Agenda

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

Meeting:	Metro Technical Advisory Committee (MTAC) and Transportation Policy Alternatives Committee (TPAC) Workshop
Date:	Wednesday June 15, 2022
Time:	9:00 a.m. to 12:00 p.m.
Place:	Virtual meeting held via Zoom Connect with Zoom Passcode: 692965 Phone: 877-853-5257 toll free

9:00 a.m.	**Call meeting to order, introductions, and committee updates**	Vice Chair Leybold
9:10 a.m.	**Public communications on agenda items**	
9:13 a.m.	**Consideration of MTAC/TPAC workshop summary, April 20, 2022** Edits/corrections sent to Marie Miller marie.miller@oregonmetro.gov	Vice Chair Leybold
9:15 a.m.	**Regional Mobility Policy Update: Draft Framework, Measures And Action Plan - Discussion** Purpose: Seek input on the updated draft mobility policy (including measures and targets) and how to apply the policy and measures in system planning and plan amendments. The updated policy addresses feedback received at previous TPAC and MTAC workshops, practitioners forums and briefings.	Kim Ellis, Metro Glen Bolen, ODOT Susie Wright, Kittelson & Associates Lidwien Rahman, ODOT
10:15 a.m.	**Emerging Transportation Trends Study Recommendations** Purpose: Collect feedback on the draft final results of the Emerging Transportation Trends study and discuss how these results should be addressed during the 2023 Regional Transportation Plan (RTP) update.	Eliot Rose, Metro
11:00 a.m.	**Regional Freight Delay & Commodities Movement Study** Purpose: Review existing daily truck volumes, percentages of daily vehicle volumes that are trucks, reported average travel speeds during mid-day and pm peak, and reported average travel times during mid-day and pm peak. Review a first look at 2020 model results for commodities (by groups) traveling in regional freight corridors. Obtain feedback from TPAC and MTAC.	Tim Collins, Metro Joe Broach, Metro Garth Appanaitis, DKS Associates
12:00 noon	**Adjournment**	Vice Chair Leybold

Metro respects civil rights

Metro fully complies with Title VI of the Civil Rights Act of 1964, Title II of the Americans with Disabilities Act , Section 504 of the Rehabilitation Act and other statutes that ban discrimination. If any person believes they have been discriminated against regarding the receipt of benefits or services because of race, color, national origin, sex, age or disability, they have the right to file a complaint with Metro. For information on Metro's civil rights program, or to obtain a discrimination complaint form, visit oregonmetro.gov/civilrights or call 503-797-1890. Metro provides services or accommodations upon request to persons with disabilities and people who need an interpreter at public meetings. If you need a sign language interpreter, communication aid or language assistance, call 503-797-1890 or TDD/TTY 503-797-1804 (8 a.m. to 5 p.m. weekdays) 5 business days before the meeting. All Metro meetings are wheelchair accessible. Individuals with service animals are welcome at Metro facilities, even where pets are generally prohibited. For up-to-date public transportation information, visit TriMet's website at trimet.org

Thông báo về sự Metro không kỳ thị của

Metro tôn trọng dân quyền. Muốn biết thêm thông tin về chương trình dân quyền của Metro, hoặc muốn lấy đơn khiếu nại về sự kỳ thị, xin xem trong www.oregonmetro.gov/civilrights. Nếu quý vị cần thông dịch viên ra dấu bằng tay, trợ giúp về tiếp xúc hay ngôn ngữ, xin gọi số 503-797-1700 (từ 8 giờ sáng đến 5 giờ chiều vào những ngày thường) trước buổi họp 5 ngày làm việc.

Повідомлення Metro про заборону дискримінації

Metro з повагою ставиться до громадянських прав. Для отримання інформації про програму Metro із захисту громадянських прав або форми скарги про дискримінацію відвідайте сайт www.oregonmetro.gov/civilrights. або Якщо вам потрібен перекладач на зборах, для задоволення вашого запиту зателефонуйте за номером 503-797-1700 з 8.00 до 17.00 у робочі дні за п'ять робочих днів до зборів.

Metro 的不歧視公告

尊重民權。欲瞭解Metro民權計畫的詳情，或獲取歧視投訴表，請瀏覽網站www.oregonmetro.gov/civilrights。如果您需要口譯方可參加公共會議，請在會議召開前5個營業日撥打503-797-1700（工作日上午8點至下午5點），以便我們滿足您的要求。

Ogeysiiska takooris la'aanta ee Metro

Metro waxay ixtiraamtaa xuquuqda madaniga. Si aad u heshid macluumaad ku saabsan barnaamijka xuquuqda madaniga ee Metro, ama aad u heshid warqadda ka cabashada takoorista, booqo www.oregonmetro.gov/civilrights. Haddii aad u baahan tahay turjubaan si aad uga qaybqaadatid kullan dadweyne, wac 503-797-1700 (8 gallinka hore illaa 5 gallinka dambe maalmaha shaqada) shan maalmo shaqo ka hor kullanka si loo tixgaliyo codsashadaada.

Metro의 차별 금지 관련 통지서

Metro의 시민권 프로그램에 대한 정보 또는 차별 항의서 양식을 얻으려면, 또는 차별에 대한 불만을 신고 할 수www.oregonmetro.gov/civilrights. 당신의 언어 지원이 필요한 경우, 회의에 앞서 5 영업일 (오후 5시 주중에 오전 8시) 503-797-1700를 호출합니다.

Metroの差別禁止通知

Metroでは公民権を尊重しています。Metroの公民権プログラムに関する情報について、または差別苦情フォームを入手するには、www.oregonmetro.gov/civilrights。までお電話ください公開会議で言語通訳を必要とされる方は、Metroがご要請に対応できるよう、公開会議の5営業日前までに503-797-1700（平日午前8時～午後5時）までお電話ください。

សេចក្តីជូនដំណឹងអំពីការមិនរើសអើងរបស់ Metro

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

إشعار بعدم التمييز من Metro

تحترم Metro الحقوق المدنية. للمزيد من المعلومات حول برنامج Metro للحقوق المدنية أو لإيداع شكوى ضد التمييز، يُرجى زيارة الموقع الإلكتروني www.oregonmetro.gov/civilrights. إن كنت بحاجة إلى مساعدة في اللغة، يجب عليك الاتصال مقدماً برقم الهاتف 503-797-1700 (من الساعة 8 صباحاً حتى الساعة 5 مساءاً، أيام الاثنين إلى الجمعة) قبل خمسة (5) أيام عمل من موعد الاجتماع.

Paunawa ng Metro sa kawalan ng diskriminasyon

Iginagalang ng Metro ang mga karapatang sibil. Para sa impormasyon tungkol sa programa ng Metro sa mga karapatang sibil, o upang makakuha ng porma ng reklamo sa diskriminasyon, bisitahin ang www.oregonmetro.gov/civilrights. Kung kailangan ninyo ng interpreter ng wika sa isang pampublikong pulong, tumawag sa 503-797-1700 (8 a.m. hanggang 5 p.m. Lunes hanggang Biyernes) lima araw ng trabaho bago ang pulong upang mapagbigyan ang inyong kahilingan.

Notificación de no discriminación de Metro

Metro respeta los derechos civiles. Para obtener información sobre el programa de derechos civiles de Metro o para obtener un formulario de reclamo por discriminación, ingrese a www.oregonmetro.gov/civilrights . Si necesita asistencia con el idioma, llame al 503-797-1700 (de 8:00 a. m. a 5:00 p. m. los días de semana) 5 días laborales antes de la asamblea.

Уведомление о недопущении дискриминации от Metro

Metro уважает гражданские права. Узнать о программе Metro по соблюдению гражданских прав и получить форму жалобы о дискриминации можно на веб-сайте www.oregonmetro.gov/civilrights. Если вам нужен переводчик на общественном собрании, оставьте свой запрос, позвонив по номеру 503-797-1700 в рабочие дни с 8:00 до 17:00 и за пять рабочих дней до даты собрания.

Avizul Metro privind nediscriminarea

Metro respectă drepturile civile. Pentru informații cu privire la programul Metro pentru drepturi civile sau pentru a obține un formular de reclamație împotriva discriminării, vizitați www.oregonmetro.gov/civilrights. Dacă aveți nevoie de un interpret de limbă la o ședință publică, sunați la 503-797-1700 (între orele 8 și 5, în timpul zilelor lucrătoare) cu cinci zile lucrătoare înainte de ședință, pentru a putea să vă răspunde în mod favorabil la cerere.

Metro txoj kev ntxub ntxaug daim ntawv ceeb toom

Metro tributes cai. Rau cov lus qhia txog Metro txoj cai kev pab, los yog kom sau ib daim ntawv tsis txaus siab, mus saib www.oregonmetro.gov/civilrights. Yog hais tias koj xav tau lus kev pab, hu rau 503-797-1700 (8 teev sawv ntxov txog 5 teev tsaus ntuj weekdays) 5 hnub ua hauj lwm ua ntej ntawm lub rooj sib tham.

2022 TPAC Work Program

As of 6/8/2022

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

<u>June 15, 2022 – MTAC/TPAC Workshop</u> **9:00 am – noon** **Agenda Items:** • Regional Mobility Policy Update: Draft Framework, Measures and Action Plan-Discussion (Kim Ellis, Metro/ Glen Bolen & Lidwien Rahman, ODOT/ Susie Wright, Kittelson & Associates, 60 min) • Emerging Transportation Trends Study Recommendations (Eliot Rose, Metro, 45 min) • Regional Freight Delay & Commodities Movement Study (Tim Collins/Joe Broach, Metro/ Garth Appanaitis, DKS Associates; 60 min)	**<u>July 8, 2022</u> 9:00 am – noon** 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) • TSMO Program Project Solicitation update (Caleb Winter) **Agenda Items:** • Transportation Needs and Disparities Analysis Approach for 2023 RTP (Eliot Rose, Metro, 30 min) • Regional Flexible Funds Allocation (RFFA) public comment report, initial draft staff recommendations (Dan Kaempff, Metro, 45 min) • Enhanced Transit Concepts / Better Bus update (Matt Bihn, Metro, 30 min) • Multnomah County Earthquake Ready Burnside Bridge Update (Shane Phelps & Megan Neill, Mult. County/ Alex Oreschak, Metro, 30 min) • Safe and Healthy Urban Arterials (John Mermin, Metro; 10 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)
<u>July 13, 2022 – TPAC Workshop</u> **9:00 am – noon** **Agenda Items:** • 2024-2027 MTIP Performance Evaluation – Approach & Methods (Grace Cho, 30 min) • RTP Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT) (Alex Oreschak, Metro/ Garet Prior, ODOT, 105 min) • Introduction to the High Capacity Transit Strategy Update for 2023 RTP (Ally Holmqvist, Metro, 30 min)	**<u>July 14, 2022 – TPAC Workshop</u>** **10:00 am – noon** **Agenda Items:** • Regional Flexible Funds Allocation (RFFA)/ Trails Bond funding (Dan Kaempff, Metro/TBD; 2 hours)

<u>August 5, 2022</u> 9:00 am –noon 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:** • Regional Flexible Funds Allocation (RFFA) refined draft staff recommendations, with CCC priorities (Dan Kaempff, Metro, 45 min) • Vision, Goals & Objectives for 2023 RTP (Kim Ellis, Metro; 30 min) • Multnomah County Earthquake Ready Burnside Bridge Update (Shane Phelps & Megan Neill, Mult. County/ Alex Oreschak, Metro, 30 min) • Region 1 draft 100% project list for the 2024-27 STIP (Chris Ford, 20 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>August 17, 2022 – MTAC/TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 60 min) • Climate Smart Strategy Analysis Preliminary Results, Findings and Policy Considerations (Kim Ellis, Metro and Thaya Patton, Metro; 60 min)
<u>September 2, 2022</u> 9:00 am – noon 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:** • **Regional Flexible Funds Allocation (RFFA) Final Project Selection** <u>Recommendation to JPACT</u> (Dan Kaempff, Metro; 45 min) • RTP Needs Assessment Findings (Eliot Rose, Metro 30 min) • RTP Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT) (Alex Oreschak, Metro/ Garet Prior, ODOT, 60 min) • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 30 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>September 14, 2022 – TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • 2023 RTP Financial Plan and Equitable Funding (Leybold, McTighe, 45 min) • High Capacity Transit Strategy Update: Network Vision (Ally Holmqvist, Metro, 45 min) • Safe and Healthy Urban Arterials (John Mermin, Lake McTighe (30 min)

<u>October 7, 2022</u> 9:00 am – noon 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, ODOT/ Susie Wright, Kittelson & Associates; 45 min) • 2023 RTP Financial Plan and Equitable Funding (Leybold, McTighe, 45 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>October 19, 2022 – MTAC/TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • Climate Smart Strategy Update (Kim Ellis, Metro; 60 min.)
<u>November 4, 2022</u> 9:00 am – noon 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 Call for Projects Approach (Kim Ellis, Metro; 60 min.) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>November 9, 2022 – TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • 2019-2021 Regional Flexible Fund – Local Agency Project Fund Exchanges Update (Grace Cho, 15 min) • *82nd Avenue Project update (Elizabeth Mros- O'Hara, Metro/ City of Portland TBD; 30 min)*
<u>December 2, 2022</u> 9:00 am – noon 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 Call for Projects Update (Kim Ellis, Metro; 45 min.) • Climate Smart Strategy Update (Kim Ellis, Metro; 45 min.) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 5 min)	**<u>December 21, 2022 – MTAC/TPAC Workshop</u>** **9:00 am – noon** **Agenda Items:** • *2024 Growth Management Decision Work Program (Ted Reid, 60 min)*

Parking Lot: Future Topics/Periodic Updates

- Columbia Connects Project
- Best Practices and Data to Support Natural Resources Protection
- Better Bus Program (Matt Bihn)
- Regional Emergency Transportation Routes Update Phase 2 (John Mermin, Metro & Carol Chang, RDPO)
- Cost Increase & Inflation Impacts on Projects
- DLCD Climate Friendly & Equitable Communities Rulemaking (Kim Ellis, Metro)
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- RTO Updates (Dan Kaempff)
- Update on SW Corridor Transit
- Burnside Bridge Earthquake Ready Project Update (Megan Neill, Multnomah Co)

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 6/8/2022

	June 15, 2022 – MTAC/TPAC Workshop **9:00 am – noon** Agenda Items • Regional Mobility Policy Update: Draft Framework, Measures and Action Plan- Discussion (Kim Ellis, Metro/ Glen Bolen & Lidwien Rahman, ODOT/ Susie Wright, Kittelson & Associates, 60 min) • Emerging Transportation Trends Study Recommendations (Eliot Rose, Metro; 45 min) • Regional Freight Delay & Commodities Movement Study (Tim Collins/ Joe Broach, Metro/ Garth Appanaitis, DKS Associates; 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) • Introduction to the High Capacity Transit Strategy Update for the 2023 RTP (Ally Holmqvist, Metro, 30 min) • Vision, Goals & Objectives for 2023 RTP (Kim Ellis, Metro; 30 min) • UGB Exchange Proposal Update (Ted Reid, Tim O'Brien, Metro; 30 min)	**August 17, 2022 – MTAC/TPAC Workshop** **9:00 am – noon** Agenda Items • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 60 min) • Climate Smart Strategy Analysis Preliminary Results, Findings and Policy Considerations (Kim Ellis, Metro and Thaya Patton, Metro; 60 min)
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 • High Capacity Transit Strategy Update: Network Vision (Ally Holmqvist, Metro, 45 min) • Regional Mobility Policy: Draft Recommendations (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susie Wright, Kittelson & Associates; 30 min) • RTP Congestion Pricing Policy Development (Metro) and Oregon Highway Plan Tolling Policy Amendment and Low Income Toll Report (ODOT) (Alex Oreschak, Metro/ Garet Prior, ODOT, 45 min)	**October 19, 2022 – MTAC/TPAC Workshop** **9:00 am – noon** Agenda Items • Climate Smart Strategy Update (Kim Ellis, Metro; 60 min.)

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 • RTP Call for Projects Approach (Kim Ellis, Metro; 30 min.) • *Climate Smart Strategy Update (Kim Ellis, Metro; 60 min.)*	**December 21, 2022 – MTAC/TPAC Workshop** **9:00 am – noon** Agenda Items • *2024 Growth Management Decision work program (Ted Reid, 60 min)*

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

- DLCD Climate Friendly & Equitable Communities Rulemaking (Kim Ellis, Metro)
- 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
- Employment & industrial lands (Jeff Raker?)
- 2040 grants highlights update
- Tigard's Washington Square Project (2040 Grant?)
- 2024 UGB cycle

For MTAC agenda and schedule information, e-mail marie.miller@oregonmetro.gov
In case of inclement weather or cancellations, call 503-797-1700 for building closure announcements.

Meeting minutes

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

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

Date/time: Wednesday, April 20, 2022 | 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
Jamie Stasny	Clackamas County
Steve Williams	Clackamas County
Allison Boyd	Multnomah County
Erin Wardell	Washington County
Lynda David	Southwest Washington Reg. Transportation Council
Eric Hesse	City of Portland
Peter Hurley	City of Portland
Jaimie Lorenzini	City of Happy Valley 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
Tara O'Brien	TriMet
Chris Ford	Oregon Department of Transportation
Glen Bolen	Oregon Department of Transportation
Laurie Lebowsky	Washington State Department of Transportation
Tom Bouillion	Port of Portland
Katherine Kelly	City of Vancouver
Tom Armstrong	City of Portland
Colin Cooper	City of Hillsboro
Jean Senechal Biggs	City of Beaverton
Chris Damgen	City of Troutdale
Erika Palmer	City of Sherwood
Adam Barber	Multnomah County
Kevin Cook	Multnomah County
Gary Albrecht	Clark County
Laura Kelly	Department of Land & Conservation Development
Shelly Parini	Clackamas County Water Environmental Services
Aisha Panas	Tualatin Hills Park & Recreation District
Cindy Detchon	North Clackamas School District
Darci Rudzinski	Private Economic Development Organizations
Brett Morgan	1000 Friends of Oregon
Ramsay Weit	Housing Affordability Organization Representative
Dr. Gerard Mildner	Portland State University

Guests Attending	Affiliate
Warren Schuyler	City of Tigard
Cody Field	City of Tualatin
Steve Koper	City of Tualatin
Susie Wright	Kittelson & Associates
Molly McCormick	Kittelson & Associates

Garet Prior	Oregon Department of Transportation
Vanessa Vissar	Oregon Department of Transportation
Lidwien Rahman	Oregon Department of Transportation
Lucia Ramirez	Oregon Department of Transportation
Matt Berkow	City of Portland
Joseph Auth	City of Hillsboro
Steve Kelley	Washington County
Clay Veka	Portland Bureau of Transportation
Dave Roth	City of Tigard
Manuel Contreas	WES
Will Farley	City of Lake Oswego
Mike Foley	

Metro Staff Attending

Ted Leybold, Planning Resource Manager	Kim Ellis, Senior Transportation Planner
John Mermin, Senior Transportation Planner	Grace Cho, Senior Transportation Planner
Lake McTighe, Senior Transportation Planner	Tim Collins, Principal Transportation Planner
Eliot Rose, Tech Strategist & Planner	Matthew Hampton, Senior Transportation Planner
Caleb Winter, Senior Transportation Planner	Thaya Patton, Senior Researcher & Modeler
Molly Cooney-Mesker, Communications	Grace Stainback, Associate Transportation Planner
Alex Oreschak, Transportation Planner	Marne Duke, Senior Transportation Planner
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. Workshops will be held openly for all onscreen for full participation.

Public /Committee Communications on Agenda Items – none provided

Consideration of MTAC/TPAC workshop summary of February 16, 2022 – no edits or corrections

Regional Mobility Policy Update: Shaping the Recommended Policy and Action Plan (Kim Ellis, Metro/ Glen Bolen, ODOT/ Susan Wright, Kittelson & Associates) Ms. Ellis began with the planned presentation that would cover updates from past meetings and what has been heard, discussion of draft application measures and discussion of questions the project team is working through. Per the timeline, currently the project is reporting findings, developing the Mobility Policy and Action Plan, with public review and interim action leading to implementation this fall. The link to the project webpage was shared: oregonmetro.gov/mobility. It was noted there is a 2-minute video on the webpage that explains what the regional mobility policy is and why it's important.

Ms. Wright reminded the committees on draft mobility policies for the Portland region
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.
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.
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.
4. Prioritize the safety and comfort of travelers in all modes when planning and implementing mobility solutions.
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.

The March 2022 TPAC survey and April 2022 Practitioners Forum provided input that was shared with the committee. These were shown in the presentation, and included:

- Draft mobility policies
- Draft Recommended Measures:
  - Multi-modal Measure – System completeness (all modes)
    - Supports equity, safety, expanded travel options
  - Congestion Measure – Travel speed (with queuing and hours of congestion)
    - Supports reliability, access by vehicle and for longer distance trips
  - Efficiency Measure – VMT per capita (home-based trips)
    - Supports climate goals, efficient land use patterns, reduced vehicle travel, expanded travel options

<u>Potential applications of measures in the updated mobility policy</u>
System Completeness Measure
Travel Speed Measure
VMT/Capita Measure

The comparison between current and potential approach in determining significant impact with the plan amendment was presented. The Potential System Planning Integration and Potential Plan Amendment Assessment Process was outlined. Questions the project team are still working through:
– Should we have a congestion measure for arterials outside 2040 Centers?
– Should we re-consider travel time instead of travel speed?
– What constitutes a significant impact on non-auto modes?
– How can the policy integrate with development review standards in the near-term and long-term?

Meeting dates with committees and Metro Council in the next 3 months were outlined. Summer of 2022 it is expected to develop recommended policy and action plan for public review and consideration by regional policymakers and OTC to apply in 2023 RTP update.

Comments from the committee:

- Eric Hesse noted the recognition of the proposed policies with clarity on rules for RTP and other regional planning efforts. The VMT language is now written more broadly and appreciates the interaction with system planning, as noted in the presentation: RTP establishes regional and subarea(?) baseline household VMT/capita needed to meet Division 44 (GHG Reduction Rule), can be used to understand jurisdictional/subarea 2045 household, VMT/Capita. Use to assess

if a plan amendment will reduce region or area's VMT/capita or VMT/employee. Target – Apply/Not apply as a standard/target for local TSPs?

It was noted the travel speed/travel time input in the presentation were part of the regional growth concepts discussion, and how we relate these tools tied to safety and reliability issues. It was appreciated for the proposed workflow process approaches. Encouragement was given to use the expert panel to hear from those working on this issue, learning what tools we can develop with a travel demand model that is consistent with data. Regarding the system completeness, how we have access to travel should be included, as well as who and how may are using certain facilities.

Ms. Ellis agreed that comments on the rules are helping us get better understanding of how or if they will apply to local TSPs. Ms. Wright added that many elements will challenge us to prioritize in the system. Discussions and questions raised in the survey and forum will help us develop policies from the proposed approaches.

- Erin Wardell noted the many years taken with system development and assessment review with Washington County, and appreciated the efforts regionally. It was noted congestion took place not in just centers but in-between places and should be included as part of this approach and as important to have a measure for this.

  Regarding travel time/travel speed, it was noted the Practitioners Forum raised concern on travel speed, which can be problematic. It should relate measures to outcomes. Technical tools to do these measurements with speed of any measurable length is not helpful.

  Regarding the impact on non-motor modes, we need to look at the development of thresholds of trip generation. This can be more difficult when looking at smaller scale of development. Best practices exist for that thresholds to use and worth looking into more. There are challenges with non-auto modes getting from point A to point B which could be simply filling in the sidewalk, where congestion won't be measured or need to adjustments in measurements for pedestrians. The focus should be to build the system completeness.

  It was noted a lot more thinking needs to be done before bringing down to development review level. Tools need to actually measure our system. The reasons we use the 4-step TDM is useful for what it is, but we need to understand the limitations and find what other tools are available. Ms. Wardell offered to discuss more comments with the project team.

- Steve Williams appreciated the amount of work that went into a challenging and complex project. Regarding the VMT per capita measure, it was asked was the intent a single VMT per capita measure in the jurisdiction, or different VMT measures based on locations of land context over the region. Ms. Wright noted that setting targets is challenging that result in getting to VMT reductions and still being discussed. Ms. Ellis added further work with the modeling team to find VMT group patterns that are time sensitive rather than jurisdictional may help, with past case studies adding further insight.

- Don Odermott appreciated the efforts from the team on this project. It was noted the challenge of spatially relevancy for impact areas regarding system completeness, especially in terms of evaluating the areas. These need to be better defined. In regards to mobility on the arterials it was encouraged to look at the entire system, recognizing some areas of congestion with other areas less impacted. Performance standards operationally just won't occur. Another concern is travel corridors and how long this is measured for speed. Again, better definitions are needed.

  It was noted VMTs in zones differ between small cities and larger areas with blended land uses. The model may not reflect this data. It was suggested to look at VMT and land supply with regional significant industrial areas, between different service sectors. The VMT measures between city and regional levels need to be defined with possible consequences. System completeness should not ignore the success with private development when this occurs. It was suggested we need to be smart with how we partner and leverage funds. And when thinking of large planned amendments land may lay next to or between developments currently in stages.

  Ms. Ellis noted the definition of arterials is included in the RTP and none are identified as collector streets. These are map specific in the RTP. The measures being discussed are looking to be multi-modal with data in the models needing updates since pre-COVID. It was noted of the system gap with service in north/south bus service in Hillsboro. Ms. Ellis noted the RTP defines future transit service planned in these areas and are driving to meet these goals. Glen Bolen noted TriMet holding service area planning workshops currently including ridership coverage and equity scenarios. Ms. Wright added they are working toward policy development review including transit development plans.

- Colin Cooper noted the relationship between VMTs, TDMs, and the Urban Growth Boundary, and if nearby satellite cities within the UGB are growing and residents are leaving their quickly growing communities that are now using state facilities as destinations, how does this work in regard to the Mobility Policy when it comes to future planned amendments. These issues will be raised in different forums as we start to grow and have communities impacted inside the Urban Growth Boundary.

  Ms. Ellis noted future evaluations can show us how the system is working and whether mitigations are needed or how the system is being managed. Burden on local jurisdictions are not intended for mobility issues per travel demand changes, and more study on this issue is needed. Ms. Wright added that with the VMT per capita per home based trips these look at certain cities in the region, but could continue to be evaluated for changes with growth. It was noted they could look at VMT per capita household in regards to home/employment trips.

  Mr. Cooper presented a scenario where employment land was being depleted in one city, and nearby satellite community outside the UGB now has employment land added or have increased their availability. The household may take state facilities across the region elsewhere which places demand to increase the UGB.

- Ms. Wardell noted calculating the household VMT may appear a bit misleading on how it's being discussed. It was noted you are looking at the length of traveled miles within the city. Further description was provided; when you do the 4-steps of the travel demand model you start out with trip generation for all the households in the TDM, but you could pull out the households in one city. The model does trip distribution for origin/stops/destination to show how far people are traveling. The model then assigns these to modes. Then we know how many of these trips are traveled by vehicle.

  Once it moves into mode, the model does assignments and places them on the model network links. Multiply that number of vehicles by the link. When you add up all the vehicles of miles traveled you can then do the per capita calculation based on the VMT. What is important to remember is that vehicles assigned on the link are not necessarily assigned to the certain city household. Other cities have been distributed throughout the city from other sections of the region.

  Thaya Patton and Erin Wardell added further comments on the challenges with measuring VMT per capita, including household locations, jurisdictional zones, employment destinations, densities, and transit service available. Ms. Wright added that there's lots of assumptions the model is making at each of the 4-step modeling steps and currently we use those to generate v/c ratios that help us make land use and transportation decisions. Looking at changes in VMT/capita associated with land use and transportation plan amendments can give us more nuanced information about the impact of the changes at achieving a range of goals even if neither forecast v/c nor forecast VMT/capita is accurate or precise when looking 20 years out. Ms. Wardell agreed that our current measures are problematic for their own reasons. It's important to think of these as comparative measures and accept that they aren't going to be accurate.

- Shelly Parini noted in regard to system completeness around transit service an important component of consideration. With not only the pre-conceived and level of service, in the past 2 decades older/aging residents in Metro's east regional district communities still lack sidewalk connectivity to bus stops. People who live within these rapidly growing high-density areas among older neighborhoods and communities are standing out in the rain, in the street, without sidewalks or shelter. It was encouraged to take this into consideration when adopting these policies for system completeness and equity.

2023 Regional Transportation Plan (RTP) policy brief – Congestion Pricing Policy Development (Alex Oreschak, Metro) The presentation provided information on planning and project context, summary of RCPS work to date, schedule for the RTP Update, 2018 RTP and RCPS findings and recommendations, and next steps. Background on the Regional Congestion Pricing Study (RCPS) included the study process and key findings.

• All four pricing types addressed climate and congestion priorities.
• All eight scenarios reduced the drive alone rate, vehicle miles traveled, and emissions, while increasing daily transit trips.
• Geographic distributions of benefits and costs varied by scenario.
• Some scenarios identified higher impacts than others.

The committees were reminded that in September 2021, Metro Council adopted Resolution No. 21-5179 to accept the findings and recommendations in the final report. Resolution No. 21-5179 additionally directed staff to incorporate the findings and recommendations from the study in the 2023 RTP update and use them to inform the 2023 RTP update. In order to identify the congestion pricing policy gap analysis, the project team will work with TPAC and MTAC to review existing congestion pricing policy language in the 2018 RTP and identify policy gaps to be addressed in the 2023 RTP update, develop and refine draft congestion pricing policy language options, and incorporate congestion pricing policy language options into the 2023 RTP update.

2018 RTP policies reviewed were noted for the following chapters, including RCPS objectives and strategies for each:

- RTP Goals and Objectives (Ch. 2)
- Transportation Equity (Ch. 3)
- Climate Leadership (Ch. 3)
- Transportation Safety (Ch. 3)
- Travel Demand Management (Ch. 3)
- Regional Motor Vehicle Network (Ch. 3)
- Emerging Technology (Ch. 3)
- Mobility Corridors Refinement Plans (Ch. 8)

Next steps in the project were shared. The committees are asked to provide written feedback by Wednesday, May 4. At the June 3 TPAC meeting, discussion on the draft policy language options will be presented. This summer there is a joint Metro Council/JPACT workshop planned. The project team will return to TPAC this fall to review draft RTP policy language and guidance. Later this fall related work on the RTP financially constrained revenue forecast and RTP finance chapter, including congestion pricing assumptions and equitable financing background research will be presented.

Comments from the committee:

- Cindy Detchon asked why equity would be different embedded in any of the priorities. Ms. Oreschak noted this is part of the policy development, and important to address equity in all stages of development.
- Peter Hurley noted it would be important to call out regional pricing policy to reduce VMT consistent with regional and state targets.
- Eric Hesse noted more written comments will be sent from the City of Portland. Notes from this presentation included the crosswalk of findings from the study helps us see how scattered the elements are with need to consolidate and be more consistent for better development of policies. The language may need revisiting for better understanding between managing congestion/ managing demand. It was agreed the tools of the developed policy works differently in scenarios and have tradeoffs, which need to be designed to optimize them.

  The RCP is helpful and grounding, but we each test independent strategies. So far they have not been aligned to identify and help mitigate conflicting issues such as diversion, system planning and safety. As we look to advance our goals from these tools in the RTP, the language in the policy development with strategies are important.

- Steve Williams asked that when looking at the BICOP communities, in terms of the impacts and outcomes, was the whole population based on income also looked at. This would refer to something similar to low/moderate/above moderate levels. Mr. Oreschak noted specific study of income was not part of the study but part of the equity analysis was looking at equity focus areas combined with transit service use data. Mr. Oreschak will follow up with Mr. Williams on more information.
- Don Odermott expressed support of the policies, but had concerns about pushing more congestion into local grids where we bring more vehicles into contact with pedestrians, bicycles and transit service with safety hazards. The congestion pricing discussion reinforces the importance to improve our tools of modeling, with the need to dive deeper in the technology of modeling. Impacts resulting from diversion would be shown more clearly. Maps from the 2018 RTP were shown onscreen, used for this study. It was noted that if tools don't recognize the current congestion on freeways, then how much more diversion is likely to occur with insufficient modeling tools?

  Ms. Ellis noted it is important to remember the definition of congestion is allowing for more congestions over a certain level of peak hours in certain sections. This contributes to the lack of congestion showing on the maps. It is important to not compare different definitions with measurements. Mr. Odermott noted that when this was flagged in the development of the RTP all we received was a simple statement that when a segment breaks down the maps do not then have the capability of reporting the implications of where the queues go back to. The RTP dramatically understates the time between destinations. Better modeling tools are needed.

- Karen Buehrig noted the presentation demonstrated that congestion results in several places within the RTP. We need to have a more consolidated, prominent place where it's discussed. The way it's set up now, there are multiple objectives related to congestion pricing. Being able to identify where that right place is would be helpful for this conversation, which may be in Chapter 8 of the RTP or perhaps earlier. The language and description, as earlier noted, is out of date, talking about what we were going to be doing in 2018 with different conditions. There should be a place to acknowledge the work of the Urban Mobility Office and the impact on our region with relationships of projects defined.

  There needs to be more discussion on the congestion pricing funding regarding impacts and implications. In regard to congestion pricing along interstates, there are 2 reasons; a funding source and congestion management. These need to be talked about in the RTP and it needs to be clear in the funding section that this is seen as revenue source. If as a revenue source of funding to a project, and not identified as a certain project, it won't be built.

  Mr. Oreschak noted more work is being done on this during the fall on the RTP financially constrained revenue forecast and RTP finance chapter, including congestion pricing assumptions and equitable financing background research. Ms. Buehrig noted that as we look at the funding strategy piece we look at it as a strategy for the whole system. We need to be engaged in this conversation about the funding, and acknowledge to the state itself we have a revenue source that is short of funding. To be able to achieve important funding of projects on

the interstate system this needs to be acknowledged in the RTP. A rational method of how money is raised and how spent is an important policy decision.

- Tara O'Brien noted the need for comprehensive discussion on congestion pricing policy, and within this policy we need to spell out the different interactions with State as revenue regarding to this different revenue mechanism. It was looked forward to hear more about the equity finance study work and how we tie this together from a tolling perspective where some of these decisions are being made at OTC. Additional comments in regards to transit and priorities and how congestion pricing can support this will be provided.
- Garet Prior agreed on the clarification of terms and placement of language and specifics to help add definitions. It was suggested to not limit specifics in the policy development with expected revenues. Dollar allocations are not required at this time.

Adjournment (Chair Kloster)
There being no further business, workshop meeting was adjourned by Chair Kloster at 12:00 p.m.
Respectfully submitted,
Marie Miller, MTAC and TPAC Recorder

Attachments to the Public Record, MTAC and TPAC workshop meeting, April 20, 2022

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	04/20/2022	04/20/2022 MTAC and TPAC workshop meeting agenda	042022M-01
2	Work Program	4/13/2022	MTAC work program as of 4/13/2022	042022M-02
3	Work Program	4/13/2022	TPAC work program as of 4/13/2022	042022M-03
4	Draft minutes	02/16/2022	Draft minutes from MTAC/TPAC Feb. 16. 2022 workshop	042022M-04
5	Presentation	4/7/2022	Regional mobility policy update Practitioner Forum #3	042022M-05
6	Memo	April 13, 2022	TO: TPAC, MTAC and interested parties From: Alex Oreschak, Senior Transportation Planner RE: 2023 Regional Transportation Plan Policy Brief – Congestion Pricing Policy Development	042022M-06
7	Attachment 1	April 2022	Attachment 1 - Metro Regional Transportation Plan – Congestion Pricing Policy Overview April 2022	042022M-07
8	Attachment 2	July 2021	Metro Regional Congestion Pricing Study Final Report	042022M-08
9	Presentation	04/20/2022	Regional mobility policy update	042022M-09
10	Presentation	04/20/2022	RTP Congestion Pricing Policy Development	042022M-10

oregonmetro.gov/mobility

Memo

Date: June 8, 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
Glen Bolen, ODOT Region 1

Subject: Regional Mobility Policy Update: Revised Draft Policy, Measures, Targets and Action Plan

PURPOSE

The purpose of this memo is to seek feedback on the revised draft Regional Mobility Policy (including measures and targets) and Implementation Action Plan (See Attachment 1).

DISCUSSION QUESTIONS FOR JUNE 15

- Do you support or have specific concerns about the draft mobility policy language?
- Do you support or have specific concerns about the draft mobility policy measures or targets and when/where they apply?
- Do you support or have specific concerns about the draft Implementation Action Plan?

Recognizing there is limited time available for discussion at the June 15 TPAC/MTAC workshop, the project team requests that TPAC and MTAC email any specific recommended changes as a follow-up to the workshop. **Additional feedback following the workshop is requested by June 24, 2022.** Please send to kim.ellis@oregonmetro.gov and glen.a.bolen@odot.oregon.gov.

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 mobility policy, last updated more than 20 years ago, 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

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.

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]

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 and Metro agreed to work together to update the mobility policy for the Portland area in both the 2018 RTP and OHP Policy 1F.

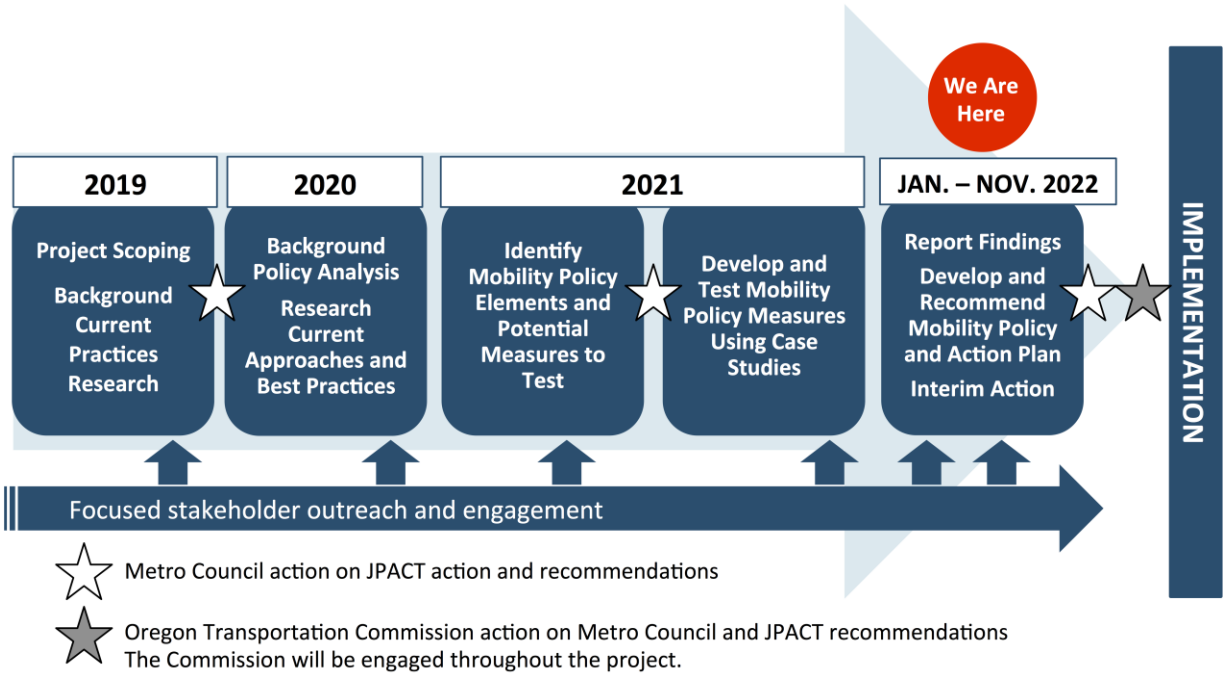
The mobility policy update was defined and adopted unanimously in Chapter 8 of the 2018 RTP. At that time, JPACT and the Metro Council recognized this work was important to better align how we measure mobility and adequacy of the transportation system for people and goods with the RTP policy goals for 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



[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.

Overview of How We Got Here

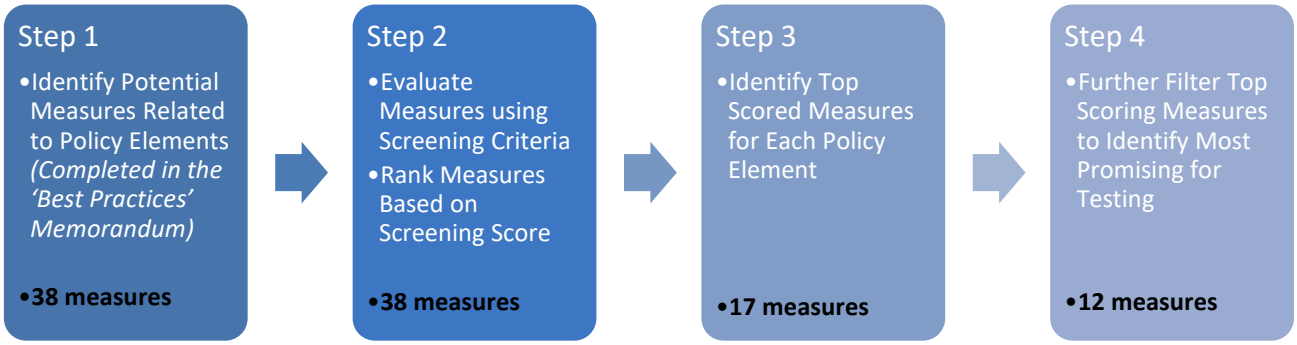
An overview of the process used to identify the mobility policy elements and measures to be evaluated follows.

