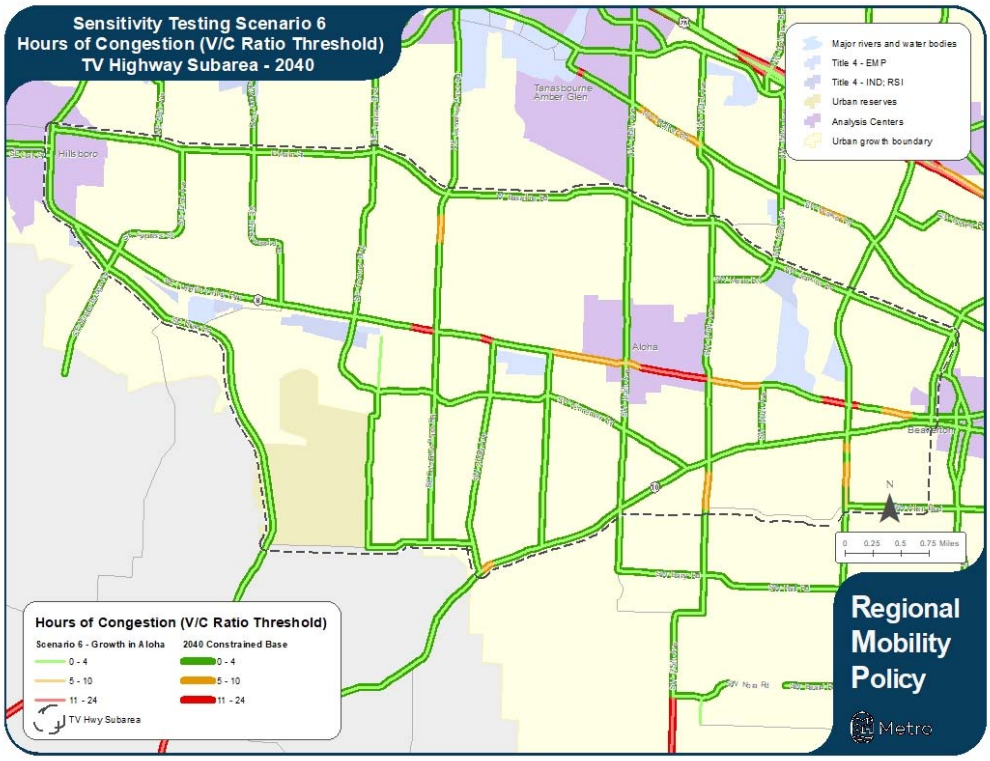


Figure 26. HOC Sensitivity Testing Scenario 6 (V/C Ratio) TV Highway – 2040 PM Peak



Policy Considerations

Considerations:

- The same v/c ratio and travel speed threshold determination questions apply for HOC because the definition of "congested" is required for all three metrics.

Are the measures useful and practical in planning?

Throughways: As a high-level 24-hour view, HOC is a useful measure on throughways to highlight current congestion and forecast locations in the future. HOC based on travel speed is already used by ODOT for reporting on the highway network in the PRTPR. There may be other simulation tools available to support future forecasting that more closely aligns with field operations.

Arterials: As a high-level 24-hour view, HOC is a useful measure on arterials to highlight current congestion and forecast locations in the future. Establishing thresholds for "congested" links on controlled roadways is a primary issue for replicable calculations.

Are the measures sensitive enough to use for plan amendments?

HOC, whether with a travel speed threshold or v/c ratio threshold, is not very sensitive to land use changes.

VMT/Capita and Access to Destinations/Opportunities

Vehicle miles traveled (VMT) is the number of vehicle miles traveled by motorists within a specified time period and study area. . Currently, most vehicles are powered by internal combustion engines; therefore, greenhouse gas emissions tend to rise and fall with VMT, although emissions/VMT tend to be lower in smooth-flowing traffic and higher in slow moving or stop-and-go traffic. The relationship between VMT and greenhouse gas emissions will weaken as electric vehicles become more common. **VMT/capita** compares this number to a specific population, such as total number of residents or employees within a defined area, to measure how much people drive to meet their obligations and daily needs.

Access to destinations/opportunity measures how many essential destinations (such as jobs, community services, and educational institutions) can be reached within a certain travel time or distance using different travel modes. This measure is typically evaluated for a specific site or study area but can also be calculated regionally. As defined in Metro's 2018 RTP, areas with high accessibility enable people "to reach desired goods, services, activities and destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices." Increased used of e-commerce, delivery services, and telecommuting over the past decade (and particularly since 2020) has enabled many people to meet their needs and to access opportunities without leaving home. Geographic measures of access, therefore, do not fully portray the resources available to residents.

What they measure

Both VMT/capita and Access to destinations/opportunity reflect how well the land use and transportation systems work together, and both respond to the same types of changes in those systems. Places with a mix of residential and commercial development and a transportation network

that serves people walking, biking, and taking transit as well as driving tend to have low VMT/capita and high access to destinations/opportunity by multiple travel modes. Conversely, places where housing is far from jobs and services and where people must drive to meet their daily needs tend to have high VMT/capita and low Access to destinations/opportunity, especially for people using transit.

Although they reflect similar transportation and land use characteristics, the two measures focus on different aspects of mobility. VMT/capita indicates how *efficiently* people within a combined transportation and land use system can meet their needs, while Access to destinations/opportunity measures how *useful* that combined transportation and land use system is for specific types of trips and specific travel modes.

What they do not measure

Neither VMT/capita nor Access to destinations/opportunity evaluate how well the transportation system itself operates. They can inform long-range planning, but do not provide useful information for improving the operations of existing transportation systems.. These measures should be supplemented with metrics that indicate network performance (such as travel speed, V/C ratio, queuing, and duration of congestion) and/or with metrics that evaluate network completeness (such as LTS, pedestrian crossing index, and system completion).

Neither VMT/capita nor Access to destinations/opportunity perfectly measures the efficiency and usefulness of a combined land use and transportation system. Key deficiencies include:

- VMT/capita is affected by a range of demographic and economic factors beyond land use and transportation conditions. In general, VMT/capita is higher than average for large households and households with high incomes; it also tends to rise when gas prices fall.
- While VMT currently generates greenhouse gas emissions, this relationship will weaken as electric vehicles become more common, and relationship is also affected by the traffic conditions under which VMT occurs.
- Access to destinations/opportunity does not perfectly reflect the opportunities and resources available to residents, since it does not account for telecommuting, delivery services, and home entertainment that can be ordered online.

How they are measured

Access to destinations/opportunity

Access to destinations/opportunity is often used to compare how well the transportation system serves people using different modes (e.g., transit users vs. auto users) and people living in different locations (e.g., comparing what can be accessed from the center of a Census tract in an Equity Focus Area vs. what can be accessed from the center of a Census tract in a higher-income neighborhood). Defining key destinations and opportunities is essential to evaluating access meaningfully. Access to jobs is one component of access to opportunity, which can also include access to destinations that provide education and training. Community destinations are typically understood as places where people can access key services and meet their daily needs.

To provide consistent results for existing and forecasted conditions, Metro spatial analysts recommend combining spatial data on destinations with travel times calculated using Metro's travel model. At the regional level, this approach was used in Metro's 2018 RTP to evaluate access to low and middle-wage jobs (jobs with annual wages of $65,000 or less) using different travel modes under both existing and forecasted conditions.

Metro's travel model includes forecasts for jobs and population growth averaged at the Transportation Analysis Zone (TAZ) level, roughly equivalent in size to a Census Tract. Plan amendments typically evaluate changes within an area equivalent to a few TAZs; therefore, the model is less useful at evaluating access for plan amendments and other sub-regional geographies. Access to destinations/opportunity for existing conditions can be evaluated with greater precision by combining GIS data on destinations with travel times calculated using transit performance and vehicle speed data to reflect the effects of traffic congestion. Metro's travel model does not provide forecasted destination, transit performance, or vehicle speed data at comparable levels of precision, making Access evaluations under forecasted conditions less precise and difficult to compare to existing conditions.

VMT/capita

Measures of VMT/capita start with measures of VMT. Both current and future VMT are evaluated using Metro's regional travel model, which models and forecasts travel within the four-county Portland metropolitan area. The model is validated against observed travel, employment, and population for a 2015 base year; travel in future years (2027 and 2040) is forecasted using regional assumptions about jobs and population growth, along with planned changes in transportation infrastructure, services, and policy. The model differentiates between passenger and freight travel and generates trips based on household size and the number and type of jobs within the metropolitan area.

VMT metrics evaluated include:

- All (passenger) VMT: All vehicle travel by passenger and commercial vehicles, assigned to the network within a specific geographic boundary. Vehicle volume on each network link is multiplied by link distance.
- Home-Based VMT: All passenger vehicle travel that begins or ends at the traveler's home; includes trips to and from work, shopping, school, recreation, etc.; does not include vehicle travel associated with deliveries or in-home services.
- Commute VMT: All passenger vehicle travel between the traveler's home and work; does not include trips that stop at an intermediate location between home and work (e.g., trips to work that include a school drop off).

VMT/capita is a measure of VMT divided by a defined population, such as the number of households, residents, or employees within the study area. VMT/capita metrics fall under two broad categories:

- *Ratio metrics*, such as VMT/capita as developed for the 2018 RTP Update, in which all passenger VMT is divided by the total population of residents or employees in the area under study, and
- *Rate metrics*, such as commute VMT/employee or home-based VMT/capita, in which passenger VMT generated by specific types of trips to or from an area is divided by the population residents and employees who generate it.

Metro currently evaluates two VMT ratio metrics in its Regional Transportation Plan:

- VMT/capita (all passenger VMT divided by all residents), and

- VMT/employee (all passenger VMT divided by all employees).

These metrics capture non-commute and non-home-based passenger travel, such as trips between workplaces and shopping or recreation destinations.

While VMT rate metrics capture a wide spectrum of passenger vehicle travel, they do not closely tie VMT to the land uses that generate it. To assess how smaller-scale land use and transportation decisions affect VMT, these case studies evaluate VMT ratio metrics, including:

- Home-based VMT/capita, which divides VMT generated by trips that start or end at home by the number of people living in the study area;
- All VMT/capita, which divides VMT generated by passenger trips that start in a study area by the number of people living in that study area;
- Commute VMT/employee, which divides VMT generated by trips between home and work by the number of jobs in the study area; and
- All VMT/employee, which divides VMT generated by passenger trips that end in a study area by the number of jobs in that study area.

Reflecting the assumptions built into the Metro regional travel model, these case studies assume that Metro's 2018 Regional Transportation Plan will be implemented with projected revenue sources (the 2040 fiscally constrained scenario).

Ease of application

The two performance measures are substantially different in how easy they are to apply. VMT/capita is evaluated and forecasted using Metro's regional travel demand model alone.

Questions addressed

The project team explored the following questions for these measures, as summarized in the following sections:

- Can Access to destinations/opportunity be confidently evaluated for existing and future conditions?
- Which VMT/capita metrics are most useful for different land use contexts?
- How sensitive are model calculations of VMT/capita to changes in land use?

Can Access to destinations/opportunity be confidently evaluated for existing and future conditions?

Access to destinations/opportunity can be estimated with great accuracy and precision for existing conditions and with much less accuracy and precision for future (forecasted) conditions. To provide consistent results for existing and forecasted conditions, Metro spatial analysts recommend combining spatial data on destinations with travel times calculated using Metro's travel model.

Consultants reviewed the 2018 RTP's technical appendixes and spoke with Metro modelers to better understand their experience of evaluating Access to destinations/opportunity for the RTP using the

Metro travel demand model. This review identified the following challenges with evaluating Access to destinations/opportunity under both existing and future conditions:

- Spatial data on destinations of all types is available for existing conditions but not for forecasted conditions. Metro's travel model includes forecasts for jobs and population growth but does not forecast changes in the locations of community destinations. Analysts must either make assumptions about the future locations of community destinations or assume that they will not change over the next 10-20 years.
- Spatial data is available at greater levels of resolution for existing conditions than for forecasted definitions. Under existing conditions, the street addresses of jobs and community destinations can be used to evaluate access. Under future (forecasted) conditions, jobs and populations are averaged at the Transportation Analysis Zone (TAZ) level. Plan amendments frequently evaluate land use and transportation changes within just a few TAZs; as a result, forecasted measures of access are less meaningful at the plan amendment scale.
- Travel times by different modes can be estimated with great accuracy for existing conditions but not for forecasted conditions, due to how the model estimates transit travel time and its relatively coarse assessment of traffic congestion.
- The 2018 RTP found that the travel demand model was not a robust tool to evaluating walking and bicycling modes, due to the model's scale of analysis and assumptions about travel behavior. Therefore, while Access to destinations/opportunity can be accurately evaluated for walking and bicycling under existing conditions, it cannot be accurately evaluated under forecasted conditions.

What VMT/Capita output is most useful for different land use contexts?

The following case studies evaluate VMT/capita metrics applied to the Metro Regional Transportation Plan, the Colwood Industrial District, downtown areas in Portland and Oregon City, and the development of the South Hillsboro neighborhood. VMT/capita metrics for land use sub-areas are compared to regional and citywide averages as well as to the Oregon Transportation Planning Rule requirement that new plans do not increase VMT/capita by more than 5% and target of reducing VMT/capita by 5% or more.

Metro 2018 Regional Transportation Plan Update

The 2018 Regional Transportation Plan Update (2018 RTP) is the Metro region's 25-year plan to accommodate population and jobs growth by investing in transportation infrastructure and programming. The 2018 RTP envisions the future of transportation in the Metro region as an integrated, multi-modal system where people are increasingly able to meet their needs by using transit, carpooling, bicycling, and walking. To that end, the 2018 RTP sets a target that VMT/capita will be 10% lower in 2040 than in 2015.

The 2018 RTP evaluated VMT/capita (all passenger VMT divided by all residents) and VMT/employee (all passenger VMT divided by all employees) at the regional scale for three scenarios:

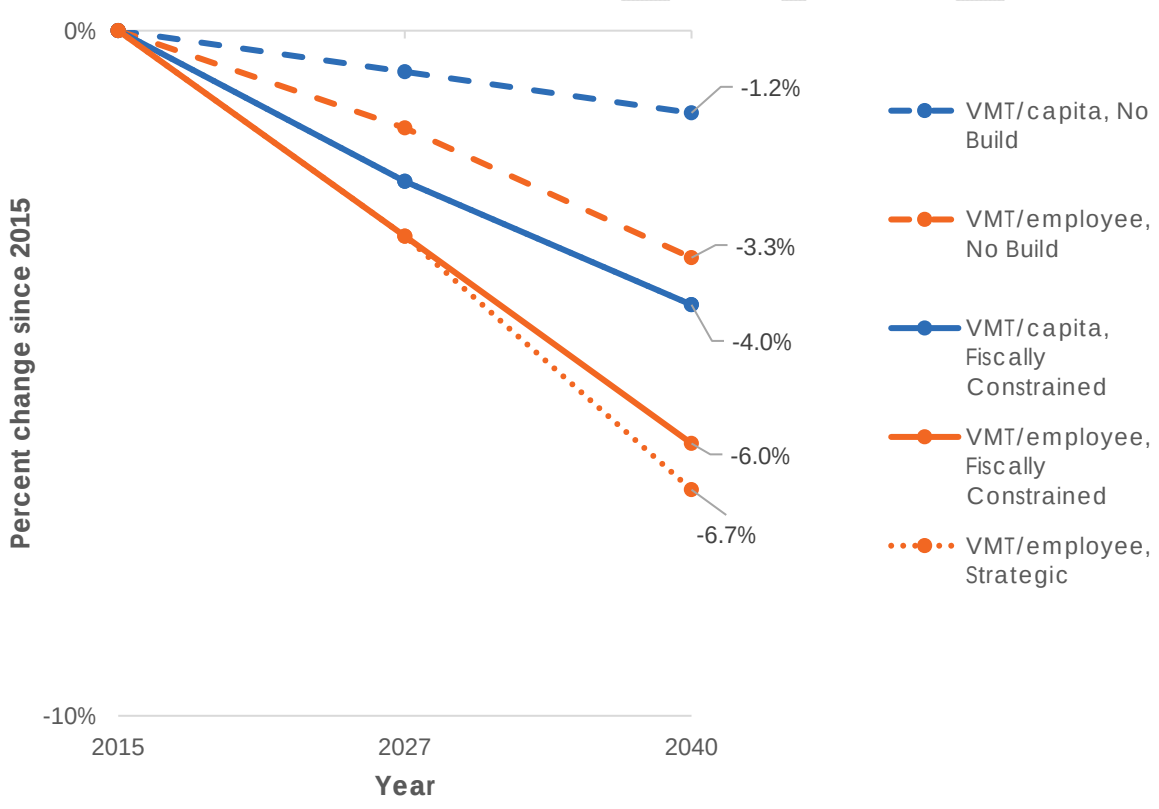
- No Build, which assumes that only projects with fully committed funding as of 2018 would be constructed;

- Fiscally Constrained, which assumes that transportation funding will continue according to current projections; and
- Strategic, which assumes that additional transportation funding will become available, allowing greater investment in infrastructure and programming.

The 2018 RTP estimates that, from 2015 to 2040, the region's population will grow by about 1/3 (36%) and employment will grow slightly more (39%). As a result, total VMT will grow even though average VMT per person will decline. As shown in Exhibit 2, all scenarios would see decreases in average VMT/capita and average VMT/employee, although the investments made under the Fiscally Constrained scenario would reduce these substantially more compared to the No Build scenario. The Strategic scenario would reduce VMT/employee slightly more than the Fiscally Constrained scenario (6.7% vs. 6.0%); it would not provide a substantial reduction in VMT/capita compared to the Fiscally Constrained scenario (4.0% vs. 4.0%). None of the scenarios, including the Strategic scenario, would achieve the 10% VMT/capita reduction target identified in the 2018 RTP.

(Note that Exhibit 2 shows VMT/capita ratio metrics, not the rate metrics that will be evaluated throughout the rest of this memorandum.)

Exhibit 2. Change in average passenger VMT within Metro Planning Area, 2015-2040*



* Note: Exhibit 2 shows VMT ratio metrics as calculated for the 2018 RTP's performance targets.

Change from 2015 to 2040 was also evaluated for the VMT rate metrics (home-based VMT/capita and commute VMT/employees). Exhibit 3 shows how the 2018 RTP performs when VMT rate metrics are applied under the Fiscally Constrained scenario. Home-based VMT/capita declines about the same amount as the VMT/capita metric shown in Exhibit 2 (4.2% vs. 4.0%); Commute VMT/employee declines about 1/3 more (8.1% vs. 6.0%). This reflects that many of the long-term investments

identified under the Fiscally Constrained scenario would expand transit capacity to centers and along corridors that are projected to have substantial jobs and housing growth, improving how well the region's transit system serves commute trips.

For Metro's Equity Focus Areas (EFAs), which have higher than average concentrations of people of color, people with low incomes, and/or people with limited English proficiency, results are similar. As shown in Exhibit 4, the EFAs show a somewhat smaller reduction in Commute VMT/employee than the region overall, but a somewhat larger reduction in Home-based VMT/capita. When measured using Home-based VMT/capita, neither the Equity Focus Areas nor the region as a whole achieve the 10% VMT/capita reduction target.

Exhibit 3. Metro Region Change in VMT/capita, 2015-2040

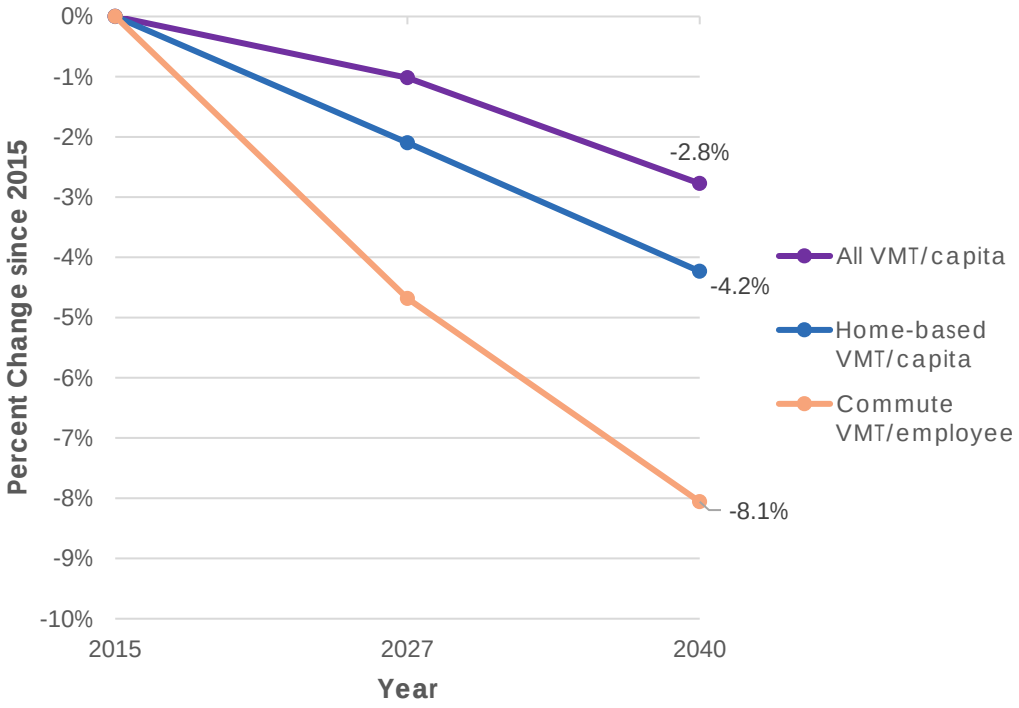
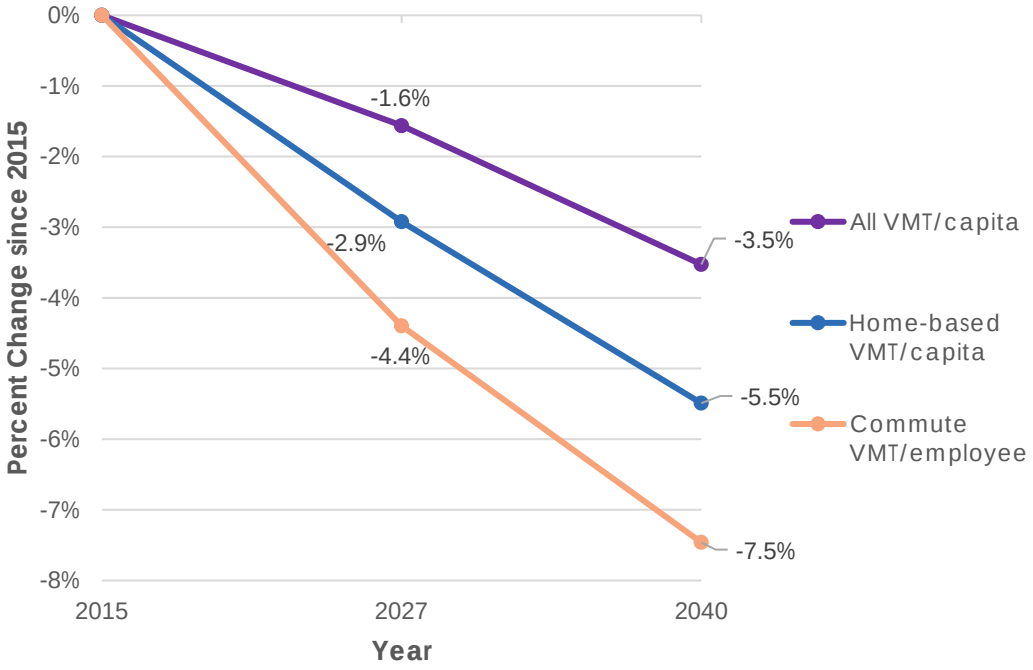


Exhibit 4. Metro Region Change in VMT/capita, 2015-2040 - Equity Focus Areas



Colwood Plan Amendment

The Colwood Plan Amendment (Portland, OR) was adopted in 2013 as a legislative amendment to Portland's Comprehensive Plan, enabling the redevelopment of the Colwood Golf Course as industrial land. The industrial use would add approximately 1,100 jobs to the area, just over 50% more than already existed at the time of the amendment. A Transportation Impact Analysis study for the plan amendment identified auto capacity expansion projects at three nearby intersections to mitigate traffic congestion and comply with Oregon's Transportation Planning Rule.

Industrial jobs are generally located far from housing, other commercial land uses, and transit, and industrial workers may need to travel outside of peak commute hours, when transit is infrequent or not provided at all. As a result, industrial areas typically generate more Commute VMT/employee than the average employment center. As shown in Table 5, jobs in Colwood would generate more commute VMT/employee in 2040 than the average in the Metro region. However, Colwood would see a slight reduction in VMT/employee from 2015 to 2040 (1.2% vs. 8.1% for the region as a whole), while seeing a greater proportional growth in jobs (53% vs. 43% for the region as a whole). Colwood therefore would conform to the Oregon Transportation Planning Rule requirement that that new plans not increase VMT/capita by more than 5%.

Table 5. Colwood Commute VMT/employee

Area	Commute VMT/ Employee, 2040 Fiscally Constrained Scenario	Change in Commute VMT/Employee, 2015-2040	Jobs Growth, 2015-2040
Colwood	12.0	-1.2%	53%
Metro Region	9.5	-8.1%	43%

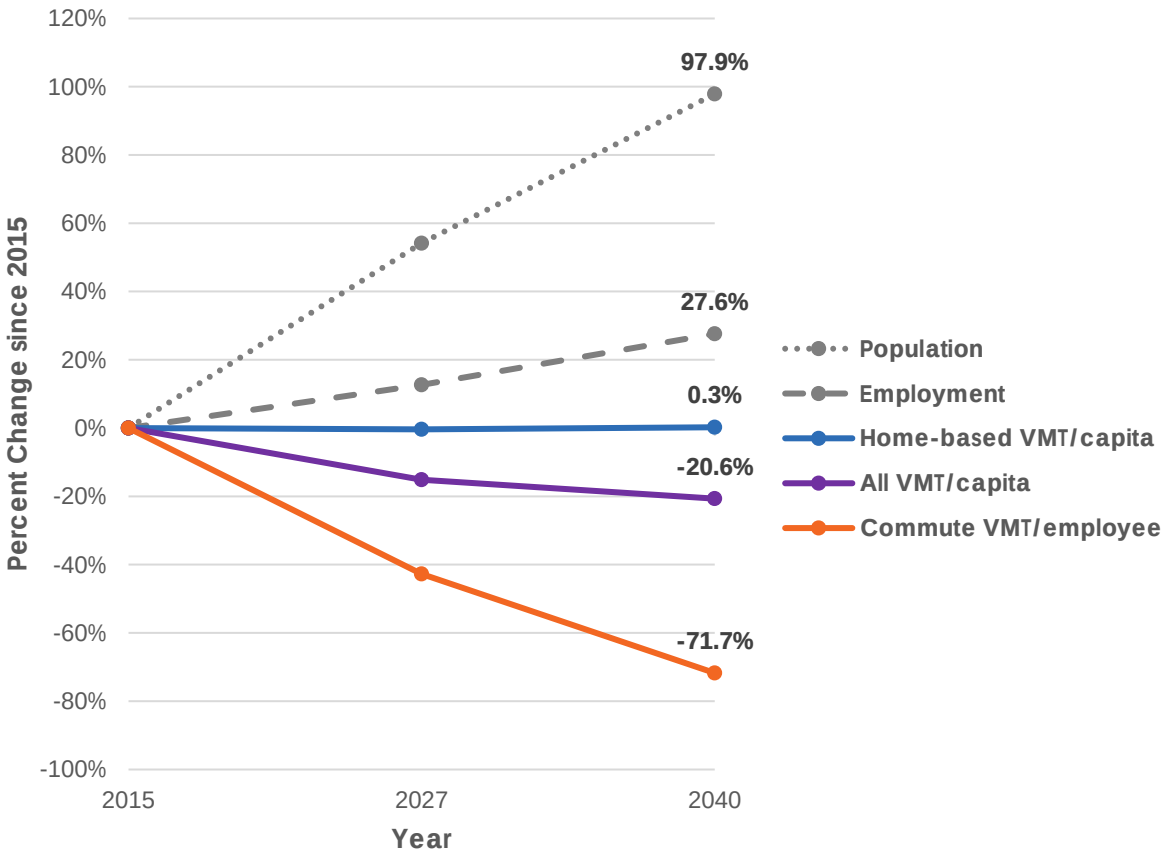
Home-based VMT/capita was not evaluated for Colwood due to the small number of households in the area (fewer than 100 from 2015 to 2040).

Central City Multimodal Mixed-Use Area

The Central City Multimodal Mixed-Use Area (MMA) was established in Portland, OR to permit the continued growth of Portland's city core while complying with Oregon's Transportation Planning Rule. The MMA designation exempts dense neighborhoods that feature well-connected streets, transit service, and a mix of multifamily housing, office, and retail land uses from TPR performance standards related to vehicle congestion. The City of Portland secured grant funding from the state and conducted a feasibility study to demonstrate that the Portland Central City qualified as an MMA.

As shown in Exhibit 5**,** the Central City MMA would see its population double and its jobs grow by about ¼ between 2015 and 2040. Home-based VMT/capita would rise only slightly (less than 1%) in an area where residents already generate less VMT than the average Metro region resident (4.2 Home-based VMT/capita in the MMA vs. 11.0 in the region overall, as of 2015). Over the same period, Commute VMT/employee would drop by over 70 percent, reflecting planned investments in transit access to central Portland from throughout the Metro region.

Exhibit 5. Change in VMT/capita, Portland Central City MMA, 2015-2040

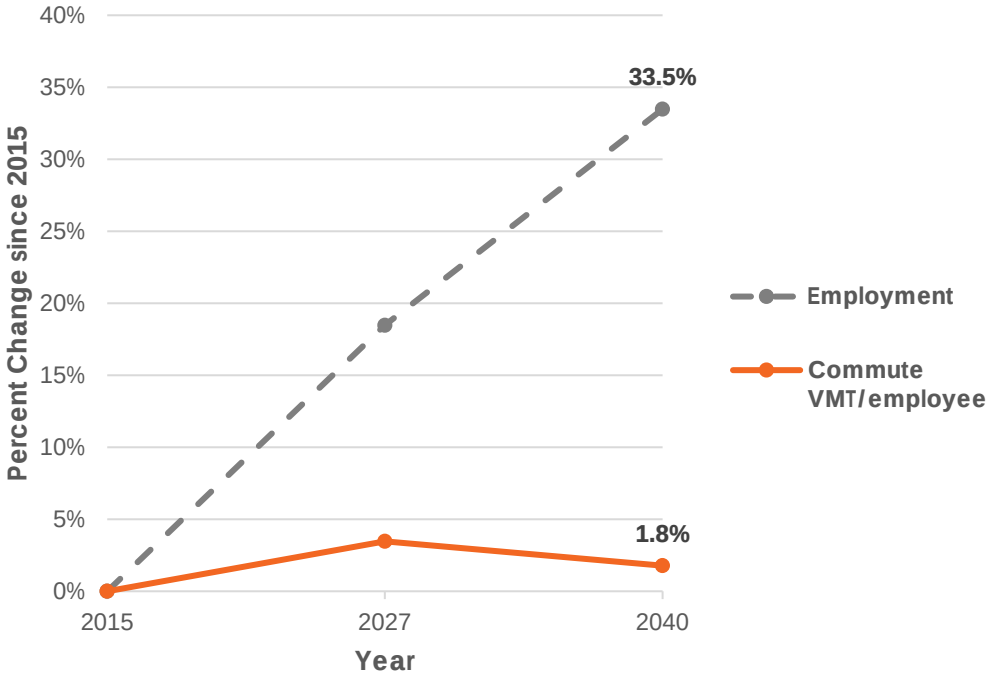


Oregon City Mixed-Use Multimodal Area

In 2014, Oregon City secured an MMA designation to allow for future growth in its downtown area. Downtown Oregon City is bordered by the Willamette River, a decommissioned paper mill on the site of the Willamette Falls, and a high bluff that separates downtown from much of the City's residential neighborhoods. This geography and otherwise limited access by transit and road creates auto congestion that exceeds current OHP and RMP standards.

As shown in Exhibit 6**,** growth in downtown Oregon City and the redevelopment of the paper mill site are projected to increase employment by 1/3 from 2015 to 2040 while increasing Commute VMT/employee by no more than 2%. Commute VMT/employee is projected to increase by more than 2% in Oregon City overall during the same time period; the relatively low increase in the Oregon City MMA may reflect its walkable, well-connected street grid and mix of office, retail, and services. The increase to Commute VMT/employee conforms to the Oregon Transportation Planning Rule requirement that new plans not increase VMT/capita by more than 5%.

Exhibit 6. Employment vs. Commute VMT/employee growth, Oregon City MMA



South Hillsboro Community Plan

The South Hillsboro Community Plan (Hillsboro, OR) was adopted as a legislative plan amendment that enabled the development of Reed's Crossing, a master-planned, 463-acre neighborhood in South Hillsboro. The new neighborhood would add as many as 4,000 housing units along with several hundred thousand square feet of retail and commercial space, along with supportive schools, parks, and community spaces, constructed in four phases between 2017 and 2031. Between 2015 and 2040, Metro estimates that the area would add 22,300 residents, or about 90 times the 2015 population, and nearly 1,300 jobs, or about 11 times the jobs present in 2015.

