



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Agenda

Meeting: Transportation Policy Alternatives Committee (TPAC)
Date: Friday, April 2, 2021
Time: 9:30 am – 12:00 noon
Place: Virtual meeting – Please click the link below to join the webinar:

<https://us02web.zoom.us/j/89311439152?pwd=RGtEZkRROE54MU51T3BRam90OTZXQT09>

Passcode: 349970

Phone: 888-475-4499 (Toll Free)

9:30 am	1.	Call meeting to order	Tom Kloster, Chair
		<ul style="list-style-type: none"> Declaration of a Quorum Introductions 	
9:35 am	2. *	Comments From The Chair And Committee Members	Tom Kloster, Chair
		<ul style="list-style-type: none"> Committee input form on Creating a Safe Space at TPAC (Chair Kloster) Updates from committee members around the Region (all) Monthly MTIP Amendments Update (Lobeck) Fatal crashes update (McTighe) Regional Mobility Policy Update Spring 2021 Engagement (Ellis) Reminder: Upcoming workshops listed on work program (Chair Kloster) 	
9:40 am	3.	Public Communications On Agenda Items	
9:42 am	4. *	Consideration of TPAC Minutes, March 5, 2021 (action item)	Tom Kloster, Chair
		<ul style="list-style-type: none"> Minutes review from TPAC Regional Congestion Pricing Study Workshop, February 25, 2021 (non-action item) 	
9:45 am	5. *	2021-2022 Unified Planning Work Program (UPWP) Resolution 21-5165 (action item, Recommendation to JPACT)	John Mermin, Metro
		Purpose: For the Purpose of Adopting the Fiscal Year 2021-22 Unified Planning Work Program and Certifying That the Portland Metropolitan Area is in Compliance with Federal Transportation Planning Requirements	
10:05 am	6. *	Metropolitan Transportation Improvement Program (MTIP) Formal Amendment 21-5169 (action item, Recommendation to JPACT)	Ken Lobeck, Metro
		Purpose: For the Purpose of Amending the 2021-24 Metropolitan Transportation Improvement Program (MTIP) to Correctly Reflect the New Metro State Fiscal Year 2022 Unified Planning Work Program(UPWP) Consisting of Seven Projects Plus Four Additional Projects to Ensure Their Next Federal Approval Step Can Occur Impacting Metro, ODOT, and Portland (AP21-09-APR)	
10:20 am	7. *	Regional Emergency Transportation Routes (ETR) Update: Resolution 21-5160 (action item, Recommendation to JPACT)	Kim Ellis, Metro Laura Hanson, RDPO
		Purpose: Ask TPAC for recommendation to JPACT to accept the findings and recommendations in the Regional Emergency Transportation Routes Update Phase 1 final report.	
10:40 am	8. *	2025-27 Regional Flexible Funds Allocation (RFFA) Strategic Direction update (informational item)	Dan Kaempff, Metro
11:10 am	9. *	2024-2027 MTIP Transit Budget Process update (informational item)	Anne MacCracken and Eric Loomis, SMART Nancy Oliver-Young and Jeff Owen, TriMet
11:40 am	10. *	Update on 2024-2027 ODOT Funding Allocations and STIP Development (informational item)	Jon Makler, ODOT
11:50 am	11.	Committee Comments on Creating a Safe Space at TPAC (informational item)	Tom Kloster, Chair
12:00 pm	12.	Adjournment	Tom Kloster, Chair
		* Material will be emailed with meeting notice	

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 kulan 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 수 www.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がご要望に対応できるよう、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 ឬដើម្បីទទួលបានការបណ្តឹងរើសអើងសូមទូរសព្ទទូរសារកេរខំកែ www.oregonmetro.gov/civilrights។
បើលោកអ្នកត្រូវការអ្នកបកប្រែភាសានៅពេលអង្គប្រជុំសាធារណៈ សូមទូរស័ព្ទមកលេខ 503-797-1700 (ម៉ោង 8 ព្រឹកដល់ម៉ោង 5 ល្ងាច ថ្ងៃធ្វើការ) ប្រាំពីរថ្ងៃ ថ្ងៃធ្វើការ មុនថ្ងៃប្រជុំដើម្បីអាចឱ្យគេសម្រួលតាមសំណើរបស់លោកអ្នក ។

إشعار بعدم التمييز من Metro

تحتزم 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 مساءً، 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 ntux ntux 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 ntov txog 5 teev tsaus ntuj weekdays) 5 hnub ua hauj lwu ua ntej ntawm lub rooj sib tham.



Metro

2021 TPAC Work Program

As of 3/26/2021

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

600 NE Grand Ave.
Portland, OR 97232-2736
oregonmetro.gov

	<p><u>March TPAC workshops</u></p> <p>March 24: TPAC/MTAC workshop, 10 am – 12 noon Transportation and Land Use Climate Rulemaking Workshop Panel discussion Panel: Brian Hurley, ODOT Bill Holmstrom, DLCD Karen Williams, DEQ</p>
<p><u>April 2, 2021 virtual meeting</u></p> <p>Comments from the Chair:</p> <ul style="list-style-type: none"> • Creating Safe Space at TPAC (chat) (Chair Kloster) • Committee member updates around the Region (Chair Kloster & all) • Monthly MTIP Amendments Update (Ken Lobeck) • Fatal crashes update (Lake McTighe) • Regional Mobility Policy Update Spring Engagement Schedule (Kim Ellis) • Upcoming workshops schedule (Chair Kloster) <p>Agenda Items:</p> <ul style="list-style-type: none"> • 2021-22 UPWP Resolution 21-5165 <u>Recommendation to JPACT</u> (Mermin, 20 min) • MTIP Formal Amendment 21-5169 <u>Recommendation to JPACT</u> (Lobeck, 15 min) • Regional Emergency Transportation Routes (ETR) Update: Resolution 21-5160 <u>Recommendation to JPACT</u> (Ellis, Metro/ Hanson, RDPO; 20 min.) • 2025-27 RFFA Strategic Direction update (Dan Kaempff, 30 min) • 2024-2027 MTIP Transit Budget Process Update (Eric Loomis/Anne MacCracken, SMART, Nancy Oliver-Young/Jeff Owen, TriMet; 30 minutes) • Update on 2024-27 STIP development/scoping process (Jon Makler, ODOT Region 1; 10 min) • Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min) 	<p><u>April TPAC workshops</u></p> <p>April 8: Regional Flexible Funds Allocation (RFFA) workshop, 9 am- 12 noon</p> <p>April 22: Regional Congestion Pricing Expert Review Panel 7:30 – 10 am (TPAC invited, attendance optional)</p> <p>April 28: Regional Flexible Funds Allocation (RFFA) workshop, 1 – 4 pm</p>



May 7, 2021 virtual meeting

Comments from the Chair:

- Creating Safe Space at TPAC, (chat) (Chair Kloster)
- Committee member updates around the Region (Chair Kloster & all)
- Monthly MTIP Amendments Update (Ken Lobeck)
- Fatal crashes update (Lake McTighe)
- MTIP proposed subcommittee/work group/pilot concept (Ted Leybold)

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- 2025-27 RFFA Strategic Direction draft review
Informational (Dan Kaempff, 45 min)
- 2024-2027 MTIP Revenue Forecast (Ted Leybold, Grace Cho, 20 min)
- 2020-21 TSMO Strategy Update Progress (Caleb Winter, 40 min)
- Regional Freight Study Updates (Tim Collins; 30 min.)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

May TPAC workshops

May 12:

TPAC/MTAC workshop, 10 am - noon

- Federal Transportation Infrastructure Funding (Tyler Frisbee, Metro; 30 min)
- Metro Emerging Trends Study (Eliot Rose; 45 min)
- Regional Land Information System – RLIS Live 100 (Steve Erickson/Chris Johnson; 30 min.)

May 26:

Regional Transportation Safety Forum

9:00-noon (TPAC invited, attendance optional)

June 4, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- **2025-27 RFFA Strategic Direction**
Recommendation to JPACT (Kaempff, 45 min)
- Regional Congestion Pricing Study – Final Report (Elizabeth Mros-O'Hara; 20 min)
- *Regional Mobility Policy Update (Kim Ellis, Metro/Lidwien Rahman, ODOT, 30 min)*
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

June TPAC workshops

June 16:

TPAC/MTAC workshop, 10 am - noon

- Best Practices and Data to Support Natural Resources Protection (Lake McTighe, 90 min)
- Status Report on Household Survey (Chris Johnson, 30 min)

June 23:

- ***Hold for possible TPAC workshop (as needed)***



July 9, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- Metro Legislative Session Recap update (Anneliese Koehler, Metro; 30 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

August 6, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

September 3, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

October 1, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- *Regional Mobility Policy Update* (Kim Ellis, Metro/Lidwien Rahman, ODOT, 30 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

November 5, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- **Regional Mobility Policy Update**
Recommendation to JPACT (Kim Ellis, Metro/Lidwien Rahman, ODOT, 30 min)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)

December 3, 2021 virtual meeting

Comments from the Chair:

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

Agenda Items:

- **MTIP Formal Amendment 21-******
Recommendation to JPACT (Lobeck, 15 min)
- 2023 Regional Transportation Plan Update Scoping (Kim Ellis, 30-45 min.)
- Committee Wufoo reports on Creating a Safe Space at TPAC (Chair Kloster; 10 min)



<u>Additional TPAC/MTAC workshops</u>	
<p>August 18:</p> <ul style="list-style-type: none"> TPAC/MTAC workshop, 10 am – noon Regional Freight Delay and Commodities Movement Study Policy Framework - And - Regional Mobility Policy Update <p>October 20:</p> <ul style="list-style-type: none"> Scoping Kick-off for 2023 Regional Transportation Plan Update <p>December 15:</p> <ul style="list-style-type: none"> TPAC/MTAC workshop, 10 am – noon (if needed) 	

Parking Lot: Future Topics/Periodic Updates

- TV Highway Corridor Study (Mros-O'Hara)
- Hwy 26/Westside Transportation Study (Bihn/ODOT)
- Implement Local Climate Plans & Climate Smart Strategy Updates
- I-5 Bridge Replacement Project Update, fall/winter
- I-205 Project Update
- Metro Legislative Updates (Randy Tucker, late spring/early summer)
- Update on SW Corridor Transit
- Active Transportation Return on Investment Study (Mermin)
- Rose Quarter update, fall/winter
- Columbia Connects Project
- 2020 Census
- Ride Connection Program Report (Julie Wilcke)
- Get There Oregon Program Update (Marne Duke)
- Update on US Congress INVEST in America Act and HEROS Act (informational)
- Burnside Bridge Earthquake Ready Project Update (Megan Neill, Mult. Co)
- RTO Updates (Dan Kaempff)
- Safe Routes to School Updates (Noel Mickelberry)
- 2021 PILOT Grants Update (Eliot Rose)
- Telework affects post COVID on transportation (TriMet/Eliot Rose)
- Federal Transportation Infrastructure Funding (Tyler Frisbee)

Agenda and schedule information E-mail: marie.miller@oregonmetro.gov

To check on closure or cancellations during inclement weather please call 503-797-1700.

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: March 25, 2021
To: TPAC and Interested Parties
From: Ken Lobeck, Funding Programs Lead
Subject: TPAC Metropolitan Transportation Improvement Program (MTIP) Monthly Submitted Amendments

BACKGROUND:

The monthly submitted MTIP formal amendment and administrative modification project lists during March 2021 timeframe are attached for TPAC's information.

Formal Amendments Approval Process:

Formal/Full MTIP Amendments require approvals from Metro JPACT& Council, ODOT-Salem, and final approval from FHWA/FTA before they can be added to the MTIP and STIP. After Metro Council approves the amendment bundle, final approval from FHWA and/or FTA can take 30 days or more from the Council approval date. This is due to the required review steps ODOT and FHWA/FTA must complete prior to the final approval for the amendment. Although submitted in a bundle format for faster approvals as accomplished in other states, each project amendment in Oregon is still reviewed and approved individually by ODOT and FHWA/FTA. The individual project review and approval approach can add days or weeks to the approval process depending upon where the project is located in the approval queue.

Administrative Modifications Approval Process:

Projects requiring only small administrative changes as approved by FHWA and FTA are accomplished via Administrative Modification bundles. Metro accomplishes one to two "Admin Mod" bundles per month. The approval process is far less complicated for Admin Mods. The list of allowable administrative changes are already approved by FHWA/FTA and are cited in the Approved Amendment Matrix. As long as the administrative changes fall within the approved categories and boundaries, Metro has approval authority to make the change and provide the updated project in the MTIP immediately. Approval for inclusion into the STIP requires approval from the ODOT Region 1 STIP Coordinator and ODOT-Salem. The Admin Mod projects are still reviewed and approved individually by ODOT, but on average will be approved for STIP inclusion within two weeks after Metro submission to ODOT.

Also included is a copy of the approved STIP Amendment Report Salem publishes approximately twice a month. The report statewide list of approved amendments during the time period. Metro is now posting the report on the MTIP website at <https://www.oregonmetro.gov/metropolitan-transportation-improvement-program>.

2021 Approved STIP Amendments
February 15, 2021 to February 28, 2021

Proposed project changes				
Project ID	Project Name	Project Description	Notes	Approved Date
2021-01-01	2021-01-01	2021-01-01	2021-01-01	2021-01-01
2021-01-02	2021-01-02	2021-01-02	2021-01-02	2021-01-02
2021-01-03	2021-01-03	2021-01-03	2021-01-03	2021-01-03
2021-01-04	2021-01-04	2021-01-04	2021-01-04	2021-01-04
2021-01-05	2021-01-05	2021-01-05	2021-01-05	2021-01-05
2021-01-06	2021-01-06	2021-01-06	2021-01-06	2021-01-06
2021-01-07	2021-01-07	2021-01-07	2021-01-07	2021-01-07
2021-01-08	2021-01-08	2021-01-08	2021-01-08	2021-01-08
2021-01-09	2021-01-09	2021-01-09	2021-01-09	2021-01-09
2021-01-10	2021-01-10	2021-01-10	2021-01-10	2021-01-10
2021-01-11	2021-01-11	2021-01-11	2021-01-11	2021-01-11
2021-01-12	2021-01-12	2021-01-12	2021-01-12	2021-01-12
2021-01-13	2021-01-13	2021-01-13	2021-01-13	2021-01-13
2021-01-14	2021-01-14	2021-01-14	2021-01-14	2021-01-14
2021-01-15	2021-01-15	2021-01-15	2021-01-15	2021-01-15
2021-01-16	2021-01-16	2021-01-16	2021-01-16	2021-01-16
2021-01-17	2021-01-17	2021-01-17	2021-01-17	2021-01-17
2021-01-18	2021-01-18	2021-01-18	2021-01-18	2021-01-18
2021-01-19	2021-01-19	2021-01-19	2021-01-19	2021-01-19
2021-01-20	2021-01-20	2021-01-20	2021-01-20	2021-01-20
2021-01-21	2021-01-21	2021-01-21	2021-01-21	2021-01-21
2021-01-22	2021-01-22	2021-01-22	2021-01-22	2021-01-22
2021-01-23	2021-01-23	2021-01-23	2021-01-23	2021-01-23
2021-01-24	2021-01-24	2021-01-24	2021-01-24	2021-01-24
2021-01-25	2021-01-25	2021-01-25	2021-01-25	2021-01-25
2021-01-26	2021-01-26	2021-01-26	2021-01-26	2021-01-26
2021-01-27	2021-01-27	2021-01-27	2021-01-27	2021-01-27
2021-01-28	2021-01-28	2021-01-28	2021-01-28	2021-01-28
2021-01-29	2021-01-29	2021-01-29	2021-01-29	2021-01-29
2021-01-30	2021-01-30	2021-01-30	2021-01-30	2021-01-30
2021-01-31	2021-01-31	2021-01-31	2021-01-31	2021-01-31

Changes to projects already approved				
Project ID	Project Name	Project Description	Notes	Approved Date
2021-01-01	2021-01-01	2021-01-01	2021-01-01	2021-01-01
2021-01-02	2021-01-02	2021-01-02	2021-01-02	2021-01-02
2021-01-03	2021-01-03	2021-01-03	2021-01-03	2021-01-03
2021-01-04	2021-01-04	2021-01-04	2021-01-04	2021-01-04
2021-01-05	2021-01-05	2021-01-05	2021-01-05	2021-01-05
2021-01-06	2021-01-06	2021-01-06	2021-01-06	2021-01-06
2021-01-07	2021-01-07	2021-01-07	2021-01-07	2021-01-07
2021-01-08	2021-01-08	2021-01-08	2021-01-08	2021-01-08
2021-01-09	2021-01-09	2021-01-09	2021-01-09	2021-01-09
2021-01-10	2021-01-10	2021-01-10	2021-01-10	2021-01-10
2021-01-11	2021-01-11	2021-01-11	2021-01-11	2021-01-11
2021-01-12	2021-01-12	2021-01-12	2021-01-12	2021-01-12
2021-01-13	2021-01-13	2021-01-13	2021-01-13	2021-01-13
2021-01-14	2021-01-14	2021-01-14	2021-01-14	2021-01-14
2021-01-15	2021-01-15	2021-01-15	2021-01-15	2021-01-15
2021-01-16	2021-01-16	2021-01-16	2021-01-16	2021-01-16
2021-01-17	2021-01-17	2021-01-17	2021-01-17	2021-01-17
2021-01-18	2021-01-18	2021-01-18	2021-01-18	2021-01-18
2021-01-19	2021-01-19	2021-01-19	2021-01-19	2021-01-19
2021-01-20	2021-01-20	2021-01-20	2021-01-20	2021-01-20
2021-01-21	2021-01-21	2021-01-21	2021-01-21	2021-01-21
2021-01-22	2021-01-22	2021-01-22	2021-01-22	2021-01-22
2021-01-23	2021-01-23	2021-01-23	2021-01-23	2021-01-23
2021-01-24	2021-01-24	2021-01-24	2021-01-24	2021-01-24
2021-01-25	2021-01-25	2021-01-25	2021-01-25	2021-01-25
2021-01-26	2021-01-26	2021-01-26	2021-01-26	2021-01-26
2021-01-27	2021-01-27	2021-01-27	2021-01-27	2021-01-27
2021-01-28	2021-01-28	2021-01-28	2021-01-28	2021-01-28
2021-01-29	2021-01-29	2021-01-29	2021-01-29	2021-01-29
2021-01-30	2021-01-30	2021-01-30	2021-01-30	2021-01-30
2021-01-31	2021-01-31	2021-01-31	2021-01-31	2021-01-31

SUMMARY OF SUBMITTED FORMAL AMENDMENTS – March 2021
Within Resolution 20-5163

Proposed March 2021 Formal Amendment Bundle Amendment Type: Formal/Full Amendment #: MR21-08-MAR Total Number of Projects: 1					
ODOT Key #	MTIP ID #	Lead Agency	Project Name	Project Description	Description of Changes
Project #1 Key 20208	70938	ODOT	US30: NW Saltzman Rd NW Bridge Ave US30: NW Kittridge Ave to NW Bridge Ave	Repave roadway; upgrade ADA ramps to current standards; improve access management; and address drainage as needed. Widen and pave existing bike lanes.	LIMITS EXPANSION: ODOT approved added funds to the project which enables the project limits to expand out by 1.31 miles. The revised cross-street limits are now NW Kittridge Ave to NW Bridge Ave Funds added equal \$2,067.000 which equal a 21.7% increase

Amendment status:

- TPAC approval occurred on March 5, 2021
- JPACT approval occurred on March 18 , 2021
- Council approval is scheduled for April 8, 2021.

MTIP ADMINISTRATIVE MODIFICATIONS
Submitted from the end of February to mid-March, 2021

- February 2021 Admin Mod Bundle #2, AB21-10-FEB2: 1 project

Proposed February 2021 Administrative Modification Bundle #2 Modification Number: AB21-10-FEB2 Total Number of Projects: 1				
ODOT Key	Lead Agency	Project Name	Description	Required Changes
Project #1 Key 20465	ODOT	I-5 Bridges: Multnomah Blvd, Capital Hwy Ramp, Barbur Blvd	On Multnomah Blvd and Capital Highway ramp bridges, place an overlay on the bridge driving surface, replace or repair leaking joints, and retrofit the bridge rails to meet current safety standards. On Barbur Blvd bridge, remove rust, paint, replace parts.	<u>COST DECREASE:</u> \$150k is being removed from the Construction phase and will be re-committed to Key 20702. Key 20465 is a construction phase combined project to deliver bridge safety improvements from project Keys 20702 and 20484 for increased construction delivery efficiencies. The PE phase funding remains in the individual three projects. A PE funding short emerged in Key 20702 which this admin mod is addressing.

Sample of ODOT's Bi-Monthly STIP Amendment Approval Report

The report is now being published on the Metro website at

<https://www.oregonmetro.gov/metropolitan-transportation-improvement-program>

ODOT Approved STIP Amendments
February 15, 2021 to February 28, 2021

proposed project changes

Key#	Reg	Amendment Number	Project Name	Action
22092	4	21-24-0549	Campus Drive Roundabout (Klamath Falls)	Increase project funding by \$2,000,000, adding CMAQ Klamath Falls program savings. Update project to be state funded and move all funding to the Construction phase. Add project to the current STIP.
20451	1	21-24-0502	OR8 at River Rd	Update scope to remove the rail crossing work from the project. Cancel the Other phase and return the funds to project key 20352.
20352	6	21-24-0502	Statewide Rail Crossing Program FFY19	Increase the Construction phase estimate by \$218,000, moving \$300,000 from project key 20451 and \$82,000 to project key 18731.
21876	5	21-24-0063	US20: Juntura - Black Canyon	Combine the Construction phase into project key 21265.
21265	5	21-24-0063	US20: Harney County line - Black Canyon	Add a Construction phase, moving funds and scope from project key 21876 and additional funds from the program savings of HB2017 preservation and fix-it statewide bridge.

changes to projects already approved

Key#	Reg	Amendment Number	Project Name	Action	Approved Date
22329	1	21-24-0237	TriMet Preventive Maintenance (2021)	Add new project.	2/19/2021
22357	1	21-24-0406	Risk Ranking & Data Validation for Grade Crossing	Adds new project allocating \$825,506 in federal funds of grant award directly to TriMet.	2/19/2021
20576	6	21-24-0442	Transit urban general public FFY20	Reduce the project estimate by \$1,744,053.27, moving funds to project key 22363. Add project to current STIP.	2/19/2021
22363	1	21-24-0442	Transit urban general public 20-22 TriMet	Add new project, moving funds from project key 20576.	2/19/2021
21496	1	21-24-0424	NE Airport Way Arterial Corridor management	Update project description to remove electronic message signs from the project scope.	2/21/2021
22360	2	21-24-0433	OR99: Chapman Crossing Illumination	Add new project.	2/21/2021
22361	2	21-24-0434	OR99: Chapman Crossing Advanced Warning Light	Add new project.	2/21/2021
20435	1	21-24-0501	OR99W: I-5 - McDonald St	Reduce the Construction phase estimate by \$1,338,964 and move to the Preliminary Engineering phase.	2/21/2021
21996	2	21-24-0512	Big Trout Road: Big Trout (Three Rivers) Bridge	Update the project to be state funded. Move all funding to the Construction phase and advance to federal fiscal year 2021 for delivery.	2/21/2021
22325	5	21-24-0516	Thorne Hollow Road: Umatilla River Bridge	Increase the Preliminary Engineering phase estimate by \$72,398 to correct original entry error.	2/21/2021
22020	3	21-24-0517	Stewart Park Road: South Umpqua River Bridge (Roseburg)	Update the project name to Stewart Park Drive: South Umpqua River Bridge (Roseburg). Update project scope from a bridge replacement to a bridge repair.	2/21/2021
20080	6	21-24-0518	Major bridge maintenance FFY21	Increase the Construction phase estimate by \$881,400, adding funds from the cancellation of project key 21763.	2/21/2021

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: March 25, 2021
To: Transportation Policy Advisory Committee (TPAC), Metro Technical Advisory Committee (MTAC) and interested parties
From: Lake McTighe, Regional Planner
Subject: Monthly fatal crash update

The purpose of this memo is to provide an update to TPAC, MTAC and other interested parties on the number of people killed in traffic crashes in Clackamas, Multnomah and Washington Counties over the previous month and the total for the year.

Fatal crash information is from the Preliminary Fatal Crash report from the Oregon Department of Transportation's (ODOT) Transportation Data Section/Crash Analysis and Reporting Unit. There are typically several contributing factors to serious crashes. Alcohol and drugs, speed, failure to yield the right-of-way, and aggressive driving are some of the most common causes. Road design and vehicle size can contribute to the severity of the crash.

Traffic crash victims in Clackamas, Multnomah and Washington Counties as of 3/18/21

2021 date	Fatalities	Name(s), age	Travel mode	Roadway	County	Notes
3/7	1	Galdino Salazar Jr., 36	driving	S Cramer/S Barndards	Clackamas	rollover
3/8	2	Morise Messiah Smith 21 and Unknown	driving	I-205, Glenn Jackson Bridge	Multnomah	head on, traveling wrong direction
3/6	1	Baylei Mead, 9	walking	Eastman Parkway/ NW 3rd	Multnomah	walking to bus stop, car jumped curb
2/6	1	Brian Joel Neeley, 61	walking	SE Clover Lane	Clackamas	rolling truck (no driver)
2/28	1	Jose Ignacio Contreras, 22	driving	SW Barbur Blvd/ SW Hooker St	Multnomah	speed, over embankment
2/20	1	Donald Ray Harvey, 86	walking	SW Clark Hill Rd/SW Tile Flat Rd	Washington	hit and run
2/14	1	Antonio Lopez-Amaro, 57	driving	I-205, Glenn Jackson Bridge		ice, weather, bridge into water
2/7	1	Kenna Danielle Butchek, 35	driving	N Columbia/Fiske	Multnomah	tree
2/7	1	Douglas Rosling II, 40	driving	Yeon/ Nikolai	Multnomah	lost control, rollover, into building
2/6	1	Joshua Stanley, 34	walking	SE McLoughlin/SE Franklin	Multnomah	no lighting, not a crosswalk
2/6	1	Karen McClure, 60	walking	SE Stark/SE 136th	Multnomah	hit and run
2/3	1	Jerry Ray Jeffries, 73	driving	Hwy 37 Wilson River	Washington	
1/29	1	Grant Fisher, 23	driving	Hwy 26/ Stone Road	Clackamas	DUII, speed, rear end
1/28	1	Mark Lester Auclair, 64	driving	NW Nicolai St near NW 26th Ave	Multnomah	into building

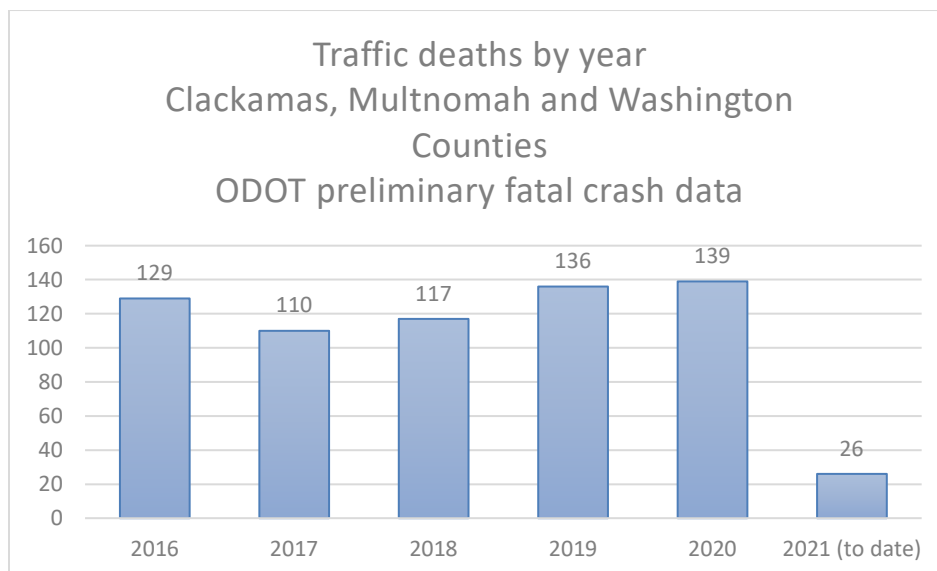
TPAC-MTAC monthly fatal crash update

2021 date	Fatalities	Name(s), age	Travel mode	Roadway	County	Notes
1/28	1	Charles Patton, 43	driving	N Columbia Blvd/N Vancouver	Multnomah	hit and run, head on
1/28	1	Gabriel Castro, 29	driving	Tualatin Valley Highway	Washington	two vehicles
1/25	1	Veronica Lynn Zearing, 52	driving	S Springwater Rd.	Clackamas	head on
1/25	1	Jean Gerich, 77	walking	SE Stark Street 33rd-13th	Multnomah	homicide, hit and run
1/24	1	Eddie Larson, 48	driving	N Marine Drive	Multnomah	lost control, rollover into river
1/14	1	Joshua Brooks Frankel, 27	motorcycling	S Sconce Rd & S Arrow Ct	Clackamas	head on
1/13	1	Brenda Stader, 50	walking	Hwy 26 near Sandy	Clackamas	safety work zone
1/9	1	Elina Marie Inget, 66	driving	OR 213, near Mulino	Clackamas	icy conditions, angle
1/9	1	Andrew Nick Lucero, 50	walking	N Denver Ave/N Columbia	Multnomah	hit and run
1/8	1	Charisa Michelle White, 73	driving	SE Powell/SE 24th	Multnomah	possible medical event
1/1	1	Daniel Martinez, 19	driving	SE Division/SE 112th Ave	Multnomah	speed
2021 total	26					