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 2020 transportation funding measure 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

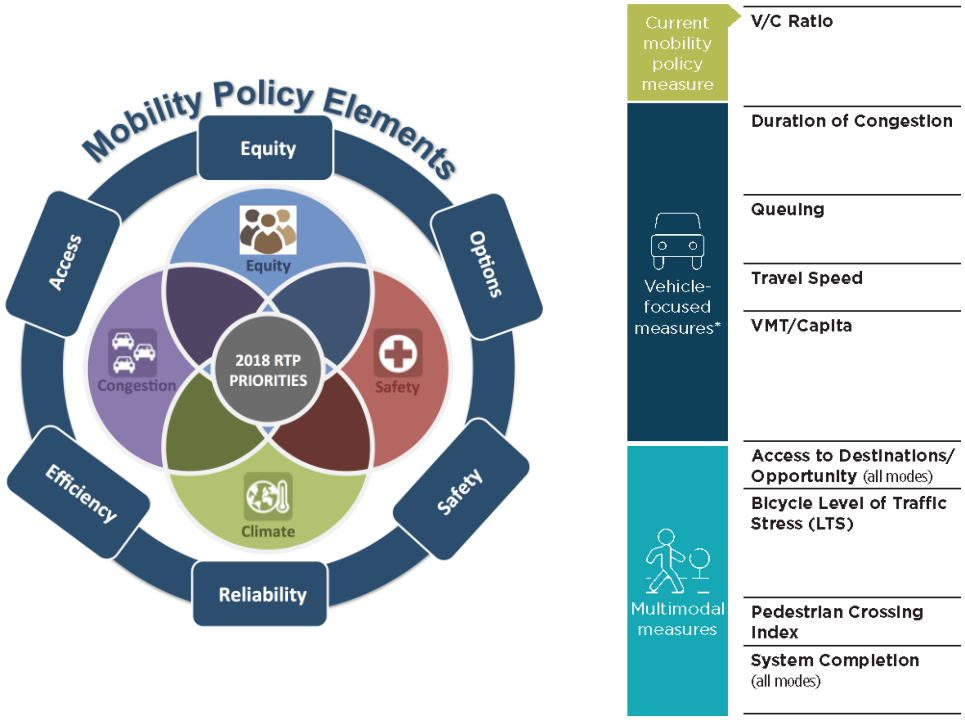


In spring 2021, the project team engaged policymakers, practitioners, community leaders and other stakeholders to review and provide feedback on the draft mobility policy elements and potential measures to include in the updated policy. Throughout May and June 2021, the project team engaged stakeholders 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.

A Stakeholder Engagement Report documenting the Spring 2021 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



Throughout Fall 2021 and early 2022, the project team evaluated a series of case studies. 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. A memo providing an overview of the preliminary case study evaluation work and a report summarizing the case study analysis and findings are available on the project website.

From February to May 2022, the project team engaged TPAC, MTAC and other practitioners through three workshops, an online questionnaire, briefings to staff-level county coordinating committees and a third practitioners forum. The team reported the case study findings and preliminary mobility policy recommendations from the research.

The discussions and questionnaire resulted in additional input on the draft policies, the individual measures being proposed for the updated mobility policy and ideas for how the measures could be applied during system planning and when evaluating the transportation impacts of plan amendments. The TPAC and MTAC workshop materials and meeting summaries are available on the Metro website. A report summarizing feedback from the April 2022 practitioners forum is provided in **Attachment 3.** The full report and appendices is available on the project website.

In May and June 2022, the project team used the input received to further develop the revised draft regional mobility policy and measures (including targets) provided in **Attachment 1.** The project team has also started to identify potential actions to support implementation of the updated policy to address the feedback received. The team also started developing illustrative

examples of how the measures could be applied during plan amendments. An example of vehicle miles traveled (VMT)/capita measure is provided in **Attachment 2**.

NEXT STEPS

A summary of the project timeline and remaining steps in the process is provided in **Attachment 4**.

Recognizing there is limited time available for discussion at the June 15 TPAC/MTAC workshop, **the project team requests that TPAC and MTAC email any specific recommended changes to the revised draft regional mobility policy, targets and implementation action plan** as a follow-up to the workshop **by Friday, June 24**, including:

- What specific changes would you like to see to improve the draft mobility policy language?
- What specific changes would you like to see to improve the draft measures and targets and when/where they apply in system planning and plan amendments?
- What specific changes would you like to see to improve the draft implementation action plan?
- Do you have other feedback or suggestions for the project team to consider?

Please send your comments and suggestions to Kim Ellis at kim.ellis@oregonmetro.gov and Glen Bolen at glen.a.bolen@odot.oregon.gov.

Staff will consider this feedback and continue to refine the draft regional mobility policy, targets and implementation action plan. Metro and ODOT are planning a fourth practitioners forum in July to allow continued discussion and feedback on the draft policies, measures, targets and implementation action plan. Staff will then present the draft policy, measures, targets and implementation plan to the Metro Council and JPACT in July and August, respectively.

Following those meetings, staff will further refine the draft regional mobility policy recommendations and prepare a recommended regional mobility policy for the 2023 RTP for consideration by TPAC, JPACT, and Metro Council in fall 2022.

/Attachments

Attachment 1. Discussion Draft Regional Mobility Policy and Action Plan

Attachment 2. Illustrative Example of VMT measure and Plan Amendments

Attachment 3. Practitioners Forum 3 Summary Report

Attachment 4. Project Timeline and 2022 Engagement Activities

Memo

Oregon Department of Transportation

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

Date: June 8, 2022

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

From: Susan Wright, PE, Kittelson & Associates, Inc.
Darci Rudzinski, MIG|APG

Project: Regional Mobility Policy Update

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

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 function(s). 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 based on input received from policymakers and stakeholders on the draft policies, measures, and case study applications documented in the Case Study Analysis Memorandum and shared through workshops and forums throughout Winter and Spring 2022.

Background

The determination that alternative mobility targets were necessary for the Portland metropolitan region was made through the 2018 Regional Transportation Plan (RTP) planning process. The determination was based on inability to implement the transportation projects needed to meet current targets given anticipated funding and estimated costs, and in some cases because the physical impacts of potential projects or the impacts on other modes were not acceptable considering other transportation policies and land use and environmental conditions in the affected locations. The adopted RTP Section 3.5, Regional Motor Vehicle Network Vision and Policies, includes the Interim Regional Mobility Policy; mobility targets therein correspond with the Oregon Highway Plan's Policy 1F, Highway Mobility Policy, Table 7. With this project, regional mobility policy will take its place in the overarching System Policies in the RTP, alongside safety, equity, climate leadership, and emerging technologies currently in Chapter 3, Section 3.2. Mobility policies are intended to apply to arterials and throughways within the Metro's planning area. Policies and associated measures will also be forwarded to the Oregon Transportation Commission for consideration of amending Oregon Highway Plan Policy 1F, and if adopted would apply to state facilities within the Portland metropolitan area.

The draft mobility policy is intended to achieve the following mobility outcomes which are in alignment with ODOT and Metro strategic goals and priorities. They were identified by policymakers and stakeholders as critical to how we plan for, manage, and operate our transportation system.

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.***

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 for ODOT and Metro.

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.

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.***

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 where people live and work, contributes to shorter trip lengths.

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" for home-based trips[1] or "VMT per employee" for commute trips to/from work of an area.

Access and Options

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

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 increase reliability.

[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.

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 "system completeness".

Safety

- ***People are able to travel safely and comfortably, and feel welcome.***

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 by travel mode is useful in identifying needs and investments that could enhance safety and comfort.

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.***

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. System completeness can be used as a measure to predict availability of reliable travel options. Average travel speed can be used as a measure to forecast areas of congestion that will impact reliability for vehicle modes.

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 while balancing motor-vehicle travel and the many other functions of arterials in intensely developed areas. On Arterials, improving reliability 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.

Performance Measures

Regional mobility within the Portland metropolitan area is multi-faceted and requires more than one performance measure to assess needs and adequacy, and to monitor progress toward desired mobility outcomes. Through a process of research, case studies, applying evaluation criteria and soliciting stakeholder and practitioner input, an extensive list of potential measures were narrowed down to four measures. These measures, applied at different scales and to different facilities, are needed to assess overall system efficiency and whether the system of multi-modal networks are equitable, complete, safe and comfortable , and reliable.

Table 1: "Discussion Draft" Mobility Policy Performance Measures

Measure	Scale for Application	Use	Expected Mobility Outcomes
VMT/Capita for home-based trips **and** **VMT/Employee for commute trips to/from work**	Plan Area (RTP, TSP, Plan Amendment)	Measured for the plan area to ensure that land use and transportation plan changes are working in tandem to achieve OAR 660 Division 44 (GHG Reduction rule) 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.	**Land Use Efficiency** Land use patterns that are more efficient to serve because they reduce the need to drive and are supportive of travel options.
System Completeness	Facility Level for Throughways and Regional Arterials in Plan Area (RTP, TSP, Plan Amendment)	Used to identify needs and define the complete multimodal system in regional and local TSPs, facility plans, corridor plans, and area plans. The "complete system" would be defined through system planning and include network connectivity, the future number of through lanes, and turn lanes, type of bicycle facility, target pedestrian crossing spacing, and TSMO/TDM elements.	**Complete Multi-Modal Networks** Travel options and connectivity allow people to reliably and safely walk, bike, drive, and take transit to get where they need to go.
Average Travel Speed	Facility Level for Throughways and Regional Arterials in Plan Area (excludes Regional Arterials in 2040 centers)	Used to identify areas of poor reliability where due to reccurring congestion, average travel speeds drop below approximately 75% of desired speeds on facilities without traffic control and 40% of desired speeds on facilities with traffic signals (factoring in the signal delay) for a significant period per day. On freeways, reliable traffic flow and the greatest capacity occurs between 30-35 mph. [2] This can be used to help size facilities during system planning; however, on Arterials, managing motor vehicle congestion through additional roadway capacity should follow the RTP system sizing policy and congestion management process and OHP Policy 1G[3] on ODOT roadways and should not come at the expense of achieving system completeness for non-motorized modes consistent with RTP modal or design classifications or achieving the VMT/capita target for the jurisdiction.	**Reliability** Safe, efficient and reliable speeds for people, goods and services.

[2] On freeways, maximum vehicle capacity occurs at approximately 30 mph. Below 30 mph, traffic flows become unstable (more stop and go) and the facility is moves fewer cars. Above 30 mph, traffic flows are more likely to be stable but capacity is reduced as the speed increases as greater distances are needed between vehicles. Reliable speed with maximum capacity is and Freeway capacity is maximized

[3] Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

Measure	Scale for Application	Use	Expected Mobility Outcomes
Off-ramp Queuing	Freeway Off-ramp Terminal Intersections for Throughways in Plan Area	Employed to help provide safe, efficient and reliable operation of the mainline for longer trips of regional or statewide purpose through the interchange area. The main objective is to avoid the formation of traffic queues on off-ramps which back up into the portions of the ramps needed for safe deceleration from mainline speeds or onto the mainline itself. This is a significant traffic safety and operational concern affecting reliability and can be improved by managing throughways for longer trips resulting in reducing off-ramp traffic volumes and by increasing capacity at the off-ramp terminal. .	**Reliability** Safe deceleration conditions for vehicles exiting freeway mainlines reducing crashes and improving operations.

Discussion Draft Regional Mobility Policy

Within the Portland metropolitan area, the State of Oregon and Metro have a shared goal of providing mobility such that 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.

To achieve these outcomes, it is the policy of the State of Oregon and Metro to:

Mobility Policy 1 Ensure that the public's land use decisions and investments in the transportation system enhance efficiency in how people and goods travel to where they need to go.

Mobility 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.

Mobility 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.

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

Mobility 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.

These polices apply to:

- the state highway system within the Portland metropolitan area for
  - identifying state highway mobility performance expectations for planning and plan implementation; and
  - evaluating the impacts on state highways of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060).

- throughways and regional arterials designated in the Regional Transportation Plan, which include state and local jurisdiction facilities, for identifying mobility performance expectations for planning and plan implementation.

Under this policy, Oregon Highway Plan volume-to-capacity ratio targets still guide operations decisions such as managing access and traffic control systems and can be used to identify intersection improvements that would help reduce delay and improve the corridor average travel speed. Local jurisdiction standards for their facilities still apply for evaluating impacts of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060) and guiding operations decisions.

Four performance measures as described in Table 2 will be used to assess the adequacy of mobility in the Portland Metro area for the throughway and regional arterial network based on the expectations for each facility type, location, and function. These measures will be the initial tools to identify mobility gaps and deficiencies (needs) and consider solutions to address identified mobility needs. The subsequent actions describe how to apply these measures in tandem for system planning and assessing plan amendment consistency with the TPR.

Table 2: Draft Mobility Policy Performance Measure Targets

Measure	Application	Target		
VMT/Capita for home-based trips **and** **VMT/Employee for commute trips to/from work**	System Planning	None – OAR 660 Division 44 (GHG Reduction Rule) sets VMT/Capita reduction targets with which the RTP and local jurisdictions will need to comply.		
	Plan Amendments[1]	Increased development potential in a District[2] where forecast VMT/capita for home-based trips or VMT/employee for commute trips to/from work is lower than the regional average. or The plan amendment has a lower forecast VMT/capita for home-based trips or reduced VMT/employee for commute trips to/from work than the District[2] (dependent upon the predominant land use change proposed)		
System Completeness	System Planning	Complete networks and systems for walking, biking, transit, vehicles, freight, and managing the transportation system and travel demand (See Table 3 for guidance and Table 4 for completeness elements by facility type). (Planned system may not achieve completeness for all modes to target levels but should identify future intent for all facilities given constraints and tradeoffs.)		
	Plan Amendments	100% of planned system Or Reduced gaps and deficiencies (See Table 5 for guidance)		
Average Travel Speed		**RTP Motor Vehicle Designation**	**Off-Peak Average Travel Speed Target[5]**	**Hours per Day Target**
	System Planning[3]	I-205, I-84 (east of I-205) I-5 (Marquam Bridge to Wilsonville) OR 217 US 26 (west of sylvan) US 30, OR 47, OR 212 OR 224, OR 213	45 mph – posted speed limit [6]	18 hours
		Throughways [4]	35 mph – posted speed limit [6]	20 hours per day

Measure	Application	Target		
		I-405 (from I-5 South to I-5 North) I-5 North (Marquam Bride to Interstate Bridge) US 26 (from Sylvan Interchange to I-405) I-84 from I-5 to I-205 99E from Lincoln Street to OR 224 interchange		
		Arterials Outside 2040 Centers	15 mph – posted speed limit (including signal delays)	No target
		Arterials Inside 2040 Centers	No target	No target
	Plan Amendments	Same as system planning	Same as system planning	Same as system planning

Table Notes:

1 Plan amendments that meet this target shall be found to not have a significant impact pursuant to the Transportation Planning Rule (OAR 660-12-0060).
2 VMT/Capita "Districts" will be established that identify TAZ groupings (subareas) with similar land use characteristics and forecast VMT/Capita.
3 This can be used to help size facilities during system planning; however, 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 and should not come at the expense of achieving system completeness for non-motorized modes consistent with regional modal or design classifications or achieving the VMT/capita target for the jurisdiction.
4 Throughways are designated in the Regional Transportation Plan and generally correspond to Expressways designated in the Oregon Highway Plan.
5 Used to identify areas of poor reliability where due to reccurring congestion, average travel speeds drop below approximately 75% of desired speeds on facilities without traffic control and 40% of desired speeds on facilities with traffic signals (factoring in the signal delay) for multiple hours per day.
6 Targets will need to be revisited after NEPA process is complete for the I-205 Toll Project and Regional Mobility Pricing Project.

Table 3: Guidance for Defining the Planned System

Mode	System Completeness Element	Supporting guidance
Pedestrian	Provide complete network	RTFP, DLSTG, BUD
	Provide adequate crossing spacing	RTFP, DLSTG, BUD
	Provide adequate crossing treatments	NCHRP 562
	Provide a low-stress walking network to transit and essential destinations	APM
Bicycle	Provide complete network	RTFP, DLSTG, BUD
	Provide a low-stress bicycling network to transit and essential destinations	APM
	Provide adequate bike parking at essential destinations	RTFP, TriMet Bicycle Parking Guidelines
Transit	Provide complete network and adequate bus stop amenities and opportunities to decrease travel time (signal priority, queue jumps)	TriMet Bus Stop Guidelines
Vehicle	Provide adequate street spacing and connectivity	RTFP
	Provide planned number of through lanes	RTFP, DLSTG
	Provide adequate turn lanes considering safety for all modes and land use context	APM, DLSTG, BUD
TSMO	Identify infrastructure and programmatic elements	Regional ITS Architecture Plan Regional TSMO Strategy
TDM	Identify infrastructure and programmatic elements	Metro is working to provide future guidance for the region

AMP – Analysis Procedures Manual (ODOT)
BUD – Blueprint for Urban Design (ODOT)
DLSTG – Designing Livable Streets and Trails Guide (Metro)
NCHRP – National Cooperative Highway Research Project
RTFP – Regional Transportation Functional Plan (Metro)

Table 4: System Completeness Elements by Facility Type

Facility	System Completeness (Elements)
Throughways	Planned TSMO/ITS Planned TDM Planned street connectivity Planned bus coverage and service frequency Planned congestion pricing Planned travel lanes Planned regional trails
Arterials Outside of 2040 Centers	Planned TSMO/ITS Planned TDM Planned street connectivity Planned bus coverage and service frequency Planned sidewalks and pedestrian crossings Planned protected bikeways Planned travel lanes Planned turn lanes
Arterials in 2040 Centers	Planned TSMO/ITS Planned TDM Planned street connectivity Planned bus coverage and service frequency Planned sidewalks and pedestrian crossings Planned bikeways Planned travel lanes Planned turn lanes

System Planning Actions

All four of the mobility policy measures are applied to system planning which includes amendments to long-range transportation plans, including the Regional Transportation Plan and Regional Transportation Functional Plan and locally adopted transportation system plans. System planning also includes planning for the transportation system in smaller geographies through facility plans, corridor plans and area plans, including concept plans for designated urban reserve are. The following actions describe how each of the performance targets shall be used in tandem in system planning, which is supported by the flowchart in Figure 1.

1. Division 44 (GHG Reduction) sets VMT/capita reduction target for the Portland metropolitan area[9]. The RTP process will identify the strategies needed to achieve this target and result in baseline future VMT/capita for the region. This baseline shall be used to estimate future VMT capita for home-based trips and VMT/employee for commute trips to/from work at the TAZ level. The TAZ data shall be aggregated to develop "Districts" [10] with similar land use and VMT characteristics.

2. For system planning at the sub-regional, local jurisdiction (TSPs), or subarea levels, VMT/capita for home-based trips and VMT/employee for commute trips to/from work shall be measured for the plan area to ensure that land use and transportation plan changes are working in tandem to achieve the region's VMT/capita reduction target, 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 plans shall demonstrate that the planned transportation system maintains or reduces aggregate VMT/capita for home-based trips and VMT/employee for commute trips to/from work for the TAZs and Districts in the plan area compared to the baseline set in the RTP.

3. System Completeness targets shall be used to identify needs and ensure that the planned transportation system is increasing in connectivity and safety of the multimodal network. The definition of complete shall be established for each facility and will vary based on the modal functional classification and design classification and can be refined in system plans. Table 3 provides guidance for defining the complete system and Table 4 identifies the elements that must be identified for each facility type.

4. Average travel speed shall be used to assess RTP arterials outside of 2040 centers and throughway facilities within the study area for safe, efficient and reliable speeds. Targets will vary based on the facility type, land use context and include a target minimum off-peak average travel speed that shall be maintained for a specific number of hours per day as described in Table 2. These targets shall inform identification of transportation needs and

[9] The Division 44 targets cannot currently be measured using Metro's Regional Travel Demand Model (RTDM); however, baselines for VMT/capita for home-based trips and VMT/employee for commute trips to/from work can be established from the RTDM for the RTP scenario that meet the Division 44 targets as measured via a different tool.

[10] VMT/Capita "Districts" will be established that identify TAZ groupings (subareas) with similar forecast VMT/Capita.

consideration of system and demand management strategies[11] but shall not be used as standards at the expense of non-motorized modes and achieving system completeness for other modes consistent with regional modal or design classifications or achieving the VMT/capita target for the jurisdiction. Analysis segmentation of facilities within the study area will be determined based on the analysis software or modeling tool utilized.[12] Planning efforts that identify intersection-level improvements can use intersection volume-to-capacity ratios to identify operational improvements that will reduce traffic control delays and improve the average travel speed along a corridor (such as turn lanes, up to the maximum desired crossing distance for pedestrians).

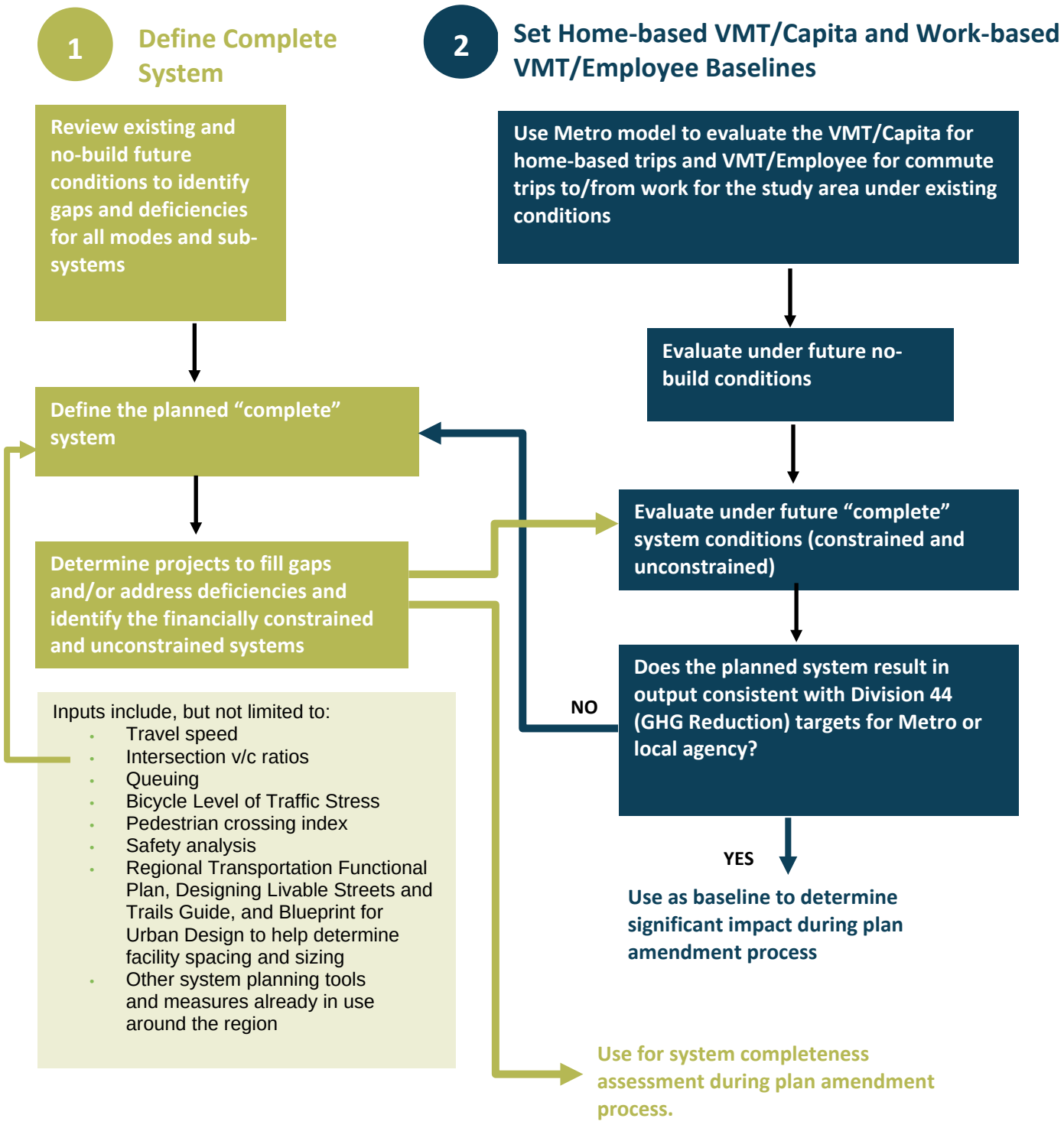
5. Interchanges shall be managed to maintain safe, efficient and reliable operation of the mainline for longer trips of regional or statewide purpose through the interchange area. The main objective is to avoid the formation of traffic queues on off-ramps which back up into the portions of the ramps needed for safe deceleration from mainline speeds or onto the mainline itself. This is a significant traffic safety and operational concern affecting reliability.

6. When identifying needed investments and prioritizing improvements, projects that reduce disparities between "Equity Focus Areas" and "Non-Equity Focus Areas" shall be prioritized.

[11] v/c is one tool that can be used to determine mitigations that support meeting the travel speed threshold.

[12] Supporting documentation will be needed as part of implementation of the policy to define the segmentation methodologies based on analysis options.

Figure 1: System Planning Process Utilizing the Four Mobility Policy Measures



Plan Amendment Evaluation Actions

All four of the mobility policy measures are applied to the evaluation of plan amendments. The following actions describe how each of the performance targets shall be used in tandem in evaluating plan amendments consistent with the Transportation Planning Rule (OAR 660-12-060), and is supported by the flowchart in Figure 3.

1. Comprehensive plan amendments that do not surpass the trip generation thresholds in the TPR will be found to have no significant impact and are not required to further evaluate travel speed or system completeness.

2. **For comprehensive plan amendments the are located in a District with forecast VMT/capita for home-based trips or VMT/employee for commute trips to/from work that is lower than the region average:** Comprehensive plan amendments that demonstrate either of the following shall be found to have no significant impact consistent with the Transportation Planning Rule (OAR 660-12-060)
    a) increased development potential, or
    b) reduction in forecast VMT/capita for home-based trips or reduced VMT/employee for commute trips to/from work (dependent upon the predominant land use change proposed).

3. **For comprehensive plan amendments the are located in a District with forecast VMT/capita for home-based trips or VMT/employee for commute trips to/from work that is higher than the region average:** Comprehensive plan amendments that demonstrate the following shall be found to have no significant impact consistent with the Transportation Planning Rule (OAR 660-12-0060)
    a) reduction in forecast VMT/capita for home-based trips or reduced VMT/employee for commute trips to/from work (dependent upon the predominant land use change proposed).

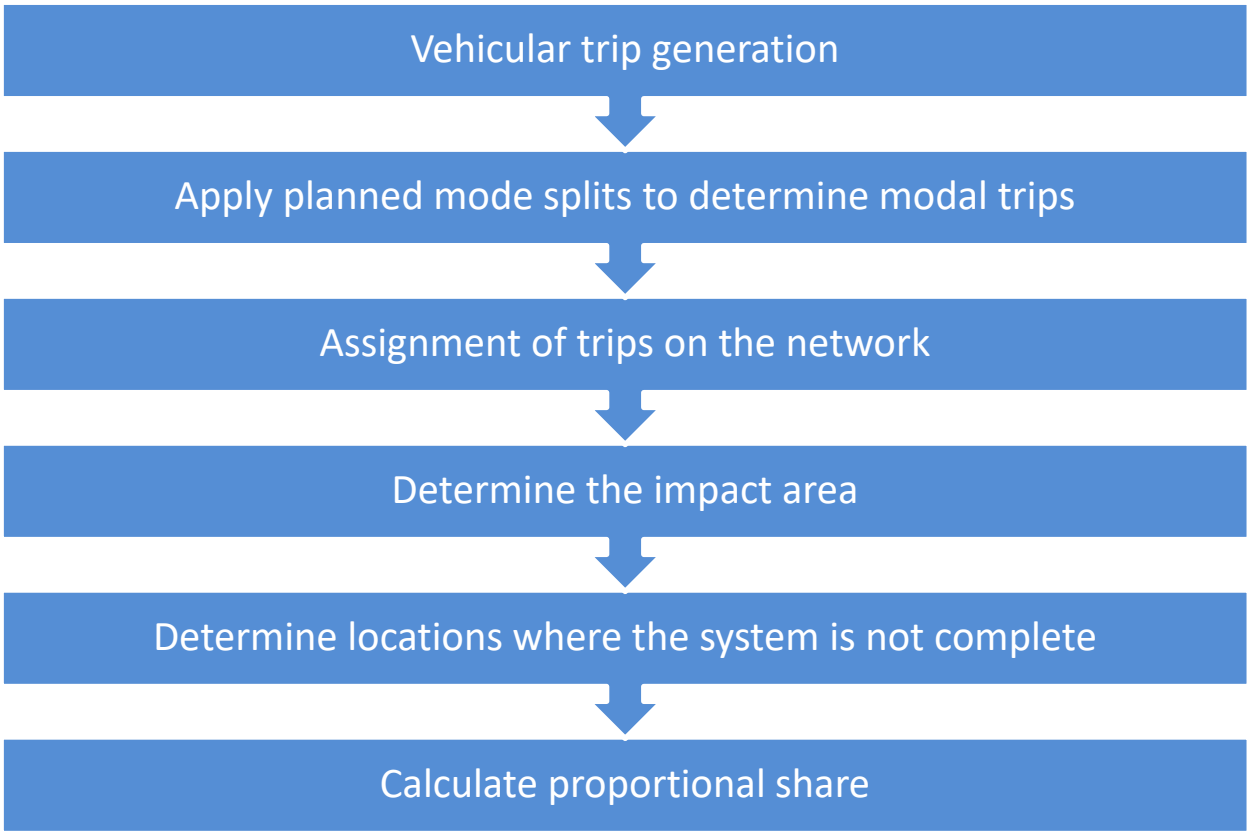
4. Comprehensive plan amendments that have a significant impact based on the forecast changes in VMT/capita for home-based trips or VMT/employee for commute trips to/from work shall evaluate impacts of the plan amendment on the system completeness, safe and reliable travel speeds, and off-ramp queuing where applicable.

5. System Completeness assessment of comprehensive plan amendments shall identify the needs to meet the planned system for each mode, as established in regional and/or local system plans. For each mode, the completeness impact area will be defined based on routing from the comprehensive plan amendment site for the specified distances in Table 5. Table 5 provides guidance for identifying the needs within each modal completeness impact area. For the comprehensive plan amendment, a proportional share of the identified needs will be established based on trip generation, as described in Figure 2.

6. Comprehensive plan amendments that demonstrate either of the following for analysis segments within the vehicular impact area shall be found to require mitigation, and a proportional share of the identified needs will be established for the comprehensive plan amendment based on trip generation
    a) Degrades the average travel speed of an existing or planned transportation facility such that it would not meet the performance target identified Table 2; or
    b) Degrades the travel speed performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in Table 2.

7. Interchanges within the vehicular impact area shall be assessed to maintain safe, efficient and reliable operation of the mainline for longer trips of regional or statewide purpose through the interchange area under the forecast comprehensive plan amendment.

Figure 2: Guidance for Assessing Plan Amendment Impacts



Note: Vehicular trip generation with planned mode splits will be used until or unless mode specific trip generation resources become available.

Figure 3: Plan Amendment Process Utilizing the Four Mobility Policy Measures

Reliability Measure Assessment (Outside 2040 Centers only) and System Completeness Assessment

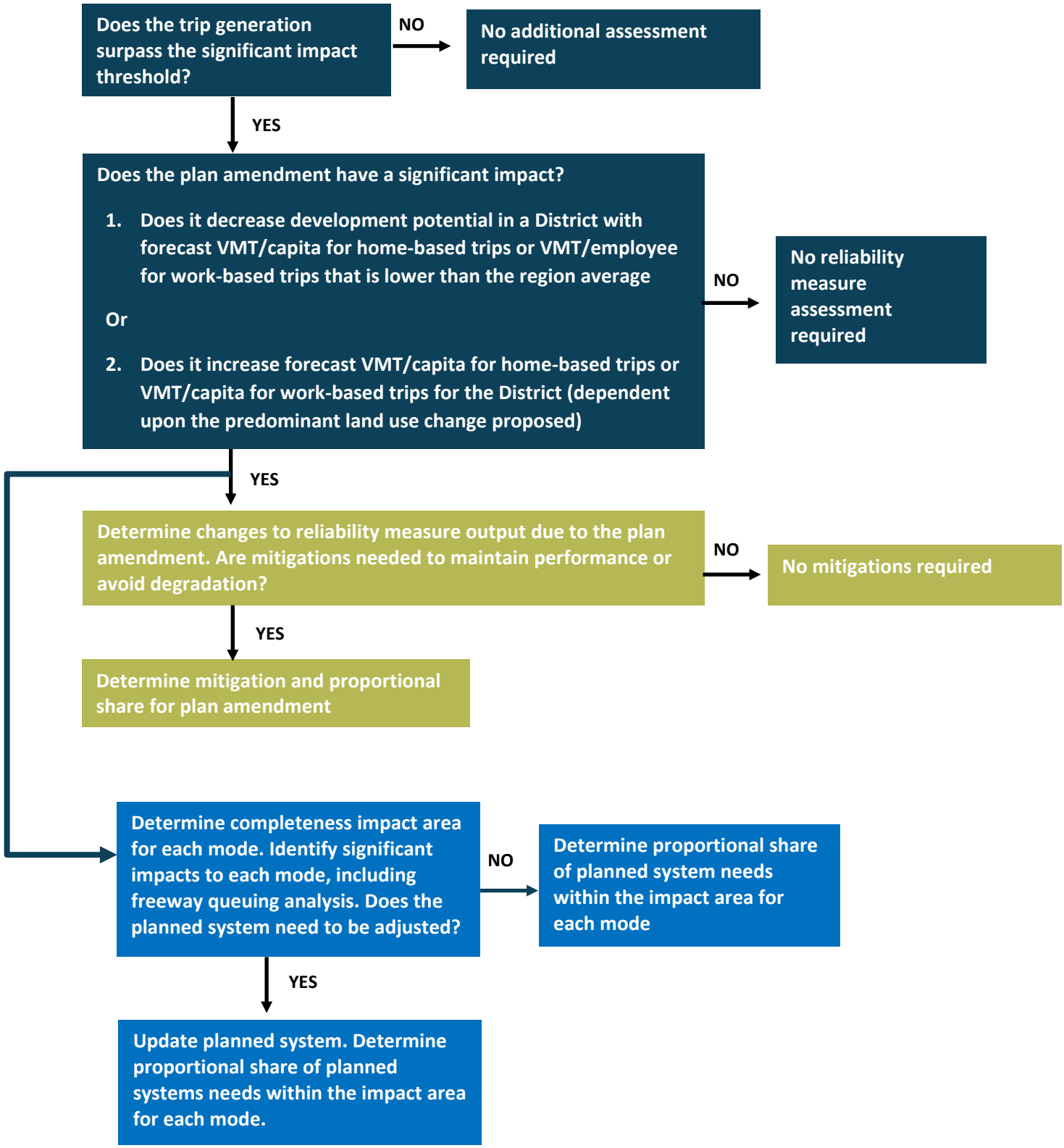


Table 5: Guidance for Assessing Plan Amendment Impacts to System Completeness

	Plan Amendment		
	1. Determine study area by selecting the specified distance along existing and planned facilities	2. Determine if the planned system should be updated based on the projected trip generation	3. Determine locations and quantity of gaps in the planned system within the study area
Pedestrian	Within 1/4-mile routing from site	n/a	Missing pedestrian crossings
	Within 1/4-mile routing from site	Review NCHRP 562	Missing pedestrian crossings by treatment type
	Within 1/4-mile routing from site	n/a	Curb-miles of low-stress pedestrian facilities gaps
Bike	Within 1/4-mile routing from site	n/a	Curb-miles of low-stress bicycle facilities gaps
	Within 1/4-mile routing from site	n/a	Curb-miles of pedestrian facilities gaps
	Within 1/4-mile routing from site	Review TriMet Bicycle Parking Guidelines	Missing bike parking docks
Transit	Within 1/4-mile routing from site	Review TriMet Bus Stop Guidelines	Bus stops lacking amenities by amenity type
Vehicle	Within 1/2-mile routing from site	n/a	Centerline-miles of roadway gaps
	Within 1/2-mile routing from site	Review travel speeds, off-ramp queuing	Lane-miles of through lane gaps
TSMO	TBD	TBD	TBD

Implementation Action Plan

The following describes actions necessary to implement the proposed policy including steps to incorporate the policy into existing policy documents and guidance and tools needed for practitioners to implement the policy.

Policy Implementation Actions

- **Fully integrate the Regional Mobility Policy in the updated Regional Transportation Plan**. The adopted RTP Section 3.5, Regional Motor Vehicle Network Vision and Policies, includes the Interim Regional Mobility Policy; mobility targets therein correspond with the Oregon Highway Plan's Policy 1F, Highway Mobility Policy, Table 7. With this project, regional mobility policy will take its place in the Overarching System Policies in the RTP, alongside safety, equity, climate leadership, and emerging technologies currently in Chapter 3, Section 3.2. To be consistent with the format of the RTP, develop explanatory text for each of the five policy statements and specify the actions to implement each.

- **Fully integrate the Regional Mobility Policy for the Portland metropolitan area in the updated Oregon Highway Plan**. An update of the Oregon Highway Plan is planned for 2022-23, following the adoption of the new Oregon Transportation Plan. The updated Regional Mobility Policy will replace Table 7 in OHP Policy 1F. Integrate explanatory text, Performance Measure Targets, and other state guidance for transportation system planning in the Portland metropolitan area, consistent with the content of the updated RTP, into the

updated Oregon Highway Plan.

- **Work with local jurisdictions to update policies that adopt the Regional Mobility Policy as their standards for RTP arterials**. Local adoption will clarify that the updated regional performance targets apply in plan amendment decisions to ensure that the proposed changes are consistent with the planned function, capacity, and performance standards of state and regional facilities. Many local jurisdictions have adopted ODOT's OHP V/C targets as standards in their development codes, with the result that projects can be denied based on the inability to meet or mitigate to the applicable standards; the new Regional Mobility Policy provides a balanced, multi-modal approach to approving development that is consistent with planned growth.

- **Update Regional Transportation Functional Plan Title 3, Transportation Project Development, to reflect the Regional Mobility Policy**. Title 3 includes current mobility targets in Table 3.08-2; Section 3.08.230 Performance Targets and Standards requires Oregon Transportation Commission approval for local adoption of mobility standards for state highways that differ from those in Table 3.08-2.

Near-term Data and Guidance Actions

- Develop Districts within the regional modeling tools that establish baseline VMT/capita for home-based trips and VMT/employee for commute trips to/from work.

- Refine TAZ boundaries or establish additional TAZs to better align with jurisdictional and urban growth boundaries.

- Develop guidance on calculating travel speed based on the model used.
    - If using output from the regional travel demand model, ensure a consistent approach to segment lengths, model hour(s) reviewed, and any calibration needed.
    - If using a deterministic model such as Synchro, ensure a consistent approach to signal timing assumptions and segment lengths.

- If final travel speed targets are set as a percentage of a base speed, specify the base speed used in the calculation such as desired speed based on the functional classification and land use context in ODOT's Blueprint for Urban Design for ODOT facilities and guidance in the Metro Livable Streets and Trails Guide for non-ODOT arterials based on the design classification in the Regional Transportation Plan.

Long-term Data and Analysis Tool Actions

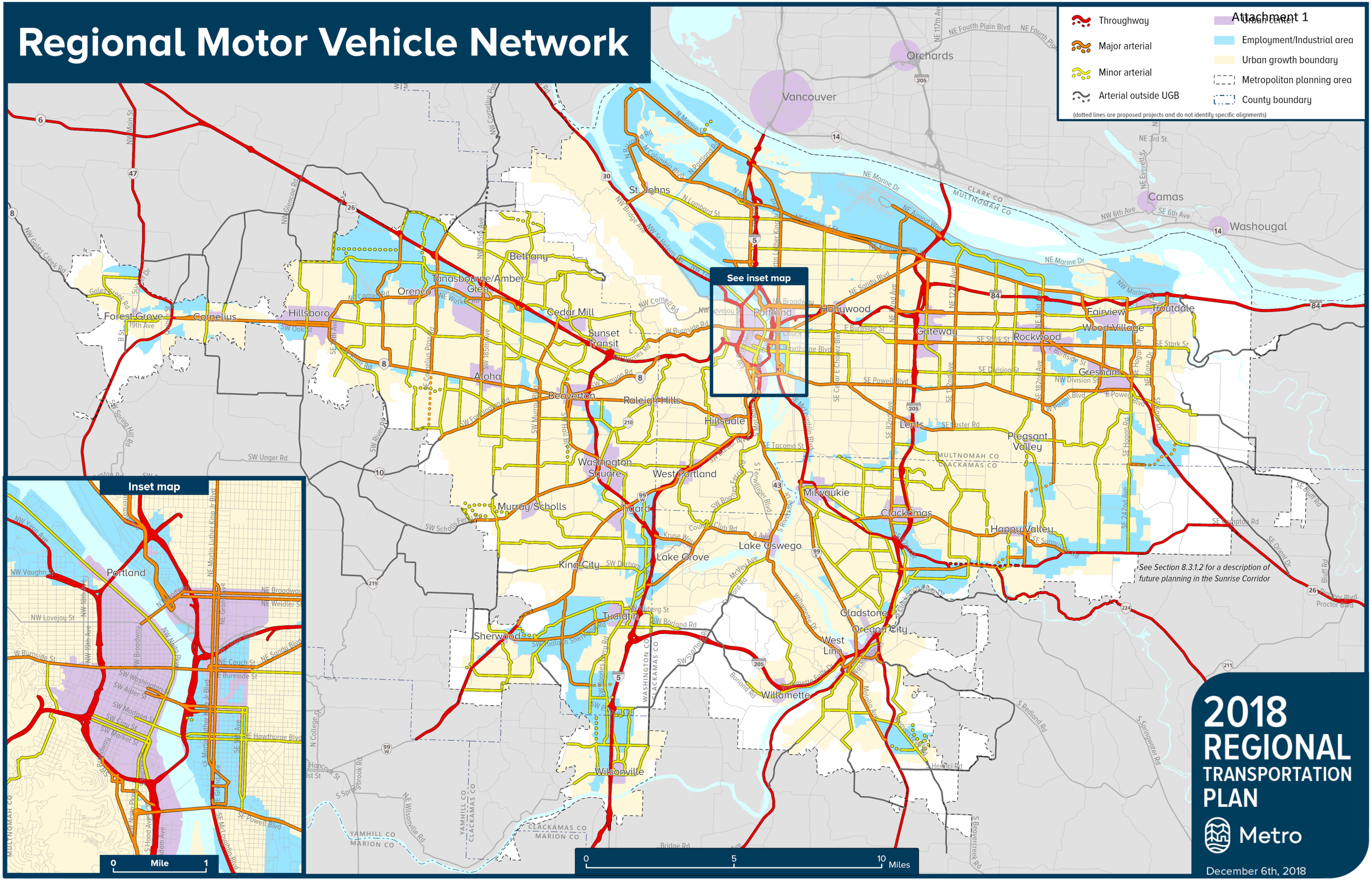
- Expand the region's Dynamic Traffic Assignment model(s) to calculate travel speeds and other reliability measure output within a capacity constrained model.
    - Develop guidance to consistently calculate travel speed using DTA model.
    - Determine if thresholds should be adjusted if analysis is adjusted to use the DTA model.