While most of the land area would be dedicated to detached single-family housing, the neighborhood would feature pedestrian-oriented design and a mixed-use town center, two features that tend to encourage walking and bicycling and to enable transit use. Developing a mix of uses in an area with low-density agricultural and industrial jobs could also enable people who work in the area to live near their jobs. These elements would tend to result in lower VMT per capita for people living and working in the neighborhood even as overall VMT in the area would rise with the addition of jobs and residents.

Despite these design elements, single-family residential neighborhoods tend to generate more VMT/capita than denser mixed use neighborhoods, especially those served by transit. As shown in Exhibit 7, people living in South Hillsboro would generate more VMT, on average, than residents of the City of Hillsboro and the overall Metro Region. This likely reflects South Hillsboro's limited transit access and predominantly residential character. However, people *working* in South Hillsboro would generate less VMT, on average, than their peers in Hillsboro and the region. As shown in Exhibit 8, commute VMT/employee in South Hillsboro would decline substantially even as all commute VMT and all VMT generated by travel to the area increases.

Exhibit 7. South Hillsboro home-based VMT/capita and commute VMT/employee (vs. City of Hillsboro and Metro Region), 2040 Fiscally Constrained Forecast

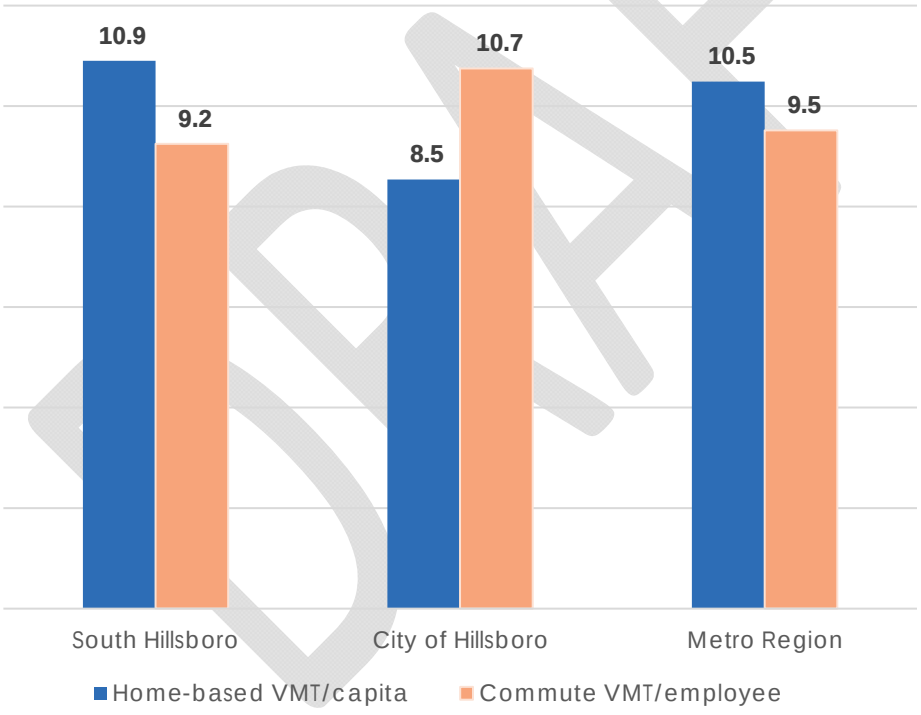
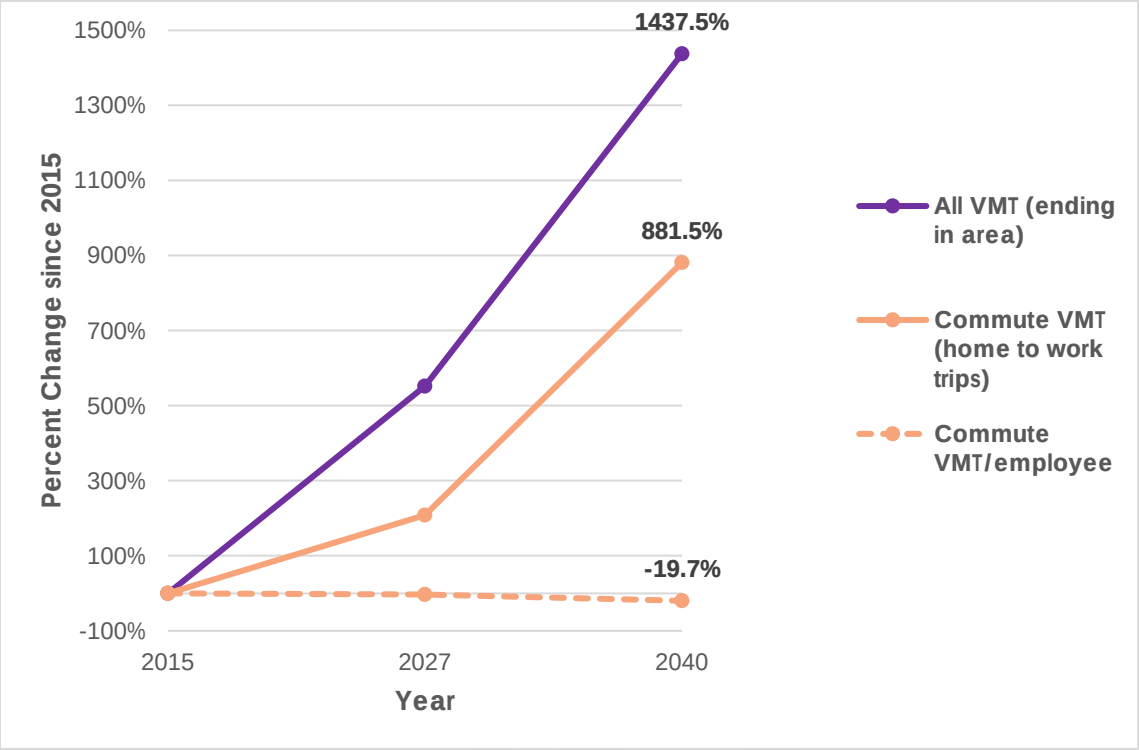


Exhibit 8. South Hillsboro, Change in Commute VMT/employee, 2015-2040



How sensitive are the model outputs to changes in land use?

Focused sensitivity testing on the home-based VMT/capita and commute VMT/employee metrics was conducted for the Colwood and South Hillsboro study areas. To ensure that the transportation investments and policy changes modeled in the 2040 Fiscally Constrained scenario would reliably reduce VMT/capita under different growth scenarios, study areas in the 2040 model network were updated with population and employment levels from 2015 and 2027 scenarios. Table 6 describes how model year variables were assigned to the sensitivity testing scenarios discussed below.

Table 6: Sensitivity Testing Scenario Definitions

Scenario	Variables from model year		
	Population	Employment	Model Network
2015	2015	2015	2015
No growth	2015	2015	2040
2027 FC	2027	2027	2027
Minimal growth	2027	2027	2040
2040 FC	2040	2040	2040
Household-only growth	2040	2015	2040

Source: Metro Travel Demand Modeling staff, 2021.

These scenarios were evaluated for Commute VMT/employee and for Home-based VMT/resident. The assessment found that while the model produces reliable and meaningful VMT/capita results at the

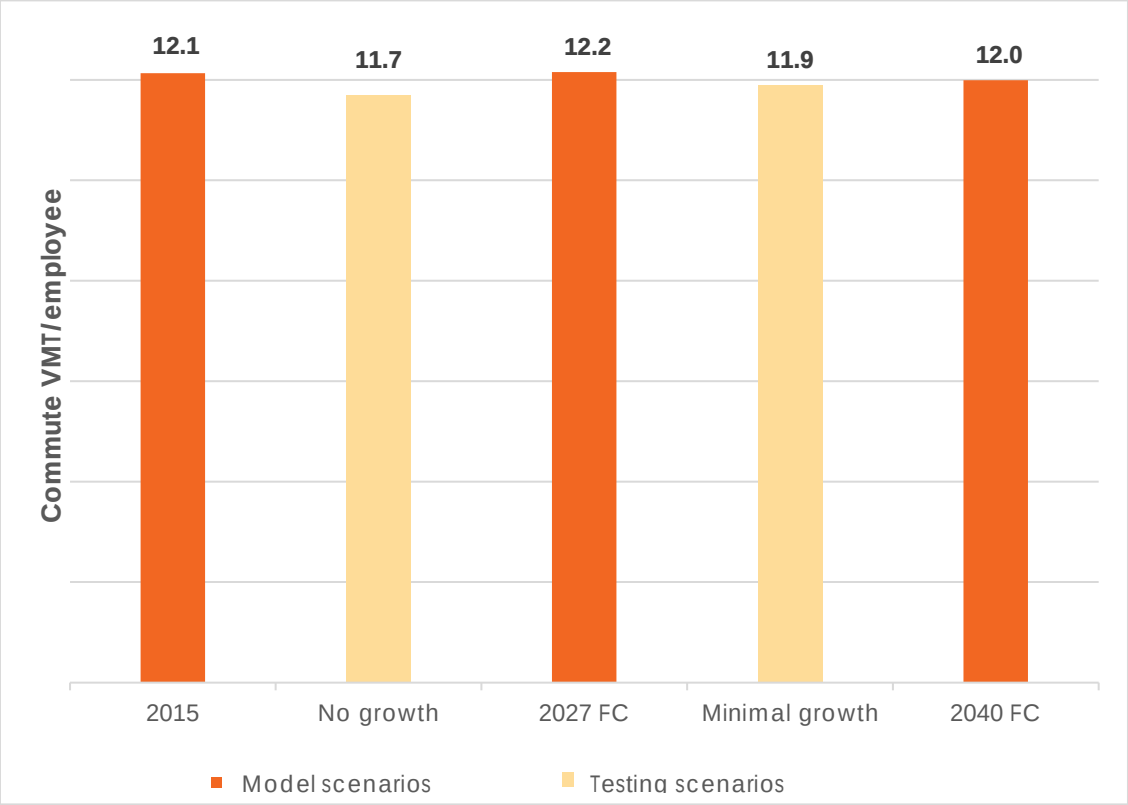
neighborhood level, it cannot reliably produce VMT/capita metrics for very small populations of residents or employees.

Strength: Predictable results for neighborhood-level analysis

Evaluating Commute VMT/capita under the sensitivity testing scenarios and the model scenarios demonstrates that the transportation improvements and policy changes assumed under the 2040 Fiscally Constrained (2040 FC) scenario would reduce the need to drive even at lower levels of employment.

Within the Colwood study area, the scenarios evaluated using the 2040 FC model network (No growth, Minimal growth, and 2040 FC) showed slightly lower Commute VMT/employee than the scenarios evaluated using the 2015 and 2027 FC networks. As shown in Exhibit 9, Commute VMT/capita is lowest in the No growth scenario, in which 2015 levels of employment in the study area are applied within the 2040 FC model network. Adding employment to the study area (under the Minimal growth and 2040 FC scenarios) results in a slight increase in VMT/capita, possibly due to the model assumptions that increased employment would draw workers from more distant neighborhoods. Overall, however, the transportation investments and related policy changes under the 2040 FC scenario would have only a small effect on Commute VMT/employee within the plan amendment study area.

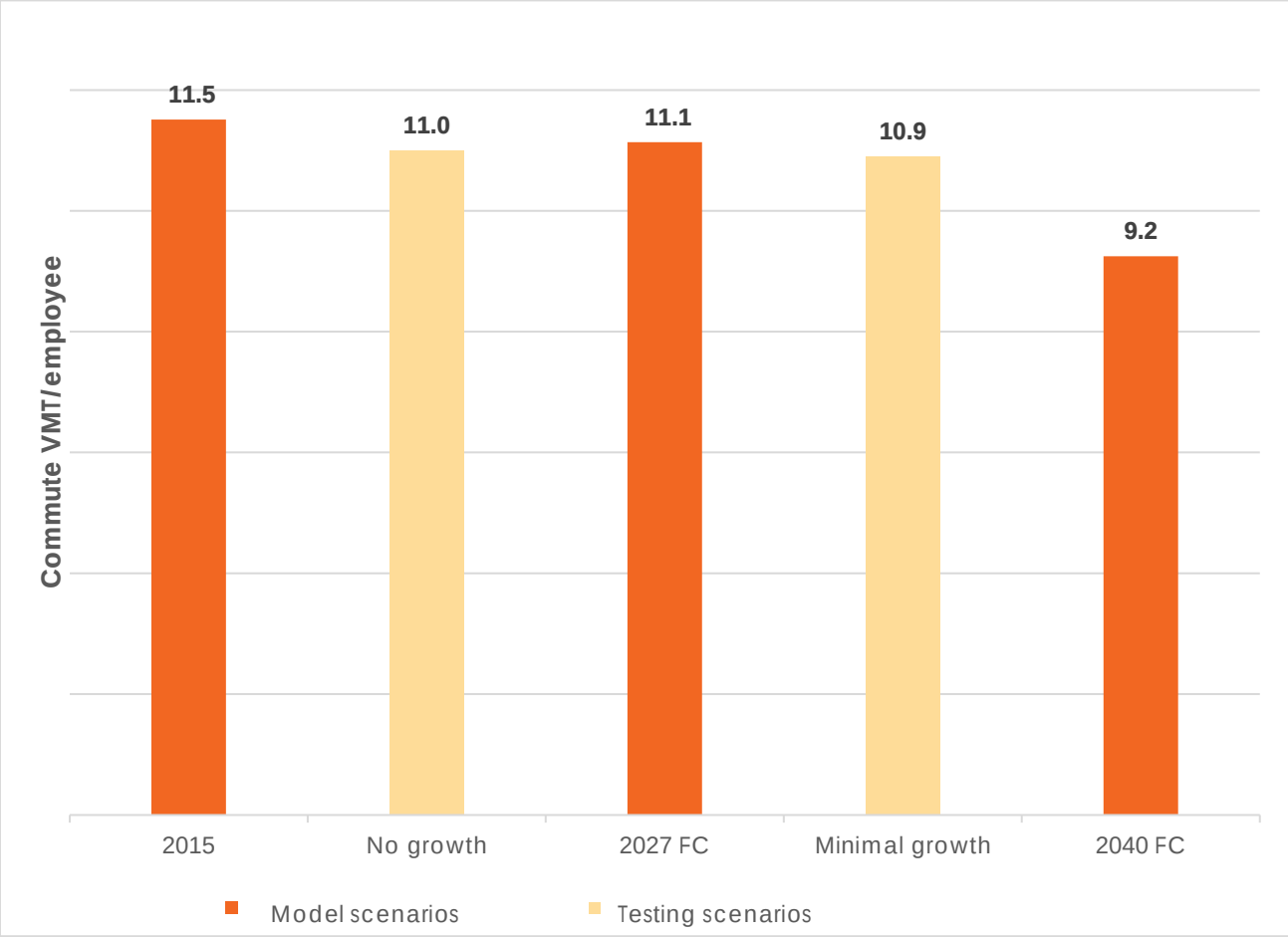
Exhibit 9. Colwood, Commute VMT/employee under multiple scenarios



Evaluating the same scenarios in the South Hillsboro study area shows a greater reduction in VMT/capita, possibly due to land use changes within the study area. As shown in Exhibit 10, Commute VMT/employee is consistently lower under the scenarios evaluated using the 2040 FC model network (No growth, Minimal growth, and 2040 FC) than under the scenarios evaluated using the 2015 and

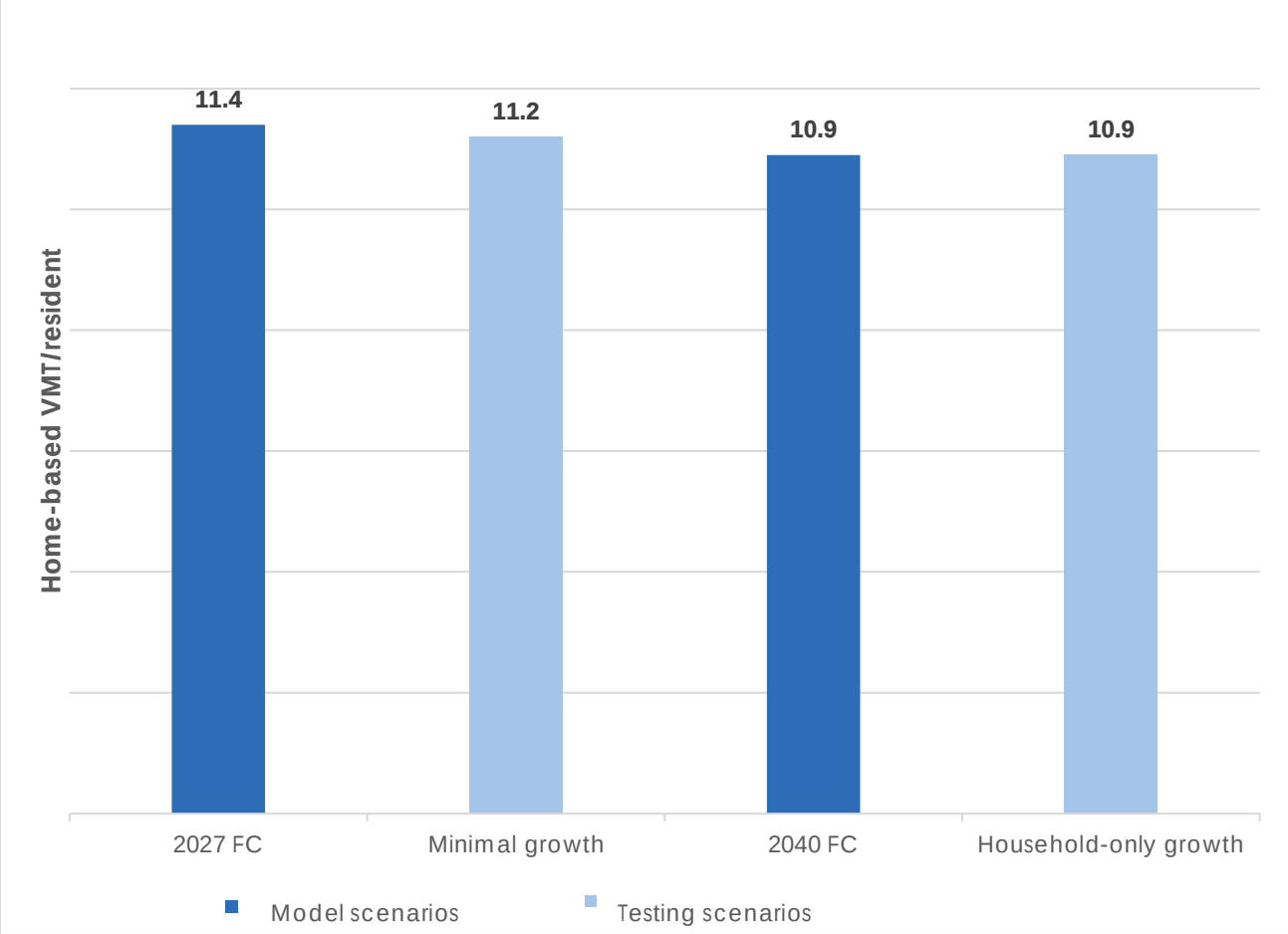
2027 FC networks. Commute VMT/employee is 15% lower (1.7 VMT/employee) under the 2040 FC scenario than under the Minimal growth scenario. This difference could result from model assumptions that the addition of residents within the study area would allow more workers to live close to their jobs, thereby reducing the distances they must drive when commuting.

Exhibit 10. South Hillsboro, Commute VMT/employee under multiple scenarios



A second analysis was conducted for South Hillsboro to assess how Home-based VMT/capita responds to growth in housing without corresponding growth in employment. Exhibit 11 shows Home-based VMT/capita under the 2027 FC, Minimal growth, 2040 FC, and Household-only growth scenarios. (Since there are very few households in the 2015 model, the 2015 and No-growth scenarios could not be reliably evaluated.) Consistent with results from the Commute VMT/employee analysis, Home-based VMT/resident is consistently lower under the scenarios evaluated using the 2040 FC model network (Minimal growth, 2040 FC, and Household-only growth) than under the scenarios evaluated using 2027 FC network. Removing 2015-2040 FC employment growth (under the Household-only growth scenario) has no effect on Home-based VMT/resident. Under the 2040 FC scenario, population in the study area would grow by about 22,000 residents and about 1,200 employees; under the Household-only growth scenario, the same number of residents, but no employees, would be added to the study area. Comparing the results in Exhibit 10 to the results in Exhibit 11, it appears that Commute VMT is more sensitive to changes in local jobs/housing balance than Home-based VMT.

Exhibit 11. South Hillsboro, Home-based VMT/capita under multiple scenarios



Limitation: Evaluating isolated and/or new land uses

The Colwood and South Hillsboro case studies indicates that the Metro regional travel model has a limited ability to evaluate conditions for isolated and new land uses.

In South Hillsboro, an entirely new neighborhood located in an area that was previously undeveloped, the regional travel model was not able to evaluate how home-based VMT/capita changed from 2015 to 2040 simply because the area had fewer than 100 households in 2015, and therefore home-based VMT/capita could not be estimated with confidence. (Comparing home-based VMT/capita in 2040 in South Hillsboro, the City of Hillsboro, and the Metro Region, however, suggests that the model does reflect how density, neighborhood design, and transit access affect the measure.) A VMT/capita policy should provide guidance for evaluating new growth that would substantially change the intensity and nature of existing land uses.

In Colwood, a primarily industrial area, the model could evaluate employee commute VMT/capita with confidence. However, the low number of households in the area (fewer than 100 between 2015 and 2040) meant that the model was not able to confidently evaluate home-based VMT/capita. This does not necessarily mean that results are inaccurate, since home-based VMT would make up only a small share of the total VMT generated in the area. However, it shows that a VMT/capita policy must be written to ensure that analysis is relevant to the area in question and reflects the capacities of the regional travel model.

Limitation: VMT varies in response to variables that the model does not control for

[insert discussion of demographics/residential selection effect issues and job types issues raised in Brian Dunn's comments*; also note increase in VMT with increase in income*

What did we learn?

Whether measured using a ratio metric (VMT/capita and VMT/employee) or a rate metric (Home-based VMT/capita and Commute VMT/employee), VMT/capita is projected to decline from 2015 to 2040 in the Metro region and in several plan areas. Where VMT/capita is projected to increase, those increases are small (less than 5%) and in conformance with TPR guidance that cities should limit VMT/capita growth to 5% or less. The variation between VMT/capita results can be attributed to both transportation investments and increased mixing of land uses.

The sensitivity testing conducted in the Colwood and South Hillsboro plan amendment study areas indicate that VMT/capita metrics are reliably responsive to modeled land use changes.. In-depth sensitivity testing to evaluate how different infrastructure packages would affect these metrics has not been completed. The 2018 RTP evaluated VMT/capita and VMT/employee for multiple scenarios; however, the small differences between the Fiscally Constrained and Strategic scenarios indicates that VMT/capita is either not particularly sensitive to infrastructure changes alone or that the Strategic infrastructure package includes elements that would both reduce and increase VMT/capita.

Policy Considerations

Both VMT/capita and Access to destinations/opportunity reflect the efficiency and usefulness of the combined transportation and land use system,. Of the two, VMT/capita can be evaluated in congruent ways for both existing and future conditions, and can be evaluated for multiple scales, from plan amendments to regional evaluations. Therefore, we recommend the following approach:

- **Apply VMT/capita as a primary system performance measure**, alongside performance measures that evaluate both system operations and system completeness. VMT/capita can be applied in the following ways:
    - *Identifying system needs and system adequacy in system planning:* For TSPs and large sub-area plans, forecasted VMT/capita can be compared to the existing condition to determine if land use changes or improvements to multimodal access are needed or would help to reduce VMT/capita.
    - Evaluating the transportation/mobility impacts of land use decisions in plan amendments: For TSPs and large sub-area plans, forecasted VMT/capita can be compared to the existing condition to determine if the plan amendment would result in a reduction in VMT/capita or an increase, which could be a negative impact that requires mitigation or changes to the plan.
    - Evaluating mitigations when a threshold of significance is exceeded: For system planning and sub-area planning, Metro's travel demand model can be used to evaluate the VMT/capita differences between plan alternatives with different levels of land use density and diversity. However, the model
- **Support the use of Access to destinations/opportunity as a planning tool,** especially when:
    - Planning networks for specific travel modes to ensure that they meet community needs;

- Evaluating alternative land use and transportation scenarios in a comprehensive plan; and
- Measuring overall system usefulness for different populations within the Metro region.

LTS and Pedestrian Crossing Index

Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.

Pedestrian crossing index is the percent of a corridor or roadway segment meeting the pedestrian crossing target spacing.

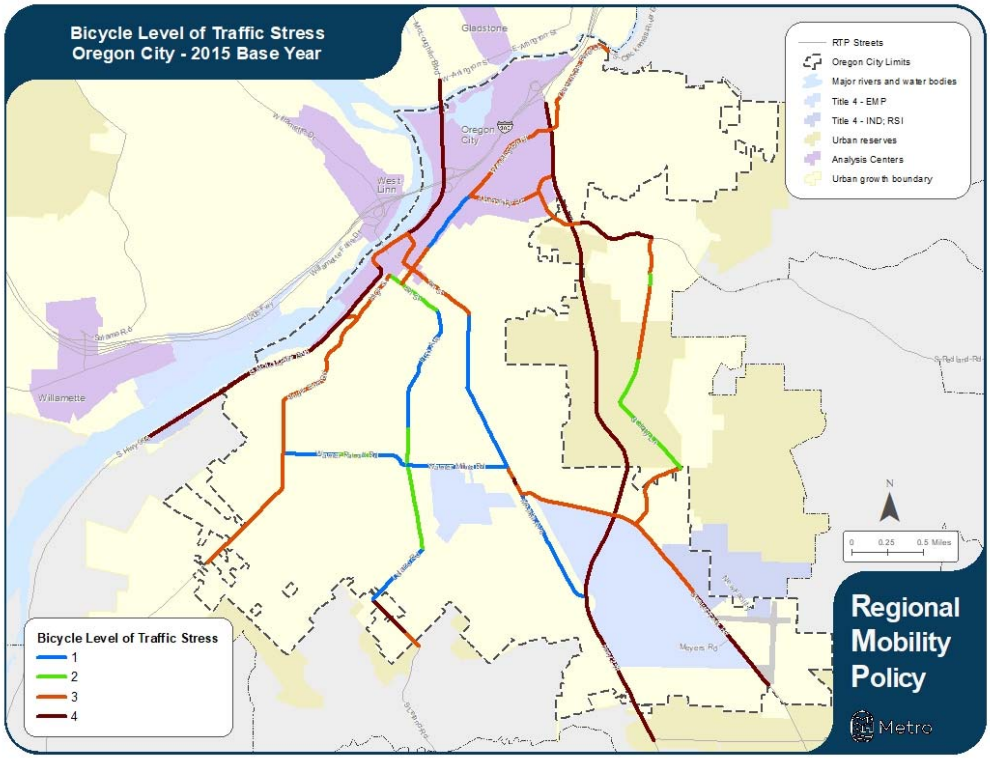
LTS and pedestrian crossing index are multimodal measures that supports equity, access, safety, and options outcomes. Pedestrian crossing index also supports efficiency outcomes. The project team wanted to explore the following questions for these measures, as summarized in the following sections:

- Would a different system have been planned if LTS was the target?
- How useful is the current pedestrian crossing dataset?
- Can the same process used by ODOT be used at a regional/local level?

Would a different system have been planned if LTS was the target?

LTS analyses most often use a target of 2, which will encourage most of the potential bike-riding population to consider riding. A BLTS 2 target can be difficult to meet, especially on high-speed roadways. Most local system planning does not attempt to meet a BLTS 2 on all non-freeway throughways and arterials because it is cost-prohibitive, often looking to complete the system instead of creating a fully low-stress system. For example, the Oregon City TSP does not include a project for the section of OR 213 from Meyers Road to the southern city limits because it already has bike lanes. But this segment, as shown in Figure 27, does not have a BLTS 2 rating due to the number of lanes and high speed. In fact, there is no BLTS 2 rating achievable for a speed equal to or greater than 40 mph when there is no adjacent parking. If a BLTS target of 2 was used, the Oregon City TSP would have included a much different system (reducing travel lanes or requiring right-of-way for parallel off-street facilities) or have not met the target at many locations with restrictions such as travel speed or available roadway width to include buffers. In addition, many cities prioritize filling gaps in their system over updating existing facilities that may not meet the ideal conditions.

Figure 27. Bicycle Level of Traffic Street Oregon City – 2015 Base Year



How useful is the current pedestrian crossing dataset?

ODOT currently has a good dataset that will be used to calculate the percent of state priority corridors meeting target crossing spacing for the annual Key Performance Measures report. Although the dataset is usable, additional updates are recommended, including the street that is crossed for each location. Metro does not currently have a full pedestrian crossing dataset, but there is an Open Street Maps (OSM) dataset that can be accessed. Metro GIS staff completed an initial review of this open-source dataset for relative accuracy and consistency across the region. It was a quick evaluation of a random sample of 400 points. Metro shared the following insights based on this review:

- Of the 400 points evaluated, 92% were in the right location, however only 24% had an attribute for the 'type' of crossing. Only 2.2% of the points were mid-block (not located at an intersection).
- The locations of mid-block crossings for trails were accurately identified when part of the dataset.
- While the 'type' was not consistent, the locations were accurate. There's a limit to the analysis completed without the "type" of crossing so there would certainly be a significant effort requires to augment the dataset with that attribute.
- There has not been an evaluation of the completeness of the layer. Does it capture all of the crossings for the entire region, or are there are areas that are missing? This would need to be reviewed and addressed before the dataset is used in any analysis.

- Adding crossing data into RLIS is a project that needs to be added to Metro's work program, scoped, and prioritized. The level of effort is difficult to determine without the determination of completeness..

Based on input from Metro staff, the OSM dataset is a useful first step toward creating a full pedestrian crossing dataset for the region. But it will take significant effort to update the data to be usable for regionwide and subarea analyses, including determining completeness of the dataset and updating or creating attributes. Attributes that are necessary or desirable include:

- Roadway ID for the street that is crossed
- Milepoint of the crossing on the roadway that is crossed, ideally based on Metro's linear referencing method (LRM) system
    - If the dataset is already being updated, adding this level of information will simply automation of the measure calculation and remove assumptions that would be included if the location is based on a different referencing system.
- Roadway classification that is linked to target setting (i.e. if the Metro regional design classification is used for setting crossing spacing targets, then it should be included in the dataset to support measure calculation)
    - If roadway ID is included in the dataset, an automated calculation tool may be able to reference a different dataset for roadway classification instead of including it in the crossing dataset itself. Metro GIS staff to support decisions on measure automation and potential use of several datasets.
- Type of crossing (marked, signalized, enhanced)
    - This is not strictly necessary for calculating the measure but would be helpful for other planning uses or to calculate spacing between different types of crossings (i.e. what is the crossing spacing for enhanced crossings?). It is worth including if an effort is moved forward to update and add to the crossing dataset..

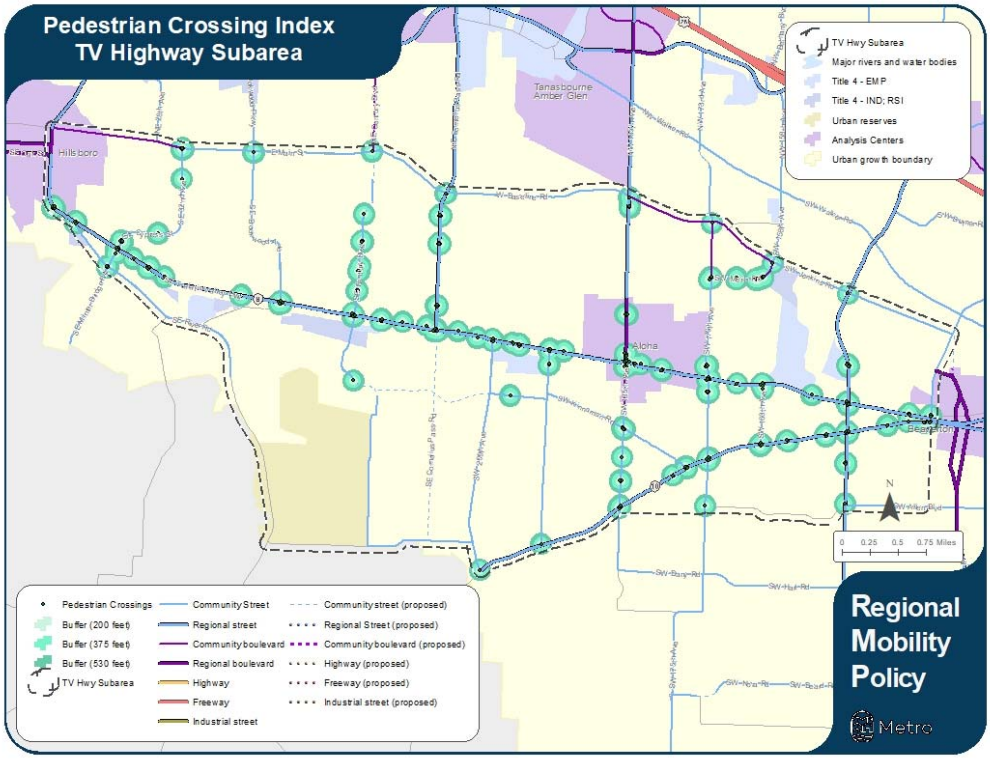
Can the same process used by ODOT be used at a regional/local level?