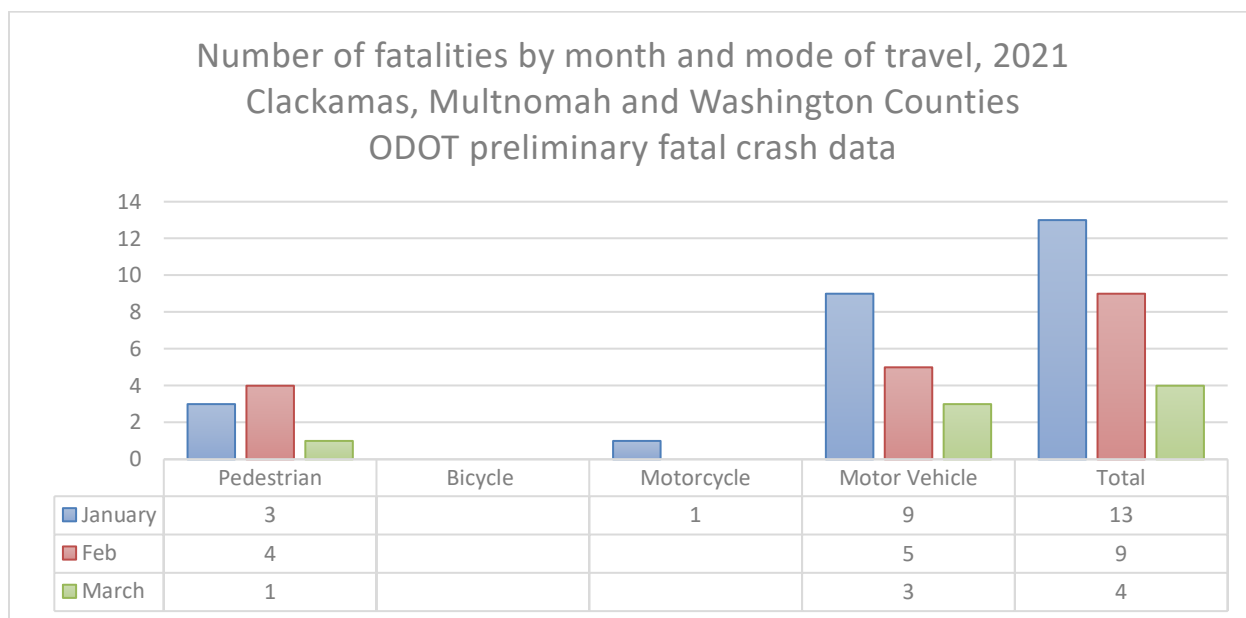
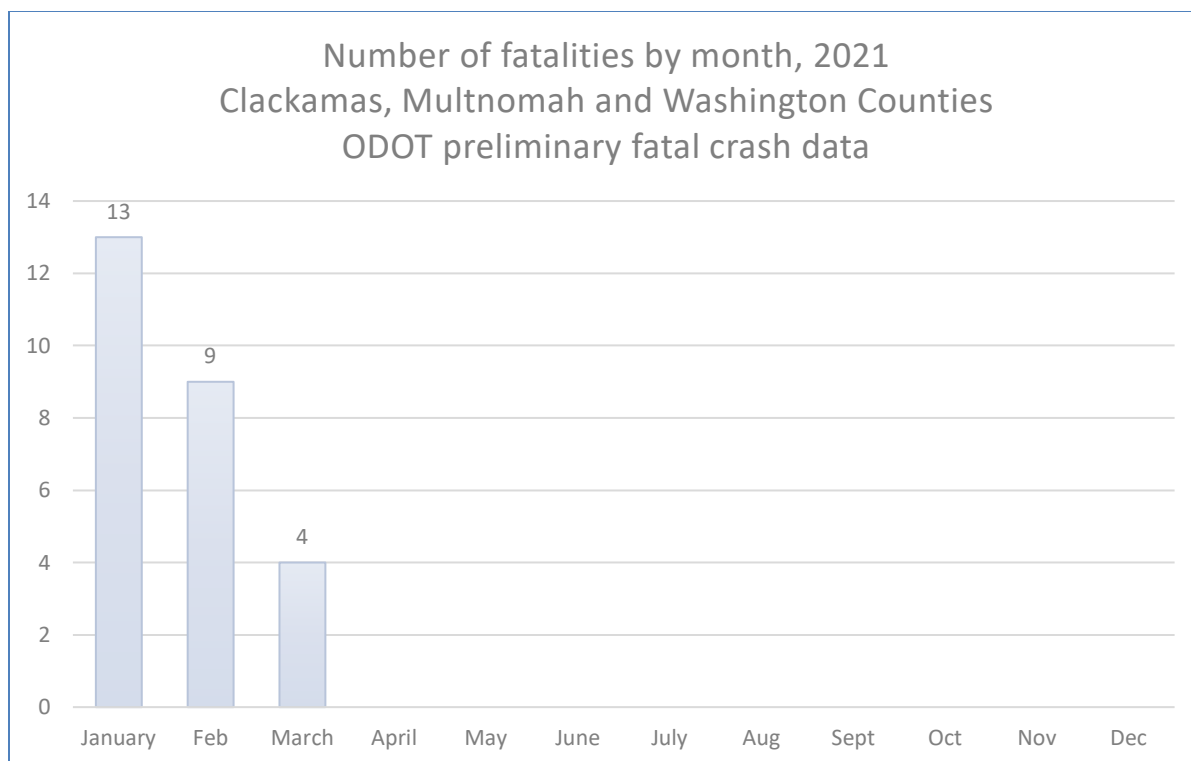
ODOT Preliminary fatal crash data; information is preliminary and subject to change

2021 preliminary fatalities

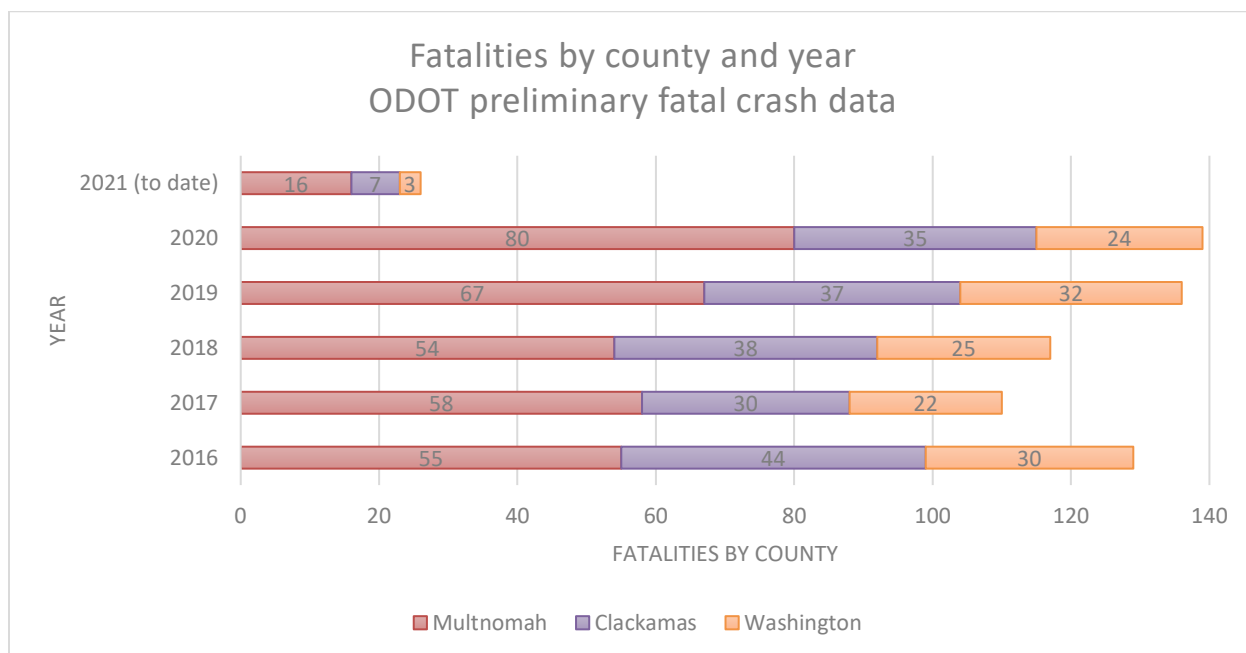
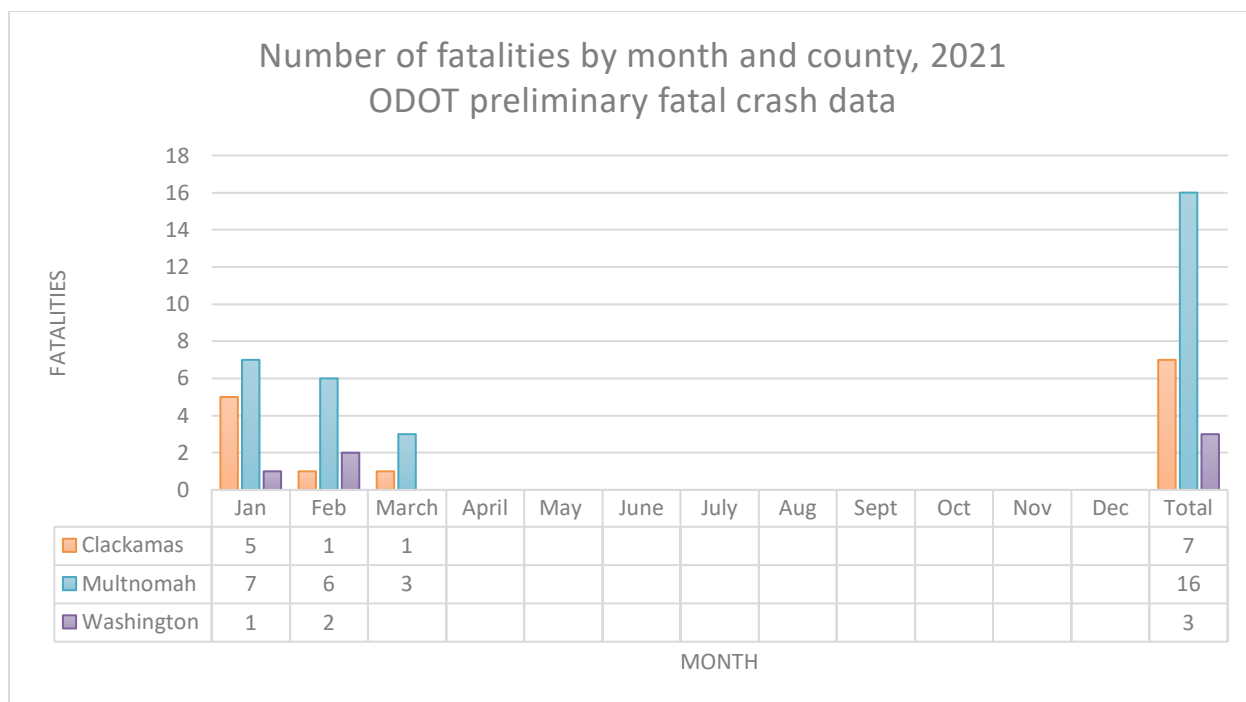
all data ODOT preliminary fatal crash data as of 3/18/21



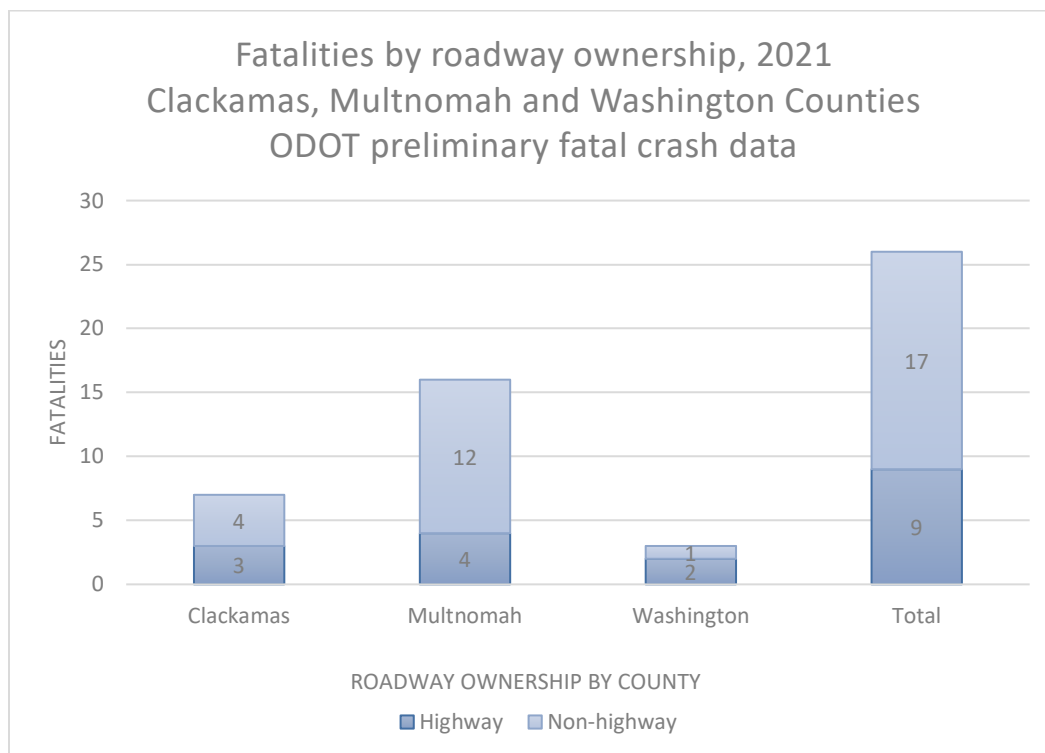
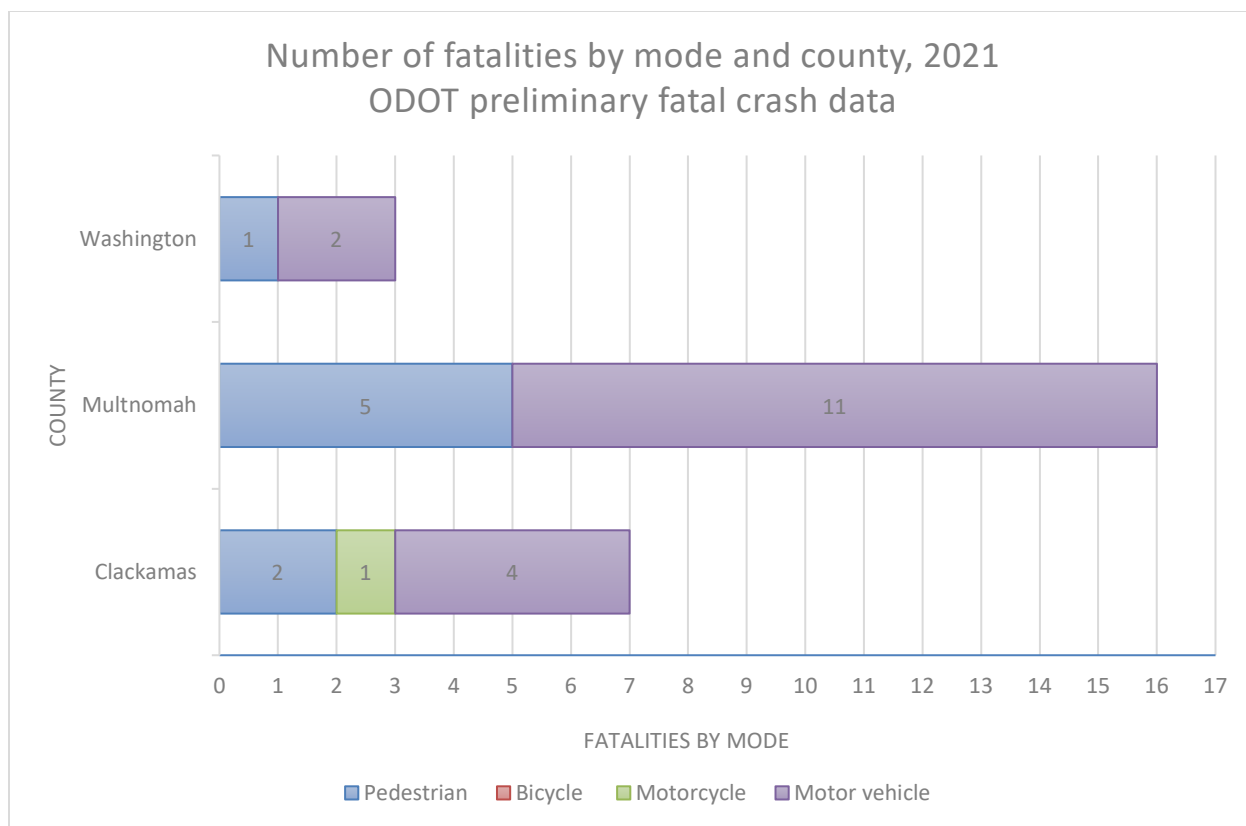
TPAC-MTAC monthly fatal crash update



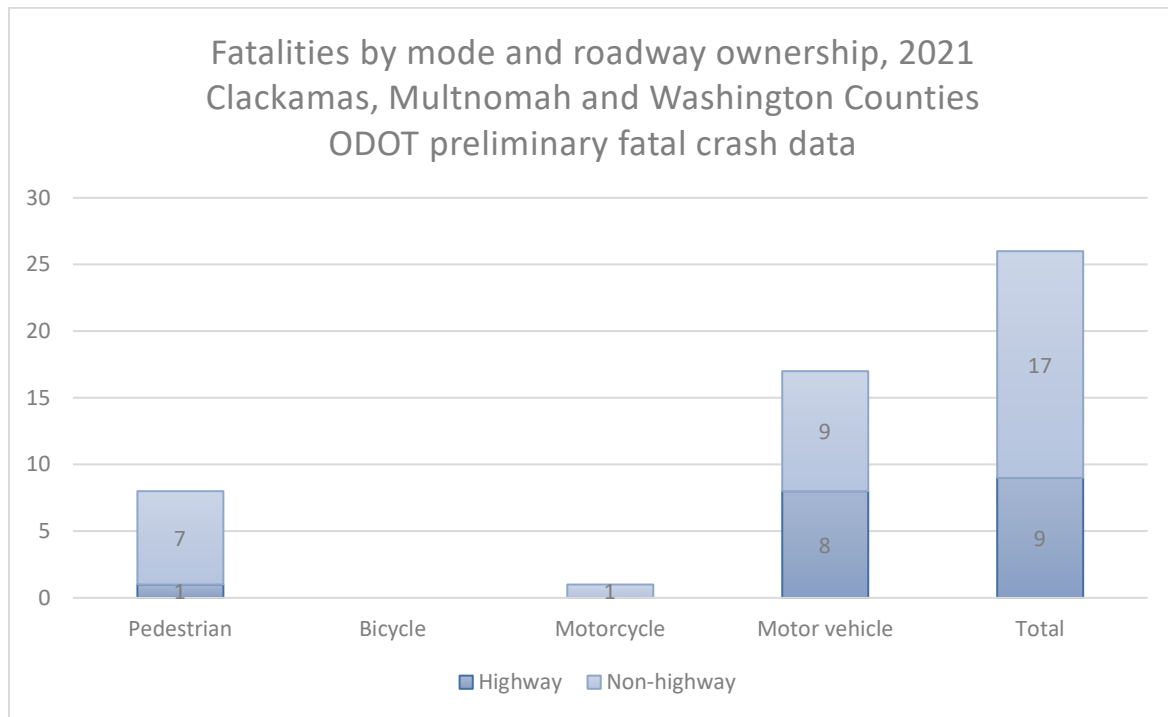
TPAC-MTAC monthly fatal crash update



TPAC-MTAC monthly fatal crash update



TPAC-MTAC monthly fatal crash update





Meeting minutes

Meeting: **Transportation Policy Alternatives Committee (TPAC)**

Date/time: Friday, March 5, 2021 | 9:30 a.m. to 12:00 noon

Place: Virtual online meeting via Web/Conference call (Zoom)

Members Attending

Tom Kloster, Chair
Karen Buehrig
Lynda David
Eric Hesse
Dayna Webb
Katherine Kelly
Don Odermott
Jeff Owen
Chris Ford
Karen Williams
Laurie Lebowsky
Lewis Lem
Jessica Stetson
Idris Ibrahim
Rachael Tupica

Affiliate

Metro
Clackamas County
SW Washington Regional Transportation Council
City of Portland
City of Oregon City and Cities of Clackamas County
City of Gresham and Cities of Multnomah County
City of Hillsboro and Cities of Washington County
TriMet
Oregon Department of Transportation
Oregon Department of Environmental Quality
Washington State Department of Transportation
Port of Portland
Community Representative
Community Representative
Federal Highway Administration (FHWA)

Alternates Attending

Allison Boyd
Erin Wardell
Jaimie Huff
Jay Higgins
Jon Makler
Glen Bolen

Affiliate

Multnomah County
Washington County
City of Happy Valley and Cities of Clackamas County
City of Gresham and Cities of Multnomah County
Oregon Department of Transportation
Oregon Department of Transportation

Members Excused

Jessica Berry
Chris Deffebach
Donovan Smith
Gladys Alvarado
Wilson Munoz
Yousif Ibrahim
Taren Evans
Jennifer Campos
Rob Klug
Shawn M. Donaghy
Jeremy Borrego
Rich Doenges

Affiliate

Multnomah County
Washington County
Community Representative
Community Representative
Community Representative
Community Representative
Community Representative
City of Vancouver, Washington
Clark County
C-Tran System
Federal Transit Administration
Washington Department of Ecology

Guests Attending

Jean Senechal Biggs
Kari Schlosshauer
Nick Fortney
Jamie Snook
Christina Cooper
Alice Bibler

Affiliate

City of Beaverton
Safe Routes to Schools
Federal Highway Administration
TriMet
Ride Connection
Oregon Department of Transportation

Metro Staff Attending

Ken Lobeck, Funding Programs Lead
Lake McTighe, Senior Transportation Planner
Eliot Rose, Senior Transportation Planner
Ted Leybold, Resource Manager
Reed Brodersen, Equity Analyst
John Mermin, Senior Transportation Planner
Aaron Breakstone, Research Planner
Summer Blackhorse, Program Assistant

Dan Kaempff, Principal Transportation Planner
Caleb Winter, Senior Transportation Planner
Grace Cho, Senior Transportation Planner
Matthew Hampton, Senior Transportation Planner
Kim Ellis, Principal Transportation Planner
Matt Bihn, Senior Transportation Planner
Laura Dawson-Bodner, Program Assistant
Marie Miller, TPAC Recorder

1. Call to Order, Declaration of a Quorum and Introductions

Chairman Kloster called the meeting to order at 9:30 a.m. Introductions were made. A quorum of members present was declared. Guests, public and staff were noted as attending. Reminders where Zoom features were found online was reviewed.

2. Comments From the Chair and Committee Members

- **Committee input form on creating a Safe Space at TPAC** (Chairman Kloster) The link to adding comments and input for creating a safe space at TPAC was noted in the chat area of the meeting, which members are welcome to use at any time during the meeting. Comments will be collected and shared at the end of the meeting.
- **Updates from committee members and around the Region** (Chairman Kloster and all)
Katherine Kelly announced she has taken a new position with the City of Vancouver. This was her last TPAC meeting representing the City of Gresham. Ms. Kelly expressed appreciation working with the committee and interest in continuing work in regional collaboration. The committee provided thanks and congratulations.

Jeff Owen noted that the TriMet Board of Directors approved their current COO Sam DeSue to also serve as General Manager as the recruitment for the new General Manager is selected.

- **Monthly Metropolitan Transportation Improvement Program (MTIP) Amendments Update** (Ken Lobeck) Mr. Lobeck provided the monthly submitted MTIP formal amendment and administrative modification project lists during the February 2021 timeframe noted in the meeting packet. Mr. Lobeck also noted he will change the project lead agency on project Beaverton Creek Trail: Westside Trail – SW Hocken Ave from the City of Tualatin to Tualatin Parks and Recreation.
- **Fatal crashes update** (Lake McTighe) Ms. McTighe provided information on the number of people killed in traffic crashes in Clackamas, Multnomah and Washington Counties over the

previous month and the total for the year. It was noted that more information on crashes was provided in the packet memo including number of fatalities by county data and by month and mode of travel. Also provided were graphs showing fatalities by road ownership in each county. Demographics are not tracked from this data.

- **Metro Civic Engagement Capacity Grants** (Reed Brodersen) Mr. Brodersen provided information on Metro's Civic Engagement Capacity Grants program. The program will fund community-based organizations working to increase civic engagement and community participation within greater Portland's Black, Indigenous and communities of color. The program has a total annual budget of \$400,000. Community-based organizations who primarily work with, advocate for and/or provide services to Black, Indigenous and other communities of color are eligible to apply. Letters of interest are due March 31. More information can be found at <https://www.oregonmetro.gov/tools-partners/grants-and-resources/civic-engagement-grants> or contact Mr. Brodersen directly.

Karen Buehrig asked what recommendations Mr. Brodersen had to encourage organizations to apply and how projects selected for grants would show investments across the region. It was noted possible connections with housing projects on equity engagements could be linked with these grants. Mr. Brodersen recommended those interested in applying to review the webpage and contact him for eligibility matters. Part of the investment criteria with the grants is building infrastructure across the region where equity focus is most needed.

- **Announcement: Transport Chair & Vice Chair Elections April 14, 2021** (Caleb Winter) Mr. Winter announced upcoming elections of Chair and Vice Chair on TransPort, the TPAC subcommittee working on regional coordination for Transportation System Management and Operations (TSMO) which includes Intelligent Transportation Systems, Incident Response and related strategies. There are no term limits for either role. TransPort's current Chair is Kate Freitag, Traffic Engineer and ITS Lead for ODOT Region 1. TransPort's current Vice Chair is A.J. O'Connor, Director Intelligent Transportation Systems at TriMet. Questions or nominations on the elections can be directed to Mr. Winter. Action on elections will be April 14, 2021.
- **Announcement: Rose Quarter Improvement Project Open House** (Eliot Rose) Mr. Rose provided information on part of the I-5 Rose Quarter project that includes an independent assessment study from ODOT on the proposed highway cover space could be used for affordable housing, local businesses, or community organizations and open spaces that reflect the historic Albina community. An independent cover assessment team is working to develop three design scenarios for the highway covers, considering how to best reconnect the community, promote economic development, and meet the community's vision for the new space. Online open houses are being provided to collect feedback from the community with the first one March 12. A flyer is planned to be sent to the committee after the meeting with full information. For further information the link is <http://www.albinahighwaycovers.com/>
- **Doodle Poll Outcomes on TPAC workshop plans and MTIP Sub-committee** (Chairman Kloster) Outcomes from the TPAC doodle poll were shared by Chairman Kloster. From feedback on a standing monthly TPAC workshop, it was proposed this would start in May, with monthly 4th Wednesdays, from 9:30 – noon. For topics requiring more discussion time, agenda items will be moved from TPAC regular meeting to workshops, focused on 1-2 topics per workshop and

incorporating online tools to engage participation. Recaps on discussions will be provided at TPAC regular meetings for those unable to attend the workshops.

Questions were received on the proposed MTIP subcommittee. It was decided not to formally prepare a committee subcommittee at this time. Staff will bring more information and proposed plan at the next meeting on possible pilot concept or work group once scope of work and attendance ability is suggested.

3. Public Communications on Agenda Items (none)

4. Consideration of TPAC Minutes from February 5, 2021

With no corrections or additions to the minutes:

MOTION: To approve minutes from February 5, 2021 as written.

Moved: Jeff Owen

Seconded: Jessica Stetson

ACTION: Motion passed unanimously.

5. Metropolitan Transportation Improvement Program (MTIP) Formal Amendment 21-5163 (Ken Lobeck) Mr. Lobeck presented information on Resolution 21-5163, for the purpose of amending ODOT's US30 NW Saltzman Road to NW Bridge Avenue Project, to add approved funding increasing the project limits by 1.31 miles to be US30 Kittridge Avenue to NW Bridge Avenue, to the 2021-24 MTIP. The memo in the packet provides full project description and project map location.

MOTION: To provide an approval recommendation for ODOT's US30 repaving project to JPACT for Resolution 21- 5163 under MTIP Amendment MR21-08-MAR.

Moved: Eric Hesse

Seconded: Chris Ford

ACTION: Motion passed unanimously.

6. Regional Enhanced Transit Concept (ETC) Plan update (Jamie Snook, TriMet/Matt Bihn, Metro) Ms. Snook and Mr. Bihn presented an overview of the Regional Enhanced Transit Concepts (ETC) plan with a data driven approach to planning and design for the Portland region's first major transit priority projects. The Regional ETC pilot program received \$5M from Regional Flexible Funds to develop the program, to improve transit reliability, speed and capacity, identify, design and build a set of enhanced transit projects, and develop a pipeline of enhanced transit projects.

Maps showing locations where transit delays were occurring regionally and in counties were shown. Projects that have been completed in the program and projects in process were reviewed. Benefits from the program were provided; travel time savings, bus priority and bicycle lanes appreciated, and reduction of congestion. The ETC program has opportunities with next steps that include:

- Continue with ETC projects: Alder & Couch
- City of Portland Rose Lane program
- Regional partners?
- Future roadway projects?
- RFFA opportunities?

Comments from the committee:

- Karen Buehrig noted the importance of these investments. It was noted that when first studied for corridor congestion for buses in the region has now broadened with other investments.

With help extending transit in suburban areas where sidewalks restrict access to buses, would investments through this program be applicable? Ms. Snook noted the projects looked at where the most impact to ridership lines at high congestion areas could be improved, and applying concepts that worked elsewhere. Tools and designs making improvements made the investments shared with partners across the region. Mr. Bihn noted the mobility improvements have extended to accessibility improvements as well. It was noted the prefab bus pad shown in the presentation was a platform that extends the sidewalk, not in place of a sidewalk.

- Eric Hesse thanked the presenters for their efforts and agreed with the benefits of partnerships on these projects. A link to the City of Portland's Growing Transit Communities Plan was shared: <https://www.portlandoregon.gov/transportation/68193> It was noted that accessibility, mobility and safety are all important elements with transit planning, including plans such as this that help prioritize and seek investments for our region.
- Glen Bolen shared a link on TriMet's Pedestrian Plan that helps jurisdictions by prioritizing sidewalk and intersection projects help people reach transit: <https://trimet.org/walk/> Jeff Owen noted this updated plan from a TGM grant would help show the significance of accessibility, community planning and equity with transit planning.
- Erin Wardell noted it was good to see the Cornell Road project called out in the presentation. It was proof of how the concept works with spot location and strategic planning. Regarding TV Highway, the need for bigger solutions can come from building small pieces toward larger solutions. Levering investment opportunities with projects for accessibility can increase improvements and efficiency. It was suggested to have the delay map overlay with equity area maps.

Ms. Snook agreed on the opportunity of phased approaches to bigger projects. Looking at the full picture of transit across the region can improve accessibility, equity and safety, and increase our investment benefits. It was noted that land use, development and transportation planning all work together, so that future planning should encompass these strategies.

- 7. 2019 Regional Safety Targets Report & Safety Work Plan** (Lake McTighe) Ms. McTighe presented information on the 2019 Regional Safety Targets Report and Safety work plan (noted these materials were in the meeting packet). In 2018, the region adopted a target to reach zero traffic deaths and serious injuries by 2035. Each year, Metro reports on progress towards the targets. The greater Portland region has one of the lowest traffic fatality rates of any large metropolitan area, but not even one traffic death is acceptable.

Regional partners are working together to eliminate traffic deaths and serious injuries on our streets. 95 people were killed in motor vehicle traffic crashes on roadways in the greater Portland region in 2019, while 545 suffered life changing injuries. Pedestrians killed in traffic crashes made up 38% of all traffic fatalities in 2019. The number of people killed while walking, bicycling or riding in a motor vehicle increased from 2018 to 2019.

Metro is developing a high level progress report, to be released in June, describing actions that local, regional and state partners have taken since the regional safety strategy was adopted. Additionally, a

Regional Safety Forum, scheduled for May 26, will provide an opportunity for local, regional and state partners to come together to discuss actions they have taken in the last four years and actions they are committed to taking in the year to come to address safety. The regional forum will be co-hosted by Metro and Multnomah County Public Health and the REACH program.

Metro's Regional Transportation Safety Program is divided into four areas: safety data, policy and planning, project and design support, and safe behaviors and program support. As a regional agency that does not own or operate any roadways, Metro's role within these general areas is focused on key tasks where Metro takes the lead; otherwise Metro's role is to coordinate with and support partners. Approximately .75 FTE is dedicated to the Metro transportation safety program activities.

Comments from the committee:

- Jeff Owen appreciated the report, and noted that the data clearly showed we were not meeting our safety targets. Regarding the May 26 forum it was suggested each attendee think of what they are bringing to the table for discussion, what our roles are to reverse these trends, and why strategies may not be creating better results.
- Rachael Tupica what Metro as the MPO was doing to address the senior population and equity focus groups with the data collected? Ms. McTighe noted that with the last RFFA cycle, equity and safety were among the main criteria with prioritized projects. For the next RFFA allocation, a high level analysis of RTP projects will take place, with equity focus and safety project flagged. From this, strategizing how we can increase funding and prioritizing projects for safety, and looking at how other implementations are working to show proven improvements will be known. More studies and data is being utilized that can help address inequities in our system.
- Eric Hesse agreed that the data shows more work needs to be done. However, the importance with designs of arterials, lowering speeds, and other issues mentioned in the report show opportunities with the focus areas, including strategies with the next STIP and TIP programming. Ms. McTighe noted a recent ordinance passed by the City of Tigard that reduced residential area speed limits from 25 to 20mph. Efforts like this can incrementally help. More examples from our cities and counties across the region will be part of the Safety Forum May 26. The committee will be invited.