- Establish a consistent process for transportation options planning or create a regional transportation options plan. A regional plan can be referenced when determining the "planned system" for system completeness baselines.

- Create a high-level tool for quick VMT/capita calculations. PBOT is working on a tool already that could be a starting point.

- Modify or create new regional modeling tools to better account for light-duty commercial travel.

Regional Motor Vehicle Network



Attachment 2

VMT/Capita Reduction Target Example

Measures:

VMT/Capita for home-based trips
VMT/Employee for commute trips to/from work

Target:

1. Increased development potential in a District[1] where forecast vmt/capita for home-based trips or vmt/employee for commute trips to/from work is lower than the region average.

or

2. Plan amendment area has lower forecast vmt/capita for home-based trips or lower vmt/capita for commute trips to/from work than the District[1] average (the output reviewed is dependent upon the predominant land use change proposed)

Example Metro Region Baseline

Ave. VMT/capita for home-based trips = 10.5
Ave. VMT/employee for commute trips to/from work = 9.5

Example District A

Ave. VMT/capita for home-based trips = 10.7
Ave. VMT/employee for commute trips to/from work = 8.5

Plan Amendment in District A

	Baseline	Scenario 1	Scenario 2	Scenario 3
Proposed Land Use Change in District A		Increased housing units	Increased housing units and jobs	Increased jobs only
Ave VMT/capita for home-based trips	Region: 10.5 District: 10.7	Updated District Ave: 10.8 (An increase for District and District is higher than Region Average)	Updated District Ave: 10.6 (A decrease for District but still higher than Region Average)	Updated District Ave: 10.7 (No change for District, still higher than Region Average)
Ave VMT/employee for commute trips to/from work	Region: 9.5 District: 8.5	8.4 (A decrease for District and lower than Region Average)	8.3 (A decrease for District and lower than Region Average)	8.5 (No change for District, still lower than Region Average)
		Does this meet the VMT reduction Target?		
Increased development potential in a District[2] where forecast vmt/capita for home-based trips or vmt/employee for commute trips to/from work is lower than the region average. *or*		No	*No for housing* *Yes for jobs*	Yes
Plan amendment has lower forecast vmt/capita for home-based trips or lower vmt/employee for commute trips to/from work than the District (dependent upon the predominant land use change proposed)		*No for vmt/capita* *(Yes for vmt/employee although this does not result in a finding of no significant impact as the proposed change is to add housing only therefore only the reduction of vmt/capita meets this criteria)*	Yes for Both	No
Significant Impact per TPR?		*Yes - Need to evaluate other mobility policy measures*	*No – No additional transportation analysis needed, impacts to be addressed at time of development*	*No Significant Impact per TPR – No additional transportation analysis needed, impacts to be addressed at time of development.*

1 VMT/Capita "Districts" will be established that are TAZ groupings with similar land use characteristics and forecast VMT/Capita and that represent subareas of local jurisdictions.

VMT/Capita Reduction Target Modeling Needs

Evaluating VMT/capita at the District level

- Develop District average VMT/capita (HB VMT/capita and HBW VMT/employee) using existing model outputs for forecast year (under RTP fiscally constrained scenario)
- Assume that increased development potential and non-auto-oriented transportation improvements reduce Metro Region VMT/capita when occurring in Districts with below average VMT/capita
- Assume that Plan Amendments would affect VMT/capita within the TAZs where they are located, but not necessarily outside those TAZs

When do I need to use the model?

Although VMT/capita metrics are calculated using the Regional Travel Demand Model (model), the model does not need to be run each time these metrics are being evaluated.

Run the model when:

- Evaluating system plans/plan amendments that include elements that both *increase* and *decrease* VMT/capita. For example, a plan amendment may add housing to areas that have higher VMT/capita than the regional average, resulting in higher VMT/capita within the District, while also adding services and retail capacity that would reduce the distances residents need to drive to meet their needs.
- Evaluating changes *outside* the plan area due to changes *within* the plan area
    - Changes within a TAZ affecting the District where it's located
    - Changes within a District affecting the region
    - *Note:* many of these questions would be addressed in city and regional scenario planning required by CFEC rulemaking and not in plan amendments

Use existing model output and off-model tools when:

- Evaluating changes to VMT/capita within a plan area in a District with lower VMT/capita than the regional average
- Evaluating changes to VMT/capita within a District due to District-wide changes in land use, policy, pricing, etc.
- *Reference:* CAPCOA 2021 handbook on GHG emissions reductions; additional resources per Metro/ODOT
    - Distinguish between project-scale vs. community-scale strategies
    - Be careful when evaluating transit network changes, which may affect several different TAZs

REGIONAL MOBILITY POLICY UPDATE

Practitioners Forum 3 Summary Report

A summary of the third practitioners forum convened by Metro and the Oregon Department of Transportation (ODOT) in support of updating the mobility policy for the Portland region

April 2022

Metro respects civil rights

Metro fully complies with Title VI of the Civil Rights Act of 1964 that requires that no person be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination on the basis of race, color or national origin under any program or activity for which Metro receives federal financial assistance.

Metro fully complies with Title II of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act that requires that no otherwise qualified individual with a disability be excluded from the participation in, be denied the benefits of, or be subjected to discrimination solely by reason of their disability under any program or activity for which Metro receives federal financial assistance.

If any person believes they have been discriminated against regarding the receipt of benefits or services because of race, color, national origin, sex, age or disability, they have the right to file a complaint with Metro. For information on Metro's civil rights program, or to obtain a discrimination complaint form, visit oregonmetro.gov/civilrights or call 503-797-1536.

Metro provides services or accommodations upon request to persons with disabilities and people who need an interpreter at public meetings. If you need a sign language interpreter, communication aid or language assistance, call 503-797-1700 or TDD/TTY 503-797-1804 (8 a.m. to 5 p.m. weekdays) 5 business days before the meeting. All Metro meetings are wheelchair accessible. For up-to-date public transportation information, visit TriMet's website at trimet.org.

Metro is the federally mandated metropolitan planning organization designated by the governor to develop an overall transportation plan and to allocate federal funds for the region.

The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process strives for a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating transportation funds. Together, JPACT and the Metro Council serve as the MPO board for the region in a unique partnership that requires joint action on all MPO decisions. This means JPACT approves MPO decisions and submits them to the Metro Council for adoption. The Metro Council will adopt the recommended action or refer it back to JPACT with a recommendation for amendment.

Project website: www.oregonmetro.gov/mobility

The preparation of this report was financed in part by the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. The opinions, findings and conclusions expressed in this report are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.

TABLE OF CONTENTS

Appendices

Appendix A. Forum agenda

Appendix B. Discussion group Jamboards

Appendix C. Forum participant list

Appendix D. Forum presentation.

Appendix E. Materials provided to participants in advance of the forum

APRIL 2022 PRACTITIONERS FORUM #3 SUMMARY

Project Introduction

Metro and Oregon Department of Transportation (ODOT) are working together to update the existing Regional Mobility Policy and how it defines and measures mobility for the Portland area transportation system. The project will recommend amendments to the Regional Transportation Plan (RTP) and the Oregon Highway Plan Policy 1F for the Portland area.

Forum Overview

On April 7, 2022, from 2:00 to 4:00 PM Metro and ODOT held the third in a series of virtual forums with transportation industry practitioners.

The purpose of the forum was to receive feedback on draft mobility measures and discuss methods of evaluation to inform the updated Regional Mobility Policy. Prior to small group discussions, a presentation was shared with the group that reviewed the following:

- Review of project goals, objectives, policy applications and timeline
- Update on project progress
- Overview of draft mobility policy measures and how they could be used/applied
- What kind of feedback we're looking for today

A copy of the full agenda for the forum can be found in **Appendix A**. The Jamboards for each participant group can be found in **Appendix B**. A list of participants is provided in **Appendix C**. The full PowerPoint presentation can be found in **Appendix D**. Materials provided to participants in advance of the forum are provided in **Appendix E.**

Key Themes

A number of key themes arose during the discussions at the forums. Across all of the recommended measures practitioners, have questions and concerns about how local staff will model these measures and whether there is sufficient capacity to do so. For each theme, there were a few topics that emerged across discussion groups, including:

Multi-modal measure - System completeness

- There is a strong desire to not limit completeness to just bike/ped network. A holistic and complete approach is needed.

- There were concerns about applying system completeness at different scales and in different contexts.
- Practitioners were concerned about applying system completeness to plan amendments: how to demonstrate significant impact.
- Participants discussed how to prioritize the mode when right of way is limited and also discussed how to account for the quality of the facility in considering compleness.

Congestion measure – Travel Speed

- Participants wanted to see a reliability measure rather than a congestion measure.
- There were concerns about travel speed contradicting other regional goals—especially related to safety on arterial streets and not reflecting human experience of getting around (ie. travel time and travel reliability vs. travel speed)

Land Use Efficiency Measure – Vehicle Miles Traveled (VMT)

- There were concerns about usability of VMT at smaller scales as well as discussion about how to measure impacts and identify a nexus.
- There was support for VMT for ssytem plannig and large land use amendments.

Participation

Including project staff, a total of 90 people registered for the forum, including project team members. Out of the 70 participants, 49 of the participants identified themselves as city, county, or state agency employees, 11 identified as consultants or employees of a private firm, three identified as an employee of a transit agency, and seven selected the option "other" to explain their affiliation. The specializations of work that participants indicated described them included:

- Long-range planning (38)
- Transportation engineering (14)
- Transportation modeling (5)
- Transportation operations (5)
- Current planning / development review (8)

Discussion summary

Each discussion group was facilitated by a member of the project management team and accompanied by a notetaker. For the six breakout groups, participants were placed in groups based on their focus of work. These practitioner groups included:

- Long-range planning (3 groups)
- Transportation engineering
- Transportation modeling / operations
- Current planning / development review

Highlights from the small groups are summarized in this document, organized by measure. Some of the discussion questions were asked across all groups and others were specific to the practitioners' work focus.

The Jamboard Discussion for these groups can be found at the end of this document in **Appendix B**.

Multi-modal Measure – System completeness

Long-Range Planning Discussions (Groups 1, 2 and 3) – System completeness

Completeness looks different in different contexts and for different modes.

- System completeness should be a target but with context as to the situation. (most frequently mentioned)
    - Change criteria/target based on location and type of facility.
    - Prioritization of modes in different locations/facilities.
- Not all systems are accessible; for example, freeway on and off ramps have limited options for crossing for modes other than vehicles.
- Type of bicycle facility and pedestrian. TSMO requires a definition of what a complete street is to make the system complete and effective. Need choices with safety management in mind.
- Urban growth expansions and retrofitting current streets are different. Many times retrofitting existing streets is not a good option.
- Arterials with holes in their networks. Completeness has different grades. Bicyclists don't always need bike lanes if there is a paved street. Sidewalks many times suffer and don't meet ADA when bike lanes are prioritized.

Long-range planning participants voiced a variety of questions and comments about how the measure will be implemented.

- Policy vs. the measure – are they separate? Policies inform the development of a system, they are not a measure of system completeness.
- Network connectivity is complicated to measure. Will this measure require a prohibitive amount of analysis? (multiple mentions)
- Concerns with silo-ing rather than intent; having measure that attempts to achieve multiple outcomes for bigger picture questions.
- Zone change and comprehensive plan amendments – How do we figure out worst case scenario non-vehicle trip generation numbers? Modal split?
- This work will highlight needs on the existing system; may take more effort to find solutions.
- What are we measuring and how is consistency evaluated (mitigation)?
- Policy on turn lanes?
- Pricing on street parking?
- Demand vs use - mitigations?
- Define a set of potential mitigations and the measurability of that (even if Y/N), and could also relate to the policies/other TPR requirements.
- Use and accessibility of system- there are going to be requirements for people with disabilities, etc.
- How does activity-level and cost-effectiveness get factored in?
- Need to define expectations and desires, never going to get 100% of what you want, never going to entirely eliminate congestion, speed, increase in delay. So need to set standards for your systems, and define system completeness in terms of what that gets you with your goals

Long-range planning participants commented on what should be included or excluded in defining a complete system. Suggestions included:

- Support for type of bicycle facility and pedestrian crossing spacing.
- Some concern for including bicycle facility and transit streets.
- Completeness and TSMO/TDM are important to define.
- Number of through lanes on arterials – adding lanes can diminish walking and biking – how to take into consideration safety and comfort to get across those lanes.
- Include existence of sidewalks.

- Transit service headways.
- Parking regulations/pricing.
- First/last mile connections.
- Trail network should be part of the complete system.

Participants responded to: What suggestions do you have and what needs additional clarification?

- How do we prioritize? How would you prioritize different facilities within a limited right of way if multiple are found to be deficient? Ex: Number of through lanes on arterials/adding lanes on arterials diminishes use of pedestrians and bikes…how would a system completeness measure take into consideration how one component could degrade the function of other components? Shouldn't be at the expense of other measurements like comfort and safety.
- Seems like something that assesses ADA element sufficiency is needed: e.g. how many accessibility elements over the scale of the project. How easy would the system be for someone to use if they were not an English speaker, had one or more disabilities, etc.
- Question: City of Portland focusing on access, better understanding of how many people can benefit, how would the number of people and things like route directness play into this? You could have a mile of sidewalk but if you have it in the wrong place, not benefiting many people. How could cost effectiveness & access be captured in a way that system completeness might not quite capture?
- Clackamas bike facilities on arterials and collectors that are 80s standard; how would we address something that may complete the system but not be up to date on standards?
- There's a difference between a system and the use of a system. For example, TDM has to do with the use of the system, not building the system.

Participants commented about the experience on the ground of people using the transportation system.

- Drivers are confused in Portland with all the new street colors many times driving the wrong way in colorful new lanes.
- Bus lanes many times make it difficult to make turns which make it difficult to get off the street you are on.
- East county pedestrian deaths have been high.

System completeness and plan amendments

Transportation Engineering, Transportation Modeling / Operations Discussions, Current Planning / Development Review Discussions (Groups 4, 5 and 6) – System completeness

Participants discussed proportionality.

- If we do ask for proportionate share, how do we decide where it goes?
- Proportionality - can think of % increase in walking and biking? Needs might not be changed associated with this plan amendment.
- Concerns around proportionality – what we can/cannot require.
- ODOT does not have a funding tool. If something is an impact on their system, reliant on cities/counties to collect, but doesn't necessarily go to their system – ODOT needs to look at that.
- Needs to address how an impact on an ODOT system proportional share is kept within the state system since ODOT does not collect proportional share funds.
- Needs to address nexus and proportionality on quasi-judicial.
- Concerns about proportionality, requiring bike and ped off-site; maybe a fee that goes into an account for future improvements.
- Always struggled with off-site bike and ped only if something is big enough to require it, typically just frontage, if we had a good answer could apply to current development.
- There should be a fee for future development, cannot require it at time of development.

There were many questions and comments related to the radius of impact in relation to establishing proportionality. Multiple comments suggested using a radius along the system network (not at as the crow flies).

- If a sidewalk is missing, easy to achieve. Sometimes within that system, some areas have gaps. How far are you planning to go from that property to check what needs to be done?
- Transit stops, schools? Radius? Certain distance? Ped trips assigned to the network if meets a certain threshold, needs to be a part of the network area.
- Radius and proportionality - Push for doing walking distance. If a radius hitting the other side of industrial development, no way to tie it.
- Traffic analysis - would be ideal to have a radius of analysis of multiple things. How people are used to moving around can change from county to county.

- Shouldn't just be single intersection/corridor. Setting up a radius – for example, a couple of blocks/intersections, do it little by little to eventually cover the entire Metro area.
- Currently we go 1,000 feet from access point/center of property. Good measure, ¼ mile, can walk that distance.
- Transit network only criteria – leaves opportunities for persistent gaps.
- Assurance there is no threshold expectation placed on cities and counties since cities and counties are limited on funds. Recommend walking distance instead of radius to better support nexus and proportionality.

Considerations for implementation

- Some local jurisdictions using planned mode split to estimate it. To get trip generation, that is more multimodal. That's where you get challenged - you cannot pin it down.
    - Right now we use ITE trip generation, suggestion to use planned mode split to convert vehicle trips to active transportation trips.
    - Significant impact based on ITE vehicle trip generation scenarios; how do you calculate it for bike and ped?
- Prioritization: What right of way is available?
- Often developments are going to be a main way that small pieces of incomplete bike/ped infrastructure are built. Wouldn't want this to inadvertently be a disincentive to development in incomplete areas.

Participants discussed control and access to right of way.

- If no control of right of way, how do gaps get filled?
- If not in public right of way? How do you move that project forward? We try to get them to do it but not always successful.
- Need to address availability of right-of-way.

There were several comments in the current planning and development review group regarding why an increase in bike and pedestrians would be considered a negative impact when policies encourage mode-split.

- Why would increase in bike and walk be considered a significant impact? More walk and bike trips are desirable; should not require mitigation for increasing walking and biking.
- Should not require mitigation for increasing walking and biking.

There were several comment and questions related to setting system completeness targets/standards.

- Do not see how we can have different standards for different planning levels (system, plan amendment, development review), feels inconsistent, if developer is on the hook for the V/C impacts, even though at the plan and plan amendment level is not looking at it, how does it work?
- Be ok with incremental enhancements. Clearly define "completeness". Cooperate with adopted agency roadway standards.
- Actual policy should be flexible and adaptable to land/use, or jurisdictions, as they adopt/implement such policy. Since not all the areas of the bigger area (Metro area) are equal; not all parameters can be use the same way on the different jurisdictions.
- If there are new performance standards/targets/thresholds developed from this policy and/or subsequent planning work, those need to be easy and clear to find and reference for agencies and consultants. For example, if a definition of "system completeness" is created for specific facilities.
- How does "system completeness" differ from most or all jurisdiction's policies that include the need to develop complete ped/bike/ADA networks?
- System Planning "complete system" definition: interested in how the quality of a facility (width of sidewalk, bike facility, crossing enhancements) would fit into the complete system definitions? If these are defined in the system plan, is it responsive to changes in user volume or current conditions (if it varies from the planned mode share).
- Maybe the measure should look at increase in number of ALL trips, and if there are not enough increase in walk, bike, transit determine what needs to change in plan amendment to support increase in non-drive alone trips.

Participants commented on what should be included or excluded in defining a complete system. Suggestions included:

- Transit completeness is important. Transit "completeness" is a consideration. Could be transit running speed, frequency, stop amenities and accessibility, etc.
- Also roadway network connectivity is important to shorten trips & address congestion.
- Are there offsite things associated with traffic control for walking/biking that can show that there is a need for a more protective crossing that don't require a lot of additional right of way?

- Any project based on V/C is a complete project – improvement is always a complete street. Trying to find a new system but also do we have the tools to use this system to get qualitative data out of it that we can apply?

Participants discussed system completeness for transportation system planning.

- Through system planning, define what is complete.
- Jurisdictions are doing system completeness within TSPs. It is more tied to funding that we have.
- If you target 100% of the plan network, you might identify roadways that will never be complete.
- If system is not always funded, what is the financially constrained?

Congestion Measure – Travel speed

Long-Range Planning Discussions (Groups 1, 2 and 3) – Congestion measure

Long-range planning participants encouraged this measure to be called a reliability measure not a congestion measure and voiced a range of concerns with speed, especially on arterials.

- This should be travel time reliability and not speed? What is a reasonable amount of time to take you to get somewhere and not tie it to a speed? Reliability is a good measurement but hard to communicate to the public.
- Very uncomfortable with this – prefer travel time.
- How much time does it take to get from Point A to B? Rather than speed.
- Significant concern around using travel speed, especially for arterials - undermines vision zero goal. This is the wrong measure and shouldn't be applied to arterials.
- Studies show strong positive correlation between economic vitality and levels of congestion, so putting a travel speed measure would undermine safety and climate.
    - If we're trying to find additional housing capacity, arterials are a source of capacity that is strained, so high speeds may discourage building in those corridors.

Long-range planning participants discussed considerations for applying travel speed.

- Three different possibilities to approach this measure – freeways, hours of congestion, throughways and arterial targets.
- Legal defensibility of some measures? Declining travel. How to apply to a smaller agency? Apply difference to different locations (freeways, in centers, etc.). Understand only throughway (Time of day)? Use travel time as a defensible to broad public reception.
- Posted speed doesn't account for time of day, delay.
- Might help change behavior if people are able to understand this- where TSMO comes in.
- Can we look at travel speed for other modes? Is this just SOVs or does it include transit, freight?
    - Travel speed could be focused on transit corridors to prioritize transit speed and reliability improvements, not SOV speed improvements.

- Concerned with Highway Freeway (longer segments). Threshold for using lots of local roads vs. Limited access highway.
- Need to define expectations and desires for each and recognize you won't get all. Set standards for system and what people are willing to pay for. Then figure out how to make that work.
- Standard vs speed limit? Need clarity that standard is less than posted limit.
- Is the speed monitored or modeled?

Transportation Engineering Discussions (Group 4) - Congestion measure

Participants expressed concerns about the challenges of measuring/modeling speed on arterials with the variability it's less representative.

- A challenging tool. Re: macro modeling, needs to be calibration on that side.
- Calibrating the future model is harder.
- Concern with the level of work and calibration involved with deriving travel speed for both deterministic analysis and travel demand model on arterials. v/c ratio has less work involved in calibration.
- For user experience, speed reliability is a big component. Unfortunately, it's very challenging to forecast reliability in the context of long range planning.
- Travel speed will be thrown off at critical points such as a traffic incident or queuing at railway crossings.

Participants compared the V/C measure to speed.

- "Important elements of mobility." This statement may be true to the extent that v/c is a measure of vehicle capacity, but it overlooks that the Highway Capacity Manual analysis process that leads to v/c in project delivery can also produce performance measures for people walking, biking, and using transit. Removing v/c entirely may incidentally make it more challenging to produce the related multimodal measures.
- In Washington County, Sunset Tunnel speed is more challenging to calibrate than V/C. More in favor of V/C.
- Travel speed does not fulfill the same role as v/c in all contexts, esp. for operational purposes Off-freeway and at point/short locations.
- Looking at from V/C side, the moment V/C goes up, speed goes down.

Participants had varying perspectives and ideas about if/how Travel Speed could be best used on arterials and thruways.

- Should be using data we have in the region as a baseline - anything we have as a model needs to make sense relative to the baseline.
- Directly measure speeds as a baseline from Bluetooth, Wejo, INRIX. This will be more accurate.
- Important on arterials for gauging queuing and queue spillback.
- Travel speed is only a relevant metric for freeways and expressways. It's problematic to use for arterials and intersections, and should not be used.
- In some cases there may be a desire to keep speeds low, for example to increase ped/bike safety in an STA.

Transportation Modeling / Operations Discussions (Groups 5 and 6) - Congestion measure

Modeling participants discussed a number of questions, concerns and suggestions related to how speed would be modeled.

- Would like to see a bifurcated approach. Understanding delay from intersections vs. overall capacity delay.
- Speed is quite messy. It depends on segment length, what segments you are measuring, average of what length makes a difference, existing and modeled speeds. Model not calibrated for speed, need a tool, tools will need to be calibrated and refined so that it will be applicable, SYNCRO or what model, do we know, has it been tested?
- We have existing – what we can measure today, future no build, future build. There are tools to get the existing speeds, but not for future build and no build.
- Will need to be careful not to use raw travel model speeds for this - will need to be post-processed with on-road probe data.
- In general, modelers do not use design speeds that engineers use. Input speed can be the same as the posted speed, but what really clarifies and defines a model input speed will be using a combination of speeds. Caution: If input speed is set above posted speed, theoretically you could have a congested speed above the posted speed, which will cause confusion.
- Speed is an input to modelling as well as an output.
- The takeaway should be the difference between the model input speed and the actual.

- For at-grade arterials (not throughways), consider using a bifurcated approach using Synchro's outputs at intersections AND along arterial segments. Metro does not use Synchro but it is useful to City/County/ODOT project modelers.
- What capabilities are available to model max speeds, such as keeping CBD speeds at 25 or less.
    - Design speed is NOT a model input.
    - We are currently using "free flow" as an input for speed.
- Thresholds need to be defined - for example posted speed is used as the free-flow speed.
- Consider the impact of incidents: some places have incidents as the norm which are not modeled.
- Speed should include differences by mode. Transit, freight and SOV, etc.

Participants generally agrees lower speeds are more desirable on arterials and aligned with safety goals.

- Speed is counter to policy goals – aren't we trying to slow speeds?
- There is a huge difference between speed on freeways and arterials.
- Faster the cars go the less safe for other users on arterials.
- Relationship between pedestrians and arterials. Congestion and slower traffic may be what we are going for on arterials (except for buses).
- Broad agreement that bus travel speed also matters in new tools for travel speed: bus on shoulder, etc.
- Desire to have max speed for safety for survivable crashes. It's possible to model with a lower input speed. We talked a bit about using BUD/Livable Street Handbook max speeds for safety in urban areas.
- In some locations we could want to slow things down for policy reasons. The model would allow a congested speed that is greater than the posted.

Land Use Efficiency Measure – VMT per capita

Long-Range Planning Discussions (Groups 1, 2 and 3) – Land use efficiency measure

Long range planning participants discussed the need to disaggregate VMT to understand who is being well served and who's being left out. There's a desire to understand specific trips and kinds of employment, sectors and employee demographics.

- Apply market segmentation of models and combine tools (cell phone data) to answer more difficult questions.
- Modeling tools that are used now aren't made to be disaggregated, needs to stay at high level.

Participants discussed that it is a good measure for system planning and large land use amendments. Site scale is a concern.

- Could see it at the regional and county level, but curious as to how that would apply to actual application in a smaller city level.
- Consider applying at a TSP level.
- Good measure at the system level (or very large geography level). Not good at smaller scales.
- An analysis of different subarea levels would be helpful to understand applicability.

There are concerns about local staff capacity to model VMT.

- Is it anticipated that local jurisdictions would have the tools to do the VMT/capita analysis, or is this type of analysis typically done by Metro or consultants?
- How much modeling would be involved? If significant amount of modeling, it would be difficult for smaller jurisdictions to do - how can a planner look up a map of book to do the calculation.
- Concern is that a standard is set that requires modeling, it might be extremely hard to apply except in the largest cities; not sure if a city in say Clackamas that could apply, it needs to be something simpler or used from analysis that Metro does or TSP; find a way that an entry level planner can look in a book or on a map.
- City of Portland having a calculator built where you enter basic information that would tell you the VMT, moving away from VC or LOS standard, easier to implement and see outputs, putting finishing touches on.
    - It may be interesting to have some tests, give people at various sized localities to test that and see if that could work for them.

Participants discussed how VMT is being applied in California. (California related comments from all groups listed below.)

- Are there lessons learned from California's transition from level of service to VMT for environmental studies (SB 743)? How does Oregon's planning context differ from California's?
- SB743 California established opportunity for project streamlining, if in an area that exhibits below a certain VMT.
- California established opportunities for streamlining if building something in low VMT area and likely to generate lower VMT/capita.
- California Office of Planning and Research guidance: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf
- Current resource for off-model VMT mitigation strategies: https://www.airquality.org/residents/climate-change/ghg-handbook-caleemod
- In California, some cities are basing impact fees on VMT. Some are requiring mitigations through multi-modal improvements, TDM programs, parking, on-site improvements (e.g., bike room at multifamily developments). Example: Fresno, California VMT calculator for development applications.
- Fresno COG example of a project-level VMT impacts calculator, used for environmental impacts review.

VMT is tied to multiple desired outcomes.

- VMT tied land use to transportation and also relates safety and mobility.
- VMT/capita is broader than a land use efficiency measure, since it is itself the strongest indicator of the benefits of multimodal travel balance (more efficient use of ROW than SOVs).
- Are there negative equity implications to VMT per capita, as an increase in VMT per capita can indicate households that previously didn't own a vehicle now have access to one?
- The City of Portland supports measures that would apply to multiple outcomes.

Participants offered suggestions and questions about how VMT should be applied.

- A better measure might be VMT per acre.
- Encourage plan amendment level comparisons be made to regional level target.
- Housing in low VMT areas, one of several concerns is idea of increasing speeds on arterials could discourage people living adjacent to them, could affect safety.

- Portland is trying to tie measures/standard at TSP, Comp plan and Development review levels.
- Won't the anticipated VMT reduction requirements for TSPs from CFEC still apply? How will these requirements, the updated regional mobility policy and the Climate Smart target reductions interact?

Transportation Engineering and Transportation Modeling/Operations (Groups 4 and 5) – Land use efficiency measure

There were several comments about the relationship of VMT and land use density.

- Challenging to establish a nexus. Especially if the VMT/capita or VMT/employee as determined by the RTDM varies from empirical or on-the-ground sources.
- Does that relate directly to density of land use? Shortness of trips?
- Depends where density is – do we have the right mix of land uses, what are the better locations to do it?
- Land use – we don't have land use to support the idea. Until you change land use, that will allow change. For example, Cooper Mountain – all residential. Almost impossible - compare to old Europe. It's completely different. Other cultures happy with a few things in a shop. Culture change of land use is the key.

Participants made suggestions for collecting VMT data.

- DEQ requires employers with 100+ workers to collect commute data and provide commute trip reduction programs.
- Add VMT/Student.
- Household VMT - a note that you will need to pay very close attention to the demographics and household size for these areas, that will have a big impact on the household VMT. That is an area you may need to develop clear and consistent guidance around to get constituent analysis.

Participants voices questions and considerations for modeling VMT.

- Is household size and resulting variation in per capita rates something that the model can examine?
    - It is possible to consider household size in combination with VMT/capita.
- Can we assume certain Transportation Demand Management actions and get constant factor for it?

    - Depends on the specific action – some, such as building in telecommute rates, will work in model.
    - Household surveys inform model too and more frequent data can inform TDM impact on behavior.
- Current practice: TPR review sometimes relies on logic/engineering judgment more than a scientific/purely quantitative approach.
- Consideration of the size of the reference area (single TAZ, multiple TAZs, entire jurisdiction) is needed to evaluate the plan/project against the mobility policy.

Participants voiced concerns and suggestions about VMT.

- Shouldn't be focused on a single parameter. Need to focus on many. Policy has to be flexible for land use and use a combination of parameters.
- Not supportive of VMT/capita. Does not provide meaningful information regarding how the transportation system is functioning.
- General concern about VMT per capita, particularly that it might be too broad, insensitive, or difficult a performance measure to implement, especially when the OHP mobility targets are used in the project delivery process.
- It's also important to consider ways that VMT/capita might not correspond 1:1 with GHG/capita or GHG overall for the region.
- Small efforts are hard to evaluate into long term.

Current Planning / Development Review Discussions (Group 6)

Group did not get to this question.

Large Group Discussion

The groups returned to the large group and were offered an opportunity to share some of their key thoughts. The following represents ideas shared with the larger group:

There were several comments about speed:

- Implications of speed - speed is not neutral, reference to speed and safety on arterials.
- As a region, we are grappling with housing, providing sufficient housing - concern with travel speed. Is idea of increasing, the desire for higher speeds, to discourage people living adjacent to those arterials?

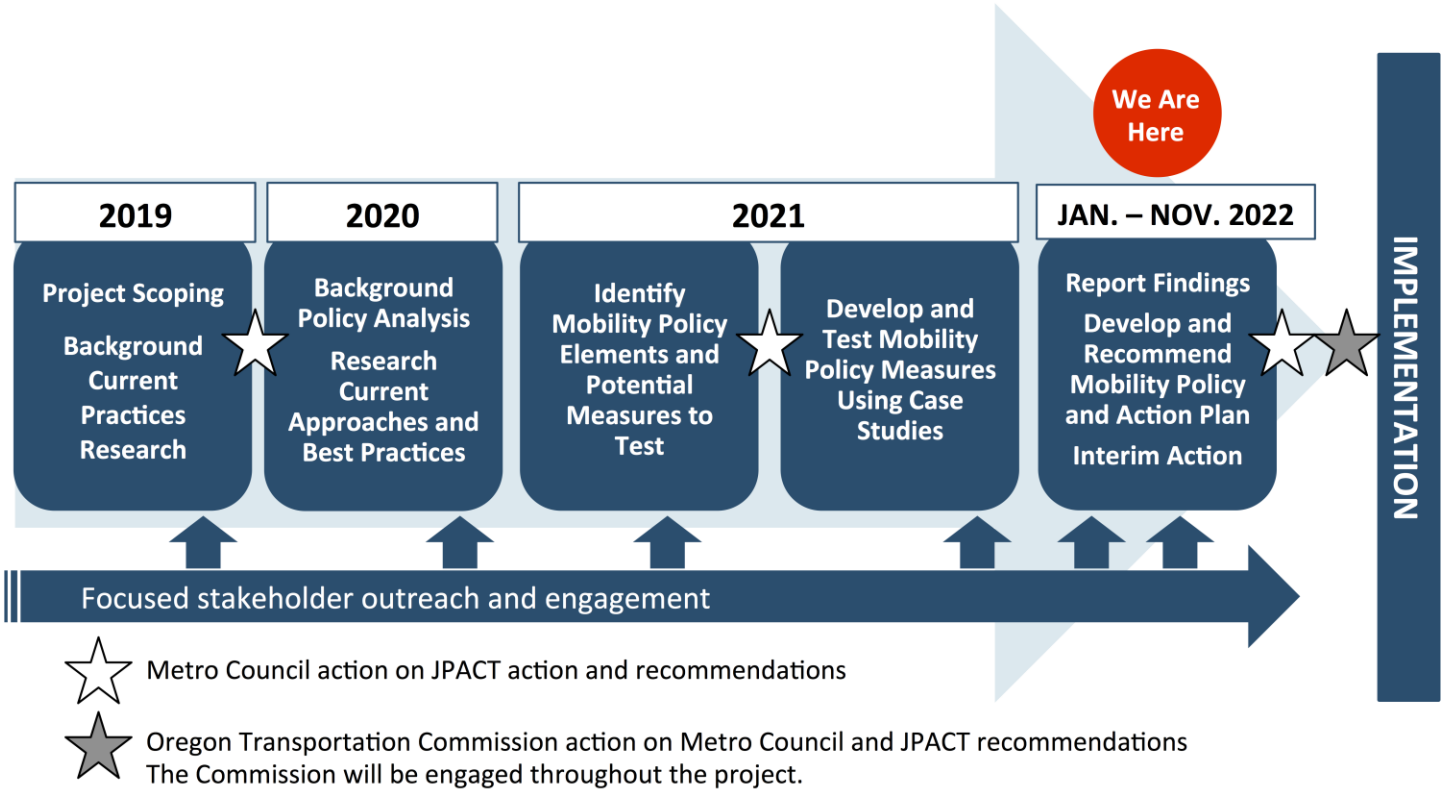
- Broad agreement in one group to look at travel speed, look at bus travel, desire to have a max speed re; safety and survival. Something has to be worked out.

Big picture comments for consideration:

- We don't want to lead to measures that discourage biking and walking trips.
- There has been a fundamental shift in human behavior in our country – don't know full implications yet. Distribution of freight, where people work, how they behave, how they receive products - will play out over next 5-6 years.
- Measures need to be related to residents and lived experience.
- Importance of thinking across levels, how do things align in a bigger system? Make sure outcomes are aligning at a system level. How do the layers fit together?

REGIONAL MOBILITY POLICY UPDATE

PROJECT TIMELINE AND 2022 ENGAGEMENT SCHEDULE



What	Who	Date
January to July 2022 – Develop Draft Mobility Policy and Measures/Targets		
Report case studies analysis and findings Introduce draft mobility policy elements and performance measure recommendations Discuss: - Draft policy framework and applicability - Draft measures, targets and methods - Draft implementation action plan	TPAC/MTAC Workshop	2/16/22
	TPAC Workshop	3/9/22
	Practitioner Forum (with breakouts)	4/7/22
	TPAC/MTAC Workshop	4/20/22
	EMCTC TAC	5/4/22
	EMCTC	5/16/22
	CTAC	6/2/22
	TPAC/MTAC Workshop	6/15/22
	Practitioner Forum (with breakouts)	*July – date TBD*
	Metro Council	7/26/22

What	Who	Date
August to November 2022 – Recommend Draft Mobility Policy, Measures/Targets and Action Plan		
Recommended Draft for 2023 RTP - Mobility policy (with measures and targets) and applicability - Implementation Action Plan	Region 1 Area Commission on Transportation	8/1/22
	TPAC discussion	8/5/22
	TPAC/MTAC workshop discussion	8/17/22
	JPACT discussion	8/18/22
	TPAC discussion	9/2/22
	Metro council work session	9/13/22
	MTAC discussion	9/21/22
	MPAC discussion	9/28/22
	Mobility Policy Expert Review Panel with Metro Council and JPACT	September
	TPAC recommendation to JPACT	10/7/22
	JPACT recommendation/interim action	10/20/22
	Metro Council recommendation/interim action	11/3/22
Report study findings and policy recommendations and seek support to incorporate in 2023 RTP	Oregon Transportation Commission	11/17/22 (requested, pending JPACT and Council action)

County Coordinating Committees

Who	Tentative Date
East Multnomah County Transportation Committee TAC	8/31/22
Clackamas County TAC	9/1/22
Washington County Coordinating Committee TAC	9/1/22
East Multnomah County Transportation Committee (policy)	TBD
Washington County Coordinating Committee (policy)	TBD
Clackamas County C-4 subcommittee (policy)	TBD

Memo

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

Date: June 7th, 2022
To: Metro Transportation Policy Advisory Committee (TPAC)
From: Eliot Rose, Senior Transportation Planner
Subject: Emerging Transportation Trends draft final report: technical memo

Introduction

The COVID-19 pandemic and other recent disruptions significantly changed travel patterns in the Portland region. Metro's Emerging Transportation Trends study seeks to understand how these changes could continue to impact transportation moving forward in order to ensure that the next update to the Regional Transportation Plan meets the shifting needs of people in the region.

Based on feedback from stakeholders during February 2020 presentations on the draft analysis of the impacts of emerging trends, the project team identified three follow-up tasks to complete the project:

1. A scenario analysis that estimates the range of impacts of the trends included in this study could have on vehicle travel and transit ridership.
2. An analysis of arterial traffic data that examines in more detail how travel behavior on some of the region's key mobility corridors changed during the past several years.
3. Guidance how Metro and its agency partners can address emerging trends during the 2023 Regional Transportation Plan update.

Below we describe those tasks, including how they are grounded in the feedback we received and in in prior results from this study. The findings and recommendations are in preliminary draft form and have not yet been presented to Metro technical committees.

Scenario analysis

The prior tasks in the Emerging Trends Study analyzed each trend that was included in the study individually, and estimated impacts based on the best research and data available (see the Emerging Transportation Trends Study Fact Sheets, which are attached separately with the materials for this item). When we presented the results, stakeholders observed that different trends are inter-related (for example, higher levels of teleworking could lead to lower levels of transit service and ridership if the transit system continues to focus on serving commuters), and that each trend could potentially have a wide range of impacts depending on how lasting recent changes in travel behavior turn out to be.

This scenario analysis estimates how vehicle miles traveled (VMT) and transit ridership – which are two key indicators that we use to measure progress on climate, travel choices, safety and other regional goals – could vary depending upon how emerging trends unfold. It also estimates changes in morning peak congestion since congestion is a consideration for many transportation projects in the region, and research suggests that teleworking and other trends have impacts on peak travel.

Defining scenarios

The analysis quantifies VMT and transit ridership under three different scenarios, each of which represents different assumptions about how the trends explored in this study will persist into the future. Metro staff and the project consultant team, Fehr and Peers, developed three different scenarios that represented a range of different possible futures. We used Fehr and Peers' TrendLab+ scenario planning tool – which applies national and regional research and data to estimate the impact of changing travel behaviors on outcomes including VMT, greenhouse gas emissions, transit ridership, and congestion – to quantify the impacts of each scenario. TrendLab+ uses inputs identified in the underlying research and data to define scenarios. Below we describe each scenario and which values we used when inputting the scenario into TrendLab+.

Return to Pre-pandemic: This scenario treats the pandemic as an anomaly and assumes that people will resume their pre-pandemic behavior as society reopens. Under this scenario, behaviors like teleworking and online shopping return to 2019 levels in the coming year, and continue to grow at pre-pandemic rates (i.e., the same growth as the region was seeing between 2015 and 2019) thereafter. Table 1 summarizes these assumptions.

Table 1: Return to Pre-pandemic scenario assumptions

Trend	Independent Variable	Starting Assumptions		Trend Magnitude		
		2019	2022	2025	2030	2045
Commute Levels	Percent of total workforce who telecommute on an average weekday	8%	9%	10%	11%	15%
	Percent of employees who leave the workforce[1]	2%	2%	2%	2%	2%
On-Line Shopping	Percent of daily shop trips that are online	11%	12%	13%	18%	31%
Car Ownership	Percent of households with cars[1]	92%	92%	92%	92%	92%
Safety Concerns	Percent avoiding transit due to safety and service concerns	0%	50%	15%	7%	3%
Transit Funding and Service Changes	Percent of 2019 service miles	100%	90%	94%	105%	138%

[1] Workforce departure and car ownership rates were held constant at 2019 levels for all scenarios in order to focus the scenario analysis on other factors that were more directly related to the trends that stakeholders had directed the project team to explore.