The project team attempted the process that ODOT recently adopted to calculate pedestrian crossing index for their facilities statewide. Because the ODOT scripts are set for a system that has identified its study corridors, a more manual calculation was completed. If pedestrian crossing index is moved forward, a script similar to ODOT's could be created to streamline the process. Without the pedestrian crossing dataset establishing the street being crossed, all reported crossings were included in the buffer area, which will overestimate the available crossings. If pedestrian crossing index is moved forward, additional effort will be needed to update the OSM dataset to include the street crossed.

Even with the more manual procedure, the overall process can be used on any roadway segment that has a pedestrian crossing dataset. The other important data needed is the target spacing. For this case study test, Metro's Designing Livable Streets and Trails Guide was referenced to establish a spacing target. Within the TV Highway subarea, there are regional and community boulevards and regional and community streets. For these design street classifications, crossings are recommended every 200 to 530 feet. As shown in Figure 28, there are many segments of TV Highway within the case study sub area that do not meet the preferred pedestrian spacing. Between SE 10th Avenue and SW Cedar Hills Boulevard, approximately 3.9 miles of TV Highway does not have pedestrian crossings, based on the available dataset and an average target spacing of 375 feet. That segment of the corridor is

approximately 8.2 miles long and therefore has a pedestrian crossing index of 52% (4.3 miles with pedestrian crossing meeting a target spacing of 375 feet).

Figure 28. Pedestrian Crossing Index – TV Highway Subarea



Policy Considerations

Achieving an LTS 2 on all arterials is too cost-prohibitive to be set as a standard. Some locations will not meet an LTS 2 unless speed limits or land use context change. Some locations already have facilities that would need to be reconstructed to meet an LTS 2 standard. For many cities in the region, the focus is first on creating a complete system, and LTS would create a very high standard that would not be feasible on many facilities. Standard bike lanes on a typical arterial achieves an LTS 3 which is not attractive to the "interested but concerned" potential bicyclists that applying LTS is intended to achieve.

A city is more likely to be able to create a low-stress network for a select few arterials and collectors in coordination with the local streets that help connect key destinations. This more focused approach would create options for active modes while considering the financial impacts of the planned system.

If pedestrian crossing index will be moved forward, Metro will need to put the crossing dataset in the RLIS work program.

In planning modal networks and identifying transportation projects that enhance the comfort and safety of the multi-modal network for all users, the following could be considered:

- Define the complete walking and biking networks that maximize access to destinations with low-stress routes and address disparities in EFAs.

- Identify locations where lack of safe crossings is limiting access to destinations for people walking, biking and riding transit. Set spacing targets for each facility based on the changing land use context.
- Identify high priority locations for additional or enhanced crossings that connect low-stress walking and biking routes and provide access to transit or that are in high-crash locations.

System Completion

System completion is the percent of planned facilities that are built within a specified network or on a specified corridor/roadway segment.

System completion is a multimodal measure that supports equity, access, efficiency, safety, and options outcomes. The project team wanted to explore the following questions for this measure, as summarized in the following sections:

- How can system completion be applied to system planning?
- How can system completion be applied to plan amendments for developed and undeveloped areas?

How can system completion be applied to system planning?

For system planning, system completion may be incorporated in two ways.

- **Establishing the planned system:** An outcome of system planning is creating a vision for the transportation system, most often split by mode or service. These planned networks become the base for the system completion calculation. Once there is a planned regional or local network established through system planning, future plan amendments, developments, and projects can determine whether they are helping further the completion of the planned system.
- **Comparing alternatives:** Once the overall planned system is envisioned, many agencies find that it is unlikely to acquire the funding to fill all the gaps in the system. Determining the system completion of a fiscally constrained system can show the need for additional funding for completing the multi-modal networks.

Regional System Planning

There are many examples of system completion being established or used in Metro region-wide planning projects. The 2010 Metro TSMO Strategic Plan is an example for establishing a planned system. Exhibit 12 shows the existing and planned fiber optic network for transportation data communications. Another TSMO example is shown in Exhibit 13, which highlights planned and built TSMO corridor strategies.

When the plan is established, the denominator for a system completion analysis is set. The target is then to increase the system completion for the relevant systems. TSMO infrastructure/services may not be a relevant system for every RTP throughway and arterial, similar to how constructing sidewalks may not be relevant on the freeway system.

Exhibit 12. Existing and Planned Regional Fiber Communication Infrastructure

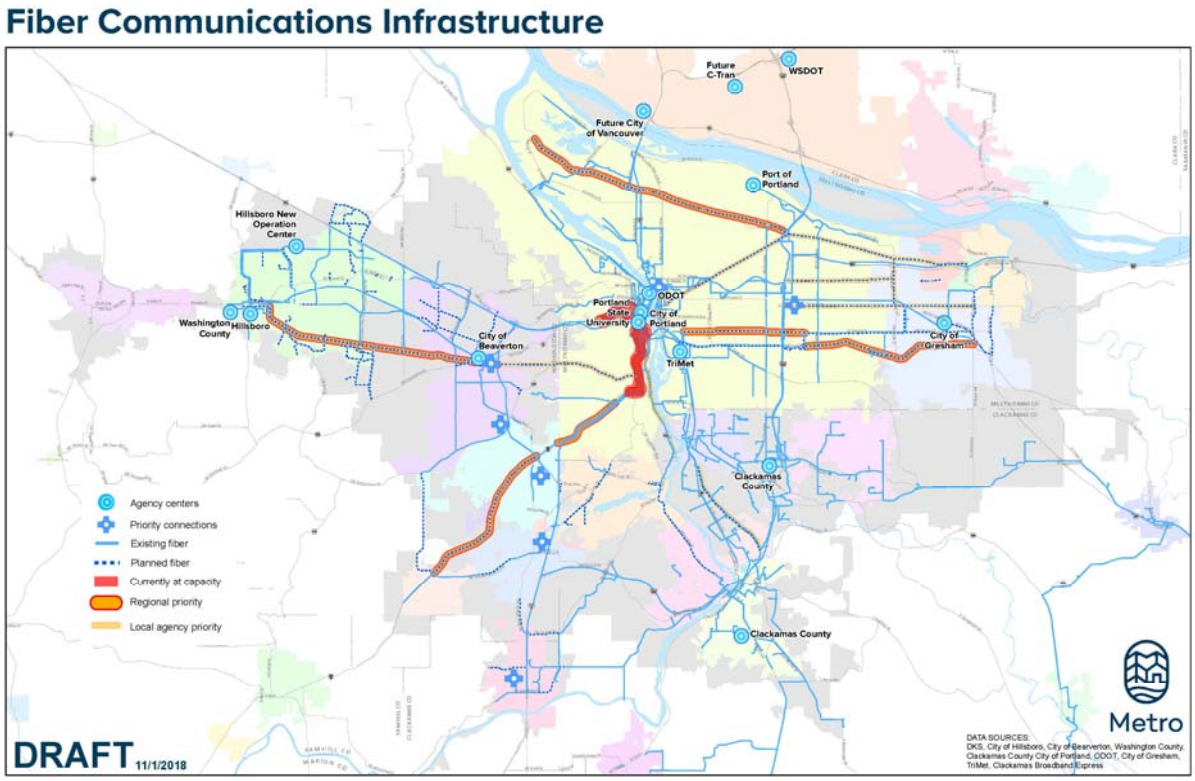
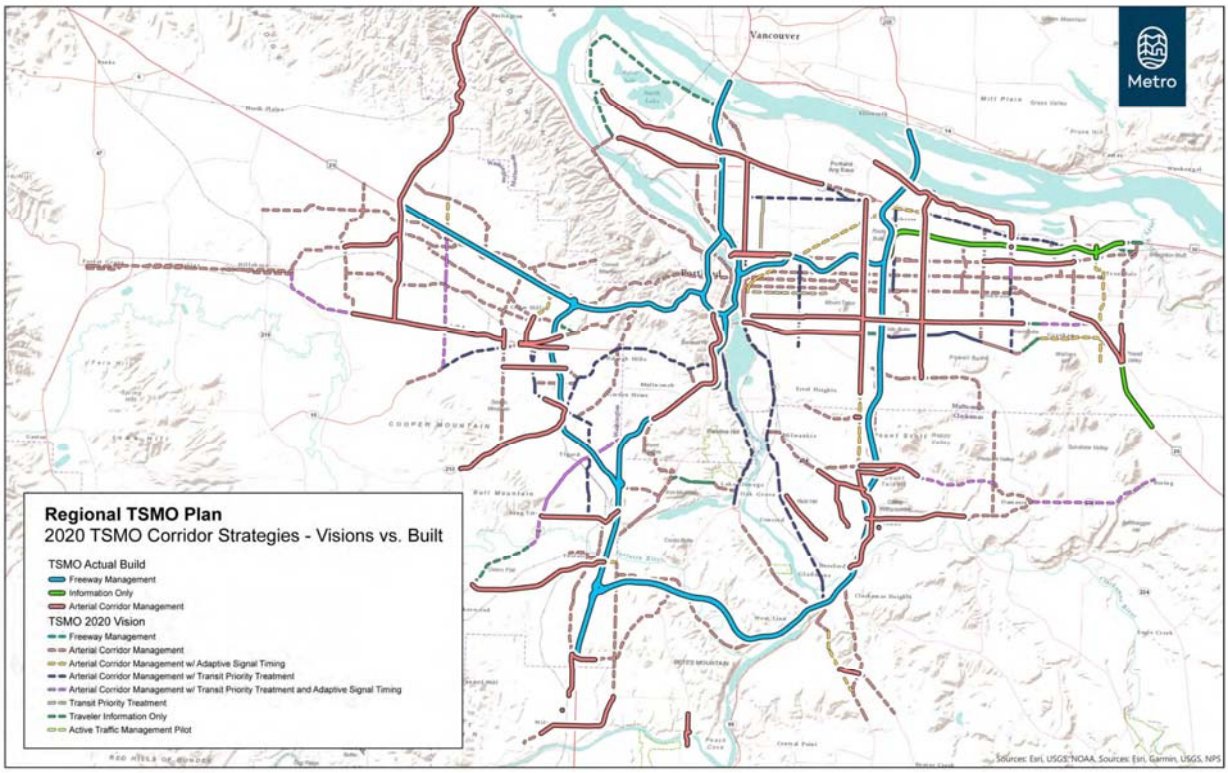


Exhibit 13. Existing and Planned Regional Fiber Communication Infrastructure



Metro's 2018 RTP is also a good example of system completion when conducting regional system planning. For the transit network, the 2018 RTP used a geospatial analysis to determine how much of the planned regional pedestrian, bike, and trail networks are completed within a walking distance to transit. Walking distance to transit was defined as:

- Within ½-mile from light rail stops
- Within 1/3-mile from streetcar stops, and
- Within ¼-mile from bus stops for existing and planned stops.

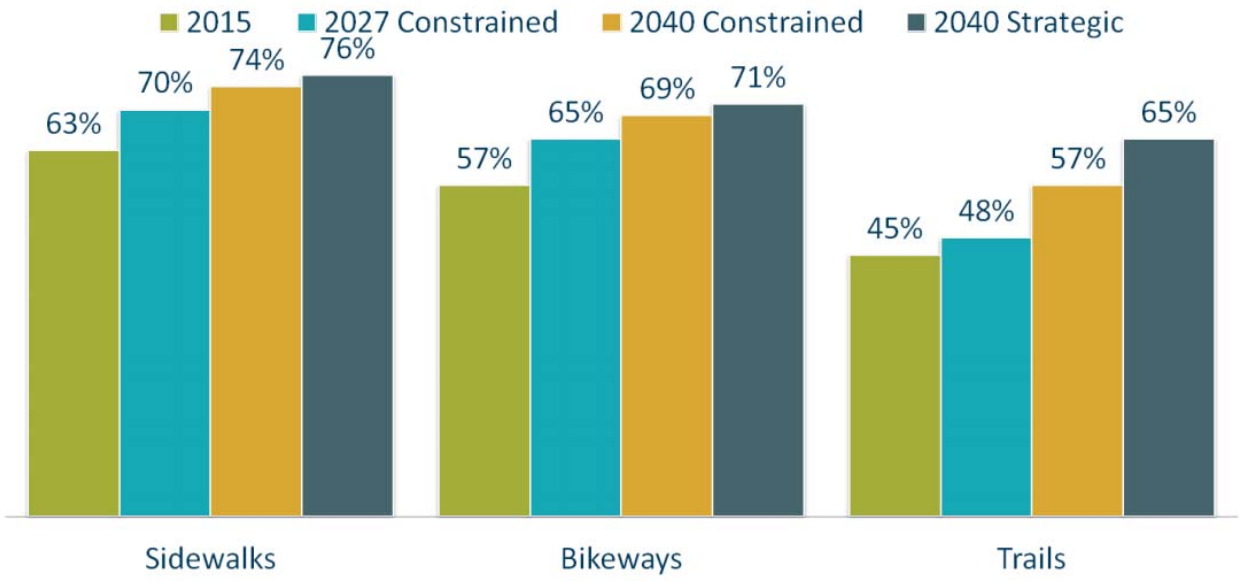
System completeness is a system evaluation measure in Chapter 7 of the 2018 RTP and was used to compare several system alternatives, including two 2040 systems with different funding assumptions. A target was set of one hundred percent completion of the Regional Pedestrian and Bicycle Networks, including within walking distance to transit, by 2040. As shown in Exhibit 14, the 2040 constrained scenario does not reach this target, although greater progress is made to compete the networks near transit compared to region-wide completion. As shown in Table 7, system completeness can very easily look at EFAs because it is a geospatial analysis. For all completeness values except trail completeness in the 2018 RTP, equity focus areas are forecast to see a larger percent completeness compared to the overall network.

Table 7. Sidewalk, Bikeway, and Trail Completeness Near Transit, Region-wide and within Equity Focus Areas

Completeness Measures	2015 Base	2040 No Build	2040 Constrained
Percent of sidewalks completed near transit	63%	63%	74%
Percent of sidewalks completed near transit within equity focus areas	73%	73%	83%
Percent of bikeways completed near transit	57%	57%	69%
Percent of bikeways completed near transit within equity focus areas	59%	59%	72%
Percent trails completed near transit	45%	45%	57%
Percent trails completed near transit within equity focus areas	44%	44%	56%

Source: Data extracted from 2018 RTP Table 7.16

Exhibit 14. Sidewalk, Bikeway, and Trail Completeness Near Transit



Source: 2018 RTP Figure 7.11

Local System Planning

Similar to regional system planning, local system plans (such as TSPs) can establish the planned system to then be used as part of analyzing system completion of future plan amendments or projects. When the plan is established, the denominator for a system completion analysis is set. The target is then to increase the system completion for the relevant systems. Every street should be planned for all modes, with some exceptions based on context and classifications. As an example, Exhibits 15 and 16 show the existing and planned pedestrian system for the Oregon City TSP. In addition to setting the planned pedestrian system for the future, these figures can be used to determine system completion and planned system completion of the RTP pedestrian system. For example, South End Road is an RTP regional pedestrian corridor but the segment from S 2nd Street to Barker Avenue does not have sidewalks and is not planned for a pedestrian project in the Oregon City TSP. This segment is very narrow with steep grade on either sides of the roadway, which is likely part of the reasoning that pedestrian facilities were not included in the TSP.

Exhibit 15. Oregon City TSP – Existing Pedestrian Facilities

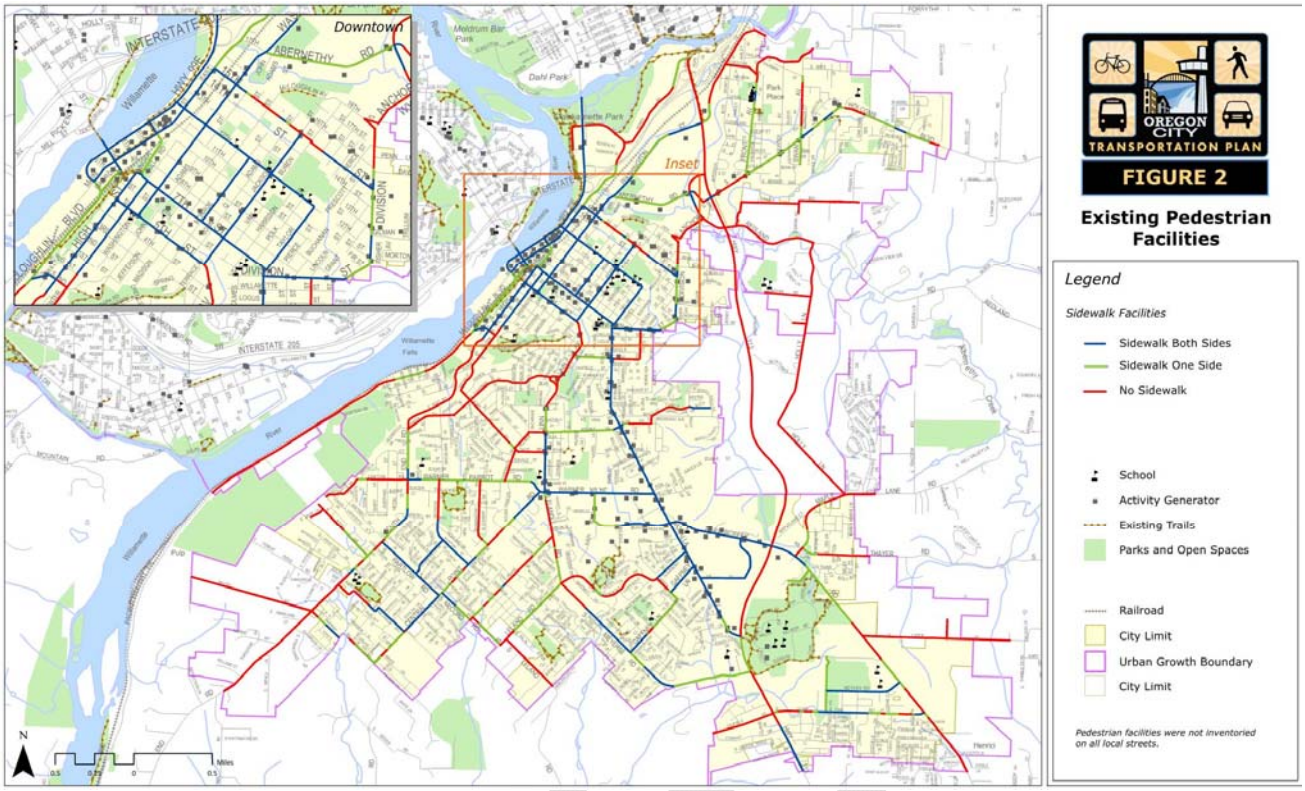
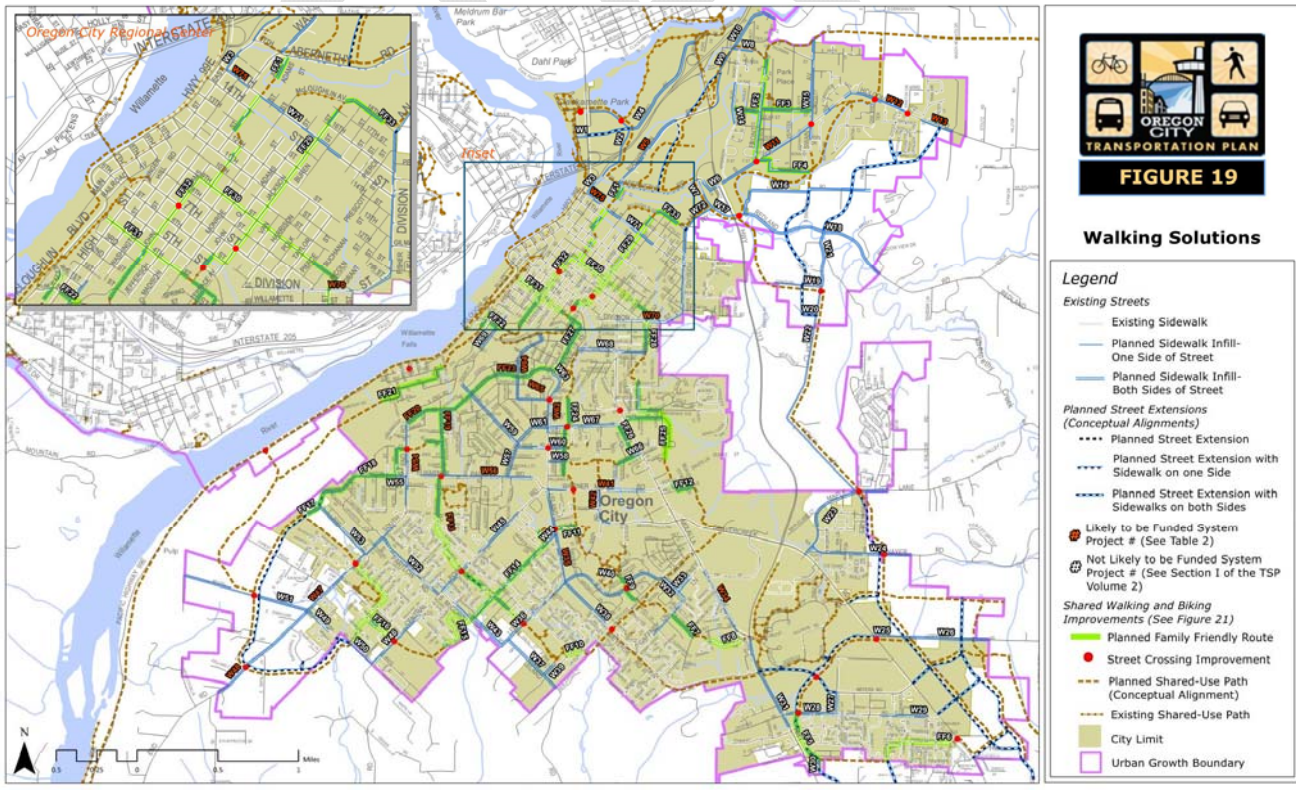


Exhibit 16. Oregon City TSP – Walking Solutions



How can system completion be applied to plan amendments for developed and undeveloped areas?

The definition of complete will vary based on the modal functional classification and design classification and can be refined by facility in system plans. Identify the desired network and projects that will result in better access to more destinations via each mode. The planned networks should ensure that each mode is an accessible option throughout the plan area.

- Where congestion measure targets cannot be met due to financial or right-of-way constraints or land use or multi-modal context (would increase VMT/capita), identify the number of through lanes and turn lanes or merge lanes (if applicable) that will be considered the maximum cross-section within the planning horizon and identify strategies such as demand management, congestion pricing, complete non-auto modal networks, and land use strategies to ensure access and mobility in the area.
- Where land use changes will increase the VMT/capita, the assessment should focus on whether the amendment changes what the definition of the complete system in the area should include. The localized impacts of increased VMT to the study area should largely be addressed during the development review process and applying the local jurisdictions development standards rather than during the plan amendment.

Once a planned system is set, a plan amendment can either show progress in system completion for relevant facility types or establish a change in the planned system due to new roadways or facilities. For those plan amendments that are building new facilities, modifications for the planned system will be established to allow for future monitoring.

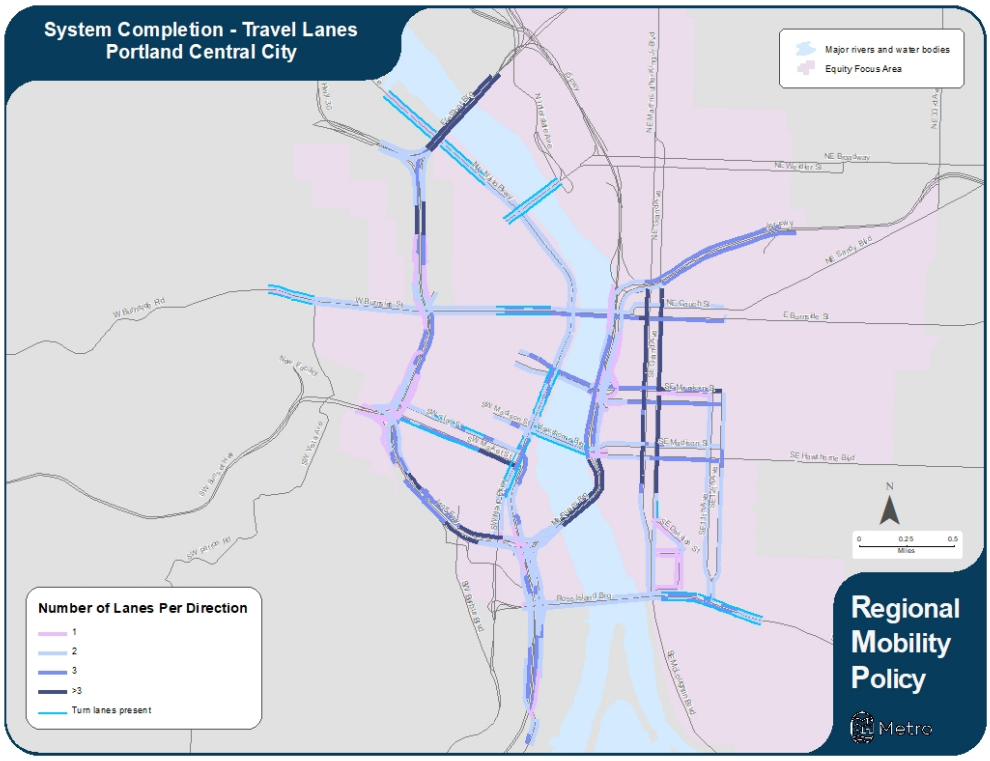
Developed Areas

The Portland Central City MMA is an example of a developed area within the Metro region. In this area, a complete system for walking, biking and accessing transit shall be prioritized over meeting congestion targets (such as in the central city, regional centers, station communities, corridors, town centers, and main streets) if the number of through lanes meet or exceed those in the regional design policy. For the Portland Central City, the following regional design classifications (and the related through lane range) are present:

- Freeways and highways – six lanes plus auxiliary lanes in some places
- Regional and community boulevards – two to four lanes with turn lanes for minor arterials and up to four lanes with turn lanes for major arterials
- Regional and community streets – two to four lanes with turn lanes for minor arterials and up to four lanes with turn lanes for major arterials

As shown in Figure 29, the majority of the roadways in this subarea are already built out based on these definitions. For example, Burnside Street is a regional boulevard and major arterial. With these designations, Burnside Street is planned for and already built with up to four lanes with turn lanes. With this in mind, a plan amendment that incorporates this segment of Burnside Street would need to explore other system completion options (like transit, bike, or pedestrian networks) to maintain mobility.

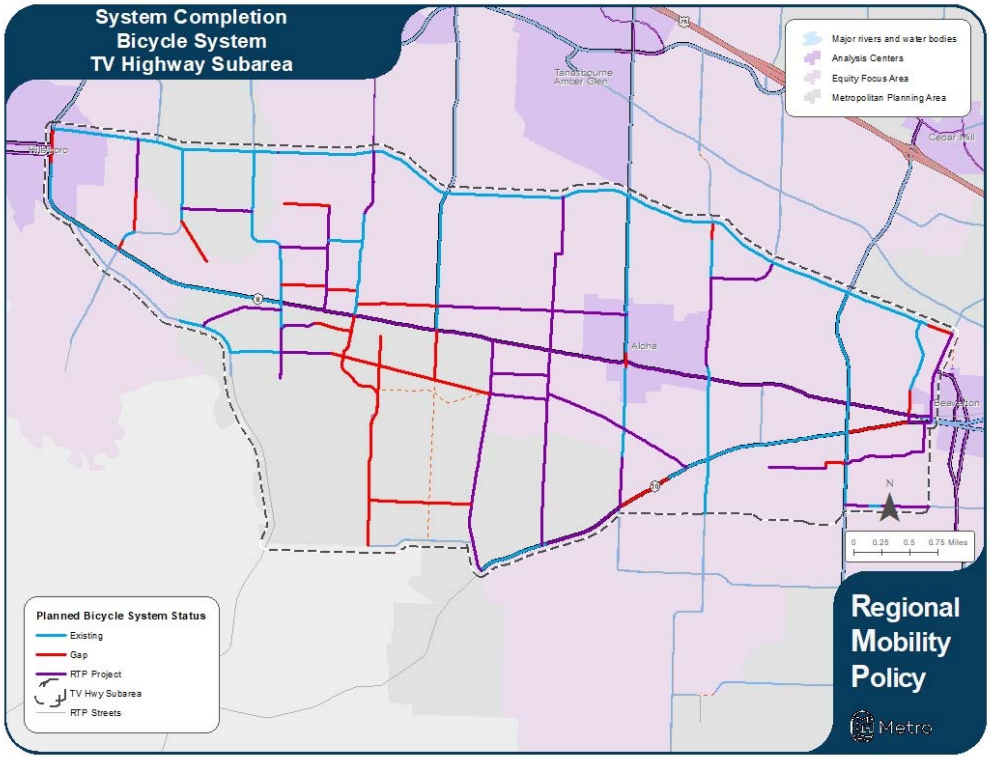
Figure 29. System Completion Portland Central City – Travel Lanes



Undeveloped Areas

South Hillsboro is an example subarea that was planned in an undeveloped location. For plan amendments in these types of locations, the amendment should consider if it changes what the definition of the complete system in the area should include. As shown in Figure 30, two new major connections are planned through the South Hillsboro plan amendment, connecting SE Davis Road and SW Rosedale Road and connecting SW River Road and SW 229th Avenue. Prior to this plan amendment, a bicycle system completion of 83% was planned for this subarea through existing infrastructure and RTP projects ((141,168 feet of existing infrastructure + 150,949 feet of planned RTP projects) / 352,289 total feet of roadway in the subarea). If the new roadway segments (13,268 feet) are included as gaps in the planned system, the new planned system completion is 80%. If the new roadway segments are included as planned projects, the new planned system completion is 84%.

Figure 30. System Completion TV Highway Subarea – Bicycle System



Policy Considerations

Considerations:

- Developed areas within the Metro area have established roadway patterns and meeting motor vehicle connectivity objectives will largely be achieved through concept planning and implementation for urbanizing areas. In contrast, gaps in pedestrian and bicycle systems are prevalent around the region. In many areas, the absence of bikeways and pedestrian facilities is a vestige of past planning and funding that prioritized vehicular mobility, as well as a lack of recognition regarding the need and desire for ways other than the auto to reach key destinations. Land uses have also changed as the region has grown, with established centers accommodating a greater intensity of uses and absorbing the new residents and jobs coming to this area. Opportunities for completing systems, and the pedestrian and bicycle networks in particular, not only improve the conditions for travelers, but also provide ways to support changing land use and travel preferences. Walking and biking become more attractive as the distance between home and destinations shorten; transit can be more cost-effective and frequent the more potential riders (residents and employees) there are in the vicinity of a transit stop.
- System completion is a measure that is used differently for different applications (i.e. system planning versus plan amendments). These differences are discussed above, and it will be important to emphasize the need for system planning to establish the planned system to set the denominator for system completion analysis.

    - Will the RTP become the planned system for throughways and arterials within the Metro region or will the local agency TSPs be the planned system used for completeness analysis?
- Metro and local agencies will set the planned system through planning modal and service networks. There are many networks that can be established and will need to be specifically called out in the mobility policy if system completion is included. Some or all of the following could be included:
    - Pedestrian, which could include planned crossings based on pedestrian crossing index
    - Bicycle, which could include a low-stress network based on bicycle LTS
    - Transit
    - Vehicle, which could build off of RTP policies in chapter 3 such as street connectivity/spacing and maximum number of through lanes
    - TSMO
    - TDM
- The planned TSMO system will likely be established through Metro's ongoing TSMO Strategy project. For example, there is a proposed performance measure for percent of signals on identified routes that have communications.
- The policy language should be very clear about which measures and associated targets apply to throughways (regardless of land use context) versus arterials (based on land use context).
- Every RTP street should be planned for all modes, with some exceptions based on context and classifications. The TSP process would determine what complete looks like for each street. For example, there will be locations where meeting a congestion target should not be done at expense of walking and biking facilities in any area or vice versa.

Are the measures useful and practical in planning?

System completion can be applied to any roadway (throughways and arterials) or transportation facilities or services. When the plan is established, the denominator for a system completion analysis is set. The target is then to increase the system completion for the relevant systems. The vital aspect during the planning process is determining which networks (pedestrian, bicycle, TSMO, etc.) are relevant to each facility or subarea.

Are the measures sensitive enough to use for plan amendments?

System completion is useful for transportation system plan amendments as long as there is a planned system already in place. Once a planned system is set, a plan amendment can either show progress in system completion for relevant facility types or establish a change in the planned system due to new roadways or facilities. For those plan amendments that are building new facilities, modifications for the planned system will be established to allow for future monitoring. Comprehensive plan amendments do not inherently impact system completeness but could be assessed to see if the financially constrained system is adequate to accommodate the change.

Memo

Oregon Department of Transportation

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

Date: January 20, 2022

To: Kim Ellis, Metro, and Lidwien Rahman, ODOT

From: Susan Wright, PE, Kittelson & Associates, Inc.
Darci Rudzinski, Angelo Planning Group

Project: Regional Mobility Policy Update

Subject: Task 8.1: "Discussion Draft" Mobility Policy Report

Introduction

Metro and the Oregon Department of Transportation (ODOT) are working together to update the regional mobility policy and related mobility measures for the Portland metropolitan area. The mobility policy guides the development of regional and local transportation plans and studies, and the evaluation of potential impacts of plan amendments and zoning changes on the transportation system. The goal of this update is to better align the policy and measures with shared regional values, goals, and desired outcomes identified in Metro's Regional Transportation Plan (RTP) and 2040 Growth Concept as well as with local and state goals, and define expectations about mobility by travel mode, land use context, and roadway functional classification. The updated policy will describe the region's desired mobility outcomes and more robustly and explicitly define mobility for transportation system users in the Portland area.