- 8. Unified Planning Work Program (UPWP) Review Draft 2021-22** (John Mermin) Mr. Mermin presented TPAC with a summary of feedback received on the UPWP at the February 18 federal and state consultation meeting. Metro received feedback through written comments provided in advance, as well as verbal comments at the meeting. Much of the feedback focused on "housekeeping" suggestions (e.g. refining budget tables, fixing typos, minor wording changes, formatting, etc.) as well as a few more substantive changes.

Summarizing the substantive changes that Metro staff will bring forward in the final draft UPWP:

- Add a new project narrative for Tigard's Red Rock Creek Trail study within the Local Planning of Regional Significance section.
- Add language to Civil Rights & Environmental Justice narrative regarding conducting a benefits & burdens analysis of each investment/decision to ensure that the burdens do not fall disproportionately on the Region's underserved populations
- Add a hyperlink in the Public Engagement narrative to Metro's Public Participation Plan.
- Delete reference within the MPO Management & Services narrative to the SMART

Memorandum of Understanding (MOU), which expired in 2020. This MOU was superseded by the 4-way planning IGA with ODOT, TriMet, SMART and Metro.

On April 2, TPAC is scheduled to make a recommendation to JPACT on the UPWP. The Metro Council is scheduled to take final action May 20. Prior to the April 2 TPAC meeting, the committee is encouraged to review the document for any missing narratives, edits to the narratives or send information on missing narratives. Contact Mr. Mermin for enquiries. It was noted that the SW Washington Regional Transportation Council will submit their adoption on May 4, which will be added Metro's UPWP.

9. Committee comments on creating a safe space at TPAC (Chairman Kloster) none received.

10. Adjournment

There being no further business, meeting was adjourned by Chairman Kloster at 11:35 am.

Respectfully submitted,
Marie Miller, TPAC Recorder

Attachments to the Public Record, TPAC meeting, March 5, 2021

Item	DOCUMENT TYPE	DOCUMENT DATE	DOCUMENT DESCRIPTION	DOCUMENT No.
1	Agenda	3/5/2021	3/5/2021 TPAC Agenda	030521T-01
2	TPAC Work Program	2/26/2021	TPAC Work Program as of 2/26/2021	030521T-02
3	Memo	2/24/2021	TO: TPAC and interested parties From: Ken Lobeck, Funding Programs Lead RE: TPAC Metropolitan Transportation Improvement Program (MTIP) Monthly Submitted Amendments	030521T-03
4	Memo	02/25/2021	TO: TPAC and interested parties From: Lake McTighe, Regional Planner RE: Monthly fatal crash update	030521T-04
5	Handout	N/A	Metro Civic Engagement Capacity Building Grants	030521T-05
6	Memo	02/25/2021	TO: TPAC and interested parties From: Caleb Winter, Senior Transportation Planner RE: TransPort Chair and Vice Chair Elections April 14, 2021	030521T-06
7	Draft Minutes	02/05/2021	Draft TPAC minutes from 02/05/2021 meeting	030521T-07
8	Resolution 21-5163	03/05/2021	Resolution 21-5163 FOR THE PURPOSE OF AMENDING ODOT'S US30 NW SALTZMAN RD TO NW BRIDGE AVE PROJECT TO ADD APPROVED FUNDING INCREASING THE PROJECT LIMITS BY 1.31 MILES TO BE US30 NW KITTRIDGE AVE TO NW BRIDGE AVE TO THE 2021-24 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) (MR21-08-MAR)	030521T-08
9	Exhibit A to Resolution 21-5163	03/05/2021	Exhibit A to Resolution 21-5163	030521T-09
10	Staff Report	02/24/2021	Staff Report to Resolution 21-5163	030521T-10
11	Memo	02/25/2021	TO: TPAC and interested parties From: Lake McTighe, Senior Regional Planner RE: 2019 Traffic Fatalities and Serious Injuries Annual Performance Report & Annual Transportation Safety Work Program	030521T-011
12	Handout	Feb. 2021	2019 Annual Crash Update Fact Sheet	030521T-12
13	Handout	N/A	Annual Transportation Safety Work Program	030521T-13

Item	DOCUMENT TYPE	DOCUMENT DATE	DOCUMENT DESCRIPTION	DOCUMENT No.
14	Handout	N/A	Metro's Role in the transportation safety program	030521T-14
15	Report	Feb. 2021	2019 Traffic Fatalities and Serious Injuries Annual Performance Report	030521T-15
16	Memo	02/26/2021	TO: TPAC and interested parties From: John Mermin, Senior Regional Planner RE: 2021-22 Unified Planning Work Program (UPWP) Discussion Draft	030521T-16
17	Slide	03/05/2021	Feb 2021 traffic deaths in Clackamas, Multnomah and Washington Counties*	030521T-17
18	Flyer	March 2021	I-5 Rose Quarter Improvement Project, Independent Cover Assessment	030521T-18
19	Presentation	03/05/2021	March 2021 Formal Amendment Summary Resolution 21-5163	030521T-19
20	Presentation	03/05/2021	Regional Enhanced Transit Concepts (ETC)	030521T-20
21	Presentation	03/05/2021	2021 regional transportation safety update	030521T-21
22	Presentation	03/05/2021	2021-22 Unified Planning Work Program	030521T-22



Meeting minutes

Meeting: **Transportation Policy Alternatives Committee (TPAC)
Regional Congestion Pricing Study Workshop #3**

Date/time: Thursday, February 25, 2021 | 9:00 a.m. to 11:30 a.m.

Place: Virtual online meeting via Web/Conference call (Zoom)

Members Attending

Tom, Kloster, Chair
Karen Buehrig
Chris Deffebach
Lynda David
Eric Hesse
Katherine Kelly
Jeff Owen
Lewis Lem
Idris Ibrahim

Affiliate

Metro
Clackamas County
Washington County
SW Washington Regional Transportation Council
City of Portland
City of Gresham and Cities of Multnomah County
TriMet
Port of Portland
Community Representative

Alternates Attending

Jamie Stasny
Steve Williams
Allison Boyd
Jaimie Huff
Jon Makler
Glen Bolen

Affiliate

Clackamas County
Clackamas County
Multnomah County
City of Happy Valley & Cities of Clackamas County
Oregon Department of Transportation
Oregon Department of Transportation

Members Excused

Jessica Berry
Dayna Webb
Don Odermott
Chris Ford
Karen Williams
Laurie Lebowsky
Jessica Stetson
Donovan Smith
Gladys Alvarado
Wilson Munoz
Yousif Ibrahim
Taren Evans
Rachael Tupica
Jennifer Campos
Rob Klug
Shawn M. Donaghy
Jeremy Borrego
Rich Doenges

Affiliate

Multnomah County
City of Oregon City & Cities of Clackamas County
City of Hillsboro & Cities of Washington County
Oregon Department of Transportation
Oregon Department of Environmental Quality
Washington State Department of Transportation
Community Representative
Community Representative
Community Representative
Community Representative
Community Representative
Community Representative
Federal Highway Administration
City of Vancouver, Washington
Clark County
C-Tran System
Federal Transit Administration
Washington Department of Ecology

Guests Attending

Will Farley
 Jean Senechal Biggs
 Kari Schlosshauer
 Heather Willis
 Brian Hurley
 Emma Sagor
 Andrew Plambeck
 Bob Kellett
 Dave Roth
 Guy Benn
 Jennifer Wieland
 Ning Zhou
 Mat Dolata
 Maurico Lederer
 Michael Espinoza
 Mike Reynolds
 Nathaniel Price
 Shoshana Cohen
 Sorin Garber
 Garet Prior
 Chris Smith
 Alice Bibler
 Sarah Iannrone

Affiliate

City of Lake Oswego
 City of Beaverton
 Safe Routes to Schools

 Oregon Department of Transportation
 Portland Bureau of Transportation
 Portland Streetcar
 Portland Bureau of Transportation
 City of Tigard
 TriMet
 Nelson Nyygard

 WSP

 Portland Bureau of Transportation

 Federal Highway Administration
 Portland Bureau of Transportation

 Oregon Department of Transportation
 Portland Planning & Sustainability Commission

 The Street Trust

Metro Staff Attending

Margi Bradway, Dep. Director Planning & Dev.	Kim Ellis, Principal Transportation Planner
Malu Wilkinson, Investment Manager	Caleb Winter, Senior Transportation Planner
Eliot Rose, Senior Transportation Planner	Grace Cho, Senior Transportation Planner
Ted Leybold, Resource Manager	Chris Johnson, Research Manager
John Mermin, Senior Transportation Planner	Matthew Hampton, Senior Transportation Planner
Elizabeth Mros-O'Hara, Sr. Trans. Planner	Matt Bihn, Investment Transportation Planner
Alex Oreschak, Associate Planner	Peter Bosa, Research Center
Alan Gunn, Metro	Marie Miller, TPAC Recorder

1. Introductions and Workshop Purpose (Chairman Tom Kloster)

Chairman Kloster called the meeting to order at 9:00 a.m. Introductions were made. Reminders where Zoom features were found online was reviewed.

2. Metro Regional Congestion Pricing Study Update (Elizabeth Mros-O'Hara)

Ms. Mros-O'Hara provided an overview of the agenda and what the study findings have found since the last workshop. The pricing scenarios have been further evaluated with modeling projections. Costs benefit comparisons with other cities utilizing congesting pricing measures were provided. The project study schedule was shown nearing the completion planned in June this year.

3. Pricing Scenarios: High Level Findings, Costs and Benefits (Alex Oreschak, Matt Bihn)

Mr. Oreschak presented information on pricing scenarios, noting the study does not recommend or propose

implementing any pricing measures, and the scenarios proposed are tied to the Regional Transportation Plan (RTP) pricing strategies region's four priorities. Key performance measures study included Vehicle Miles Traveled (VMT), Mode Share, Accessibility to Jobs (Transit & Auto), Delay, Emissions, and Cost (total cost of travel for the region and cost per traveler paying a charge).

Four "tools" with multiple possible program designs and assess overall value were reviewed. The study is evaluating four different pricing concepts to understand how they would perform in our region with our land use and transportation system. Pricing concepts being assessed are:

- Cordon/Area: charges drivers to enter and/or drive within a defined boundary
- Vehicle Miles Traveled/Road User Charge: a charge based on how many miles are traveled by auto
- Roadway: a direct charge to use a specific roadway or specific roadways
- Parking: charges to park in specific areas

Table 1 on page 2 of the memo in the workshop packet *Base and Refined Pricing Model Scenarios* describes the Base Scenario and the eight refined scenarios analyzed (two from each family tool).

Summary of scenario performance:

- All four scenario types help address climate and congestion priorities.
- All eight scenarios reduce the drive alone rate, vehicle miles traveled, and emissions, while increasing daily transit trips.
- Geographic distributions of benefits and costs vary by scenario.
- There are tradeoffs for implementing pricing scenarios.

Summary of cost impacts:

- All eight scenarios increase the overall cost for travel for the region, but some scenarios distribute the costs widely while others concentrate them on fewer travelers. Those that distribute the costs also have the highest overall cost for the region.
- Overall regional transportation costs and individual traveler costs vary by scenario.
- Distribution of costs and benefits have implications for where fee discounts and revenues should be targeted.

The summary of all key findings from the modeling was provided by a graph showing how results were compared from Metro's 2018 Regional Transportation Plan to determine approximate benchmarks to indicate positive or negative impacts for each metric. All eight scenarios provide at least a small positive change for drive alone rate and emissions, while seven of the eight scenarios provide at least a small positive change for daily VMT and daily transit trips.

The two VMT scenarios and the Parking B scenario have all positive regional results across metrics, while the Parking A scenario has mostly positive results, but also minimal changes for two metrics (Daily VMT and Job Access via Transit). The two Cordon scenarios and the two Roadway scenarios have more mixed results. Both Cordon scenarios have small to moderate negative changes for both delay and job access via auto. This appears to be the result of drivers seeking to avoid the charge in the cordon area and remaining on highways or nearby arterials instead of utilizing surface streets within the cordon boundaries. The two Roadway scenarios see moderate to large negative changes in arterial

delay, as well as minimal change to small negative change in Job Access via Transit. This appears to be the result of drivers seeking to avoid the charge on the highways and diverting to arterial streets near the charged roadways.

The summary of congestion pricing cost impacts was provided:

- All eight scenarios increase the overall cost for travel for the region, but some scenarios distribute the costs widely while others concentrate them on fewer travelers. Those that distribute the costs also have the highest overall cost for the region.
- Overall regional transportation costs and individual traveler costs vary by scenario.
- Distribution of costs and benefits have implications for where fee discounts and revenues should be targeted.

Following regional travel costs examples, benefits, with some exceptions, show that each of the pricing scenarios move the needle in the right direction in multiple categories: VMT per person declines, Job access increases, Drive alone rate decreases, GHG and other emissions decrease, Total transit trips increase and Our region's most congested roadways see some relief.

Comments from the committee:

- Jeff Owen asked what cost per time period represented pertaining to long-term or all day-term parking. Chris Johnson answered these parking terms are aligned with trip purpose. Long term parking costs are aligned with working trips, while short term costs are applied to other trips purposes (shopping, personal business).
- Jaimie Huff noted that while it might fall outside of this study's scope, has the project team identified any potential impacts to land use (housing costs), the health of sensitive environmental areas, public health, etc.? Are those impacts something that will be studied further in the future? Ms. Mros-O'Hara noted these were not covered in the metrics of the study but important elements for consideration.
- Christina Deffebach noted the importance to economic assess to jobs with the equity focus areas. Lewis Lem asked for further clarification if possible longer window for commuting which could result in more positive outcomes across the scenarios. It was noted to have consistency with the RTP on these transit times.
- Sorin Garber asked if the scenarios include any added capacity such as new priced lanes. Ms. Mros-O'Hara noted Chthe only change is the price added to travel.
- Lewis Lem noted Portland compared to other places where pricing has been implemented globally and whether there are peer metros (population size, level of congestion) where pricing has been implemented.
- Christina Deffebach asked if modeling was done for variable tolls. Mr. Oreschak noted it was not.
- Steve Williams noted with pricing effects between arterial roadways and highways, the traffic changes, and need for a coordinated approach to regional and state roadways.
- Nathaniel Price asked if roadway diversions considered changes in transit or no trips taken at all. Mr. Bihn noted the models included changes by mode and destination, but not changes in routes or no trips taken.

- Chris Smith asked if rebates on tolls with impacts to costs considered in the study. Mr. Oreschak noted they were not, but rebates and discounts regarding equity considerations would be discussed later in the presentation.
- Lewis Lem asked if an asterisk might be added to show you are not assuming changes in transit when analyzing travel times or costs, which Mr. Oreschak confirmed.
- Jeff Owen asked if these were based on the 2027 fiscal constrained projects if they were to happen, which Mr. Oreschak agreed was the baseline with scenarios planned.
- Jon Makler noted the RTP priorities blended with the study scenarios. Were these showing the performance measure results expected? Mr. Oreschak noted the safety measures were not included in the scenarios but addressed in investment opportunities. There are geographic costs vs benefit concerns, and other examples where the balance between benefit and costs can help shape the policy design.
- Steve Williams asked if identifying populations that experience significant changes of impact with the pricing scenarios have been developed, and what level of analysis has been made between benefits with those paying small amount vs larger amounts. Mr. Bihn noted that VMT areas would charge everyone, but in cordon areas they are a smaller group, which varies costs. Ms. Mros-O'Hara added this study looks at the regional overview of the subject, where more specific studies will come later.
- Eric Hesse noted the significance with pricing approaches that impact the "green" factor, but even more broadly having projects move forward that can interact with local and regional systems.
- Ning Zhou noted that since the model already assumed the mode shift, so the driver who will see the higher parking cost with small time saving is the one having to pay and not able to shift to transit. Peter Bosa noted the narratives were completely theoretical. These examples would occur if there were people whose travel match the description.
- Chris Deffebach agreed on the importance of looking at the interactions through the regional system, and that this study doesn't provide answers but opportunities with the variables. It was suggested to be careful not to charge too much with tolls. Parking would not provide much revenue, and the gas tax may not be sustainable. There is a price point consideration and we should look at this at the regional level for value.
- Guy Benn asked how the VMT scenario might be implemented or achievable. Mr. Oreschak noted VMT or odometer tracking are options. The state OReGO program link was shared in chat: <https://www.oregon.gov/ODOT/Programs/Pages/OReGO.aspx> Garet Prior noted that ODOT is testing a pilot of VMT in the Portland Metro Area, called a Road Usage Charge this year. Link: <https://www.oregon.gov/odot/Programs/Pages/OReGOPilot.aspx>

Will Farley noted OReGO showed great promise for charging VMT, but why hasn't anyone looked at charging VMT at vehicle registration when at DEQ? Nathaniel Priced noted in chat the Pilot OReGO is working on looking at ways to use technology to adjust the VMT based on location. Putting a geofence around a corridor, a region, a county etc. to adjust what the VMT rate would be. They are also looking at a changing VMT based on time of day which can incorporate variable rate and cordon pricing components in the system.

- Maurico Lederer noted the complexity with these areas of discussion and having this a significant regional discussion. Questions on the revenue distributions will need to be evaluated which are powerful tools regarding pricing. It was noted these plans could provide political guidance for regional decisions.
- Jaimie Huff asked for more information on the pricing range of trips between scenarios, and if the final report would include assumptions discussed here. Ms. Mros-O'Hara noted best judgment on pricing was used in the scenarios, and assumptions, best practices and considerations with implementations would be in the final report.

4. Five Minute Break- the committee took a brief break in the meeting.

5. Equity: What we have learned from talking with Equity Experts (Elizabeth Mros-O'Hara) Ms. Mros-O'Hara provide an overview of the outreach made to specific groups for targeted feedback on analysis equity focus. Feedback included information on how pricing can be designed to improve equity, ways to measure equity impacts (access to jobs, travel time, costs, mode shift, and congestion).

Stakeholders provided input on best practices, noting:

- General agreement that our metrics -better jobs access and geographic focus on benefits and costs -were helpful to understand pricing performance
- Agreement that any pricing project will need to assess the equity benefits and consideration in much more detail
- Agreement that current system is inequitable

Staff heard many key themes from stakeholders:

Community must be engaged throughout projects

- Promises made for equity are not guaranteed
- How can we ensure targeted revenue, discounts, etc. are carried out?
- Pricing should be paired with an access strategy
- Access to Jobs, education, and community services
- Public health should be considered –*emissions helpful, but there is more*
- Focus on the future state we want then assess where the benefits occur
- Concern that wealthier drivers will just pay the toll and continue business as usual
 - Focus on using revenues to make alternative transportation and transit more viable for BIPOC and low income communities (ex. "transportation wallet")
- Concern over potentially disparate impacts
- BIPOC and low-income residents, esp. those who commute off-peak and to multiple jobs and urban areas versus more suburban/rural areas
- Issues with car culture/difficulty in using transit/privacy concerns
- How can a pricing project increase equity rather than "do no harm"?
- How will COVID / work from home change commute patterns and needs?
- Interest in continuing the conversation

Comments from the committee:

- Jon Makler noted we hope we can be more explicit about which equity problem we are aiming to solve. Displacement and location-based externalities (exposure to pollution) come mind.
- Steve Williams asked if the uses for funds work under Oregon laws. Ms. Mros-O'Hara noted it would depend on interpretation, examples of how others have done this, with the memo on

implementation addressing this issue. It was suggested to analyze the base case to address 2020 costs with transportation to projected 2027 costs/benefits when helping the public understand perceived pricing methods.

- Jeff Owen asked how soon we may see potential solutions to these issues/questions. Ms. Mros-O'Hara noted the potential pricing designs may be tied to projects and policy. Applications from guidelines will be helpful.
- Eric Hesse agreed that engaging equity through the tools mentioned would be useful. It was suggested to use the graphs shown as part of the equity analysis, especially with the access variables, since not all baselines are equitable. Discounts, subsidies and cost mitigation considerations are all important factors for transit equity plans. It might be helpful to review assumptions from past studies that have changed over time, and where improving conditions in the analysis can be made.
- Brian Hurley asked if the stakeholders had discussed ways to measure progress on the suggestions. Ms. Mros-O'Hara notes discussions included metrics used and ways they could be used elsewhere, with the need to do more. It was noted the geographic analysis was helpful.

6. Revenue Investment Opportunities (Elizabeth Mros-O'Hara) Improving scenario performances was discussed. Noting that reinvestment, discount and design considerations could include any pricing scenario presumably would generate more revenue than it costs, the region/communities will be asked how best to use those revenues and asking what design considerations, targeted reinvestments, or targeted areas for discounts could improve performance including equity and safety.

As examples, three scenario maps were shown with projected results. The VMTB scenario shows uneven distribution of benefits. Roadway B scenario shows that a higher charge on freeways results in arterials performing worse. Changes in volumes compared to base with Cordon A & B shows congestion pushed to arterials and freeways around the cordons.

Comments from the committee:

- Eric Hesse noted that past transit response from air quality issues resulted in the fare less square development. Concerning the cordon areas these issues may be relevant again. Concerning the reinvestment of revenue, options to consider may be altering fares, free transit, and additional scenarios with combination of options.
- Jeff Owen noted it was important to keep in mind the benefits from the pricing considerations. Input and help crafting the message to JPACT as the project study completes soon is encouraged.
- Chris Deffebach noted that bus lanes on arterials only work if bus services are offered there. Regarding revenues spent, roadway funds are going down and there are more electric vehicles on roadways now. With VMT charges it would be important to have a reality check on estimates, and think region-wide. It was suggested to think of the bigger picture and keep in mind how the region functions as a whole.
- Steve Williams noted that the cost of operation is expensive and significantly cuts into revenue. Capital costs for implementation and ongoing costs for operations need to be considered.
- Eric Hesse noted that the PBOT task force was looking at mitigation strategies with assessments for consideration which could be shared. Agreement on caution with expected costs/revenues until more is known. There is a current legislative session happening with user fee tax force bill consideration that should be noted.

7. Expert Review Panel (Elizabeth Mros-O'Hara) The staff will be convening a group of congestion pricing experts with experience in US, Canada, and Europe to look at our efforts and provide guidance on next steps. The date for this meeting will be April 22 in the morning (exact time TBD). Metro Council, JPACT, and TPAC will be invited to hear the discussion, as will pricing partners.

8. Schedule and Next Steps (Elizabeth Mros-O'Hara) The overall project schedule was shown. The next steps were outlined:

- Metro Council and JPACT – April 15
- Expert Review Panel – April 22
- TPAC, JPACT, MPAC and Metro Council – June 2021
- Final Report – June 2021

9. Adjournment

There being no further business, meeting was adjourned by Chairman Kloster at 11:30 am.

Respectfully submitted,

Marie Miller, TPAC Recorder

Attachments to the Public Record, TPAC RCPS workshop meeting, February 25, 2021

Item	DOCUMENT TYPE	DOCUMENT DATE	DOCUMENT DESCRIPTION	DOCUMENT No.
1	Agenda	2/25/2021	2/25/2021 TPAC Agenda	022521T-01
2	Memo	2/25/2021	TO: TPAC and Interested parties From: Elizabeth Mros-O'Hara, RCPS Project Manager RE: Regional Congestion Pricing Study – Workshop #3	022521T-02
3	Attachment 1	2/25/2021	Draft Summary of Key Findings	022521T-03
4	Presentation	2/25/2021	Regional Congestion Pricing Study	022521T-04

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING THE	)	RESOLUTION NO. 21-5165
FISCAL YEAR 2021-22 UNIFIED PLANNING	)	Introduced by Chief Operating Officer
WORK PROGRAM AND CERTIFYING THAT	)	Marissa Madrigal with the concurrence
THE PORTLAND METROPOLITAN AREA IS IN	)	of Council President Lynn Peterson
COMPLIANCE WITH FEDERAL)	
TRANSPORTATION PLANNING REQUIREMENTS)	

WHEREAS, the Unified Planning Work Program (UPWP) update as shown in Exhibit A attached hereto, describes all Federally-funded transportation planning activities for the Portland-Vancouver metropolitan area to be conducted in Fiscal Year (FY) 2021-22; and

WHEREAS, the UPWP is developed in consultation with federal and state agencies, local governments, and transit operators; and

WHEREAS, the FY 2021-22 UPWP indicates federal funding sources for transportation planning activities carried out by Metro, Southwest Washington Regional Transportation Council, Clackamas County and its cities, Multnomah County and its cities, Washington County and its cities, TriMet, South Metro Area Regional Transit, the Port of Portland, and the Oregon Department of Transportation; and

WHEREAS, approval of the FY 2021-22 UPWP is required to receive federal transportation planning funds; and

WHEREAS, The FY 2021-22 UPWP is consistent with the continuing, cooperative, and comprehensive planning process and has been reviewed through formal consultation with state and federal partners; and

WHEREAS, the FY 2021-22 UPWP is consistent with the proposed Metro Budget submitted to the Metro Council; and

WHEREAS, TPAC recommended approval on April 2, 2021 of the FY 2021-22 UPWP and forwarded their recommended action to JPACT;

WHEREAS, the federal self-certification findings in Exhibit B demonstrate Metro's compliance with federal planning regulations as required to receive federal transportation planning funds; now therefore

BE IT RESOLVED that:

1. The Metro Council adopts JPACT's May 20, 2021 recommendation to adopt the FY 2021-22 UPWP, attached hereto as Exhibit A.
2. The FY 2021-22 UPWP is consistent with the continuing, cooperative, and comprehensive planning process and is given positive Intergovernmental Project Review action.
3. Metro's Chief Operating Officer is authorized to apply for, accept, and execute grants and agreements specified in the UPWP.

4. Staff shall update the UPWP budget figures, as necessary, to reflect the final Metro budget.
5. Staff shall submit the final UPWP and self-certification findings to the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

ADOPTED by the Metro Council this 20st day of May 2021.

Lynn Peterson, Council President

Shirley Craddick, Chair of JPACT

Approved as to Form:

Carrie MacLaren, Metro Attorney



DISCUSSION DRAFT

2021-2022 Unified Planning Work Program

Transportation planning in the
Portland/Vancouver metropolitan area

~~February~~April 2021

oregonmetro.gov

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/civil_rights 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 assures 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.

Unified Planning Work Program website: oregonmetro.gov/unified-planning-work-program

The preparation of this strategy 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 strategy are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.

TABLE OF CONTENTS

FY 2021-2022 PORTLAND METROPOLITAN AREA UNIFIED PLANNING WORK PROGRAM (UPWP)

UPWP Overview

Introduction	3
Amending the UPWP.....	7
Federal Requirements for Transportation Planning	7
Status of Metro’s Federally Required Planning Documents	10
Metro Overview	11
Metropolitan Planning Area Boundary Map.....	12
Regional Policy Framework.....	13
Metro Governance and Committees	14
Planning Priorities in the Greater Portland Region.....	16
Glossary of Resource Funding Types and Requirement Terms	18
Metro Resolution to Adopt 2021-2022 UPWP.....	19

1. Regional Transportation Planning

Transportation Planning	23
Climate Smart Implementation	25
Regional Transportation Plan Update (2023).....	27
Metropolitan Transportation Improvement Program (MTIP).....	29
Air Quality Program	32
Regional Transit Program.....	34
Regional Mobility Policy Update.....	35
Regional Freight Program... ..	37
Complete Streets Program.....	40
Regional Travel Options (RTO) and Safe Routes to School Program	42
Transportation System Management and Operations (TSMO) – Regional Mobility Program.....	44
Transportation System Management and Operations (TSMO) - 2021 Strategy Update.....	46
Enhanced Transit Concepts Pilot Program	47
Economic Value Atlas(EVA) Implementation	49

2. Regional Corridor/Area Planning

Corridor Refinement and Project Development (Investment Areas).....	53
Southwest Corridor Transit Project	55
Columbia Connects.....	56
MAX Tunnel Study	58
City of Portland Transit and Equitable Development Assessment.....	59
Tualatin Valley Highway Transit and Development Project	60
TriMet Red Line MAX Extension Transit-Oriented Development (TOD) and Station Area Planning... ..	62
Westside Corridor Multimodal Improvements Study	63

3. Regional Administration & Support

MPO Management and Services.....	67
Civil Rights and Environmental Justice	69
Public Engagement	71
Data Management and Visualization	72
Economic, Demographic and Land Use Forecasting, Development and Application Program.....	74
Travel Forecast Maintenance, Development and Application.....	76
Oregon Household Travel Survey.....	78
Technical Assistance Program... ..	80
Intergovernmental Agreement on Fund Program.....	81

4. State Transportation Planning of Regional Significance

ODOT – Development Review	85
ODOT – Transportation and Growth Management	86
ODOT – Region 1 Active Transportation Strategy	88
ODOT – Region 1 Transportation Data, Tools and Reports	89
ODOT – Region 1 Planning for Operations	90
ODOT - Project I-5 and I-205 Portland Metropolitan Value Pricing.....	92
ODOT – Interstate 5 Boone Bridge Seismic Enhancement and Interchange Improvement Study.....	94
ODOT – Region 1 Bus on Shoulder Pilots and Feasibility Assessment	95
ODOT – Oregon City-West Linn Pedestrian-Bike Bridge Concept Plan.....	96
ODOT – Truck Network Barriers Analysis	98
ODOT – Region 1 Urban Arterials Assessment Strategy	99
ODOT – Interstate 5 Columbia River Bridge Replacement	100

5. Local Planning of Regional Significance

Clackamas Connections Integrated Corridor Management.....	105
Hillsboro – Oak and Baseline: Adams Ave – SE 10 th Ave	106
Tualatin Hills Parks & Recreation District – Beaverton Creek Trail – SW Hocken Avenue	107
Willamette River Crossing Feasibility Study	108
<u>Red Rock Creek Trail – Alignment Study.....</u>	<u>109</u>

Appendices

Appendix A. Federal Certification Review Table	113
Appendix B. Fiscal Year 2021-22 Unified Planning Work Program Funding Summary.....	152
Appendix C. Southwest Washington Regional Transportation Council UPWP	



Unified Planning Work Program (UPWP) overview

Portland Metropolitan Area Unified Planning Work Program (UPWP) Overview

INTRODUCTION

The Unified Planning Work Program (UPWP) is developed annually and documents metropolitan transportation planning activities performed with federal transportation funds (and regionally significant activities using local funds). The UPWP is developed by Metropolitan Planning Organizations (MPOs) in cooperation with Federal and State agencies, local governments and transit operators.

This UPWP documents the metropolitan planning requirements, planning priorities facing the Portland metropolitan area and transportation planning activities and related tasks to be the regional will accomplished during Fiscal Year 2021-2022 (from July 1, 2021 to June 30, 2022).

Metro is the metropolitan planning organization (MPO) designated by Congress and the State of Oregon, for the Oregon portion of the Portland/Vancouver urbanized area, covering 24 cities and three counties. It is Metro's responsibility to meet the requirements of The Fixing America's Surface Transportation FAST Act, the Oregon Transportation Planning Rule (which implements Statewide Planning Goal 12), and the Metro Charter for this MPO area. In combination, these requirements call for development of a multi-modal transportation system plan that is integrated with the region's land use plans, and meets Federal and state planning requirements.

The UPWP is developed by Metro, as the MPO for the Portland metropolitan area. It is a federally-required document that serves as a tool for coordinating federally - funded transportation planning activities (and locally funded activities of regional significance) to be conducted over the course of each fiscal year, beginning on July 1. Included in the UPWP are detailed descriptions of the transportation planning projects and programs, listings of draft activities for each project, and a summary of the amount and source of local, state and federal funds to be used for planning activities. Estimated costs for project staff (expressed in full-time equivalent, or FTE) include budget salary and benefits as well as overhead costs per FTE for project administrative and technical support.