Transformative Trends: This scenario treats the pandemic as a transformative event that will continue to alter people's behavior. It assumes that the trends observed during the

pandemic will continue into the future. Under this scenario, behaviors like teleworking and online shopping stabilize at current levels in the coming year and continue to grow at current rates (i.e., the rates of change observed between mid-2020 and mid-2022) thereafter. Table 2 summarizes these assumptions.

Table 2: Transformative Trends scenario assumptions

Trend	Independent Variable	Starting Assumptions		Trend Magnitude		
		2019	2022	2025	2030	2045
Commute Levels	Percent of total workforce who telecommute on an average weekday	8%	15%	19%	25%	31%
	Percent of employees who leave the workforce[1]	2%	2%	2%	2%	2%
On-Line Shopping	Percent of daily shop trips that are online	11%	18%	32%	43%	58%
Car Ownership	Percent of households with cars[1]	92%	92%	92%	92%	92%
Safety Concerns	Percent avoiding transit due to safety and service concerns	0%	50%	20%	14%	7%
Transit Funding and Service Changes	Percent of 2019 service miles	100%	90.0%	112%	131%	151%

[1] Workforce departure and car ownership rates were held constant at 2019 levels for all scenarios in order to focus the scenario analysis on other factors that were more directly related to the trends that stakeholders had directed the project team to explore.

New Status Quo: This scenario treats the pandemic as an event that led to significant one-time changes in people's behavior, and assumes that we will not see the same kind of rapid evolution in travel patterns moving forward as we saw during the pandemic. Under this scenario, behaviors like teleworking and online shopping stabilize at current levels in the coming year and continue to grow at pre-pandemic rates thereafter.

Table 3: New Status Quo scenario assumptions

Trend	Independent Variable	Starting Assumptions		Trend Magnitude		
		2019	2022	2025	2030	2045
Commute Levels	Percent of total workforce who telecommute on an average weekday	8%	13%	13%	14%	19%
	Percent of employees who leave the workforce[1]	2%	2%	2%	2%	2%
On-Line Shopping	Percent of daily shop trips that are online	11%	16%	25%	30%	45%
Car Ownership	Percent of households with cars[1]	92%	92%	92%	92%	92%
Safety Concerns	Percent avoiding transit due to safety and service concerns	0%	50%	15%	10%	5%
Transit Funding and Service Changes	Percent of 2019 service miles	100%	90%	112%	131%	151%

[1] Workforce departure and car ownership rates were held constant at 2019 levels for all scenarios in order to focus the scenario analysis on other factors that were more directly related to the trends that stakeholders had directed the project team to explore.

Draft results

Figure 1, Figure 2, and Figure 3 below show TrendLab+ estimates of transit ridership and VMT per capita for each of the three scenarios described above. All of these metrics are indexed to pre-pandemic levels; i.e., we show the percent change in each metric compared to 2019 values. It is important to note that these estimates do not account for the many projects and policies under consideration in the region that could influence these outcomes, such as congestion pricing and planned capital projects. We will account for these impacts in more detail during the 2023 RTP update. The Emerging Transportation Trends Study focuses on understanding the impact of external forces so that Metro and its partners can assess whether these projects and policies adequate to meet regional goals during the RTP update.

Figure 1: Forecasted change in transit ridership by scenario

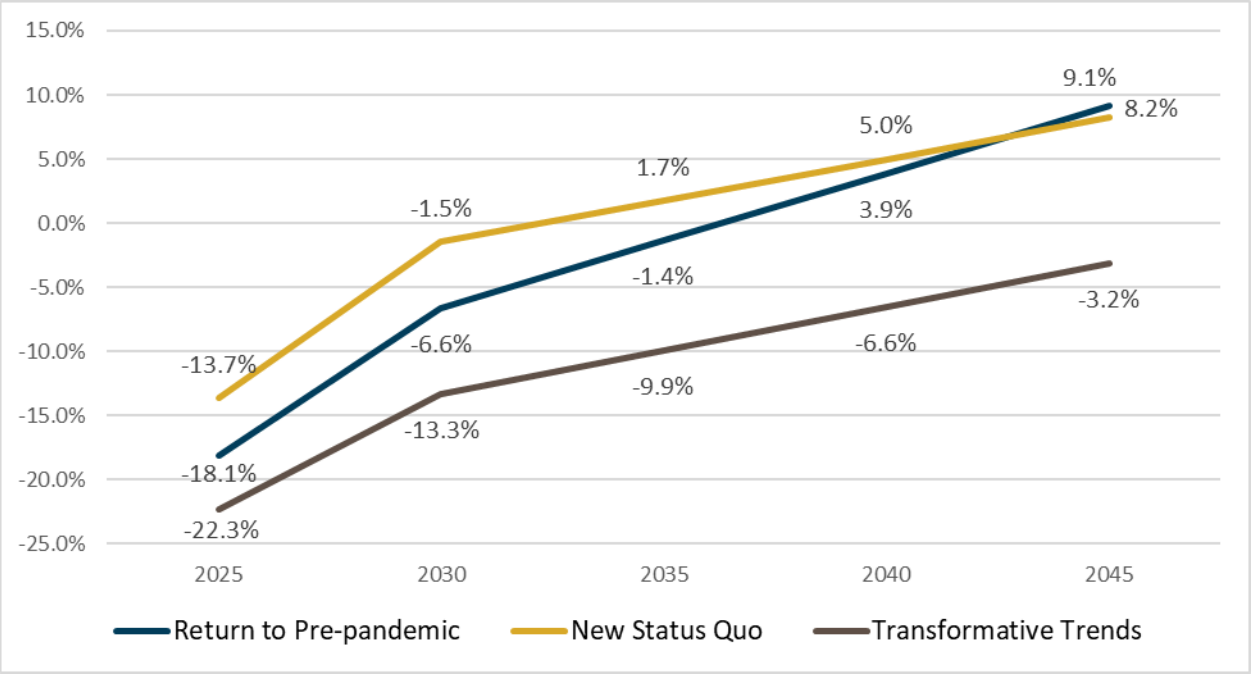


Figure 2: Forecasted change in VMT per capita by scenario

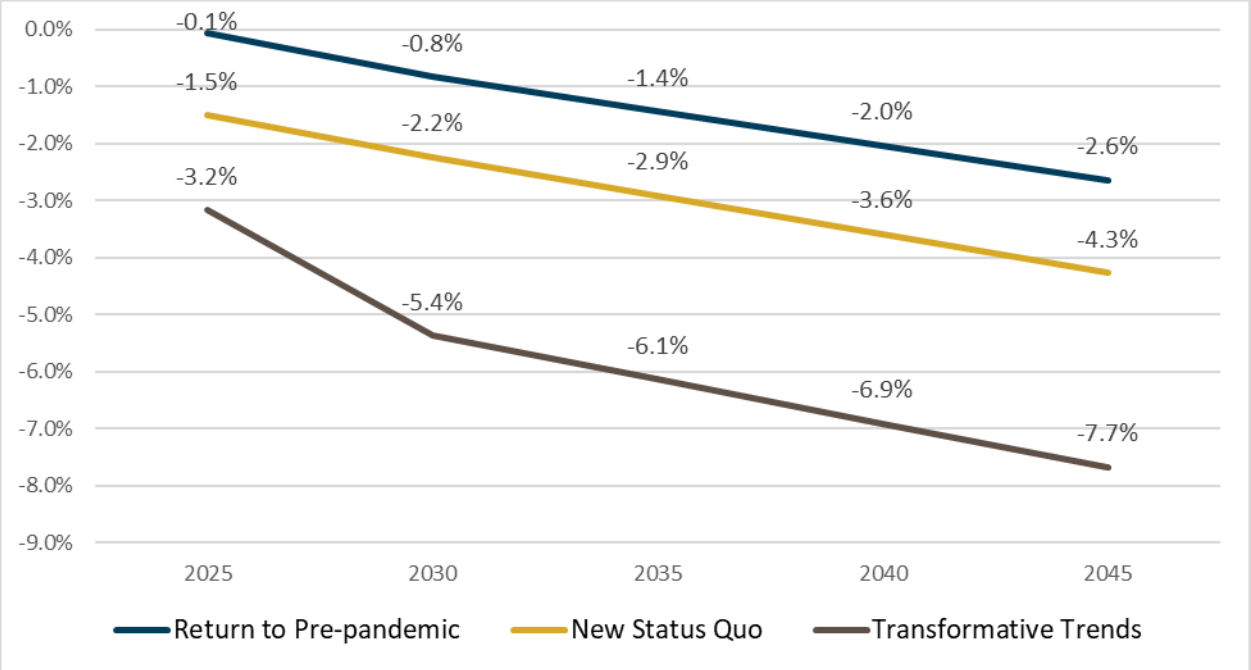
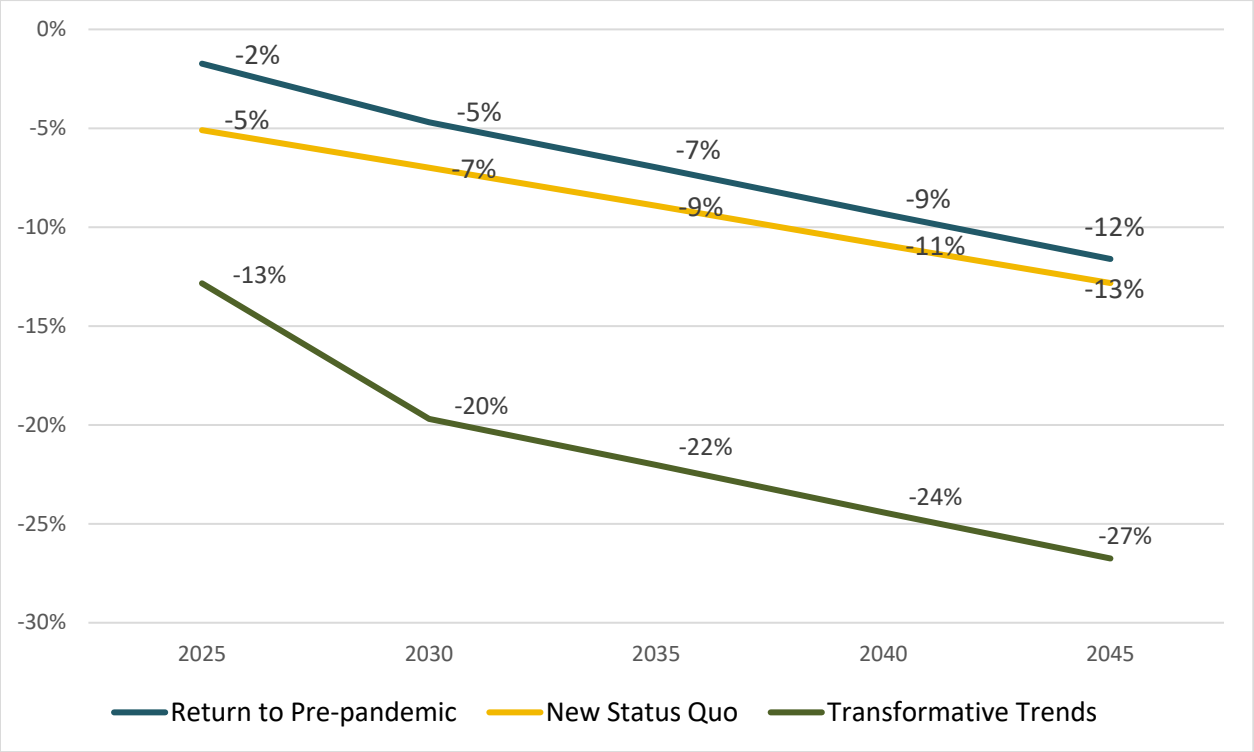


Figure 3: Forecasted change in morning peak congestion by scenario



Emerging trends help to reduce VMT per capita. Forecasted VMT per capita decreases under all scenarios, by between 2.6% (Return to Pre-pandemic) and 7.7% (Transformative Trends) in 2045. This represents partial progress toward the region's target to reduce VMT per capita to 35 percent by 2045.[1] The more that current trends – particularly teleworking (see below) – persist, the lower VMT per capita is likely to be.

Emerging trends could reduce or increase transit ridership compared to pre-pandemic levels. Transit ridership is and service is currently below pre-pandemic levels due to challenges hiring drivers and the ongoing impact of the pandemic. As of February 2022, TriMet ridership was at roughly half of pre-pandemic levels.[2] All scenarios project that transit ridership will increase significantly above current levels. Over the short term, all scenarios forecast that ridership will return to between 14 and 22% below pre-pandemic levels between now and 2025 as TriMet restructures service and hires more drivers, and over the long-term all scenarios forecast that transit ridership will continue to increase. However, these increases are not necessarily enough to restore pre-pandemic ridership levels, both because transit service and ridership declined so steeply during the pandemic and because our analysis assumes that some former riders will not return to transit due to health concerns and/or shifting travel needs. Comparing results to 2019 levels, we see transit ridership increasing under some scenarios and decreasing under others, ranging from a 3.2% decrease (Transformative Trends) to a 9.1% increase (Return

[1] VMT targets can be found at Oregon Department of Land Conservation and Development, Climate-Friendly and Equitable Communities Rulemaking Advisory Committee, RAC 11 item 10: Proposed Amendments to Division 44, January 11, 2022, p. 7. https://www.oregon.gov/lcd/LAR/Documents/2022-01_Div44.pdf. In addition to the 2045 target, the Metro region has a target to reduce VMT per capita by 20 percent by 2035.

[2] http://www.trimet.org/about/performance.htm

to Pre-pandemic) in 2045. The more that current trends persist, the lower transit ridership is likely to be.

Congestion during the morning peak period declines under all scenarios, by between 12% (New Status Quo) and 27% (Transformative Trends). This is due to teleworkers replacing peak period commute trips with errands throughout the day, and declining VMT; small increase in VMT can significantly reduce congestion when roads are operating at or near peak capacity, as was the case many areas of the region prior to the pandemic. As the data in the next section illustrates, travel has declined more during the weekday AM peak period than any other time period.

Teleworking has a significant influence on outcomes. Teleworking reduces VMT, because teleworkers typically replace long commute trips with shorter trips throughout the day, but it leads to even bigger reductions in transit ridership, because currently people are roughly 50% more likely to use transit for commuting than for other trips. Our forecasts assume that the transit system continues to focus on serving commutes; reconfiguring the network to focus on other trips could help maximize both teleworking and transit ridership, as well as the resulting VMT reductions.

Table 4 below summarizes the range of impacts associated with each of the four metrics discussed above. These ranges represent the uncertainty that emerging trends create for these outcomes, which are critical to measuring progress toward regional goals. During the system-level performance analysis of the RTP we can use these factors to identify the range of uncertainty associated with different performance measure and assess how likely the region is to meet its performance targets given the different ways in which emerging trends could continue to unfold.

Table 4: Uncertainty ranges for key transportation metrics

Metric	Range
VMT per capita	-2.6% to -7.7%
Transit ridership	-3.2% to +9.1%
AM peak period congestion	-12% to -27%

Arterial traffic analysis

Throughout the Emerging Transportation Trends Study we have shared data about how highway traffic volumes and transit ridership have been changing. These data are consistently collected and reported by ODOT, TriMet, SMART and other agency partners. However, we have not had access to the same high quality of data on how arterial traffic volumes are changing. Metro's agency partners often conduct arterial counts at key points in the planning process, but rarely do so regularly and consistently in a way that would allow us to monitor how traffic is changing over time. Stakeholders have noted the absence of this arterial data and its importance in understanding how travel patterns are changing in the region. Arterial data can be more representative of how people in the region are traveling than highway data, because highways carry a higher proportion of people and goods that are passing through the region on route to other destinations. Arterials are also a key area of focus for the RTP since they are the streets where most transit runs, where most crashes occur, and where many jobs and other destinations are located.

Arterial locations and data source

The project team purchased data from Streetlight, which estimates traffic volumes based on data from cell phones and other sources, for this analysis. The project budget allowed us to purchase data for 20 arterial count locations. Three factors drove the selection of these locations:

Aligning with ODOT automated traffic recorders: we selected arterial locations that paralleled stretches of highways where ODOT has installed automated traffic recorders (ATRs) that continuously monitor traffic counts; these ATRs have supplied the data on highway volumes that we have previously shared in the Emerging Trends study. Aligning arterial count locations with a subset of ATR locations allows us to validate Streetlight data against the ATR data[3] and ensure the two sources are comparable, and also to compare counts between arterials and highways located along the same corridor.

Representing regional mobility corridors: Metro has defined a set of mobility corridors throughout the region that connect different regional centers, and commonly uses these corridors in transportation analysis. Most of the locations we selected are on a geographically representative set of mobility corridors throughout the region. This enables us to compare highway, arterial, and transit data and paint a more complete picture of how travel is changing along these corridors. For longer arterials that pass through the region, like Powell Boulevard and TV Highway, we selected several count locations along their length in order to examine how traffic changes as they pass through different communities.

Capturing freight routes: One of the trends under study is the increase in online shopping, and some of the data we have reviewed in previous tasks suggests that goods kept moving through the region during the pandemic, even as people took fewer trips. We included several count locations along freight routes so that we could monitor how travel to and from some of the region's growing transportation, warehousing and industrial areas is changing. In particular, we included several freight routes along freight-heavy arterials that do not have parallel ATRs; these are locations where changes in total traffic volume are more likely to be driven by changes in freight trips.

Table 5 summarizes the count locations used in this analysis.

Table 5: Summary of arterial count locations

Count location	Mobility corridor	Parallel ATR	Freight route?
NE Martin Luther King Blvd. @ NE Ainsworth St.	1: Portland to Vancouver	I-5 @ N Ainsworth St.	N
N. Interstate @ N Ainsworth St.	1: Portland to Vancouver	I-5 @ N Ainsworth St.	Y
SW Barbur Blvd. @ SW Capitol Hwy.	2: Portland to Tigard	I-5 @ Capitol Hwy.	N

[3] In addition to collecting Streetlight data from arterial count locations, we also collected Streetlight data for the same highway count locations captured by the ATRs in the Portland region. We found that the average error between the Streetlight and ATR data was 0% for 2019 and -1% for 2020. Except for 3 outliers, the Streetlight values were within +/- 15% of the ATR values for the 40 observations included in the validation dataset. We repeated this exercise with volume data from INRIX, another private transportation data source that ODOT makes available to transportation agencies in Oregon, and found that INRIX consistently overestimated traffic volumes during 2020, by an average of 15%. This led us to opt to use Streetlight instead.

Count location	Mobility corridor	Parallel ATR	Freight route?
NE Halsey Blvd. @ NE 148th Ave.	6: Gateway to Troutdale	1-84 @ NE 148th Ave.	N
NE Sandy Blvd. @ NE 148th Ave.	6: Gateway to Troutdale	1-84 @ NE 148th Ave.	N
SE Stark St. @ NE 148th Ave.	6: Gateway to Troutdale	1-84 @ NE 148th Ave.	N
NW Marine Dr. @ NW Frontage Rd.	6: Gateway to Troutdale	N/A	Y
NE 82nd Ave. @ NE Halsey St.	7: Gateway to Clark County	I-205 @ SE Washington St.	N
SE 82nd Avenue @ SE Foster Rd	8: Gateway to Oregon City	I-205 @ SE Steele St.	N
SE 122nd Avenue @ SE Foster Rd	8: Gateway to Oregon City	I-205 @ SE Steele St.	N
99W @ SW 124th Ave.	11: Tigard to Sherwood	I-5 @ SW Wilsonville Rd.	Y
NW Cornell Rd. @ 185th Ave.	14: Beaverton to Hillsboro	US-26 @ NW 170th Ave.	N
SW TV Hwy. @ SW 185th Ave.	14: Beaverton to Hillsboro	US-26 @ NW 170th Ave.	Y
SW Farmington Rd. @ SW 185th Ave.	14: Beaverton to Hillsboro	US-26 @ NW 170th Ave.	Y
SW TV Hwy. @ SE Brookwood Ave.	14: Beaverton to Hillsboro	N/A	Y
N Columbia Blvd. @ N Portland Rd.	17: Rivergate to I-5	N/A	Y
SE Powell Blvd. @ E end of Ross Island Br.	19: Portland to Lents	I-405 @ Marquam Br.	Y
W Powell Blvd. @ NE Hogan Dr.	20: Lents to Gresham	N/A	Y
OR 212 @ SE 98th	23: Clackamas to Damascus	OR-224 @ SE Mather Rd.	Y
OR 212 @ SE 172nd	23: Clackamas to Damascus	N/A	Y

For each of the locations listed above, we collected data for October 2019, 2020 and 2021. We focused on the month of October because it was during fall/spring instead of during summer/winter, when vacations influence travel patterns, and because October 2021 was one of the most recent months for which data was available at the time when we made the purchase. However, there are reasons why October may not be representative of normal travel conditions; new COVID-19 cases were high but declining from the peak of the Delta variant in October 2021, and the Labor Day wildfires of 2020 continued to impact travel into October of that year.[4]

Results

Comparing changes during different time periods

We examined how traffic volumes on the arterials studied changed by time of day (AM/PM peak, midday) and by day of week (weekday vs. weekend). Table 6 below summarizes how volumes changed between October 2019 and 2021 for the various time periods studied, by arterial. All values in the table are indexed to October 2019; i.e., they show the percentage change in traffic volumes between October '19 and '21.

[4]Though it was useful to have 2020 data for performing validation, we focus on comparing 2019 and 2021 data in our analysis, so the impact of the 2020 wildfires does not influence the results shown in this memo.

Table 6: Percent change in study arterial volumes by time period

Segment	Weekday All day 2019 to 2021 Change	Weekday 2019 to 2021 Change			Weekend 2019 to 2021 Change		
		AM Period	Midday Period	PM Period	AM Period	Midday Period	PM Period
NE Martin Luther King Blvd. @ NE Ainsworth St.	-14%	-17%	-7%	-16%	1%	-4%	-7%
N. Interstate @ N Ainsworth St.	-14%	-28%	-18%	14%	-30%	-13%	-20%
SW Barbur Blvd. @ SW Capitol Hwy.	-23%	-36%	-9%	-27%	22%	4%	14%
NE Halsey Blvd. @ NE 148th Ave.	-16%	-30%	-11%	-12%	-21%	-7%	2%
NE Sandy Blvd. @ NE 148th Ave.	-14%	-26%	-6%	-17%	-14%	4%	-9%
SE Stark St. @ NE 148th Ave.	-14%	-23%	-16%	-12%	27%	0%	8%
NW Marine Dr. @ NW Frontage Rd.	-6%	-16%	-2%	-9%	22%	12%	16%
NE 82nd Ave. @ NE Halsey St.	-17%	-25%	-12%	-18%	-17%	-6%	-6%
SE 82nd Avenue @ SE Foster Rd	-13%	-25%	-13%	-3%	-18%	-5%	-6%
SE 122nd Avenue @ SE Foster Rd	-9%	-21%	-8%	-5%	-30%	-19%	-1%
99W @ SW 124th Ave.	-12%	-26%	-4%	-12%	-8%	-1%	3%
NW Cornell Rd. @ 185th Ave.	-18%	-34%	-11%	-13%	1%	-5%	-3%
SW TV Hwy. @ SW 185th Ave.	-10%	-8%	-9%	-10%	-11%	6%	-4%
SW Farmington Rd. @ SW 185th Ave.	-13%	-22%	-6%	-9%	-21%	-7%	2%
SW TV Hwy. @ SE Brookwood Ave.	-14%	-22%	-12%	-16%	-11%	-3%	-1%
N Columbia Blvd. @ N Portland Rd.	-16%	-32%	-6%	-20%	-19%	-15%	-3%
SE Powell Blvd. @ E end of Ross Island Br.	-18%	-28%	-13%	-19%	1%	-4%	-1%
W Powell Blvd. @ NE Hogan Dr.	-9%	-14%	-4%	-5%	-6%	-11%	-2%
OR 212 @ SE 98th	-9%	-12%	-14%	-10%	-4%	-3%	3%
OR 212 @ SE 172nd	-6%	-11%	9%	-13%	-18%	-7%	-2%
Average	**-13%**	**-23%**	**-9%**	**-12%**	**-8%**	**-4%**	**-1%**

As of October 2021, **weekday arterial volumes were below pre-pandemic levels throughout the day at almost every location studied**. Weekend results were more scattered; traffic increased on some arterials and fell on others.

Arterial traffic decreased most significantly (by an average of 23%) during the weekday morning peak, followed by the weekday evening peak (by an average of 12%). This observation is consistent with research finding that teleworkers are more likely to run errands in the afternoon than in the morning. It is significant since many transportation projects and policies in the region focus on managing high levels of travel demand – and the congestion, safety risks, and emissions that come from that demand.

The locations where peak demand fell the least are freight corridors in suburban areas of the region (e.g., Farmington Rd., OR 212, outer Marine Drive and outer Powell). There are several potential explanations for this, including:

- Goods kept moving during the pandemic, so freight traffic may have remained high on these routes.
- Traffic volumes have rebounded more in other parts of Oregon than in the Portland region, and trips through / into / out of the region could be driving up volumes in locations at the edge of the region.
- These corridors serve communities where incomes are lower, and people with low incomes are more likely to have in-person jobs.
- There are fewer travel options in these areas, which makes residents more likely to rely on cars.

Comparing changes in arterial highway, arterial, and transit use

Many of the arterial locations that we studied carry transit and/or are aligned with traffic counters on parallel highways. We combined transit and highway data at these locations to get a more complete picture of how travel is changing along our study corridors. Though we do not have a large enough dataset to examine in detail how regional travel patterns are changing, having consistent data for this set of locations allows us to make an "apples-to-apples" comparison of regional trends in highway, arterial and transit use. Table 7 summarizes arterial, highway, and transit volume changes by corridor, and Figure 3 displays this data on a map.

Table 7: Percent change in weekday highway, arterial, and transit use, 2019-21, by corridor/location

		Highway[1]	Parallel Arterial[2]		Transit Ridership[3]	
Highway	**Parallel Arterial**	**Percent Change**	**Percent Change**	**Average of Parallel Routes**	**Percent Change in Stop Ridership**	**Average of Parallel Routes**
Locations with highway, arterial, and transit data						
OR-224 @ SE Mather Rd.	OR 212 @ SE 98th Ave.	0%	-9%	-9%	-43%	-43%
I-5 @ SW Capitol Hwy.	SW Barbur Blvd. @ SW Capitol Hwy.	-10%	-23%	-23%	-70%	-70%
I-205 @ SE Steele St.	SE 82nd Ave. @ SE Foster Road	-1%	-13%	-11%	-42%	-45%
	SE 122 Ave. @ SE Foster Road		-9%		-48%	
I-84 @ NE 148th Ave.	NE Sandy Blvd. @ NE 148th Ave.	-1%	-14%	-15%	-35%	-41%
	NE Halsey Blvd. @ NE 148th Ave.		-16%		-46%	
	SE Stark St. @ NE 148th Ave.		-14%		-43%	
I-5 @ Hayden Island[4]	NE Martin Luther King Blvd. @ NE Ainsworth St.	-3%	-14%	-14%	N/A[5]	-34%
	N Interstate @ N Ainsworth St.		-14%		-34%	
I-5 @ SW Wilsonville Rd.	99W East of SW 124th Ave.	-7%	-12%	-12%	-21%	-21%
US-26 @ NW 170th Ave.	NW Cornell Rd. @ SW 185th Ave.	-10%	-18%	-14%	-32%	-37%
	SW TV Hwy @ SW 185th Ave.		-10%		-48%	
	SW Farmington Rd. @ SW 185th Ave.		-13%		-32%	
Average		**-5%**	**-14%**		**-41%**	
Locations with arterial and transit data only						
N/A	NE 82nd Ave. @ NE Halsey St.	N/A	-17%	-17%	-40%	-40%
	N Columbia Blvd. @ N Portland Rd.		-16%	-16%	N/A[5]	N/A
	NW Marine Dr. @ NW Frontage Rd.		6%	6%	N/A[5]	N/A
	OR 212 @ SE 172nd Ave.		-6%	-6%	N/A[5]	N/A
	SE Powell Blvd. @ E end of Ross Island Bridge.		-18%	-18%	-84%	-84%
	W Powell Blvd. @ NE Hogan Dr.		-9%	-9%	-17%	-17%

[1] Highway data comes from ODOT's Automatic Traffic Recorders (ATR) and is a comparison of October 2019 and October 2021 volumes.
[2] Arterial data comes from Streetlight, Inc. and is a comparison of October 2019 and October 2021 volumes.
[3] Transit ridership data comes from TriMet quarterly Automatic Passenger Counters (APC) and is a three month average of weekday boardings/alightings from Fall 2019 and Fall 2021.
[4] I-5 @ N Ainsworth St. was one of 3 ATR locations used in this analysis that did not have complete data for October 2019, 2020, and 2021; we were able to use these locations in validation but not in the results. (The other two locations were I-205 @ SE Washington St. and I-405 @ Marquam Br.) Since I-5 from Portland to Vancouver is a high-volume corridor with several future projects planned and we had two parallel arterial count locations we prioritized collecting ATR data for this location. After comparing data from the I-5 @ N Ainsworth ATR with data from the Hayden Island ATR, roughly 3 miles to the north, we determined that the Hayden Island ATR was a valid proxy for the I-5 @ N Ainsworth ATR.
[5] N/A (not applicable) indicates that no transit routes serve the arterial count location in question.

Figure 4: Percent change in highway, arterial, and transit use (average all-day travel volumes), 2019-21, by location

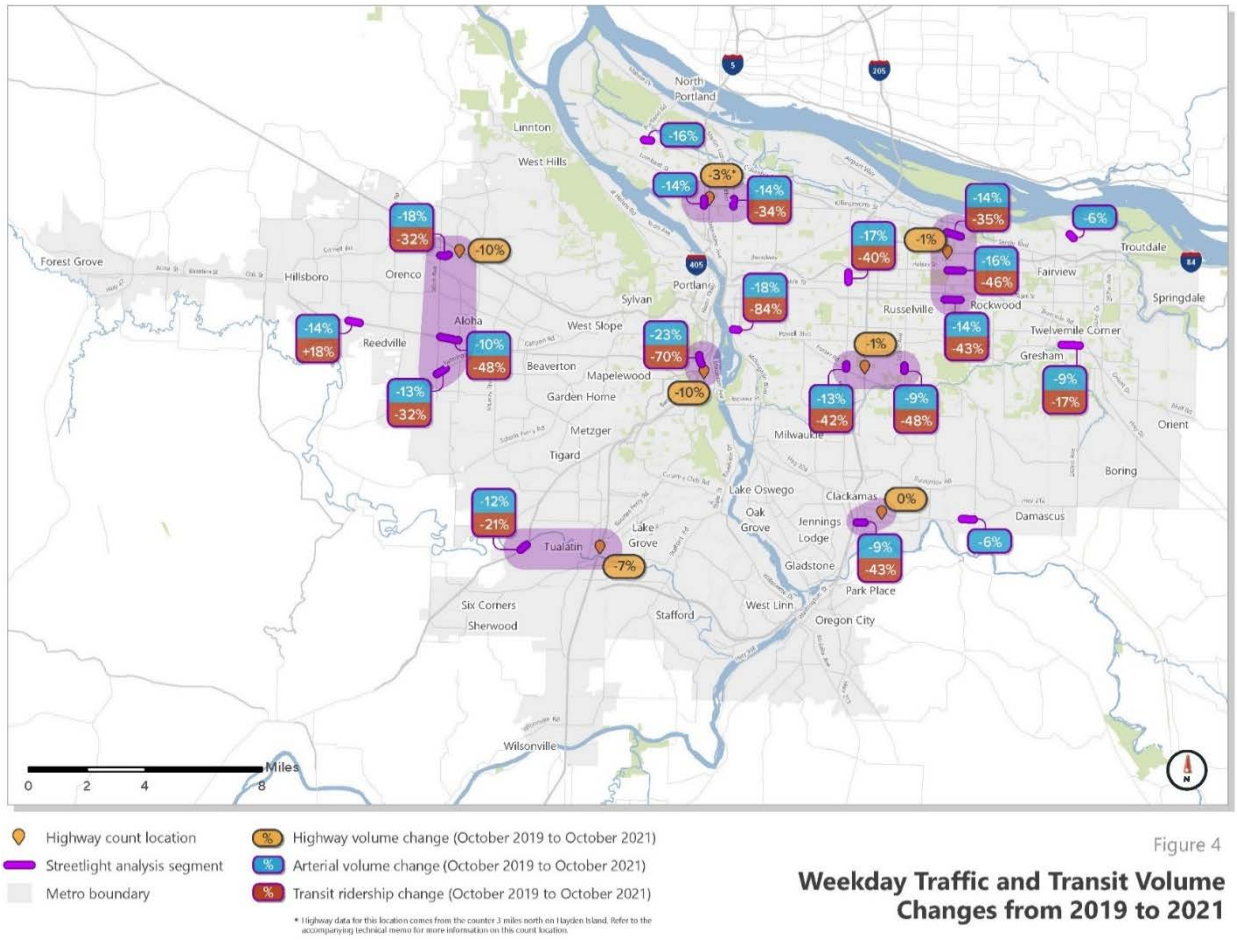


Figure 4
Weekday Traffic and Transit Volume Changes from 2019 to 2021

On average, across the study corridors:

- **Daily highway trips decreased by five percent.**
- **Daily arterial trips decreased by 14 percent.**
- **Daily transit ridership decreased by 41 percent.**

In almost every location studied, **arterial volumes have decreased more significantly from pre-pandemic levels than highway volumes have**. Potential explanations for this include:

- Highways carry more freight trips (which have held steady during the pandemic) and trips through the region (which have fallen less than trips within the region).[5]
- Traffic is flowing more freely on highways due to below-normal volumes, which means that fewer drivers divert off of the freeway onto arterials to avoid traffic.

Transit volumes are further below pre-pandemic levels in locations closer to the center of the region. Potential explanations for this include:

[5] According to ODOT's COVID-19 traffic reports, highway volumes in other areas of Oregon have returned to, and in some cases exceeded, pre-pandemic levels, while they are still slightly below normal in the Portland region.

- Transit ridership and service levels are generally lower in suburban areas of the region, and a higher proportion of riders in these areas could be transit-dependent riders who continued to rely on transit throughout the pandemic.
- Commutes fell throughout the region, and some data suggests that trips to Downtown Portland fell more precipitously than in other regional downtowns. The two study locations where transit ridership declined the most – at SW Barbur and Capitol Highway and SE Powell at the Ross Island Bridge – involve transit routes that carry people into downtown.
- Incomes are generally higher toward the center of the region, and workers with higher incomes are more likely to be able to telework, so teleworking may be competing more with transit in communities at the center of the region.

Draft RTP guidance

Based on the draft findings from the Emerging Trends Study and their knowledge of how regional agencies are responding to these trends, the consultant team has identified seven opportunities to respond to these trends for Metro and its partners to pursue during the development of the RTP. For each of these opportunities, the team has identified *why* the opportunity is important to consider (based on findings from this study) and *how* the region might address the opportunity, both during the short term (through the process of developing the RTP in 2022-23) and the long term (when implementing the RTP in 2024 and beyond). Table 8 below summarizes this draft guidance.

Table 8: Summary of draft RTP guidance

Opportunity	Why	How
Prioritize transit ridership recovery	• Increasing transit service is critical to meeting the region's climate and equity goals. • Transit service and ridership fell dramatically during the pandemic. • Lingering health concerns and changing patterns of behavior (e.g., teleworking replacing transit commutes) make some former riders unlikely to return to transit.	In the short term: • Reconfigure the transit network to serve changing travel patterns (more midday errands, fewer peak commute trips, continued demand on routes that serve people of color and people with low incomes). • Explore new service options to expand coverage in selected areas. • Communicate with the public about measures that are underway to keep people safe and healthy when riding transit. • If arterial traffic volumes remain low, consider redesigning certain streets to prioritize transit. Over the long term: • Seek funding to expand the transportation system. • Expand the availability and depth of discounts for low income riders.
Confirm that previously planned high-priority/high cost auto and transit projects meet changing travel demand patterns	• Many major projects in the region aim to address peak levels of demand. As of the latest data, peak-period trips on the region's highway, arterial and transit networks are all still below pre-pandemic levels. • Teleworking seems likely to remain popular, and teleworkers make fewer trips, particularly during the morning peak. • Transportation projects often seek to address peak-period conditions, which is when demand and congestion are the highest.	Over the short term: • Continue to monitor traffic volumes in the region until conditions stabilize. • Identify major capital projects in the RTP that are intended to address peak period demand and/or congestion, and review assumptions to ensure that they are consistent with how peak period traffic levels are changing. Over the long term: • Consider more frequent updates to transportation data sources and Metro's travel model to keep pace with changing behavior. • Increase the focus on managing demand – including accounting for new opportunities like congestion pricing and teleworking – before investing in system expansions.
Provide more diverse travel options to support changing travel patterns	• As teleworking increases, travel patterns are less driven by long-distance commutes and more by short-distance errands, school drop-offs and other trips. • E-bikes are gaining popularity, and workplace shuttles, and bike/scooter-share are thriving in some parts of the region.	Over the short term: • Develop consistent, comparable information on the benefits and cost-effectiveness of fixed-route transit, shuttles/vanpools, bike/scooter share, and other emerging modes to help identify the best type of service for different communities. • Prioritize closing gaps in bike/ped access to transit stations. Over the long term: • Seek stable funding for shuttles/vanpools, shared mobility, and other emerging travel options.
Maximize potential VMT reductions from teleworking	• Teleworkers are more likely to run errands by car throughout the day, potentially offsetting reductions in commute VMT. • Employers' teleworking policies and employees' reaction to office reopenings both vary widely.	Over the short term: • Consider the potential for mode shifts to teleworking when developing pricing and demand management programs. • Consider reallocating transit service to better serve short trips to commercial centers and corridors. Over the long term: • Coordinate with employers in job centers to balance day-to-day travel using hybrid work schedules. • Support innovations that enable more teleworking at employers with a high number of in-person jobs.

Opportunity	Why	How
Prioritize safe access to transit	• Personal safety is a growing concern for many travelers. • Safety is a particular concern for people of color, who are less likely to feel safe while using a variety of modes, including walking and transit. • People feel especially vulnerable when walking to / waiting for transit. Most transit riders report feeling safe when on the bus or train.	• Support equitable and innovative approaches to transportation safety, such as creating response teams trained in mental health and de-escalation. • Identify opportunities for travel options programs to fund lighting and other safety measures. • Improve transit reliability, frequency, and coordination to minimize the time riders spend waiting for transit.
Plan for the changing role of freight	• Freight played an increased role in shaping travel demand during the pandemic; goods continued to move even as people traveled less. • Increased online shopping is changing how goods move through our region. • Delivery trips have been concentrated in central cities. Some cities have used curb and parking management to manage conflicts between delivery vehicles and other modes.	Over the short term: • Increase data collection on freight, goods movement, and delivery activity. • Improve freight models and analysis tools. Over the long term: • Expand the use of parking management in regional centers.
Accelerate the adoption of electric bicycles, scooters, and shared vehicles.	• Electric bicycles and scooters are becoming more popular, more affordable, and more efficient for longer trips. • Shared e-bike and scooter systems can be effective in providing affordable access to these modes • Oregon's current transportation electrification programs focus overwhelmingly on electric cars and trucks. EV buyers are eligible for State rebates; e-bike buyers are not.	Over the short term: • Explore whether recent changes to federal funding sources enable regional programs to subsidize shared EV, bike, and scooter systems. • Advocate for the expansion of state and federal electric vehicle rebate programs to also provide rebates for electric bicycles. Over the long term: • Explore the potential to fund larger-scale deployment of shared EVs, bikes, and scooters through discretionary grants. • Coordinate investments in shared mobility with affordable housing investments. • Support transportation system plan updates in addressing shared and electric transportation. • Fund completion of the regional bicycle network.
Consider digital approaches to providing equitable access to opportunities.	• The pandemic both highlighted and elevated the importance of technology in connecting people to jobs, school, and goods. • Low-income people are significantly less likely to be able to telework or shop online. • Low-income people are more likely to face barriers to accessing technology, such as lack of affordable internet access and lack of bank accounts. • It seems likely that teleworking will continue to increase in the future, and that people who are able to telework will be able to apply for more job openings in a broader variety of locations.	Over the short term: • Explore opportunities to fund digital access (e.g., laptops and internet hotspots) or education programs that can help people shop, work, book transportation services, and meet other needs online. Over the long term: • Support investments in publicly-owned broadband networks or public-private partnerships that create low- or no-cost plans for low-income households.


Metro

METRO EMERGING TRENDS STUDY

Draft Executive Summary

The Emerging Transportation Trends Study identifies major changes in transportation that we expect the region to face during the coming decade following the COVID-19 pandemic and other recent disruptions.

Planning during a time of change

We are living through a time of rapid change, marked by a global pandemic that affected nearly every aspect of life. These changes have challenged the conventional wisdom around how we work, live and travel. Many more people are now teleworking and shopping online than seemed possible a few years ago. Formerly bustling downtowns were empty through most of 2020. Some streets closed to cars and filled up with bicycles, pedestrians, and restaurant seating. Some of these changes are already rolling back as society recovers from the pandemic. Others appear likely to last. The Emerging Transportation Trends Study examines how eight of these trends could continue to impact the greater Portland region. This study forecasts how long each trend will last, how it will affect people's travel behavior and how it will impact progress toward the region's climate, safety, and equity goals.

The goal of this study is to help Metro and its partners account for these trends during the 2023 update to the Regional Transportation Plan (RTP). The study focuses on understanding the impact of external forces and does not account for the impact of actions that agencies are taking to address these trends. Metro and its partners can assess whether current policies and programs are adequate to meet regional goals as travel changes. These fact sheets summarize key trends and their impacts on regional goals.

Measuring how trends impact regional goals and performance measures

EQUITY
The pandemic widened disparities in health, employment and education for people of color and people who earn low incomes. People of color and people who earn low incomes were also less likely to be able to work from home and shop online than white and affluent people. This study qualitatively examines impacts of the trends on equity. The analysis considers whether trends have disproportionate negative impacts on people of color and people who earn low incomes and whether the benefits of these trends are accessible to all.