This document builds upon the draft mobility definition and foundational elements integral to achieving the region's desired mobility outcomes, and presents a "Discussion Draft" mobility policy with options and recommendations for policymakers and stakeholders related to how the performance measure case study findings should influence the policy. The performance measure case studies are documented in Case Study Analysis Memorandum and summarized in the attached document which should be referenced when considering the policy options.

Goal

The following draft policies are intended to help achieve a vision of mobility where *people and businesses can safely, affordably, and efficiently reach the goods, services, places, and opportunities they need to thrive by a variety of seamless and well-connected travel options and services that are welcoming, convenient, comfortable, and reliable.*

Desired Outcomes

The following mobility outcomes were identified by stakeholders as critical to how we plan for, manage, and operate our transportation system. They were crafted to achieve the above mobility goal in alignment with ODOT and Metro strategic goals and priorities.

- **Equity** – Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.
- **Access** – People and businesses can conveniently and affordably reach the goods, services, places, and opportunities they need to thrive.

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- **Efficiency** – Land use and transportation decisions and investments contribute to more efficient use of the transportation system meaning that trips are shorter and can be completed by more travel modes, reducing space and resources dedicated to transportation.
- **Reliability** – People and businesses can count on the transportation system to travel where they need to go reliably and in a reasonable amount of time.
- **Safety** – People are able to travel safely and comfortably, and feel welcome.
- **Options** – People and businesses can choose from a variety of seamless and well-connected travel modes and services that easily get them where they need to go.

Discussion Draft Regional Mobility Policy

The following includes the proposed policies along with options and recommendations for how they could be implemented. The basis for these recommendations is included in the Case Study Analysis Memorandum.

Policy 1 Ensure that the public's investment in the transportation system enhances efficiency in how people and goods travel to where they need to go.

Recommended Measure:

-VMT/Capita

Efficiency in this context means that transportation requires less space and resources. Efficiency can be improved by shortening travel distances between destinations. Shorter travel distances to destinations enhances the viability of using other and more efficient modes of transportation than the automobile and preserves roadway capacity for transit, freight and goods movement by truck and longer trips. Efficiently using land, and planning for key destinations in proximity to the end users, contributes to shorter trip lengths.

As demonstrated in the case studies, the transportation efficiency of existing and proposed land use patterns and transportation systems can be measured by looking at "vehicle miles traveled (VMT) per capita" of an area.

The following describes how these could be implemented in the policy. The options could be considered individually or in combination.

Measurement Options

- **Option A1**: Incorporate vmt/capita reduction targets into the policy to ensure that land use decisions and transportation system plans[1] support efficient transportation systems and reduced travel demand.
    - A1.1: Apply to comprehensive plans and TSPs at the regional and local jurisdiction level. (Feasible per case studies)
    - A1.2: Apply to sub-area plans (larger-scale comprehensive plan amendments). (Feasible per case studies)

[1] TSPs and comprehensive plans collectively can achieve reduced vmt/capita; however, the contributions of individual projects are challenging to measure and when considered individually or in a localized area may increase vmt/capita.

- A1.3: Apply to all plan amendments (including smaller-scale or individual property amendments) (Case studies indicate the need to use this measure with caution at smaller scales as the proposed land use change could result in higher vmt/capita for the parcel while still contributing lower vmt/capita for the jurisdiction if it's below the jurisdiction's average indicating it would provide for increased development in an area that is more efficient than other areas. In addition, the measure is not sensitive to small transportation changes and will show increased vmt/capita if trying to isolate individual capacity increasing projects that may be needed to support efficient development.)

Policy 2 Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, increase choices and access to low carbon transportation options so that people and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.

Viability of trips made by modes other than automobile can be increased by investing in a connected, multimodal transportation system. Multimodal systems serve all people, not just those that have access to vehicles or the ability to drive them, and provide more route choices, increase safety and efficiency, and reduce congestion.

Potential Measures:

-Access to Destinations

-System Completeness *(recommended)*

Closing gaps in networks, particularly pedestrian and bicycle networks, can change land use and travel preferences, reducing vmt/capita. Progress towards well connected, multimodal networks can be measured by mode with the "system completeness" or "access to destinations" measures.

"Access to destinations" is useful for identifying areas where there are disparities in access to destinations between different modes due to gaps and deficiencies in the transportation network as well as where increases in different types of land uses would increase people's access to destinations. It can also be compared for Equity Focus Areas and non-Equity Focus Areas.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Measurement Options

- **Option 2A:** Incorporate "system completeness" targets into the policy to identify needs and ensure that the planned transportation system is increasing in connectivity and safety of the multimodal network. The definition of complete will vary based on the modal functional classification and design classification and can be refined by facility in system plans. (Case studies support system completeness for all levels of planning)

- **Option 2B**: Incorporate "access to destinations" metrics into the policy to identify disparities in access to destinations across modes and identify transportation and land use strategies to increase access to destinations. (Case studies indicate this is challenging other than at the system planning level)

  - 2B. 1: Apply at the regional level. (Feasible per case studies)

- 2B.2: Apply to local jurisdiction and sub-area plans (TSPs and larger-scale comprehensive plan amendments). (Challenging per case studies based on available tools and level of staff time required)
- 2B.3: Apply to small plan amendments (individual property amendments) (Challenging to apply to a small zone change as it's dependent upon the specific land use which can be uncertain during the zone change)

Policy 3 Create a reliable transportation system, one that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.

In a reliable transportation system, all users, including people in automobiles and using transit, can reasonably predict travel time to their destinations. Reliability is impacted by travel conditions, safety, street connectivity, congestion and availability of travel options. Investments in safety, street connectivity, transit, operations management, and demand management could yield the greatest benefits reducing congestion and increasing reliability for vehicle modes.

Potential Measures:

-V/C Ratio

-Travel Speed *(recommended)*

-Off-Ramp Queues *(recommended)*

-Hours of Congestion *(potential component)*

For Throughways, the essential function is throughput and mobility for motor vehicle travel. Throughways serve interregional and interstate trips and travel times are an important factor in people and businesses being able to make long-distance trips to and through the region and access destinations of statewide significance in a reasonable and reliable amount of time.

For most Arterials, depending upon the design classification and freight network classification, the essential function is transit, bicycle and pedestrian travel and access or permeability while balancing motor-vehicle travel and the many other functions of intensely developed areas. On Arterials, reducing congestion through additional roadway capacity should not come at the expense of non-motorized modes and achieving system completeness consistent with modal or design classification or achieving the VMT/capita target for the jurisdiction.

Congestion can be measured in many ways. The measures evaluation process resulted in the case studies focusing on "v/c ratio" and "travel speed" to measure congestion and also looked at "hours of congestion" as a potential metric.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Measurement options

- **Option 3A:** Incorporate congestion targets into the mobility policy for throughways. Note all options for throughways would include a target for off-ramp queues to minimize queue spillback into through lanes.
  - 3A.1: Base the congestion targets on link v/c ratio (current metric)
  - 3A.2: Base the congestion targets on travel speed (supported by the case studies) (Shows very similar locations and levels of congestion depending on the threshold compared to v/c, but is more relatable to the public for policy discussions, is

consistent with how systems are managed, and switches to a target that cannot be inappropriately applied at the intersection level.)

  - 3A.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (case studies indicate HOC can be applied effectively with either v/c or travel speed and can be used to look at the severity of congested areas and help prioritize bottleneck improvements and could be part of the target but it would only be sensitive to change at the system planning level or major changes in roadway pricing or capacity)

- **Option 3B:** Include link level congestion targets in the mobility policy for all arterials to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.
  - 3B.1: Base the congestion targets on link v/c ratio (supported by the case studies)
  - 3B.2: Base the congestion targets on travel speed (supported by the case studies) (Note arterials need lower targets than throughways as a percentage of posted or free flow speed given the presence of traffic signals and signal delay even in uncongested time periods results in average speeds below posted or free flow speed))
  - 3B.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (See 3a.3 case study findings)
- **Option 3C:** Include link level congestion targets in the mobility policy for arterials outside of 2040 centers, station communities and main streets to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.
  - 3C.1: Base the congestion targets on link v/c ratio (supported by the case studies)
  - 3C.2: Base the congestion targets on travel speed (supported by the case studies)
  - 3C.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (See 3a.3 case study findings)
- **Option 3D:** Do not include congestion targets in the mobility policy for arterials (congestion metrics can be used as diagnostic tools to support system planning). Could make exceptions for enhanced transit or high-capacity transit corridors and regional freight network routes.

Policy 4 **Prioritize the safety and comfort of travelers in all modes when planning and implementing mobility solutions.**

Unsafe travel ways can result in injury and loss of life, and place a strain on emergency responders. Both unsafe conditions and perceived unsafe conditions can impact travel behavior, causing users to choose different routes or modes. Prioritizing investments that reduce the likelihood of future crashes and that improve safety and comfort for all users will increase mode choices and improve reliability. System completeness, queuing, pedestrian crossing index, and bicycle level of traffic stress measures are all metric that are useful in identifying needs and investments that could enhance safety and comfort.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Potential Measures:

-System Completeness *(recommended)*

-Queuing *(recommended)*

-Pedestrian Crossing Index

-Bicycle Level of Traffic Stress

Measurement options

- **Option 4A:** Incorporate "system completeness" target into the mobility policy to ensure safety and comfort for all modes. (Metric can be used to identify needs but the definition of "complete" would also be defined through system planning to define the future number of through lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM plan elements)
- **Option 4B:** Incorporate "queuing" target into the mobility policy for Throughway ramp terminals to minimize queues spilling onto the Throughway creating safety issues.
- **Option 4C:** Incorporate "pedestrian crossing index" metric into the mobility policy to identify needs and inform facility level planning. (Setting target through the RMP not recommended but recommended that system and facility plans establish targets for each facility based on Livable Streets Guide and adjusting for local context.)
- **Option 4D:** Incorporate "bicycle level of traffic stress" metric into the mobility policy to identify needs and inform facility level planning. (Setting target not recommended but recommended that system plans identify the future low-stress bicycle networks and that be incorporated into the system completeness metric)

Policy 5 **Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.**

BIPOC and other marginalized communities have often experienced disproportionately negative impacts from transportation infrastructure as well as disparities in access to safe multimodal travel options. Addressing these disparities is a priority.

The regional transportation system should support access to opportunities for everyone, not just people in motor vehicles. Equity can be enhanced through providing strong multimodal networks with priority provided to historically marginalized and underserved communities.

The following describes how this could be implemented in the policy.

Measurement options

Potential Measures:

Compare EFA vs. Non-EFA Areas

-Access to Destinations (*recommended if included in the policy)*

-System Completeness *(recommended if included in the policy)*

- **Option 5A**: Include targets for reducing disparities between "Equity Focus Areas" and "Non-Equity Focus Areas". This would result in identification of needed investments to address disparities and prioritization of these investments.

Measurement Options Summary

The measurement options included above identify where the performance measures tested through the case studies could be incorporated into the policy and identifies preliminary recommendations for further policymaker and stakeholder discussion. In summary, three measures are recommended to be incorporated into the policy to encompass overall system efficiency, equitable and complete multi-modal networks of safe and comfortable facilities, and reliability as summarized below in Table 1.

Table 1: Preliminary Mobility Policy Performance Measure Recommendations

Measure	Scale for Application	Purpose
VMT/Capita	Plan Area	Measured for the plan area to ensure that land use and transportation plan changes are working in tandem to achieve VMT/capita reduction targets and resulting in: • reduced need to drive • improved viability of using other and more efficient modes of transportation than the automobile and • preserving roadway capacity for transit, freight and goods movement.
System Completeness	Plan Area and Equity Focus Areas	Used to identify needs. Definition of "complete" would be defined through system planning to define network connectivity, the future number of through lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM elements.
Travel Speed	Facility level for throughways and arterials (could exclude 2040 centers or all urban area)	To assess vehicle congestion as one of the major factors impacting travel reliability. On Arterials, reducing motor vehicle congestion through additional roadway capacity should follow the region's congestion management process and OHP Policy 1G on ODOT roadways but should not come at the expense of non-motorized modes and achieving system completeness consistent with regional modal or design classifications or achieving the VMT/capita target for the jurisdiction

Memo

Oregon Department of Transportation

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

Date: January 20, 2022

To: Kim Ellis, Metro, and Lidwien Rahman, ODOT

From: Susan Wright, PE, Kittelson & Associates, Inc.
Darci Rudzinski, Angelo Planning Group

Project: Regional Mobility Policy Update

Subject: Task 8.1: "Discussion Draft" Mobility Policy Report

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This document builds upon the draft mobility definition and foundational elements integral to achieving the region's desired mobility outcomes, and presents a "Discussion Draft" mobility policy with options and recommendations for policymakers and stakeholders related to how the performance measure case study findings should influence the policy. The performance measure case studies are documented in Case Study Analysis Memorandum and summarized in the attached document which should be referenced when considering the policy options.

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The following draft policies are intended to help achieve a vision of mobility where *people and businesses can safely, affordably, and efficiently reach the goods, services, places, and opportunities they need to thrive by a variety of seamless and well-connected travel options and services that are welcoming, convenient, comfortable, and reliable.*

Desired Outcomes

The following mobility outcomes were identified by stakeholders as critical to how we plan for, manage, and operate our transportation system. They were crafted to achieve the above mobility goal in alignment with ODOT and Metro strategic goals and priorities.

- **Equity** – Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.
- **Access** – People and businesses can conveniently and affordably reach the goods, services, places, and opportunities they need to thrive.

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- **Efficiency** – Land use and transportation decisions and investments contribute to more efficient use of the transportation system meaning that trips are shorter and can be completed by more travel modes, reducing space and resources dedicated to transportation.
- **Reliability** – People and businesses can count on the transportation system to travel where they need to go reliably and in a reasonable amount of time.
- **Safety** – People are able to travel safely and comfortably, and feel welcome.
- **Options** – People and businesses can choose from a variety of seamless and well-connected travel modes and services that easily get them where they need to go.

Discussion Draft Regional Mobility Policy

The following includes the proposed policies along with options and recommendations for how they could be implemented. The basis for these recommendations is included in the Case Study Analysis Memorandum.

Policy 1 Ensure that the public's investment in the transportation system enhances efficiency in how people and goods travel to where they need to go.

Recommended Measure:

-VMT/Capita

Efficiency in this context means that transportation requires less space and resources. Efficiency can be improved by shortening travel distances between destinations. Shorter travel distances to destinations enhances the viability of using other and more efficient modes of transportation than the automobile and preserves roadway capacity for transit, freight and goods movement by truck and longer trips. Efficiently using land, and planning for key destinations in proximity to the end users, contributes to shorter trip lengths.

As demonstrated in the case studies, the transportation efficiency of existing and proposed land use patterns and transportation systems can be measured by looking at "vehicle miles traveled (VMT) per capita" of an area.

The following describes how these could be implemented in the policy. The options could be considered individually or in combination.

Measurement Options

- **Option A1**: Incorporate vmt/capita reduction targets into the policy to ensure that land use decisions and transportation system plans[1] support efficient transportation systems and reduced travel demand.
    - A1.1: Apply to comprehensive plans and TSPs at the regional and local jurisdiction level. (Feasible per case studies)
    - A1.2: Apply to sub-area plans (larger-scale comprehensive plan amendments). (Feasible per case studies)

[1] TSPs and comprehensive plans collectively can achieve reduced vmt/capita; however, the contributions of individual projects are challenging to measure and when considered individually or in a localized area may increase vmt/capita.

- A1.3: Apply to all plan amendments (including smaller-scale or individual property amendments) (Case studies indicate the need to use this measure with caution at smaller scales as the proposed land use change could result in higher vmt/capita for the parcel while still contributing lower vmt/capita for the jurisdiction if it's below the jurisdiction's average indicating it would provide for increased development in an area that is more efficient than other areas. In addition, the measure is not sensitive to small transportation changes and will show increased vmt/capita if trying to isolate individual capacity increasing projects that may be needed to support efficient development.)

Policy 2 Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, increase choices and access to low carbon transportation options so that people and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.

Viability of trips made by modes other than automobile can be increased by investing in a connected, multimodal transportation system. Multimodal systems serve all people, not just those that have access to vehicles or the ability to drive them, and provide more route choices, increase safety and efficiency, and reduce congestion.

Potential Measures:

-Access to Destinations

-System Completeness *(recommended)*

Closing gaps in networks, particularly pedestrian and bicycle networks, can change land use and travel preferences, reducing vmt/capita. Progress towards well connected, multimodal networks can be measured by mode with the "system completeness" or "access to destinations" measures.

"Access to destinations" is useful for identifying areas where there are disparities in access to destinations between different modes due to gaps and deficiencies in the transportation network as well as where increases in different types of land uses would increase people's access to destinations. It can also be compared for Equity Focus Areas and non-Equity Focus Areas.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Measurement Options

- **Option 2A:** Incorporate "system completeness" targets into the policy to identify needs and ensure that the planned transportation system is increasing in connectivity and safety of the multimodal network. The definition of complete will vary based on the modal functional classification and design classification and can be refined by facility in system plans. (Case studies support system completeness for all levels of planning)

- **Option 2B**: Incorporate "access to destinations" metrics into the policy to identify disparities in access to destinations across modes and identify transportation and land use strategies to increase access to destinations. (Case studies indicate this is challenging other than at the system planning level)

  - 2B. 1: Apply at the regional level. (Feasible per case studies)

- 2B.2: Apply to local jurisdiction and sub-area plans (TSPs and larger-scale comprehensive plan amendments). (Challenging per case studies based on available tools and level of staff time required)
- 2B.3: Apply to small plan amendments (individual property amendments) (Challenging to apply to a small zone change as it's dependent upon the specific land use which can be uncertain during the zone change)

Policy 3 Create a reliable transportation system, one that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.

In a reliable transportation system, all users, including people in automobiles and using transit, can reasonably predict travel time to their destinations. Reliability is impacted by travel conditions, safety, street connectivity, congestion and availability of travel options. Investments in safety, street connectivity, transit, operations management, and demand management could yield the greatest benefits reducing congestion and increasing reliability for vehicle modes.

Potential Measures:

-V/C Ratio

-Travel Speed *(recommended)*

-Off-Ramp Queues *(recommended)*

-Hours of Congestion *(potential component)*

For Throughways, the essential function is throughput and mobility for motor vehicle travel. Throughways serve interregional and interstate trips and travel times are an important factor in people and businesses being able to make long-distance trips to and through the region and access destinations of statewide significance in a reasonable and reliable amount of time.

For most Arterials, depending upon the design classification and freight network classification, the essential function is transit, bicycle and pedestrian travel and access or permeability while balancing motor-vehicle travel and the many other functions of intensely developed areas. On Arterials, reducing congestion through additional roadway capacity should not come at the expense of non-motorized modes and achieving system completeness consistent with modal or design classification or achieving the VMT/capita target for the jurisdiction.

Congestion can be measured in many ways. The measures evaluation process resulted in the case studies focusing on "v/c ratio" and "travel speed" to measure congestion and also looked at "hours of congestion" as a potential metric.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Measurement options

- **Option 3A:** Incorporate congestion targets into the mobility policy for throughways. Note all options for throughways would include a target for off-ramp queues to minimize queue spillback into through lanes.
  - 3A.1: Base the congestion targets on link v/c ratio (current metric)
  - 3A.2: Base the congestion targets on travel speed (supported by the case studies) (Shows very similar locations and levels of congestion depending on the threshold compared to v/c, but is more relatable to the public for policy discussions, is

consistent with how systems are managed, and switches to a target that cannot be inappropriately applied at the intersection level.)

  - 3A.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (case studies indicate HOC can be applied effectively with either v/c or travel speed and can be used to look at the severity of congested areas and help prioritize bottleneck improvements and could be part of the target but it would only be sensitive to change at the system planning level or major changes in roadway pricing or capacity)

- **Option 3B:** Include link level congestion targets in the mobility policy for all arterials to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.
  - 3B.1: Base the congestion targets on link v/c ratio (supported by the case studies)
  - 3B.2: Base the congestion targets on travel speed (supported by the case studies) (Note arterials need lower targets than throughways as a percentage of posted or free flow speed given the presence of traffic signals and signal delay even in uncongested time periods results in average speeds below posted or free flow speed))
  - 3B.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (See 3a.3 case study findings)
- **Option 3C:** Include link level congestion targets in the mobility policy for arterials outside of 2040 centers, station communities and main streets to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.
  - 3C.1: Base the congestion targets on link v/c ratio (supported by the case studies)
  - 3C.2: Base the congestion targets on travel speed (supported by the case studies)
  - 3C.3: Base the congestion targets on hours of congestion (needs to be based on either v/c ratio or travel speed) (See 3a.3 case study findings)
- **Option 3D:** Do not include congestion targets in the mobility policy for arterials (congestion metrics can be used as diagnostic tools to support system planning). Could make exceptions for enhanced transit or high-capacity transit corridors and regional freight network routes.

Policy 4 **Prioritize the safety and comfort of travelers in all modes when planning and implementing mobility solutions.**

Unsafe travel ways can result in injury and loss of life, and place a strain on emergency responders. Both unsafe conditions and perceived unsafe conditions can impact travel behavior, causing users to choose different routes or modes. Prioritizing investments that reduce the likelihood of future crashes and that improve safety and comfort for all users will increase mode choices and improve reliability. System completeness, queuing, pedestrian crossing index, and bicycle level of traffic stress measures are all metric that are useful in identifying needs and investments that could enhance safety and comfort.

The following describes how these measures could be implemented in the policy. The options could be considered individually or in combination.

Potential Measures:

-System Completeness *(recommended)*

-Queuing *(recommended)*

-Pedestrian Crossing Index

-Bicycle Level of Traffic Stress

Measurement options

- **Option 4A:** Incorporate "system completeness" target into the mobility policy to ensure safety and comfort for all modes. (Metric can be used to identify needs but the definition of "complete" would also be defined through system planning to define the future number of through lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM plan elements)
- **Option 4B:** Incorporate "queuing" target into the mobility policy for Throughway ramp terminals to minimize queues spilling onto the Throughway creating safety issues.
- **Option 4C:** Incorporate "pedestrian crossing index" metric into the mobility policy to identify needs and inform facility level planning. (Setting target through the RMP not recommended but recommended that system and facility plans establish targets for each facility based on Livable Streets Guide and adjusting for local context.)
- **Option 4D:** Incorporate "bicycle level of traffic stress" metric into the mobility policy to identify needs and inform facility level planning. (Setting target not recommended but recommended that system plans identify the future low-stress bicycle networks and that be incorporated into the system completeness metric)

Policy 5 **Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.**

BIPOC and other marginalized communities have often experienced disproportionately negative impacts from transportation infrastructure as well as disparities in access to safe multimodal travel options. Addressing these disparities is a priority.

The regional transportation system should support access to opportunities for everyone, not just people in motor vehicles. Equity can be enhanced through providing strong multimodal networks with priority provided to historically marginalized and underserved communities.

The following describes how this could be implemented in the policy.

Measurement options

Potential Measures:

Compare EFA vs. Non-EFA Areas

-Access to Destinations (*recommended if included in the policy)*

-System Completeness *(recommended if included in the policy)*

- **Option 5A**: Include targets for reducing disparities between "Equity Focus Areas" and "Non-Equity Focus Areas". This would result in identification of needed investments to address disparities and prioritization of these investments.

Measurement Options Summary

The measurement options included above identify where the performance measures tested through the case studies could be incorporated into the policy and identifies preliminary recommendations for further policymaker and stakeholder discussion. In summary, three measures are recommended to be incorporated into the policy to encompass overall system efficiency, equitable and complete multi-modal networks of safe and comfortable facilities, and reliability as summarized below in Table 1.

Table 1: Preliminary Mobility Policy Performance Measure Recommendations

Measure	Scale for Application	Purpose
VMT/Capita	Plan Area	Measured for the plan area to ensure that land use and transportation plan changes are working in tandem to achieve VMT/capita reduction targets and resulting in: • reduced need to drive • improved viability of using other and more efficient modes of transportation than the automobile and • preserving roadway capacity for transit, freight and goods movement.
System Completeness	Plan Area and Equity Focus Areas	Used to identify needs. Definition of "complete" would be defined through system planning to define network connectivity, the future number of through lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM elements.
Travel Speed	Facility level for throughways and arterials (could exclude 2040 centers or all urban area)	To assess vehicle congestion as one of the major factors impacting travel reliability. On Arterials, reducing motor vehicle congestion through additional roadway capacity should follow the region's congestion management process and OHP Policy 1G on ODOT roadways but should not come at the expense of non-motorized modes and achieving system completeness consistent with regional modal or design classifications or achieving the VMT/capita target for the jurisdiction

Memo

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

Date: February 16, 2022

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

From: Eliot Rose, Senior Transportation Planner, Metro; and Briana Calhoun, Senior Transportation Planner, Fehr and Peers

Subject: Emerging Transportation Trends Study – Summary of initial results

Introduction

The Emerging Transportation Trends Study will identify the major transportation trends that are expected to change how people travel in the Portland region over the coming decade. Its goal is to identify potential changes to policies, projects, and assumptions about how people travel for Metro to consider during the 2023 Regional Transportation Plan (RTP) update.

In October 2021, staff and the consultant team supporting this study presented to TPAC and MTAC on the initial set of trends that we were considering focusing on in this study, and shared information on the extent of the impacts and of our knowledge with respect to each trend. Subsequently, we held similar discussions with other Metro technical and policy transportation committees and with community leaders. Based on the feedback received during these discussions, the consultant team proceeded to analyze the following trends:

- Transit ridership will take several years longer than automobile traffic to return to pre-pandemic levels due to service cuts, changing travel patterns, and lingering health concerns.
- People of color will feel less safe traveling in public than before because of increased concerns about racist policing and pandemic-era anti-Asian racism.
- A significant share of workers will continue teleworking after the pandemic is over.
- Electric vehicles and e-bikes will be increasingly affordable, have longer ranges, and be easier to use.
- People will buy an increasing share of goods online.
- The boom in recreational bicycling during the pandemic could create an opportunity to further increase bicycle trips.
- Agencies will face the challenges of pandemic recovery (as well as other unanticipated changes) with limited resources and outdated processes.
- The increase in traffic deaths seen during the pandemic will continue into recovery.

The consultant team from Fehr and Peers used TrendLab+, an in-house analytical tool that allows for quick-response testing the impacts of a variety of transportation scenarios, to assess the impact of each trend on two key indicators: vehicle miles traveled and transit ridership, both of which are important factors in how Metro analyzes the climate, safety, mobility, and equity impacts of transportation decisions. The Fehr and Peers team conducted additional research to develop key assumptions (for example, what percentage of people telework in the future, anticipated future transit service changes) and identify impacts, particularly on equity, that are not well-captured by TrendLab+. The table below summarizes key assumptions behind each trend and impacts on equity, VMT, and transit ridership.

Trend	Assumptions about 2025	Impacts on equity	Impacts on VMT	Impacts on transit ridership
Declining transit service and ridership	Service is still down 2-4% from pre-pandemic levels. Agencies restructure service to focus on people who are still traveling. 10-30% of people who stopped using transit during the pandemic don't return to it.	Reductions in service have a disproportionate impact on low-income people and people of color. We assume agencies will prioritize serving these communities as they restructure service.	+0-2%	-10-30%
Increasing telework	~14% of people telework regularly, compared to 5% before the pandemic. People continue to telework at this rate into the future.	Low-income people are less likely to have access to jobs where they can telework.	-1-3%	-2-4%
Increasing online shopping	People buy 15-30% of goods online, compared to 10% before the pandemic. Sometimes these purchases reduce VMT because goods reach people efficiently; other times they increase it because people demand goods quickly, return them frequently, and continue to shop in person.	Higher-income people are more frequent online shoppers, but the impacts of delivery trips on safety and other issues are distributed throughout the region.	Unknown	0-2%
More affordable and efficient electric vehicles	EVs, which currently account for 1% of vehicles in Oregon, are more popular, but adoption is not on track to meet Oregon's targets. Electric bicycles will be increasingly popular and useful for longer trips. EV adoption continues to increase as vehicles become cheaper and more efficient.	Even with EV prices declining, current rebates for low-income people may not be enough to cover the additional cost of an EV.	0%	0%
Increasing concerns about personal safety	People are still concerned about contagion – in addition to pre-existing concerns about safety – when taking public transportation.	Health and safety concerns are most pressing for BIPOC and low-income people, who are also more likely to depend on transit. These people continue to ride transit, but it feels increasingly unsafe compared to driving alone.	0%	0%
Increasingly unsafe streets	It has hard to say whether fatal crash rates, which have gone up during the pandemic, will level off by 2025. Current trends are undermining progress toward our region's Vision Zero target.	Fatal crashes are concentrated in BIPOC and low-income communities.	0%	0%

Trend	Assumptions about 2025	Impacts on equity	Impacts on VMT	Impacts on transit ridership
Increasing recreational cycling	The number of recreational cyclists will increase slightly, particularly in communities that had lower levels of cycling prior to the pandemic.	Absent a significant increase in investment, bicycling infrastructure continues to be inadequate in many BIPOC and low-income communities.	0%	0%
Lagging transportation funds	Most transportation agency budgets recover to pre-pandemic levels. However, transit fare revenue continues to be lower than normal, and funding for transit and other modes continues to be less than needed to meet regional goals.	The lack of transit revenues disproportionately impacts BIPOC and low-income people who rely on transit.	0%	0%

The results above suggest some important findings about the region's future:

Emerging trends stand to reverse progress toward on the region's climate, equity and safety goals. Most trends are likely to have relatively minor individual impacts on vehicle miles traveled, transit ridership, and crashes. However, meeting our regional goals requires a significant increase in transit service and ridership and a dramatic decrease in VMT and crashes, and the trends discussed above have set our region back in meeting these goals. *Restoring transit service and ridership, as well as confidence in the transit system, is critical to keeping our region on the right track*.

Emerging trends are pushing our region toward a two-tiered transportation system. During the pandemic, essential workers and Black, Indigenous and people of color and low-income people continued to rely on transit. However, given the increase in public incidents of racism, the dangers of walking to and waiting at a transit stop, reduced service, and increased public health concerns, transit feels less safe and convenient to many people than it did before the pandemic. *Transit cannot provide a truly equitable and sustainable alternative to driving until these issues are addressed*.

Responding proactively to these trends could require a shift in our policies and practices.
Metro and our agency partners' efforts have traditionally focused on personal trips in passenger vehicles, which account for the majority of total trips, and on commute trips during the morning and evening peak, which account for a significant share of VMT and congestion and which provide access to jobs. These trips are still important, but the trends above have created some important changes in how people travel – along with opportunities to meet our region's goals by addressing these changes.

- As teleworking increases, people commute less and take more errands throughout the day.
- For some workers and students, access to a computer and the internet could now have more of an impact on their job opportunities than access to transportation options does.
- As more goods are delivered online, delivery vans are making more trips

Memo

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

Date: February 9, 2022

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

From: Kim Ellis, RTP Project Manager
Molly Cooney-Mesker, RTP Engagement and Communications Lead

Subject: 2023 Regional Transportation Plan (RTP) – Values and Outcomes, Key Tasks and Engagement

PURPOSE

The purpose of this memo is to seek feedback on the key tasks and engagement activities recommended to support development of the 2023 Regional Transportation Plan *(See **Attachment 1** for key tasks and engagement activities)*.

Staff also drafted the values and outcomes for discussion and feedback by the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT), Metro's Committee on Racial Equity (CORE) and the Metro Policy Advisory Committee (MPAC) in February. (*See **Attachment 2** Draft Values and Outcomes for the 2023 Regional Transportation Plan in the meeting materials.)* The values and outcomes are intended to guide planning and engagement activities throughout the process.

Attachments 1 and 2 reflect priorities expressed by the Metro Council, JPACT and MPAC last Fall and priorities identified through subsequent engagement activities with TPAC, MTAC, local and regional decision makers, business groups, community-based organizations and members of the community.

The 2018 RTP established a vision and four overarching priorities – equity, safety, climate and congestion – eleven goals and supporting objectives, performance targets and policies. Together these elements have guided planning and investment decisions in greater Portland.

Much has changed since 2018. The update to the RTP is an opportunity for the region's policymakers to work together to recalibrate the plan to better address key inequities, combat climate change, and prepare our region for recovery. This will help create a more equitable, prosperous, and resilient future for everyone.

DISCUSSION QUESTIONS

- Questions or feedback on the recommended key tasks?
- Questions or feedback on the recommended engagement activities?
- Are any values or outcomes missing that are important to explicitly highlight?

BACKGROUND

The Regional Transportation Plan (RTP) is the state- and federally-required long-range transportation plan for the Portland metropolitan area. The plan sets regional transportation policy that guides local and regional planning and investment decisions to meet the transportation needs of the people who live and work in greater Portland – today and in the future. As the federally-designated Metropolitan Planning Organization (MPO), Metro is responsible for leading and coordinating updates to the RTP every five years. The plan was last updated in 2018. The next update is due by Dec. 6, 2023, when the current plan expires.