Transportation planning and project development activities

Metro, as the greater Portland area MPO, administers funds to both plan and develop projects for the region's transportation system. Transportation planning activities are coordinated and administered through the Unified Planning Work Program (UPWP). Project development is coordinated and administered through the Metropolitan Transportation Improvement Program (MTIP).

Following is a description and guidance of what activities will be defined as transportation planning activities to be included in the UPWP and activities that will be defined as transportation project development activities and included in the MTIP.¹ The descriptions are consistent with the Oregon planning process and definitions.

¹ If federal transportation funds are used for a transportation planning activity, in addition to its UPWP project entry, those funds will have an entry in the MTIP for the purpose of tracking the obligation of those funds only. The coordination and administration of the planning work will be completed within the UPWP process.

Agencies using federal transportation funds or working on regionally significant planning and/or project development activities, should coordinate with Metro on their description of work activities and budgets for how to include a description of those activities in the appropriate UPWP or [Transportation Improvement Program \(TIP\)](#) process and documents.

Transportation planning activities to be administered or tracked through the UPWP process

Work activities that are intended to define or develop the need, function, mode and/or general location of one or more regional or state transportation facilities is planning work and administered through the UPWP process. A state agency may declare an activity as planning if that activity does not include tasks defined as project development.

Examples of UPWP type of planning activities include: transportation systems planning, corridor or area planning, Alternatives Analysis, Type, Size and Location (TSL) studies, and facilities planning.

UPWP Definitions

"System Planning" occurs at the regional, community or corridor scale and involves a comprehensive analysis of the transportation system to identify long-term needs and proposed project solutions that are formally adopted in a transportation system plan, corridor plan, or facility plan.

"Project Planning" occurs when a transportation project from an adopted plan (e.g. system, corridor, etc.) is further developed for environmental [clearance-screening](#) and design. Often referred to as scoping, project planning can include:

- Problem identification
- Project purpose and need
- Geometric concepts (such as more detailed alignment alternatives)
- Environmental [clearance-screening](#) analysis
- Agency coordination
- Local public engagement strategy

"Transportation Needs" means estimates of the movement of people and goods consistent with acknowledged comprehensive plan and the requirements of the state transportation planning rule. Needs are typically based on projections of future travel demand resulting from a continuation of current trends as modified by policy objectives, including those expressed in Oregon Planning Goal 12 and the State Transportation Planning rule, especially those for avoiding principal reliance on any one mode of transportation.

"Transportation Needs, Local" means needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.

"Transportation Needs, Regional" means needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county or associated group of counties.

"Transportation Needs, State" means needs for movement of people and goods between and through regions of the state and between the state and other states.

“Function” means the travel function (e.g. principle arterial or regional bikeway) of a particular facility for each mode of transportation as defined in a Transportation System Plan by its functional classification.

“Mode” means a specific form of travel, defined in the Regional Transportation Plan (RTP) as motor vehicle, freight, public transit, bicycle and pedestrian modes.

“General location” is a generalized alignment for a needed transportation project that includes specific termini and an approximate route between the termini.

Transportation project development and/or preliminary engineering activities to be administered or tracked through the Transportation Improvement Program process

Transportation project development work occurs on a specific project or a small bundle of aligned and/or similar projects. Transportation project development activities implement a project to emerge from a local transportation system plan (TSP), corridor plan, or facility plan by determining the precise location, alignment, and preliminary design of improvements based on site-specific engineering and environmental studies. Project development addresses how a transportation facility or improvement authorized in a TSP, corridor plan, or facility plan is designed and constructed. This may or may not require land use decision-making. *See table below for a description of how Metro’s various Federal, State, Regional and local planning documents interrelate.*

MPO staff will work with agency staff when determining whether work activities to define the location of a facility is more about determining a general location (planning activity) or precise location (project development activity).

For large transit or throughway projects, this work typically begins when the project is ready to enter its Final Environmental Impact Statement and Engineering phase.

Role of Metro's Federal, State and Planning Documents

Regional Transportation Plan (RTP)	Serves as both our Metropolitan Transportation Plan for federal purposes and our Regional Transportation System Plan (TSP) for Oregon statewide planning purposes. Establishes regional policy, performance measures and targets and a rolling 20-year system of transportation investments for the region. Updated every five years. Local cities and counties are also required by the State to complete their own TSP which, must be consistent with the RTP. The local TSPs and the RTP have an iterative relationship – both influence and inform each other.
---	--

Regional Transportation Functional Plan (RTFP)	Establishes transportation planning requirements for cities and counties in the Metro region that build upon state and federal requirements. Updated periodically, usually in tandem with an RTP update.
Metropolitan Transportation Improvement Program (MTIP)	Four-year program for transportation investments in the Metro region using federal transportation funds. Updated every three years and amended monthly <u>as required</u> .
Unified Planning Work Program (UPWP)	Annual program of federally-funded transportation planning activities in the Metro region (including ODOT planning projects <u>and locally led (and funded) projects of regional significance</u>). Includes Metro's annual self-certification with federal planning requirements.

Organization of UPWP

The UPWP is organized into three sections: the UPWP Overview, ~~a listing of~~ planning activities by category, and other planning related information including the UPWP for the Southwest Washington Regional Transportation Council.

Planning activities for the Portland metropolitan area are listed in the UPWP by categories to reflect:

- Metro led region wide planning activities,
- Corridor/area plans
- Administrative and support programs;
- State led transportation planning of regional significance, and
- Locally led planning of regional significance.

Development of UPWP

When developing the annual UPWP, Metro follows protocols established by ODOT in cooperation with the United States Department of Transportation in 2016. These protocols govern the general timeline for initiating the UPWP process, consultation with state and federal agencies and adoption by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council.

The UPWP is developed by Metro with input from local governments, Tri-County Metropolitan Transportation District (TriMet), South Metro Area ~~Rapid-Regional~~ Transit (SMART), Oregon Department of Transportation (ODOT), Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). Additionally, Metro must undergo a process known as self-certification to demonstrate that Metro conducts the ~~Portland metropolitan~~ region's planning process ~~is being conducted~~ in accordance with all applicable federal transportation planning requirements. Self-certification is conducted in conjunction with the adoption of the MTIP.

This UPWP includes the transportation planning activities of Metro and other area governments using Federal funds for transportation planning activities for the fiscal year of July 1, 202~~10~~¹⁹ through June 30, 202~~21~~²⁰. During the consultation, public review and adoption process for the 20~~20~~¹⁹-21~~0~~⁹ UPWP, draft versions of the document were made available to the public through Metro's website, and distributed to Metro's advisory committees and the Metro Council. The same protocol will be followed for the 202~~10~~¹⁹-22~~1~~⁰ UPWP.

AMENDING THE UPWP

The UPWP is a living document, and must be amended periodically to reflect significant changes in project scope or budget of planning activities (as defined in the previous section of the UPWP) to ensure continued, effective coordination among our federally funded planning activities. This section describes the management process for amending the UPWP, identifying project changes that require an amendment to the UPWP, and which of these amendments can be accomplished as administrative actions by staff versus legislative action by JPACT and the Metro Council.

Legislative amendments (including a staff report and resolution) to the UPWP are required when any of the following occur:

- A new planning study or project is identified and is scheduled to begin within the current fiscal year
- There is a \$500,000 or more increase in the total cost of an existing UPWP project. This does not cover carryover funds for a project/program extending multiple fiscal years that is determined upon fiscal year closeout.

Legislative amendments must be submitted by the end of the 2nd quarter of the fiscal year for the current UPWP.

Administrative amendments to the UPWP can occur for the following:

- Changes to total UPWP project costs that do not exceed the thresholds for legislative amendments above.
- Revisions to a UPWP narrative's scope of work, including objectives, tangible products expected in fiscal year, and methodology.
- Addition of carryover funds from previous fiscal year once closeout has been completed to projects or programs that extend into multiple fiscal years.

Administrative amendments can be submitted at any time during the fiscal year for the current UPW.

FEDERAL REQUIREMENTS FOR TRANSPORTATION PLANNING

The current federal transportation ACT, Fixing America's Surface Transportation (FAST) Act, provides direction for regional transportation planning activities. The FAST Act was signed into law by President Obama on December 4, 2015. It sets the policy and programmatic framework for transportation investments. Fast Act stabilizes federal funding to state and metropolitan regions for transportation planning and project improvements and funding levels for the federal aid transportation program, and among key initiatives adds new competitive grants which promote investments in the nation's strategic freight corridors.

The FAST Act retains the multi-modal emphasis of the federal program by ensuring funding of transit programs as well as the Transportation Alternatives Program. FAST Act builds in the program structure and reforms of the prior federal Transportation Act, the Moving Ahead for Progress in the 21st Century Act (MAP-21), which created streamlined and performance-based surface transportation program.

Regulations implementing FAST Act require state Department of Transportation and Metropolitan Planning Organizations to establish performance measures and set performance targets for each of the seven national goal areas to provide a means to ensure efficient investment of federal transportation funds, increase accountability and transparency, and improve investment decision-making. The national goal areas are:

- Safety
- Infrastructure condition
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduce project delivery delays

A. Planning Emphasis Areas (PEAs)

The metropolitan transportation planning process must also incorporate Federal Highway Administration/Federal Transit Administration **Planning Emphasis Areas (PEAs)**.

<https://www.transit.dot.gov/regulations-and-guidance/transportation-planning/joint-fta-fhwa-emphasis-planning-areas-pdf> For FY 2019-2020, these include:

- **Models of Regional Planning Cooperation:** Promote cooperation and coordination across MPO boundaries and across State boundaries to ensure a regional approach to transportation planning. Cooperation could occur through the metropolitan planning agreements that identify how the planning process and planning products will be coordinated, through the development of joint planning products, and/or by other locally determined means. Coordination includes the linkages between the transportation plans and programs, corridor studies, projects, data, and system performance measures and targets across MPO and State boundaries. It also includes collaboration between State DOT(s), MPOs, and operators of public transportation on activities such as: data collection, data storage and analysis, analytical tools, target setting, and system performance reporting in support of performance based planning.
- **Access to Essential Services:** As part of the transportation planning process, identify social determination of transportation connectivity gaps in access to essential services. Essential services include housing, employment, health care, schools/education, and recreation. This emphasis area could include identification of performance measures and analytical methods to measure the transportation system's connectivity to essential services and the use of this information to identify gaps in transportation system connectivity that preclude access of the public, including traditionally underserved populations, to essential services. It could also involve the identification of solutions to address those gaps.

- **MAP-21 and FAST Act Implementation: Transition to Performance Based Planning and Programming to be used in Transportation Decision-making:** The development and implementation of a performance management approach to metropolitan transportation planning and programming includes the development and use of transportation performance measures, target setting, performance reporting, and selection of transportation investments that support the achievement of performance targets. These components will ensure the achievement of transportation system performance outcomes. Compliance with MAP-21 reporting requirements is carried out through the MPO Management and Services program, though data for the reporting is generated from programs specific to the measures (e.g., safety, freight, system reliability). The data relationship to these supporting programs is also described in the MPO Services section of the UPWP.

B. Public Involvement

Federal regulations place significant emphasis on broadening participation in transportation planning to include key stakeholders who have not traditionally been involved in the planning process, including the business community, members of the public, community groups, and other governmental agencies. Effective public involvement will result in meaningful opportunities for public participation in the planning process.

C. Regional Transportation Plan

The long-range transportation plan must include the following:

- Identification of transportation facilities (including major roadways, transit, bike, pedestrian and intermodal facilities and intermodal connectors) that function as an integrated metropolitan transportation system.
- A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities.
- A financial plan that demonstrates how the adopted transportation plan can be implemented.
- Operational and management strategies to improve the performance of existing transportation facilities to manage vehicular congestion and maximize the safety and mobility of people and goods.
- Capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs.
- Proposed transportation and transit enhancement activities.
- Recognition of the ~~2016~~ Coordinated Transportation Plan for Seniors and People with Disabilities
- Addressing required federal planning factors: improving safety, supporting economic vitality, increasing security, increasing accessibility and mobility, protecting the environment and promoting consistency between transportation investments and state and local growth plans, enhancing connectivity for people and goods movement, promoting efficient system management and operations, emphasizing preservation of existing transportation infrastructure, improving resiliency and reliability and enhancing travel and tourism.
- A performance-based planning process, including performance measures and targets.

D. Metropolitan Transportation Improvement Program (MTIP)

The short-range metropolitan TIP must include the following:

- A priority list of proposed federally supported projects and strategies to be carried out

within the MTIP period.

- A financial plan that demonstrates how the MTIP can be implemented.
- Descriptions of each project in the MTIP.
- A performance-based planning process, including performance measures and targets.

E. Transportation Management Area (TMA)

Metropolitan areas designated TMAs (urbanized areas with a population of over 200,000) such as Metro must also address the following requirements:

- Transportation plans must be based on a continuing and comprehensive transportation planning process carried out by the MPO in cooperation with the State and public transportation operators.
- A Congestion Management Process (CMP) must be developed and implemented that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy of new and existing transportation facilities, through use of travel demand reduction and operational management strategies.
- A federal certification of the metropolitan planning process must be conducted at least every 4 years. At least every 4 years, the MPO must also self-certify concurrent with submittal of an adopted TIP. See Appendix A for a table displaying Metro's progress and future actions to address Federal Corrective Actions.

F. Air Quality Conformity Process

As of October 2017, the region has successfully completed its second 10-year maintenance plan and ~~has not been re-designated as non-attainment for any other criteria pollutants. As a result, the region is no longer subject to demonstrating transportation plans, programs, and projects are in conformance, but will continue to be subject to meeting federal air quality standard and provisions within the State Implementation Plan.~~ is now in attainment with federal air quality regulations

STATUS OF METRO'S FEDERALLY REQUIRED PLANNING DOCUMENTS

Plan Name	Last Update	Next Update
Unified Planning Work Program (UPWP)	Adopted in May 2020	Scheduled for adoption in May 2021
Regional Transportation Plan (RTP)	Adopted in December 2018	Scheduled for adoption in December 2023
Metropolitan Transportation Improvement Program (MTIP)	Adopted in July 2020	Scheduled for adoption in July, 2023
Annual Listing of Obligated Projects Report	Completed at the end of each calendar year	Scheduled for December 31, 2021
Title VI/ Environmental Justice Plan	Updated in July 2017	Scheduled for December 2020 <u>April 2021</u>

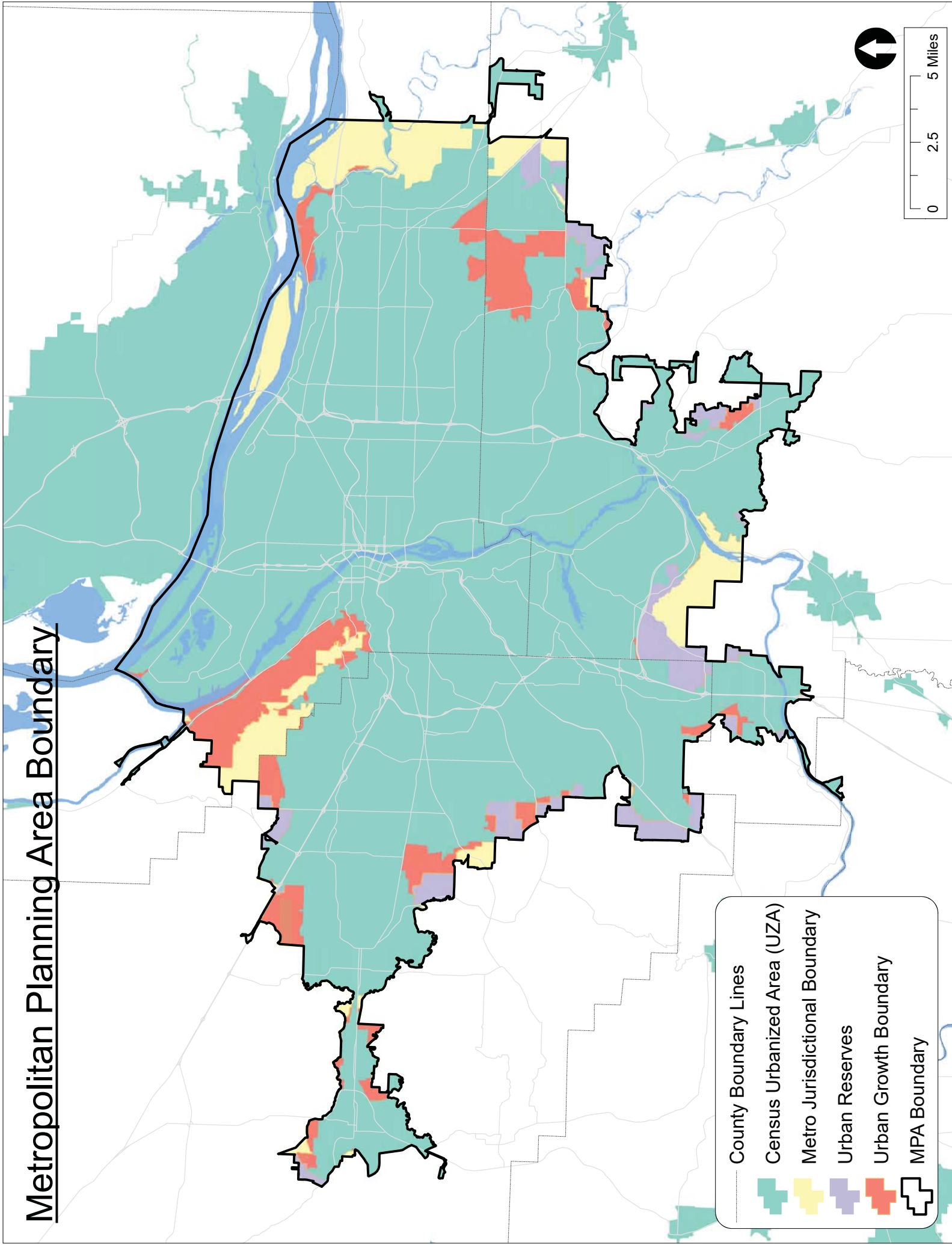
Public Participation Plan	Updated in January 2019	July 2022
ADA Self-Evaluation & Facilities Update Plan	Facilities Update Plan completed in July 2019	ADA Self-Evaluation of Programs underway, scheduled for completion by June 2021.

METRO OVERVIEW

Metro was established in 1979 as the MPO for the Portland metropolitan area. Under the requirements of FAST Act, Metro serves as the regional forum for cooperative transportation decision-making as the federally designated Metropolitan Planning Organization (MPO) for Oregon portion of the Portland-Vancouver urbanized area.

Federal and state law requires several metropolitan planning boundaries be defined in the region for different purposes. The multiple boundaries for which Metro has a transportation and growth management planning role are: [MPO Planning Area](#)[Metro Jurisdictional](#) Boundary, Urban Growth Boundary (UGB), Urbanized Area Boundary (UAB), Metropolitan Planning Area Boundary (MPA), and Air Quality Maintenance Area Boundary (AQMA).

Metropolitan Planning Area Boundary



First, Metro's jurisdictional boundary encompasses the urban portions of Multnomah, Washington and Clackamas counties.

Second, under Oregon law, each city or metropolitan area in the state has an urban growth boundary that separates urban land from rural land. Metro is responsible for managing the Portland metropolitan region's urban growth boundary.

Third, the Urbanized Area Boundary (UAB) is defined to delineate areas that are urban in nature distinct from those that are largely rural in nature. The Portland-Vancouver metropolitan region is somewhat unique in that it is a single urbanized area that is located in two states and served by two MPOs. The federal UAB for the Oregon-portion of the Portland-Vancouver metropolitan region is distinct from the Metro Urban Growth Boundary (UGB).

Fourth, MPO's are required to establish a Metropolitan Planning Area (MPA) Boundary, which marks the geographic area to be covered by MPO transportation planning activities, including development of the UPWP, updates to the Regional Transportation Plan (RTP), Metropolitan Transportation Improvement Program (MTIP), and allocation of federal transportation funding through the Regional Flexible Fund Allocation (RFFA) process. At a minimum, the MPA boundary must include the urbanized area, areas expected to be urbanized within the next twenty years and areas within the Air Quality Maintenance Area Boundary (AQMA) – a fifth boundary.

The federally-designated AQMA boundary includes former non-attainment areas in the metropolitan region that are subject to federal air quality regulations. As a former carbon monoxide and ozone non-attainment region, the Portland metropolitan region had been subject to a number of transportation conformity requirements. As of October 2017, the region has completed and is no longer required to perform transportation conformity requirements for carbon monoxide. Transportation conformity requirements related to ozone were lifted in the late 2000's due to the revocation of the 1-hour ozone standard, which was the standard the region had been in non-attainment. However, Metro continues to comply with the State Implementation Plan for air quality, including Transportation Conformity Measures.

REGIONAL POLICY FRAMEWORK

The 2018 RTP plays an important role in implementing the 2040 Growth Concept, the region's adopted blueprint for growth. To carry out this function, the RTP is guided by six desired regional outcomes adopted by the Metro Council, which in turn are implemented through the goals and objectives that make up the policy framework of the plan. These are the six desired outcomes:

- Equity
- Vibrant Communities
- Economic Prosperity

- Safe and Reliable Transportation
- Clean Air and Water
- Climate Leadership

While these broad outcomes establish a long-term direction for the plan, the near-term investment strategy contained in the 2018 Regional Transportation Plan focuses on key priorities within this broader vision for the purpose of identifying transportation needs, including projects and the planning activities contained in the UPWP. These investment priorities include a specific focus on:

- Equity
- Safety
- Managing Congestion
- Climate

The planning activities described in this UPWP were prioritized and guided by these focus areas as a way to make progress toward the desired outcomes, and each project narrative includes a discussion of one or more of these planning priorities. Regional planning projects included in the UPWP are also described in detail within the 2018 RTP, itself, in terms of their connection to the broader outcomes envisioned in the plan. These descriptions are included in Chapter 8 of the 2018 RTP, which serves as the starting point for Metro's annual work plan for transportation planning.

METRO GOVERNANCE AND COMMITTEES

Metro is governed by an elected regional Council, in accordance with a voter-approved charter. The Metro Council is comprised of representatives from six districts and a Council President elected region-wide. The Chief Operating Officer is appointed by the Metro Council and leads the day-to-day operations of Metro. Metro uses a decision-making structure that provides state, regional and local governments the opportunity to participate in the transportation and land use decisions of the organization. Two key committees are the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC). These committees are comprised of elected and appointed officials and receive technical advice from the Transportation Policy Alternatives Committee (TPAC) and the Metro Technical Advisory Committee (MTAC).

Joint Policy Advisory Committee on Transportation (JPACT)

JPACT is a 17-member policy committee that serves as the MPO Board for the region. JPACT is chaired by a Metro Councilor and includes two additional Metro Councilors, seven locally elected officials representing cities and counties, and appointed officials from the Oregon Department of Transportation (ODOT), TriMet, the Port of Portland, and the Department of Environmental Quality (DEQ). The State of Washington is also represented with three seats that are traditionally filled by two locally elected officials and an appointed official from the Washington Department of Transportation, (WSDOT). All MPO transportation-related actions are recommended by JPACT to the Metro Council. The Metro Council can ratify the JPACT recommendations or refer them back to JPACT with a specific concern for reconsideration.

Final approval of each action requires the concurrence of both JPACT and the Metro Council. JPACT is primarily involved in periodic updates to the Regional Transportation Plan (RTP),

Metropolitan Transportation Improvement Program (MTIP), and review of ongoing studies and financial issues affecting transportation planning in the region.

Metro Policy Advisory Committee (MPAC)

MPAC was established by Metro Charter to provide a vehicle for local government involvement in Metro's growth management planning activities. It includes eleven locally-elected officials, three appointed officials representing special districts, TriMet, a representative of school districts, three citizens, two Metro Councilors (with non-voting status), two officials from Clark County, Washington and an appointed official from the State of Oregon (with non-voting status). Under Metro Charter, this committee has responsibility for recommending to the Metro Council adoption of, or amendment to, any element of the Charter-required Regional Framework Plan.

The Regional Framework Plan was first adopted in December 1997 and addresses the following topics:

- Transportation
- Land Use (including the Metro Urban Growth Boundary (UGB))
- Open Space and Parks
- Water Supply and Watershed Management
- Natural Hazards
- Coordination with Clark County, Washington
- Management and Implementation

In accordance with these requirements, the transportation plan is developed to meet not only the FAST Act, but also the Oregon Transportation Planning Rule and Metro Charter requirements, with input from both MPAC and JPACT. This ensures proper integration of transportation with land use and environmental concerns.

Transportation Policy Alternatives Committee (TPAC)

TPAC is comprised of technical staff from the same jurisdictions as JPACT, plus a representative from the Southwest Washington Regional Transportation Council, and six community members. In addition, the Federal Highway Administration and C-TRAN have each appointed an associate non-voting member to the committee. TPAC makes recommendations to JPACT.

Metro Technical Advisory Committee (MTAC)

MTAC is comprised of technical staff from the same jurisdictions as MPAC plus community and business members representing different interests, including public utilities, school districts, economic development, parks providers, housing affordability, environmental protection, urban design and development. MTAC makes recommendations to MPAC on land use related matters.

Metro Public Engagement Review Committee (PERC), Committee on Racial Equity (CORE), and Housing Oversight Committee

The [Metro Public Engagement Review Committee \(PERC\)](#) advises the Metro Council on engagement priorities and ways to engage community members in regional planning activities consistent with adopted public engagement policies, guidelines and best practices. The [Committee on Racial Equity \(CORE\)](#) provides community oversight and advises the Metro Council on implementation of Metro's [Strategic Plan for Advancing Racial Equity, Diversity and Inclusion](#).

Adopted by the Metro Council in June 2016 with the support of MPAC, the strategic plan leads with race, committing to concentrate on eliminating the disparities that people of color experience, especially in those areas related to Metro's policies, programs, services and destinations.

On November 6, 2018, voters in greater Portland approved the nation's first regional housing bond. The bond will create affordable homes for 12,000 people across our region, including seniors, veterans, people with disabilities, and working families. Housing affordability is a key component of Metro's 2040 growth concept.

~~The regional affordable housing bond framework included these core values:~~

- ~~• Lead with racial equity to ensure access to affordable housing opportunities for historically marginalized communities.~~
- ~~• Prioritize people least well served by the market.~~
- ~~• Create opportunity throughout the region by increasing access to transportation, jobs, schools, and parks, and prevent displacement in changing neighborhoods.~~
- ~~• Ensure long-term benefits and good use of public dollars with fiscally sound investments and transparent community oversight.~~

Metro Council adopted a [framework](#) to guide implementation and appointed an [Oversight Committee](#) to provide independent and transparent oversight of the housing bond implementation.

PLANNING PRIORITIES IN THE GREATER PORTLAND REGION

FAST Act, the Clean Air Act Amendments of 1990 (CAAA), the Oregon Metropolitan Greenhouse Gas Reduction Targets Rule, the Oregon Transportation Planning Rule, the Oregon Transportation Plan and modal/topic plans, the Metro Charter, the Regional 2040 Growth Concept and Regional Framework Plan together have created a comprehensive policy direction for the region to update land use and transportation plans on an integrated basis and to define, adopt, and implement a multi-modal transportation system. Metro has a unique role in state land use planning and transportation. In 1995, the greater Portland region adopted the 2040 Growth Concept, the long-range strategy for managing growth that integrates land use and transportation system planning to preserve the region's economic health and livability in an equitable, environmentally sound and fiscally-responsible manner. A primary mission of the RTP is implementing the 2040 Growth Concept and supporting local aspirations for growth.

These Federal, state and regional policy directives also emphasize development of a multi-modal transportation system. Major efforts in this area include:

- Update of the Regional Transportation Plan (RTP)
- Update to the Metropolitan Transportation Improvement Program (MTIP)
- Implementation of projects selected through the STIP/MTIP updates
- Completing multi-modal refinement studies in the Southwest Corridor Plan and the Powell/Division Transit Corridor Plan.

Among the policy directives in the RTP and state and federal requirements are the region's six desired outcomes:

- Equity – The benefits and burdens of growth and change are distributed equally
- Vibrant communities – People live, work and play in vibrant communities where their everyday

- needs are easily accessible
- Economic prosperity – Current and future residents benefit from the region’s sustained economic competitiveness and prosperity.
- Safe and reliable transportation – People have safe and reliable transportation choices that enhance the quality of their life.
- Clean air and water – Current and future generations enjoy clean air, clean water and healthy ecosystems
- Climate leadership – The region is a leader in minimizing contributions to global warming.

Metro's regional priorities not only meet the most critical planning needs identified within our region, but also closely match federal planning priorities, as well:

- The 2018 RTP update refined our outcomes-based policy framework that not only allows our decision makers that base regulatory and investment decisions on desired outcomes, but will also allow us to meet new federal requirements for performance base planning.
- The 2018 Regional Freight Strategy addresses rapidly changing port conditions in our region, including a gap in container cargo service, while also addressing FAST Act goals for implementing a national freight system.
- The 2018 Regional [Transportation](#) Safety Strategy responds to strong public demand for immediate action to improve multimodal safety on our major streets while also helping establish measures to help track safety to meet state and federal performance monitoring.
- The 2018 Regional Transit Strategy not only expands on our vision for a strong transit system to help shape growth in our region, but will also help ensure that we continue to meet state and federal clean air requirements.
- [The 2018 Emerging Technology Strategy identifies steps that Metro and its partners can take to harness new developments in transportation technology; and the increasing amount of data available to both travelers and planners - to support the regions goals.](#)
- [The 2014 Regional Active Transportation Plan makes it easier to walk and ride a bike and access transit to work, school, parks and other destinations by updating and strengthening pedestrian and bicycle policies in the Regional Transportation Plan.](#)
- [The 2010 Transportation System Management & Operations Strategy has guided agencies in making coordinated investments in Portland region’s transportation systems.](#)

A Climate Smart Strategy was adopted in December 2014, as required by the Oregon Metropolitan Greenhouse Gas Reduction Targets Rule, and is currently being implemented through the 2018 RTP. The Congestion Management Process (CMP) was adopted as part of 2018 RTP in December 2018. Many of the elements of the CMP are included as part of the Transportation System Management and Operations (TSMO) program, consisting of both the Regional Mobility and Regional Travel Options work programs. Metro staff revised the Regional Mobility Atlas as part of the 2018 RTP update.

Metro’s annual development of the UPWP and self-certification of compliance with federal transportation planning regulations are part of the core MPO function. The core MPO functions are contained within the MPO Management and Services section of the work program. Other MPO activities that fall under this work program are air quality compliance, quarterly reports for FHWA, FTA and other funding agencies, management of Metro’s advisory committees, management of grants, contracts and agreements and development of the Metro budget. Quadrennial certification review took place in ~~February 2017~~ [December 2020](#) and is covered under this work program.

GLOSSARY OF RESOURCE ~~FUNDING TYPES~~AND REQUIREMENT TERMS

- PL – Federal FHWA transportation planning funds allocated to Metropolitan Planning Organizations (MPOs).
- STBG– Federal Surface Transportation ~~Block Grant (STBG)~~ Program. ~~transportation~~ Transportation funds allocated to urban areas with populations larger than 200,000. Part of Metro’s regional flexible fund allocation (RFFA) to Metro Planning, or to specific projects as noted.
- 5303 – Federal FTA transportation planning funds allocated to MPOs and transit agencies.
- FTA / FHWA / ODOT Discretionary Grants – ~~Regional Travel Option~~Discretionary grants from FTA, FHWA and ODOT.
- Metro Direct Contribution – Direct Metro support from Metro general fund or other sources.
- ~~Metro Required Match~~Match (Metro) – Local required match support from Metro general fund or other sources.
- ~~Local Partner~~ Support – Funding support from local agencies including ODOT and TriMet.
- Interfund Transfers – Covers indirect costs, based on rates that Metro and ODOT negotiate annually.