VEHICLE MILES TRAVELED (VMT) & TRANSIT RIDERSHIP
Vehicle Miles Traveled (VMT) per capita measures how much people drive. It is an important indicator of congestion, safety and greenhouse gas (GHG) emissions. Increasing transit ridership is critical to reducing VMT, congestion and emissions equitably and effectively. People traveled less overall during the pandemic, but transit use fell more sharply than driving. This study forecasts VMT and transit ridership based on national and regional data to assess impacts on climate and congestion.

SAFETY
Fatal crashes increased during the pandemic. People grew concerned about being exposed to COVID. People also grew concerned about encountering racism and threatening behavior from other people when traveling. This study qualitatively examines how these changes are likely to impact crash risks and personal safety over the next decade.

LEGEND: Arrows indicate how the trend impacts equity, safety, VMT and transit

Potential increase/decrease | No impact | Impact is positive | Impact is negative

Trends, outlooks and impacts

Trend	Short Term Outlook (5-10 Years)	Long Term Outlook (20 Years)	Equity	Safety	VMT	Transit
Declining transit service & ridership	Transit service is still down 2-4% from pre-pandemic levels. Agencies restructure service to focus on people who are still riding transit. 10-30% of people who stopped using transit during the pandemic don't return.	Transit service increases as envisioned in regional plans. Ridership increases too, but it lags behind service because some people who stopped using transit during the pandemic don't return due to behavior change or health concerns.	↔	↓	0-2% ↑	10-30% ↓
Increasing remote work/ work from home	14% of workers telework regularly, compared to 8% before the pandemic.	Up to a third of the workforce teleworks, but only 10% of low-income workers do so.	↔	↔	0-6% ↓	↓
Increasing online shopping	People replace 16-36% of their shopping trips with delivery. This has mixed impacts on VMT. Delivery trips are shorter than in-person shopping trips, but ordering online tends to generate more trips because of frequent returns, rush deliveries, and other factors.	People replace 25-50% of their in-person shopping trips with deliveries. Only 20% of people with low-incomes shop online.	↔	↔	1-2% ↓	↓
More affordable and efficient electric vehicles	More people will own electric vehicles (EVs), but Oregon is not on track to meet its 2030 EV adoption targets. Electric bicycles are increasingly popular and useful for longer trips.	EVs technology is cheaper, more efficient, and more ubiquitous. EVs make up the majority of the vehicle fleet, can drive farther on a charge, and charge more quickly.	↑	—	↑	↓
Increasing concerns about personal safety	People are increasingly concerned about health, policing, and other travelers' unsafe or threatening behavior when they are using the transportation system.	*We do not have sufficient information to create a long-term forecast for this trend.*	↓	↓	↑	↓
Increasingly unsafe streets	Fatal crashes in the Portland region increased during the pandemic, while crashes resulting in serious injuries fell. Streets will likely become safer as more people start using them again, but fatal crash rates may remain higher than average.	*We do not have sufficient information to create a long-term forecast for this trend.*	↔	↓	↑	—
Increasing recreational cycling	The number of recreational cyclists will increase slightly, particularly in communities that had lower levels of cycling before the pandemic.	*We do not have sufficient information to create a long-term forecast for this trend.*	↑	—	↓	—

TRANSIT RECOVERY

Transit ridership will recover slowly.

Transit service will likely not recover to pre-pandemic levels during the next five years, and some people who stopped using transit during the pandemic may never come back. However, increasing transit ridership is critical to meeting regional goals. Agencies need to refocus the transit system around how people now travel while continuing to increase and improve transit service.

BEFORE THE PANDEMIC

Transit ridership was in a slight decline.

Nationally, transit ridership declined by 4% between 2010 and 2019 (8% per capita). TriMet, the region's largest transit agency, also saw its ridership decrease 4% over this time period, even as service increased.

DURING THE PANDEMIC

Ridership fell and agencies reduced service.

Between February and April 2020, regional transit ridership dropped by 69%. TriMet responded by reducing service by 20%. By fall 2021, service returned to 90% of pre-pandemic levels, but ridership was still down by about 50%.

FOLLOWING THE PANDEMIC

Car ownership and driving could increase.

People who started working from home will no longer commute on transit, and others may avoid transit due to public health concerns. This could lead people to buy cars or replace trips they would have taken on transit with driving.

Key assumptions and findings

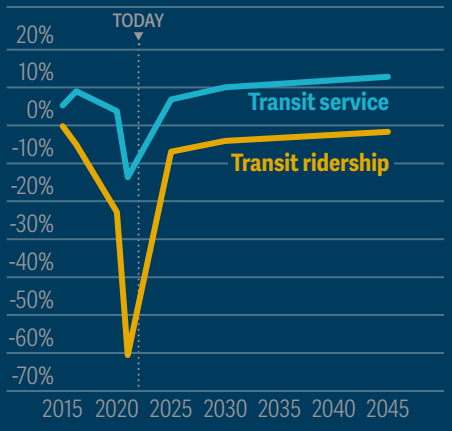
ASSUMPTIONS

- There will not be resources to increase transit service beyond pre-pandemic levels until 2027. After that, service will increase at the pace envisioned in the 2018 Regional Transportation Plan.
- In 2025, 10-30% of prior transit riders will not have returned, and transit service will still be **2-4%** below pre-pandemic levels.
- Transit fares will increase by **$0.10** every other year.
- Restructuring will make transit service **5-10%** more efficient.

EFFECTS ON TRAVEL

- Reduced service will decrease transit trips by **2-6%**. Some of these trips will shift to personal vehicles—increasing regional VMT per capita by **0-1%** until service levels reach pre-pandemic conditions.
- People will slowly return to transit over the next 20 years, which will increase VMT by **0-2%** and decrease transit ridership by **10-30%** compared to what is expected under the Regional Transportation Plan.

SERVICE AND RIDERSHIP CHANGE



Source: TriMet

WHAT IT MEANS FOR TRAVEL

Agencies need to continue to refocus service on those who still rely on transit while also increasing transit service.

During the pandemic, ridership held steadier on routes that have more people of color and people with low incomes and routes that serve arterials with a mix of jobs, housing, shops and other destinations. If people continue to work from home, we expect to see fewer commute trips during peak hours and more errands throughout the day.

TriMet prioritized serving those who were still riding during the pandemic, and plans to continue to do so as it updates its service plan. But recovering from the pandemic-era ridership slump and meeting the region's transit ridership goals will require broader action, potentially including rethinking how transit serves the region's centers, finding resources to increase service, and redesigning streets to keep buses moving.

Effects on RTP priorities

CLIMATE & MOBILITY

Lower-than-expected levels of transit service and higher-than-expected vehicle use will likely increase congestion and greenhouse gas emissions.

SAFETY

Transit is one of the safest ways to travel on a per-mile basis. People driving cars are much more likely to die, be injured or harm others while traveling than transit riders. Our streets will likely become less safe if more people shift from taking transit to driving.

EQUITY

Agencies have made efforts to focus service on riders who most rely on transit, but long-term reductions in transit service and ridership could have disproportionate impacts on people of color and people with low incomes, who are more likely to depend upon transit.

REMOTE WORK

Remote work is here to stay.

The pandemic caused a massive surge in working from home and this trend is likely to continue. It may change when and where we travel, but not necessarily how much we travel.

BEFORE THE PANDEMIC

Remote workers were a sliver of the workforce.

Before the pandemic, remote workers accounted for 8% of the workforce in the Portland region and just over 7% statewide.

DURING THE PANDEMIC

Working from home skyrocketed.

By May 2020, over 35% of workers in Oregon were working remotely due to COVID-19. This decreased to 18% of workers by the end of the year, down from the peak but still over double pre-pandemic levels.

FOLLOWING THE PANDEMIC

Work from home will remain common.

Remote work is likely to continue to decline as offices reopen, but will remain much more prevalent than it was before the pandemic, and will continue to increase over time. This could create long-term changes in travel patterns.

Key assumptions and findings

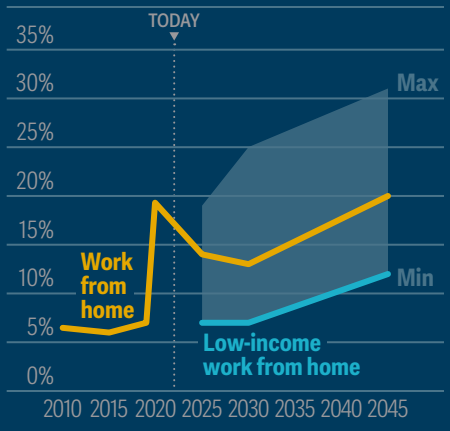
ASSUMPTIONS

- The share of the Oregon workforce that will permanently work from home in 2025 is predicted to be **14%**, up from **8%** before the pandemic
- Remote work is likely to decline from the 2020 peak over the next five years as offices reopen, but will increase over the 20-year horizon as employers allow for more flexibility.

EFFECTS ON TRAVEL

- The increase in remote work will decrease the share of work trips in the peak hours on transit and in personal vehicles, decreasing 2025 VMT and transit ridership by **0-6%**.

OREGON REMOTE WORK LEVELS



Source: Microsoft

WHAT IT MEANS FOR TRAVEL

More teleworking could mean fewer trips during rush hour and more throughout the day.

People who work from home do not commute, but they run errands and make other trips throughout the workday. Even if the share of people working from home doubles, VMT per capita will likely only decline by less than 6%. Fewer commute trips could allow transportation agencies to redistribute some of the resources that they had planned to spend on keeping the region moving during rush hour, potentially making more funding available for other projects.

Not all workers are able to telework. Low-income workers are much more likely to do their jobs in person. As agencies plan for more teleworking, they need to maintain access to jobs for those who need it.

Effects on RTP priorities

CLIMATE & MOBILITY

As working from home increases, vehicle trips decrease - particularly during rush hour, when vehicles typically emit more pollution because they are stuck in traffic. This means fewer greenhouse gas emissions and less congestion during peak hours. It also raises the question of how transit might best serve riders who are taking more midday trips and commuting less.

SAFETY

With prolonged working from home, travel may occur at different times of the day. The overall amount of traffic is not likely to change, but if local and arterial streets see more traffic from teleworkers running errands, it could create additional conflicts between vehicles and pedestrians, bicyclists, and transit riders.

EQUITY

Only some people have the option to work remotely. Almost twice as many workers with high incomes say they are able to work from home compared to those with low incomes. Providing access to internet and other services that support teleworking could help workers with low incomes connect to career opportunities in this new environment.

E-COMMERCE

E-commerce means more deliveries.

During the pandemic, people started buying more goods online to avoid the health risk of going to the store. The increase in online shopping is reshaping how goods move through the region.

BEFORE THE PANDEMIC

Online retail sales were climbing.

Between 2015 and 2019, the share of retail goods bought online increased from 7% to 11%, an increase of roughly 1% per year.

DURING THE PANDEMIC

Online sales spiked.

The share of goods bought online peaked at 15% in 2020, and has since declined a few percentage points as stores reopened and health risks receded.

FOLLOWING THE PANDEMIC

New types of businesses are moving online.

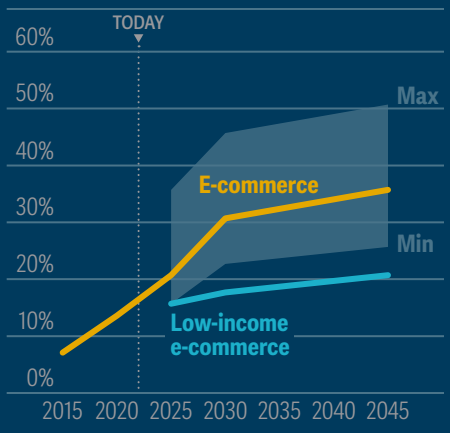
The current dip in online sales is likely temporary. People are now used to shopping online, and more companies are focusing on online sales. This study forecasts that online sales will increase to 20% market share by 2025 and continue to grow thereafter.

Key assumptions and findings

EFFECTS ON TRAVEL

- In-person shopping trips represent less than **10%** of total VMT in the Metro region, and some shopping trips will be replaced by delivery trips.
- An online delivery generates up to 12x fewer VMT than a trip to the store. VMT reductions from delivery are more modest in communities where people can walk, bike, take transit or only drive a short distance to the store.
- Compared to **9%** of in-store purchases, **15%-30%** of online goods are returned.
- Same-day shipping increases VMT, and not all online purchases replace a trip to the store. This offsetts some of the VMT reductions from consolidated delivery trips.
- By 2025, online shopping is projected to reduce VMT by up to **1%** and transit ridership by up to **2%**.

E-COMMERCE AS A PERCENT OF NATIONAL RETAIL SALES



Source: Fehr & Peers

WHAT THIS MEANS FOR TRAVEL

Delivery trips will replace some personal shopping trips, and these new trips have different demands on our roads.

The increase in online shopping has mixed effects on vehicle travel, and it can be hard to distinguish these impacts from the general increase in shopping-related trips due to more consumer spending. On one hand, delivery trips are typically shorter than people's trips to the store, because companies make multiple deliveries in a single trip. On the other hand, people are more likely to return goods that they buy online and make rush orders that require companies to split a single order into multiple deliveries, creating more trips per item purchased. Growth in delivery trips is also altering the ways that retailers, restaurants, and grocery stores use space and resources for parking, pickup, delivery, and stock storage.

Effects on RTP priorities

CLIMATE & MOBILITY

Online delivery trips are usually consolidated and occur outside of peak hours, reducing congestion. Delivery trips are shorter than in-person shopping trips, but many consumers are drawn to online shopping by same-day delivery, easy returns, and the convenience of shopping from home - all of which lead to more trips. Because of these conflicting factors, online shopping produces a modest reduction in VMT and emissions.

SAFETY

Aggressive schedules may encourage delivery drivers to prioritize speed over safety. Deliveries may also bring more large vans and medium-size delivery trucks onto neighborhood streets. Delivery drivers who are independent contractors and not commercially trained may also be less experienced than licensed commercial drivers.

EQUITY

People with higher incomes are more likely to shop online than people with low incomes. Improving access to goods and services can benefit everyone, but people typically pay a premium for the convenience of shopping online. People with low incomes and people of color are also more likely to face technological, financial and cultural barriers to shopping online.

VEHICLE ELECTRIFICATION

Get ready to plug in.

Oregon has set ambitious targets to increase the number of electric vehicles (EVs) on the road. Whether or not the state meets these targets, we are likely to see many more EVs in the years to come.

BEFORE THE PANDEMIC

EV use was growing exponentially.

Between 2010 and 2020, the number of EVs on Oregon's roads grew from 670 to 33,600. E-bikes and e-scooters also became more popular and widely available, both for purchase and through bike- and scooter-share systems like those in Portland.

DURING THE PANDEMIC

EVs remained popular, and e-bikes boomed.

Between 2019 and 2021, EV sales grew by 3.6%, outperforming sales of gas-powered vehicles. E-bike sales skyrocketed, growing by 240% - almost four times more than regular bike sales grew.

FOLLOWING THE PANDEMIC

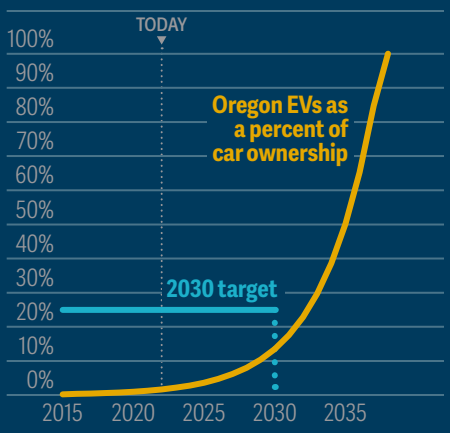
EV use will keep growing.

The batteries that power EVs and e-bikes are likely to become more efficient and cheaper to manufacture. EV and e-bike sales will continue to increase as these vehicles become more affordable and efficient.

Key assumptions and findings

- Our forecast is based on historical growth in EV sales and on anticipated changes to EV cost and range. It does not account for the many clean vehicle and fuel policies that support Oregon's EV targets.
- By **2030**, the State of Oregon aims to have **50%** of new vehicles sold and **25%** of all vehicles be EVs.
- EV/ZEV registrations in Oregon have grown by around **30%** each year since 2015.
- After declining at the beginning of the pandemic, shared e-bike and e-scooter use in the City of Portland rebounded to more than **double** pre-pandemic usage.
- Cities with shared e-bike fleets reported that e-bikes were used **twice** as frequently as regular bicycles.

OREGON EVS AS A PERCENT OF CAR OWNERSHIP



Source: Fehr & Peers

WHAT THIS MEANS FOR TRAVEL

EV adoption is accelerating, but a broader approach to electrification could help meet State goals.

Over the long term, EVs are forecast to become the default choice for many car buyers, but currently their additional cost and limited range restricts their appeal. Cheaper, more efficient batteries should remove these barriers. However, these changes are expected to take 10 to 20 years, and Oregon is aiming for 25% EV adoption by 2030. The State has adopted several clean vehicle and fuel policies in order to meet this target. In the Portland region, expanding chaging - particularly in multifamily buildings - will be critical to providing equitable access to EVs. High levels of bicycle use and successful bike- and scooter-share systems create an opportunity to further electrify transportation using e-bikes and e-scooters.

Effects on Metro's RTP priorities

CLIMATE & MOBILITY

EVs will gain appeal as technology improves, but not enough to meet state targets - and meeting these targets is critical to meeting our regional GHG goals. The region should follow along as the state tracks EV deployment in Oregon so that we can identify whether agency partners need to take additional action to meet our GHG targets.

SAFETY

This trend is not likely to affect safety outcomes.

EQUITY

The higher costs of EVs and lack of charging options in multi-unit dwellings pose additional barriers for people with low incomes. Oregon offers significant rebates for people with low incomes who purchase a new or used EV. The region should monitor whether these rebates are leading to equitable EV adoption.

PERSONAL SAFETY IN PUBLIC

Personal safety is a growing concern.

People of color are increasingly likely to be concerned for their safety when traveling due to fear of harassment and discrimination, and concerns about health and unsafe behavior are on the rise for many travelers.

BEFORE THE PANDEMIC

Safety was a concern for people of color.

People of color were more likely to be concerned for their personal safety when walking and taking transit.

DURING THE PANDEMIC

Many people felt unsafe, especially people of color.

Black people grew more mistrustful of police in the wake of George Floyd's killing, Asian immigrants experienced more racism in public, and people who continued to rely on transit - who are more likely to be people of color - dealt with new health concerns.

FOLLOWING THE PANDEMIC

Increased safety concerns seem likely to linger.

Recent polling suggests that Oregonians continue to be highly concerned about public safety. Even though much of society is now reopening following the pandemic, people also continue to be concerned about health risks when riding transit.

Key assumptions and findings

We analyzed this trend qualitatively by reviewing existing research. Here are some of the important findings from that research:

- TriMet surveyed riders about safety in 2020. Overall more riders reported feeling safe riding transit than feeling unsafe - but people of color were much more likely than white riders to say they feel unsafe.
- Riders' top safety concerns were other riders' unsafe behavior and a lack of staff presence.
- During the pandemic, the biggest factors in determining whether or not someone would choose to ride transit are: occupation, pre-pandemic mode choice, walking time to the nearest station, and health concerns.
- Race, gender and age play major roles in perceptions of safety when traveling.
- Numerous surveys and focus groups from the Portland region have found that people of color are more concerned for their safety than other travelers when walking, bicycling or taking transit.
- Crashes are disproportionately located in communities of color and communities with lower incomes. In 2020, **60%** of the region's fatal crashes and **66%** of severe injury crashes occurred in the communities with the highest concentrations of people of color and people earning low incomes.
- Focus groups conducted by the City of Portland found that inadequate street lighting was the #1 safety concern for Black pedestrians.

Source: TriMet

WHAT THIS MEANS FOR TRAVEL

We may need to invest more in helping travelers feel safe in order for our investments in climate and equity to pay off.

People are feeling less safe when traveling for reasons including increased crashes, concern about catching COVID, and the behavior of other travelers. These concerns are particularly high among people of color, who are more likely to live in a neighborhood with unsafe streets, work in an in-person job through the pandemic, or to be harassed while traveling. It is hard to estimate how these feelings impact travel due to a lack of research. However, many of our planned investments in climate and equity - like more frequent bus service and better access to transit in communities of color - rely on people feeling safe enough to use them. We may need to invest more in safety for these projects to deliver their intended benefits.

Effects on Metro's RTP priorities

CLIMATE & MOBILITY

Increasing transit ridership is critical to meeting the region's GHG reduction goals. Safety is an important concern for people who already ride transit, but it doesn't seem to be as big of a factor in whether or not people choose to ride. Investing in safety alone may not have a big impact on transit ridership - but improved transit service will likely draw more riders and reduce more emissions if people feel safe.

SAFETY

Transportation agencies in the region have been working to prioritize safety for people of color travelers, and transit agencies have invested extensively in public health measures to keep riders safe during the COVID-19 pandemic. In spite of these measures, safety is a pressing concern for many travelers.

EQUITY

People of color are significantly more likely to be concerned for their safety when walking, bicycling, or taking public transportation. Transportation investments in communities of color may not benefit residents if these safety concerns are not addressed.

SEVERE AND FATAL CRASHES

Fatal crashes are going up.

More people died in crashes during the pandemic, even though people were driving less.

BEFORE THE PANDEMIC

Traffic deaths and injuries were on the rise.

The number of fatal crashes in the region increased by 76% between 2011 and 2019, and severe injury crashes increased by 13%. In 2018, the region set a goal to eliminate all traffic fatalities and severe injuries by 2035.

DURING THE PANDEMIC

Traffic deaths increased even as people drove less.

Between 2020 and 2021, fatal crashes in the region increased by 20%, even as people were driving less and severe injury crashes fell by 26%. Emptier streets and impaired driving contributed to the rise in deadly crashes.

FOLLOWING THE PANDEMIC

There is reason for both hope and concern.

Vehicles are already speeding less as the streets fill up again, but some of the other trends discussed here - especially lower-than-anticipated transit ridership - could lead to more driving and more crashes in the long term.

Key assumptions and findings

We analyzed this trend qualitatively by reviewing existing research. Here are some of the important findings from that research.

- During the first half of 2021, U.S. crash-related fatalities increased **18%**, from 1.06 per 100 million vehicle miles traveled (VMT) to 1.25 per 100 million VMT.
- As of November 2021, fatal crash rates in Oregon were **1.64 fatalities per 100 million VMT**, higher than national rates.
- Crashes are disproportionately located in BIPOC and low-income communities. In 2020, **60%** of the region's fatal crashes and **66%** of severe injury crashes occured in the communities with the highest concentrations of people of color and people earning low incomes.
- Nationally, traffic fatalities reached a **16-year high** in 2021. The percent of fatal crashes that involved alcohol increased by **22%** between 2019 and 2021, and average speeds increased on almost every type of road.
- Between 2019 and 2021, fatal crashes in U.S. urban areas increased by over **4x** as much as in rural areas. Urban local and collector streets saw the biggest increase in fatal crashes, followed by urban interstates and urban arterials.

Source: Portland Police Department

WHAT THIS MEANS FOR TRAVEL

More work will be needed to reduce fatal crashes.

Traffic on the region's roads is still below pre-pandemic levels, but not by much. Unless the region takes more comprehensive action to reduce crashes, we could continue to see high levels of fatal and serious crashes.

During the pandemic, many agencies in the region took steps to make streets safer, such as reducing speed limits, calming traffic and dedicating certain streets for pedestrians and bicyclists. These design changes are important, but they need to be combined with speed management strategies, advanced vehicle and alcohol detection technologies, and other approaches to address the many factors contributing to high levels of fatal and injury crashes.

Effects on RTP priorities

CLIMATE & MOBILITY

Crashes contribute to congestion and GHG emissions. Estimates suggest that eliminating roadway crashes could translate into 21.4 billion hours in traffic time saved nationally and a 2% reduction in emissions by 2035. High crash rates may also deter people from walking and bicycling, since pedestrians and cyclists are more vulnerable to crashes.

SAFETY

Traffic fatality rates in Oregon have been consistently high over the last 13 months; higher than national averages - in spite of the growing adoption of Vision Zero policies throughout the state and region.

EQUITY

People walking and biking in communities of color and/or lower-income communities face greater risk of injury and death. In the Metro region, risk of dying in a motor-vehicle involved crash is higher for people of color, people over 65 or people with low-incomes. A majority of pedestrian deaths and high-injury corridors are in communities with higher densities of people of color, people with low incomes and people with limited English proficiency.

RECREATIONAL BICYCLING

Bicycling is booming.

More people turned to recreational bicycling and other types of outdoor exercise when gyms and sports clubs closed down during the pandemic.

BEFORE THE PANDEMIC

The Portland region was known for bicycling.

In 2015, more people commuted by bicycle in the Portland region than in any other US metro area, which also made bicycling a popular form of recreation.

IN THE PANDEMIC

Recreational biking grew in popularity.

Many of the region's trails saw increased usage during the early days of the pandemic, and across the US bike sales boomed. Some agencies dedicated streets to bicycling and walking to meet the new demand for outdoor recreation.

FOLLOWING THE PANDEMIC

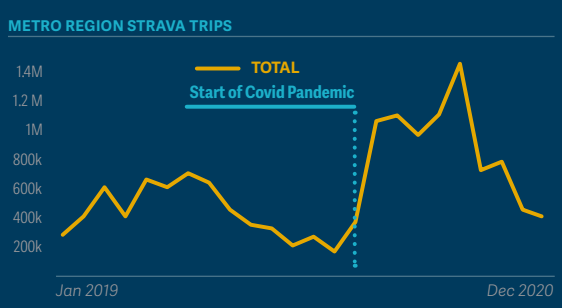
Recreational biking continues to increase.

According to data collected by Strava, an exercise tracking app, total bicycle miles traveled in the Metro region have increased by 51% since before the pandemic, most of those leisure trips.

Key assumptions and findings

- Nationally, bicycles make up a $5.3 billion industry. Between 2019 and 2021, bicyle sales grew by **67%**, and e-bike sales grew by **240%**.
- Users of Strava, an app commonly used to track recreational bike rides, logged close to twice as many trips during summer 2020 as during summer 2019 (see chart).
- In 2020, approximately **10%** of people tried bicycling for the first time or tried riding in a new way, such as using a bike for transportation.
- The City of Portland's Slow Streets program has provided greater opportunity for people to travel safely on low-traffic streets, thus potentially promoting more recreational biking.
- **86%** of cities that have implemented slow street programs intend to make them permanent fixtures of future bike networks.

CHANGE IN STRAVA BIKE TRIPS, 2019-2020



Source: CityLab

Source: Fehr & Peers

WHAT THIS MEANS FOR TRAVEL

More people on bikes instead of in cars can translate to reduced driving and greenhouse gas emissions.

The growth in recreational biking during the pandemic is expected to continue, which can lead to improvements in mobility, climate, and public health. If more people decide to start biking or continue the riding habits that they picked up during the pandemic, there will potentially be more demand for better and safer biking infrastructure. Many jurisdictions across the US, including the Metro region, have already dedicated streets for active transportation. These changes may become permanent fixtures of the transportation system—further incentivizing greener modes of travel.

Effects on RTP priorities

CLIMATE & MOBILITY

People who bicycle for fun and exercise are more likely to try riding to work or for errands, which reduces congestion and emissions. They are also more likely to advocate for improvements to bicycle infrastructure, which can help other travelers feel comfortable bicycling.

SAFETY

The pandemic-era bicycling boom has already led to safety improvements to the region's streets. Portland is installing permanent infrastructure and keeping speeds low on some of the Slow Streets that it created during the pandemic. Research suggests that seeing more cyclists helps non-cyclists feel safe trying bicycling.

EQUITY

Bikes are much cheaper to buy and maintain than cars or trucks. However, gaps in bicycling infrastructure - which often occur in communities where people of color and people with low incomes live - create barriers to bicycling for many people. Safe, comfortable bikeways are benefits that should be shared by everyone.

Emerging Transportation Trends Study: References

American Community Survey (ACS), Census Bureau. (2019). 5-year estimates for Portland MSA.

Anderson, M. (2016). Who relies on public transit in the U.S. Pew Research Center, April 7, 2016.

Arizona State University, & University of Illinois Chicago. (2021, March 23). COVIDFUTURE Survey. Retrieved from COVID-19 and the Future Survey.

Catalyst. (2020). The Detrimental Impact of Covid-19 on Gender and Racial Equality (Quick Take).

CBRE. (2022). How High Will E-Commerce Sales Go? The Definitive Guide to Omnichannel Real Estate.

Cervero, R; Road Expansion, Urban Growth, and Induced Travel, a Path Analysis, APA Journal, 2003

Chaffey, D. (2021). Forecast e-commerce growth in percentage of online retail / e-commerce sales 2017 to 2023. Smart Insights

City of Boston. (2020). Anticipating Post-Pandemic Commute Trends in Metro-Boston.

Cortright, J. (2019). Why Cyber-Monday doesn't mean delivery gridlock Tuesday? City Observatory, November 15, 2019. https://cityobservatory.org/cyber-monday-delivery_gridlock/

Deloitte. (2017). A brave new world: The Retail Profitability Challenge Report.

Deloitte. (2021). Remote Work: The Road to the Future, Transformation of the Global Workforce.

Dingel, J. I. (2020). How many jobs can be done at home? (Rep.). Cambridge, MA: NBER.

Duranton and Turner, The Fundamental Law of Road Congestion: Evidence from US Cities, National Bureau of Economic Research, 2012

Ecola, L., & Wachs, M. (2012, December). Exploring the Relationship between Travel Demand and Economic Growth. Retrieved from https://www.fhwa.dot.gov/policy/otps/pubs/vmt_gdp/

EPA. (n.d.). Carbon Pollution from Transportation. Retrieved from https://www.epa.gov/transportation-air-pollution-and-climate-change/carbon-pollution-transportation

Fuller, G., McGuinness, K., Waitt, G., Buchanann, I., & Lea, T. (2021). The reactivated bike: Self-reported cycling activity during the 2020 COVID-19 pandemic in Australia. Transportation Research Interdisciplinary Perspectives, 10.

Garber, S. (2020). Are Home Deliveries Increasing during the Pandemic? (Rep.). Portland, OR: SGA.

Gitlab. (2021). The Remote Work Report 2021.

Guyot, K. & Sawhill, I. (2020). Teleworking Will Likely Continue Long After the Pandemic. Washington, DC: Brookings Institute, January 2020.

Haslag, P. & Weagley, D. (2021). From L.A. to Boise: How Migration Has Changed During the COVID-19 Pandemic. SSRN.

Hastie, S. & Robins, I. (2022). Hybrid & Remote Work in 2022 and Beyond. InfoQ.

Hoang, J. & Battacharya, J. (2021). ITE 2021 Annual Meeting. Impact of COVID-19 on Contra Costa Transportation System.

Hodges, T. (2010). Public Transportation's Role in Reducing Greenhouse Gas Emissions (Rep.). D.C., Washington: FHWA.

Jaller, M., & Pahwa, A. (2020). Evaluating the environmental impacts of online shopping: A behavioral and transportation approach. Transportation Research Part D: Transport and Environment. Volume 80, March 2020.

JLL. (2020). Workplace experience survey highlights.

KPMG. (2020). Automotive's new reality: Fewer trips, fewer miles, fewer cars?

Kumar, R. R., & Alok, K. (2020). Adoption of electric vehicle: A literature review and prospects for sustainability. Journal of Cleaner Production, 253, 119911. doi:10.1016/j.jclepro.2019.119911

MAPC. (2021). Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts (Rep.). MA.

MarketWatch. (2021). Global E-commerce Market Growing By 13.5% Size, Future Trends, Current Growth 2021, Emerging Technologies, Global Regions with Industry Share Analysis, Gross Margin, Regional Demand and Forecast to 2030.

MBTA. (2021). Ridership Trends & Projection.

McKinsey & Company. (2021). How e-commerce share of retail soared across the globe: A look at eight countries.

McKinsey Global Institute. (2021 & 2020). The future or work after COVID-19 & What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries, Reports.

Metro. (2017). RTO Mobility and Technology Survey Report.

Milt, D. (2021). 2030: The Death of the High Street: Why the rise in e-commerce means Britain's town centres will be unrecognizable within 15 years. Parcelhero.

Multnomah County (2020). New numbers show COVID-19 damage to communities of color; leaders call for better data collection

National Bureau of Economic Research. (2020). How Many Jobs Can Be Done At Home?

NHTSA Office of Behavioral Safety Research. (2021). Update to Special Reports on Traffic Safety During the COVID-19 Public Health Emergency, January 2021.

NHTSA. (2021). Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories in 2020. DOT HS 813 118, June 2021. https://crashstats.nhtsa.dot.gov/Api/Public/Publication/813118#:~:text=Total%20estimated%20fatali%2D%20ties%20increased,older%20from%202019%20to%202020.

NHTSA. (2022). Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories in 2021. DOT HS 813 298, May 2022. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813298.

North Jersey Transportation Planning Authority. (2020). 2050 Freight Industry Level Forecasts Study Final Report.

ODOT. (2019 – 2021). Observed Statewide Traffic Volume Patterns Related to COVID-19 Monitoring.

ODOT. (n.d.). Annual Crash Summary Book. Retrieved from Crash Statistics & Reports.

ODOT (n.d.). ODOT Crash Data, 2007-2021.

ODOT (n.d.). COVID-19 Traffic Reports. https://www.oregon.gov/odot/Data/Pages/Traffic-Counting.aspx

Oregon Driver & Motor Vehicle Services. (2019). Oregon DMV Vehicle Registration Statistics.

Oregon Office of Economic Analysis. (2020). COVID-19: Social Distancing, Isolation, and the Workforce.

Oregon Walks. (2021). Fatal Pedestrian Crash Report Facts and Figures: Portland, 2017-19.

Parker, K., Horowitz, J.M., & Minkin, M. (2020). How the Coronavirus Outbreak Has – and Hasn't – Changed the Way Americans Work. Pew Research Center, December 9, 2020.

Paul, J. & Taylor, B. D. (ITS) (2021). TRB Conference on Advancing Transportation Equity. Analyzing Bus Ridership Changes during the COVID-19 Pandemic: Insights from Boston, Houston and Los Angeles.

PBOT. (2019). E-Commerce and Emerging Logistics Technology Research Report.

PBOT (2021). BIKETOWN System Data. https://www.biketownpdx.com/system-data.

PBOT and Ride Report (2022): Open Data Portal. https://public.ridereport.com/pdx?vehicle=all&time=all

PBOT. (n.d.). COVID-19 traffic and bicycle count and vehicle speed data.

Pedersen, N. (2021). AMPO Annual Meeting. Impacts of COVID-19 on Transportation and Key Considerations for the Future.

RTA. (2020). RTA COVID-19 Lapsed Rider Survey (Rep.). Springfield, IL: IDOT.

Salon, D., Conway, M., Capasso de Silva, D., et al. The potential stickiness of pandemic-induced behavior changes in the United States. National Academy of Sciences of the United States of America.

Samayoa, M. (2020). New Data Show Latinos in Oregon are Still Disproportionately Affected by COVID-19. Oregon Public Broadcasting. April 14, 2020.

Shaheen, S., & Wong, S. (ITS) (2020). Future of Public Transit and Shared Mobility: Scenario Planning for COVID-19 Recovery (Rep.). Los Angeles, CA: UCLA.

Sorin Garber & Associates (2020-2021). Are Home Deliveries Increasing during the Pandemic? Reporting between August 2020 and December 2021.

Spurlock, C. A., Todd-Blick, A., Wong-Parodi, G., & Walker, V. (2020). Children, Income, and the Impact of Home Delivery on Household Shopping Trips. Transportation Research Record: Journal of the Transportation Research Board, 2674(10), 335-350. doi:10.1177/0361198120935113

Statista. (2021). Retail e-commerce revenue in the United States from 2017 to 2025.

Suchan, S. (2021). Telework Transformation: Worker-Centered Change (Rep.). Olympia, WA: WSDOT.

Timmons, M. (2021). Car Ownership Statistics: How Many People Own a Car in the US?

Transloc. (2021). A 2021 poll analyzing Americans' public transportation expectations and behaviors post-pandemic.

TriMet. (2021). Title VI Service Equity Analysis: Covid-19 Service Changes (Rep.). Portland, OR: TriMet.

TriMet. (2021). TriMet Service and Ridership Information. Retrieved from https://trimet.org/about/pdf/trimetridership.pdf.

TriMet. (2020). TriMet Reinagining Security: Executive Summary Report. Portland, OR: TriMet.

U.S. Bureau of Labor Statistics (2021). Projections overview and highlights, 2020–30. Monthly Labor Review.

UBS Wealth Management. (2021). E-commerce growth is here to stay.

University of Oregon. (2021). Urbanism Next: E-commerce and COVID Research

US Census Bureau. (2021). Working From Home During the Pandemic (United States, Census Bureau). Retrieved from https://www.census.gov/library/stories/2021/03/working-from-home-during-the-pandemic.html

US Department of Commerce. (2022). Quarterly Retail E-Commerce Sales.

Whitaker, S. (2021). Migrants from High-Cost, Large Metro Areas during the COVID-19 Pandemic, Their Destinations, and How Many Could Follow (Rep.). Cleveland, OH: Federal Reserve Bank.

Wygonik, E. (2014). Moving Goods to Consumers: Land Use Patterns, Logistics, and Emissions. PhD dissertation, University of Washington School of Civil and Environmental Engineering. http://depts.washington.edu/sctlctr/sites/default/files/research_student_thesis/Wygonik_washington_0250E_13756_.pdf

Zeng, X., Li, M., El-Hady, D. A., Alshitari, W., Al-Bogami, A. S., Lu, J., & Amine, K. (2019). Commercialization of Lithium Battery Technologies for Electric Vehicles (Rep.). Advanced Energy materials.

Memo

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

Date: Wednesday, June 08, 2022
To: MTAC and TPAC members and alternates
From: Tim Collins, Senior Transportation Planner (Regional Freight Planner)
Subject: Commodities Movement Study - Materials for the June 15th MTAC/TPAC workshop

This memo provides materials to review prior to the June 15th MTAC/TPAC workshop item on the Commodities Movement Study. This memo covers the background for some of the Commodities Movement Study PowerPoint presentation shown at the meeting. The presentation will provide a first look at existing data collected on the regional freight network for daily truck volumes, speeds, and travel times on 2 of 19 regional mobility corridors that the study will examine. This memo cover background for the second part of the presentation, which provides an early look at the 2020 regional freight model results on commodity types and where commodities are moving on the regional freight network.

The commodities are grouped into 10 categories that include: Agriculture; Chemicals and Fertilizers; Coal, Oil, Waste, etc.; Electronics (including computer microchips); Food; Gravel, Sand, etc.; Machinery; Misc. manufactured goods; Motor Vehicles, etc.; and Wood, Paper, etc. The model looks at commodities moved by trucks on the regional freight network. The table below shows 2020 model outputs for the locations on the freight system with the highest daily values (in dollars), and the highest daily tonnage for all 10 categories of goods ('All Goods').

2020 Regional Commodities for largest amounts (in $s and tons) of All Goods category

Location of Freight Flows	Direction	Daily $ (in Millions)	Daily Tons
I-5 at OR 217	Northbound	55.0	49,008
I-5 at OR 217	Southbound	76.2	50,047
I-5 at I-205	Northbound	50.2	42,842
I-5 at I-205	Southbound	71.1	49,198
I-5 at NE Fremont	Northbound	44.7	39,567
I-5 at NE Fremont	Southbound	49.6	30,526
I-84 at NE Grand	Eastbound	34.2	28,009
I-84 at NE Grand	Westbound	37.9	26,538
I-84 at NE 122nd	Eastbound	62.3	32,695
I-84 at NE 122nd	Westbound	53.8	30,151
I-84 at Wood Village	Eastbound	48.9	18,570
I-84 at Wood Village	Westbound	42.2	18,540
I-205 at Sandy Blvd.	Northbound	31.9	22,392
I-205 at Sandy Blvd.	Southbound	34.2	18,446
OR30 west of I-405	Northbound	24.3	18,652
OR30 west of I-405	Southbound	35.3	29,851

Two of the ten categories of commodity types are rather easy to identify, are found at most households, and will be the focus of the commodities covered in the workshop presentation. The first is the 'Electronics' category with includes computer components like microchips, and all electronics equipment and parts. The table below shows 2020 model outputs for the locations on the freight system with the highest daily values (in dollars) for the Electronics category.

2020 Regional Commodities for largest amounts (in $s) for the Electronics category

Location of Freight Flows	Direction	Daily $ (in Millions)
I-5 at I-205	Northbound	$7.2
I-5 at I-205	Southbound	$12.6
I-5 at OR 217	Northbound	$8.2
I-5 at OR 217	Southbound	$15.0
I-5 at NE Fremont	Northbound	$8.9
I-5 at NE Fremont	Southbound	$9.0
I-5 at Jantzen Beach	Northbound	$7.6
I-5 at Jantzen Beach	Southbound	$8.4
I-84 at NE Grand	Eastbound	$9.4
I-84 at NE Grand	Westbound	$10.1
I-84 at NE 122nd	Eastbound	$15.1
I-84 at NE 122nd	Westbound	$11.4
I-84 at Wood Village	Eastbound	$11.9
I-84 at Wood Village	Westbound	$9.7
US 26 (Sunset Hwy.) at Vista Ridge Tunnel	Eastbound	$7.3
US 26 (Sunset Hwy.) at Vista Ridge Tunnel	Westbound	$7.5
US 26 (Sunset Hwy.) at Cedar Hills Blvd.	Eastbound	$7.3
US 26 (Sunset Hwy.) at Cedar Hills Blvd.	Westbound	$8.1
OR30 west of I-405	Northbound	$6.8
OR30 west of I-405	Southbound	$7.8

The second category is 'Motor Vehicle' which includes passenger cars, trucks, and commercial vehicles. Much of this category are passenger cars and trucks that are imported and exported in our region at the marine terminals in Portland (Terminals 4 and 6). The table on the next page shows 2020 model outputs for the locations on the freight system with the highest daily values (in dollars) for the Motor Vehicle category.