Much has changed since the current plan was adopted in 2018. The greater Portland region is facing urgent global and regional challenges. Rising inequities and safety, housing affordability, homelessness, public health and economic disparities are being intensified by the global pandemic.

Systemic inequities mean that communities have not equally benefited from public policy and investments, and the pandemic has exacerbated many disparities that Black, Indigenous and people of color (BIPOC) communities, people with low income, women and other marginalized populations already experience.

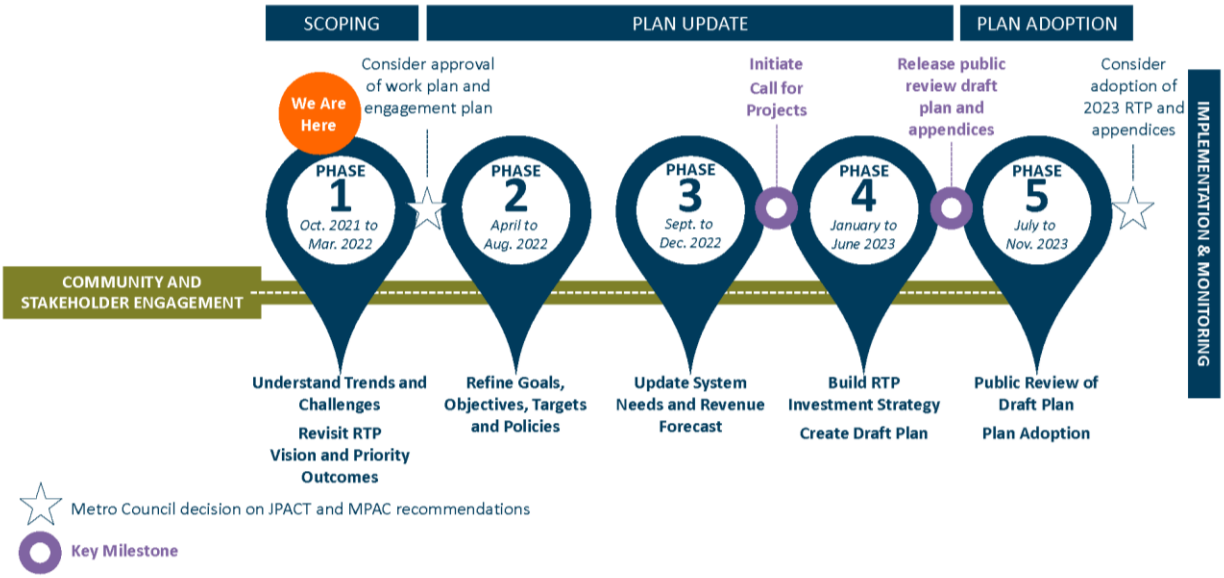
In addition, how, why, when and where people travel changed dramatically during the COVID-19 pandemic (e.g., increases in fatal and serious traffic crashes, increases in telework, fewer commute trips during morning rush hour, increases in e-commerce and home deliveries, lower transit ridership and increases in recreational walking and biking). At the same time, the climate is changing, and we need to continue to work for clean air, clean water and healthy ecosystems.

Our region is growing and changing. The most recent census data shows our region continues to grow more diverse. By 2045 more than 2 million people are expected to be living within the metropolitan planning boundary for the RTP – about one-half million more people than today.

The future is uncertain and likely to include increased disruption as we recover from the pandemic and experience the impacts of climate change, further eroding the region's quality of life and economic prosperity. The update to the RTP is an opportunity for the region's policymakers to work together to recalibrate the plan to better address key inequities, combat climate change, and prepare our region for recovery. This will help create a more equitable, prosperous and resilient future for everyone.

In 2022 and 2023, Metro will work with the community, business groups and community-based organizations across greater Portland and local, regional, state and federal partners to update the RTP as shown in **Figure 1**.

Figure 1. 2023 Regional Transportation Plan Timeline



The scoping process began in October 2021. At that time the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC) provided feedback on the planning process and priorities to be addressed through the update. Since October, the project team conducted research and engaged stakeholders to identify transportation trends and challenges affecting how people travel in the region, priorities for the update to address and ways to engage local, regional and state public officials and staff, community-based organizations and business groups and members of the public in shaping the updated plan.

A summary of the planning and engagement activities completed and underway follows.

RTP planning and engagement activities to date

Racial Equity Framework – The project team has been working with Metro's Diversity, Equity and Inclusion (DEI) staff liaison to identify opportunities for further advancing racial equity and Metro's Strategic Plan for Advancing Racial Equity, Diversity and Inclusion (SPAREDI) through the 2023 RTP. As a first step in the work, the project team participated in a two-day training led by Metro DEI staff and Scott Winn, a consultant, in June 2021.

The project team is identifying key tasks that could advance racial equity through each of these four RTP decision processes.

The team is working to develop the work plan and engagement plan considering these questions:

- How will the goal and outcome for each RTP process area advance Metro's overall racial equity goals?
- What are the specific long-term racial equity outcomes that will be impacted by the RTP decision?
- What have we learned from past partnerships with communities of color (either in previous updates of the RTP or other projects) that could inform these racial equity outcomes and goals?

To consider these questions, team reviewed how Metro approached equity in the 2018 RTP update and other recent regional transportation processes and discussed successes and opportunities for further improvement to identify potential changes to the RTP process. Staff also reviewed the Federal Executive Order on Advancing Racial Equity, new Federal Planning Emphasis Areas, the Oregon American Planning Association (APA) Racial Equity Glossary and the Climate-Friendly Equitable Communities (CFEC) draft Equitable Outcomes Statement and draft rules on equity analysis and engagement being developed through the statewide CFEC rulemaking process.

To date, the team has identified the need to: update terms and equity-related definitions throughout the RTP to be consistent with Metro's equity strategy and inclusive style guide, update designated RTP Equity Focus Areas (EFAs) using 2020 census data, define what constitutes an equity project in the 2023 RTP and refine equity evaluation methods. The team would like to engage Metro's Committee on Racial Equity (CORE) in this work.

Emerging Transportation Trends Study – The project team continued background research to identify how the COVID-19 pandemic and other recent disruptions could impact meeting the overarching RTP priorities. The Metro Council has received briefings and provided feedback on this study. The study findings and recommendations will help set a foundation for updating the RTP.

Other background work underway – The project team has started background research in support of the update, including:

- The **Regional Freight Delay and Commodities Flow Study** stakeholder advisory committee began meeting in January. The study is anticipated to help inform data and policy analysis related to freight delay and e-commerce trends in the RTP. This study is anticipated to be completed in July 2023.
- **Data collection and background policy analysis** has started help support Council, MPAC and JPACT policy discussions related to: **regional transportation trends**, **regional congestion pricing policy**, **regional mobility policy**, a **strategy for safe and healthy urban arterials**, **RTP revenue sources and finance plan**, approaches for updating the **Climate Smart**

Strategy, conducting a **regional transportation needs and disparities assessment**, and **advancing the region's state of practice for measurement** of mobility, transportation equity and greenhouse gas emissions.

- A work plan for **updating the Regional High Capacity Transit (HCT) Strategy** is under development. The updated strategy will establish a vision for Bus Rapid Transit (BRT) that provides equitable access to rapid transit across the region.
- **Scan of other planning activities** of local, regional and state efforts have been completed or are underway since 2018 that will inform the 2023 RTP update. Regional efforts identified in Chapter 8 of the RTP include:
  - Better Bus (formally Enhanced Transit) Program (ongoing; a briefing on this will be scheduled for a future meeting)
  - Designing Livable Streets and Trails Guide (completed in 2019)
  - Jurisdictional Transfer Framework (completed in 2020)
  - Regional Trail System Plan Map Update (completed in 2021)
  - Transportation System Management and Operations (TSMO) Strategy Update (completed in 2021)
  - Regional Emergency Transportation Routes Update (Ph. 1 completed in 2021; Ph. 2. anticipated completion in 2023)
  - Active Transportation Return On Investment (anticipated completion in Spring 2022)

Engagement Activities – The project team continued to seek input from local, regional, state and federal partners, community-based organizations, business groups and members of the community. Activities included:

- **Briefings and presentations to technical and policy regional advisory committees and county-level coordinating committees** on the 2023 RTP process.
- **Four language-specific focus groups** conducted as part of updating Metro's Limited English Proficiency Plan. Participants included historically underrepresented community members (people of color, people with low-income and people with limited English proficiency). A summary report will be posted on the project website when available.
- **One community leaders forum.** Metro invited more the 60 community representatives from culturally-specific, environmental justice and transportation-focused community-based organizations from across the region. Thirteen community leaders participated. The final forum report is provided in the meeting materials.
- **Participation in a Tribal Summit on Climate Leadership.** The summit provided an opportunity for the Metro Council and senior staff to learn about the challenges Tribes are facing regarding climate change and the Tribes' respective priorities for addressing these challenges. The summit also aimed to explore opportunities for partnership and collaboration with the Tribes in support of Metro's efforts to advance the region's six desired outcomes and other goals and priorities of the agency, including implementation of the 2040 Growth Plan, Metro's Strategic Plan for Advancing Racial Equity, Diversity and Inclusion and Climate Smart Strategy.
- **Interviews** of more than 40 local, regional and state public officials and staff, and Portland-area business groups and community-based organizations. The interviews identified issues and ideas that Metro should consider for the 2023 RTP. A summary of the stakeholder interviews is provided in the meeting materials. The final report will be available soon and posted on the project website.

Remaining scoping phase engagement activities
Scoping engagement activities will continue through early March. The project team will continue to seek feedback on the vision and priorities for the future transportation system, topics to be the focus of the technical work and policy discussions and the values and outcomes to guide the process. Remaining activities include:

- **On-line survey** to learn about the transportation trends and challenges affecting how people travel in the region and their vision and goals for the future transportation system. The survey is anticipated to launch in the next week and run for about three weeks.
- **Briefings and presentations to regional advisory committees**, including Metro's Committee on Racial Equity (CORE), TPAC, MTAC, JPACT, MPAC and county-level coordinating committees (policy and staff).
- **Consultation meetings** with resource agencies and Federal and State agencies on February 23 and March 1, respectively. The project team is working with Metro's Tribal liaison to identify opportunities for consultation with Tribes as part of ongoing meetings.

Next steps for shaping the 2023 RTP Work Plan and Engagement Plan
A schedule of the scoping engagement activities and Metro Council and regional advisory committee discussions is provided in the meeting materials. Upcoming discussions and activities include:

- **February to March 2022** Metro Council and regional advisory committees discuss values and priority outcomes and draft work plan and engagement plan; engage the public in an online survey and consultation with resource agencies and federal and state agencies.
- **March 2022** JPACT and Metro Council consider approval of work plan and engagement strategy (by Resolution).

ATTACHMENTS

1. Key Tasks and Focus Areas for the 2023 RTP Update
2. Draft Values and Outcomes for the 2023 RTP
3. Community Leaders Forum Summary
4. Stakeholder Interviews Summary
5. 2023 RTP Update Factsheet
6. Scoping Timeline

Overview of Key Tasks and Areas of Focus for 2023 Regional Transportation Plan Update

	Phase 1 – Scoping October 2021 to March 2022	Phase 2 – Data and Policy Analysis April to August 2022	Phase 3 – Revenue and Needs Analysis September to December 2022	Phase 4 – Investment Priorities January to June 2023	Phase 5 – Plan Adoption Process July to November 2023
Engagement	**Key strategies:** • Interactive online engagement; community partnerships; community storytelling; language translation and interpretation; community leaders forums; small group stakeholder meetings including county-level coordinating groups; expert panels • Presentations and discussions at regularly scheduled TPAC, JPACT, MTAC, MPAC, and Metro Council meetings and workshops • Metro Councilor engagement with constituents				
Key Tasks and Areas of Focus for 2023 RTP Update	• **Scoping and Background Research** ○ Racial Equity Framework ○ Emerging Transportation Trends Study ○ Vision and Priority Outcomes (review/update) ○ Stakeholder interviews ○ Language-specific focus groups ○ Community Leaders Forum ○ On-line community survey ○ Consultation meetings • **RTP Work Plan Development** ○ Values and Outcomes ○ Draft Work Plan ○ Draft Engagement Plan • **Legislation** ○ Resolution ○ Staff Report	• **Goals, Objectives and Targets Updates** ○ Emerging Transportation Trends Rec'ds ○ RTP Goals, Objectives and Targets (update) • **Data, Methods and Tools Updates** ○ 2020 MPO boundary ○ Climate Analysis Expert Panel ○ Mobility Policy Expert Panel ○ High Injury Corridor Designations ○ 2020 Equity Focus Areas ○ Emerging Transportation Trends ○ Regional Freight Delay and Commodities Flow ○ Federal System Performance Report ○ Other tools, methods and analysis updates • **Key Policy Updates:** *New policies and updates to existing Ch. 3 policies to reflect new information from work completed since 2018* ○ **Regional Mobility Policy*** ○ **Regional Congestion Pricing Policy*** ○ **Safe and Healthy Urban Arterials Strategy*** ▪ Jurisdictional Transfer Framework Rec'ds ▪ Livable Streets Design and Green Infrastructure Policy Review (update) ▪ Regional Emergency Transportation Routes (ETR) Findings and Rec'ds ▪ Active Transportation Return on Investment (ATROI) Study Findings ○ **Climate Smart Strategy*** ▪ Climate Smart Strategy Progress Report ▪ Climate Smart Strategy and Policies (update) ▪ Updates per CFEC Rulemaking (TBD) ○ **High Capacity Transit (LRT/BRT) Strategy*** ▪ Vision and Policies (update) • **Other Policy Updates**: *Updates to existing Ch. 3 policies to reflect new information from work completed since 2018* ○ **Federal Emphasis Areas Policy Updates** ○ **RTP System Maps Review** (update) ○ **Transportation Equity Policy Review** ▪ Affordability and anti-displacement policy ○ **Regional Travel Options Policy Review** ○ **TSMO Policy Review**	• **Regional Transportation Revenue Analysis** ○ Equitable Finance Strategies Research (Fines, Fees and Fares)* ○ Revenue Forecast for operations, maintenance, preservation (OMP) & capital ▪ Federal ▪ State ▪ Local (cities and counties) ▪ Port of Portland ▪ TriMet ▪ SMART ▪ ODOT tolling/congestion pricing assumptions ○ Draft Financial Plan ○ Draft Financial Targets for Call for RTP Project and Program Priorities • **Regional Needs and Disparities Analysis** ○ Ph. 2 policy updates and community feedback inform identifying needs (gaps/deficiencies) and disparities across RTP outcomes: ▪ Equity ▪ Climate ▪ Safety ▪ Mobility • **Process for Updating RTP Project and Program Priorities** ○ Near-term (2024-2030) ○ Long-term (2031-2045)	• **Call for RTP Project and Program Priorities** ○ Process for updating RTP Project and Program Priorities to be defined in Ph. 3 ▪ RTP Project Hub (update) ▪ Project Title VI and public engagement certification checklist (update) • **Evaluation Process** ○ Community feedback ○ Partner feedback ○ Project and Program Analysis ▪ TBD: corridor vs. sub-area level analysis of project list ▪ Environmental analysis ○ System-Level Analysis ▪ Equity analysis ▪ Climate analysis ▪ Safety analysis ▪ Mobility analysis • **Draft RTP Project and Program Priorities Recommendation** ○ Near-term (2024-2030) ○ Long-term (2031-2045)	• **2023 RTP** ○ Executive Summary ○ Public review draft ○ Adoption draft • **2023 RTP Project and Program Priorities Recommendation** ○ Near-term (2024-2030) ○ Long-term (2031-2045) • **Plan Appendices** ○ Public review draft ○ Adoption draft • **45-day Public Comment Period** ○ On-line community survey ○ Public hearings ○ Public Comment Log & Rec'd Actions ○ Public Comment Report • **Legislation and Findings** ○ Ordinance and Staff Report ○ Statewide Goals Findings ○ Federal Findings

* Policy briefs for these topics will be developed to frame options for how to incorporate new and updated policies in the 2023 Regional Transportation Plan.

Pending Time and Capacity		• Updates to address Climate Friendly Equitable Communities (CFEC) rulemaking – TBD		• Climate resilience evaluation • Emergency transportation evaluation • Wildlife crossing evaluation	• Functional plan amendments (TBD minor or major)
Deferred to the Future		• CFEC Parking Policy (scope in Ch. 8) • Wildlife Crossing Policy • Climate Adaptation and Resilience Policy (2040 Refresh, scope in Ch. 8)			• Access to Transit Plan (Needs/Gaps) Study (scope in Ch. 8)

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Version 1

DRAFT Values and Outcomes for the 2023 Regional Transportation Plan

The purpose of this document is to convey values and desired outcomes for the 2023 Regional Transportation Plan (RTP) update. The RTP defines the outcomes for regional transportation in the Portland metropolitan region for the next 25 years.

The RTP is a blueprint to guide investments for all forms of travel – motor vehicle, transit, bicycle and walking – and the movement of goods and freight. The plan identifies current and future transportation needs, investments to meet those needs and what funds the region expects to have available to over the plan period to build priority investments. The plan is updated every 5 years, and the next update is due in 2023.

Metro staff drafted the values and outcomes below based on input received during the 2023 RTP scoping phase. Since October 2021, Metro staff facilitated discussions of the Metro Council, regional advisory committees and county coordinating committees, conducted stakeholder interviews and held a community forum and focus groups to inform the draft values and outcomes below.

The values and outcomes will be reviewed and discussed by the Metro Council, Metro's Committee on Racial Equity (CORE), the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC). These committees will play an important role in the final adoption of the RTP in 2023.

VALUE: RACIAL EQUITY

OUTCOMES

- Recognize and reverse patterns of historic, systemic racism and inequities related to transportation in the region.
- Strive to eliminate transportation system inequities and advance equity rather than just mitigating or doing no harm.
- Prioritize and center the voices of people and organizations representing Black, Indigenous and people of color (BIPOC) communities and other marginalized and underserved communities to achieve equity for all.
- Build an equitable transportation system that connects all people to their destinations.

ACTIONS

- Center the needs and priorities of BIPOC and other marginalized and underserved communities throughout the planning and policymaking process – from setting goals and priorities to policy development to collecting and analyzing data to prioritizing projects to evaluating success.
- Work with decision-makers on a common definition of equity and clear understanding of what investments are needed and where to advance racial equity and implement the regional transportation equity policies.
- Update equity data and analysis methods using Equity Focus Areas (EFAs) to identify areas of concentration of BIPOC and other marginalized and underserved communities to be prioritized for investment.
- Ensure that community partners have input and influence both how equity data is presented in the RTP and how results are interpreted and communicated.
- Develop new policies and best practices for anti-displacement for integration into the plans and projects in the RTP.
- Develop strategies for community stability to address potential displacement of low-income and BIPOC communities.

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VALUE: CLIMATE LEADERSHIP AND RESILIENCE

OUTCOMES

- Ensure continued reduction in greenhouse gases by meeting or exceeding the statewide targets for the region.
- Support future development and affordable housing in transit corridors and centers designated in the 2040 Growth Concept, where services are located and more travel options are available.
- Lead the transition to a low-carbon transportation system by planning for and invest in low-carbon travel options and supporting infrastructure and services.
- Use pricing tools as a means to reduce greenhouse gas emissions, including the tools identified in Metro's *Regional Congestion Pricing Study* (RCPS) Report.
- Incorporate low-carbon technology into policies, plans and projects, including electric vehicles, electric bikes, electric scooters and other emerging technology to help meet emission reduction targets.
- Increase resilience of the transportation system to the effects of climate disruption and other disasters.

ACTIONS

- Update the Climate Smart Strategy to incorporate the latest data, best practices and strategies for reducing greenhouse gas emissions in our region.
- Update vehicle miles traveled (VMT) reduction target to align with meeting state greenhouse gas reduction targets.
- Improve climate data, methods and analysis tools to advance the region's ability to evaluate progress in meeting state greenhouse gas reduction targets.
- Invest in multi-modal projects that reduce greenhouse gas emissions, including but not limited to transit, biking and walking, shared trips and other types of low-carbon mobility options.
- Update the Regional High Capacity Transit (HCT) Strategy and vision for Bus Rapid Transit (BRT) to provide equitable access to rapid transit across the region.
- Develop policies on congestion pricing to provide a framework in the RTP that informs individual projects and plans that include congestion pricing or tolling.
- Consider emerging trends in technology in updating the Climate Smart Strategy.
- Revisit and refine the Climate Smart Strategy policies and fully incorporate the updated policies in the RTP, including:
    - Implement adopted local and regional land use plans.
    - Make transit convenient, frequent, accessible and affordable.
    - Make biking and walking safe and convenient.
    - Make streets and highways safe, reliable and connected.
    - Use technology to actively manage the transportation system.
    - Provide information and incentives to expand the use of travel options.
    - Make efficient use of vehicle parking and reduce the amount of land dedicated to parking.
    - Support Oregon's transition to cleaner, low carbon fuels and more fuel-efficient vehicles.
    - Secure adequate funding for transportation investments the support the Climate Smart Strategy.
- Incorporate best practices to reduce greenhouse gas emissions and improve the safe and efficient movement of goods and people.

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DRAFT Values and Outcomes for the 2023 Regional Transportation Plan

VALUE: SAFE AND HEALTHY STREETS

OUTCOMES

- Aim to eliminate fatal and serious injury crashes by 2035 by identifying priorities for improving safety and comfort for people traveling on the region's urban arterials.
- Prioritize investments in universal design and high-quality, connected, and safe pedestrian, bicycle, and transit networks, focusing on increasing safety in high-risk locations and on high injury corridors in Equity Focus Areas.
- Adopt policies and frameworks to allow for transfer of state-owned urban arterials to local jurisdictions, when and where appropriate, using the best practices and findings of Metro's Jurisdictional Transfer Assessment (JTA) Study.

ACTIONS

- Update High Injury Corridors to identify corridors to be prioritized for investment to complete all gaps in regional bicycle and pedestrian networks and ensure safe and convenient access to transit stops and stations.
- Identify best practices and strategies for investing in the region's urban arterials, many of which are High Injury Corridors.
- Develop a strategy for urban arterials in the region that aims to address their complex needs, including the need for investment in safety and related bicycle, pedestrian and transit infrastructure using urban design best practices and standards.

VALUE: MOBILITY

OUTCOMES

- Maintain the transportation system that already exists in a state of good repair.
- BIPOC and other marginalized and underserved communities have equitable access to safe, reliable and affordable travel options, job opportunities, and key community places (such as medical, school, grocery, social and community services).
- Provide accessible, safe, affordable, and equitable transportation options to better connect people with opportunities and to the destinations they want to reach (e.g., education, jobs, services, shopping, places of worship, parks and open spaces, and community centers).
- Congestion is managed on the throughway system by implementing a comprehensive urban mobility strategy that includes congestion pricing and other demand management and system management tools and expanding safe, reliable and affordable travel options.
- Connect affordable transportation options to affordable housing to increase access to low-income persons.
- Identify opportunities to increase affordable transportation access to low-income and middle-income jobs, especially in the service industry.

ACTIONS

- Adopt a new multimodal mobility policy and standard, as developed in the Regional Mobility Policy Update, that provides a new approach to measuring the movement of people and goods and adequacy of the transportation system.
- Incorporate findings from the Regional Freight Delay Study, taking into account new trends and changes in urban freight, such as the increase of front-door delivery.
- Consider the growth in freight at ports and intermodal facilities, and the increasing number of distribution centers in our region in evaluating regional mobility.
- Examine how existing Transit Oriented Development programs can align with and support affordable housing programs.

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VALUE: ACCOUNTABILITY AND TRANSPARENCY

OUTCOMES

- Engage the community and a diverse range of stakeholders through a transparent and inclusive decision-making process within meaningful opportunities for input.
- Communicate the RTP's emphasis on equity, and particularly on the projects that can help eliminate transportation disparities, to partners early and throughout the process.
- Support community partners in shaping the 2023 RTP, including those elements that are led by partner agencies, and strengthen requirements for agency partners to collect and respond to community feedback when developing and prioritizing projects.
- Develop and use data, tools, and best practices that can support future local and regional planning and investment decisions.
- Communicate the interrelationships between the three priority outcomes of climate, safety and equity – marginalized communities have identified climate and safety as equity issues, because they disproportionately experience the impacts. Prioritize the many investments that address all of these priorities.
- Prioritize transformational change (decision-making processes throughout the RTP update) over merely relying on transactional change (the final decision).

ACTIONS

- Build on the extensive community input provided during 2018 RTP update, Get Moving 2020 process and the 2023 RTP scoping phase to shape the 2023 RTP policies, analysis, investment priorities, and public engagement.
- Report out progress on RTP at all stages of decision-making to allow for public participation and input.
- Monitor and report progress toward 2023 RTP values and outcomes at key project milestones.

2023 Regional Transportation Plan scoping

Community leaders' forum summary

November 17, 2021

Forum objectives:

- Raise awareness of the proposed 2023 Regional Transportation Plan (RTP) process with community leaders and receive feedback.
- Reflect community transportation priorities and values identified through Get Moving 2020, the 2018 RTP and other recent transportation planning efforts.
- Listen to community leaders to understand if the priorities remain relevant and if new priorities have recently emerged.
- Share the Metro Council and JPACT priorities for the 2023 RTP.
- Share the transportation trends study and receive input and insights on these trends.
- Understand how community-based organizations want to engage in the 2023 RTP process and ideas for engaging the communities they work with.

Introduction

Metro is updating the Regional Transportation Plan (RTP). The plan is a tool that guides investments in all forms of travel – motor vehicle, transit, bicycle and walking – and the movement of goods and freight throughout greater Portland. From September 2021 to early 2022 the RTP project team is developing the work plan and engagement plan that will guide the 2023 RTP. During the scoping phase, the work plan and engagement plan will be shaped by technical work and input from regional and local decision makers, community and business leaders, and members of the public.

On November 17, 2021, from 3 – 5 pm, Metro hosted a virtual community leaders' forum to discuss the 2023 RTP. Metro invited more the 60 representatives from culturally-specific, environmental-justice and transportation-focused community based organizations to participate in the forum. Thirteen community leaders participated in the forum, representing the following organizations:

- 1,000 Friends of Oregon
- AARP
- Asian Pacific American Network of Oregon (APANO)
- Getting There Together
- Next Up
- OPAL
- Oregon Walks (2)
- The Street Trust (2)
- TriMet Committee on Accessible Transportation
- Unite Oregon (2)

Urgent community transportation needs

- **Safety and accessibility:** People need to be able to get where they need to go in environments that are welcoming and safe.
- **Transit:** Transit riders, and especially transit dependent community members, face access, affordability and equity barriers.
- **Displacement:** Investments in residential and commercial stabilization must precede investments in transportation infrastructure.

This document summarizes the forum and the discussion themes. Participants in the community leaders forum were invited to review this summary and provide feedback. Feedback from Next Up staff who were not able to be attend the full forum are included as Attachment A. The RTP project team will consider this input in the development of the 2023 work plan and engagement plan.

The forum included opening remarks from Metro Councilor Craddick, presentations from the RTP project team, small group discussions in Zoom breakout rooms and a large group discussion, (See Attachment A for the agenda and attachment B for the presentations.)

The forum was focused on two, related topics: the 2023 RTP and emerging transportation trends. The project team provided a brief presentation about the RTP process, regional priorities in the 2018 RTP and the input received to-date from decision makers on the 2023 RTP. Following the presentation participants provided their input on community priorities and urgent needs related to for transportation. They also discussed their ideas for ongoing involvement of their organizations and communities they work with in the 2023 RTP.

Following the small group RTP discussions, participants reconvened and reported highlights from their conversations. The project team then gave a brief presentation about the emerging transportation trends study that will inform the 2023 RTP. Following the presentation, forum participants were asked, with a Zoom poll and follow up discussion, which trends are most impactful to communities and if anything was missing from the trends presented.

The discussions are distilled and organized in this summary by the discussion questions. Discussion questions included:

- What are community transportation needs and priorities?
- How does your organization want to be involved in the 2023 RTP process?
- Which of these trends most impact the communities that you work with? Is there anything missing?

Discussion summary

What are community transportation needs and priorities?

Forum participants agreed that the 2018 RTP priorities of equity, safety, climate and congestion management remain important priorities for the 2023 RTP. Generally, the discussions focused on issues related to and strategies that support multiple priorities. As an example, a participant commented that congestion relief needs to support other RTP goals. Expanding freeways works against the other goals.

The discussions about priorities helped clarify specific issues that should be emphasized within these priorities. A few themes emerged including: safety and accessibility, transit, displacement, and overarching comments about how community values should be integrated into the RTP.

Safety and accessibility: **people need to be able to get where they need to go in environments that are welcoming and safe.**

Safety and accessibility were the most frequently discussed community concerns. Safety concerns impact community members' ability to get where they need to go.

- Transit dependent people often experience insufficient and/or non-existent crosswalks and street lighting in their neighborhoods.
- Gaps in sidewalks and narrow sidewalks do not accommodate people with walkers, wheelchairs and strollers.
- Transit doesn't feel like a welcome and safe space for people, especially: people with hidden disabilities and people of color.
- There's a growing concern about personal safety. People feel vulnerable, especially older adults when they are by themselves.
- Approaches to improving safety include

safety by design and prioritizing projects that benefit multiple underserved or vulnerable community groups.

Transit: there is a need for increased transit access, connections and affordability.

Transit was a prominent focus in the forum discussions.

- Paratransit, which is required under Americans with Disabilities (ADA) regulations, does not provide equitable access for people who cannot use fixed route transit. People who use paratransit must schedule their trip by 5 PM the day before.
- More transit frequency, routes and connections are needed.
- A fareless transit system would support equity goals in many ways. An increase in ridership supports environmental justice goals more broadly.
- What does a solution like bus rapid transit look like on Tualatin Valley Highway in 10 or 20 years?

Displacement: Investments in residential and commercial stabilization must precede investments in transportation infrastructure.

Conversations about displacement emphasized the need for resources to fund community anti-displacement strategies *before* investments in transportation infrastructure are made.

- Investments in community stability are needed before new infrastructure; this includes residential and business stability.
- There have been good plans but without funding we can't keep people from being displaced. Make sure that commercial and housing affordability is guaranteed.
- Leverage housing bond money with transportation investments.

Community values

Some of the discussion was focused ideas and questions about the values that drive policies and investment decisions.

- We need to change status quo of auto dependency and strong leadership is needed to change the status quo.
- This RTP needs to lock in long-term changes that address climate change.
- With the Infrastructure Investment and Jobs Act in Oregon there is a lot of Federal funding available for megaprojects. The RTP needs to be specific about priorities and include accountability for that funding.
- There are projects in the region, like Tualatin Valley Highway with costs around $100 million, and other projects that are priced at $1 Billion. How are those decisions being made? What are the opportunity costs involved in those decisions?

How does your organization want to be involved in the 2023 RTP process?

Metro staff asked community leaders to share how their organizations might want to be involved in the development of the 22023 RTP over the next two years and their ideas for engaging community members in the process. Forum participants provided input specific to their organization and ideas for effectively engaging community members.

Organization-specific recommendations on engagement

- TriMet Committee on Accessible Transportation: the RTP team should come to CAT and share the RTP process and provide materials.
- Metro could support activating community events planned by community organizations. The Street Trust will have

some events in spring 2022.

- Unite Oregon/ SW Corridor Equity Coalition: The Southwest Corridor Leadership Cohort has trainings. Metro could provide an overview of the RTP and how to be involved and engaged throughout the process.

- Oregon Walks has a Plans and Projects Advisory Committee that could be engaged in the RTP.

- OPAL, Bus Riders Unite (BRU), and Youth Environmental Justice Alliance (YEJA) members will likely want to be involved in the RTP process.

- The Our Streets campaign will be an important partner for community involvement in the RTP.

Overarching recommendations on engagement

- Metro needs to make the RTP more approachable for community members to engage. Unpack the jargon. Community groups do not have the bandwidth to translate wonky technical and policy language; Metro needs to provide that. More approachable language also may need to be translated into languages other than English for Limited English Proficiency community members.
- Communicate what has been accomplished since the last RTP. What progress has been made on the goals set out by the 2018 RTP?

- Make data available to community organizations would be helpful, along with translation.

- It will be important for Metro to work with community partners on storytelling.

- Support participants' transportation and childcare (if in person), provide adequate time and notices, address technology access issues, and provide stipends for participation.

- Support community groups to participate in the RTP process by helping expand capacity in community groups.

- There are less well known community groups who need to be reached- including culturally-specific and youth organizations such as NAYA and Beyond Black.

- Get in touch with organizations who are really serving the community where they are.

Which of these trends most impact the communities that you work with?

The project team presented on the Emerging transportation trends study Metro is working on with a consultant, Fehr & Peers. The goals of the study are to develop a common understanding of trends that we've all been experiencing individually and identify potential changes to RTP policies, projects, and assumptions. The project team is considering a number trends for further study, including the following. (Description of the trends are included in Attachment B.)

- transit ridership.
- increased concerns about racist policing and pandemic-era anti-Asian racism.
- teleworking
- electric vehicles and e-bikes
- shopping online.
- boom in recreational bicycling
- limited resources and outdated processes.
- increase in traffic deaths

Participants used a Zoom poll to indicate which of the trends being considered for the study most impacts the communities they work with. More than half of the ten participants responding to the poll selected: transit ridership, concerns about

racist policies and pandemic-era anti-Asian racism and limited resources at public agencies. Participant input on the trends of most concern is summarized blow.