Placeholder for Metro Resolution ~~Adopting~~adopting 2021-2022 UPWP, page 1

Page 2 Resolution



Regional Transportation Planning

Transportation Planning

Staff Contact: Tom Kloster (tom.kloster@oregonmetro.gov)

Description

As the designated Metropolitan Planning Organization (MPO) for the Portland metropolitan region, Metro is responsible for meeting all federal planning requirements for MPOs. These include major mandates described elsewhere in this Unified Planning Work Program (UPWP), such as the Regional Transportation Plan (RTP) and Metropolitan Transportation Improvement Plan (MTIP) that follow this section. In addition to these major mandates, Metro also provides a series of ongoing transportation planning services that complement federal requirements and support other transportation planning in the region. ~~Our~~Core transportation planning activities include:

- Periodic amendments to the RTP
- Periodic updates to the regional growth forecast
- Periodic updates to the regional revenue forecasts
- Policy direction and support for regional corridor and investment area planning
- Ongoing transportation model updates and enhancements
- Policy support for regional mobility and Congestion Management Process (CMP) programs
- Compliance with federal performance measures

Metro also brings supplementary federal funds and regional funds to this program in order to provide general planning support to the following regional and state-oriented transportation planning efforts:

- Policy and technical planning support for the Metro Council
- Administration of Metro's regional framework and functional plans
- Ongoing compliance with Oregon's planning goals and greenhouse gas emission targets
- Policy and technical support for periodic Urban Growth Report updates
- Coordination with local government Transportation System Plan updates
- Engaging in the development of statewide transportation policy, planning and rulemaking
- Collaboration with Oregon's MPOs through the Oregon MPO Consortium (OMPOC)

In 2021-22, other major efforts within this program include representing the Metro region in statewide planning efforts such as Oregon Department of Land Conservation and Development's statewide rulemaking for the Oregon Transportation Planning Rule (TPR) and engaging in several ODOT planning and projects that are of both statewide and regional significance, such as I-5 Rose Quarter, I- 5 Bridge Replacement study and I-5 Boone Bridge widening project.

In ~~2020-21~~21-22 a periodic update to the Regional Transportation Plan is also scheduled to begin, and is described in a separate narrative in the UPWP.

Key Project Deliverables / Milestones

Qtr 1

TPR and GHG
Rulemaking

Qtr 2

2023 RTP Update
Scoping

Qtr 3

2023 RTP Update
Begins

Qtr 4

Complete TPR &
GHG Rulemaking

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ ~~553,268~~674,283
Materials & Services \$ 42,500
Interfund Transfer \$ ~~322,064~~393,137

Resources:

PL \$ ~~800,548~~90,692
PL Match (ODOT)~~5303~~ \$ ~~105,239~~101,944
Metro Required \$ ~~12,045~~105,239
Match~~5303~~ \$ 12,045
5303 Match (Metro)

TOTAL \$ ~~1,109,920~~917,832

TOTAL \$ ~~917,832~~1,109,920

Climate Smart Implementation

Staff Contact: Kim Ellis, kim.ellis@oregonmetro.gov

Description

The Climate Smart implementation program is an ongoing activity to monitor and report on the region's progress in achieving the policies and actions set forth in the adopted [2014 Climate Smart Strategy](#) and the Oregon [Metropolitan Greenhouse Gas Emissions Reduction Target Rule](#). The program also includes technical and policy support and collaboration with other regional and statewide climate initiatives to ensure MPO activities, including implementation of the [Regional Transportation Plan](#), support regional and state greenhouse gas (GHG) emissions reduction goals.

The program related work is typically presented and discussed with the Transportation Policy Alternatives Committee (TPAC). Other technical and policy committees, including the Metro Technical Advisory Committee (MTAC), the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC), and the Metro Council are consulted as appropriate or required.

Key FY 2020-21 deliverables and milestones included:

- Provided technical and policy support for Climate Smart implementation and monitoring at the local, regional and state level.
- Provided communications and legislative support to the Metro Council and agency leadership on issues specific to greenhouse gas emissions.

In FY 2020-21-22, program activities will include:

- Refinement of the modeling tools to measure greenhouse gases; coordination with ODOT's Climate Office on GHG modeling tools
- Participation in the technical committee that supports the Department of Land Conservation and Development's (DLCD's) Transportation Rulemaking that is focused on climate and equity; providing technical support to Metro's member of the rulemaking committee
- Identifying areas of the Climate Smart Strategy that need further progress and refinement prior to the 2023 RTP
- Support local efforts and project-based efforts to measure, analyze and achieve regional GHG goals

More information can be found at www.oregonmetro.gov/climatesmart.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Provide technical and policy support	Provide technical and policy support	Provide technical and policy support	Provide technical and policy support

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 8,654
Interfund Transfer	\$ 4,915

Resources:

5303	\$ 12,175
Metro Required Match 5303 Match (Metro)	\$ 1,393

TOTAL \$ 13,569

TOTAL \$ 13,569

Regional Transportation Plan Update (2023)

Staff Contact: Kim Ellis, kim.ellis@oregonmetro.gov

Description

The [Regional Transportation Plan](#) (RTP) is a blueprint to guide local and regional planning and investments for all forms of travel – motor vehicle, transit, bicycle and walking – and the movement of goods and freight throughout the Portland metropolitan region. The RTP is maintained and updated regularly to ensure continued compliance with state and federal requirements and to address growth and changes in land use, demographics, financial, travel, technology and economic trends. The plan identifies current and future transportation needs and investments needed to meet those needs. The plan also identifies what funds the region expects to have available during a 20-year time horizon to build priority investments as well as maintain and operate the transportation system.

In addition to meeting federal requirements, the plan serves as the regional [Transportation System Plan](#) (TSP), consistent with Statewide Planning Goals, the [Oregon Transportation Planning Rule](#) (TPR), the [Metropolitan Greenhouse Gas Reduction Targets Rule](#) and the [Oregon Transportation Plan](#) and its modal and topical plans. The plan also addresses a broad range of regional planning objectives, including implementing the [2040 Growth Concept](#) – the regions’ adopted land use plan – and the [Climate Smart Strategy](#) – the regions’ adopted strategy for reducing greenhouse gas emissions from cars and small trucks.

Federal regulations require an update to the RTP every five years. The last update to the plan was adopted in December 2018. The next update is due for completion by December 6, 2023, when the current plan expires. The 2023 RTP update will continue to use an outcomes-driven, performance-based planning approach to advance RTP policy priorities for advancing equity, improving safety, mitigating climate change and managing congestion. The update also provides an opportunity to incorporate information and recommendations from relevant local, regional and state planning efforts and policy updates completed since 2018. The 2023 RTP update will continue into FY 2022-23.

More information can be found at www.oregonmetro.gov/rtp

Key FY 2020-21 deliverables and milestones included:

- Provide technical and policy support for 2018 RTP implementation at the local, regional and state level
- Initiate pre-scoping activities for the 2023 RTP update, including:
 - prepare regional data/models/tools and refine system evaluation measures and methods, as needed, to support evaluation process;
 - create inventory of information and recommendations from relevant local, regional and state planning efforts and policy updates completed since 2018 to inform development of the work plan and public engagement plan for the 2023 RTP update; and
 - begin update of financially constrained revenue forecast.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Scoping process for 2023 RTP Update initiated	Work plan and engagement plan approved	2023 RTP Update initiated	Financial forecast finalized

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 381,091
Materials & Services	\$ 10,000
Interfund Transfer	\$ 214,605

Resources:

PL	\$ 72,470 65,028
5303 PL Match (ODOT)	\$ 478,464 7,443
Metro Required	\$ 54,762 478,464
Match 5303	\$ 54,762
5303 Match (Metro)	

TOTAL \$ 605,696

TOTAL \$ 605,696

Metropolitan Transportation Improvement Program (MTIP)

Staff Contact: Ted Leybold, Ted.Leybold@oregonmetro.gov

Description

The MTIP represents the first four-year program of projects from the approved long range Regional Transportation Plan (RTP) identified to receive funding for implementation. It ensures that program of projects meet federal program requirements and informs the region on the expected performance of the package of projects relative to adopted performance goals.

The following types of projects are included in the MTIP:

- Transportation projects awarded federal funding.
- Projects located in the State Highway System and awarded ODOT-administered funding.
- Transportation projects that are state or locally funded, but require any form of federal approvals to be implemented.
- Transportation projects that help the region meet its requirements to reduce vehicle emissions (documented as Transportation Control Measures in the State Implementation Plan for Air Quality).
- Transportation projects that are state or locally funded, but regionally significant (for informational and system performance analysis purposes).

A significant element of the MTIP is the programming of funds to transportation projects and program activities. Programming is the practice of budgeting available transportation revenues to the costs of transportation projects or programs by project phase (e.g. preliminary engineering, right-of-way acquisition, construction) in the fiscal year the project or program is anticipated to spend funds on those phases. The revenue forecasts, cost-estimates and project schedules needed for programming ensures the USDOT that federal funding sources will not be over-promised and can be spent in a timely manner. Programming also ensures that the package of projects identified for spending is realistic and that the performance analysis can reasonably rely on these new investments being implemented. To enhance the accuracy of programming of projects in the MTIP, Metro includes a fifth and sixth programming year, though the fifth and sixth years are informational only and programming in those years ~~are~~is not considered approved for purposes of contractually obligating funds to projects.

Through its major update, the MTIP verifies the region's compliance with air quality and other federal requirements, demonstrates fiscal constraint over the MTIP's first four-year period and informs the region on progress in implementation of the RTP. Between major MTIP updates, the MPO manages and amends the MTIP projects as needed to ensure project funding can be obligated based on the project's implementation schedule.

The MTIP program also administers the allocation of the urban Surface Transportation Block Grant (STBG)/Transportation Alternatives (TA) federal funding program and the Congestion Mitigation Air Quality (CMAQ) federal funding program. These federal funding programs are awarded to local projects and transportation programs through the Metro Regional Flexible Fund Allocation (RFFA) process. MTIP program staff work with local agencies to coordinate the implementation of projects selected to receive these funds. The process to select projects and programs for funding followed

federal guidelines, including consideration of the Congestion Management Process. Projects were evaluated and rated relative to their performance in implementing the RTP investment priority outcomes of Safety, Equity, Climate, and Congestion to inform their prioritization for funding.

In the 2021-22 State Fiscal Year, the MTIP is expected to implement the following work program elements:

Cooperative development of the 2024-27 MTIP. Metro is actively working with federal transportation funding administrative agencies (ODOT, TriMet and SMART) and the region's transportation stakeholders on the cooperative development of the next TIP. This includes required TIP activities such as developing a funding forecast as well as ensuring funding allocation processes consider the needs and policy priorities of the metropolitan region as defined by the current Regional Transportation Plan.

Adopt program objectives for regional flexible fund allocation, initiate call for projects. The process for identifying objectives for the allocation of regional flexible funds is scheduled to be adopted this fiscal year. Upon adoption, Metro staff will initiate a call for candidate project applications. Those applications will be evaluated relative to their performance in implementing the program objectives in preparation for a funding allocation decision.

Publish the Federal Fiscal Year (FFY) 2021 Obligation report. All project obligations for federal fiscal year 2020 will be confirmed and documented in the annual obligation report. The obligation report is expected to be published in the second quarter of the fiscal year.

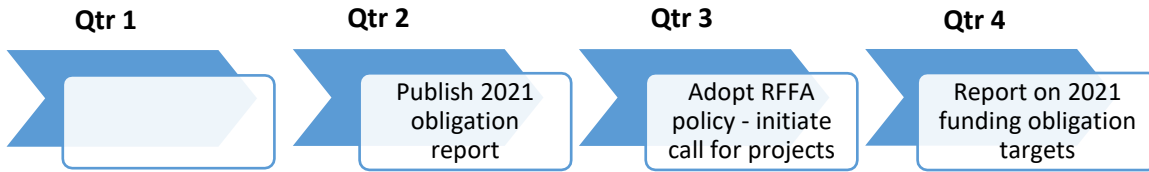
Report on FFY 2021 Funding Obligation Targets, Adjust Programming. Metro is monitoring and actively managing an obligation target for MPO allocated funds (STBG/TAP and CMAQ) each fiscal year. This is a cooperative effort with ODOT and the other Oregon TMA MPOs. If the region meets its obligation targets for the year, it will be eligible for additional funding from the Oregon portion of federal redistribution of transportation funds. If the region does not meet obligation targets for the year, it is subject to funds being re-allocated to other projects. MTIP staff will report on the region's performance in obligating funds in FFY 2021 relative to the schedule of project funds scheduled to obligate and work with ODOT to adjust revenue projections and project programming.

Implement a new data management system. As a part of a broad transportation project tracking system, MTIP staff will be working in cooperation with other MPOs in the state, ODOT and transit agencies to develop and implement a new data management system to improve MTIP administrative capabilities.

There are several MTIP work program elements that are on-going throughout the year without scheduled milestones. These include:

- Amendments to project programming for changes to the scope, schedule or cost of projects selected for funding or for updated revenue projections
- Administration of projects selected to be delivered under a fund-exchange of federal RFFA funding to local funding
- Coordination with ODOT, transit agencies, and local lead agencies for project delivery on MTIP administrative practices.

Key Project Deliverables / Milestones



FY 2020-21 Cost and Funding Sources

Requirements:

Personnel Services	\$ 682,269
Materials & Services	\$ 89,000
Interfund Transfer	\$ 328,804

Resources:

5303	\$ <u>224,246,364,130</u>
<u>STBG 5303 Match (Metro)</u>	\$ <u>645,200,41,676</u>
<u>Metro Match STBG</u>	\$ <u>99,512,502,211</u>
<u>Metro Direct STBG Match (Metro) Contribution</u>	\$ <u>131,115,57,480</u>
<u>Metro Direct Contribution</u>	\$ <u>134,576</u>

TOTAL \$ 1,100,073

TOTAL \$ 1,100,073

Air Quality Program

Staff Contact: Grace Cho, grace.cho@oregonmetro.gov

Description

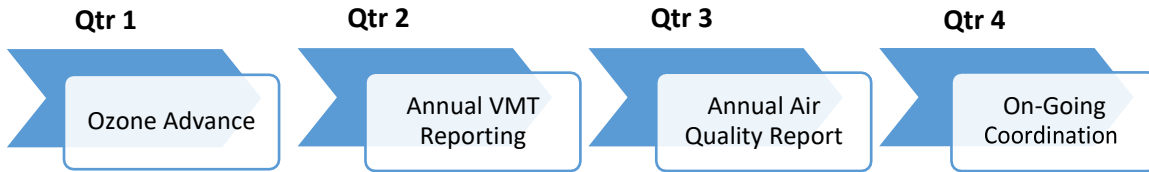
Metro's Air Quality Monitoring program ensures activities undertaken as part of the Metropolitan Planning Organization (MPO), such as the Regional Transportation Plan (RTP) and the Metropolitan Transportation Improvement Program (MTIP), carry out the commitments and rules set forth as part of the Portland Area State Implementation Plan (SIP) and state and federal regulations pertaining to air quality and air pollution. The implementation of the SIP is overseen by the Oregon Department of Environmental Quality (DEQ) and the Environmental Quality Commission (EQC). In addition, the program coordinates with other air quality initiatives in the Portland metropolitan area.

This is an ongoing program. Typical program activities include:

- In collaboration with DEQ, monitor and track regulated criteria and pollutants, particularly ozone, because of the region's history with ozone
- Stay up-to-date on regulations pertaining to the Clean Air Act and on technical tools and resources to assess emissions of air pollutants
- Monitor vehicle miles traveled (VMT) per capita and if key thresholds are triggered (as outlined in the SIP) then undertake the contingency provisions outlined in the SIP
- Facilitate interagency consultation with federal, state, regional, and local partners
- Implement the Transportation Control Measures as outlined, unless a specific date or completion point has been identified in the SIP
- Collaborate with DEQ as issues emerge related to federal air quality standards, mobile source pollution, and transportation
- Collaborate and coordinate with regional partners on other air quality, air pollution reduction related efforts, including the implementation of legislative mandates or voluntary initiatives
- Collaborate in ongoing DEQ and Metro efforts to refine air quality modeling tools and best practices for application to planning and projects

As part of Metro's on-going responsibilities to the State Implementation Plan (SIP), Metro continues to work closely with DEQ on monitoring the 2020 ozone national ambient air quality standard (NAAQS) update, the region's ozone pollution levels, and report on vehicle miles traveled. Additionally, Metro will participate in DEQ's Ozone Advance process starting towards the end of FY2020-2021 and throughout FY2021-2022 to develop and begin implementation of a number of regional strategies to proactively address increasing ozone pollution trends and work to keep the region in attainment status. Air quality monitoring and implementation activities are consistent 2018 RTP policy direction pertaining to reducing vehicle miles traveled to address congestion and climate change.

Key Project Deliverables / Milestones



FY 2021-21 Cost and Funding Sources

Requirements:

Personnel Services	\$ 15,912
Interfund Transfer	\$ 9,936

Resources:

5303	\$ 23,193
Metro Required	\$ 2,655

~~Match~~ 5303 Match (Metro)

TOTAL \$ 25,848

TOTAL \$ 25,848

Regional Transit Program

Staff Contact: Eliot Rose, eliot.rose@oregonmetro.gov

Description

Providing high quality transit service across the region is a defining element of the 2040 Growth Concept, the long-range blueprint for shaping growth in our region. Expanding quality transit in our region is also key to achieving transportation equity, maintaining compliance with state and federal air quality standards and meeting greenhouse gas (GHG) reduction targets set by the State of Oregon. In 2018 Metro adopted a comprehensive Regional Transit Strategy to help guide investment decisions to ensure that we deliver the transit service needed to achieve these outcomes.

Because of rapid growth and rising congestion in our region, significant and coordinated investment is needed to simply maintain the current level of transit service. Increasing the level of transit service and access will require dedicated funding, policies, and coordination from all jurisdictions. The Regional Transit Strategy provides the roadmap for making these investments over time, and the Regional Transit program focuses on implementing the strategy in collaboration with our transit providers and local government partners in the region. An integral part of implementing the Regional Transit Strategy is to support the pursuit of transit funding for the region.

This work includes ongoing coordination with transit providers, cities and counties to ensure implementation of the Regional Transit Strategy through plans and capital projects, periodic support for major transit planning activities in the region and coordination with state transit planning officials. In FY 2020-21-22, highlights will supporting several transit service planning efforts, consistent with Chapter 8 of the Regional Transit Strategy.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Transit Planning Support (ongoing)	Transit Planning Support (ongoing)	Transit Planning Support (ongoing)	Transit Planning Support (ongoing)

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 33,239	5303	\$ 48,700
Interfund Transfer	\$ 21,036	Metro Required Match 5303 Match (Metro)	\$ 5,574
TOTAL \$ 54,274		TOTAL \$ 54,274	

Regional Mobility Policy Update

Staff Contact: Kim Ellis, kim.ellis@oregonmetro.gov

Description

Metro and the Oregon Department of Transportation (ODOT) are working together to update the Regional Mobility Policy which defines and measures mobility for people and goods traveling in and through the Portland area. The update is focused on how mobility is defined and measured in the [Oregon Highway Plan](#) (OHP), Regional Transportation Plan (RTP), local transportation system plans (TSPs) and during the local comprehensive plan amendment process. The region's current mobility policy relies on a vehicle-based measure and thresholds adopted in the [2018 Regional Transportation Plan](#) and Policy 1F (Highway Mobility Policy) of the OHP. The update aims to better align the policy with the comprehensive set of shared regional values, goals and priorities identified in the RTP and [2040 Growth Concept](#), as well as with state and local goals and priorities. The revised mobility policy and measures for the Portland region will support adopted regional and local land use plans and regional and state priorities for equity, safety, climate and congestion.

The process to update the Regional Mobility Policy began in 2019 and will continue through fall 2021. The process will result in policy recommendations to the Joint Policy Advisory Committee on Transportation (JPACT), the Metro Council and the Oregon Transportation Commission (OTC). Pending approval by JPACT and the Metro Council, and concurrence from the OTC, the updated policy for the Portland region will be applied and incorporated in the next update to the RTP. The RTP update is planned to occur from Jan. 2022 to Dec. 2023. The OTC will be asked to consider adoption of the updated mobility policy for the Portland region, including amending Table 7 in Policy 1F in the OHP.

The recommended policy may be refined as it is applied and incorporated in the 2023 RTP and as the policy is considered by the OTC in the context of concurrent statewide updates to the Oregon Transportation Plan (OTP) and the OHP. The OTC will conduct its own statewide stakeholder engagement process to inform those plan updates. This project provides an opportunity for coordination and for the region to help inform those efforts.

Key FY 2020-21 deliverables and milestones included:

- **Notice to Proceed:** The consultant team received the notice to proceed on July 15, 2020.
- **Project communications and engagement:** Metro maintained a project web page to share project information, including fact sheets, videos, technical reports, engagement reports and other key deliverables. Policymakers, practitioners and other stakeholders identified in the [project engagement plan](#) were provided opportunities to discuss findings from the research and provide input on:
 - what elements (desired outcomes) should be included in the updated urban mobility policy for the Portland region;
 - what evaluation criteria should be used to screen and evaluate potential measures;
 - what measures should be tested at the transportation system plan and plan amendment levels through case studies; and
 - case study analysis findings and recommendations for an updated urban mobility policy and action plan to implement the policy in the Portland region.

- **Research Documenting Examples of Current Approaches in the Portland Region.** The project team worked with individual cities and counties and county coordinating committees' technical advisory committees (TACs) to illustrate how the current mobility policy and v/c ratio measure have been applied in the Portland region. Examples covered a range of land use and transportation contexts, including state and regional transportation facilities (e.g., throughways¹ and state- and locally-owned arterials, including state and regional freight routes and enhanced transit corridors), industrial areas and intermodal facilities, mixed-use centers and corridors, and employment areas.
- **Research to Inform Potential Mobility Policy Elements and Related Mobility Performance Measures.** The project team reviewed existing state and regional policy documents and past stakeholder input from the 2018 Regional Transportation Plan update, development of the Get Moving 2020 funding measure and the [Scoping Engagement Process](#) for this effort. The research and subsequent stakeholder input were used to identify and select potential policy elements and measures to test through case studies.
- **Case Study Analysis and Findings:** The project team tested potential mobility policy elements and related mobility performance measures through transportation system plan and plan amendment case studies. The project team reported findings from the case study analysis and engaged policymakers, practitioners and other stakeholders in discussions that resulted in developing a draft urban mobility policy (and associated measures) for the Portland region and action plan to implement the policy.

More information can be found at www.oregonmetro.gov/mobility.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
<u>Draft Mobility Policy and Action Plan</u>	Recommended Mobility Policy and Action Plan	Recommendations Forwarded To 2023 RTP and OTC	

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 190,163	5303	\$ 275,272
Materials & Services	\$ 7,031	Metro-Required-Match 5303 Match (Metro)	\$ 31,506
Interfund Transfer	\$ 109,584		
TOTAL	\$ 306,778	TOTAL	\$ 306,778

¹ Throughways are designated in the 2018 RTP Street Design System and generally correspond to Expressways designated in the OHP.

Regional Freight Program

Staff Contact: Tim Collins, tim.collins@oregonmetro.gov

General Freight Program Description

The Regional Freight Program manages updates to and implementation of multimodal freight elements in the Regional Transportation Plan (RTP) and supporting Regional Freight Strategy. The program provides guidance to jurisdictions in planning for freight movement on the regional transportation system. The program supports coordination with local, regional, state, and federal plans to ensure consistency in approach to freight-related needs and issues across the region. Ongoing freight data collection, analysis, education, and stakeholder coordination are also key elements of Metro's freight planning program.

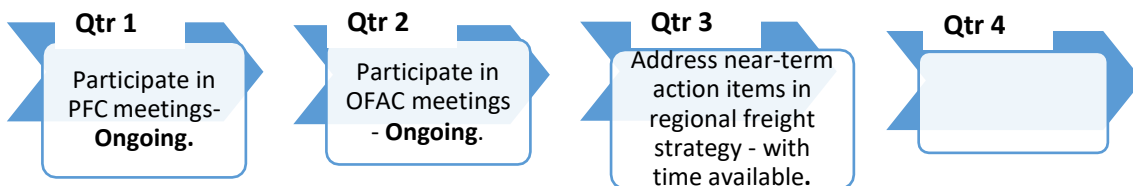
Metro's freight planning program also coordinates with the updates for the Oregon Freight Plan. Metro's coordination activities include ongoing participation in the Oregon Freight Advisory Committee (OFAC), and Portland Freight Committee (PFC). The program ensures that prioritized freight projects are competitively considered within federal, state, and regional funding programs. The program is closely coordinated with other region-wide planning activities. The Regional Freight Strategy has policies and action items that are related to regional safety, clean air and climate change, and congestion; which address the policy guidance in the 2018 RTP.

Work completed in FY 2020-21:

- Developed a draft work plan that outlines which near-term action items within the regional freight action plan (Chapter 8 - Regional Freight Strategy) will be addressed in FY 2021-22.
- Completed reviews and ongoing work to adjust the Regional Freight Model to be better calibrated and reflect new information on the movement of commodities.
- Developed a final scope of work and RFP for the Regional Freight Delay and Commodities Movement Study and selected a consultant for the project.

Key Project Deliverables / Milestones

Throughout the 2021-22 FY, near-term action items within the regional freight action plan will be addressed. The following project deliverables and milestone are either ongoing or will be addressed as time becomes available:



Regional Freight Delay and Commodities Movement Description

In October 2017, the Regional Freight Work Group (RFGW) discussed the need for future freight studies that should be called out in the 2018 Regional Freight Strategy. The RFGW recommended that the Regional Freight Delay and Commodities Movement Study should be included as a future freight study.

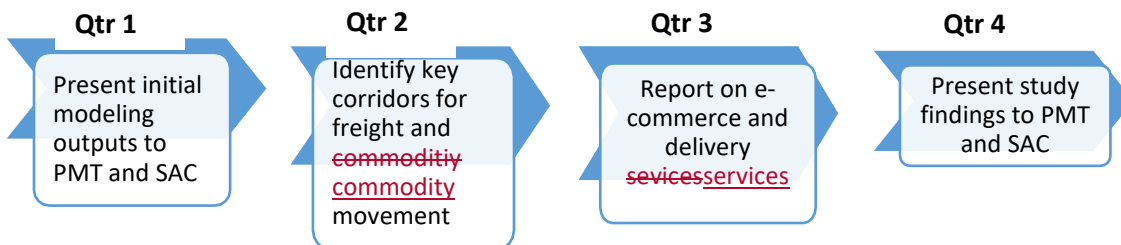
The purpose of the Regional Freight Delay and Commodities Movement Study will be to evaluate the level and value of commodity movement on the regional freight network within each of the mobility corridors identified in the Regional Transportation Plan's Mobility Corridor Atlas. The study will use Metro's new freight model to summarize the general types of commodities, the tonnage of the commodities and the value of the commodities that are using these freight facilities within each of the mobility corridors. The study will also evaluate the need for improved access and mobility to and from regional industrial lands and intermodal facilities.

The study will evaluate how the COVID-19 economic impacts have affected freight truck travel within the Portland region compared to the overall vehicle travel in the region, and the rapid growth in e-commerce and other delivery services during the pandemic, which has greatly accelerated a trend that was already reshaping the freight industry.

Work to be completed in Fiscal Year ~~2020-2021~~ 2022

- Finalize the Request For Proposal (RFP) for the Regional Freight Delay and Commodities Movement Study.
- Select a contractor/consultant team to work on the Regional Freight Delay and Commodities Movement Study.
- Select, establish and support the participants in the Stakeholder Advisory Committee (SAC).
- Establish a project management team with partner agencies to manage to Regional Freight Delay and Commodities Study.
- Develop a policy framework for the Regional Freight Strategy.

Key Project Deliverables / Milestones



General Freight Program Budget
FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 101,474
Interfund Transfer \$ 57,872

Resources:

~~5303~~STBG \$ 142,980
~~Metro Required~~
~~Match~~STBG Match (Metro) \$ 16,366

TOTAL \$ 159,346

TOTAL \$ 159,346

Regional Freight Delay and Commodities Movement Study Budget

FY 2021-22 Cost and Funding Sources

Requirements:

Materials & Services \$ 222,891

Resources:

STBG \$ 200,000
~~Metro Required~~
~~Match~~STBG Match (Metro) \$ 22,891

TOTAL \$ 222,891

TOTAL \$ 222,891

Complete Streets Program

Staff Contact: Lake McTighe, lake.mctighe@oregonmetro.gov

Description

Metro's Complete Streets program includes activities related to street design, safety and active transportation. Program activities include sharing best practices and resources, providing technical assistance, developing policies and plans, and monitoring progress towards goals and targets.

Program activities support implementation of regional goals included in the 2040 Growth Concept, the Climate Smart Strategy, the 2018 Regional Transportation Plan (RTP), the 2014 Regional Active Transportation Plan (ATP), and the 2018 Regional Transportation Safety Strategy (RTSS). Program activities are also related to local, regional, state and national programs, plans and policies, including the Regional Safe Routes to School Program, Metro's Planning and Development Departmental Strategy for Achieving Racial Equity, ODOT's Blueprint for Urban Design, transit, city and county design guidelines, and local, state and national safety plans and targets.

FY 2020-21, street design related activities included:

- scoping the work plan for developing new complete streets and green infrastructure policies for the update of the RTP in 2023
- providing internal and external street and trail design technical assistance on transportation projects and plans using the new regional Designing Livable Streets and Trails Guide
- hosting a workshop to share best practices and data to support natural resources in transportation planning and project development.
- collaborating with Portland State University to complete a Return on Investment (ROI) analysis for active transportation in the region to provide research to support policy discussion for the Regional Flexible Funding Allocations; and
- scoping updates to the data and policies related to walking, bicycling and accessing transit in the 2023 RTP update.

In FY 2021-22, the program will deliver:

- focus on continued implementation through technical and policy support
 - training and workshops on street design and safety
 - technical support on MPO-funded projects and programs
 - safety reporting and development of street design and safety elements of an update to the Regional Transportation Plan scheduled to begin in late 2021.
-

2021-22 Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Updated safety data Pre-scoping for program changes in RTP update	Updated safety analysis & tools Complete streets elements scoped for RTP update work plan <u>work plan</u>	Report on safety performance <u>performance</u> measures Complete streets/safety workshop	Incorporate ROI findings into RTP Develop complete streets policies Update safety and AT policies

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 60,038	5303	\$ 86,213
Materials & Services	\$ 2,000	Metro Required	\$ 9,867
		<u>Match 5303 Match (Metro)</u>	
Interfund Transfer	\$ 34,043		
TOTAL	\$ 96,081	TOTAL	\$ 96,081

Regional Travel Options (RTO) and Safe Routes to School Program

Staff Contact: Dan Kaempff, daniel.kaempff@oregonmetro.gov

Description

The Regional Travel Options (RTO) Program implements Regional Transportation Plan (RTP) policies and the Regional Travel Options Strategy to reduce drive-alone auto trips and personal vehicle miles of travel and to increase use of travel options. The program improves mobility and reduces greenhouse gas emissions and air pollution by carrying out the travel demand management components of the RTP. The program maximizes investments in the transportation system and eases traffic congestion by managing travel demand, particularly during peak commute hours. Specific RTO strategies include promoting transit, shared trips, bicycling, walking, telecommuting and the Regional Safe Routes to School (SRTS) Program. The program is closely coordinated with other regional transportation programs and region-wide planning activities. Approximately two-thirds of the RTO funding is awarded through grants to the region's government and non-profit partners working to reduce auto trips.