2020 Regional Commodities for largest amounts (in $s) for the Motor Vehicle category

Location of Freight Flows	Direction	Daily $ (in Millions)
I-5 at I-205	Northbound	$9.2
I-5 at I-205	Southbound	$21.5
I-5 at OR 217	Northbound	$8.8
I-5 at OR 217	Southbound	$22.1
I-5 at NE Fremont	Northbound	$6.2
I-5 at NE Fremont	Southbound	$10.0
I-5 at Jantzen Beach	Northbound	$3.6
I-5 at Jantzen Beach	Southbound	$0.6
I-84 at NE Grand	Eastbound	$3.3
I-84 at NE Grand	Westbound	$5.0
I-84 at NE 122nd	Eastbound	$16.4
I-84 at NE 122nd	Westbound	$11.2
I-84 at Wood Village	Eastbound	$17.2
I-84 at Wood Village	Westbound	$10.9
I-205 at NE Sandy Blvd.	Northbound	$7.7
I-205 at NE Sandy Blvd.	Southbound	$10.5
Marine Dr. at N. Leadbetter Road (Terminal 6)	Eastbound	$8.7
Marine Dr. at N. Ledbetter Road (Terminal 6)	Westbound	$5.8
Columbia Blvd. at Chimney Park	Eastbound	$6.8
Columbia Blvd. at Chimney Park	Westbound	$1.6
N. Lombard St. at Terminal 4	Northbound	$1.1
N. Lombard St. at Terminal 4	Southbound	$7.6

The PowerPoint presentation will include some screenshots of the 2020 model results that will show key commodity groups on the freight network in two of the mobility corridors. I provided these tables to help us have a robust conversation about these modeled results and to highlight the importance of the commodities that move by truck throughout our region. I look forward to our discussion on the Commodities Movement Study at the June 15th workshop.

cc: Chris Lamm, Principal Project Manager, Cambridge Systematics
Garth Appanaitis PE, Planning Group Manager, DKS Associates
Joe Broach, PhD, Senior Researcher & Modeler, Metro

Materials following this page were distributed at the meeting.

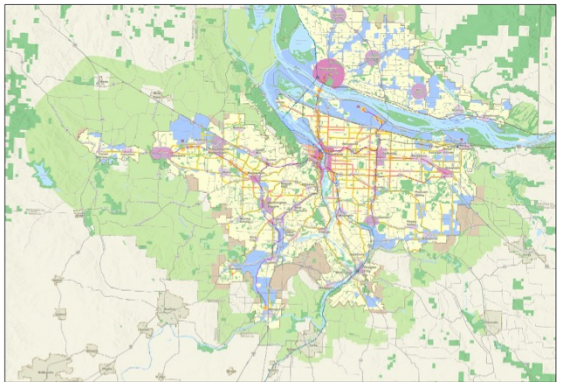
Regional mobility policy update

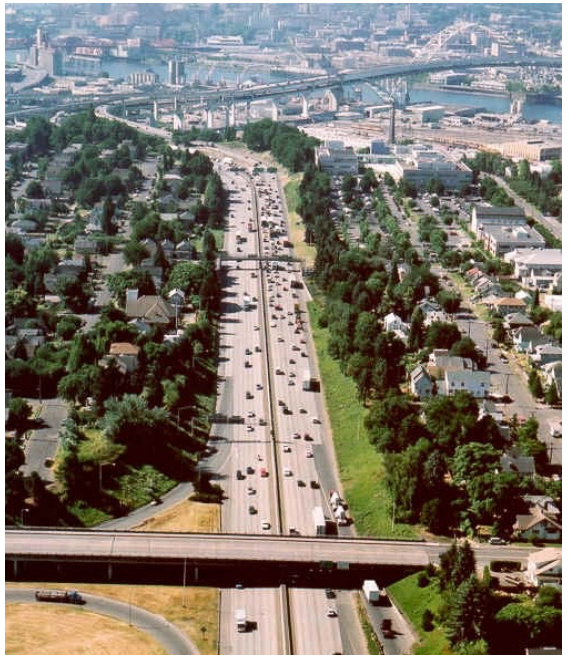
TPAC and MTAC Workshop

June 15, 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

Looking back: 2020 to today

2020 TPAC/MTAC workshops

- Share research on current policy and measure
- Identify mobility policy elements
- Define universe of potential measures
- Seek feedback on criteria for evaluating and selecting measures

2021 TPAC/MTAC workshops and series of forums

- Develop definition of urban mobility
- Seek feedback on mobility policy elements and potential measures for testing in case studies

2022 TPAC/MTAC workshops and forums

- Report case study findings
- Seek feedback on draft mobility policies, measures, targets and how/where they could be applied

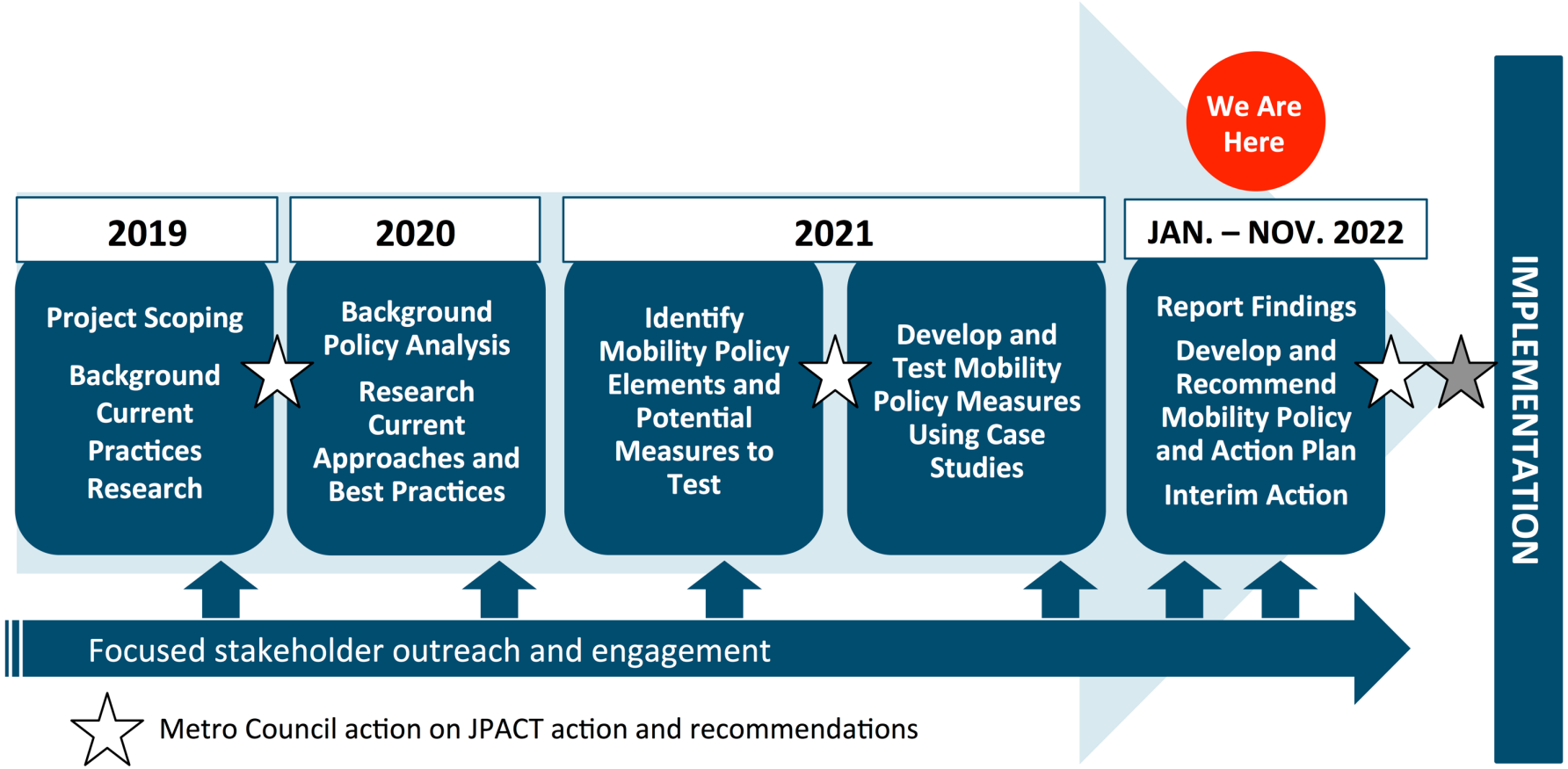
Today's purpose

Seek input on the updated draft mobility policy

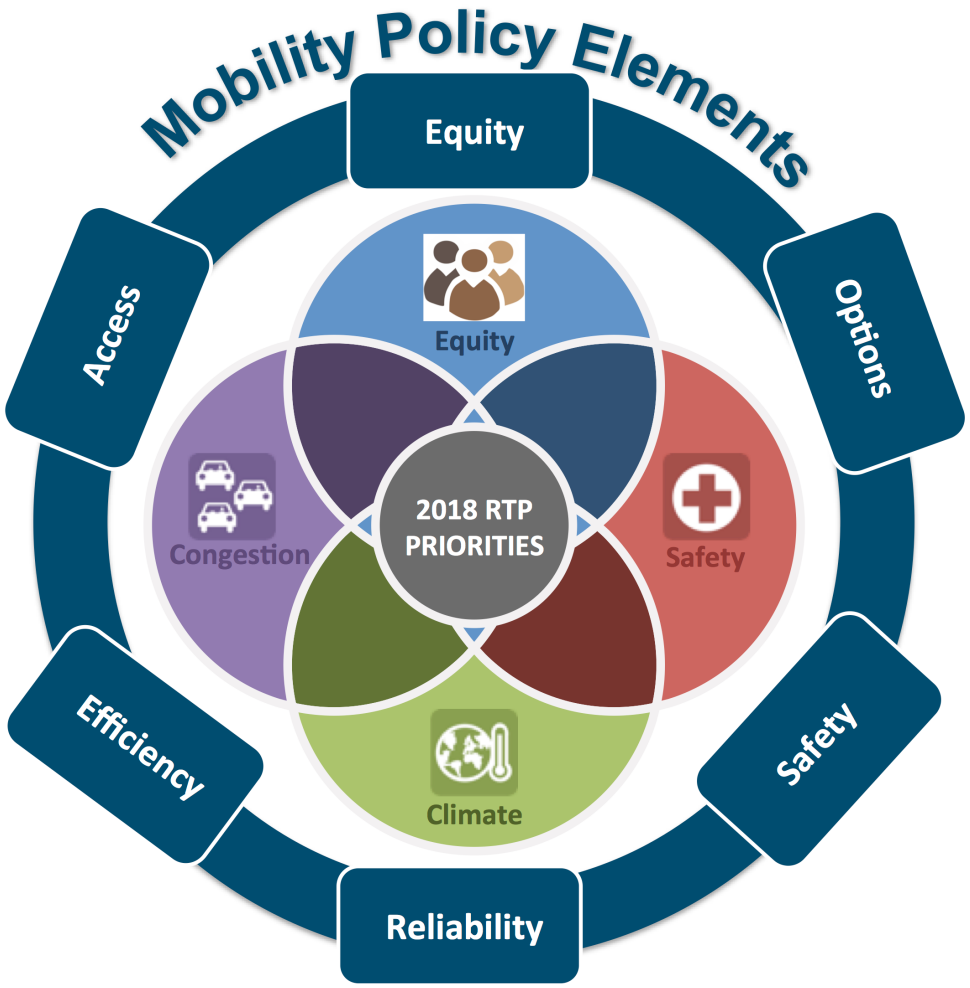
- Measures and targets
- Applications in system planning and plan amendments

Additional feedback requested by June 24 via email to: kim.ellis@oregonmetro.gov and glen.a.bolen@odot.oregon.gov

Project timeline



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.

DRAFT mobility policies for the Portland region

Mobility Policy 1 Ensure that **the public's land use decisions and investments in the transportation system enhance efficiency in how people and goods travel** to where they need to go.

Mobility 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.

Mobility 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.

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

Mobility 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.**

Regional Mobility Policy and Oregon Highway Plan Policy 1F

Regional Mobility Policy (Regional Transportation Plan)

- RTP networks, including ODOT highways and city and county arterials
- System planning only

Highway Mobility Standards (OHP Policy 1F)

- ODOT highways only
- System planning, plan amendments
- *Development review requirements where adopted in local development codes; guiding operations decisions such as managing access and traffic control systems (not part of this project)*

Volume to Capacity Ratio Targets for Portland Region (adopted in 2002)

VOLUME TO CAPACITY RATIO TARGETS INSIDE METRO[A, B]		
Locations	**Target**	
	1st hour	**2nd hour**
Central City Regional Centers Town Centers Main Streets Station Communities	1.1	.99
Corridors Industrial Areas Intermodal Facilities Employment Areas Inner Neighborhoods Outer Neighborhoods	.99	.99
I-84 *(from I-5 to I-205)*	1.1	.99
I-5 North *(from Marquam Bridge to Interstate Bridge)*	1.1	.99
OR 99E *(from Lincoln Street to OR 224 Interchange)*	1.1	.99
US 26 *(from I-405 to Sylvan Interchange)*	1.1	.99
I-405[C] *(from I-5 South to I-5 North)*	1.1	.99
Other Principal Arterial Routes I-205[C] I-84 *(east of I-205)* I-5 *(Marquam Bridge to Wilsonville)*[C] OR 217 US 26 *(west of Sylvan)* US 30 OR 8 *(Murray Blvd to Brookwood Avenue)*[C] OR 224 OR 47 OR 213 242nd/US 26 in Gresham OR 99W	.99	.99

Table 7: Volume to Capacity Ratio Targets within Portland Metropolitan Region

DRAFT mobility policies for the Portland region

"The policies apply to:

- the **state highway system** within the Portland metropolitan area for
  - identifying state highway mobility performance expectations for **planning and plan implementation**; and
  - evaluating the **impacts on state highways of amendments** to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060).
- **throughways and regional arterials** designated in the Regional Transportation Plan, which include state and local jurisdiction facilities, for identifying mobility performance expectations for **planning and plan implementation**. "

DRAFT mobility policies for the Portland region

Page 5-6

"Oregon Highway Plan volume-to-capacity ratio targets still guide operations decisions such as managing access and traffic control systems and can be used to identify intersection improvements that would help reduce delay and improve the corridor average travel speed.

Local jurisdiction standards for their facilities still apply for evaluating impacts of amendments to transportation system plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-0060) and guiding operations decisions."

DRAFT Mobility Policy Performance Measures

Page 4-5

Measure	Expected Mobility Outcomes
VMT/Capita for home-based trips and VMT/Employee for commute trips to/from work	**Land Use Efficiency** Land use patterns that are more efficient to serve because they reduce the need to drive and are supportive of travel options.
System Completeness	**Complete Multi-Modal Networks** Travel options and connectivity allow people to reliably and safely walk, bike, drive, and take transit to get where they need to go.
Average Travel Speed	**Improved Reliability** Safe, efficient and reliable speeds for people, goods and services.
Off-ramp Queuing	**Improved Reliability** Safe deceleration conditions for vehicles exiting freeway mainlines reducing crashes and improving operations.

DRAFT Mobility Policy Performance Measure Targets

Measure	Application	Target
VMT/Capita for home-based trips **and** **VMT/Employee for commute trips to/from work**	System Planning	None – OAR 660 Division 44 (GHG Reduction Rule) sets VMT/Capita reduction targets with which the RTP and local jurisdictions will need to comply.
	Plan Amendments[1]	Increased development potential in a District[2] where forecast VMT/capita for home-based trips or VMT/employee for commute trips to/from work is lower than the regional average. or The plan amendment has a lower forecast VMT/capita for home-based trips or reduced VMT/employee for commute trips to/from work than the District[2] (dependent upon the predominant land use change proposed)

Table Notes:

1 Plan amendments that meet this target shall be found to not have a significant impact pursuant to the Transportation Planning Rule (OAR 660-12-0060).

2 VMT/Capita "Districts" will be established that identify TAZ groupings (subareas) with similar land use characteristics and forecast VMT/Capita.

DRAFT Mobility Policy Performance Measure Targets

Measure	Application	Target
System Completeness	System Planning	Complete networks and systems for walking, biking, transit, vehicles, freight, and managing the transportation system and travel demand (See Table 3 for guidance and Table 4 for completeness elements by facility type). (Planned system may not achieve completeness for all modes to target levels but should identify future intent for all facilities given constraints and tradeoffs.)
	Plan Amendments	100% of planned system Or Reduced gaps and deficiencies (See Table 5 for guidance)

DRAFT Mobility Policy Performance Measure Targets

Measure	Application	Target		
Average Travel Speed	System Planning[3]	**RTP Motor Vehicle Designation**	**Off-Peak Average Travel Speed Target[5]**	**Hours per Day Target**
		Throughways [4] I-205, I-84 (east of I-205) I-5 (Marquam Bridge to Wilsonville) OR 217 US 26 (west of sylvan) US 30, OR 47, OR 212 OR 224, OR 213	45 mph – posted speed limit [6]	18 hours
		Throughways [4] I-405 (from I-5 South to I-5 North) I-5 North (Marquam Bride to Interstate Bridge) US 26 (from Sylvan Interchange to I-405) I-84 from I-5 to I-205 99E from Lincoln Street to OR 224 interchange	35 mph – posted speed limit [6]	20 hours per day
		Arterials Outside 2040 Centers	15 mph – posted speed limit (including signal delays)	No target
		Arterials Inside 2040 Centers	No target	No target
	Plan Amendments	Same as system planning	Same as system planning	Same as system planning

DRAFT Mobility Policy Performance Measure Targets

Page 6-7

Average Travel Speed

Table Notes:

3 This can be used to help size facilities during system planning; however, on Arterials, reducing managing motor vehicle congestion through additional roadway capacity should follow the RTP system sizing policy and congestion management process, and OHP Policy 1G on ODOT roadways and should not come at the expense of achieving system completeness for non-motorized modes consistent with RTP modal or design classifications or achieving the VMT/capita target for the jurisdiction.

4 Throughways are designated in the Regional Transportation Plan and generally correspond to Expressways designated in the Oregon Highway Plan.

5 Used to identify areas of poor reliability where due to recurring congestion, average travel speeds drop below approximately 75% of desired speeds on facilities without traffic control and 40% of desired speeds on facilities with traffic signals (factoring in the signal delay) for multiple hours per day.

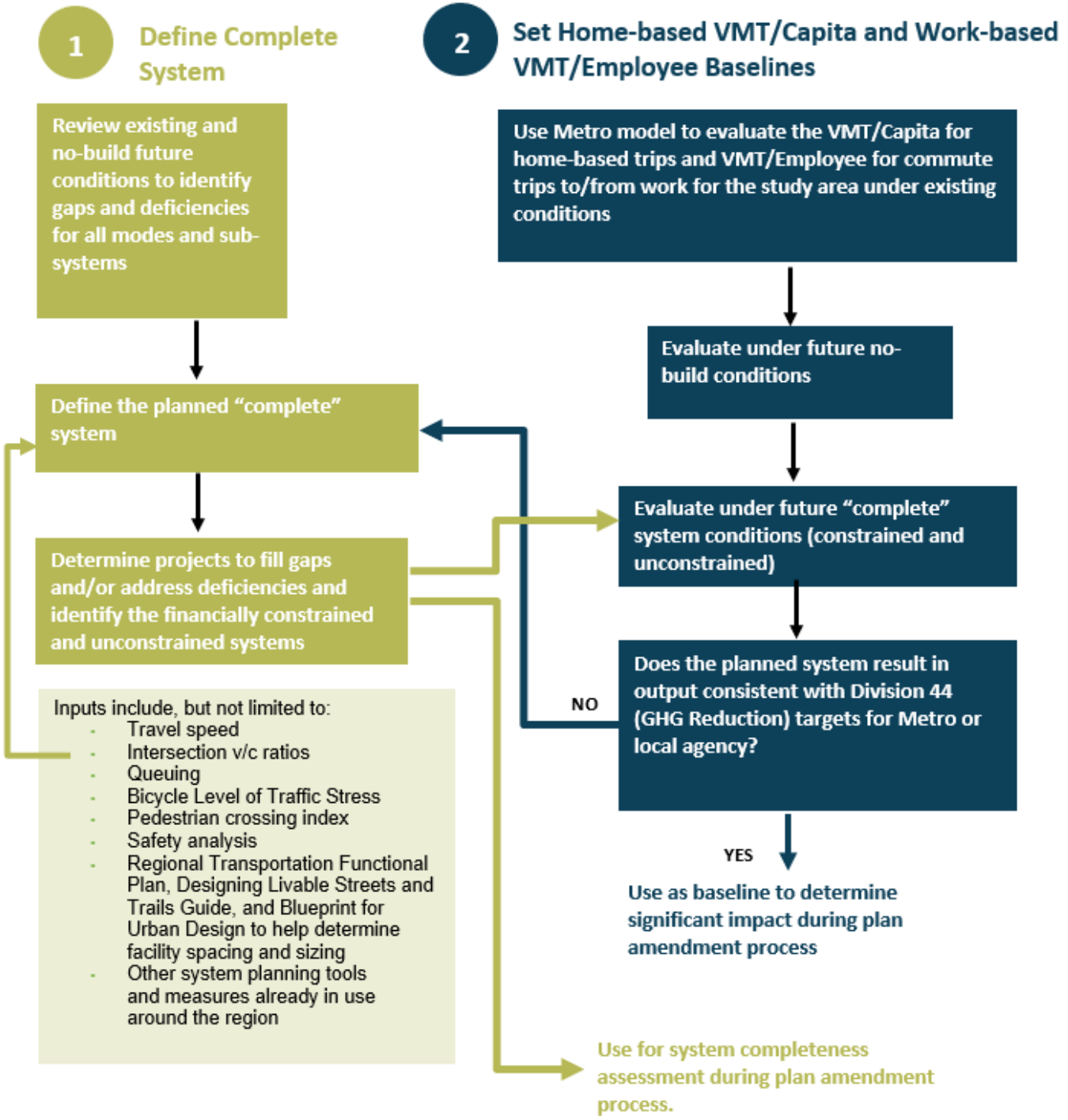
6 Targets will need to be revisited after NEPA process is complete for the I-205 Toll Project and Regional Mobility Pricing Project.

DRAFT Mobility Policy Actions

Page 10-16

- System Planning Actions (6)
  - Describing how each measure shall be used in system planning
- Plan Amendment Evaluation Actions (7)
  - Describing how to use each measure in evaluating plan amendments
  - VMT/capita to be used to identify significant impact and if analysis of system completeness and travel speed is needed

DRAFT System planning process utilizing the mobility policy measures



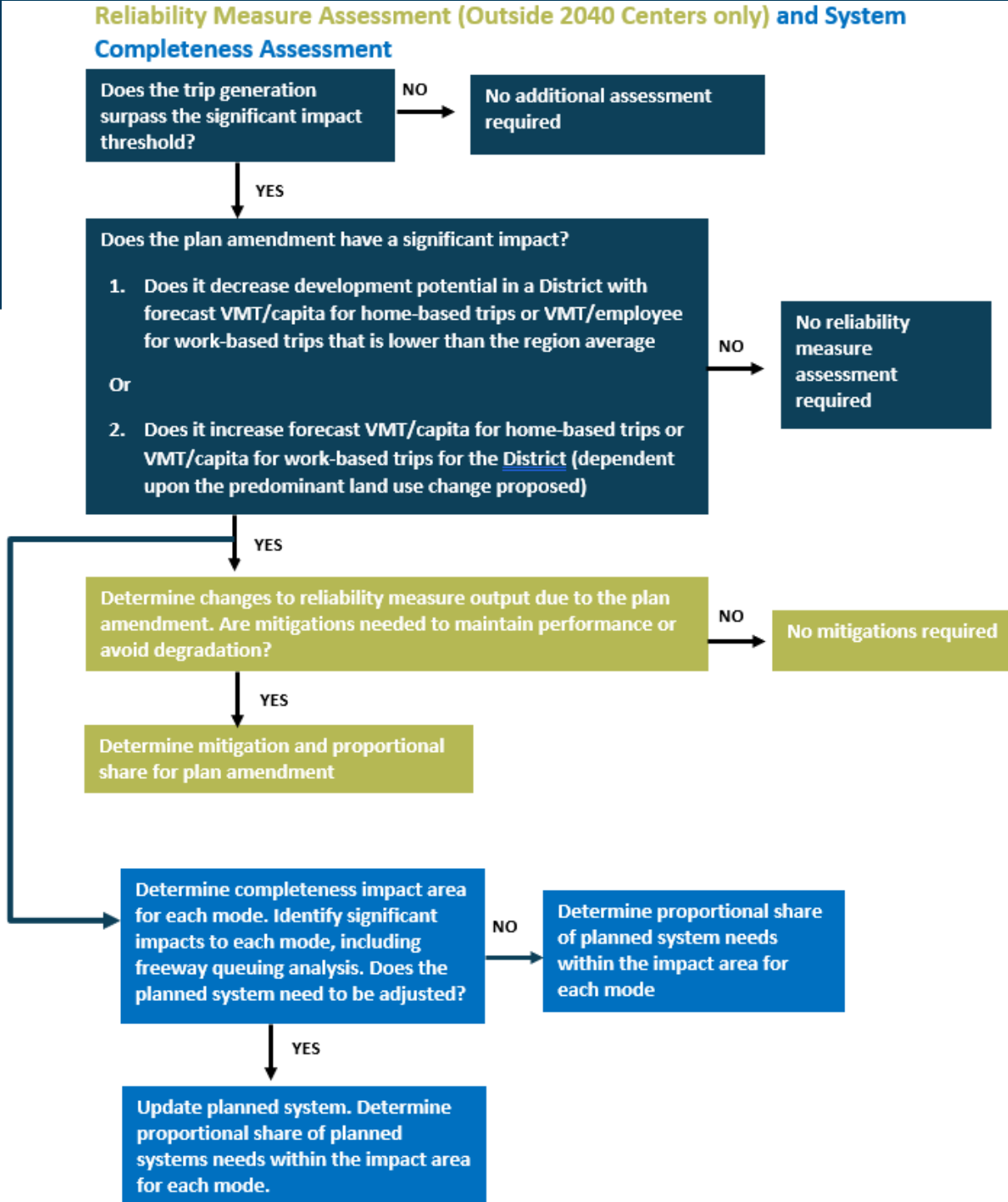
DRAFT Guidance for Defining the Planned System

Mode	System Completeness Element	Supporting guidance
Pedestrian	Provide complete network	RTFP , DLSTG, BUD
	Provide adequate crossing spacing	RTFP, DLSTG, BUD
	Provide adequate crossing treatments	NCHRP 562
	Provide a low-stress walking network to transit and essential destinations	APM
Bicycle	Provide complete network	RTFP, DLSTG, BUD
	Provide a low-stress bicycling network to transit and essential destinations	APM
	Provide adequate bike parking at essential destinations	RTFP, TriMet Bicycle Parking Guidelines
Transit	Provide complete network and adequate bus stop amenities and opportunities to decrease travel time (signal priority, queue jumps)	TriMet Bus Stop Guidelines
Vehicle	Provide adequate street spacing and connectivity	RTFP
	Provide planned number of through lanes	RTFP, DLSTG
	Provide adequate turn lanes considering safety for all modes and land use context	APM, DLSTG, BUD
TSMO	Identify infrastructure and programmatic elements	Regional ITS Architecture Plan Regional TSMO Strategy
TDM	Identify infrastructure and programmatic elements	Metro is working to provide future guidance for the region

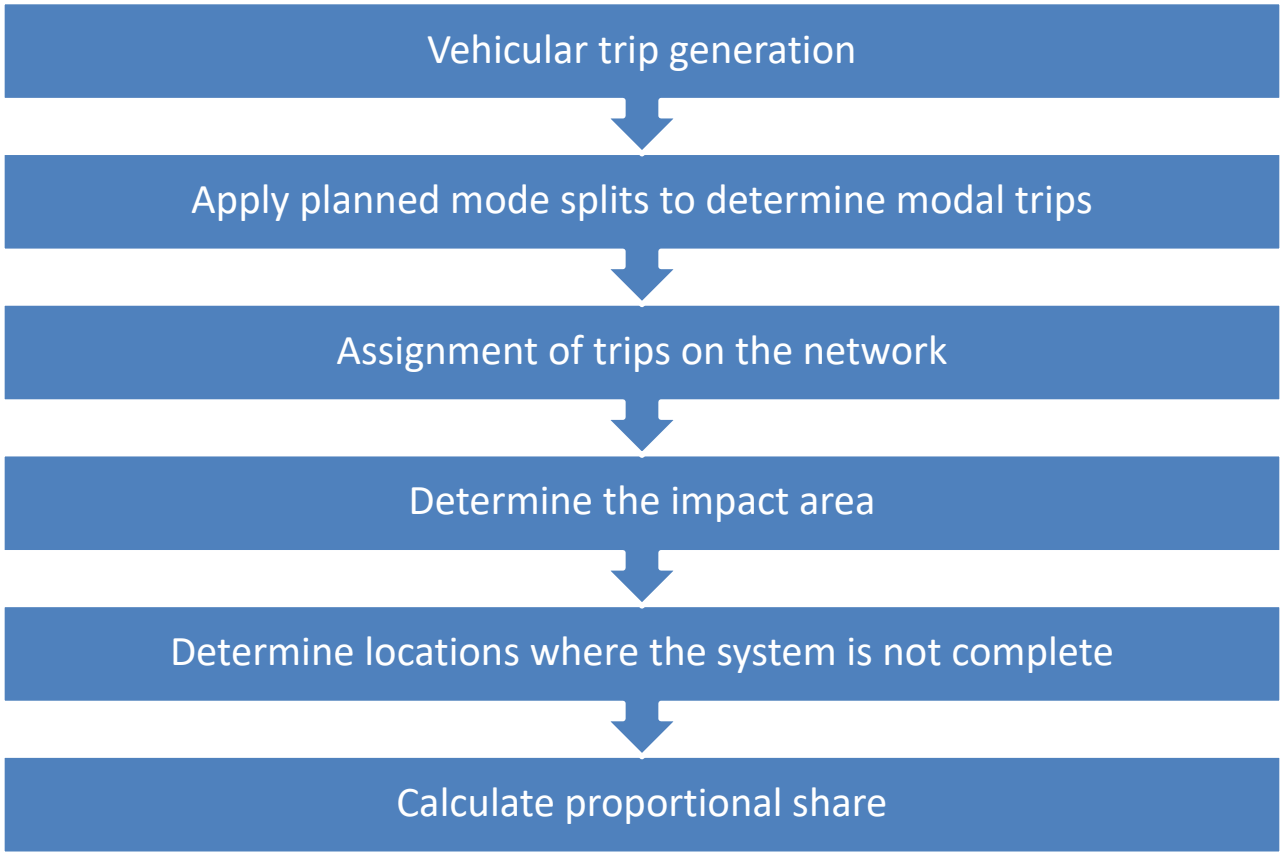
APM – Analysis Procedures Manual (ODOT)
BUD – Blueprint for Urban Design (ODOT)
DLSTG – Designing Livable Streets and Trails Guide (Metro)
NCHRP – National Cooperative Highway Research Project
RTFP – Regional Transportation Functional Plan (Metro)

DRAFT

Plan amendment process utilizing the mobility policy measures



DRAFT Guidance for Assessing Plan Amendment



Note: Vehicular trip generation with planned mode splits will be used until or unless mode specific trip generation resources become available.

DRAFT

Guidance for Assessing Plan Amendment Impacts to System Completeness

	Plan Amendment		
	1. Determine study area by selecting the specified distance along existing and planned facilities	**2. Determine if the planned system should be updated based on the projected trip generation**	**3. Determine locations and quantity of gaps in the planned system within the study area**
Pedestrian	Within 1/4-mile routing from site	n/a	Missing pedestrian crossings
	Within 1/4-mile routing from site	Review NCHRP 562	Missing pedestrian crossings by treatment type
	Within 1/4-mile routing from site	n/a	Curb-miles of low-stress pedestrian facilities gaps
Bike	Within 1/4-mile routing from site	n/a	Curb-miles of low-stress bicycle facilities gaps
	Within 1/4-mile routing from site	n/a	Curb-miles of pedestrian facilities gaps
	Within 1/4-mile routing from site	Review TriMet Bicycle Parking Guidelines	Missing bike parking docks
Transit	Within 1/4-mile routing from site	Review TriMet Bus Stop Guidelines	Bus stops lacking amenities by amenity type
Vehicle	Within 1/2-mile routing from site	n/a	Centerline-miles of roadway gaps
	Within 1/2-mile routing from site	Review travel speeds, off-ramp queuing	Lane-miles of through lane gaps
TSMO	TBD	TBD	TBD

DRAFT Proportional Share Calculations – When Meet Travel Speed Thresholds

Non-vehicle System Completeness Mitigations	Vehicle System Completeness Mitigations
Determine total cost of mitigations	Not applicable
Determine additional daily non-vehicular trips for the plan amendment	
Determine background daily growth trips (future year minus existing year daily trips) for the non-vehicular impact area.	
Apply the planned mode split to background volumes to determine daily non-vehicular background growth trips.	
Determine the proportional share percentage for non-vehicle mitigations: $\frac{Plan\ amendment\ additional\ nonvehicular\ daily\ trips}{Impact\ area\ nonvehicular\ daily\ background\ growth\ trips}$	
Determine proportional share of non-vehicle mitigations (percentage multiplied by cost)	

DRAFT Proportional Share Calculations – When Do Not Meet Travel Speed Thresholds (Vehicle System Incomplete)

Non-vehicle System Completeness Mitigations	Vehicle Travel Speed and System Completeness Mitigations
Determine total cost of mitigations	Determine total cost of mitigations, including travel speed mitigations
Determine additional daily non-vehicular trips for the plan amendment	Determine additional daily vehicular trips for the plan amendment
Determine background daily growth trips (future year minus existing year daily trips) for the non-vehicular impact area.	Determine background daily growth trips (future year minus existing year daily trips) for the vehicular impact area.
Apply the planned mode split to background volumes to determine daily non-vehicular background growth trips.	Apply the planned mode split to the background volumes to determine daily vehicular background growth trips.
Determine the proportional share percentage for non-vehicle mitigations: $\frac{Plan\ amendment\ additional\ \boldsymbol{nonvehicular}\ daily\ trips}{Impact\ area\ \boldsymbol{nonvehicular}\ daily\ background\ growth\ trips}$	Determine the proportional share percentage for vehicle mitigations: $\frac{Plan\ amendment\ additional\ \boldsymbol{vehicular}\ daily\ trips}{Impact\ area\ \boldsymbol{vehicular}\ daily\ background\ growth\ trips}$
Determine proportional share of non-vehicle mitigations (percentage multiplied by cost)	Determine proportional share of vehicle mitigations (percentage multiplied by cost)

DRAFT Proportional Share Calculations – When Do Not Meet Travel Speed Thresholds (Vehicle System Complete)

Non-vehicle System Completeness Mitigations	Vehicle Travel Speed and System Completeness Mitigations
Determine total cost of mitigations	Determine total cost of mitigations, including travel speed mitigations
Determine additional daily non-vehicular trips for the plan amendment	Determine additional daily vehicular trips for the plan amendment
Determine background daily growth trips (future year minus existing year daily trips) for the non-vehicular impact area.	Determine background daily growth trips (future year minus existing year daily trips) for the vehicular impact area.
Apply the planned mode split to background volumes to determine daily non-vehicular background growth trips.	Apply the planned mode split to the background volumes to determine daily vehicular background growth trips.
Determine the proportional share percentage for non-vehicle mitigations: $\frac{\textit{Plan amendment additional daily trips } (\textbf{\textit{all modes}})}{\textit{Impact area } \textbf{\textit{nonvehicular}} \textit{ background growth daily trips } (\textit{not to exceed } 100\%)}$	NA
Determine proportional share of non-vehicle mitigations (percentage multiplied by cost)	

DRAFT Implementation Action Plan

Page 16-18

- Policy Implementation Actions
- Near-term Data and Guidance Actions
- Long-term Data and Analysis Tool Actions

DRAFT Policy Implementation Actions

Page 16-18

- Fully integrate the Regional Mobility Policy in the 2023 Regional Transportation Plan
- Fully integrate the Regional Mobility Policy for the Portland metropolitan area in the updated Oregon Highway Plan
- Work with local jurisdictions to update policies that adopt the Regional Mobility Policy as their standards for RTP arterials
- Update Regional Transportation Functional Plan Title 3, Transportation Project Development, to reflect the Regional Mobility Policy

DRAFT Near-term Data and Guidance Actions

Page 16-18

- **Develop Districts within the regional modeling tools** that establish baseline VMT/capita for home-based trips and VMT/employee for commute trips to/from work
- **Refine TAZ boundaries or establish additional TAZs** to better align with jurisdictional and urban growth boundary
- **Develop guidance on calculating travel speed** based on the model used:
  - If using output from the regional travel demand model, ensure a consistent approach to segment lengths, model hour(s) reviewed, and any calibration needed
  - If using a deterministic model such as Synchro, ensure a consistent approach to signal timing assumptions and segment lengths

DRAFT Long-term Data and Analysis Tool Actions

Page 16-18

- **Expand the region's Dynamic Traffic Assignment model(s)** to calculate travel speeds and other reliability measure output within a capacity constrained model
  - Develop guidance to consistently calculate travel speed using DTA model
  - Determine if thresholds should be adjusted if analysis is adjusted to use the DTA model
- **Establish a consistent process for transportation options planning** or create a regional transportation options plan. A regional plan can be referenced when determining the "planned system" for system completeness baselines.
- **Create a high-level tool for quick VMT/capita calculations;** PBOT is working on a tool already that could be a starting point
- **Modify or create new regional modeling tools** to better account for light-duty commercial travel

VMT/Capita Reduction Target
Example

Measures:
VMT/Capita for home-based trips
VMT/Employee for commute trips to/from work

Target:
1. Increased development potential in a District[1] where forecast vmt/capita for home-based trips or vmt/employee for commute trips to/from work is lower than the region average.
   or
2. Plan amendment area has lower forecast vmt/capita for home-based trips or lower vmt/capita for commute trips to/from work than the District[1] average (the output reviewed is dependent upon the predominant land use change proposed)

Example Metro Region Baseline
Ave. VMT/capita for home-based trips = 10.5
Ave. VMT/employee for commute trips to/from work = 9.5

Example District A
Ave. VMT/capita for home-based trips = 10.7
Ave. VMT/employee for commute trips to/from work = 8.5

Plan Amendment in District A

	Baseline	Scenario 1	Scenario 2	Scenario 3
Proposed Land Use Change in District A		Increased housing units	Increased housing units and jobs	Increased jobs only
Ave VMT/capita for home-based trips	Region: 10.5 District: 10.7	Updated District Ave: 10.8 (An increase for District and District is higher than Region Average)	Updated District Ave: 10.6 (A decrease for District but still higher than Region Average)	Updated District Ave: 10.7 (No change for District, still higher than Region Average)
Ave VMT/employee for commute trips to/from work	Region: 9.5 District: 8.5	8.4 (A decrease for District and lower than Region Average)	8.3 (A decrease for District and lower than Region Average)	8.5 (No change for District, still lower than Region Average)
		Does this meet the VMT reduction Target?		
Increased development potential in a District[2] where forecast vmt/capita for home-based trips or vmt/employee for commute trips to/from work is lower than the region average. *or*		No	*No for housing* *Yes for jobs*	Yes
Plan amendment has lower forecast vmt/capita for home-based trips or lower vmt/employee for commute trips to/from work than the District (dependent upon the predominant land use change proposed)		*No for vmt/capita* *(Yes for vmt/employee although this does not result in a finding of no significant impact as the proposed change is to add housing only therefore only the reduction of vmt/capita meets this criteria)*	Yes for Both	No
Significant Impact per TPR?		*Yes - Need to evaluate other mobility policy measures*	*No – No additional transportation analysis needed, impacts to be addressed at time of development*	*No Significant Impact per TPR – No additional transportation analysis needed, impacts to be addressed at time of development.*

Plan Amendment Process
Examples

Case Study Example of Plan Amendment Process

Plan Amendment Case Study Summary

The table below highlights if each plan amendment case study would have been required to complete the reliability measure and system completeness assessments based on the draft policy. The draft policy determines significant impact based on VMT/capita for home-based trips or VMT/employee for commute trips to/from work (dependent upon the predominant land use change proposed).

Plan Amendment	Within District with VMT/capita or VMT/employee lower than regional average?[1]	If yes, is there increased development potential?	Lower forecast VMT/capita for home-based trips?	Lower VMT/employee for commute trips to/from work?	Does the plan amendment have a significant impact?
02 – Portland Central City 2035 and MMA	Yes	**Yes - no further reliability analysis needed**	--	--	No
03 – Colwood Industrial District Plan Amendment	No	Not applicable	Not applicable	No	**Yes – further assessment needed**
05 – Rock Creek Mixed Employment District	No	Not applicable	Not applicable	No	**Yes – further assessment needed**
07 – Willamette Falls District Plan & Downtown District/ Multimodal Mixed-Use Area	Yes	**Yes - no further reliability analysis needed**	--	--	No
09 – Tigard Triangle District Plan	Yes	**Yes - no further reliability analysis needed**	--	--	No
12 – South Hillsboro Community Plan Development	No	Not applicable	No	Yes – not predominant land use change	**Yes – further assessment needed**

1 Some answers assumed for illustration purposes.

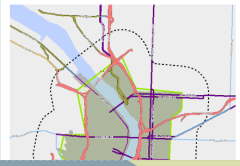
- Will be distributed after the meeting

02 – Portland Central City 2035 and MMA (City of Portland)

Plan Amendment Type:
Legislative

Description:
In 2016, the City of Portland adopted an update to its comprehensive plan. Central City 2035 (CC35) was developed as the first amendment to the comprehensive plan. In adopting CC35 as an amendment, the City also designated the Central City as a Multimodal Mixed-Use Area (MMA), a designation provided for in the TPR. CC35 was adopted as a legislative amendment with ODOT concurrence, enabling the City to pursue more dense development in the Central City, served by a robust network of multimodal transportation options.