1. **Transit ridership (8/10)**
    - Transit ridership/communities – has the pandemic impacted access to transit or ridership.
    - How would it be different to support transit riders; where the transit board is reflective of the people actually using transit in the region?
    - Transit is viewed as a consumer good instead of a public good.
2. **Concerns about racist policing and pandemic-era anti-Asian racism (7/10)**
    - Racist policing is a top community concern.
3. **Limited resources at public agencies (6/10)**
    - Transit dependent folks and frontline workers have been using transit during the entire pandemic. Rather than framing the discussion as how do we get ridership back, frame the discussion as how do we supporting current riders.
    - Community relies on public agencies to help with bus fares. Houseless people are greatly affected because agencies don't have funds/resources to provide assistance/passes to ride transit.

Participants were also asked if there were trends **missing from the list**. Six of the ten participants answered yes, two responded maybe, and two responded no. Participants suggested considering the following trends:

- Disasters associated with the climate crisis.
- Addressing changes in how people's personal and physical vulnerability and/or exposure to acts of violence or physical injury is changing, walking or in a car, or otherwise.

Additional comments on trends for further study:

- Consider teleworking from an equity perspective; recognize that we are creating a class divide. Now, those who need to travel get paid less money. Whose transportation needs are we serving as a region?
- Users of the system are exhibiting different/dangerous behaviors (driving faster/recklessly).
- Traffic enforcement is a complicated discussion but speaking anecdotally it feels like there is not enforcement happening for road safety.

Other feedback related to the trends study included:

- Use BIPOC rather than "people of color"

Next steps for the 2023 Regional Transportation Plan

October 2021 to January 2022 Metro Council, regional advisory committees and stakeholders discuss values, priorities and desired outcomes; engage stakeholders through community leaders forum, interviews, online survey, consultation with Tribes and federal and state agencies to inform work plan and engagement strategy

February to March 2022 Metro Council and regional advisory committees discuss draft work plan and engagement strategy

March 2022 JPACT and Metro Council consider approval of work plan and engagement strategy (by Resolution)

Community Leaders Forum Summary

Attachment A

NEXT UP

Metro RTP 2023 Notes

Reflections on Community Leaders' Summary

- The word "climate" is thrown in only 3 times in a really broad way, doesn't address how this plan would actually address the impacts of climate change
- When talking about things like the implementation of street lights, which was a 2019 top concern of residents living in East Portland, it should be addressed as a climate justice issue → as weather becomes more dramatic and unpredictable, infrastructure to keep people safe is critical and it cannot wait to be funded
- Accountability!! how is feedback being used → the organizations listed have done incredible work but they are all pretty well-known, funded orgs so curious how Metro is reaching out to residents not associated with reputable organizations (specifically in areas like East Portland and Clackamas county) to get honest answers about what people are hoping to see
    - would love to see smaller organizations who have various groups of individuals be represented
    - There is a need to clearly define accountability - in terms of "Federal Funding for megaprojects" who is Metro being accountable to and in what ways - Who is being considered? Who is benefiting? and Who has the potential to be harmed?
- Climate issues not included in trend poll
- Accessibility beyond ADA should be addressed, so having people that are disabled be a part of the research into what "accessible" transit is
    - Making the process easier for disabled people to get the accommodations they deserve when riding public transit
    - Analyzing the steps it takes to be verified as disabled
- Curious about the language in terms of fareless ridership → is this a possibility to be addressed further in a plan like this? Not sure where we are at with Youth Pass beyond PPS right now?
- "BIPOC" do not all have the same transit/traffic experiences, this language should be more direct and specific groups should be supported in specific ways that meet asks from communities
    - Instead of relying on an acronym, name the communities you're directly talking about. Would this impact Black communities or Latine communities specifically? If it impacts all communities of color, name them, Black, Indigenous, Latine, Asian, Pacific Islander, South Asian, and North African communities.
    - Mentioning specific ways climate change affects communities and the safety plans/infrastructure that needs to be put in place to support those communities
- Including more wording on how climate change is an equity issue

- Include language about steps metro must be taking to cut carbon emissions like reducing VMT and investing in broader reaching public transit and not increased fossil fuel infrastructure
- Partnering with other communities/local governments to increase intercity transit and collaborate on other region's transportation plans
- Include wording that holds the region accountable to studying other solutions to congestion issues- ie immediately consider adding light rail not an extra lane for cars
- Not just adding infrastructure but maintaining it (ie bike lanes during weather events worsened by climate change)

February 2, 2022

2023 Regional Transportation Plan scoping

Summary of stakeholder interviews

In December 2021 Metro contracted with JLA Public Involvement to conduct 40 interviews with local, regional, and state public officials and staff, business groups and community-based organizations. The interviews identified issues and ideas that Metro should consider for the 2023 Regional Transportation Plan (RTP).

Future Trends

Stakeholders weighed in on changes they have observed and long-term trends to consider during the RTP process.

Uncertainty. Everything we think we know about transportation is shifting radically and the future is unclear.

New travel patterns. Work-from-home has changed the nature of the daily commute. Many people are now traveling at different times of the day and week and are increasingly dependent on freight and home delivery services. Meanwhile, other types of jobs do not offer work-from-home options.

More driving, more congestion. More people are buying cars than ever. There is a sense that (given the choice) people will continue to drive because it is the easy choice.

More danger. Vehicle and pedestrian fatalities are up. Fear of COVID and violence is affecting how people travel and use public spaces.

Shifting costs. Transportation funding is poorly understood and unsustainable. Funding mechanisms will need to evolve and impacts on low-income people will need to be considered.

Transit. Transit is seen as essential for reducing congestion, improving transportation equity, and reducing greenhouse gas emissions. Investments and strategies that rebuild ridership will be an important near-term goal.

Climate. It will be critical to figure out how to accelerate the transition to electric vehicles and pay for related infrastructure.

New priorities. COVID and telework has prompted the "Great Resignation" and people are reevaluating infrastructure priorities. Many have discovered the importance of safe, walkable neighborhoods.

New technologies. Considerations should include hybrid work infrastructure, electric and autonomous vehicles, e-bikes and scooters, travel data/information technology, ride-share, and alternative fuels.

Vision

Stakeholders provided their feedback on the existing Regional Transportation Plan vision.

"Everyone in the Portland metropolitan region will share in a prosperous, equitable economy and exceptional quality of life sustained by a safe, reliable, healthy, and affordable transportation system with travel options."

An ambitious and solid foundation. The vision Statement still makes sense as an aspirational and ambitious goal for the region's future. The vision was praised as clearly stated, comprehensive, positive, and consistent with the vision statements of other groups.

Some described the vision as "idealistic" and "utopian" but felt that it was appropriate for a vision to be broad and to aspire to lofty goals. Others felt that the vision may be trying to achieve too much and realizing the vision will depend on factors outside of the transportation system.

Stakeholder suggested changes to the Vision: consider more emphasis on…

Accessibility. Improved access and affordability should be a primary goal. Transportation access is closely related to concerns about having an equitable system.

Equity. The Vision should speak more directly to equity and include specific language that addresses historically marginalized and oppressed communities.

Climate. The Vision needs to include more explicit focus on climate and resilience.

Economic prosperity. The Vision should reflect how transportation drives the regional economy and supports manufacturing and freight.

Travel options. The Vision should be inclusive of all modes of transportation and recognize that different regions have different needs.

Transit. Transit is critical to achieving the Vision and will require greater focus to become a safer and more reliable transportation option.

Priority Areas

The 2018 RTP prioritized equity, safety, climate, and congestion. Stakeholders discussed whether these priority areas still make sense?

While all the priorities were seen as important and interrelated, **safety** and **equity** were most consistently rated as higher priorities relative to climate and congestion:

"The system should be safe, or it is not a good system."

"It is important to address disparities with people of color, urban, and rural communities to ensure they are not overlooked."

Equity

Stakeholders provided their thoughts on what makes an equitable process for selecting projects and what an equitable transportation system looks like.

An equitable system. While there was no universal definition, most offered a variation of the following:

"Equity means that we have a transportation system that serves everyone, regardless of income and geography."

Most agreed that such a system should be affordable, safe, accessible, convenient, and provide equal opportunity for users. However, the perceptions of who should be the primary beneficiaries of an equitable system varied. Suggested focus included "everyone", "people of color", "underserved areas", and "the most vulnerable users."

Equitable projects should focus on improving safety, particularly with regard to last-mile connectivity, improving transit accessibility, and multimodal travel options. Projects should yield objectively beneficial outcomes for specific areas … not just vague regional benefits.

Equitable process should not presuppose outcomes in advance. A truly equitable process should center diverse voices who are closest to the problems and empower them to make their own decisions. Such a process could involve using data to identify underserved areas, going to those places and nurturing relationships with individuals and organizations who are trusted community ambassadors, agreeing on how Metro can support the process, providing information, education, and compensation for time as required, and then standing back to let the people lead.

Throughout, Metro must be a good listener and foster an open, collaborative process that develops a thorough understanding of local needs. At the end, Metro should circle back to let people know they were heard, to build trust and maintain ongoing relationships with the community.

Critical Partnerships. Metro has a solid reputation for engaging with community-based organizations (CBOs) and Black, Indigenous and People of Color communities, but some regional cities and business groups have felt left out of recent transportation conversations. Existing relationships with CBOs should not be taken for granted or overused. Partnerships should not be infrequent, only when Metro wants something. Commitment to partnership means being transparent about the role and decision-making power of participants, and not asking for time if it will not make a difference. It also means honoring prior input.

Hopes

Stakeholders described what they hope will be different in two years because of the 2023 RTP process?

Improved reputation for Metro.

Partnerships. More coordination and better relationships between agencies and communities.

A better RTP. The RTP should be an exciting, useful tool that honors diverse voices and lays out a clear plan with metrics for success.

Visible change. Demonstrate tangible accomplishments and successes.

A picture of what's coming. We must understand the new normal.

Renewed optimism. People should feel listened to and are hopeful that solutions are coming.

2023 REGIONAL TRANSPORTATION PLAN UPDATE

Transportation shapes our communities and our everyday lives. Access to transit, biking and walking connections, and streets and highways where traffic flows allows us to reach our jobs, schools and families. It connects us to the goods and services we depend on and helps keep nature and recreation opportunities within reach. Investment in the transportation system to provide safe, healthy, accessible and reliable options for getting around is important for the region's long-term prosperity and our quality of life.

As the federally-designated Metropolitan Planning Organization (MPO), Metro is responsible for leading and coordinating updates to the Regional Transportation Plan every five years to address the needs of our growing and changing region. The RTP uses an outcomes-based planning framework that is used to guide planning and investment in the region's transportation system. The plan was last updated in 2018. The next update is due by Dec. 6, 2023, when the current plan expires.

During 2022 and 2023, Metro will work closely with local jurisdictions, port districts, transit providers and federal and state agencies to update the RTP through the year 2045. This document provides background about the RTP and timeline for the update.

WHAT IS THE REGIONAL TRANSPORTATION PLAN?

The RTP is the greater Portland area's long-range blueprint for guiding planning and investments in the region's transportation system for all forms of travel – motor vehicle, transit, biking, and walking – and the movement of goods and freight. The 2018 RTP established four overarching priorities – equity, safety, climate and congestion – eleven goals and supporting objectives, performance targets and policies. Together these elements guide planning and investment decisions to meet the transportation needs of the people who live and work in greater Portland.

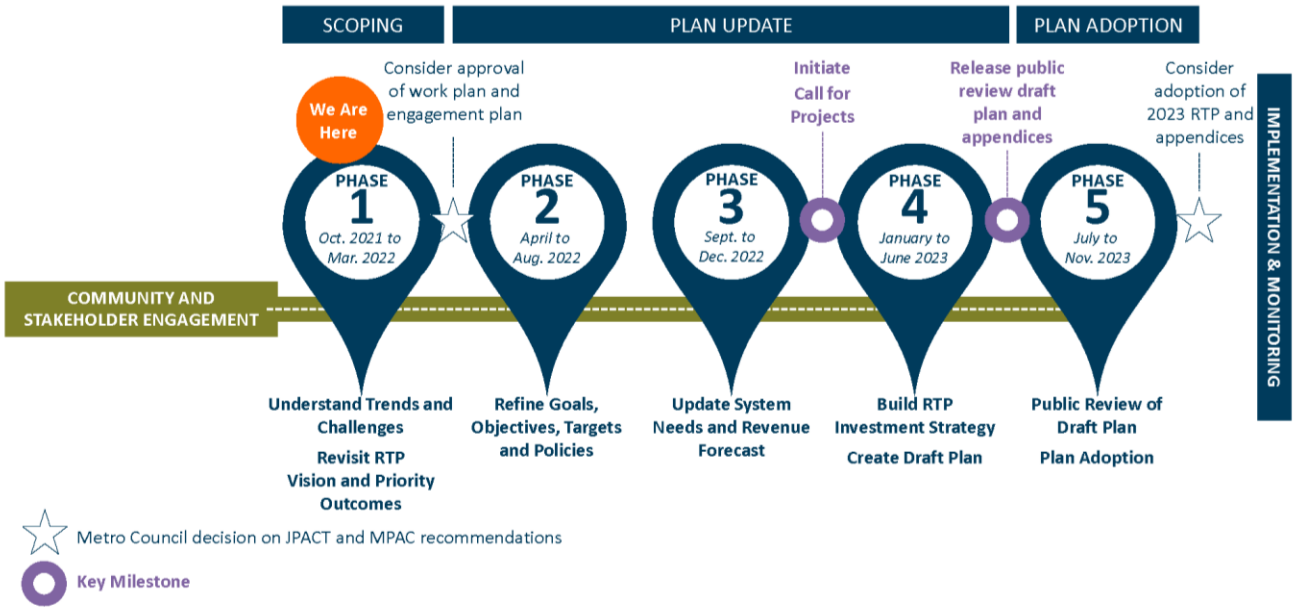
Figure 1. Elements of the Regional Transportation Plan

The plan identifies current and future regional transportation needs, investment priorities to meet those needs, and local, regional, state and federal transportation funds the region expects to have available to make those investments. The plan contains:

- **a long-term vision** for the region's transportation system and **four overarching priorities**;
- **eleven goals and supporting objectives and performance targets** that identify what outcomes the region wants to achieve and indicators to measure progress;
- **policies** that guide decisions and actions in pursuit of our desired outcomes;
- **a financial plan** that identifies how the region will pay for investments; and
- **an investment strategy** that includes major local, regional and state transportation investment priorities that meet transportation needs and help accomplish the vision and desired outcomes identified in the plan.

Metro

WHAT IS THE ANTICIPATED TIMELINE FOR THE UPDATE?



Scoping — Oct. 2021 to March 2022

- Seek Council, JPACT and MPAC feedback on values, desired outcomes and policy topics to address.
- Engage local, regional, state and community partners and the public to inform the overall scope of the update and values that will guide the development of the updated plan.

  Decision: JPACT and the Metro Council consider approval of work plan and public engagement plan (by Resolution). *(anticipated in March 2022)*

Plan Update[1] — April 2022 to June 2023

- **Data and Policy Analysis:** Update vision, goals and policies by August 2022 to inform/guide regional needs and disparities analysis and project list updates.
- **Revenue and Needs Analysis:** Update revenue forecast and complete needs analysis by December 2022 to support updating investment priorities.

  Milestone: Call For Projects released. *(anticipated in January 2023)*
- **Investment Priorities**: Update project list priorities, evaluate performance and seek community feedback on updated priorities from Jan. to June 2023.
- **Draft Plan and Investment Strategy:** Prepare public review draft plan and investment strategy.

  Milestone: Public review draft 2023 RTP and appendices released for 45-day public comment period. *(anticipated in July 2023)*

Plan Adoption — July to November 2023

- **~July 1 to Aug. 14, 2023:** 45-day public comment period with hearings, briefings to regional policy and technical advisory committees and county coordinating committees and other stakeholders, and Consultation activities with tribes and state, federal and resource agencies.
- **Sept. and Oct.:** MTAC and TPAC consider public comment and recommendations to MPAC and JPACT.
- **Oct. and Nov.:** MPAC and JPACT consider public comment and recommendations to the Metro Council.
- **Nov. 30:** Metro Council considers final action.

  Decision: JPACT and the Metro Council consider adoption of the plan (by Ordinance). *(anticipated in November 2023)*

[1] Engagement activities for this phase will be identified during the scoping phase.

2023 REGIONAL TRANSPORTATION PLAN

Key Dates for Developing Work Plan and Engagement Strategy to Guide Update

October 2021 to February 2022

Outcome: Seek feedback on values, priority policy outcomes and engagement to guide update.

Date	Who
October 12	Metro Council (work session)
October 21	Joint Policy Advisory Committee on Transportation (JPACT)
November 3	East Multnomah County Transportation Committee TAC
November 4	Washington County Coordinating Committee TAC
November 10	Transportation Policy Alternatives Committee (TPAC)
November 10	Metro Policy Advisory Committee (MPAC)
November 17	Metro Technical Advisory Committee (MTAC)
November 17	Community Leaders Forum
November	Four language-specific focus groups for community members in coordination with update to Metro's Limited English Proficiency Plan
November 15	East Multnomah County Transportation Committee (policy)
November 15	Washington County Coordinating Committee (policy)
November 16	Clackamas County TAC
November 17	Clackamas County C-4 subcommittee (policy)
November 19	Tribal Summit on Climate Leadership and Urban Planning
Nov. 2021 to Feb. 2022	Stakeholder interviews with greater Portland area business groups and community-based organizations and local, regional and state public officials
January to February 2022	• TPAC and MTAC discussions on values, vision and priorities (Jan. 6 and Jan. 19) • Public online survey on priorities (~3 weeks in February) • Committee on Racial Equity (CORE) discussion on values, vision and priorities (Feb. 17) • Consultation meetings with Resource Agencies and Federal & State Agencies (Feb. 23 and March 1)

February to March 2022

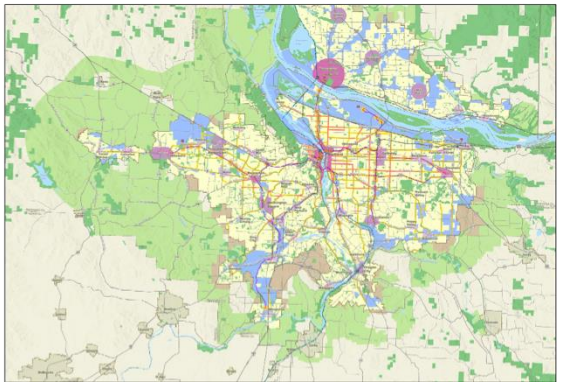
Outcome: Seek JPACT and Metro Council approval of the work plan and engagement plan.

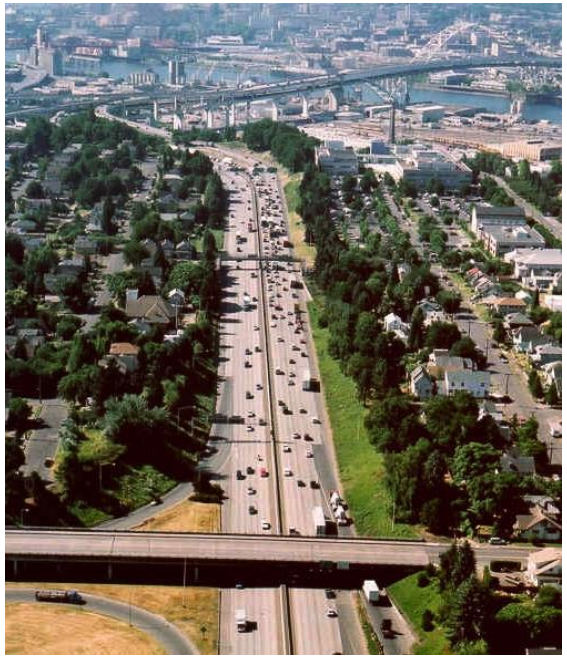
Date	Who
February 15	Metro Council feedback on values and outcomes for RTP
February 16	TPAC/MTAC workshop introduce values and outcomes for RTP and key tasks/areas of focus
February 17	JPACT feedback on values and outcomes for RTP
February 23	MPAC feedback on values and outcomes for RTP
March 4	TPAC recommendation to JPACT
March 16	MTAC recommendation to MPAC
March 17	JPACT recommendation to Metro Council
March 23	MPAC recommendation to Metro Council
March 31	Metro Council considers action on MPAC and JPACT recommendations

Materials following this page were distributed at the meeting.

Regional mobility policy update

TPAC/MTAC Workshop
February 16, 2022





Metro

Oregon Department of Transportation

Project purpose

- Update the mobility policy and how we define and measure mobility for the Portland area transportation system

- Recommend amendments to the RTP and Oregon Highway Plan Policy 1F for the Portland area

Visit oregonmetro.gov/mobility

Applications of the current mobility policy

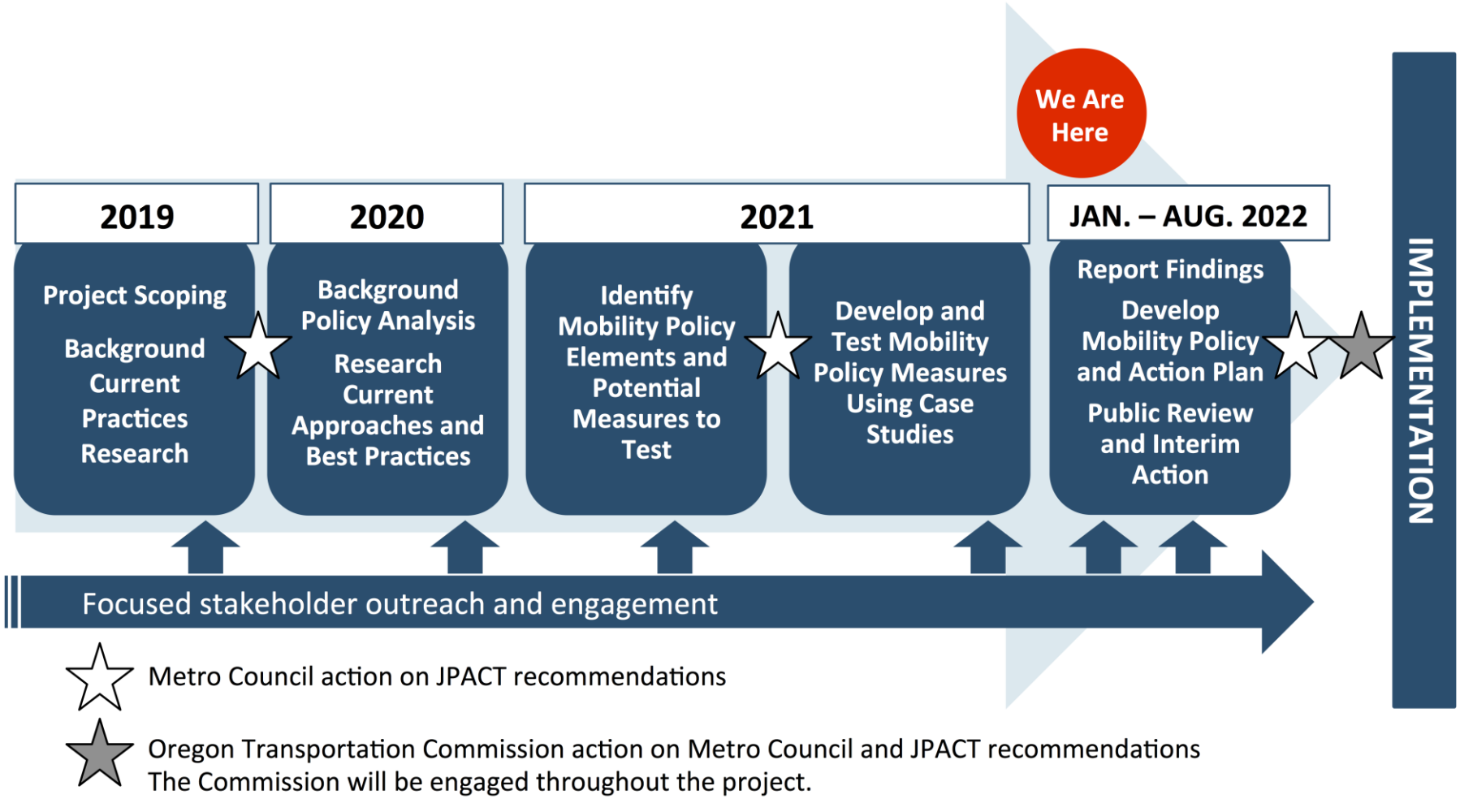
Transportation system plans, corridor and area plans, including concept plans to set performance expectations to identify needs as defined in the RTP and Oregon Highway Plan

Zoning changes and land use plan amendments using transportation thresholds defined in the Oregon Highway Plan for state-owned roads and local codes for city- and county-owned roads

Development approval process to mitigate traffic impacts using thresholds defined in the OHP and local codes

Operational and road project designs as defined in the 2012 Oregon Highway Design Manual and local codes

Timeline


We Are Here
2019
2020
2021
JAN. – AUG. 2022
Project Scoping
Background Current Practices Research
Background Policy Analysis
Research Current Approaches and Best Practices
Identify Mobility Policy Elements and Potential Measures to Test
Develop and Test Mobility Policy Measures Using Case Studies
Report Findings
Develop Mobility Policy and Action Plan
Public Review and Interim Action
IMPLEMENTATION
Focused stakeholder outreach and engagement
Metro Council action on JPACT recommendations
Oregon Transportation Commission action on Metro Council and JPACT recommendations
The Commission will be engaged throughout the project.

2021 Engagement

Metro Council

County coordinating committees

Regional advisory committees

1 community leaders forum

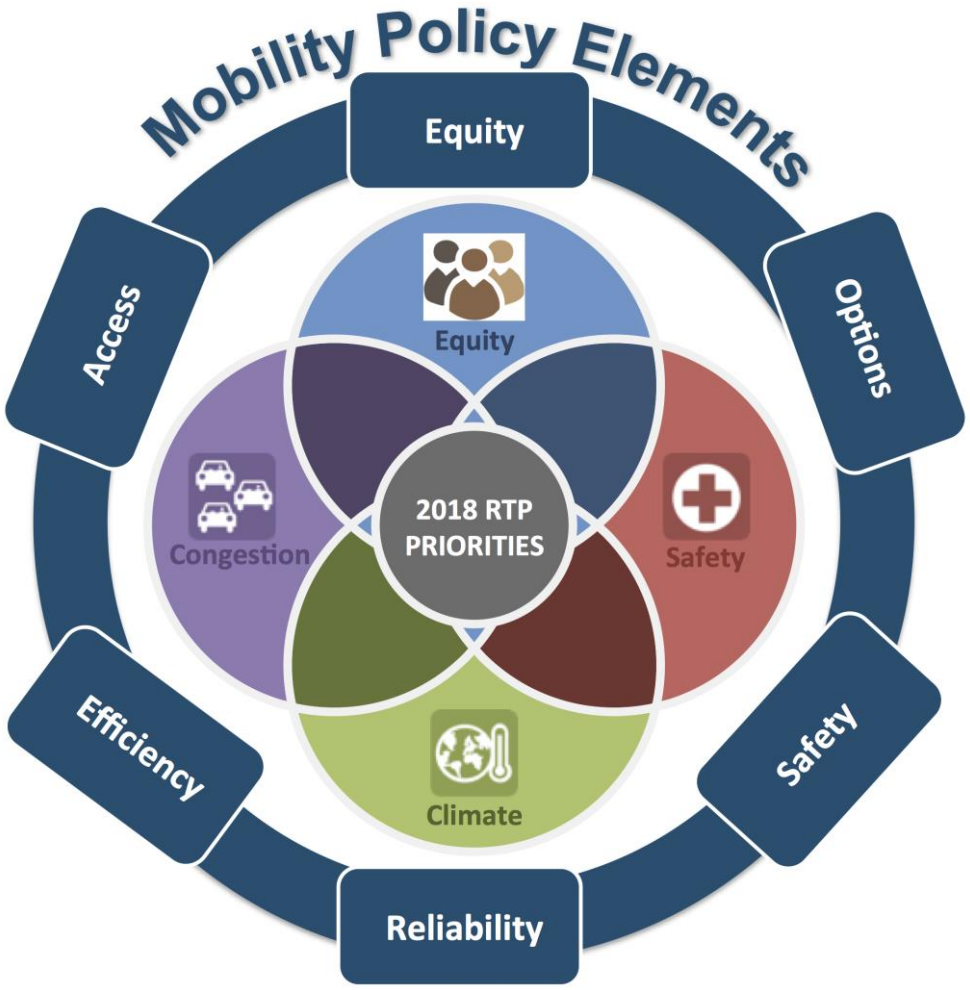
1 freight and goods forum

2 practitioner forums – planners, engineers, modelers

More than 350 participants

zoom

DRAFT Vision for urban mobility for the Portland area: *People and businesses can safely, affordably, and efficiently reach the goods, services, places and opportunities they need to thrive by a variety of seamless and well-connected travel options and services that are welcoming, convenient, comfortable, and reliable.*



Mobility **elements**

Equity
Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.

Access
People and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.

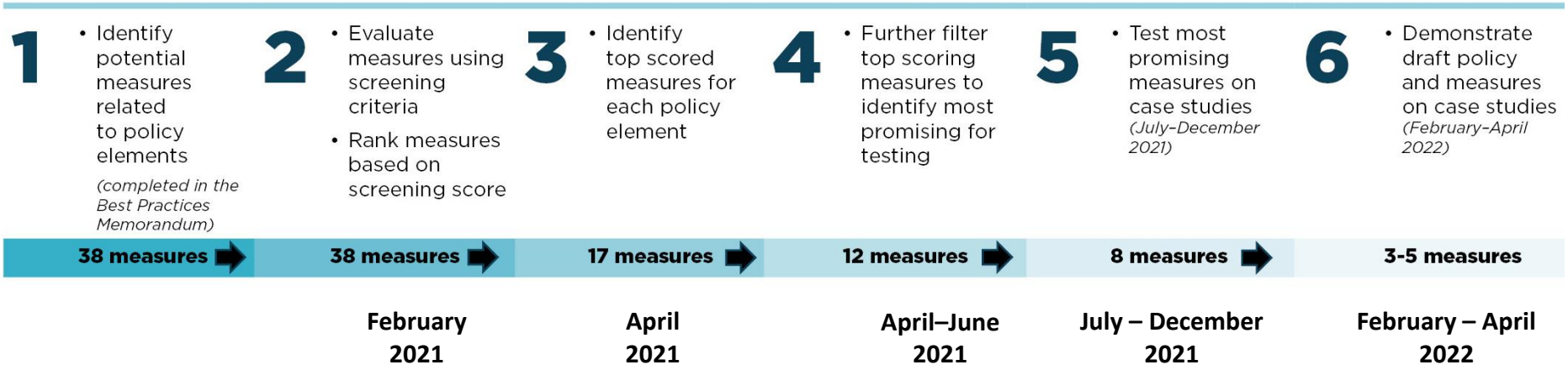
Efficiency
People and businesses efficiently use the public's investment in our transportation system to travel where they need to go.

Reliability
People and businesses can count on the transportation system to travel where they need to go reliably and in a reasonable amount of time.

Safety
People are able to travel safely and comfortably and feel welcome.

Options
People and businesses can choose from a variety of seamless and well-connected travel modes and services that easily get them where they need to go.

Measures Screening Process



Case Study Overview – Further reduced group of measures

Current mobility policy measure	**V/C Ratio**
Vehicle-focused measures*	**Duration of Congestion**
	Queuing
	Travel Speed
	VMT/Capita
Multimodal measures	**Access to Destinations/ Opportunity** (all modes)
	Level of Traffic Stress (LTS) (bike and pedestrian)
	Pedestrian Crossing Index (bike and pedestrian)
	System Completion (all modes)

What we want to learn from the case studies:

1. How well does the measure help compare outcomes in Equity Focus Areas (EFAs) to other areas?
2. How sensitive is the measure to changes in land use?
3. How could measures that are not sensitive to land use changes be applied in plan amendments?
4. Does Metro's Dynamic Traffic Assignment (DTA) model identify different needs than the travel demand model at the system level? Does it offer significantly different post-processed intersection volumes?

Potential application of the measures being tested

System Planning

- Apply as target in planning
- Define the planned complete system
- Set standards based on what the plan achieves

Plan Amendments

- Identify if there is a measurable change in performance
- Compare to standard
- Identify mitigations

Vehicle-focused Measures

Key findings:

- **Travel Speed** is relatable and consistent with facility management
- Using **Travel Speed** reduces overemphasis/over design on long-term intersection operations
- Intersection **v/c ratio** still has a place in planning and near-term mitigations
- **Duration of Congestion** will need to be considered in the policy for either congestion metric
- **Queuing** will need to be considered in the policy for either off-ramps only or for arterial intersections as well

	Current mobility policy measure	Evaluating Outcomes for Equity Focus Areas	System Planning: Applying a Target to Identify Needs and Develop Plan	System Planning: Setting Standard based on Plan	Plan Amendments: Large-Scale/ Areawide: Show measurable impact (from added trips, any mode)	Plan Amendments: Large-Scale/ Areawide: Identify mitigations if standard exceeded	Plan Amendments: Small-Scale/Site-Specific: Show measurable impact (from added trips, any mode)	Plan Amendments: Small-Scale/Site-Specific: Identify mitigations if standard exceeded
	V/C Ratio	A	‖✚	‖✚	‖✚	‖✚	‖✚	‖✚
Vehicles	Duration of Congestion	A	‖✚	‖✚	‖✚	‖✚	‖✚[5]	‖✚
Vehicles	Queuing		‖[1]✚	‖[1]✚	‖[1]✚	‖[1]✚	‖[1]✚	‖[1]✚
Vehicles	Travel Speed	A	‖✚[2]	‖✚[2]	‖✚	‖✚[3]	‖[4]✚[4]	‖[3]✚[3]

‖=Thruway ✚=Arterial/Collector

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

1. Off-ramps only.
2. The target travel speed on arterials/collectors should have a maximum consistent with area context and the desired posted speed and a minimum thresholder for congestion.
3. Intersection v/c ratio analysis can be used to help identify mitigations to improve travel speed.
4. Travel demand model or microsimulation can support the analysis but the impact may be very minimal.
5. Travel demand model or microsimulation can support the analysis but the impact will be negligible.