RTO is an ongoing program for over the past two decades. It is the demand management element of the region's Congestion Management Process (CMP) and the Transportation System Management and Operations (TSMO) strategy. Since 2003, the program has been coordinated and guided by a strategic plan, and an independent evaluation occurs after the end of each grant cycle to measure and improve performance. In 2018, the RTO Strategy was updated to better align the program with the updated goals, objectives and performance targets of the 2018 RTP, and to create goals and objectives for the SRTS program. The updated RTO Strategy focuses on equity, safety, addressing climate change and congestion as key policy foci of the program.

Creating a Regional Safe Routes to School (SRTS) program was an additional focus area of the 2018 RTO Strategy. In 2019, seven SRTS grants were awarded to local jurisdictions, school districts, and community based organizations to deliver walking and rolling education and encouragement programs for kids and youth. Metro's SRTS Coordinator also facilitates a regional SRTS practitioner group to support program implementation strategies with a focus on serving students at Title I schools (schools with over 40% of students on free or reduced lunch).

During FY 2021-22, staff will continue to manage existing grants which will expire by the end of FY 2022. Work will also be done to develop and implement a selection process for the 2022-25 grant program. The 2022-25 grant program will be updated to ensure the grants are advancing regional goals for equity, climate, congestion and safety. This will be done using data and lessons learned from the program evaluation as well as other sources of data and community input.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Ongoing grant management			Solicit 22-25 grant applications
Prepare 22-25 grant program			

FY 2020-21-2022 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 676,146	FTA / FHWA / ODOT FTA Grant	\$ 3,656,869 458,394
Materials & Services	\$ 2,772,900	Metro Required-Match FTA Grant Match (Metro)	\$ 195,359 172,642
Interfund Transfer	\$ 403,182	ODOT/FHWA Grant	\$ 198,475
		ODOT/FHWA Grant Match (Metro)	\$ 22,716
TOTAL	\$ 3,852,228	TOTAL	\$ 3,852,228

Transportation System Management and Operations – Regional Mobility Program

Staff Contact: Caleb Winter, caleb.winter@oregonmetro.gov

Description

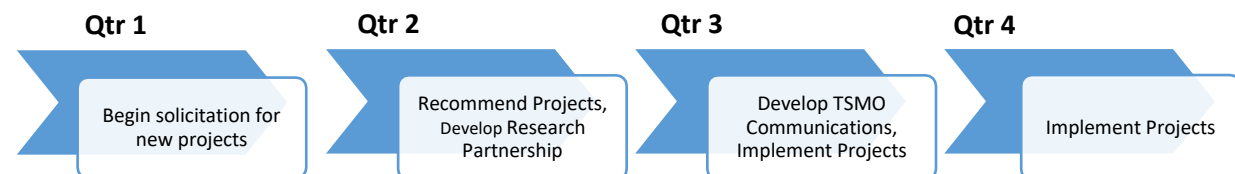
The Regional Transportation System Management and Operations Regional Mobility (TSMO) Program provides a demand and system management response to issues of congestion, reliability, safety and more. The program works to optimize infrastructure investments, promote travel options in real-time, reduce greenhouse gas emissions and increase safety. The TSMO Program incorporates racial equity policy throughout its work. The TSMO Program involves local and state agencies in developing increasingly sophisticated ways to operate the transportation system. Operators include ODOT, TriMet, Clackamas County, Multnomah County, Washington County, City of Portland and City of Gresham along with many other city partners, Port of Portland, Portland State University and Southwest Washington State partners.

The TSMO Program engages operators through TransPort, the Subcommittee of Transportation Policy Alternatives Committee (TPAC) and a broad range of stakeholders through planning and partnerships, particularly when updating the TSMO Strategy. The region's 2010-2020 TSMO Plan will be updated by the 2021 TSMO Strategy (separate UPWP entry). The TSMO Program and TransPort will begin carrying out the recommended actions of the TSMO Strategy update. TSMO includes Intelligent Transportation Systems (ITS) as well as [connections in coordination](#) with the Regional Travel Options Strategy.

The program includes key components of Metro's system monitoring, performance measurement and Congestion Management Process (CMP). Most of the required CMP activities are related to performance measurement and monitoring.

In FY 2021-22, the program will continue convening TransPort and will begin implementing the 2021 TSMO Strategy, soliciting projects and increasing levels of planning support, research partnerships and communications. The TSMO Program is ongoing and more information can be found at www.oregonmetro.gov/tsmo.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 153,875

Materials & Services \$ 3,500

Interfund Transfer \$ 89,267

TOTAL \$ 246,642**Resources:**

STBG \$ 221,312

~~_____ Metro Required~~
~~Match~~ STBG Match (Metro) \$ 25,330**TOTAL \$ 246,642**

Transportation System Management and Operations – 2021 TSMO Strategy Update

Staff Contact: Caleb Winter, caleb.winter@oregonmetro.gov

Description

The 2021 TSMO Strategy encompasses regional planning work that will provide an update to the current strategy. The current strategy is titled 2010-2020 TSMO Plan. The update continues from FY2020-21 and is primarily focused on 2018 RTP Goal 4, Reliability and Efficiency, utilizing demand and system management strategies consistent with safety, racial equity and climate policies. Previous work on this Strategy includes a racial equity assessment, developing a participation plan and beginning work with a consultant including stakeholder outreach. Partner work regionally on the Central Traffic Signal System, Connected Vehicle traveler information and Next Generation Transit Signal Priority factor into the strategy. Integrated Corridor Management (ICM) will also inform the corridor actions in the 2021 TSMO Strategy (for example, I-84 Multimodal ICM and Clackamas Connections ICM).

[The TSMO Program engages operators through TransPort, the Subcommittee of Transportation Policy Alternatives Committee \(TPAC\) and a broad range of stakeholders through planning and partnerships.](#)

The 2021 TSMO Strategy will be a recommendation from TransPort to the Transportation Policy Alternatives Committee (TPAC) and ultimately considered for regional adoption by Metro Council. The Strategy will provide direction for the TSMO Program, giving a renewed focus on investment priorities. Stakeholders include the operators and supportive institutions in the region: ODOT, TriMet, Clackamas County, Multnomah County, Washington County, City of Portland and City of Gresham along with many other city partners, Port of Portland, Portland State University and Southwest Washington State partners. Components of TSMO connect to the Regional Travel Options Strategy and Emerging Technology Strategy.

The 2021 TSMO Strategy will formalize new concepts among regional TSMO partners including connected and automated vehicles, shared-use mobility, integrated corridor management, decision support systems and more advances in Intelligent Transportation Systems (ITS). The TSMO Program is ongoing and more information can be found at www.oregonmetro.gov/tsmo.

Key Project Deliverables / Milestones

Qtr 1

Draft 2020 TSMO Strategy

Qtr 2

Finalize 2020 TSMO Strategy; consider for adoption

Qtr 3

Coordinate implementation, investments and operator agreements

Qtr 4

Coordinate implementation, investments and operator agreements

FY 2021-22 Cost and Funding Sources

Note: Included in the program: (TSMO) Regional Mobility Program

Enhanced Transit Concepts Pilot Program

Staff Contact: Matt Bihn, matt.bihn@oregonmetro.gov

Description

The Enhanced Transit Concepts (ETC) program identifies transit priority and access treatments to improve the speed, reliability, and capacity of TriMet frequent service bus lines or streetcar lines. The program supports the Climate Smart Strategy, adopted by the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council in 2014, by helping the region progress toward its sustainability and carbon emissions goals through transit investments.

ETC treatments are relatively low-cost to construct, context-sensitive, and are able to be implemented quickly to improve transit service in congested corridors. The program develops partnerships with local jurisdictions and transit agencies to design and implement ETC capital and operational investments.

In FY 2020-2021, the program, in partnership with TriMet and local partners, initiated designs and implementation for several ETC candidate locations. The ETC program identified locations region-wide for ETC pilots after a series of workshops and engagement of TPAC and JPACT. The City of Portland project were the first to be implemented: projects on NW Everett Street, SW Madison Street, NW Cornell Road at NW 185th Avenue, the Burnside Bridge, NE/SE Martin Luther King Boulevard, and NE/SE Grand Avenue were completed. Several of these projects include the application of red paint—the region’s first such treatment after the Federal Highways Administration (FHWA) approved the Portland Bureau of Transportation (PBOT) request to experiment with red-colored pavement to indicate transit-only lanes. Several more projects are in early phases of planning and design in coordination with jurisdictional partners.

ETC program and design work will continue in FY 2021-22. In FY 2021-22 the ETC program will accomplish:

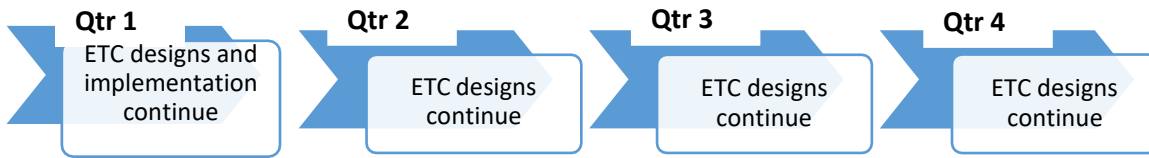
Milestones/deliverables for this reporting period (July 2020 – December 2020):

- Designs for Burnside Bridge/ East Burnside submitted to PBOT for review
- Designs for SE Hawthorne/SE Madison submitted to PBOT for review, comments being addressed
- Completed designs for MLK/Grand
- Completed designs in support of Get Moving 2020
- Implementation of Red Paint projects to indicate bus/streetcar only lanes in several locations, including MLK/Grand Boulevards

Milestones/deliverables for the next reporting period (January 2021 – June 2021):

- Initiate design for transit improvements along NE Couch Street between Sandy Boulevard and NE MLK Boulevard to benefit bus Lines 12, 19, and 20. Advance design to at least 15%.
- Initiate design for transit improvements along SW Alder Street from SW 19th and Burnside to the Morrison Bridge to accommodate the future routing of Lines 15 and 51. Advance design to at least 15%
- Implementation by PBOT of Hawthorne and E Burnside projects

Key Project Deliverables / Milestones



FY 2020-21 21-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 90,759

Materials & Services \$ 25,000

TOTAL \$ 115,759

Resources:

Metro Direct \$ 115,759
Contribution

TOTAL \$ 115,759

Economic Value Atlas (EVA) Implementation

Staff Contact: Jeff Raker, jeffrey.raker@oregonmetro.gov

Description

Metro's Economic Value Atlas (EVA) establishes tools and analysis that align planning, infrastructure, and economic development to build agreement on investments to strengthen our economy. The EVA entered an implementation phase in FY 2019-20 that included test applications among partner organizations and jurisdictions, refinements to the tool, and integration into agency-wide activities. This is an ongoing program. In FY 2019-20, the EVA tool provided new mapping and discoveries about our regional economic landscape, linked investments to local and regional economic conditions and outcomes and was actively used to inform policy and investment – it provides a foundation for decision-makers to understand the impacts of investment choices to support growing industries and create access to family-wage jobs and opportunities for all. In FY 2020-21, there were final tool refinements and the data platform was actively used to help visualize equitable development conditions in SW Corridor and the region, aligned with agency-wide data and planning projects, including the Columbia Connects and Planning for Our Future Economy projects.

In FY 2020-21, Metro participates in a group of peer regions organized by The Brookings Institution for other regions to benefit from the EVA as a model for their applications and to share best practices. The EVA has informed the conditions assessment of the Comprehensive Economic Development Strategy, is being used similarly to support the Columbia Connects project, and is being integrated into the Comprehensive Recovery Data dashboard under development by Metro's Data Research Center. Updates to the EVA will reflect both the recently updated Greater Portland Economic Recovery Plan and Comprehensive Economic Development Strategy. Additional data updates or development needs will be implemented and the tool will support policy decisions on an ongoing basis.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
CEDS, Recovery Plan, + Columbia Connects Applications	Data Portraits + Sharing Best Practices With Peer	Additional Data Updates + Development Sprints	Additional Data Development Sprints

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 199,222	Metro Direct Contribution	\$ 287,222
Materials & Services	\$ 88,000		
TOTAL	\$ 287,222	TOTAL	\$ 287,222



Regional Corridor/Area Planning

Corridor Refinement and Project Development (Investment Areas)

Staff Contact: Malu Wilkinson, malu.wilkinson@oregonmetro.gov

Description

Metro's Investment Areas program works with partners to develop shared investment strategies that help communities build their downtowns, main streets and corridors and that leverage public and private investments that implement the region's 2040 Growth Concept. Projects include supporting compact, Transit Oriented Development (TOD) in the region's mixed use areas, conducting multijurisdictional planning processes to evaluate high capacity transit and other transportation improvements, and integrating freight and active transportation projects into multimodal corridors.

The Investment Areas program completes system planning and develops multimodal projects in major transportation corridors identified in the Regional Transportation Plan (RTP) as well as developing shared investment strategies to align local, regional and state investments in economic investment areas that support the region's growth economy. It includes ongoing involvement in local and regional transit and roadway project conception, funding, and design. Metro provides assistance to local jurisdictions for the development of specific projects as well as corridor-based programs identified in the RTP. Metro works to develop formal funding agreements with partners in an Investment Area, leveraging regional and local funds to get the most return. This program coordinates with local and state planning efforts to ensure consistency with regional projects, plans, and policies.

In FY 2020-21, Investment Areas staff have supported partner work on TV Highway, Enhanced Transit Concepts, the McLoughlin Corridor, Columbia Connects, additional support for the Southwest Corridor Light Rail Project and the Equitable Development Strategy, Max Redline Enhancements, the Max Tunnel Study, Highway 26/Westside Transportation Alternatives, mobility and transit capacity improvements across the region.

This is an ongoing program, staff will further refine the projects listed above as well as potentially identifying additional projects to further the goals identified for mobility corridors in our region.

Key Project Deliverables / Milestones

	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Investment Areas Project Development				
FY 2021-22 Cost and Funding Sources				
Requirements:			Resources:	
Personnel Services		\$ 323,230	STBG	\$ 12,175
Materials & Services		\$ 12,500	Metro Direct Contribution	\$ 327,420
			STBG Match (Metro)	\$ 1,393
Interfund Transfer		\$ 5,258	Metro Required Match	\$ 327,420

Contribution

TOTAL 340,988

TOTAL \$ 340,988

Southwest Corridor Transit Project

Staff Contact: Brian Harper, brian.harper@oregonmetro.gov

Description

The Southwest Corridor Transit Project extends the MAX light rail system to connect downtown Portland with southwest Portland, Tigard and Tualatin. The project is 11 miles long and includes 13 stations, new connections to regional destinations, and major enhancements to public roadway, sidewalk, bike, ~~transit~~and ~~transit~~ and ~~stormwater~~~~storm water~~ infrastructure. Program activities include environmental review, collaborative project design, coordination on land use planning, and development of an equitable development strategy to protect and enhance housing options and jobs for all households.

The project supports local land use plans and zoning and is a key element of fulfilling the region's goals set forth in the 2040 Growth Concept by allowing for compact development in regional town centers. The project advances 2018 RTP policy direction on vibrant communities, shared prosperity, transportation choices, healthy people and climate leadership. It provides near-term progress on travel options and congestion, and is a developing model for incorporating equitable outcomes into transportation projects.

In FY 2020-21, the project released a final draft conceptual design report and completed a Final Environmental Impact Statement, and acquired a Record of Decision from the Federal Transit Administration. The project paused further engineering and funding efforts.

This is an ongoing program. In future years the project will work to continue equitable development strategy work focused on business and workforce support and stabilization.

Key Project Deliverables / Milestones

Qtr 1

Qtr 2

Qtr 3

Qtr 4

Business &
Workforce
survey, analysis

Bus & Wkforce
stabilization
targets

FY 2021-~~21-22~~ Cost and Funding Sources

Requirements:

Personnel Services	\$ 99,082
Materials & Services	\$ 262,500
Interfund Transfer	\$ 35,113

TOTAL 396,695

Resources:

FTA /FHWA/ ODOT Grant	\$ 343,048
Metro Required- MatchFTA Grant Match (Metro)	\$ 39,263
Local Partner- SupportTriMet Grant	\$ 14,384

TOTAL \$ 396,695

Columbia Connects

Staff Contact: Jeff Raker, jeffrey.raker@oregonmetro.gov

Description

Columbia Connects is a regional collaboration between Oregon and Washington planning partners working together to unlock the potential for equitable development and programs that are made more difficult by infrastructure barriers, and state and jurisdictional separation.

Columbia Connects' purpose is to improve the economic and community development of a sub-district of the region near the Columbia River, by developing a clear understanding of the economic and community interactions and conditions within this sub-district; the shared economic and community values of the region; the desired outcomes; and by creating strategies, projects, and programs, as well as an action plan to achieve these outcomes.

In FY 2020-21 the Columbia Connects project:

- Created a multi-jurisdictional Project Management Group to identify shared values, goals, and potential partnerships. (Metro and the Regional Transportation Council of Southwest Washington are leading this effort.)
- Conducted an inventory of bi-state strategies and economic studies
- Hired a consultant
- Applied Economic Value Atlas tools

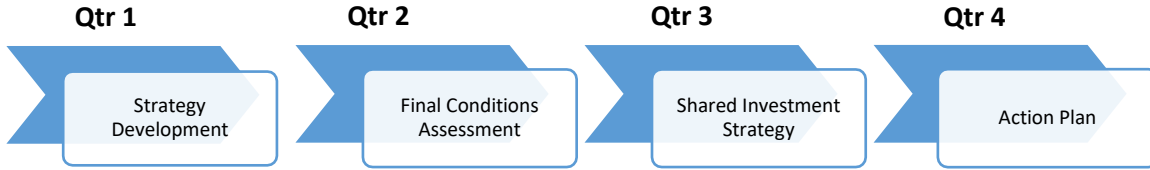
The Columbia Connects project is consistent with the Regional Transportation Plan (RTP) 2018 goals and Metro's 2040 Vision which supports a healthy economy that generates jobs and business opportunities, safe and stable neighborhoods, improved transportation connections for equity, efficient use of land and resources for smart growth and development, and opportunities for disadvantaged groups. The project is separate and complementary to the I-5 Bridge Replacement Project. The Columbia Connects work will identify projects and programs that will strengthen bi-state connections and institutional partnerships with or without a bridge and high capacity transit project.

Key Project Deliverables / Milestones

Key projects deliverables and outcomes may include:

- a defined a shared set of desired economic outcomes
- defined values and goals for the area
- defined infrastructure and service needs
- identification of tools, projects, and programs and investments to help realize outcomes
- a strategy and action plan to implement policy commitments, projects, and programs to realize the community's vision for the bi-state region

Columbia Connects will develop a shared strategy to outline specific opportunities for investment based on feasibility, effectiveness, equity, and project champions. Projects and programs will include test approaches and pilot projects. Based on the strategy and coordination with partners, the partners will develop an Action Plan with partner agreements and commitments for implementation and ongoing coordination on resource acquisition.



FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 153,239

Materials & Services \$ 15,000

Interfund Transfer \$ 90,618

TOTAL \$ 258,857

Resources:

STBG \$ 232,273

~~Metro Required~~
Match STBG Match (Metro) \$ 26,585

TOTAL \$ 258,857

MAX Tunnel Study

Staff Contact: Matt Bihn, matt.bihn@oregonmetro.gov

Description

Metro's MAX Tunnel Study (formerly the Central City Transit Capacity Analysis) is a preliminary study that expands upon previous TriMet work to identify a long-term solution to current reliability problems and future capacity constraints caused by the Steel Bridge. The purpose of the MAX Tunnel study is to lay the groundwork for a much larger study under the National Environmental Policy Act (NEPA). The goals are to identify a representative project that addresses light rail capacity and reliability issues in the Portland central city and improves regional mobility by eliminating major sources of rail system delay; to provide conceptual, preliminary information for stakeholders and the general public; and to determine the resources needed to advance the project through NEPA.

In FY 2020, project staff identified a light rail tunnel between the Lloyd District and Goose Hollow as the option that would best address 2018 RTP policy direction and provide the most benefits with regard to travel time, capacity, reliability, climate, and equity. The study entered the FTA's Early Scoping process to introduce the concept of a light rail tunnel under downtown Portland to the public and to provide opportunity for comment on the potential project's purpose and need and the scope of the planning effort. Staff also conducted targeted engagement with regional stakeholder groups.

This initial study, focused on a tunnel, concluded this fiscal year, but currently continues to provide information to support decision-makers regarding the potential future phases of the project.

Information can be found on the project's website:

<https://www.oregonmetro.gov/public-projects/max-tunnel-study>

In the subsequent phase, initiated in January 2021, the study's focus was broadened to assess other transit service and infrastructure improvements to address Central City transit capacity. In collaboration with the Enhanced Transit Concepts program, this program will identify, evaluate, and design transit priority and access treatments that improve capacity.

Key Project Deliverables / Milestone

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Identify/design transit capacity improvements	Identify/design transit capacity improvements		

FY 2021-22 Cost and Funding Sources

Requirements:

Materials & Services \$ 40,000

Resources:

Metro Direct Contribution \$ 40,000

TOTAL \$ 40,000

TOTAL \$ 40,000

City of Portland Transit and Equitable Development Assessment

Staff Contact: Brian Harper, brian.harper@oregonmetro.gov

Description

The project seeks to create an equitable development plan for two future transit-oriented districts – one in NW Portland and one in Inner East Portland. This project is intended to complement potential transit improvements to better connect Montgomery Park with the Hollywood District. The project will identify the land use and urban design opportunities, economic development and community benefit desires and opportunities leveraged under a transit-oriented development scenario. The project will now consider how such opportunities could support the City's racial equity, climate justice, employment and housing goals, and the 2035 Comprehensive Plan.

The study will assess affordable housing, economic development and business stabilization opportunities associated with potential transit investments. The study will evaluate existing or future transit service and a potential 6.1-mile transit extension. An initial Phase 1 transit expansion would extend the streetcar, or other high-quality transit service to Montgomery Park, linking Portland's Central Eastside to an underserved area of Northwest Portland. Phase 2 will explore alignment options and development potential to extend this line to the Hollywood District.

Project partners will examine how transit alternatives can better support inclusive development, affordable housing and access. Major transit investments are seen as a land use tool to shape the future growth of the Central City and surrounding areas.

This is an ongoing program.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Urban Design Report	Transportation Plan	Draft Plan	Adopt Final Plan

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 59,821	FTA /FHWA/ ODOT Grant	\$ 182,776
Materials & Services	\$ 110,000	Metro Required Match FTA Grant Match (Metro)	\$ 20,920
Interfund Transfer	\$ 33,875		
TOTAL	203,696	TOTAL	\$ 203,696

Tualatin Valley Highway Transit and Development Project

Staff Contact: Elizabeth Mros-O'Hara, Elizabeth.Mros-OHara@oregonmetro.gov

Description

The Tualatin Valley (TV) Highway transit and development project creates a collaborative process with the surrounding communities and relevant jurisdictions to prioritize transportation projects, building on recent work undertaken by Washington County.

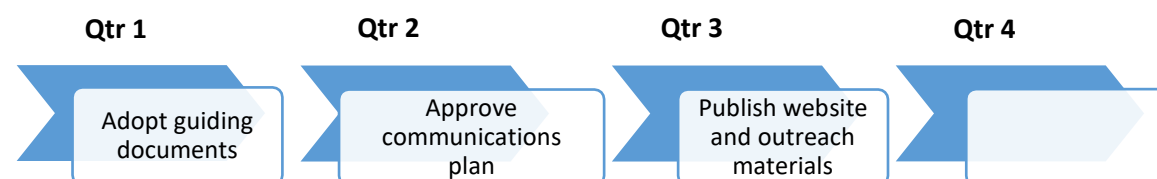
This is a new program commencing in the second half of fiscal year 2020-21. The project's first major task in fiscal year 2020-21 was to establish a steering committee that includes elected officials and community-based organizations (CBOs) that represent communities of color and other marginalized communities within the study area. This group is responsible for developing an equitable development strategy (EDS) and a locally preferred alternative (LPA) for a transit project. The committee's work is informed by input gathered through public engagement efforts that include targeted outreach to communities of concern.

The EDS identifies actions for minimizing and mitigating displacement pressures within the corridor, particularly in high poverty census tracts where public investments may most affect property values. This effort includes identification of existing conditions, businesses owned by marginalized community members and opportunities for workforce development. The EDS strategy may identify additional housing needs, workforce development gaps and opportunities for residents, regulatory issues to be addressed particularly around land use and development, additional public investments, community-led development initiatives, and leadership training and education for residents.

For the transit LPA, the project will advance conceptual designs enough to apply for entry to federal project development, which may include analysis of alternatives for roadway design, transit priority treatments, transit station design and station placement. This effort will be informed by a travel time and reliability analysis which would utilize traffic modeling software as appropriate, as well as an evaluation of the feasibility of using articulated electric buses in the corridor.

This project supports the 2018 Regional Transportation Plan policy guidance on equity, safety, climate and congestion. Typical project activities include coordinating and facilitating the project steering committee, jurisdictional partner staff meetings, and the community engagement program; developing the equitable development strategy; and undertaking design work and analysis related to the locally preferred transit project.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 423,719	FTA /FHWA/ ODOT Grant	\$ 434,727
Materials & Services	\$ 392,967	STBG FTA Grant Match (Metro)	\$ 326,622 49,756
Interfund Transfer	\$ 31,803	Metro Required- Match STBG	\$ 87,140 326,622
		STBG Match (Metro)	\$ 37,383
TOTAL	\$ 848,489	TOTAL	\$ 848,489

TriMet Red Line MAX Extension Transit-Oriented Development (TOD) & Station Area Planning

Staff Contact: ~~Bob Hastings, hastingsb@trimet.org~~ or Jeff Owen, owenj@trimet.org

Description

Through the award of a Federal Transit Administration (FTA) grant, this project will seek to activate under-developed station areas along the west extension of the MAX Red Line and the east portion of the Red Line corridor where increased reliability of MAX service resulting from the proposed Small Starts capital investments provides additional incentive for private and public investments. While the entire extended Red Line corridor includes the alignment between Portland International Airport and the Fair Complex/Hillsboro Airport Transit Center, TriMet is choosing to focus these project activities on two specific segments of the corridor.

The project area is defined as all areas within $\frac{3}{4}$ of a mile of the MAX alignment east of NE 47th Avenue in Multnomah County and west of SW Murray and east of NE 28th Avenue in Washington County. Focus areas will also be established at the following stations: Parkrose / Sumner Transit Center; Gateway / NE 99th Transit Center; NE 82nd; NE 60th; Millikan Way; Beaverton Creek; Elmonica/SW 170th; Willow Creek/ SW 185th Transit Center; Fair Complex/ Hillsboro Airport. Station areas within the project area that are not focus areas will be included in broader economic and market analysis. Stabilization and economic opportunity development strategies will also be applied to these station areas.

Key Project Deliverables / Milestones

After project initiation in Q2/Q3 and during the remainder of FY 2020-21, this project plans to complete an economic analysis at focus station areas across the east and west corridor segments; a business stabilization and development taskforce; and begin a resident stabilization and housing growth taskforce. The project will then carry into the following fiscal year.

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Grant Application	Grant Award	Project Start	Economic Analysis

FY 2020-21-2022 Cost and Funding Sources

Requirements:		Resources:	
Personal Services	\$ 30,000	Federal grant	\$ 219,213
Materials & Services	\$ 298,820	Local Match	\$ 109,607
TOTAL	\$ 328,820	TOTAL	\$ 328,820

Westside Corridor Multimodal Improvements Study

Staff Contact:

ODOT: Mandy Putney, Mandy.putney@ODOT.state.or.us

Metro: Matt Bihn, matt.bihn@oregonmetro.gov

Disclaimer: This is a new planning effort ODOT is considering for fiscal year 2021-22. Due to the timing of the Agency's budget development and approval it is subject to change.

Description

This corridor is generally defined by US 26 (Sunset Highway), which extends from the Oregon Coast through the Vista Ridge Tunnel where it intersects with the I-405 loop accessing I-5, and I-84. The 2018 Regional Transportation Plan (RTP) includes this project as 8.2.4.6 Hillsboro to Portland (Mobility Corridors 13, 14 and 16).

The study will identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor. Options will be evaluated for their potential to address existing deficiencies and support future growth in freight, commuters, and commercial traffic between Hillsboro's Silicon Forest, Northern Washington County's agricultural freight, and the Portland Central City, the international freight distribution hub of I-5 and I-84, the Port of Portland marine terminals, rail facilities, and the Portland International Airport. Commute trip reduction opportunities and assumptions about remote workforce will be included. The West Side Corridor Study will evaluate multimodal improvements in support of regional and statewide goals, specifically including climate. Study will begin in the first quarter of FY 2021 and conclude in the ~~first~~second quarter of FY 2022.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Define scope develop charter	Hire consultant initiate engagement	Define problem statement / outcomes	Evaluate options / modelling

FY 2021-21 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021

Requirements:

Personal Services	\$ 250,000
Materials & Services	\$ 750,000
TOTAL	\$ 1,000,000

Resources:

Federal grant	\$ 863,636
Local Match	\$ 136,364
TOTAL	\$ 1,000,000



Regional Administration and Support

MPO Management and Services

Staff Contact: Tom Kloster (tom.kloster@oregonmetro.gov)

Description

The Metropolitan Planning Organization (MPO) Management and Services program is responsible for the overall management and administration of the region's ~~responsibilities~~ responsibility as a federally-designated MPO. These planning responsibilities include:

- creation and administration of the annual Unified Planning Work Program (UPWP)
- periodic amendments to the UPWP
- procurement of services
- contract administration
- federal grants administration
- federal reporting
- annual self-certification for meeting federal MPO planning requirements
- periodic on-site certification reviews with federal agencies
- public participation in support of MPO activities
- convening and ongoing support for MPO advisory committees
- public engagement

As an MPO, Metro is regulated by federal planning requirements and is a direct recipient of federal transportation grants to help meet those requirements. Metro is also regulated by State of Oregon planning requirements that govern the Regional Transportation Plan (RTP) and other transportation planning activities. The purpose of the MPO is to ensure that federal transportation planning programs and mandates are effectively implemented, including ongoing coordination and consultation with state and federal regulators. The MPO Management team also ensures consistency between the federal regulations, state plans, the RTP and local plans.

Metro's Joint Policy Advisory Committee on Transportation (JPACT) serves as the MPO board for the region in a unique partnership that requires joint action with the Metro Council on all MPO decisions. The Transportation Policy Alternatives Committee (TPAC) serves as the technical body that works with Metro staff to develop policy alternatives and recommendations for JPACT and the Metro Council. TPAC's membership includes six members of the public with diverse backgrounds and perspectives.

As the MPO, Metro is also responsible for preparing the annual Unified Planning Work Program (UPWP), the document you are reading now, and which coordinates activities for all federally funded planning efforts in the Metro region.

Metro also maintains the following required intergovernmental agreements (IGAs) and memorandums of understanding (MOUs) with local partners and jurisdictions on general planning coordination and special planning projects:

- ODOT/Metro Local Agency Master Certification IGA and Quality Program Plan (effective through June 30, 2021)
- 4-Way Planning IGA with ODOT, TriMet and SMART (effective through June 19, 2021)
- ~~South Metro Area Rapid Transit (SMART) MOU (effective through June 30, 2020)~~
- SW Regional Transportation Council (RTC) MOU (effective through June 30, 2021)
- Oregon Department of Environmental Quality MOU (effective through March 7, 2023)

Metro belongs to the Oregon MPO Consortium (OMPOC), a coordinating body made up of representatives of all eight Oregon MPO boards, and Metro staff also collaborates with other MPOs and transit districts in quarterly staff meetings districts convened by ODOT. OMPOC is funded by voluntary contributions from all eight Oregon MPOs.