Plan Amendment Area:
- Within a 2040 Center
- Roadways include freeways, regional and community boulevards, and industrial streets



The following process would be completed under the
the forecast 20-year horizon of the proposed plan am

Assessment Question	Draft Pr
Step 1: Determine if There is Sig	
Does the trip generation surpass the significant impact threshold?	Use most recent IT Generation Manua daily trips for "reas case" of plan amen Remaining needs/c Threshold to be ve
Does the plan amendment:	
Increase development potential in a District[2] where forecast VMT/capita for home-based trips	Use existing Metro (with existing land to review future ye

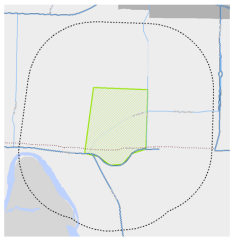
[1] The term "assumed" is used because a full analysis with v
before/after data could not be completed at this time.

05 – Rock Creek Mixed Employment District (City of Happy Valley)

Plan Amendment Type:
Legislative

Description:
The City of Happy Valley amended its comprehensive plan in 2008, creating the Rock Creek Mixed Employment (RCME) development district on land brought into the urban growth boundary in 2002. In 2011, the City conducted an Economic Opportunity Analysis (EOA) to adjust strategies for possible land uses in the area and modified the land use designation from Industrial Campus to Mixed Use Employment and Institutional and Public Use through a public planning process.

Plan Amendment Area:
- Not within a 2040 Center
- Roadways include regional and community streets and proposed freeway



The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment[3]
Step 1: Determine if There is Significant Impact (VMT/capita)		
Does the trip generation surpass the significant impact threshold?	Use most recent ITE Trip Generation Manual to determine daily trips for "reasonable worst-case" of plan amendment. Remaining needs/questions: Threshold to be verified.	Yes, the trip generation is assumed to surpass the threshold
Does the plan amendment:		
Increase development potential in a District[2] where forecast	Use existing Metro model output (with existing land use assumptions)	Not applicable

[3] The term "assumed" is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Questions we are still working through

- What characteristics should be used to group TAZ groupings into VMT/Capita “Districts”?
- Should average travel speed methodology include off-model tools at the system planning and plan amendment levels?
- What are the major considerations for implementation, including the needs from local jurisdictions and partners, Metro, and ODOT?

We welcome feedback on these questions and specific changes you recommend by June 24

Today's discussion

Do you support or have specific concerns about:

- the draft mobility policy language?
- the draft mobility policy measures or targets? when/where they apply?
- the draft Implementation Action Plan?

We welcome feedback on these questions and specific changes you recommend by June 24

Looking ahead: next 5 months

Summer	Continue developing draft policy, measures, targets and action plan with TPAC and MTAC and introduce to policymakers
July	4th practitioners forum
Sept.	Expert panel with policymakers
Fall	Recommend policy, measures and action plan to apply in 2023 RTP update and forward to the OTC for consideration

Learn more at:

oregonmetro.gov/mobility

Metro

Oregon Department of Transportation

Thank you!

Kim Ellis, Metro

kim.ellis@oregonmetro.gov

Glen Bolen, ODOT

Glen.A.BOLEN@odot.oregon.gov






Where is this headed?

Plan 2020-24

2020-22

- Develop updated regional mobility policy

This effort

2022-23

- Incorporate through RTP update (pending JPACT and Metro Council approval)

2023/24

- Incorporate through OHP amendment/update (pending OTC approval)

Implement Post 2023

Post 2023

- Update regional transportation functional plan
- Implement through local TSPs and other local ordinances
- Update state and local standards, guidelines and best practices

2020-22 Engagement

4 Metro Council

10 Regional advisory committees

10 County coordinating committees

1 community leaders forum

1 freight and goods forum

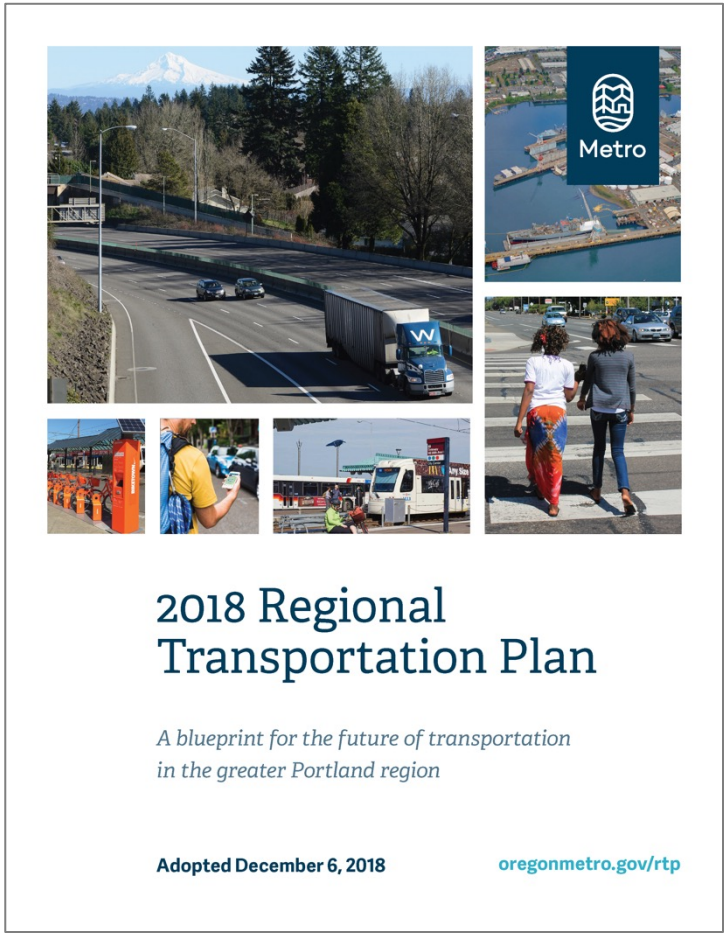
3 practitioner forums – planners, engineers, modelers

10 TPAC/MTAC Workshops

More than **600** participants

zoom

Why Now?



ODOT, Metro, cities and counties are increasingly unable to meet current mobility policy

Better align policy with state, regional and community values, goals and desired outcomes:

- Desire to shift focus from vehicles to people and goods
- Cannot afford what it would take to meet policy
- Impacts to meet current RTP/OHP congestion targets/standards remain a top concern

Emerging transportation trends: draft final results

TPAC/MTAC workshop

June 15, 2022

Study purpose

Scope: Major transportation trends due to the pandemic and other recent disruptions
Time frame: Aug ‘21 - June ‘22
Goals:

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

Study timeline

Emerging trends

Research / select trends
Aug-Oct ‘21

Analyze trends individually
Oct ’21-Feb ‘22

Analyze scenarios and add’l data / RTP guidance
Mar ’22 – Jun ‘22

(we are here)

2023 Regional Transportation Plan (RTP) update

Scoping
Oct ’21 – Mar ‘22

Data and policy analysis
May – Aug ‘22

Data and policy analysis
May – Aug ‘22

Study focus

Based on feedback from technical and policy committees, we focus on the following trends:

- **Declining transit service and ridership**
- **Increasing remote work / work from home**
- **Increasing online shopping**
- More affordable and efficient electric vehicles
- Increasing concerns about personal safety
- Increasingly unsafe streets
- Increasing recreational cycling

For trends shown in **bold**, there is enough data and research to forecast their impacts on travel and on our regional goals.

Final draft work products

- **Scenario analysis** of how emerging trends impact future vehicle travel and transit ridership
- **Corridor analysis** of changes in arterial traffic versus changes in highway traffic and transit ridership
- **Regional transportation plan** guidance on potential RTP responses to trends and their impacts
- **Fact sheets** summarizing the background, current understanding, and impacts of each trend

Scenario analysis: overview

Goal: understand how trends collectively impact driving and transit ridership.

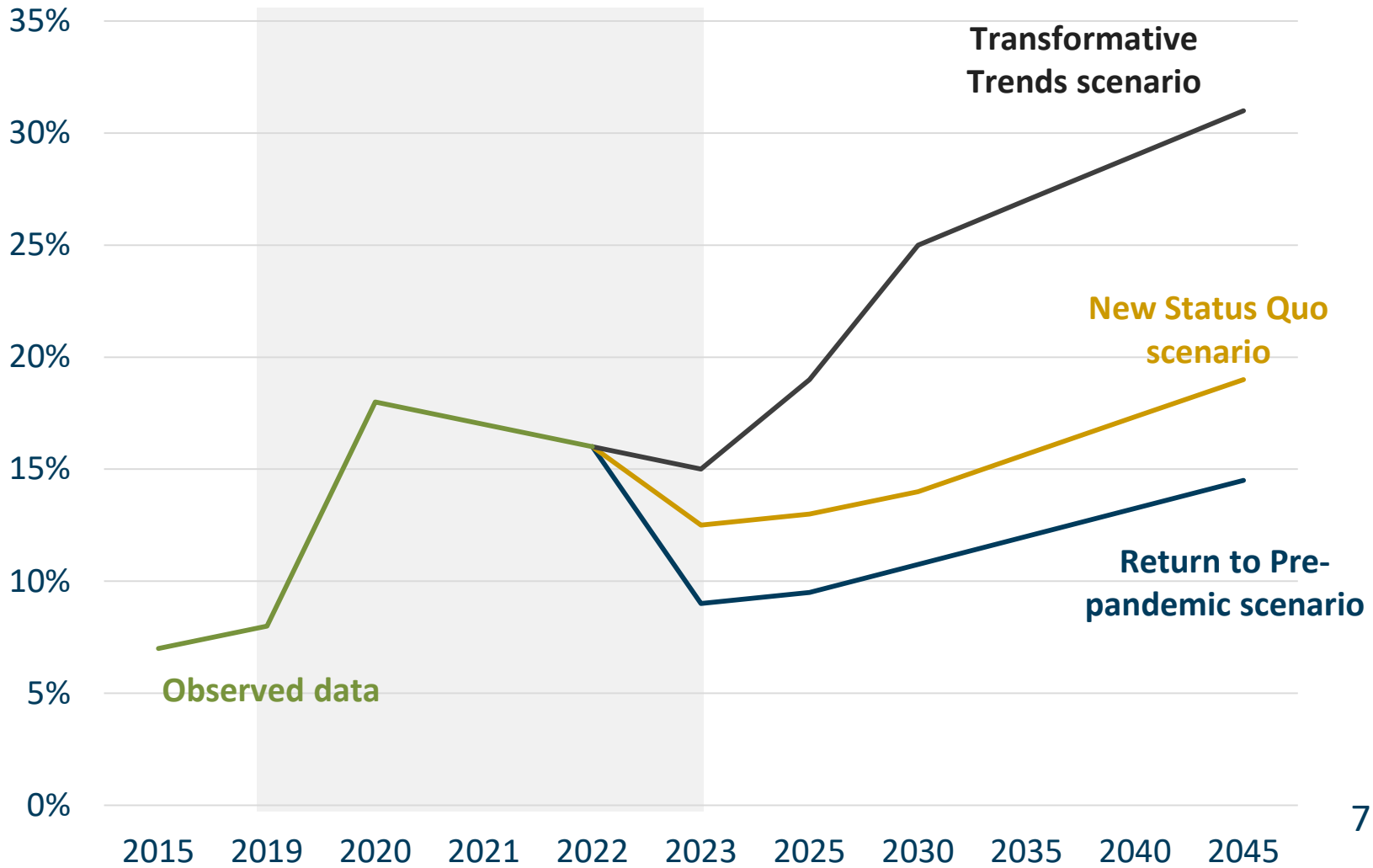
What we did: forecasted vehicle miles traveled and transit ridership under three different scenarios.

Why we did it:

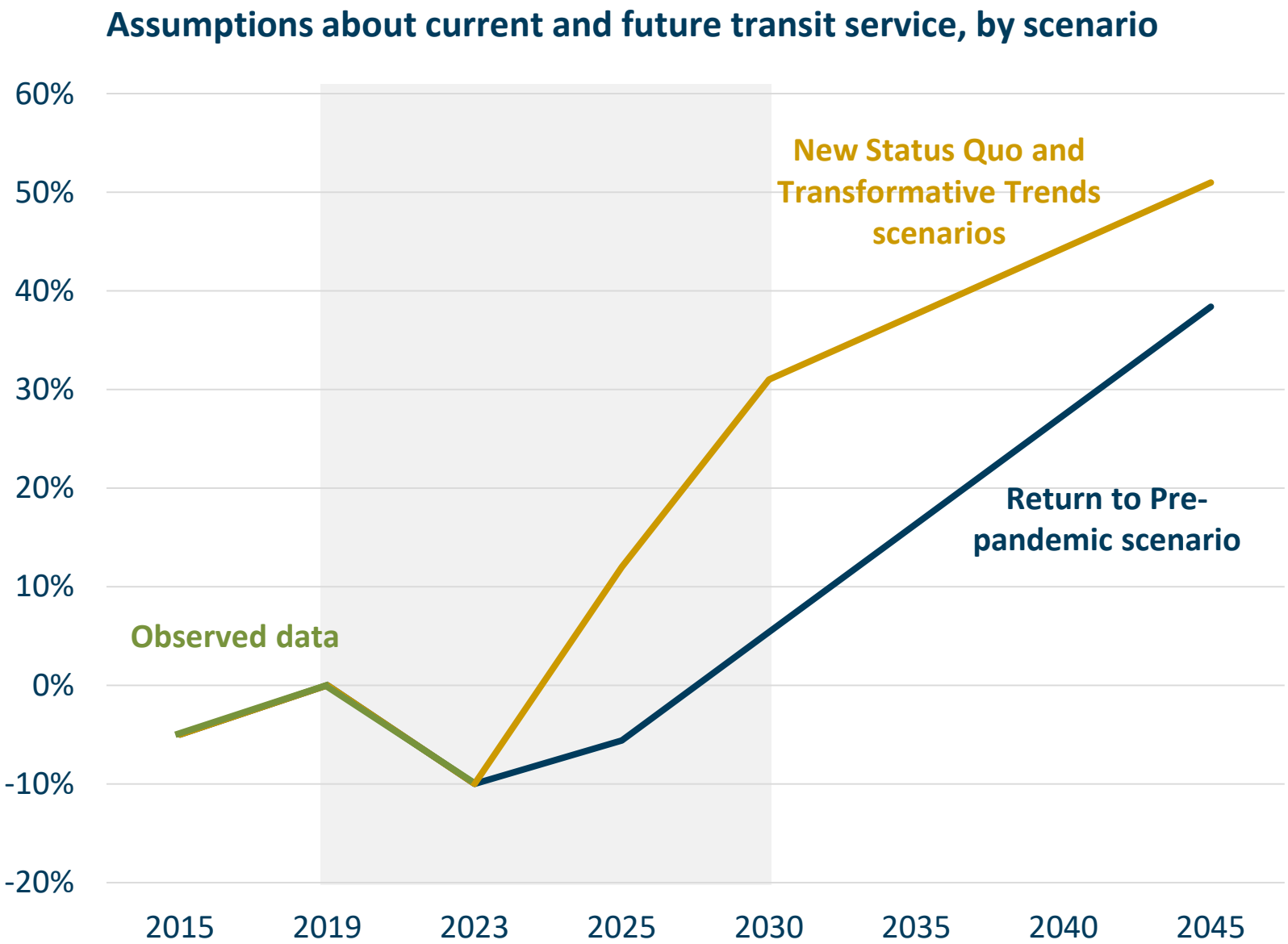
- To capture the interrelationships between different trends
- To better understand the uncertainty that trends create around future travel in the region

Defining scenarios

Assumptions about current and future teleworking rates, by scenario

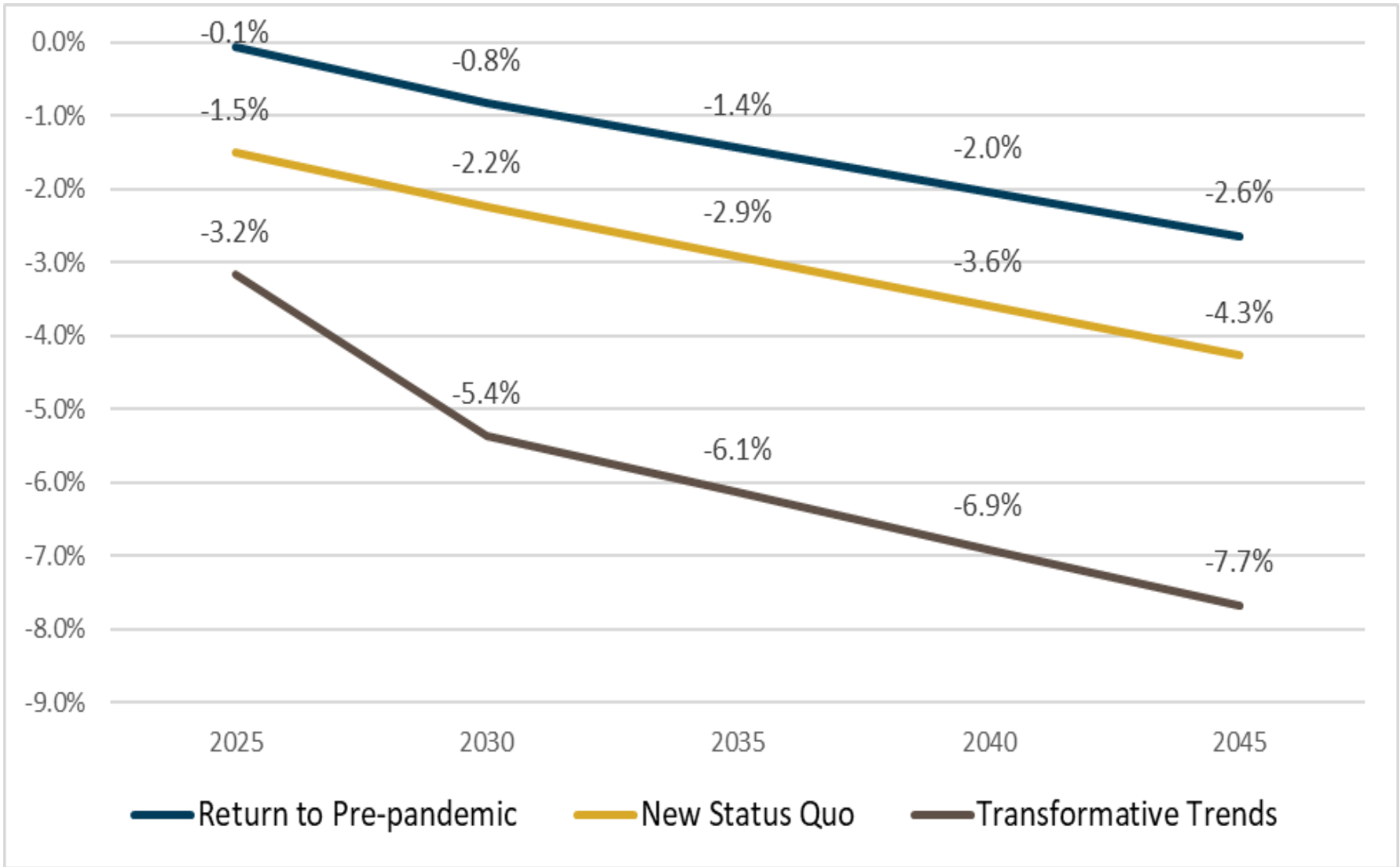


Defining scenarios: transit service



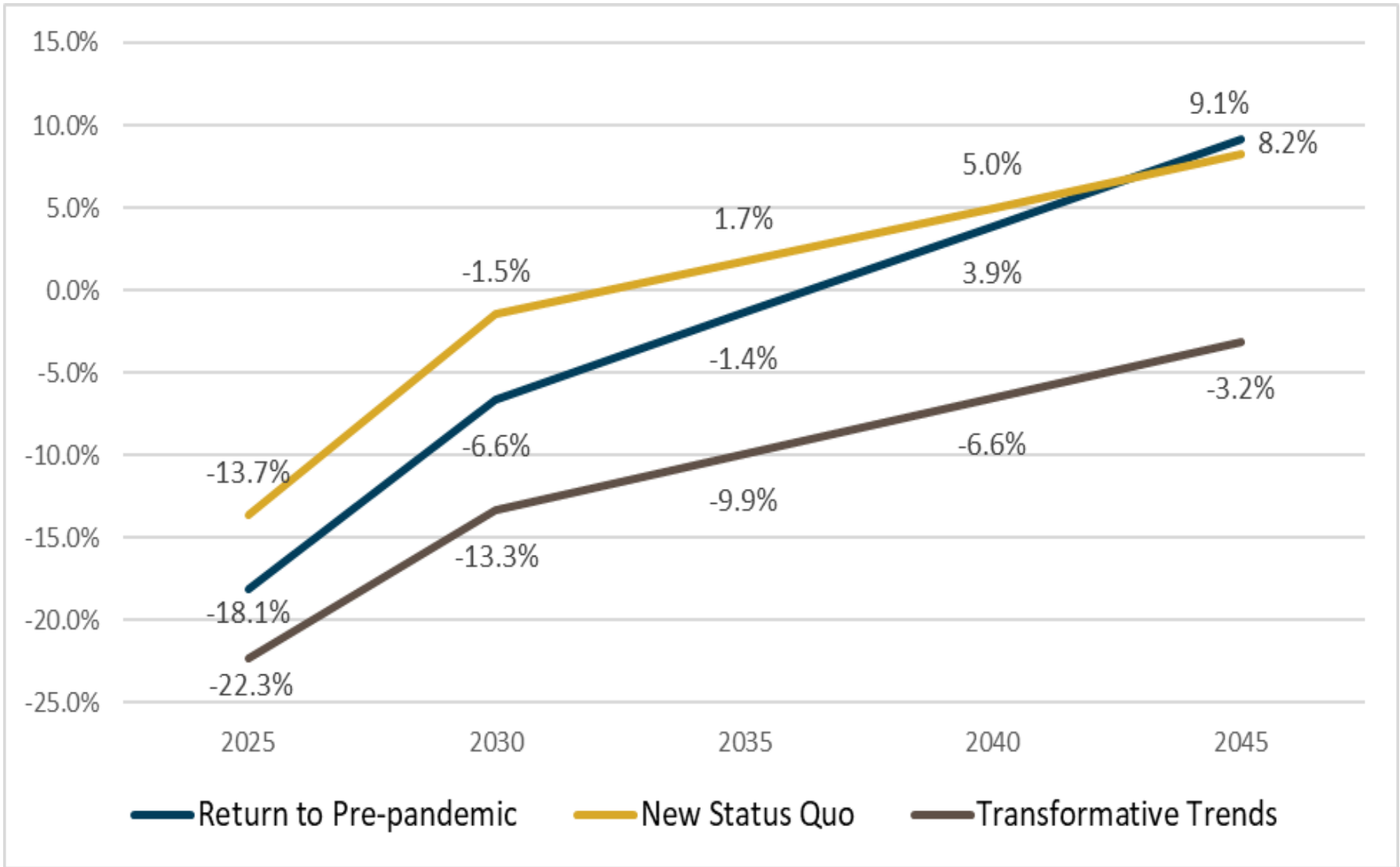
Vehicle miles traveled results

Forecasted change in vehicle miles traveled per capita, by scenario



Transit ridership results

Forecasted change in transit ridership, by scenario



Scenario analysis: findings

Emerging trends help to **reduce VMT per capita** by between 2.6% and 7.7% below current levels.

Emerging trends could **reduce or increase transit ridership** by between a 3.2% decrease and a 9.1% increase from current levels.

Teleworking has a big influence on these outcomes, and on congestion during the morning peak.

Even if we return to pre-pandemic conditions, we can still expect to see a **significant long-term increase in teleworking and online shopping**.

Corridor analysis: overview

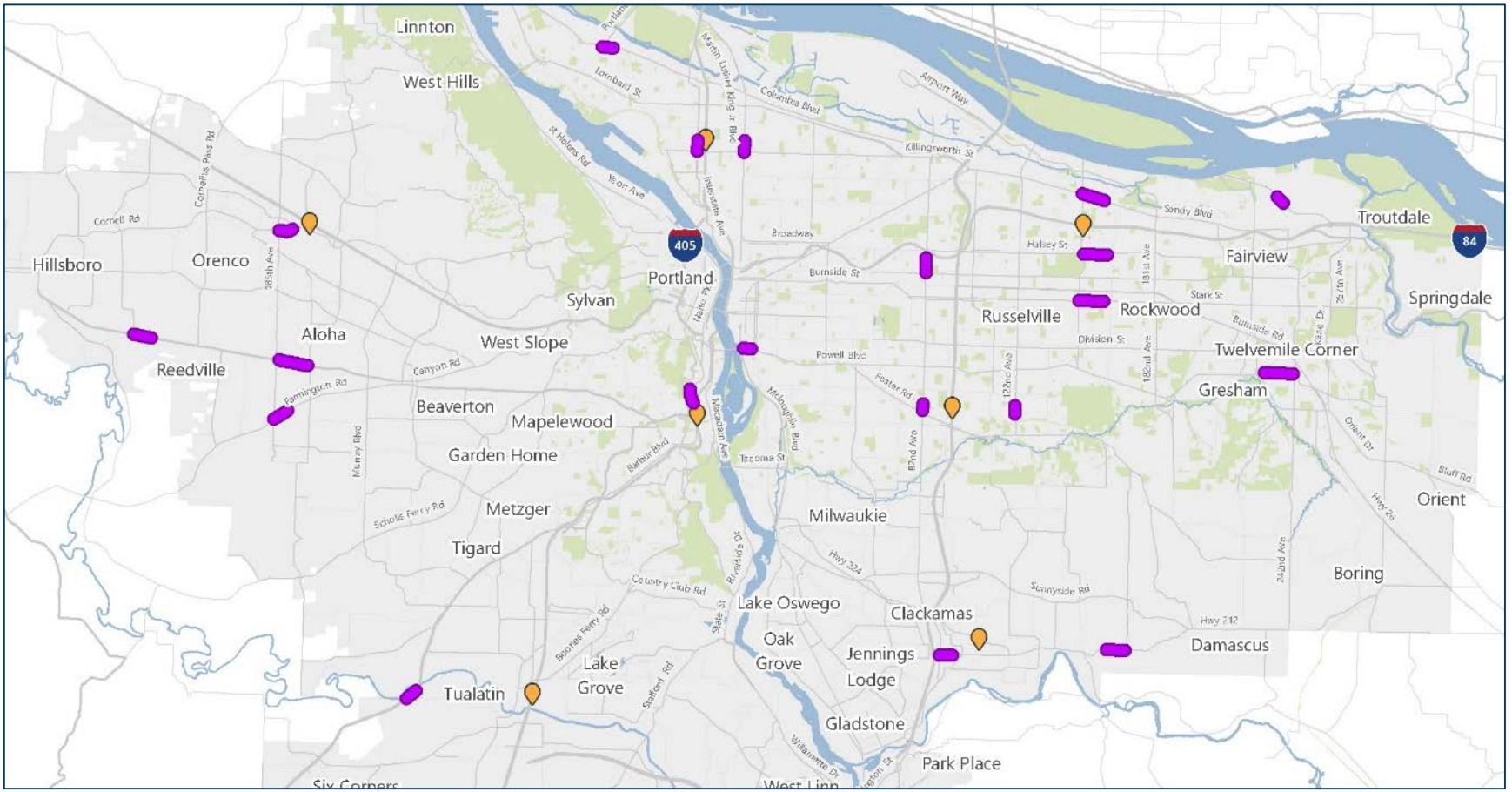
Goal: understand how travel patterns have changed on the region's mobility corridors, particularly on arterial streets.

What we did: collected data for selected locations, analyzed changes in traffic volumes and speeds, and compared arterial, highway, and transit results

Why we did it:

- Arterials are the streets where transit runs, where crashes occur, and destinations are located.
- Metro's agency partners collect high-quality data on highways and transit, but not on arterials.

Corridor analysis: about the data



We collected data on **arterial locations** throughout the region, aiming to capture corridors throughout the region, freight routes, and alignment with **highway traffic count locations**.

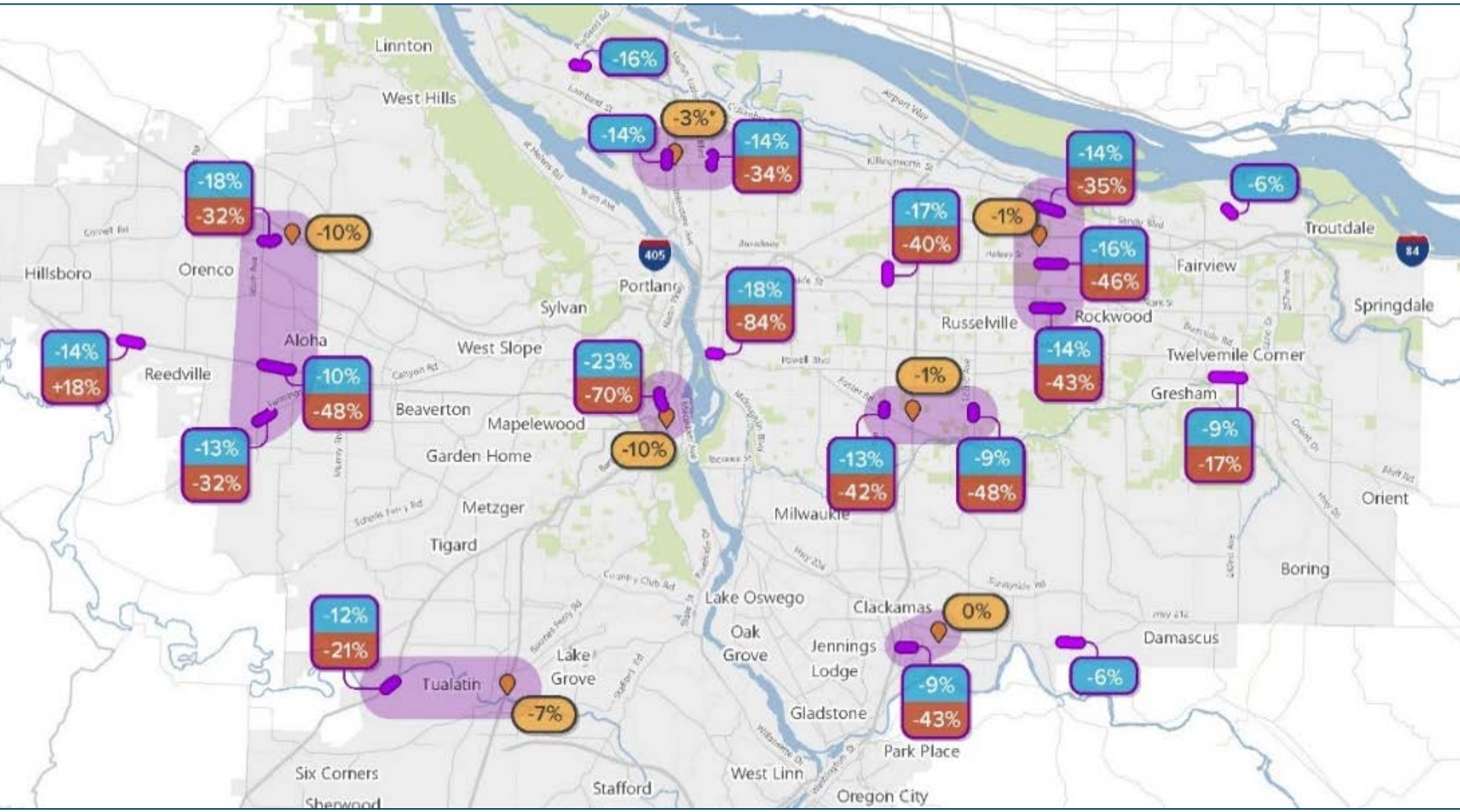
Volumes were down and speeds were up at most locations & times studied

Time period	% change in arterial volumes	% change in arterial speeds
Weekdays		
Morning peak	**-23%**	+9%
Midday	-9%	+6%
Evening peak	**-12%**	+11%
All day	-13%	+10%
Weekends		
Morning peak	-8%	+7%
Midday	-4%	+6%
Evening peak	-1%	+6%

Arterial trips are down more than highway trips, but less than transit trips

Location	% change in highway trips	% change in arterial trips	% change in transit rides
I-5 @ NE Ainsworth	-3%	-14%	-37%
I-5 @ SW Capitol	-10%	-23%	-70%
I-5 @ SW Wilsonville	-7%	-12%	-21%
I-205 @ SE Steele	-1%	-11%	-45%
I-84 @ NE 148th	-1%	-15%	-41%
OR-224 @ SE Mather	0%	-9%	-43%
US-26 @ NW 170th	-10%	-14%	-37%
Average	**-5%**	**-14%**	**-41%**

Changes by location



Corridor analysis: findings

As of October 2021, travel in many parts of our region was not “back to normal.”

Arterial traffic fell farther and remains lower than highway traffic.

Arterial volumes fell significantly in many locations where transit ridership also fell.

Corridor analysis: findings (con't.)

Arterial traffic and transit use fell more in the center of the region, and less at the edges of the region.
Potential explanations for this include:

- Many locations where demand remained high are in low-income communities and/or near industrial centers where people continue to work in person.
- More people and goods enter and exit the region in these locations.

RTP guidance: summary of draft recommendations

- Prioritize transit ridership recovery.
- Confirm that previously planned high-priority/cost projects meet changing travel demand patterns.
- Provide more diverse travel options to support diversifying travel patterns.
- Maximize opportunities to reduce VMT through teleworking.
- Prioritize safe access to transit.
- Plan for the changing role of freight.
- Accelerate the adoption of electric bicycles, scooters, and shared vehicles.
- Consider digital approaches to providing equitable access to opportunities.

Discussion and feedback

- Do you have any questions or feedback about the draft findings and recommendations?
- How should the region respond to these trends as we update the Regional Transportation Plan?

You can also email me comments or edits to the draft deliverables at eliot.rose@oregonmetro.gov.

eliot.rose@oregonmetro.gov

oregonmetro.gov

Regional Freight Delay and Commodities Movement Study

Draft presentation for Metro informational

TPAC/MTAC Workshop, June 15th, 2022

Tim Collins, Metro

Joe Broach, Metro; and Garth Appanaitis, DKS

What is the reason for this study? Why now?

- Developed as part of the 2018 Regional Freight Strategy
- Top priority in Regional Freight Strategy Action Plan
- Coordinated with work on the 2023 Regional Transportation Plan (RTP)
- Study findings and policy recommendations will support the 2023 RTP and update the Regional Freight Strategy

Let’s talk freight movement

Main Study Objectives

- Identify which mobility corridors are carrying the highest volumes and highest values of commodities
- Explore how increases in e-commerce are impacting the transportation system and regional economy
- Examine how congestion and unreliability on the regional transportation system impacts commodity movement
- Make recommendations for future regional policy and planning efforts to improve commodity movement; while addressing equity, safety and climate when applicable

Project Management Team (PMT) and Stakeholder Advisory Committee (SAC)

- **9 PMT members** (City of Portland, ODOT, Port of Portland, Port of Vancouver, Clackamas County, Multnomah County, Washington County, WSDOT, SW Regional Transportation Council (RTC))
- **21 SAC members – 7 from Business** (Intel, B-Line, FedEx, etc.)
- **8 from Freight Interests** (Columbia Corridor Assn., Oregon Trucking Assn., Central Eastside Industrial Council, etc.)
- **6 from Bike/Pedestrian, Environmental, and Economic Interests** (The Street Trust, DEQ, Prosper Portland, etc.)

Freight Policy Framework

Policy Framework:

- Will be consistent with other regional policies
- Will address economic benefits and impacts of commodity movement
- Will address the growth impacts of goods delivery and e-commerce.

Freight Policy Questions

Policy questions that the study will address:

- What are emerging trends in the freight sector that have certain types of impacts on the transportation system?
- When and how should the public sector play a role in addressing the growth impacts that e-commerce and goods delivery is having?
- Are there new ways to address goods movement performance and what is relevant to know about freight and goods movement?
- What are ways in which the freight sector can reduce greenhouse gas emissions?

Major milestones for the Commodities Movement Study

- March 29 to May 24, 2022 - PMT and SAC feedback on how freight movement in the region intersect with the RTP policy priorities of equity, climate, and safety.
- April 2022 - Report on general impacts of COVID-19 on e-commerce and delivery services.
- June 2022 – Mapping of 2019 travel data including: daily truck volumes, truck volumes as a % of traffic, average speed and travel times during midday and PM peak.

What are the key work items in Task 3 and Task 4 of the study

- **Task 3 and 4** Regional Freight Modeling Work and Measures

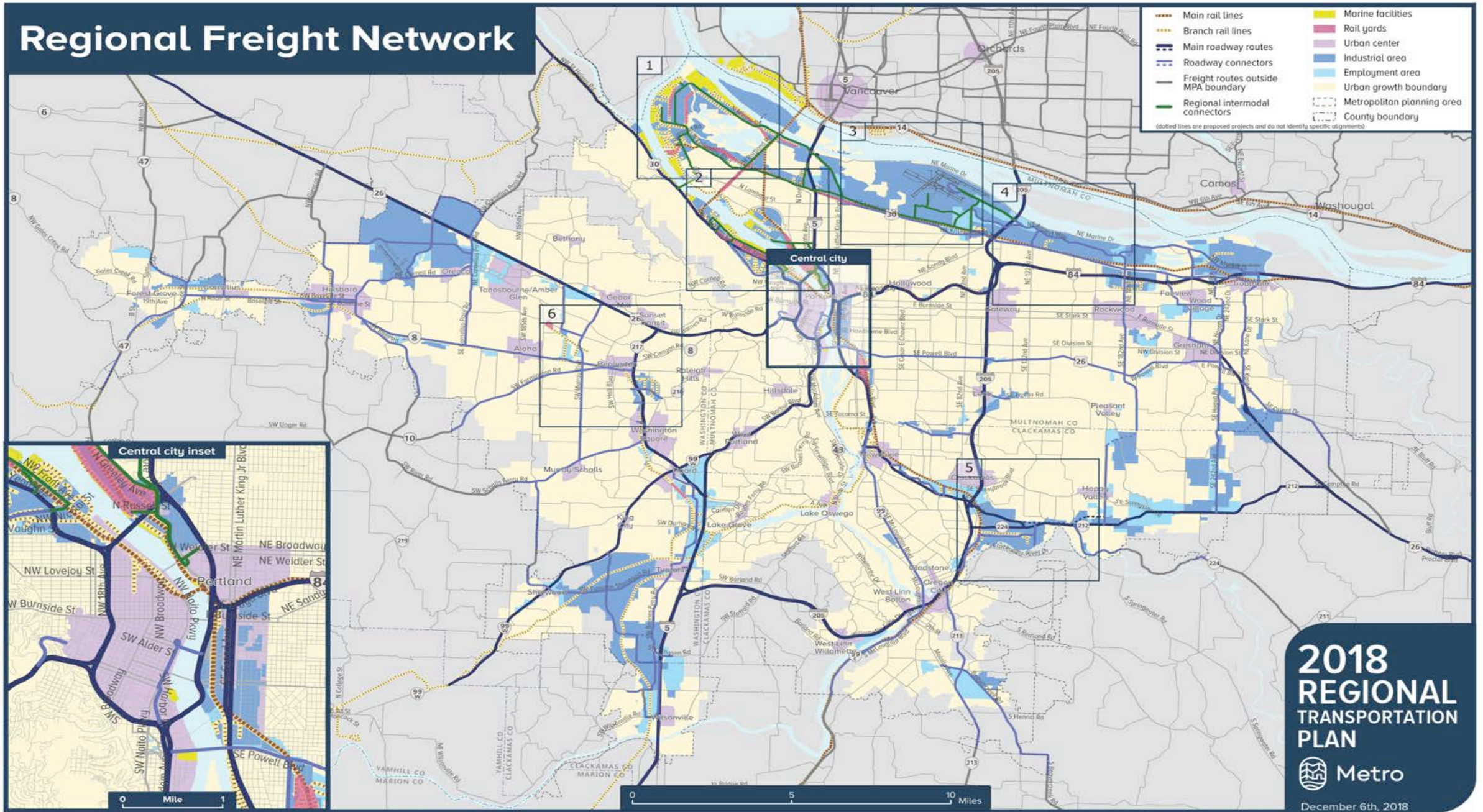
a) Select the number of regional freight network roadways and locations that the study will use for evaluating data and commodities (modeled)

b) Collect data (truck volumes, speeds, travel times) in 19 regional mobility corridors and map the results

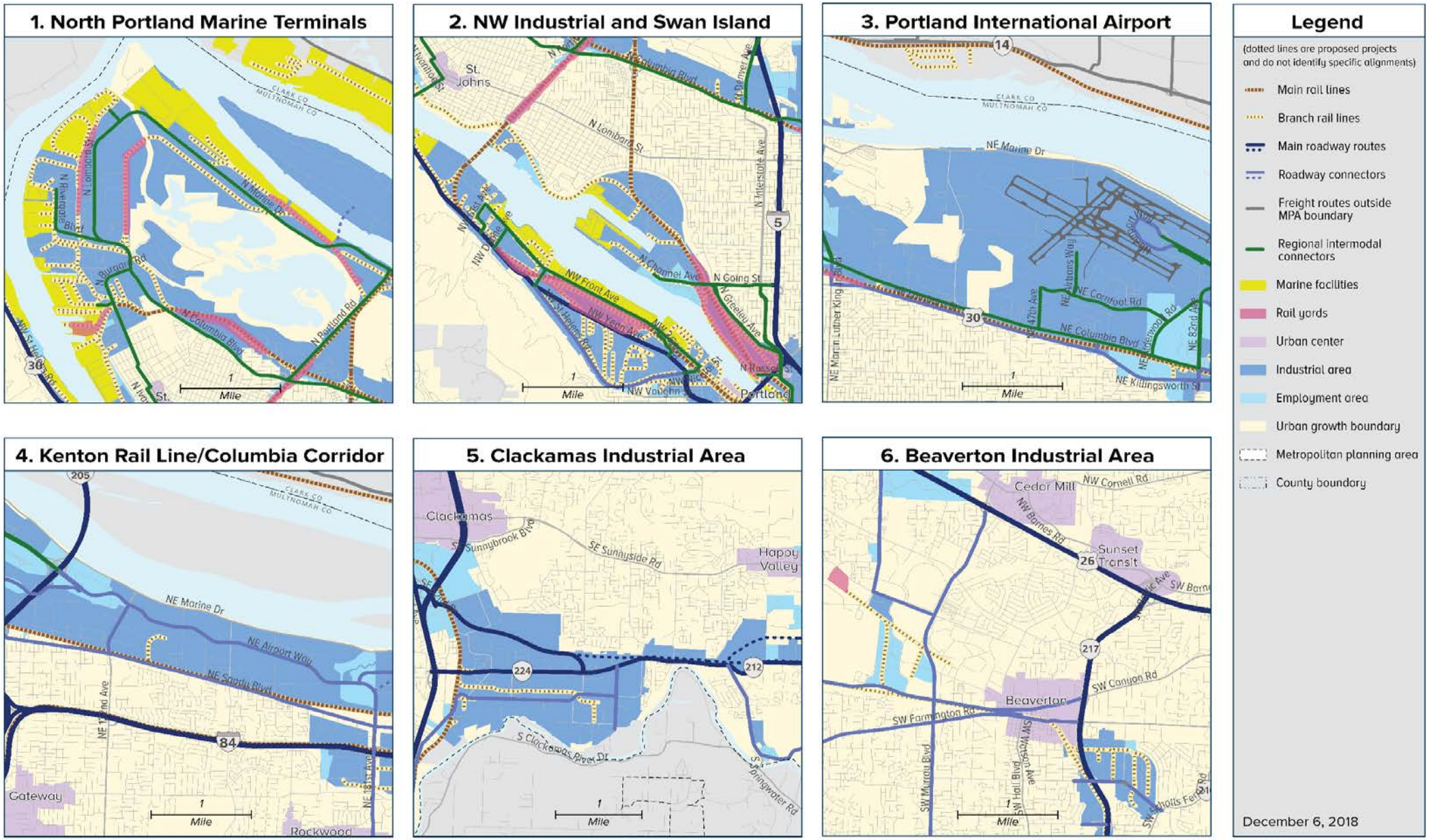
c) Determining which freight facilities are carrying the highest volume, and the highest amount of value for commodities on the regional freight network.

d) Develop measures for unreliability and freight mobility failure on regional freight network.