Land Use Efficiency Measures

Key findings:

- **VMT/capita** can be modeled and forecasted, showing if the planned land use and transportation systems are moving in the right direction, more efficient to serve
- **VMT/capita** demonstrates if planned land use changes result in less travel and in less impactful ways
- Can show incremental improvements

		System Planning		Plan Amendments: Large-Scale/ Areawide		Plan Amendments: Small-Scale/Site-Specific	
	Evaluating Outcomes for Equity Focus Areas	Applying a Target to Identify Needs and Develop Plan	Setting Standard based on Plan	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded
VMT/Capita[11]	AB	●	●	●	●[1]	Caution[4]	●[5]
Access to Destinations[11]	AB	●	●	●[2]	●[3]	●[2]	●[3]

● =Area

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

B. Measure relates to increased access to non-auto modes which are accessible to people without access to vehicles.

1. Mitigations would need to be changes in land use or significant travel demand management (TDM) measures

2. Land use changes would increase or decrease the number of destinations that are accessible but not how far the area of accessibility is

3. Mitigations would need to be changes in land use or significant changes in the transportation network.

4. When looked at in a localized area, VMT/capita may increase for the localized area while contributing to lower VMT/capita for the jurisdiction. This would occur if the projected VMT/capita for the localized area were projected to be below the jurisdiction's average. It would indicate that increased development in that area is more efficient than other areas.

5. Mitigations would need to be changes in land use or land use intensity which may not be effective based on the land use patterns and surrounding transportation network. If not effective, would need to mitigate with TDM or TSMO.

Land Use Efficiency Measures – VMT/capita

2018 Regional Transportation Plan

- All scenarios have decreases in average VMT/capita but none achieve 10% reduction target

  No build: -1.2% Constrained: -4.0% Strategic: -4.0%

Central City MMA (multimodal mixed use area)

- Home-based VMT/capita of 4.2 compared to 11.0 in region overall
- Able to double population and jobs with minimal increase in VMT/capita
- Able to reduce VMT/employee by 72%

Oregon City MMA (multimodal mixed use area)

- VMT/employee increases by 1.8% for the subarea, Oregon City increases by more than 2% (which meets the current TPR requirement that new plans not increase VMT/capita by more than 5%)

South Hillsboro Community Plan

- Despite pedestrian-oriented design and mixed-use town center land uses, people living in South Hillsboro (10.9) would generate more VMT/capita than residents of the City of Hillsboro (8.5) but roughly equal to the overall Metro Region (10.5) – demonstrates that infill is more efficient than urban growth areas
- People working in South Hillsboro (9.2) would generate less VMT/employee than employees in Hillsboro (10.7) and the overall Metro Region (9.5) – demonstrates benefit of more housing to support Hillsboro jobs

Multimodal Measures

Key findings:

- Complete system definition should be set through system planning and include number of travel lanes, turn lane policy, bicycle, pedestrian, transit and TSMO/TDM components
- Setting a low-stress target for all roads or certain roadway classifications (arterials, for example) is not practical to achieve
- Crossing spacing targets and LTS should be used to plan the complete system

		System Planning		Plan Amendments: Large-Scale/ Areawide		Plan Amendments: Small-Scale/Site-Specific	
	Evaluating Outcomes for Equity Focus Areas	Applying a Target to Identify Needs and Develop Plan	Setting Standard based on Plan	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded	Show measurable impact (from added trips, any mode)	Identify mitigations if standard exceeded
LTS	AB	✚	✚	✚[1]	✚[1]	NO	NO
Ped. Crossing Index	AB	✚	✚	✚[2]	✚	✚[2]	✚
System Completion	AB	‖✚	‖✚	✚[3]	✚	✚[3]	✚

‖=Thruway ✚=Arterial/Collector

A. Measure can be evaluated and compared for different geographic areas related to concentrations of disadvantaged populations and can be used to evaluate equity.

B. Measure relates to increased access to non-auto modes which are accessible to people without access to vehicles.

1. Only sensitive to large changes in volumes or looking at access to LTS routes

2. Can document impact on warrants for a protected crossing

3. Can document impact on signal warrants, and number of trips added to system by mode, and if they are impacting an incomplete mode, but difficult to calculate their impact or proportionate share

Preliminary Recommendations for the Updated Mobility Policy Measures

Measure	Scale for Application	Purpose
System Completeness	Plan Area and Equity Focus Areas	• Used to identify needs. • Definition of "complete" would be defined through system planning to define network connectivity, the future number of through travel lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM elements.
Travel Speed (including Duration of Congestion and Queuing)	Facility level for throughways and arterials (could exclude arterials in 2040 centers or all urban area)	• Used to identify needs. • To assess vehicle congestion as one of the major factors impacting travel reliability. • For Throughways and Arterials, reducing motor vehicle congestion through additional roadway capacity should follow the region's congestion management process and OHP Policy 1G on ODOT roadways but should not come at the expense of non-motorized modes and achieving system completeness consistent with regional modal or design classifications or achieving the VMT/capita target
VMT/Capita	Plan Area	Measured for the plan area to ensure that land use and transportation plan changes are working in tandem to achieve VMT/capita reduction targets and resulting in: • reduced need to drive • improved viability of using other and more efficient modes of travel than the automobile and • preserving roadway capacity for transit, freight and goods movement.

Discussion on preliminary recommended measures

Questions or feedback on the recommended measures?

Do you support the recommended primary measures?

Suggestions for how the draft policy and measures should be brought forward to policy committees?

Discussion on potential measurement options

Multi-modal Measures

- Should system completeness be incorporated into the mobility policy?
- If only system completeness is included in the policy, should any guidance be provided about the use of pedestrian crossing index and/or bicycle level of traffic stress?

Vehicle Focused Measures

- Which measure(s) should be used for congestion, and should it be applied to arterials in addition to throughways?
  - If so, should it be applied to all arterials or just those outside of 2040 centers?
- What thresholds/targets should be applied based on the measure selected?

Land Use Efficiency Measures

- Should VMT/capita be incorporated into the mobility policy to ensure that all plans and plan amendments contribute to reaching the regional target?
  - If so, should the thresholds/targets be consistent with the TPR targets for the Portland region?

Next steps

Feb. to Summer 2022	Report findings from case studies
	Seek feedback on policy options Recommend measures and action plan
	Develop and recommend policy for public review and consideration by regional policymakers and OTC (including application, threshold options, and additional case study review)
Summer/Fall 2022	Begin applying interim policy in 2023 RTP update

RTP

Scoping
Oct. 2021 to March 2022

Plan Update
April 2022 to June 2023

Plan Adoption
July to Nov. 2023

Thank you!

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oregonmetro.gov /mobility

Draft Mobility Policy 1

Recommended Measure:

-VMT/Capita

1: Ensure that the public's investment in the transportation system enhances efficiency in how people and goods travel to where they need to go.

- Option 1A: Incorporate vmt/capita reduction targets into the policy to ensure that land use decisions and transportation system plans support efficient transportation systems and reduced travel demand.

Draft Mobility Policy 2

Potential Measures:

-Access to Destinations

-System Completeness *(recommended)*

2: Provide people and businesses a variety of seamless and well-connected travel modes and services that increase connectivity, increase choices and access to low carbon transportation options so that people and businesses can conveniently and affordably reach the goods, services, places and opportunities they need to thrive.

- Option 2A: Incorporate “system completeness” targets into the policy to identify needs and ensure that the planned transportation system is increasing in connectivity and safety of the multimodal network. The definition of complete will vary based on the modal functional classification and design classification and can be refined by facility in system plans. (Case studies support system completeness for all levels of planning)

- Option 2B: Incorporate “access to destinations” metrics into the policy to identify disparities in access to destinations across modes and identify transportation and land use strategies to increase access to destinations. (Case studies indicate this is challenging other than at the system planning level)

Draft Mobility Policy 3

Potential Measures:

-V/C Ratio

-Travel Speed *(recommended)*

-Off-Ramp Queues *(recommended)*

-Hours of Congestion *(potential component)*

3: Create a reliable transportation system, one that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.

- Option 3A: Incorporate congestion targets into the mobility policy for throughways. Note all options for throughways would include a target for **off-ramp queues** to minimize queue spillback into through lanes. Incorporate **hours of congestion.**

- Option 3B: Include link level congestion targets in the mobility policy for all arterials to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.

Draft Mobility Policy 3 cont.

3: Create a reliable transportation system, one that people and businesses can count on to reach destinations in a predictable and reasonable amount of time.

- Option 3C: Include link level congestion targets in the mobility policy for arterials outside of 2040 centers, station communities and main streets to identify mobility needs and inform decisions on the number of lanes that will be considered complete for the vehicle mode. Targets would vary based on modal classifications and land use context.

- Option 3D: Do not include congestion targets in the mobility policy for arterials (congestion metrics can be used as diagnostic tools to support system planning). Could make exceptions for enhanced transit or high-capacity transit corridors and regional freight network routes.

Draft Mobility Policy 4

Potential Measures:

-System Completeness *(recommended)*

-Queuing *(recommended)*

-Pedestrian Crossing Index

-Bicycle Level of Traffic Stress

4: Prioritize the safety and comfort of travelers in all modes when planning and implementing mobility solutions.

- Option 4A: Incorporate “system completeness” target into the mobility policy to ensure safety and comfort for all modes. (Metric can be used to identify needs but the definition of “complete” would also be defined through system planning to define the future number of through lanes, policy on turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM plan elements)

- Option 4B: Incorporate “**queuing**” target into the mobility policy for Throughway ramp terminals to minimize queues spilling onto the Throughway creating safety issues.

Draft Mobility Policy 4 cont.

4: Prioritize the safety and comfort of travelers in all modes when planning and implementing mobility solutions.

- Option 4C: Incorporate “pedestrian crossing index” metric into the mobility policy to identify needs and inform facility level planning. (Setting target through the RMP not recommended but recommended that system and facility plans establish targets for each facility based on Livable Streets Guide and adjusting for local context.)

- Option 4D: Incorporate “bicycle level of traffic stress” metric into the mobility policy to identify needs and inform facility level planning. (Setting target not recommended but recommended that system plans identify the future low-stress bicycle networks and that be incorporated into the system completeness metric)

Draft Mobility Policy 5

Potential Measures:

Compare EFA vs. Non-EFA Areas

-Access to Destinations (*recommended if included in the policy)*

-System Completeness *(recommended if included in the policy)*

5: Prioritize investments that ensure that Black, Indigenous and people of color (BIPOC) community members and people with low incomes, youth, older adults, people living with disabilities and other historically marginalized and underserved communities experience equitable mobility.

- Option 5A: Include targets for reducing disparities between “Equity Focus Areas" and “Non-Equity Focus Areas”. This would result in identification of needed investments to address disparities and prioritization of these investments.

Emerging transportation trends: initial results

MTAC/TPAC Workshop

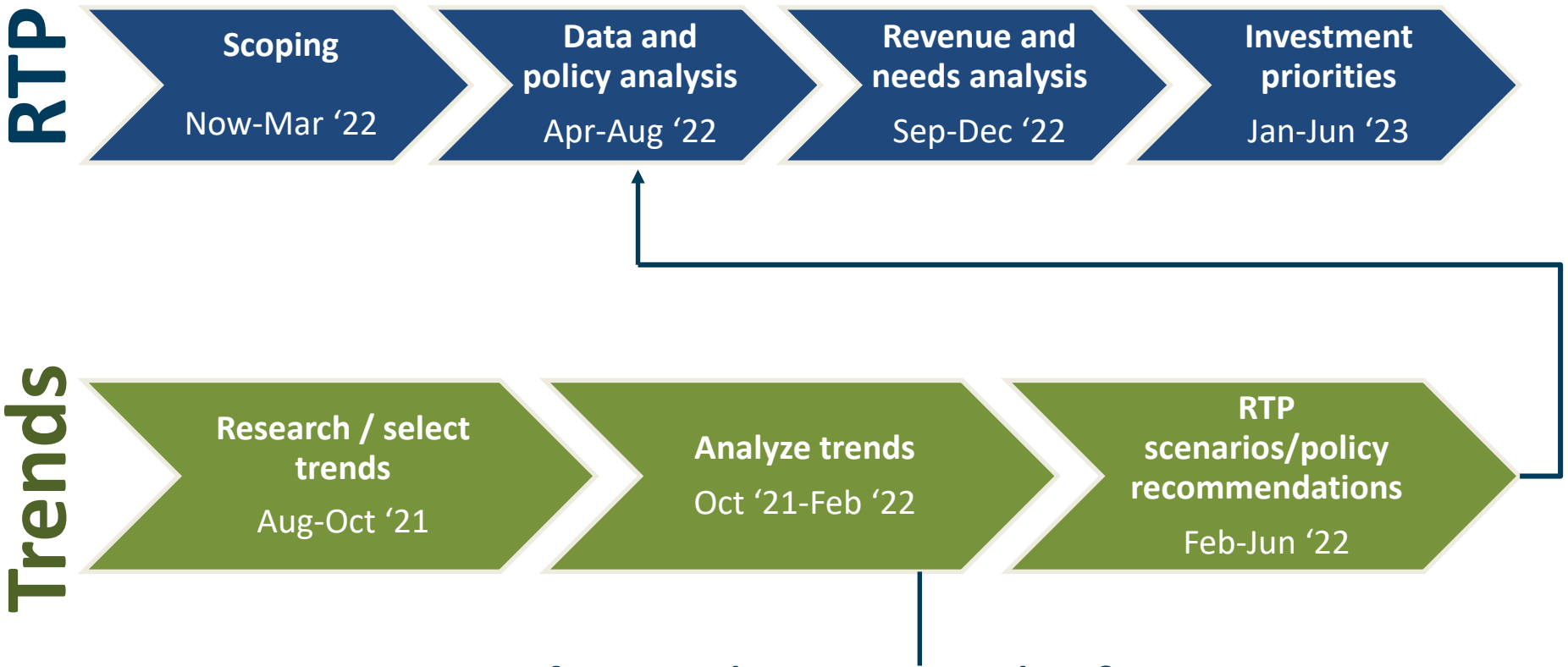
February 16, 2022

Study purpose

Scope: Major transportation trends due to the pandemic and other recent disruptions
Time frame: now-June ‘22
Goals:

- Develop common understanding of changes that we’ve all been experiencing individually
- Identify potential changes to policy and analysis to consider during the 2023 RTP update
- Will be followed by other Emerging Trends work

Timeline



We are here: Sharing results from the initial analysis of trends

Emerging trends and equity

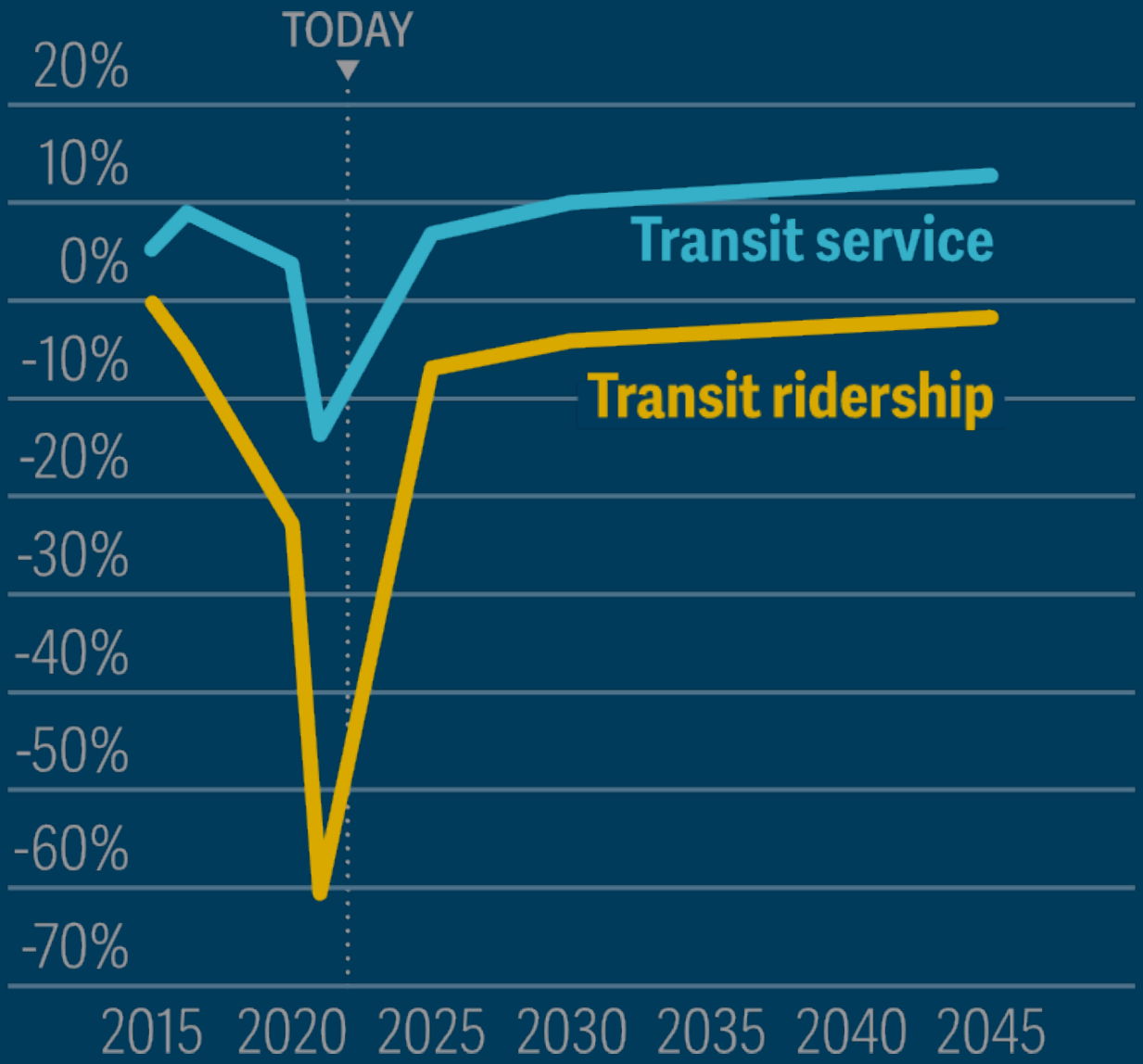
The pandemic widened gaps in health, employment, and education for BIPOC and low-income people.

Affluent people have more time and resources to adapt to the pandemic and other disruptions.

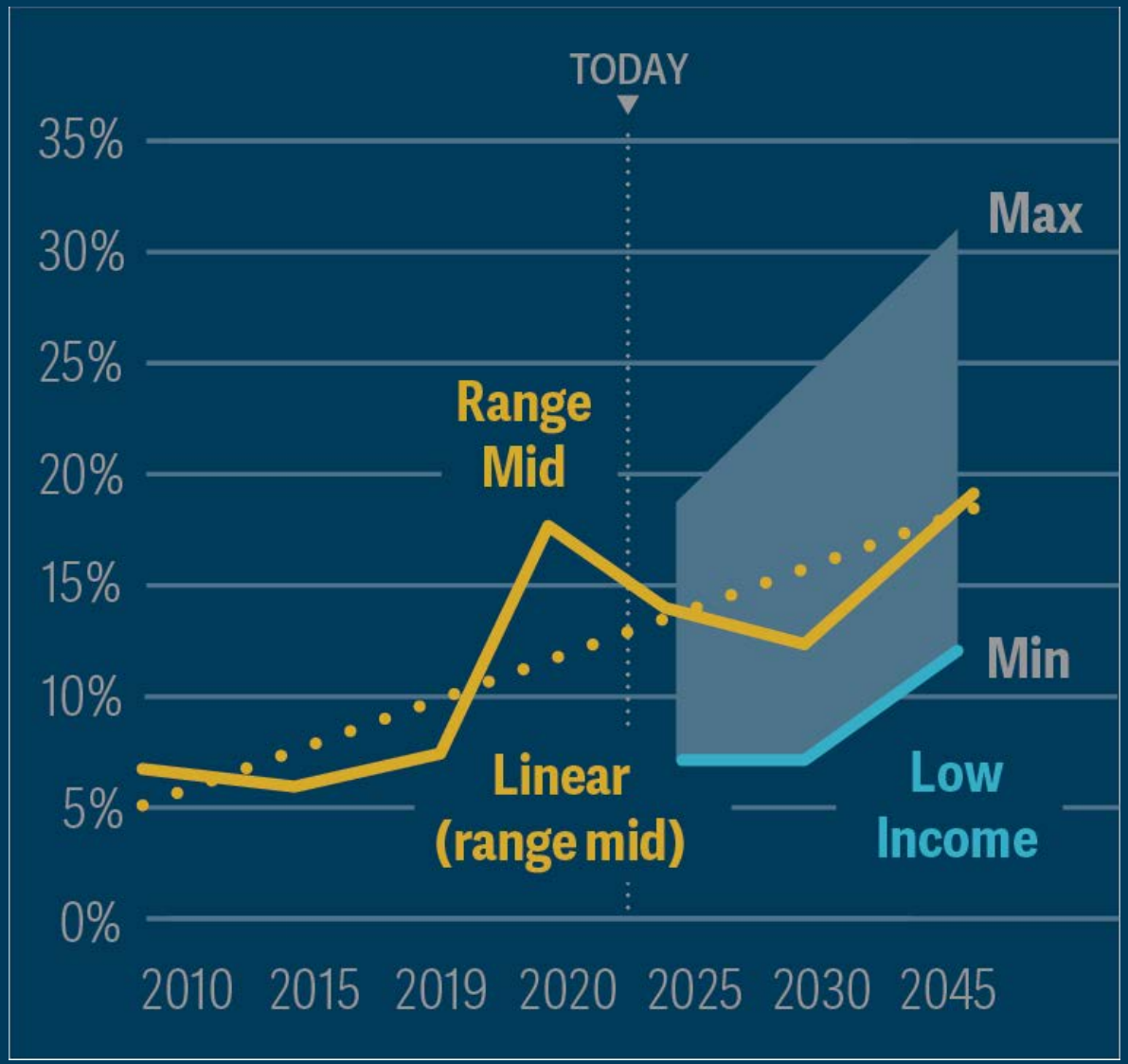
Transit agencies have prioritized equity when adapting to the pandemic, but it has been a challenging time for public transportation.

In order to meet our equity goals, taking transit needs to be as convenient, safe, and affordable as driving.

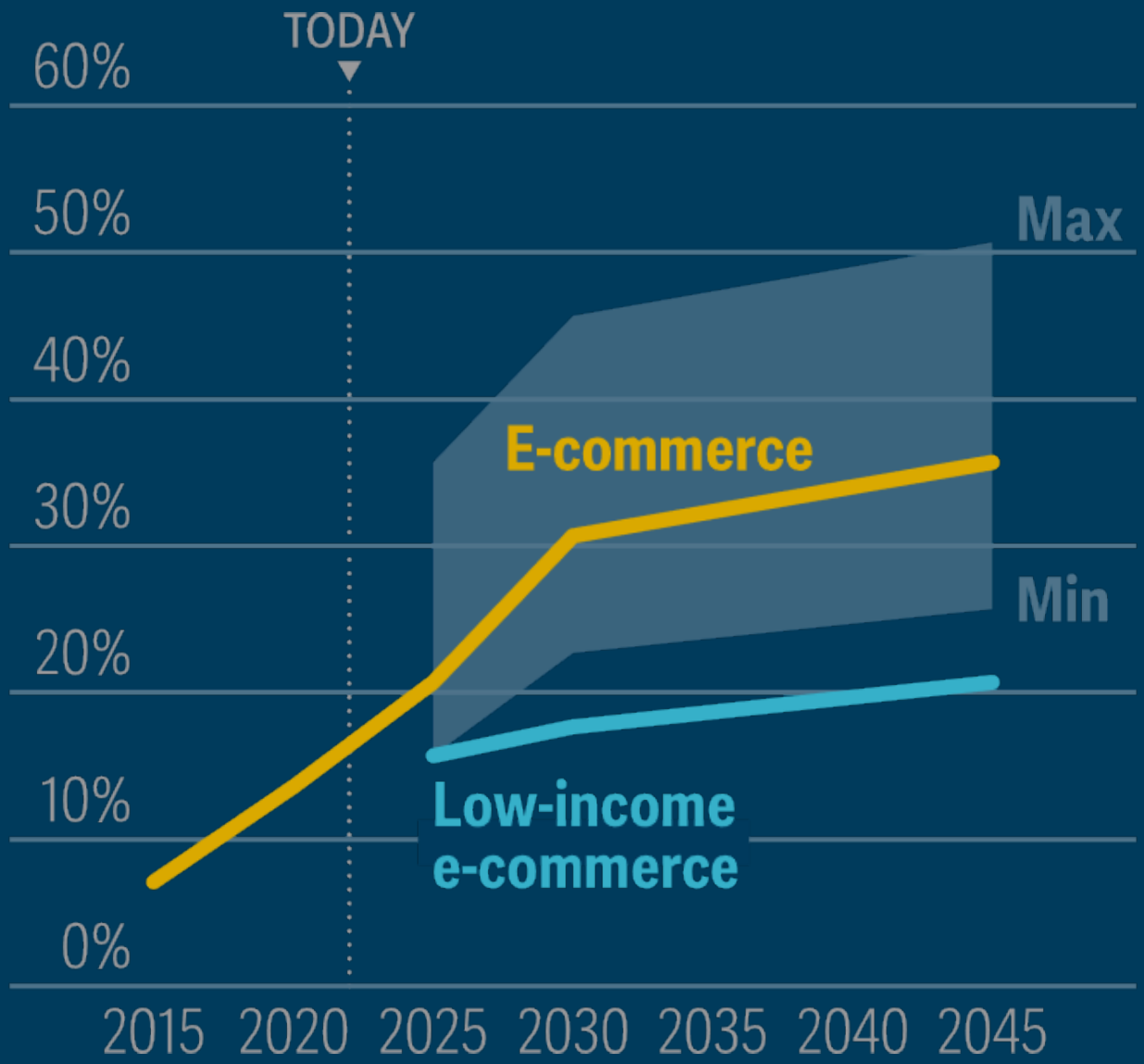
TriMet service and ridership, 2015-45



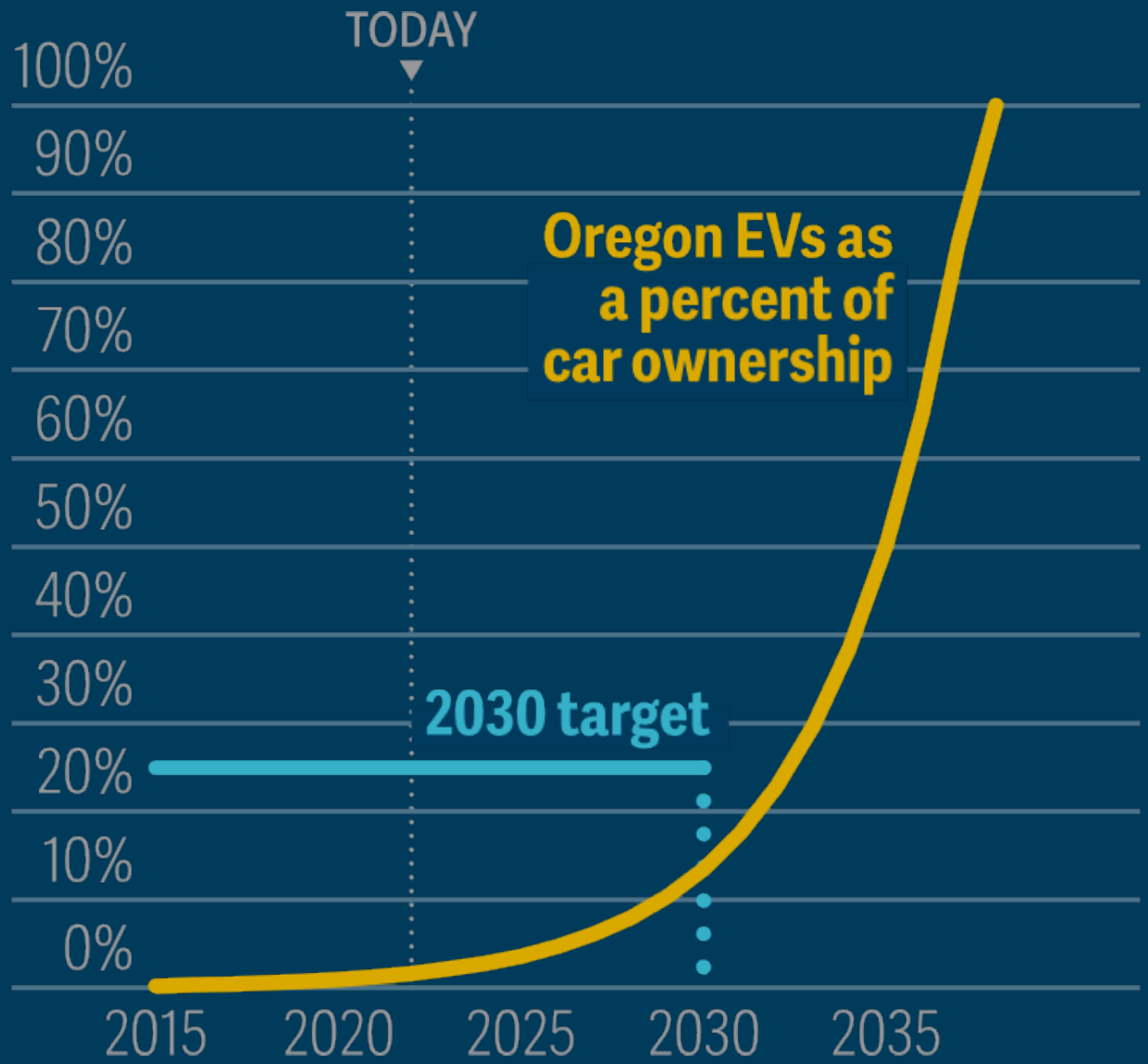
Telework rates in Oregon, 2010-45



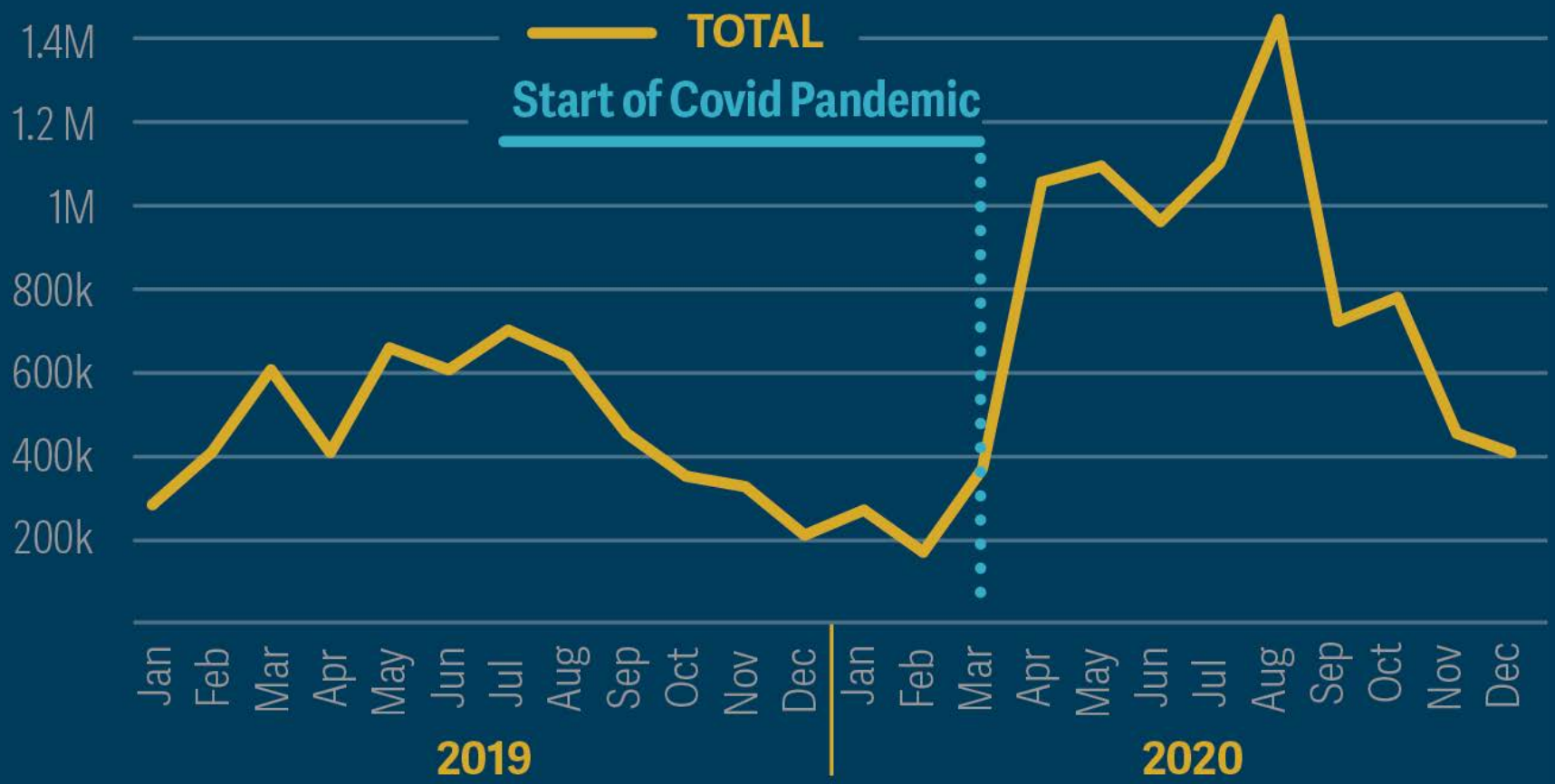
US retail sales conducted online, 2015-45



% of OR vehicles that are EVs, 2015-45



2019-20 Metro Region Strava bike trips



We analyzed some trends qualitatively

Unsafe streets: Fatal crash rates have gone up alarmingly during the pandemic, but may level off as people resume traveling.