As part of federal transportation performance and congestion management monitoring and reporting, Metro will also continue to address federal MAP-21 and FAST Act transportation performance management requirements that were adopted as part of the 2018 Regional Transportation Plan (RTP). The performance targets are for federal monitoring and reporting purposes and will be coordinated with the Oregon Department of Transportation (ODOT), TriMet, South Metro Area Regional Transit (SMART) and C-TRAN. The regional targets support the region's Congestion Management Process, the 2018 policy guidance on safety, congestion and air quality, and complements other performance measures and targets discussed in Chapter 2 of the 2018 RTP.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Updates to MOUs and IGAs	Map-21 Reporting	Draft 2021-22 UPWP Review MAP-21 Targets	Adopt 2021-22 UPWP Self-Certification

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 290,610	5303	\$ 421,861
Materials & Services	\$ 19,000	<u>Metro Required-</u> <u>Match5303 Match</u> <u>(Metro)</u>	\$ 48,284
Interfund Transfer	\$ 160,535		
TOTAL	\$ 470,145	TOTAL	\$ 470,145

Civil Rights and Environmental Justice

Staff Contact: Eryn Kehe, eryn.kehe@oregonmetro.gov

Description

Metro's transportation-related planning policies and procedures respond to mandates in Title VI of the 1964 Civil Rights Act and related regulations; Section 504 of the 1973 Rehabilitation Act and Title II of the 1990 Americans with Disabilities Act; the federal Executive Order on Environmental Justice; the United States Department of Transportation (USDOT) Order; the Federal Highway Administration (FHWA) Order; Goal 1 of Oregon's Statewide Planning Goals and Guidelines and Metro's organizational values of Respect and Public Service.

The Civil Rights and Environmental Justice program works to continuously improve practices to identify, engage and improve equitable outcomes for historically marginalized communities, particularly communities of color and people with low income, and develops and maintains processes to ensure 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, national origin, sex, age or disability.

This is an ongoing program. Typical activities include receiving, investigating and reporting civil rights complaints against Metro and its sub-recipients; [conducting benefits and burdens analysis of investments and decisions to ensure that the burdens do not fall disproportionately on the Region's underserved populations](#); conducting focused engagement with communities of color, [persons with limited English proficiency](#)~~English language learners~~ and people with low income for transportation plans and programs, providing language resources, including translation of vital documents on the Metro website for all languages identified as qualifying for the Department of Justice Safe Harbor provision, providing language assistance guidance and training for staff to assist and engage English language learners. In FY 2020-21, Metro conducted a Title VI/transportation equity assessment on the investments of the Metropolitan Transportation Improvement Program and Title VI and an equity assessment will be incorporated into the Regional Transportation Plan (RTP) update scheduled to begin in FY 2021-22.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 61,467
Interfund Transfer \$ 36,768

Resources:

5303 \$ 88,146
~~Metro Required~~ \$ 10,089

~~Match~~ 5303 Match (Metro)

TOTAL \$ 98,235

TOTAL \$ 98,235

Public Engagement

Staff Contact: Eryn Kehe, eryn.kehe@oregonmetro.gov

Description

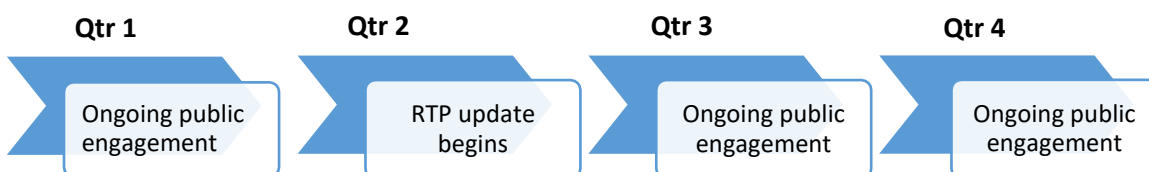
Metro is committed to transparency and access to decisions, services and information for everyone throughout the region. Metro strives to be responsive to the people of the region, provide clear and concise informational materials, and integrate, address and respond to the ideas and concerns raised by the community. Public engagement activities for decision-making processes are documented and given full consideration.

Metro is committed to bringing a diversity of voices to the decision making table to inspire inclusive and innovative solutions to the challenges of a changing region. Metro performs focused engagement to hear the perspectives of historically marginalized communities to inform decisions and meet the objectives of its Civil Rights and Environmental Justice program. Metro's public engagement program builds capacity to create more inclusive, transparent and relationship-based public engagement practices. The office serves as a resource for current best practices for public involvement, supports the Diversity Action Plan and the Diversity, Equity and Inclusion work which develops strategies to engage youth and underrepresented communities in regional decision making. This is an ongoing program. Typical activities include strategies for focused and broad engagement in Metro's planning and policy processes. Metro also develops surveys and reports on public engagement to inform decisions before Metro Council and other decision makers. FY 2020-21 activities included engagement on the Metropolitan Transportation Improvement Program and continuing to build our tribal engagement program with new staffing that Metro has recently added. Metro will also conduct public engagement around specific planning activities, such as the Regional Congestion Pricing study. An update to Regional Transportation Plan is expected to begin late in 2021.

[Metro's Public Engagement Guide](#)

[Be Involved in transportation planning: a guide to being involved in a building a better system for getting around greater Portland](#)

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Note: Public Engagement is spread throughout other project budgets. Please refer to the MTIP, Corridor Planning, Civil Rights, MPO Management and services budget summaries.

Data Management and Visualization

Staff Contact: Steve Erickson, steve.erickson@oregonmetro.gov

Description

Metro's Data Research Center provides Metro, regional partners and the public with technical services including data management, visualization, analysis, application development, and systems administration. The Research Center collaborates with Metro programs to support planning, modeling, forecasting, policy-making, resiliency, and performance measurement activities.

The Research Center's work in FY 2021-22 will span all of these disciplines. In the fields of data management and analytics, the Research Center will provide technical expertise and data visualization products for Regional Transportation Planning, including work on the Mobility Policy Update, Metropolitan Transportation Improvement Program, Performance Measures and the Transportation Data Program. The Demographics and Equity Team will move forward with implementing the department's Equity Analytics Strategy.

The Research Center will develop applications and provide systems administration for a variety of tools. Recent examples are: the Regional Barometer, an open-data and performance-measures website that makes key metrics and their associated data available to the public, the Economic Value Atlas, an economic development planning tool, and the Crash Map, a tool for the analysis of transportation safety data. In addition, the program will support its geospatial technology platform, providing a toolset for do-it-yourself mapping and interactive web applications. The program will continue to expand and enhance these products and services.

The Research Center will continue adding value to the Regional Land Information System (RLIS) by modernizing its technologies and publishing data on a continual basis. This provides essential data and technical resources to both Metro programs and partner jurisdictions throughout the region. RLIS, Metro's geospatial intelligence program, is an on-going program with a 30+ year history of being a regional leader in GIS and providing quality data and analysis in support of Metro's MPO responsibilities.

For additional information about the Research Center's Data Management and Visualization projects, email steve.erickson@oregonmetro.gov or call (503) 797-1595.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
RLIS Live Update Application Updates	RLIS Live Update 2021 Aerial Photos	RLIS Live Update Application Updates	RLIS Live Update

FY 2020-21-22 Cost and Funding Sources

Requirements:		Resources:	
Personnel Services	\$ 1,013,546	PL	\$ 803,454 720,939
Materials & Services	\$ 59,560	Metro Direct	\$ 543,528
Interfund	\$ 273,876 59,560	Contribution	
Transfer Materials &	\$ 273,876	PL Match (ODOT)	\$ 82,515
Services		Metro Direct	\$ 543,528
Interfund Transfer		Contribution	
TOTAL	\$ 1,346,982	TOTAL	\$ 1,346,982

Economic, Demographic, and Land Use Forecasting, Development and Application Program

Staff Contact: Chris Johnson, chris.johnson@oregonmetro.gov

Description

The Economic, Demographic, and Land Use Forecasting, Development and Application Program assembles historical data and develops future forecasts of population, land use, and economic activity that support Metro's regional planning and policy decision-making processes. The forecasts are developed for various geographies, ranging from regional (MSA) to Transportation Analysis Zone (TAZ) level, and across time horizons ranging from 20 to 50 years into the future. The Economic, Demographic, and Land Use Forecasting, Development, and Application Program also includes activities related to the continued development of the analytical tools that are applied to produce the abovementioned forecasts.

Long-range economic and demographic projections are regularly updated to incorporate the latest observed changes in demographic, economic, and real estate development conditions. Metro staff rely on the forecasts and projections to manage solid waste policy, study transportation corridor needs, formulate regional transportation plans, analyze the economic impacts of potential climate change scenarios, and to develop land use planning alternatives.

The resources devoted to the development and maintenance of the Metro's core forecast toolkits are critical to Metro's jurisdictional and agency partners. Local jurisdictions across the region rely on the forecast products to inform their comprehensive plan and system plan updates. Because the modeling toolkit provides the analytical foundation for informing the region's most significant decisions, ongoing annual support acts to leverage significant historical investments and to ensure that the analytical tools are always ready to fulfill the project needs of Metro's partners. The analytical tools are also a key source of data and metrics used to evaluate the region's progress toward meeting its equity, safety, climate, and congestion goals.

A listing of recent project work completed under the Economic, Demographic, and Land Use Forecasting, Development and Application Program is shown below.

Work completed (July 2020 – June 2021):

- Land Development Monitoring System (Maintenance)
- Census 2020 (Support)
- Regional Economic Forecast (REF--Maintenance)
- Population Synthesizer (Implemented)
- Distributed Forecast (Adopted)
- TAZ-Level Travel Model Inputs (HIA Development)
- Map Back Tool (Updates/Maintenance)
- Housing and Transportation Cost Calculator (Prototype)
- Land Use Model Scoping (Complete)

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
MapBack Updates, REF Maintenance	HIA Testing for RTP, REF Maintenance	REF Maintenance	REF

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 196,435
Materials & Services	\$ 76,300
Materials & Services	\$ 76,300
Interfund Transfer	\$ 104,881

Resources:

PL	\$ 182,140 163,434
PL Match (ODOT)	\$ 18,706
Metro Direct	\$ 118,591
Contribution	
Local Partner	\$ 76,885
Support ODOT Support	\$ 118,591
Funds	
Metro Direct	
Contribution	

TOTAL \$ 377,616

TOTAL \$ 377,616

Travel Forecast Maintenance, Development and Application

Staff Contact: Chris Johnson, chris.johnson@oregonmetro.gov

Description

The Travel Forecast Maintenance, Development, and Application Program is a coordinated portfolio of projects and tasks devoted to the development, application, and maintenance of the core analytical toolkit used to inform and support regional transportation policy and investment decision-making. Individual elements of the toolkit include:

- Travel Demand Models (Trip-based, Activity-based)
- Freight Travel Demand Model
- Bicycle Route Choice Assignment Model
- Multi-Criterion Evaluation Tool (Benefit/Cost Calculator)
- Housing and Transportation Cost Calculator
- Dynamic Traffic Assignment Model
- VisionEval Scenario Planning Tool

The resources devoted to the development and maintenance of the travel demand modeling toolkit are critical to Metro's jurisdictional and agency partners. Because the modeling toolkit provides the analytical foundation for evaluating the region's most significant transportation projects, ongoing annual support acts to leverage significant historical investments and to ensure that the modeling toolkit is always ready to fulfill the project needs of Metro's partners. The modeling toolkit is also a key source of data and metrics used to evaluate the region's progress toward meeting its equity, safety, climate, and congestion goals.

A listing of recent project work completed under the Travel Forecast Maintenance, Development, and Application Program is shown below.

Work to be completed (July 2020 – June 2021):

- ODOT I-5/I-205 Tolling (Development, Application, and Analytics)
- Regional Congestion Pricing (Application, and Analytics)
- Mobility Policy Update (Application, and Analytics)
- VisionEval (Regional Prototype Development)
- Regional Freight Delay and Commodities Movement Study (Calibration/Validation)
- Multi-Criterion Evaluation Tool (Development, Application, and Analytics)
- Replica Data Product Pilot Project (Evaluation Completed)
- Transportation Data Program (Implementation)
- CT-RAMP Activity-based Travel Demand Model (Prototype Developed)
- Quick Launch Regional Dynamic Traffic Assignment (Prototype Testing)
- Housing and Transportation Cost Calculator (Prototype Developed)

For more information about the Travel Demand Modeling and Forecasting Program, contact Chris Johnson at chris.johnson@oregonmetro.gov.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
ABM, VisionEval, TDP, MP, Pricing	ABM, VisionEval, TDP, MP, Pricing	ABM, TDP, Pricing, Freight	ABM, TDP, Pricing, Freight

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 968,813
<u>Materials & Services</u>	<u>\$ 81,086</u>
Materials & Services	\$ 81,086
Interfund Transfer	\$ 426,277

Resources:

PL	\$ 876,270 86,277
<u>PL Match (ODOT)</u>	<u>\$ 89,993</u>
<u>Metro Direct</u>	<u>\$ 206,791</u>
<u>Contribution</u>	
Local Partner	\$ 393,115 148,115
<u>Support</u>	<u>\$ 245,000</u>
<u>ODOT Support</u>	<u>\$ 206,791</u>
<u>Funds</u>	
<u>TriMet Support Funds</u>	
<u>Metro Direct</u>	
<u>Contribution</u>	

TOTAL \$ 1,476,176

TOTAL \$ 1,476,176

Oregon Household Travel Survey

Staff Contact: Chris Johnson, chris.johnson@oregonmetro.gov

Description

Transportation analysts, planners and decision-makers rely on periodic travel surveys to provide a “snapshot” of current household travel behavior. The data collected through household travel survey efforts are also critical for updating and improving travel demand models, the foundational analytical tool used to support transportation planning, as they provide a comprehensive picture of personal travel behavior that is lacking in other data sources. Because of changing population, demographic and travel trends, updated household surveys are completed periodically to ensure a recent and reliable snapshot of travel behavior.

Metro partners with ODOT, the members of the Oregon MPO Consortium and the Southwest Washington Regional Council to conduct a statewide survey, both to share costs and to provide a statewide data set with broader applications and more consistency than would be possible if each of these partners were to complete surveys independently.

The current household survey project will be structured around three major phases:

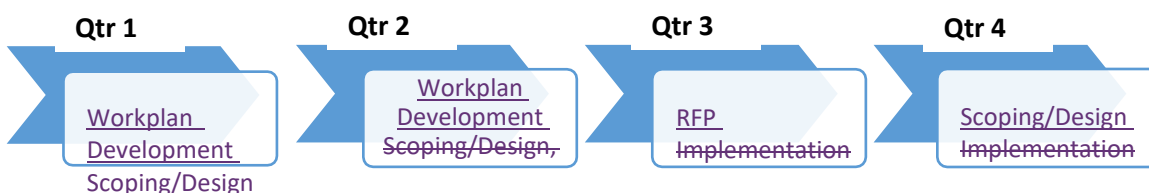
- Phase I – Scoping
- Phase II – Survey Design
- Phase III – Survey Implementation ([Planned for Fall of 2022, FY 2022-2023](#))

The survey data will be critical for policy and decision-makers across the state. It will be used in the development of a variety of MPO and statewide trip-based and activity-based travel models throughout Oregon, including models in the Portland/Vancouver, WA area and other Oregon metropolitan and non-metropolitan areas. It will also support the development of integrated land use economic transportation models being developed by ODOT.

Work completed (July 2020 – June 2021):

- Work plan development
- RFP development/release
- Contractor evaluation and selection
- Procurement and contracting
- Scoping/design phases initiated

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services \$ 92,072

TOTAL **\$ 92,072****Resources:**PL \$ ~~92,072~~282,616[PL Match \(ODOT\)](#) [\\$ 9,456](#)

TOTAL **\$ 92,072**

Technical Assistance Program

Staff Contact: Chris Johnson, chris.johnson@oregonmetro.gov

Description

US Department of Transportation protocols require the preparation of future year regional travel forecasts to analyze project alternatives. The Technical Assistance program provides transportation data and travel modeling services for projects that are of interest to local partner jurisdictions. Clients of this program include regional cities and counties, TriMet, the Oregon Department of Transportation, the Port of Portland, private sector businesses and the general public.

Client agencies may also use funds from this program to purchase and maintain copies of the transportation modeling software used by Metro. A budget allocation defines the amount of funds available to each regional jurisdiction for these services, and data and modeling outputs are provided upon request. This is an ongoing program.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Software maintenance fees paid	Assistance completed upon request	Assistance completed upon request	Assistance completed upon request

FY 2021-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 50,120
Materials & Services	\$ 30,948

Interfund Transfer	\$ 24,411
--------------------	-----------

TOTAL	105,479
--------------	----------------

Resources:

STBG	\$ 94,646
Metro Required Match STBG Match (Metro)	\$ 10,833

TOTAL	\$ 105,479
--------------	-------------------

Intergovernmental Agreement Fund Management

Staff Contact: Grace Cho, grace.cho@oregonmetro.gov

Description

Metro manages the processes and funds that are part of Intergovernmental Agreements with our partners. As a metropolitan planning organization (MPO) for the Portland region, Metro has allocation and programming authority of federal surface transportation funds. Metro documents and develops the schedule of planned expenditure of federal funds in the region through the Metropolitan Transportation Improvement Program (MTIP). The MTIP, approved by Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council, monitors expenditure and project delivery. From 2017 through 2020, JPACT and the Metro Council approved and directed Metro staff to pursue a number of contracts with our partners to meet the specific funding needs of our partners and the region. The intent of the IGAs is to create efficiencies in the number of projects undergoing the federal aid process and to support flexibility in project development on a number of active transportation projects and other regional priorities. .

Metro administers the funding and monitors the delivery of the projects associated with the IGAs. The IGAs also outline the scope of work, deliverables, and schedule for the project. A grant management database supports the administration and monitoring for work completed on the project. As necessary, Metro conducts MTIP amendments or UPWP amendments to facilitate any changes.

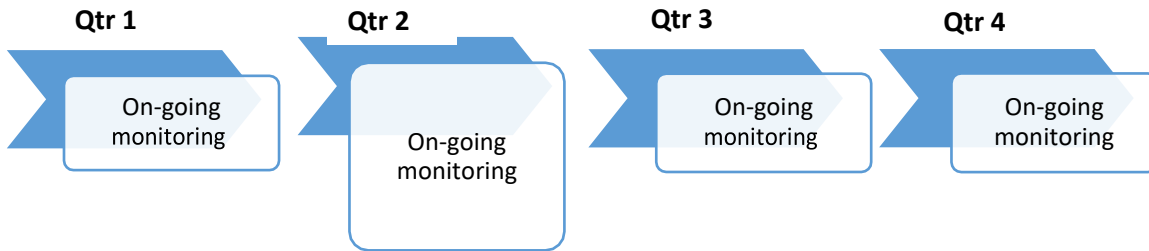
This is an ongoing program until the final project IGA is completed. Typical program activities include:

- Monitor project delivery for projects through project progress reports
- Review and approve or conditionally approve project deliverables
- Review and approve or decline invoices
- Problem-solve, review, and make decisions on change management requests
- As requested, participate in technical advisory committees for fund swapped projects
- Keep other Metro staff and departments aware of projects, project progress, and comment opportunities
- Develop and execute IGAs with local jurisdictions
 - Negotiate terms and deliverables
 - Outline reimbursement process and limitations, change management process
 - Outline grantee and grant manager expectations
- Oversee the fund balances of the local funds
 - Ensure scheduled changes line up with anticipated expenditure of funds
- Ensures MTIP or UPWP amendments are undertaken to facilitate funds between the IGA parties and the delivery of those projects identified in the IGAs
- Document the process of administering the funds

In FY 2020-21, Metro continued with program management and monitoring activities. In total, Metro currently manages 22 jurisdiction-led projects and four Metro-led projects through the IGA Fund Management program. Two additional IGAs are anticipated to be signed before the end of FY 2020-

21, but will be managed throughout FY2021-22. Four projects have been completed as of early November 2020.

Key Project Deliverables / Milestones



FY 2020-21-22 Cost and Funding Sources

Requirements:

Personnel Services	\$ 31,825
<u>Interfund Transfer</u>	<u>\$ 19,871</u>
<u>Interfund Transfer</u>	<u>\$ 19,871</u>

TOTAL \$ 51,696

Resources:

Metro Direct	\$ 51,696
Contribution	

TOTAL \$ 51,696



State Transportation Planning of Regional Significance

ODOT Development Review

Staff Contact: Jon Makler, jon.makler@odot.state.or.us

Description

ODOT reviews local land use actions and participates in development review cases when those actions may have safety or operational impacts (for all modes of travel) on the state roadway system, or if they involve access (driveways) to state roadways. This includes work with jurisdiction partners and applicants, and products may include written responses and/or mitigation agreements. This work includes review of quasi-judicial plan amendments, code and ordinance text amendments, transportation system plan amendments, site plans, conditional uses, variances, land divisions, master plans/planned unit developments, annexations, urban growth boundary expansions and recommendations for industrial land site certifications. ODOT also works to ensure that long-range planning projects integrate development review considerations into the plan or implementing ordinances, so that long-range plans can be implemented incrementally over time.

In a typical fiscal year, ODOT Region 1 staff review more than 2,000 land use actions, with approximately 150 written responses and 100 mitigation agreements. In FY 2020-21, Region 1 staff reviewed just roughly 1,940 land use actions, with approximately 210 written responses and 200 mitigation agreements.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
<u>Ongoing response letters, mitigation agreements</u>	<u>Ongoing response letters, mitigation agreements</u>	<u>Ongoing response letters, mitigation agreements</u>	<u>Ongoing response letters, mitigation agreements</u>

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:

Personal Services	\$ 287,500
Materials & Services	\$ 0
TOTAL	\$ 287,500

Resources:

Federal grant	\$ 248,295
Local Match	\$ 39,205
TOTAL	\$ 287,500

ODOT – Transportation and Growth Management

Staff Contact: Glen Bolen AICP, Glen.a.Bolen@ODOT.state.or.us

Description

The Transportation and Growth Management (TGM) program is a partnership of the Oregon Department of Land Conservation and Development (DLCD) and Oregon Department of Transportation (ODOT). The program helps governments across Oregon with skills and resources to plan long-term, sustainable growth in their transportation systems in line with other planning for changing demographics and land uses. TGM encourages governments to take advantage of assets they have, such as existing urban infrastructure, and walkable downtowns and main streets.

The goals of the program are:

1. Provide transportation choices to support communities with the balanced and interconnected transportation networks necessary for mobility, equity, and economic growth
2. Create communities composed of vibrant neighborhoods and lively centers linked by [convenient-accessible](#) transportation
3. Support economic vitality [and growth](#) by planning for land uses and the movement of people and goods
4. Save public and private costs with compact land uses and well-connected transportation patterns
5. Promote environmental stewardship through sustainable land use and transportation planning

TGM is primarily funded by federal transportation funds, with additional staff support and funding provided by the State of Oregon. ODOT Region 1 distributes approximately \$600 - \$900 Thousand annually to cities, counties and special districts within Hood River and Multnomah counties plus the urban portions of Clackamas and Washington County. Grants typically range from \$75,000 to \$250,000 and can be used for any combination of staff and consulting services. ODOT staff administer the grants alongside a local agency project manager.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Select 2021 Awards	Scoping and Procurement	Procurement and kickoff of projects	Recruitment of 22 Grantees / closeout of 2019 Grants
Ongoing management of active projects			

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements: (Est.)		Resources:	
Personal Services	\$ 200,000	Federal grant	\$ 604,545
Materials & Services	\$ 500,000	Local Match	\$ 95,455
TOTAL	\$ 700,000	TOTAL	\$ 700,000

ODOT Region 1 Active Transportation Strategy

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Description

ODOT's Active Transportation Needs Inventory (ATNI) implementation will enable ODOT Region 1 to identify gaps and deficiencies on sidewalks and bike facilities in the system and support conceptual planning of projects that increase biking, walking and access to transit including ADA conformance. This data can be referenced across all disciplines and ODOT teams to elevate biking and walking facilities in scoping and program development activities. Primary activities include project identification, scoping for identified needs and gaps, and pairing improvements projects with relevant funding sources to maximize the inclusion of active transportation needs and costs in planning and project development as a proactive rather than reactive effort. ATNI also complements the implementation of ODOT's Blueprint for Urban Design guidance on best practices for enhancing livability on the arterial highway network.

Education and outreach efforts in coordination with ODOT Region 1 Planning & Development, ODOT Office of Civil Rights, ODOT's Ped Bike Program, ODOT Traffic Safety and Safe Routes to School, will engage partner agencies and community members in identifying needs and solutions sooner in the planning and project delivery timeline.

The Oregon Transportation Plan sets a goal of completing the state biking and walking network by 2030. The 2016 Statewide Bicycle and Pedestrian Plan and accompanying Implementation Plan establish a framework for pursuing this long-term goal.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Project Identification & Scoping	Project Development and Outreach	Project Development and Outreach	Coordination and continued development

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:		Resources:	
Personal Services	\$ 150,000	Federal grant	\$ 150,000
Materials & Services	\$	Local Match	\$
TOTAL	\$ 150,000	TOTAL	\$ 150,000

ODOT- Region 1 Transportation Data, Tools and Reports

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Description

In recent years, ODOT has produced several atlas-style documents to support the planning, programming and development of transportation investments around the region. These include the Interchange Atlas, Corridor/Traffic Performance Report, COVID Traffic Reports and Active Traffic Management Study. Every year, the data underlying these studies requires management and upkeep. The purpose of this project is to ensure that ODOT and its partners always have up to date and useful data available.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Data Collection/	Data and Document	Continuation	Continuation

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:

Personal Services	\$ 137,500
Materials & Services	\$ 62,500

TOTAL	200,000
--------------	----------------

Resources:

Federal grant	\$ 200,000
Local Match	\$

TOTAL	\$ 200,000
--------------	-------------------

ODOT Region 1 Planning for Operations

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

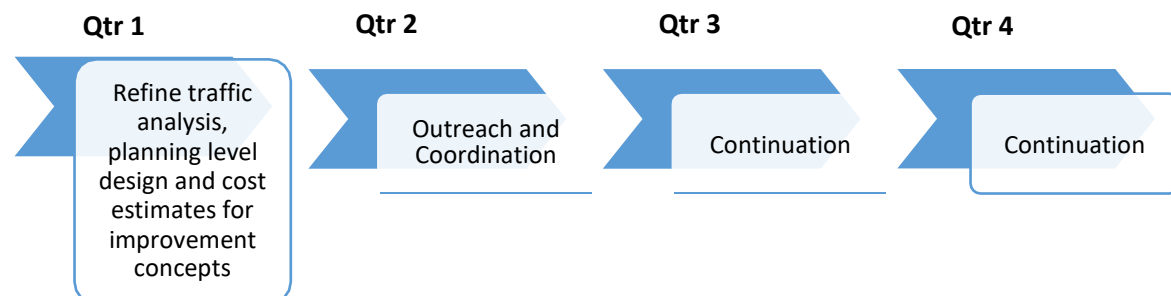
Description

ODOT seeks to leverage its recent work program investments in diagnosing bottlenecks and developing a strategy for active traffic management (ATM). This project will seek to identify and plan for project investments that support Transportation System Management and Operations (TSMO) on highways throughout the region. These investments are meant to improve safety and efficiency for all users of the transportation system.

Previously, ODOT developed the Corridor Bottleneck Operations Study (CBOS) and Active Traffic Management Study, both of which build on 30+ years of traffic management efforts in the region. In FY 2019-2020, ODOT completed the CBOS 2 Atlas and initiated refinement of certain projects identified in the CBOS 2 Atlas. ODOT also works to identify and prioritize investment opportunities where TSMO can improve safety and efficiency; collaborate with local and regional agencies to find and implement cost-effective TSMO investments; enhance ODOT's ability to support local planning efforts with respect to planning for operations; and support the regional Congestion Management Process and compliance with federal performance-based planning requirements, consistent with the ODOT-Metro agreement's identification of opportunities to coordinate, cooperate and collaborate.

Identification of safety and efficiency improvements through planning for operations includes identifying investment opportunities that are focused on improving safety for all users of the transportation system, as well as improving efficiency, which can lead to improvements in congested conditions and climate impacts, which is consistent with 2018 RTP policy guidance related to safety, congestion and climate change. In FY 2020-21-22 work will focus on refining traffic analysis, planning level design and cost estimates for improvement concepts, as well as associated outreach and communications. Please contact ODOT staff listed above to learn more detail.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:		Resources:	
Personal Services	\$ 135,180	Federal grant	\$ 410,048
Materials & Services	\$ 300,000	State Match	\$ 24,132
TOTAL	\$ 435,180	TOTAL	\$ 435,180

Project: I-5 and I-205: Portland Metropolitan Value Pricing

Staff Contact: Mike Mason, Michael.W.Mason@odot.state.or.us

Description

The ODOT Toll Program is advancing the results of a feasibility analysis completed in December 2018. The Value Pricing Feasibility Analysis was conducted using state funding from House Bill 2017; no federal funds were spent (except for \$43 in June by administrative staff activating the account).

The Toll Program is part of the Statewide Transportation Improvement Program and includes two planning projects: Interstate 205 in Clackamas County (OR213 to Stafford Road) and a separate Comprehensive Congestion Management and Mobility tolling study considering the full corridor length of Interstate 5 in the Portland metro area plus on I-205 extending to the north from OR213 to the Glenn Jackson Bridge and to the south from Stafford Road to I-5. The planning/environmental analysis phase is expected to continue into 2023 for these toll projects.

I-205 Tolling: During the period of July 2020 to June 2021, work has been focused on coordination with the Federal Highway Administration and partners, planning for the toll back office system, and coordination with the planned I-205 bridge reconstruction, seismic improvements, and widening on I-205. ODOT initiated an Environmental Assessment for I-205 tolling under the federal National Environmental Policy Act during this period with modeling analysis and public engagement activities.

Comprehensive Congestion Management and Mobility Tolling: From July 2020 to June 2021, ODOT initiated a federal Planning and Environmental Linkage (PEL) process under NEPA along I-5 in the Portland metro area. In December 2020, the Oregon Transportation Commission, under the direction of HB 2017, extended the toll corridor for this study to the full length of I-5 and I-205.

The Oregon Transportation Commission has tolling authority for Oregon's highway system. The project is led by ODOT, which has developed a decision and advisory structure to engage regional partners for technical input as well as an advisory committee to assist in developing an equity framework and equitable process. Regional partners include local, county, and regional agencies, as well as transit service providers including TriMet, Smart, and others. Additionally, ODOT is coordinating with Metro and the City of Portland on concurrent efforts related to congestion pricing.

This project is consistent with RTP Goal 4: Reliability and Efficiency, Objective 4.6 Pricing – Expand the use of pricing strategies to manage vehicle congestion and encourage shared trips and use of transit. It also is consistent with the RTP's Transportation System Policies: Transportation System Management and Operations Policy 1: Expand use of pricing strategies to manage travel demand on the transportation system; and Regional Motor Vehicle Network Policy 6: In combination with increased transit service, consider use of value pricing to manage congestion and raise revenue when one or more lanes are being added to throughways.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Technical analysis Federal policy coordination	Procurement Federal policy <u>coordination</u>	Technical analysis Environmental review	Technical analysis Environmental review

FY 2021-22 Cost and Funding Sources

Note: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:

Personal Services	\$ 18,897,890
Materials & Services	\$ \$650,000
TOTAL	\$ Total Amount

Resources:

Federal grant	\$ 18,027,064.16
Local Match	\$ 1,520,825.84
TOTAL	\$ 19,547,890

ODOT – Interstate 5 Boone Bridge Seismic Enhancement and Interchange Improvement Study

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Disclaimer: This is a potential planning effort ODOT is considering for fiscal year 2021-22. Due to the timing of the Agency's budget development and approval it is subject to change.