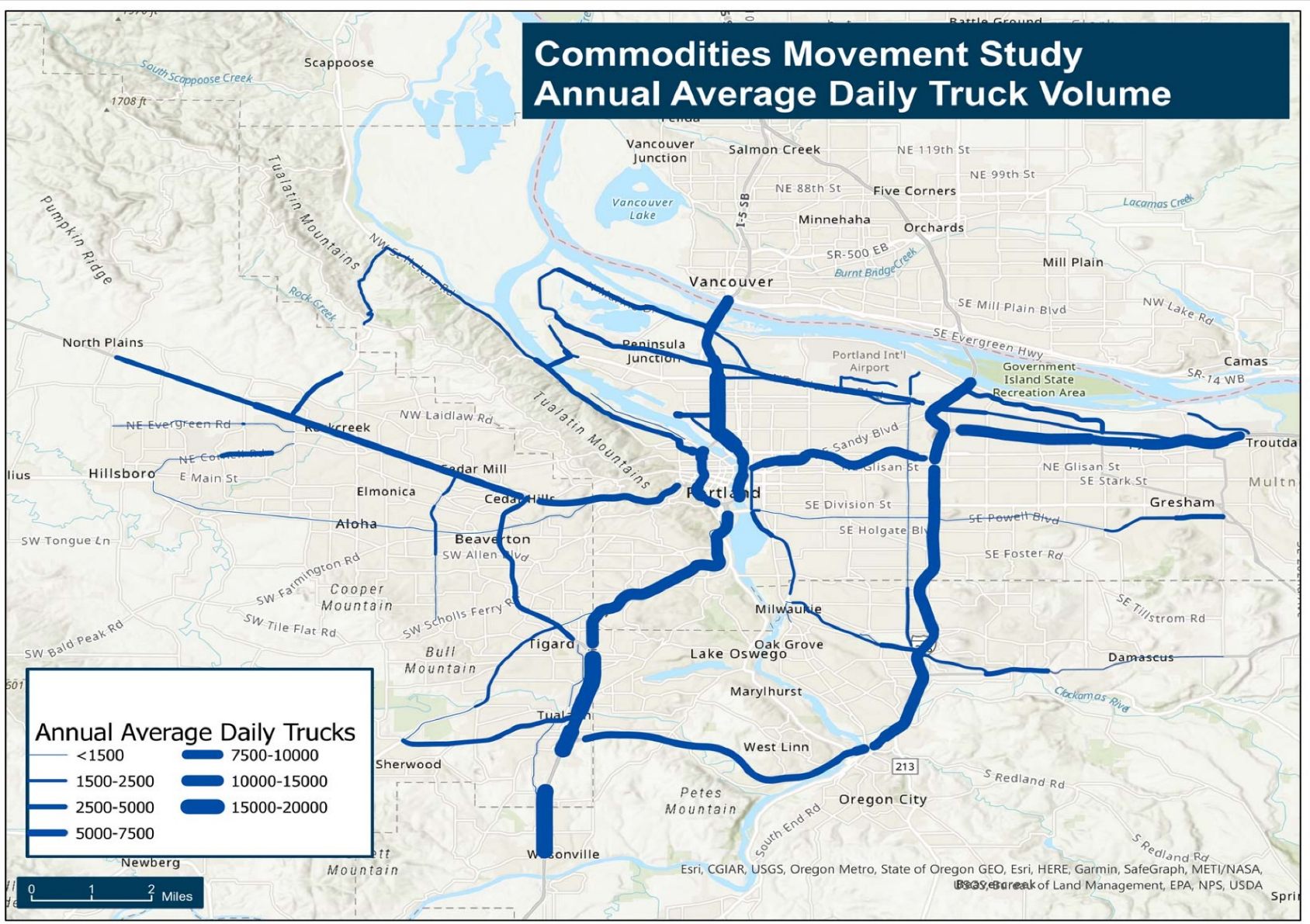
Freight Network from Regional Freight Strategy



Freight Network from Regional Freight Strategy

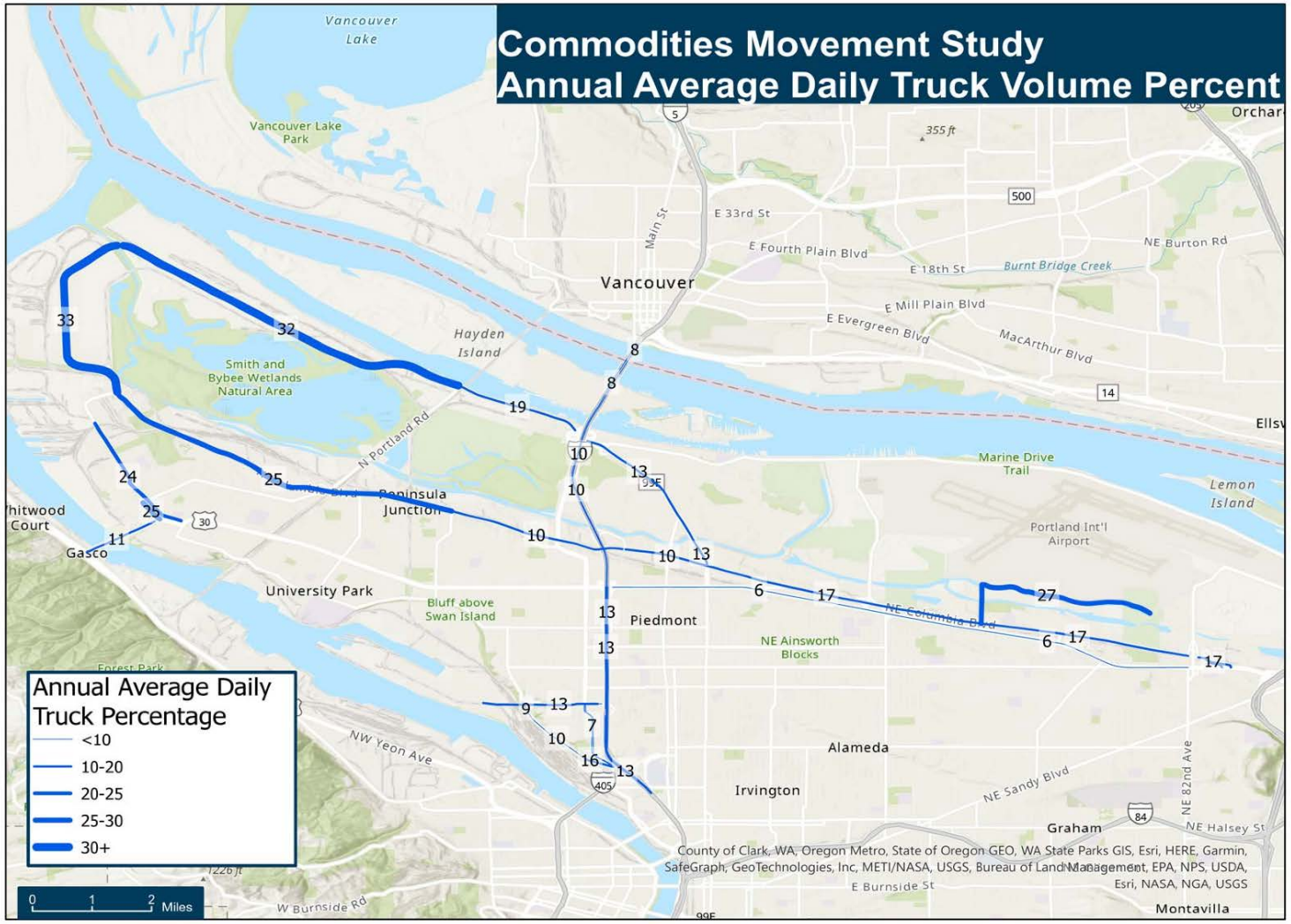


Existing Daily Truck Volumes

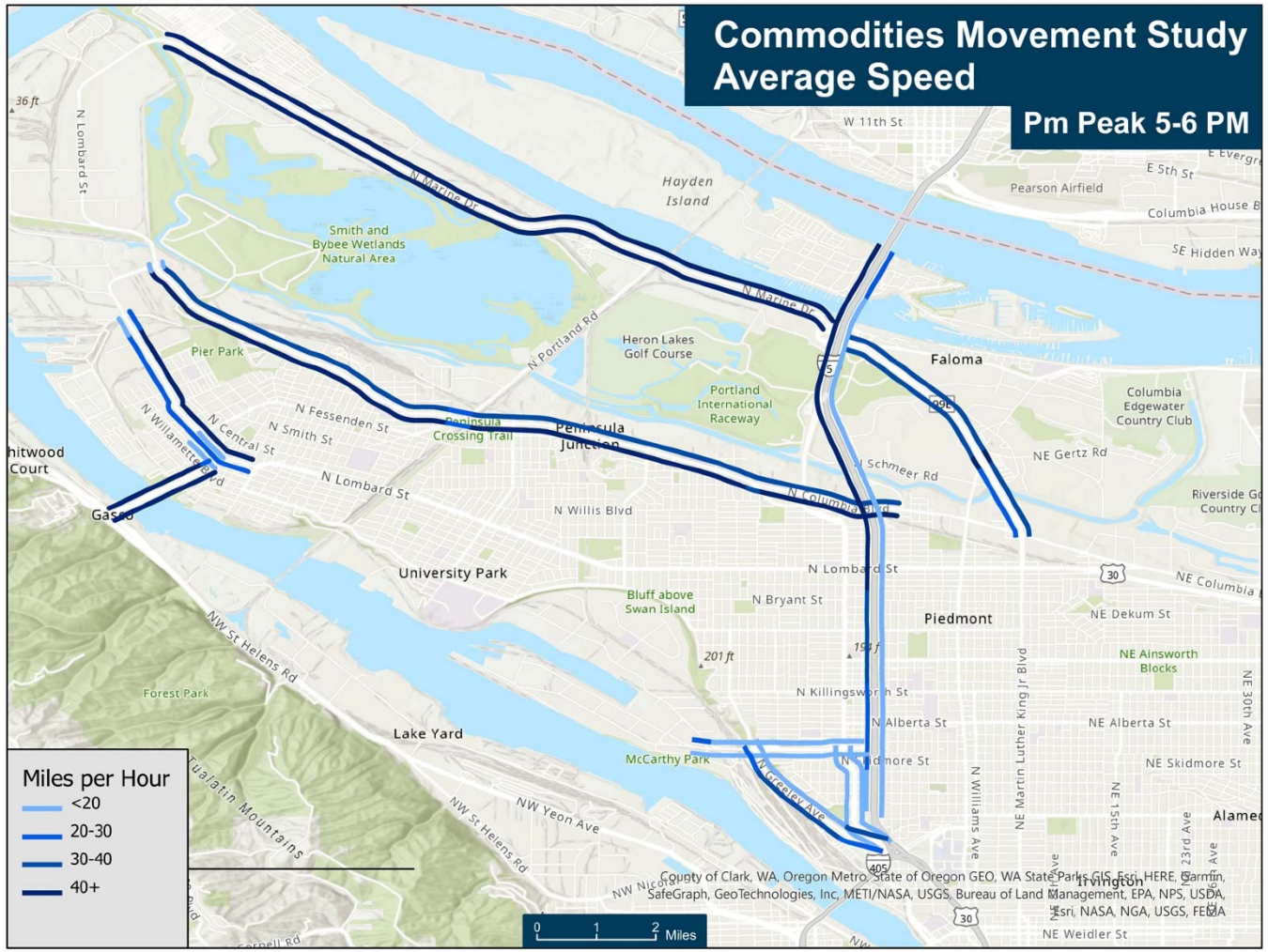


Existing Daily Truck Volumes

Percent of Existing Daily Vehicle Volumes that are Trucks



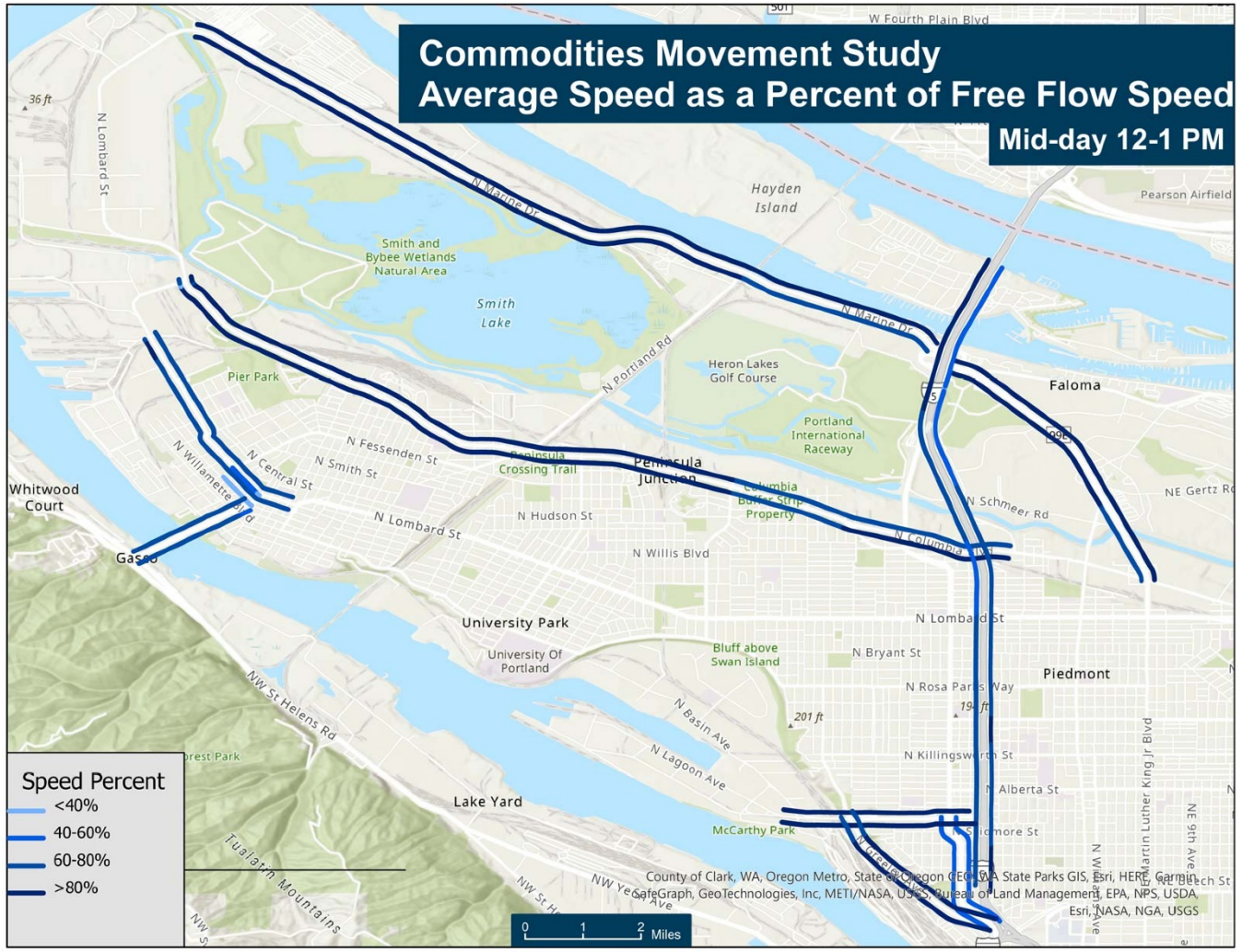
Average travel speeds in the PM peak (5-6 PM)



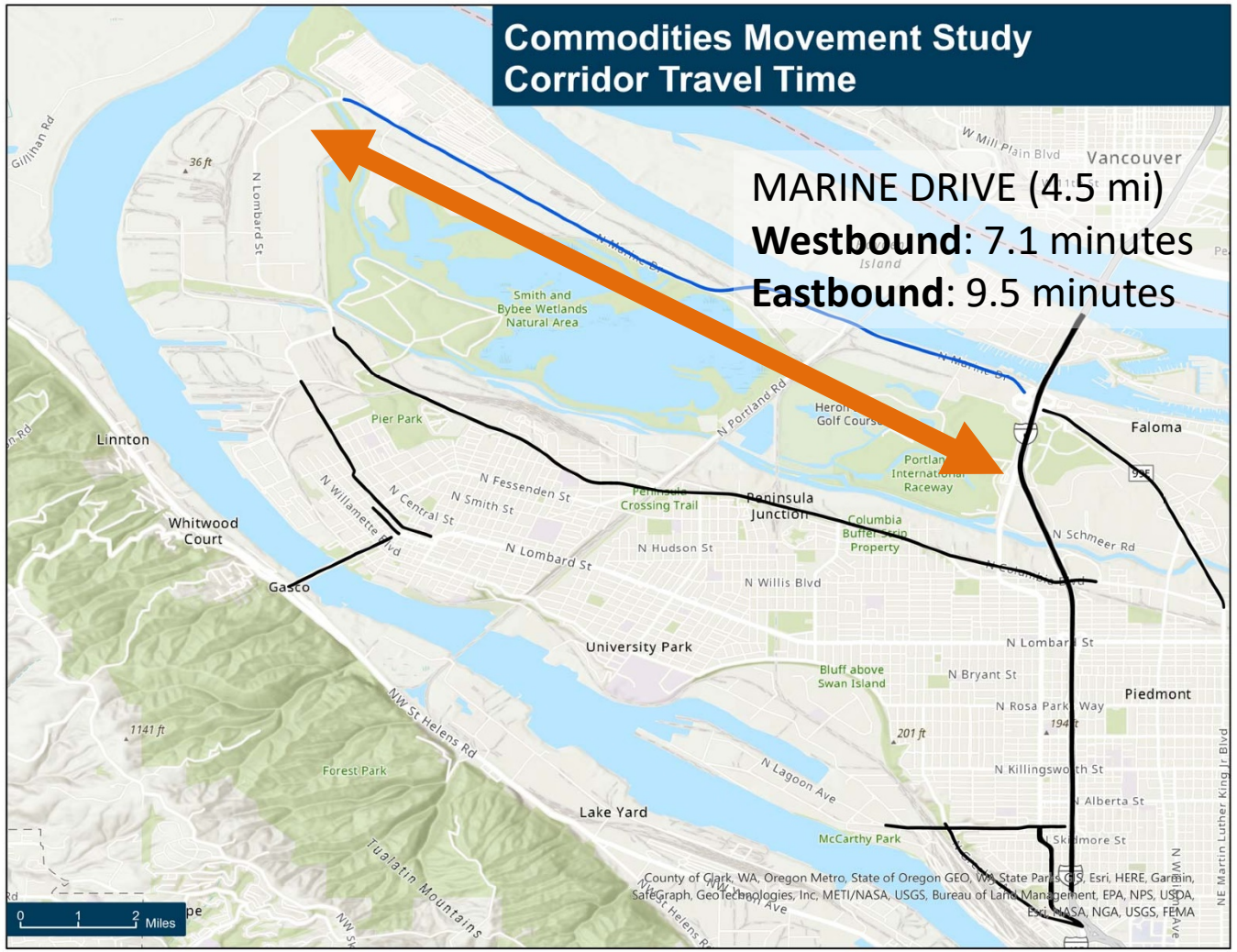
Average travel speeds in the Mid-day (12-1 PM)

Average travel speeds in the PM peak (5-6 PM) as a percentage of the free-flow speed

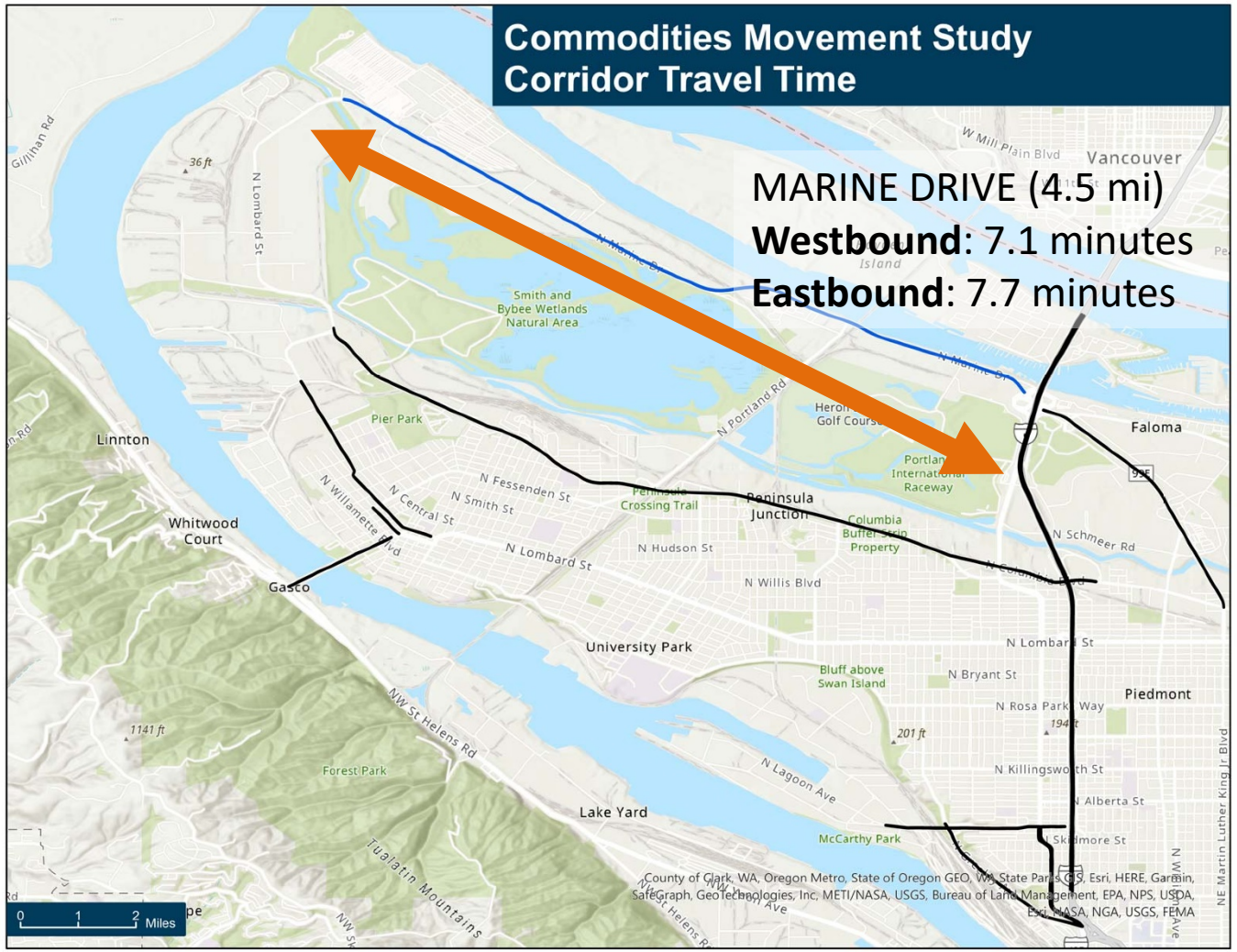
Average travel speeds in the Mid-day (12-1 PM) as a percentage of the free-flow speed



Average travel time in the PM peak (5-6 PM) for the full length of a Freight Corridor



Average travel time in the Mid-day (12-1 PM) for the full length of a Freight Corridor



Commodities traveling in the freight corridors (modeled)

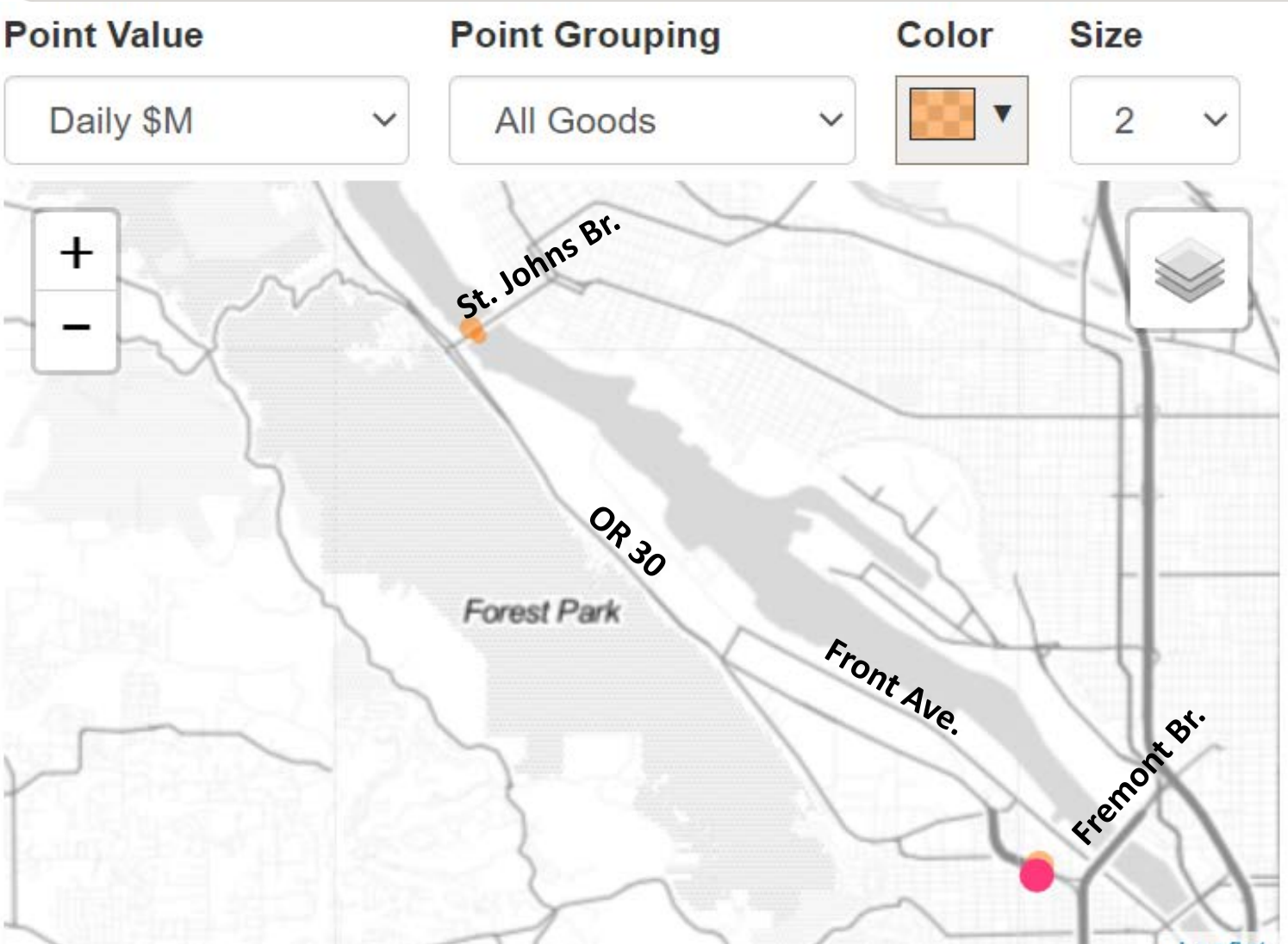
The commodities are grouped into 10 categories that include:

- 1) Agriculture; 2)Chemicals and Fertilizers;
- 3)Coal, Oil, Waste, etc.;
- 4) Electronics (including computer microchips);
- 5) Food; 6) Gravel, Sand, etc.; 7) Machinery;
- 8) Misc. manufactured goods;
- 9) Motor Vehicles, etc.; and 10) Wood, Paper, etc.

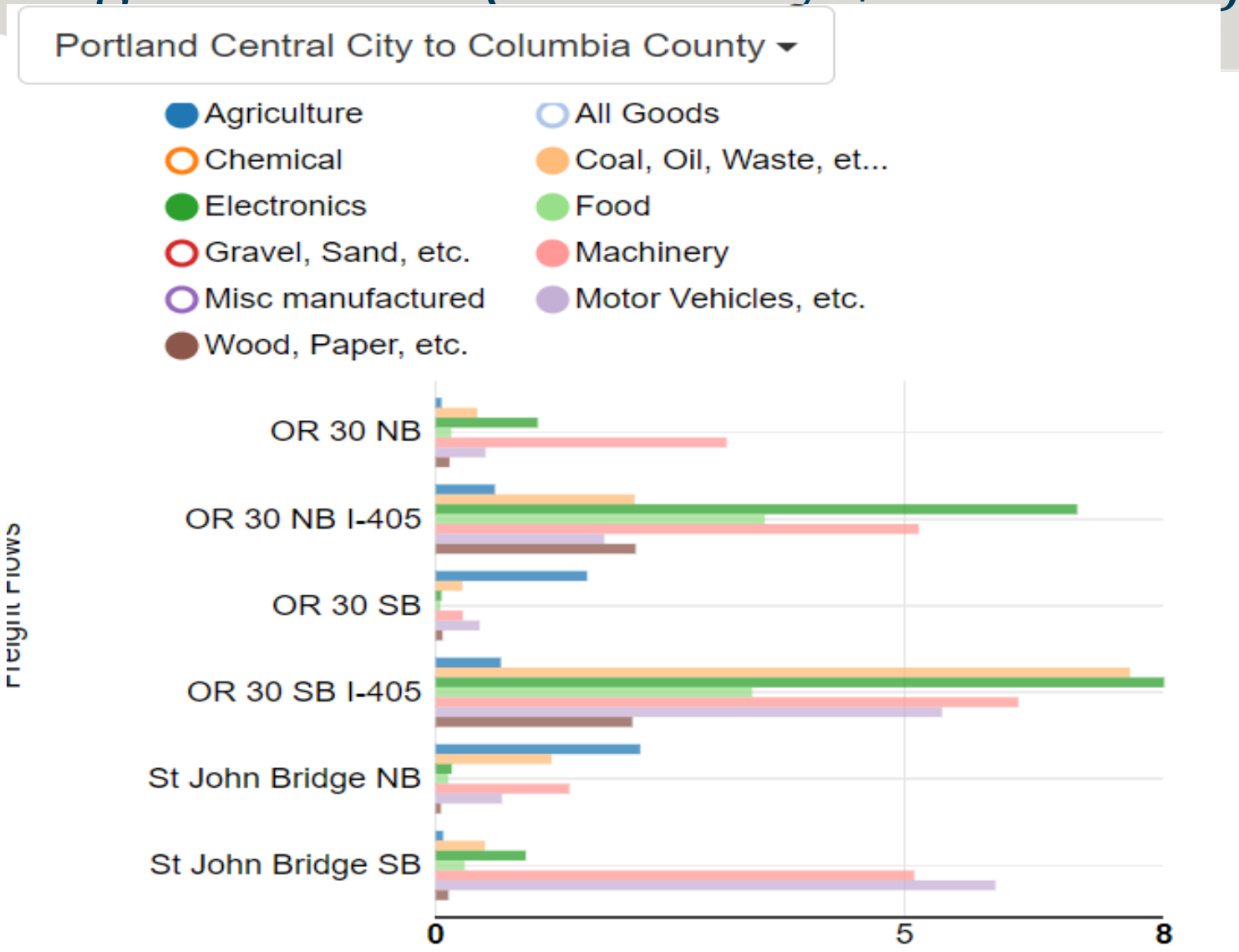
Commodities traveling in the freight corridors (modeled)

- Workshop memo shows locations w/ largest values for goods
- The 2020 model results for commodities traveling in the freight corridors are best viewed by using the visualizer
- We’re using the visualizer to show results for two corridors

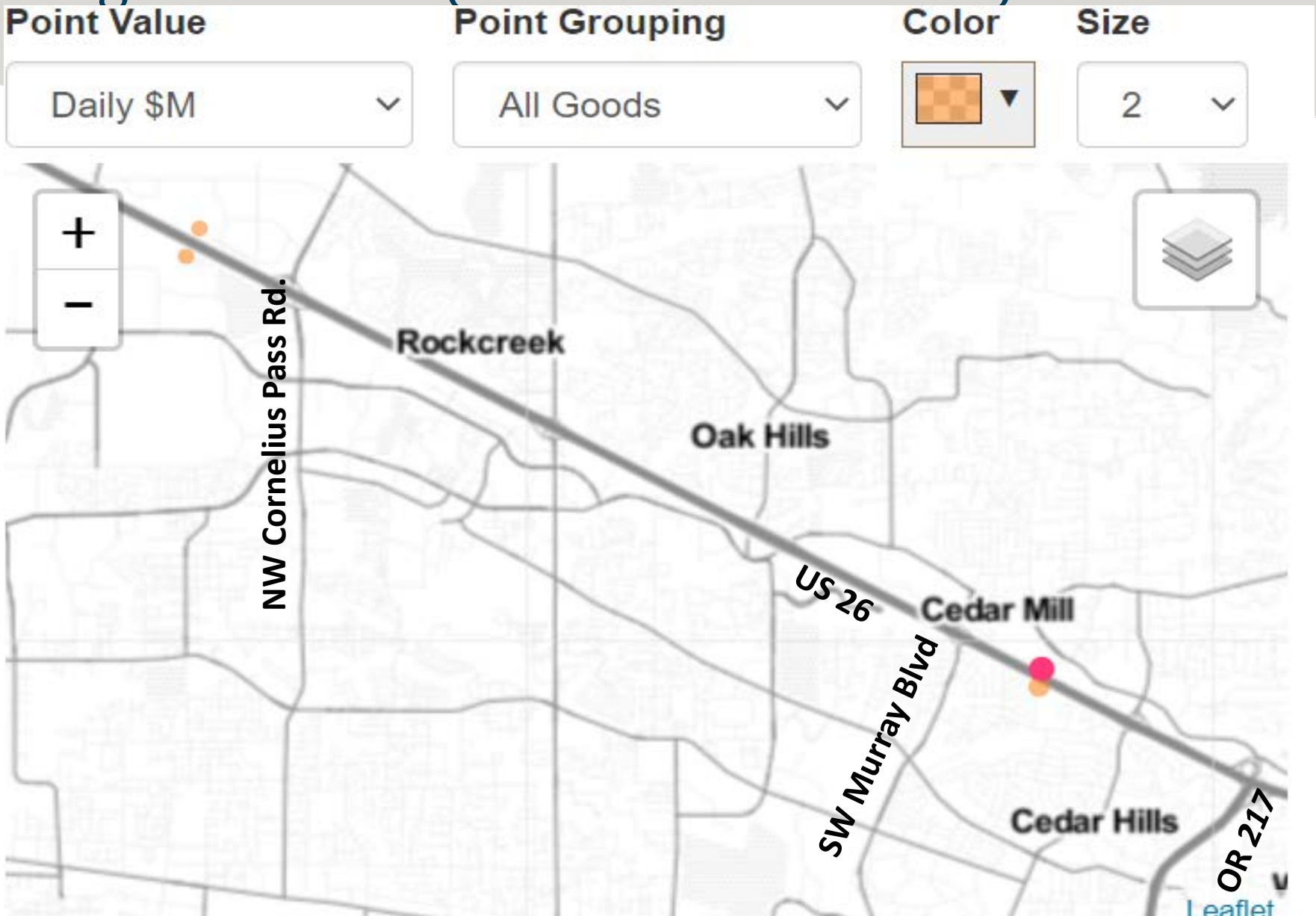
Commodities traveling in the Hwy 30 (OR 30) freight corridor (Year 2020 modeled)



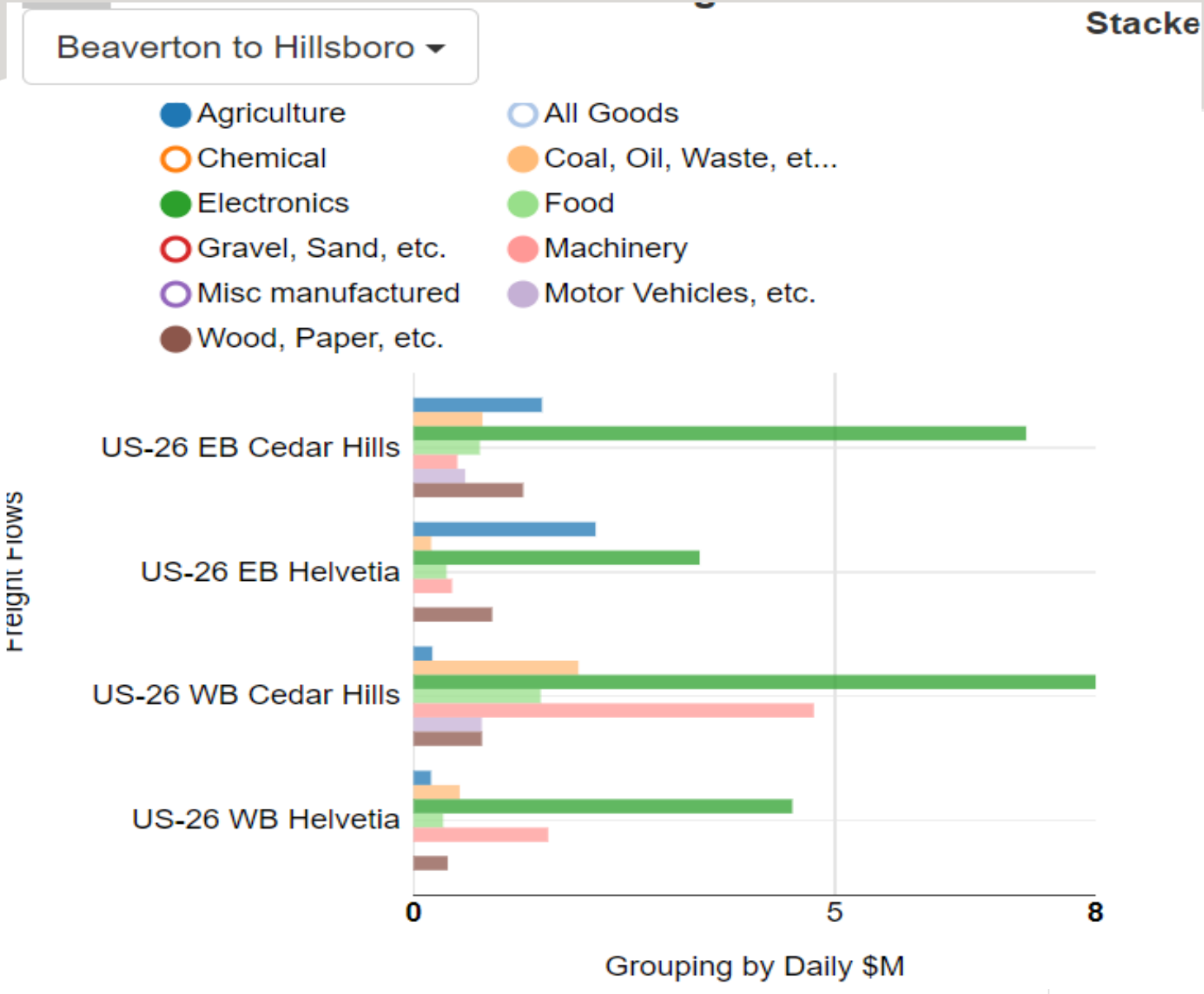
Commodities traveling in the Hwy 30 (OR 30) freight corridor (2020 daily $ in millions)



Commodities traveling in the Sunset Hwy. (US 26) freight corridor (Year 2020 modeled) - west end



Commodities traveling in the Sunset Hwy. (US 26) freight corridor - west end (2020 daily $ in millions)



Next Steps

- Updates to PMT, SAC, and MTAC/TPAC throughout the 22 – 23 month long study
- Prepare future year regional freight modeling outputs for the study to use in Task 4
- Prepare mapping for more of the data (truck volumes, speeds, travel times) in 19 regional mobility corridors

Comments and feedback

Questions?