Personal safety: People – especially BIPOC people – are more concerned about personal safety and health when traveling in public than they were before.

Agency funding: Most budgets are recovering to pre-pandemic levels, but transit funding will continue to be less than is needed to meet regional goals.

Impacts on our regional goals

Trend	VMT	Transit use	Safety	Equity
Declining transit service and ridership	+0-2%	-10-30%	↓	↔
Increasing telework	-0-6%	-0-5%	-	↔
Increasing online shopping	-2-+2%	-0-3%	-	↔
More affordable and efficient electric vehicles	↑	↓	-	↑
Increasing concerns about personal safety	↑	↓		↓
Increasingly unsafe streets	-	-	↓	↓
Increasing recreational cycling	-	-	-	-
Lagging transportation funds	-	-	-	↔

Legend: Positive impact – No impact / not quantified – Negative impact
Potential ongoing disparity

Key findings

Several trends pose challenges to meeting the region's climate, equity and safety goals.

Many people – especially BIPOC and low-income people – were not able to adapt their work, shopping and travel habits to these trends.

Restoring transit service and ridership is critical to keeping our region on the right track.

Looking ahead

Looking forward to the RTP, addressing these trends may require a shift in our policies and practices:

- From commute trips to other trips
- From personal shopping trips to delivery trips
- From physical access to digital access
- To understanding “new normal” levels of congestion

Next steps

Identifying key issues and changes for decision-makers to consider as the RTP policies are updated.

Creating scenarios that reflect the combined impact of these trends on the future of our region, potentially including:

- Changes in how, why, when, and how much people travel
- Changes in transportation service and investment
- Progress toward meeting goals and outcomes

Discussion and feedback

- Do you have any questions or feedback about the results that we are presenting today?
- What issues and questions are you interested in exploring as we develop scenarios and policy recommendations for the 2023 Regional Transportation Plan update based on these trends?

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2023 Regional Transportation Plan update

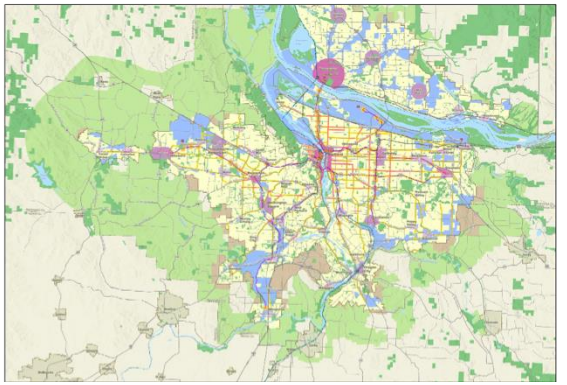
TPAC and MTAC Workshop

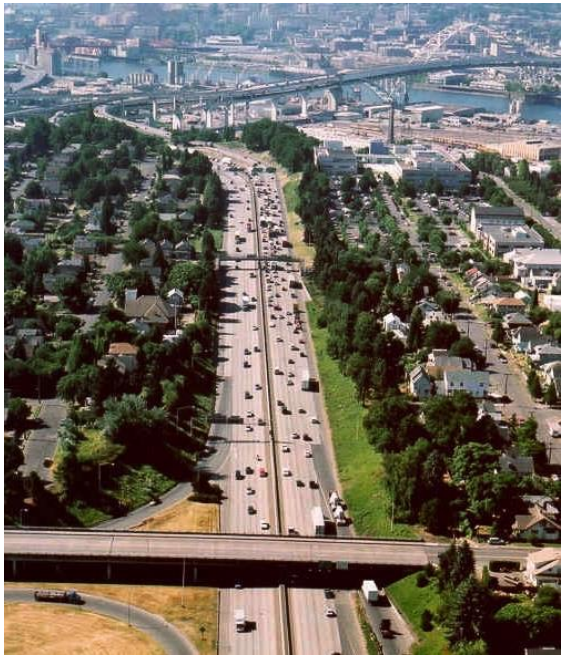
February 16, 2022

Kim Ellis, Project Manager

Molly Cooney-Mesker, Community Engagement Lead

Metro





Today's purpose

Brief overview of the scoping phase

Share feedback to date

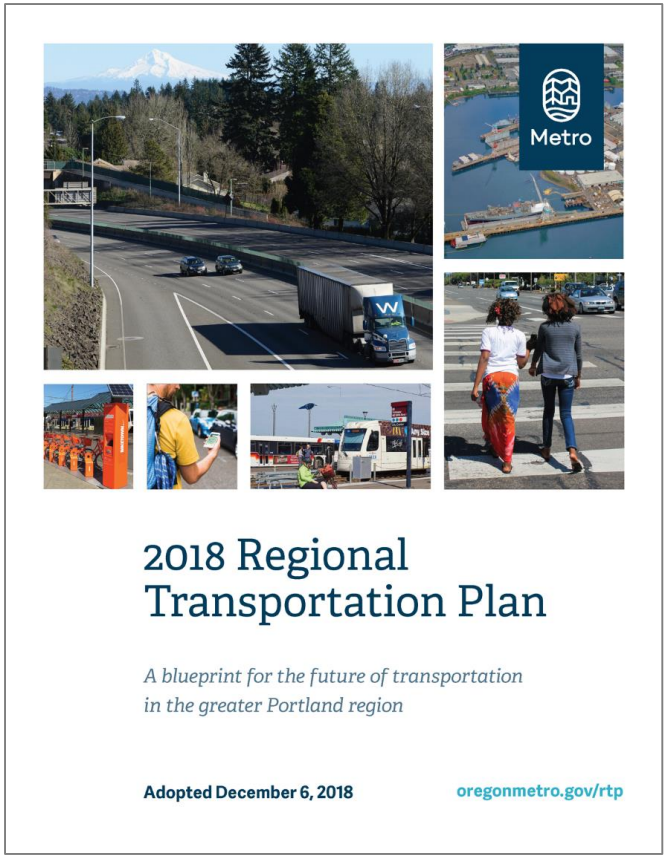
Begin discussion of:

- **Key tasks**
- **Engagement activities**
- **draft Values, Outcomes and Actions** for the 2023 Regional Transportation Plan

What is the Regional Transportation Plan? (RTP)?

20+ year transportation plan

- Sets the stage for what communities will look like in the future
- Guides investments in the region's transportation system
- Includes policies and projects
- Coordinates local, regional, and state investments
- Establishes priorities for federal and state funding



Engaging partners and the public since October

- Briefings and presentations
- Language-specific focus groups
- Community Leaders Forum
- Tribal Summit on Climate Leadership
- Stakeholder interviews
- On-line survey *(live this week)*
- Consultation meetings *(Feb 23/Mar 1)*

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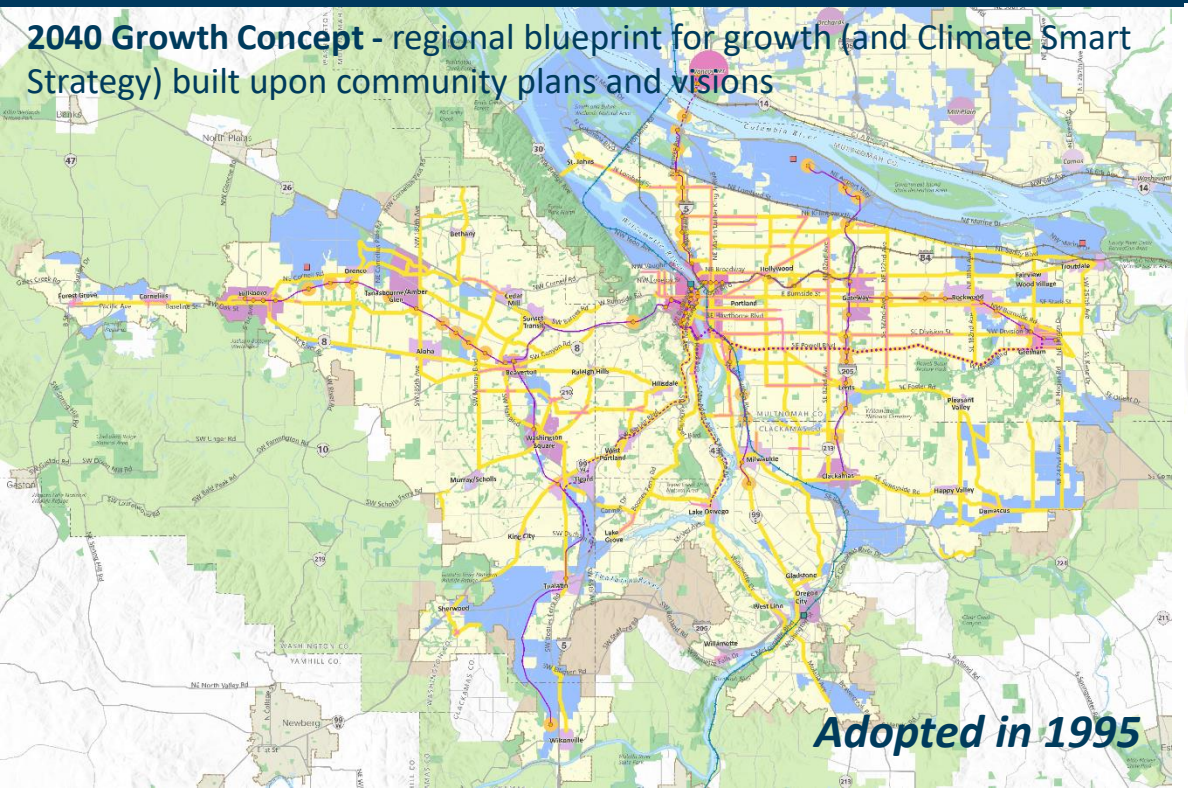
2018 Regional Transportation Plan Vision Statement and Priorities

"In 2040, everyone in the Portland metropolitan region will share in a prosperous, equitable economy and exceptional quality of life sustained by a safe, reliable, healthy and affordable transportation system with travel options."

2040 Growth Concept - regional blueprint for growth (and Climate Smart Strategy) built upon community plans and visions



Source: 2018 RTP (Chapter 2)

2018 Regional Transportation Plan Goals

WHAT WE WANT TO ACHIEVE
Vibrant communities
Shared prosperity
Transportation choices
Reliability and efficiency
Safety and security
Healthy environment
Healthy people
Climate leadership
Equitable transportation

HOW WE GET THERE
Fiscal stewardship
Transparency and accountability

Source: 2018 RTP (Chapter 2)

What we heard from Council

- **Focus on people and values**
- **Advance** Metro's commitment to **racial justice, climate leadership and resilient communities**
- **Improve understanding** of regional transportation **needs and disparities and transportation funding**
- Use **storytelling and inclusive engagement** strategies **combined with quantitative data**
- **Update process for updating and prioritizing the project list**

Lead with racial equity.

Prioritize equity, climate, safety and mobility outcomes while advancing other goals and outcomes.

Better address safety and equity issues on region's urban arterials.

Accelerate implementation of the Climate Smart Strategy.

Bring to life the experiences and needs of people living and working in the region.

Identify underserved communities and barriers to meeting daily needs.

Better manage and operate the existing transportation system.

What we heard from committees (JPACT, MPAC, MTAC and TPAC)

- Provide space for **robust policy discussions** on funding**,** climate, congestion pricing, urban arterials and transit
- **Think differently about how to fund transportation** to support equity and climate outcomes
- **Prioritize safety and transit, biking and walking/rolling connections**, especially in underserved areas
- Recognize **different areas** in the region **have different needs and priorities**
- Leverage and **build on equity work already happening** in communities
- Ensure investment **priorities are informed by community** members

Center this RTP on equity and climate. This is the last RTP to meaningfully address climate issue.

Would like to see the region make walking, biking and transit our top priority in this RTP.

RTP analysis should highlight the benefits and tradeoffs of policies and investments in different communities.

Policies, funding and investment priorities need to be connected with our values.

It is important for this process to include lots of community engagement and engagement with elected leaders to create a shared vision for equity and climate.

What we heard from interviews (electeds, business, community leaders)

- **Safety, equity, climate and congestion are still important;** these priorities intersect in many ways
- **Addressing equity** means addressing the other priorities in equitable ways
- **Elevate accessibility in the RTP,** especially affordability and connections to transit
- **Transit is seen as an essential service** that can help achieve priorities - however, its future is uncertain
- **People feel unsafe using the transportation system**
- Be more explicit about **providing access and support for jobs, freight, and commerce**
- Most people drive as part of their daily commute. **Many communities have been dependent on cars** and feel that they have no practical alternatives

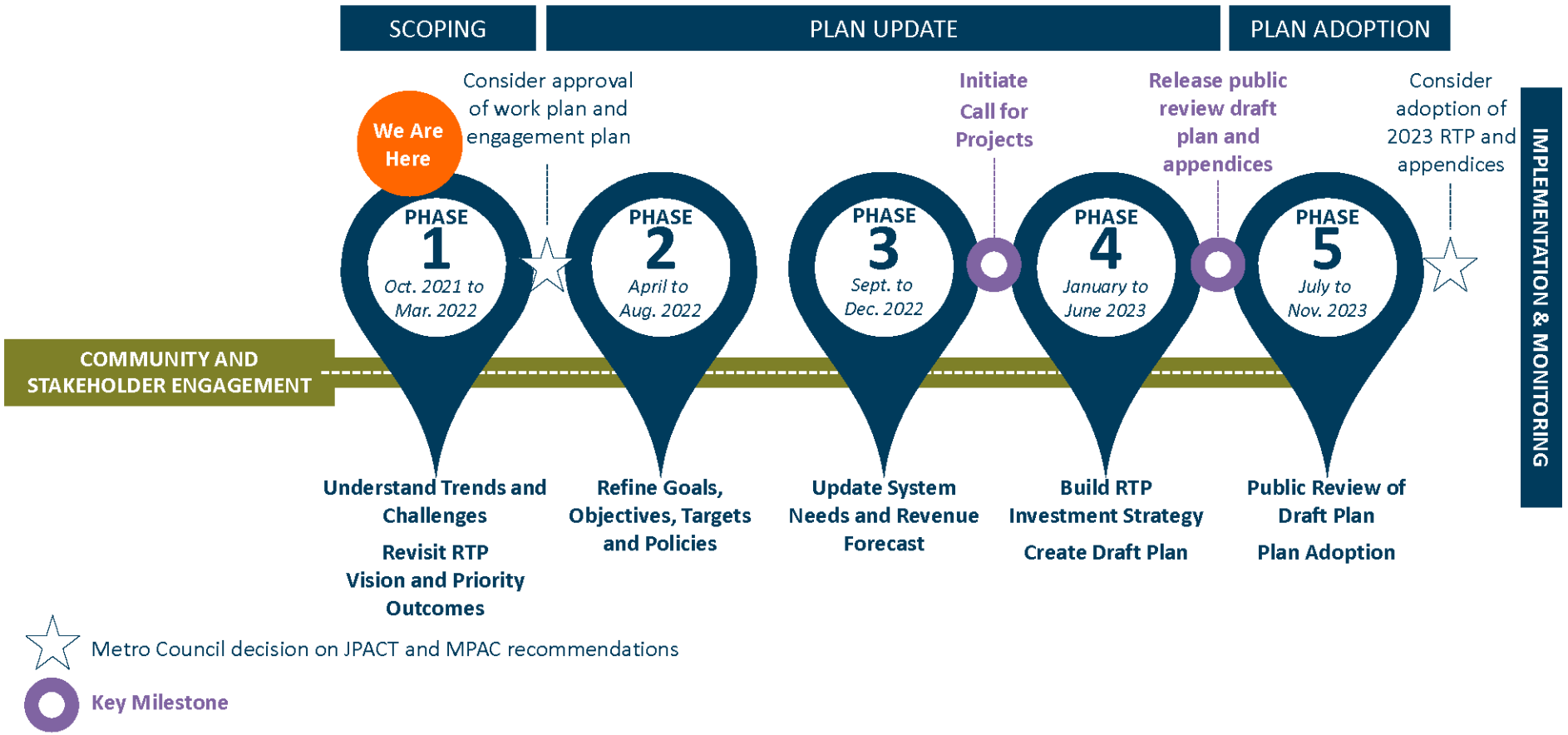
We need a system that is safe and equitable. I hope the trend towards social justice stays with us.

People need a transportation system with options and alternatives that provide equitable, safe choices that work for them and get them where they need to go in an equitable, climate-friendly way that is safe and responsive to their needs.

What we have heard and continue to hear from community members

- **Focus on people to** address racial, social and economic disparities, disinvestment and past decisions that have harmed communities
- **Prioritize investment in communities** underserved by the current transportation system while **addressing systemic inequities and risk of displacement**
- **Address the impacts of transportation on climate change, clean air and the environment**
- **Improve safety, security and health outcomes and access for communities**

Updated timeline for 2023 RTP Update



Recommended engagement strategies

- Community leaders forums
- Community stories and video tours
- Community partner-led engagement
- Tribal and Agency Consultations
- Business roundtables
- Freight stakeholder advisory committee
- JPACT topical workshops
- CORE, TPAC, MTAC, JPACT, MPAC and county-coordinating committee discussions
- TPAC/MTAC workshops
- Small group meetings (TBD topics)
- “Policy in Action” expert panels on climate and mobility
- Safe Systems approach training and workshop
- On-line surveys
- Social media, newsfeeds, project website

Recommended Key Tasks and Areas of Focus for 2023 Regional Transportation Plan Update

	Phase 1 – Scoping October 2021 to March 2022	Phase 2 – Data and Policy Analysis April to August 2022	Phase 3 – Revenue and Needs Analysis September to December 2022	Phase 4 – Investment Priorities January to June 2023	Phase 5 – Plan Adoption Process July to November 2023
Engagement	**Key strategies:** • Interactive online engagement; community partnerships; community storytelling; language translation and interpretation; community leaders forums; small group stakeholder meetings including county-level coordinating groups; expert panels • Presentations and discussions at regularly scheduled TPAC, JPACT, MTAC, MPAC, and Metro Council meetings and workshops • Metro Councilor engagement with constituents				
Key Tasks and Areas of Focus for 2023 RTP Update	• **Scoping and Background Research** ○ Racial Equity Framework ○ Emerging Transportation Trends Study ○ Vision and Priority Outcomes (review/update) ○ Stakeholder interviews ○ Language-specific focus groups ○ Community Leaders Forum ○ On-line community survey ○ Consultation meetings • **RTP Work Plan Development** ○ Values and Outcomes ○ Draft Work Plan ○ Draft Engagement Plan • **Legislation** ○ Resolution ○ Staff Report	• **Goals, Objectives and Targets Updates** ○ Emerging Transportation Trends Rec'ds ○ RTP Goals, Objectives and Targets (update) • **Data, Methods and Tools Updates** ○ 2020 MPO boundary ○ Climate Analysis Expert Panel ○ Mobility Policy Expert Panel ○ High Injury Corridor Designations ○ 2020 Equity Focus Areas ○ Emerging Transportation Trends ○ Regional Freight Delay and Commodities Flow ○ Federal System Performance Report ○ Other tools, methods and analysis updates • **Key Policy Updates:** *New policies and updates to existing Ch. 3 policies to reflect new information from work completed since 2018* ○ **Regional Mobility Policy*** ○ **Regional Congestion Pricing Policy*** ○ **Safe and Healthy Urban Arterials Strategy*** ▪ Jurisdictional Transfer Framework Rec'ds ▪ Livable Streets Design and Green Infrastructure Policy Review (update) ▪ Regional Emergency Transportation Routes (ETR) Findings and Rec'ds ▪ Active Transportation Return on Investment (ATROI) Study Findings ○ **Climate Smart Strategy*** ▪ Climate Smart Strategy Progress Report ▪ Climate Smart Strategy and Policies (update) ▪ Updates per CFEC Rulemaking (TBD) ○ **High Capacity Transit (LRT/BRT) Strategy*** ▪ Vision and Policies (update) • **Other Policy Updates**: *Updates to existing Ch. 3 policies to reflect new information from work completed since 2018* ○ **Federal Emphasis Areas Policy Updates** ○ **RTP System Maps Review** (update) ○ **Transportation Equity Policy Review** ▪ Affordability and anti-displacement policy ○ **Regional Travel Options Policy Review** ○ **TSMO Policy Review**	• **Regional Transportation Revenue Analysis** ○ Equitable Finance Strategies Research (Fines, Fees and Fares)* ○ Revenue Forecast for operations, maintenance, preservation (OMP) & capital ▪ Federal ▪ State ▪ Local (cities and counties) ▪ Port of Portland ▪ TriMet ▪ SMART ▪ ODOT tolling/congestion pricing assumptions ○ Draft Financial Plan ○ Draft Financial Targets for Call for RTP Project and Program Priorities • **Regional Needs and Disparities Analysis** ○ Ph. 2 policy updates and community feedback inform identifying needs (gaps/deficiencies) and disparities across RTP outcomes: ▪ Equity ▪ Climate ▪ Safety ▪ Mobility • **Process for Updating RTP Project and Program Priorities** ○ Near-term (2024-2030) ○ Long-term (2031-2045)	• **Call for RTP Project and Program Priorities** ○ Process for updating RTP Project and Program Priorities to be defined in Ph. 3 ▪ RTP Project Hub (update) ▪ Project Title VI and public engagement certification checklist (update) • **Evaluation Process** ○ Community feedback ○ Partner feedback ○ Project and Program Analysis ▪ TBD: corridor vs. sub-area level analysis of project list ▪ Environmental analysis ○ System-Level Analysis ▪ Equity analysis ▪ Climate analysis ▪ Safety analysis ▪ Mobility analysis • **Draft RTP Project and Program Priorities Recommendation** ○ Near-term (2024-2030) ○ Long-term (2031-2045)	• **2023 RTP** ○ Executive Summary ○ Public review draft ○ Adoption draft • **2023 RTP Project and Program Priorities Recommendation** ○ Near-term (2024-2030) ○ Long-term (2031-2045) • **Plan Appendices** ○ Public review draft ○ Adoption draft • **45-day Public Comment Period** ○ On-line community survey ○ Public hearings ○ Public Comment Log & Rec'd Actions ○ Public Comment Report • **Legislation and Findings** ○ Ordinance and Staff Report ○ Statewide Goals Findings ○ Federal Findings

* Policy briefs for these topics will be developed to frame options for how to incorporate new and updated policies in the 2023 Regional Transportation Plan.

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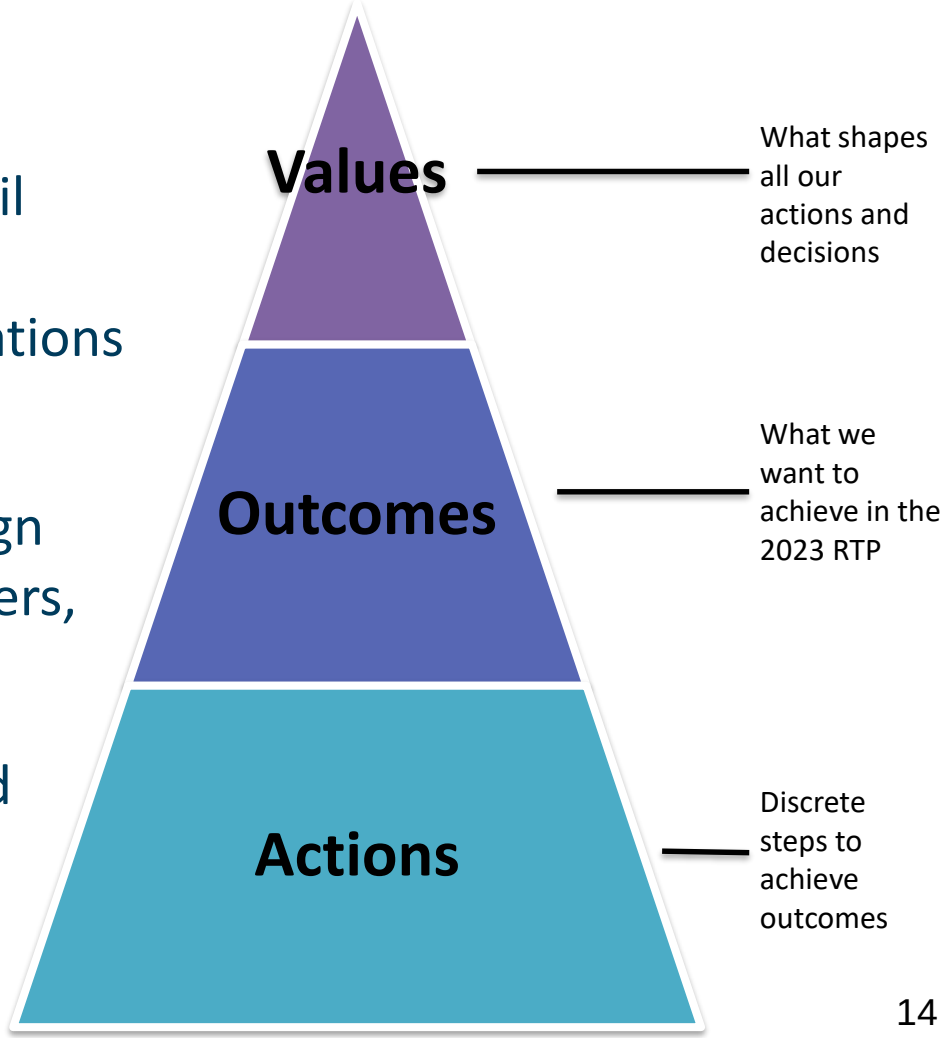
Values, Outcomes and Actions for the 2023 Regional Transportation Plan

What is a VOA?

- Provides a means for Metro Council and JPACT to discuss and agree on higher-level outcomes and expectations for the 2023 RTP
- Guides Metro staff on how to design the process and engage policymakers, partners and the community
- Informs the larger outcomes-based policy framework in the 2023 RTP

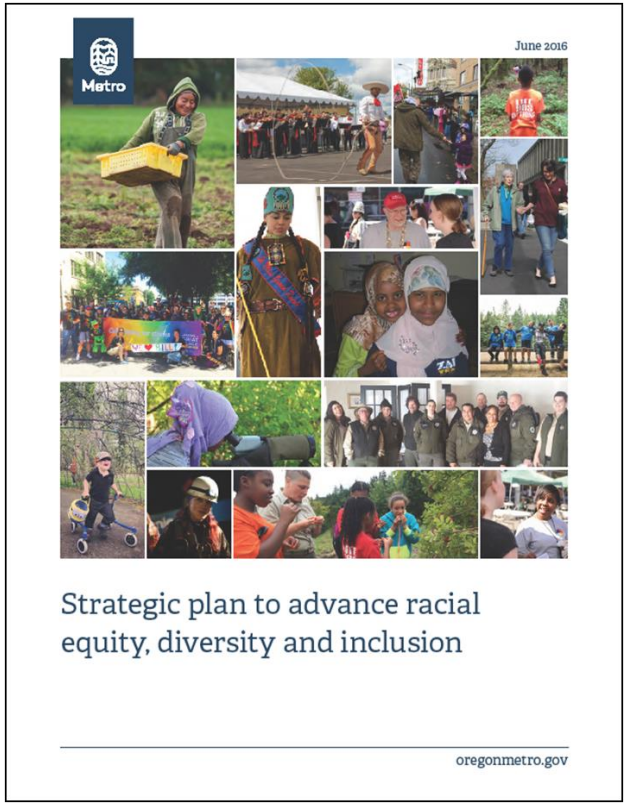


VALUE: RACIAL EQUITY

Discussion draft

OUTCOMES

- **Recognize and reverse patterns of historic, systemic racism and inequities** related to transportation in the region.
- **Strive to eliminate transportation system inequities and advance equity** rather than just mitigating or doing no harm.
- **Prioritize and center the voices of people and organizations representing Black, Indigenous and people of color (BIPOC) communities and other marginalized and underserved communities** to achieve equity for all.
- **Build an equitable transportation system** that connects all people to their destinations.



VALUE: CLIMATE LEADERSHIP AND RESILIENCE

Discussion draft

OUTCOMES

- **Ensure continued reduction in greenhouse gases** by meeting or exceeding the statewide targets for the region.
- **Support future development and affordable housing in transit corridors and centers** designated in the 2040 Growth Concept, where services are located and more travel options are available.
- **Lead the transition to a low-carbon transportation system** by planning for and invest in low-carbon travel options, supporting infrastructure and services.
- **Use pricing tools as a means to reduce greenhouse gas emissions**, including the tools identified in Metro's *Regional Congestion Pricing Study* (RCPS) Report.
- **Incorporate low-carbon technology into policies, plans and projects**, including electric vehicles, electric bikes, electric scooters and other emerging technology to help meet emission reduction targets.
- **Increase resilience of the transportation system** to the effects of climate disruption and other disasters.

VALUE: SAFE AND HEALTHY STREETS

Discussion draft

OUTCOMES

- **Aim to eliminate fatal and serious injury crashes by 2035** by identifying priorities for improving safety and comfort for people traveling on the region's urban arterials.
- **Prioritize investments in universal design and high-quality, connected, and safe pedestrian, bicycle, and transit networks**, focusing on increasing safety in high-risk locations and on high injury corridors in Equity Focus Areas.
- **Adopt policies and frameworks to allow for transfer of state-owned urban arterials to local jurisdictions**, when and where appropriate, using the best practices and findings of Metro's *Jurisdictional Transfer Assessment* (JTA) Study.

VALUE: MOBILITY

Discussion draft

OUTCOMES

- **Maintain the transportation system** that already exists in a state of good repair.
- **BIPOC and other marginalized and underserved communities have equitable access** to safe, reliable and affordable travel options, job opportunities, and key community places (such as medical, school, grocery, social and community services).
- **Provide accessible, safe, affordable, and equitable transportation options** to better connect people with opportunities and to the destinations they want to reach (e.g., education, jobs, services, shopping, places of worship, parks and open spaces, and community centers).
- **Congestion is managed on the throughway system by implementing a comprehensive urban mobility strategy** that includes congestion pricing and other demand management and system management tools and expanding safe, reliable and affordable travel options.
- **Connect affordable transportation options to affordable housing** to increase access to low-income persons.
- **Identify opportunities to increase affordable transportation access to low-income and middle-income jobs**, especially in the service industry.

VALUE: ACCOUNTABILITY AND TRANSPARENCY

Discussion draft

OUTCOMES

- Engage the community and a diverse range of stakeholders through a **transparent and inclusive decision-making process** within meaningful opportunities for input.
- **Communicate the RTP's emphasis on equity, and** particularly on the **projects that can help eliminate transportation disparities**, to partners early and throughout the process.
- **Support community partners in shaping the 2023 RTP**, including those elements that are led by partner agencies, and strengthen requirements for agency partners to collect and respond to community feedback when developing and prioritizing projects.
- **Develop and use data, tools, and best practices** that can support future local and regional planning and investment decisions.
- **Communicate the interrelationships between the three priority outcomes of climate, safety and equity** – marginalized communities have identified climate and safety as equity issues, because they disproportionately experience the impacts. Prioritize the many investments that address all of these priorities.
- **Prioritize transformational change** (decision-making processes throughout the RTP update) **over** merely relying on **transactional change** (the final decision).

Finalizing the work plan and engagement plan

February and March Metro Council and regional advisory committees consider stakeholder input and discuss values, outcomes and actions (VOA) for 2023 RTP; on-line public survey; consultation with resource agencies and other federal and state agencies

March 4 and 16 TPAC and MTAC recommendations on RTP VOA, work plan and engagement plan

March 17 JPACT considers approval of RTP VOA, work plan and engagement plan

March 23 MPAC recommendation to Metro Council on RTP VOA, work plan and engagement plan

March 31 Metro Council considers approval of RTP VOA, work plan and engagement plan

Discussion and feedback

1. Feedback on the recommended key tasks?
2. Feedback on the recommended engagement strategies?
3. Any values, outcomes or actions missing in the VOA that are important to explicitly highlight?
4. Other feedback?

Learn more about the Regional Transportation Plan at:

Metro

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