Description

In 2017-2018, ODOT and the City of Wilsonville partnered on a Southbound I-5 Boone Bridge Congestion Study. The study led to the adoption of the I-5 Wilsonville Facility Plan, which documented a southbound auxiliary lane concept consistent with implementation recommendations for this corridor (see Project 11990 on the 2018 RTP Financially Constrained List)

As directed by the 2019 Legislature, ODOT hired a contractor to evaluate the I-5 Boone Bridge widening and interchange improvements between Wilsonville Road and the Canby-Hubbard Highway. The report will be completed during Quarter 3 of FY 2020-21.

Along with the engineering analysis of the Bridge, ODOT worked with Metro to analyze the effects bridge widening on travel patterns in the region.

ODOT will consider recommendations from the report as it develops the agency work program for the 2021 – 2023 biennium. This narrative is included in the UPWP to relay the potential for continued planning and analysis during FY 2021-22.

Key Project Deliverables / Milestones

No deliverable or milestones are known at this time.

Qtr 1	Qtr 2	Qtr 3	Qtr 4
To be determined	TBD	TBD	TBD

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021

Requirements:

Personal Services	\$	TBD
Materials & Services	\$	TBD
TOTAL	\$	Total Amount

Resources:

Federal grant	\$	TBD
Local Match	\$	TBD
TOTAL	\$	Total Amount

ODOT Region 1 Bus on Shoulder Pilots and Feasibility Assessment

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Description

Demonstrating its commitment to testing innovative multi-modal tools, the Oregon Department of Transportation (ODOT) will evaluate the Portland-area freeway system for Bus-on-Shoulder (BOS) opportunities. Building on a high-level assessment of nearly 100 miles of urban freeways, the Region 1 BOS Feasibility Assessment will assess multiple pilot projects that were deployed in 2020. This effort will be followed by a more in-depth analysis of the freeway network to identify additional opportunities. Supplementing a pre- and post-pilot evaluation, the regional study will identify and prioritize corridors for potential permanent and longer-term BOS deployment. This will involve a more detailed assessment of existing transportation infrastructure and conditions, and coordination with regional transit providers and other stakeholders to assess transit demand. The assessment will build upon previous analyses and congestion mitigation measures including ODOT's bi-annual Traffic Performance Report and Corridor Bottleneck Operations Study efforts, and TriMet's forthcoming Express/Limited Stop Study. ODOT is undertaking this effort in response to internal and partner agency interest in testing BOS in Oregon.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
BOS deployment	Post pilot evaluations	Region-wide BOS Feasibility Assessment	Continuation of Feasibility Assessment

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:		Resources:	
Personal Services	\$ 50,000	Federal grant	\$ 150,000
Materials & Services	\$ 100,000	Local Match	\$ Click here to enter text.
TOTAL	150,000	TOTAL	\$ 150,000

ODOT – Oregon City - West Linn Ped-Bike Bridge Concept Plan

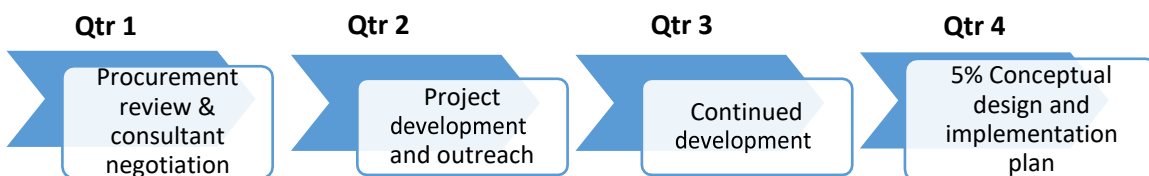
Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Description

ODOT Region 1 is initiating a planning effort with agency partners to assess the need for a pedestrian and bicycle bridge over the Willamette River connecting Oregon City and West Linn, and to identify a preferred bridge alignment. This planning effort supports community desires to connect the regional active transportation network in this area. The existing Arch Bridge (OR 43) does not adequately serve bicycle and pedestrian connectivity within the vicinity. The planned I-205 Abernethy bridge will not allow bicycle and pedestrian use. Further, agency partners are interested in identifying a new option for a low stress connection between the two cities. ODOT, with partner agencies has initiated this planning study in pursuit of providing bicycle and pedestrian travel options between Oregon City and West Linn. The work will rely on ODOT's *I-205: Stafford Road to OR 99E (Abernethy Bridge) Bicycle and Pedestrian Assessment (2016)* and existing local and regional plans, to the greatest extent possible. Today, no existing local or regional plans call for the construction of a new pedestrian and bicycle bridge of the Willamette River between Oregon City and West Linn. There are planned facilities at various stages of development (planned but unfunded, designed but unfunded, funded awaiting construction) within the identified study area on each side of the river. ~~Assessing~~Assessing the need and preferred alignment for a pedestrian and bike bridge will require local agency partnership and community involvement.

ODOT's planning effort aligns with efforts by regional partners to reimagine access to the Willamette River in Oregon City and West Linn. A new pedestrian and bicycle bridge will enhance access for people walking and biking and provide the region opportunities to reconnect with the river and identify a key missing connection in the regional bikeway and pedestrian system. Completing the active transportation network with a bridge creates essential access to and along the Willamette River between Gladstone, Oregon City, and West Linn.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:

Personal Services \$ 50,000
Materials & Services \$ 300,00,000

TOTAL \$ 350,000

Resources:

Federal \$ 50000
Federal \$ 300000

TOTAL \$ 350,000

ODOT – Region 1 Truck Network Barrier Analysis

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Disclaimer: This is a new planning effort ODOT is considering for fiscal year 2021-22. Due to the timing of the Agency's budget development and approval it is subject to change.

Description

The ODOT Region 1 Truck Network Barrier Analysis will provide a prioritized list of future strategic long-term and short-term investments to address network barriers on ODOT facilities in Region 1. Building on past work, the Network Analysis will define projects which will preserve and enhance freight function within state facilities. It will include a GIS map and prioritized list of solutions to address the network barriers. The proposed solutions and/or projects will be classified by scale, cost, benefit, constructability, and modal priority and given a score (similar to ODOT's Active Transportation Needs Inventory) to better inform needs across entire corridors. Using a similar building block approach as the Regional Freight Plan, the Network Barrier Analysis will address straightforward solutions and build to more complex solutions to maximize the operation of the existing system (similar to the Congestion Bottleneck Operations Study). This analysis will be used to inform Region 1's transportation funding plans to strategically invest in projects that leverage future investments such as preservation, bridge maintenance, and highway operational improvements while minimizing barriers on the freight network.

The Network Barrier Analysis will further evolve the strategies in the 2018 RTP Regional Freight Strategy. Presently, the RTP generally identifies projects that address bottlenecks and improve safety along Region 1's freeways. The Network Barrier Analysis will provide further refinement of the identified projects and strategies in the RTP to assure consistency with the RTP and to define the projects for future scoping in an effort to ready the projects for funding and implementation.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Project Scoping	Existing Condition Analysis	Project development and outreach	Final Report

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:

Personal Services	\$ 75,000
Materials & Services	\$ 150,000

TOTAL	225,000
--------------	----------------

Resources:

Federal grant	\$ 225,000
Local Match	\$ 0

TOTAL	\$ 225,000
--------------	-------------------

ODOT Region 1 Urban Arterials Assessment Strategy

Staff Contact: Kristen Stallman, Kristen.Stallman@odot.state.or.us

Disclaimer: This is a new planning effort ODOT is considering for fiscal year 2021-22. Due to the timing of the Agency's budget development and approval it is subject to change.

Description

ODOT seeks to leverage its recent work program investments to improve on corridor projects identified for the 2020 Regional Investment Measure with a focus on addressing safety, transit and multi-modal needs along the region's urban arterials (state, regional and district highways). This effort will coordinate with local planning and implementation strategies and apply ODOT's Blueprint for Urban Design. This work supports ODOT and the local jurisdictions' approach to prioritize equitable and impactful investments for vulnerable users who depending on walking, biking and taking transit along corridors.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Develop a project clearing recently completed, planned and gaps	Project	Draft Strategy	Continuation

FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021.

Requirements:

Personal Services	\$ 100,000
Materials & Services	\$ 200,000

TOTAL	\$ 300,000
--------------	-------------------

Resources:

Federal grant	\$ 300,000
State Match	\$
Local Match	\$

TOTAL	\$ 300,000
--------------	-------------------

ODOT – Interstate 5 Columbia River (Interstate) Bridge Replacement

Staff Contact: Raymond Mabey, Raymond.MABEY@odot.state.or.us

Description

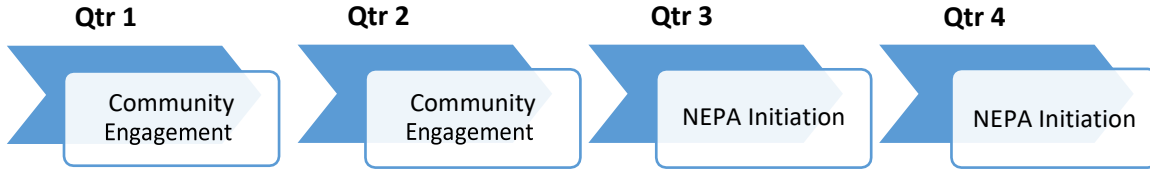
The Interstate 5 Bridge over the Columbia River is a major bottleneck for freight and the public traveling across the river. Replacing the aging Interstate Bridge across the Columbia River with a seismically resilient, multimodal structure that provides improved mobility for people, goods, and services is a high priority for Oregon and Washington. In 2019, governors and legislative leadership in both states directed the Washington Department of Transportation (WSDOT) and Oregon Department of Transportation (ODOT) to launch the bi-state Interstate Bridge Replacement (IBR) program to continue this work.

Key Project Deliverables / Milestones

The IBR program team is actively engaging with the public, legislators, stakeholders, and partner agencies from both states to build consensus in an open and public process. Key to this process is updating the Purpose and Need Statement and establishing the community Vision and Values Statement, which are the transportation problems that need to be addressed and regional perspectives on values that should be considered in identifying a replacement alternative. The range of alternatives that meet the Purpose and Need Statement will be measured against the Vision and Values Statement to determine the best performing alternative.

The next phase of the IBR program will emphasize community engagement and technical analysis, which is some of the initial work needed to identify possible bridge replacement solutions that resolve the unaddressed needs in the current bridge. Upcoming work will focus on:

- Launching two program Advisory Groups, the Community Advisory Group and Equity Advisory Group, to support program development
- Launching a broad range of public engagement tools
- Updating the IBR program Purpose and Need
- Establishing the Community Vision and Values for the IBR program
- Begin to identify a potential range of alternatives for the IBR program
- Coordination with Federal Partners (FHWA/FTA) to begin NEPA documentation



FY 2021-22 Cost and Funding Sources

Disclaimer: Funding listed in this narrative is draft, and subject to change. ODOT operates on a biennial budget basis. Final budget numbers for the 2021-23 budget will be approved June 30, 2021

Requirements:

Personal Services	\$ TBD
Materials & Services	\$ TBD
TOTAL	\$ Total Amount

Resources:

Federal grant	\$ TBD
Local Match	\$ TBD
TOTAL	\$ Total Amount



Local Planning of Regional Significance

Clackamas Connections Integrated Corridor Management

Staff Contact: Bikram Raghubansh, BikramRag@clackamas.us

Description

Clackamas Connections Integrated Corridor Management (ICM) project will develop the Concept of Operations based on Transportation System Management and Operations (TSMO) strategies around better traveler information, smarter traffic signals and efficient incident response to increase reliability. ICM results in a shared Concept of Operations that integrates agencies operationally, institutionally and technologically. This project is funded through Metro's regional TSMO program and relates to the 2020 TSMO Strategy which stems from the region's 2010-2020 TSMO Plan and 2018 RTP Goal 4, Reliability and Efficiency utilizing demand and system management strategies. This project generates recommended action for several corridors in Clackamas County, consistent with safety, equity and climate policies.

Corridors subject to the initial phase of needs analysis will be sections of Interstate 5 and along Interstate 205, Wilsonville Road, Elligsen Road, Stafford Road, 65th Avenue, Boreland Road, Willamette Falls Drive, 82nd Drive/Avenue, McLoughlin Boulevard (99E) and Highway 224 in Clackamas County. The project will be beneficial for freight drivers as they make route decisions to reach destinations in the region and beyond. It will also make use of the region's transit investments, improving operations by integrating Intelligent Transportation Systems (ITS).

This project will begin during the second quarter of FY 2020-21 and will extend to the third quarter of FY 2021-22. The project will engage a broad group of stakeholders starting with operator agencies such as TriMet, ODOT, cities within Clackamas County and others.

The following are list of Deliverables/Milestones that are scheduled to completed in FY 2020-21

- Project intergovernmental agreement signed with ODOT for project delivery FY 2020-21 Q1
- Request for Proposal (RFP) for consultant support FY 2020-21 Q2/Q3
- Project kick-off and Stakeholders engagement FY 2020-21 Q3
- Needs assessed FY 2020-21 Q4

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Operations concept developed	Op Concept developed (cont.)	Concept	

FY 2021-22 Cost and Funding Sources

Requirements:

Personal Services	\$ 50,000
Materials & Services	\$ 150,000

TOTAL	200,000
--------------	----------------

Resources:

Federal grant	\$ 179,460
Local Match	\$ 20,540

TOTAL	\$ 200,000
--------------	-------------------

Hillsboro - Oak and Baseline: Adams Ave – SE 10th Ave

Staff Contact: Karla Antonini, karla.antonini@hillsboro-oregon.gov

Description

The Oak, Baseline and 10th Avenue study will evaluate design alternatives and select a preferred design that creates an environment supporting business investment and comfortable, safe travel for all users in Downtown Hillsboro.

This project seeks to establish a clear vision on how best to improve walkability and provide safer access across the Oak/Baseline couplet, particularly at currently non-signalized intersections, which would allow the City of Hillsboro to pursue other funding opportunities proactively, or in conjunction with private development, to address these access safety deficiencies.

This project seeks to support redevelopment along the Oak/Baseline couplet by providing a more comfortable environment for residents and business customers while at the same time accommodating auto, transit, and truck traffic along the State highway. It also seeks to increase accessibility by persons using all modes of transport to priority community service destinations such as City and County offices, the Health & Education District, the 10th Avenue commercial corridor as well as the Main Street district, with its restaurants, retailers and arts and entertainment venues. The project will also enhance access to the regional light rail system located in the heart of the Downtown, as well as bus access to the TriMet Line 57 Frequent Service route, and routes 46, 47, and 48, and the Yamhill County fixed-route bus service at MAX Central Station, located one block north of the Oak-Baseline couplet.

In FY 2020-2021, Hillsboro and ODOT selected a consultant for the work. The consultant submitted draft statement of work and breakdown of costs and then those were finalized. ODOT sent the finalized statement of work and breakdown of costs to OPO and DOJ for review. Regional partners include ODOT, Metro, TriMet, and neighboring cities: Forest Grove and Cornelius and non-governmental groups will provide input throughout the planning process.

Key Project Deliverables / Milestones

Qtr 1

Consultant
~~receives~~receiv
es notice to
proceed

Qtr 2

Qtr 3

Consultant
completes 30%
of project

Qtr 4

FY 2021-22 Cost and Funding Sources

Requirements:

Personal Services	\$ 550,000
Materials & Services	\$ 7,227

TOTAL 557,227

Resources:

Federal grant	\$ 500,000
Local Match	\$ 57,227

TOTAL \$ 557,227

Tualatin Hills Parks & Recreation District / Beaverton Creek Trail – SW Hocken Avenue Project

Staff Contact: René Brucker, rbrucker@thprd.org

Description

The Beaverton Creek Trail (BCT) Project will design a 1.5-mile multi-use off-street trail that will parallel the TriMet Light Rail corridor and connect the Westside Regional Trail and SW Hocken Avenue in Beaverton. The feasibility study will identify a preferred route for the trail, preliminary cost estimates, environmental impacts, and potential mitigation issues. This project will require coordination with the Bonneville Power Administration, TriMet, Clean Water Services, Washington County, and City of Beaverton.

In 2020-2021, this project work phase will have completed the Trail Design Alternatives, the Trail Alternatives Evaluation Report, the Preferred Alternative Development and the start of the 30% Concept Plans. The proposed project, located in a high-density employment area with higher density residential to the south and east, will improve walkability and safety in four Metro-identified pedestrian corridors and will lead to an increase in non-auto trips through improved user experience. The BCT Project meets objectives identified in THPRD's Comprehensive Plan and Trail's Master Plan, the City of Beaverton's transportation Plan, the Oregon State Comprehensive Outdoor Recreation Plan that was in place at the time the project was approved, and the Oregon Statewide Planning Goals and Objectives for Recreation.

This is an ongoing project and we anticipate this phase of the project will be completed in early FY 2021-22.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Finalize Concept Plans Complete Project Phase			

FY 2021-22 Cost and Funding Sources

Requirements:		Resources:	
Personal Services	\$ 91,564	Federal grant	\$ 800,000
Materials & Services	\$ 800,000	Local Match	\$ 91,564
TOTAL	\$ 891,564	TOTAL	\$ 891,564

Willamette River Crossing – Feasibility Study

Staff Contact: Karen Buehrig, karenb@clackamas.us

Description

The purpose of this feasibility study is to identify alternative crossing locations of the Willamette River for pedestrians and bicyclists between Oregon City and the Sellwood Bridge, consistent with the Clackamas County Transportation System Plan project #2022. The project will consider alternatives north and south of Lake Oswego.

The study will begin with coordination with all of the possible project partners to develop a partner agreement. A needs analysis will then be conducted to develop the purpose and need for the Willamette River Crossing, including the entire area between Oregon City and the Sellwood Bridge. Using information from the needs analysis, criteria will be created to guide the identification and evaluation of new alternative crossing locations north and south of Lake Oswego. Alternative crossing locations will include a pedestrian/ bicycle bridge, as well as other manners of crossing the river such as a water taxi. Alternative locations and alignments will be developed and evaluated, including planning level cost estimates.

- No work was completed between July 2020- June 2021 to eliminate confusion with the Oregon City-West Linn Pedestrian/Bikeway project.
- The project will support the work of the Clackamas County Walk Bike Plan.
- The project full cost of the project is anticipated to be \$490,000 (Metro funding) and will continue into the FY 2021-22.
- The project supports the 2018 RTP policy guidance on Equity, Safety, Climate, and Congestion.

Key Project Deliverables / Milestones

Qtr 1	Qtr 2	Qtr 3	Qtr 4
Scope of Work Development	Partner Agreement	Consultant Selection	Project Initiation

FY 2021-22 Cost and Funding Sources

Requirements:

Personal Services	\$ 10,000
Materials & Services	\$ 240,000
TOTAL	\$ 250,000

Resources:

Federal grant	\$ 0
Metro Match	\$ 250,000
TOTAL	\$ 250,000

Red Rock Creek Trail- Alignment Study

Staff Contact: Gary Pagenstecher, garyp@tigard-or.gov

Description

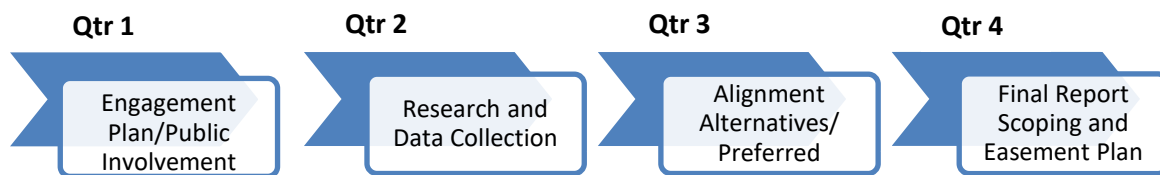
The purpose of the RRCT-Alignment Study project development grant is to fund predesign level of work so that the preferred alignment, section, preliminary design and easement requirements of the trail are available for implementation by the city and its partners during the planning and construction of future capital improvement and private development projects.

The proposed two-mile long Red Rock Creek Trail from Fanno Creek Trail to SW 64th Street will provide active transportation options in an urbanizing Metro-designated Town Center area of Tigard and overcome significant barriers to connectivity within the area. The trail is comprised of four distinct trail segments including (1) the Rail Road Crossing MUP Bridge, (2) Hunziker Core Industrial Area, (3) Hwy 217 MUP Bridge, and (4) MUP Bridge, and (4) Tigard Triangle Plan District.

Development of the Study will build on the Metro-funded Tigard Triangle Urban Renewal Equitable Development Plan, TriMet's SW Corridor LRT, and CWS's Tigard Triangle Stormwater Implementation Plan. The project is identified in the Metro Bicycle as a future proposed trail, but is located in a defined Employment/Industrial area which makes it a regionally significant UPWP study. The Study is consistent with 2018 RTP policy direction including increasing safety, transportation equity, travel options, and reducing vehicle miles traveled/GHG emissions addressing congestion and climate change.

The project is expected to run one year in FY 2021-22. A project work plan will be available this summer. For more information, please email the staff contact, above.

Key Project Deliverables / Milestones



FY 2021-22 Cost and Funding Sources

Requirements:

Personal Services	\$ \$290,000
ODOT Delivery	\$ \$58,000

TOTAL \$ \$350,000

Resources:

Federal grant	\$ \$314,055
Local Match	\$ \$35,945

TOTAL \$ \$350,000



Appendices

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>Recommendation 1: The Federal review team recommends Metro create a corrective action plan and a certification review action team to assist in the successful resolution of corrective actions.</p>	<p>Metro continues to convene an MPO management group within the agency on a bi-monthly basis to ensure ongoing consistency with federal and state regulations and compliance with corrective actions identified through the federal certification process. This group is led by MPO managers within the Planning & Development Department and includes management staff from Metro's Research Center and Communications Department who are responsible for core MPO functions.</p> <p>Metro tracks and annually updates our progress on both corrective actions and recommendations as part of our self-certification process. This self-assessment is documented in Appendix A of the 2020-21 UPWP, found here:</p> <p>https://www.oregonmetro.gov/unified-planning-work-program</p>		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
Metropolitan Transportation Plan (MTP)	<p>Corrective Action 1: By December 31, 2018, with the update of the 2018-2040 MTP, Metro must create a financial plan that meets all of the requirements of 23 CFR 450.324(f)(11), including documentation of systems-level operations and maintenance costs, the cooperative revenue estimation process, and a clear demonstration of financial constraint.</p>	<p>Metro recognizes the importance of existing asset maintenance and operations costs relative to forecasted revenues and the context this provides for spending trade-offs for these purposes relative to investing in system expansion to serve growing demand for access and mobility.</p> <p>Metro staff is investigating how to utilize existing Oregon DOT data on system conditions and forecasted maintenance costs for the National Highway System and TriMet/SMART data on transit system operations costs relative to forecasted revenues as part of the current RTP update.</p> <p>We are also monitoring the ODOT efforts to respond to mandates from recent state legislation to standardize and report on pavement management conditions for how that data can be utilized in the long-range planning process.</p> <p>Finally, we are cooperating with ODOT and are leading development within the region on implementation of</p>	12/31/2018	<p>Metro completed a forecast of reasonably expected transportation revenues and systems level costs for adequately maintaining the transportation system for the time period of the 2018 RTP in collaboration with our city, county, regional and state agency partners. This work formed the basis for demonstration of financial constraint in the RTP project solicitation.</p> <p>Metro staff participated in and utilized the cooperative statewide long-range transportation revenue forecast of federal and state generated revenues by the ODOT Long-Range Funding Workgroup. This periodic cooperative process develops statewide revenue control totals and served as the basis for Metro's 2018 regional transportation plan. The LRFA operates in a cooperative fashion among ODOT, the MPOs, and transit agencies. The group develops expected federal and state revenues, develops and agrees upon revenue growth factors, determines annual inflation rates, and general future revenue expectations (e.g. economic stability, possible impacts from macro-economic impacts (population shifts, population growth, changing funding priorities, etc.), along with a detailed analysis and forecast of future state revenues. Metro staff is also participating in the current update to the cooperative statewide long-range transportation revenue forecast for future plan updates.</p>

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>MAP-21 performance measure and target setting requirements for pavement assets and will be incorporating those measures and targets into the RTP and TIP update processes.</p> <p>The current MTP update will describe the cooperative revenue estimation process that has been undertaken. Metro participated in an ODOT led statewide process to forecast state and federal revenues to the state and MPO levels.</p> <p>Metro led the regional process to forecast local transportation revenues developed within the region. How to account for the impacts of the recent state funding legislation (HB 2017) within the long-range plan is still under development with ODOT estimates of fiscal impacts.</p> <p>The 2018 RTP will demonstrate financial constraint by showing that project costs do not exceed forecasted revenues.</p>		<p>Local transportation revenues were derived from local agency Transportation System Plans (TSPs). A Regional Transportation Plan Finance work group worked with Metro staff to review funding methodologies and served as conduits to facilitate any updates to local revenue forecasts from TSP data.</p> <p>To determine transportation system maintenance and operations costs, the RTP process utilized Oregon DOT data on system conditions and forecasted maintenance costs for the National Highway System and TriMet/SMART data on transit system operations and maintenance costs. Local agency data on systems conditions and forecasted maintenance costs for the locally-owned transportation system assets was derived from local TSPs, updated by local agency staff as needed. The ability to update this data was augmented by new state requirements for local agencies to report on asset conditions in order to be eligible for new state funding provided by HB2017.</p> <p>This data on revenue forecasts and costs to maintain and operate the existing transportation system provided the basis for revenues forecasted as reasonably available for new capital projects and transportation programs. Project and program costs were forecasted in year-of-expenditure dollars by time periods and balanced to the reasonably expected revenue forecast. Tables demonstrating</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				financial constraint are provided in RTP Section 5.3. More detailed information about the forecasting assumptions, sources of funding accounted for, and process used to develop the financially constrained revenue forecast can be found in Appendix H, found here: https://www.oregonmetro.gov/regional-transportation-plan
	Recommendation 2: To help the public understand Metro's long-range planning processes and outcomes, the Federal review team recommends Metro: <ul style="list-style-type: none"> Consider the audience and purpose of the MTP when determining structure, format, and content, Use plain language and visualization 	Metro continues to explore new ways to make our planning documents and processes more accessible to the public. In 2016, we launched our Regional Snapshot web series, and that continues to be our main forum for creating public awareness on major issues facing the region, including transportation. Our transportation snapshots have used text, photography and video to explore topics like congestion, safety, freight and affordability. We have also made major upgrades to our website to make it simpler and more accessible to the community. We actively use social media and our Opt-in polling program to keep the		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>techniques to present complex information in an easy to understand format,</p> <ul style="list-style-type: none"> • Document the MTP's purpose in the introduction of the MTP, and • Describe the relationship between the MTP and the modal plans to help ensure the long-range plan remains multimodal and the full scope of the MTP planning process is understandable to the public. 	<p>public engaged on a continuous basis and connect the community to new web content.</p> <p>These web-based tools will continue to be our main focus for translating complex planning topics and using visualization techniques present our planning documents in understandable terms.</p> <p>Metro formatted the 2018 RTP and 2021-2024 MTIP for increased readability and accessibility.</p> <p>For the RTP, a high level and graphic summary is available on the webpage. Graphics are used throughout the document. The 2018 RTP was significantly reformatted as part of this update, and includes a clear purpose statement of its federal, state and regional purpose in the introduction. Our 2018 RTP adoption also includes a summary document aimed at the broader public (RTP summary).</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>Similarly, the Executive Summary for the 2021-2024 MTIP uses accessible language and graphics to summarize the purpose and findings of the MTIP.</p> <p>Chapter 1 of the 2021-24 MTIP uses plain language to explain the role of the MTIP. Sidebars and visuals are used throughout the document to highlight information.</p> <p>We will also continue to improve the readability of our RTP, MTIP, UPWP, modal plans and other formal documents to the extent possible, given their legal and regulatory function. In most cases, we publish a summary version of these documents as an alternative for interested public and our elected officials.</p> <p>Our 2018 RTP adoption (including the associated transit, freight and safety modal plans) will include summary documents aimed at the broader public.</p> <p>The RTP will be significantly reformatted as part of this update,</p>		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		and will also include a clear purpose statement of its federal, state and regional purpose in the introduction.		
Transportation Improvement Program (TIP)	Corrective Action 2: By July 1, 2020, with the update of the next TIP, Metro must provide clear documentation of a cooperative revenue estimation process, that ensures adequate funding is available by year to operate and maintain the system, adequate revenue is available to deliver projects on the schedule proposed in the TIP, and all other financial planning and fiscal constraint requirements	Metro will work with ODOT, the region's transit agencies, FHWA and FTA staff to document the cooperative revenue process and processes to demonstrate fiscal constraint within the TIP. This work will require the active cooperation of the agencies that administer federal funding within the region and guidance from USDOT staff on acceptable practices between Metro as the MPO and the other administrating agencies to prioritize projects for programming in the TIP and to demonstrate fiscal constraint of those projects.	7/1/2020	<p>A cooperative revenue forecasting process to determine the urban-STBG, TAP set-aside, and CMAQ funds expected to be available through the next allocation cycle was performed by ODOT's finance team and Oregon MPO staff, and is documented in the 2021-24 MTIP. See Chapter 5 pages 104-108, found here:</p> <p>https://tinyurl.com/y57a22ew</p> <p>Metro was also able to work with transit agency staff on the forecast of reasonably expected local transit revenues, which are also documented in the 2021-24 MTIP. The detailed fiscal constraint demonstration tables, sorted by fund and by agency, can be found in Appendix IV, pages 1-34, found here:</p> <p>https://tinyurl.com/y6fotnbs</p> <p>MPOs are still struggling to effectively participate in a cooperative process under the current construct for ODOT-administered funding. When ODOT defines its</p>

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	identified in 23 CFR 450.326 are met.			<p>funding allocation programs (Fix-It, Non-Highway Enhance, etc.) and distributes forecasted revenues to those allocation programs, the needs of the ODOT-owned system and the ODOT policy objectives are considered, but it is not clear how ODOT actively considers the policy objectives and comprehensive transportation needs of the metropolitan transportation systems or findings from prior MTIP cycle analyses during this process. MPOs request briefings and are given the opportunity to provide public comments. Consideration of MPO comments does not rise to the federal definition of a cooperative process in this important step of determining how ODOT-administered revenues will be distributed to their various funding allocation programs.</p> <p>Active engagement by ODOT regarding both the revenue distribution to funding allocation programs and in the selection of projects within those funding allocations is reserved for their Area Commissions on Transportation (ACTs). ACTs provide a forum for which ODOT staff proactively reach out to gather local agency and stakeholder input on various ODOT activities including the STIP, major projects, and planning activities being undertaken by ODOT.</p> <p>However, ACTs are not planning entities but are public input bodies that are not subject to federal</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>planning or state planning rules. Furthermore, ACT and MPO geographic boundaries overlap, creating confusion among stakeholders, particularly policy/decision-makers who are active members on both the MPO and ACT committees, as to the role of the MPO in the cooperative development of the STIP/MTIP with ODOT. Despite these challenges, some areas of progress were made in the cooperative revenue estimation process during the 2021-2024 MTIP development. In Spring 2018, Metro worked with ODOT and the transit agencies to develop a Portland metropolitan region financial forecast as a starting point to frame the selection and funding allocation to take place between 2018 and 2019. While still constrained with the challenges of the ODOT construct of distributing forecasted revenues to those allocation programs, ODOT and Metro were able to come to an agreement on a forecast with a number of caveats, most significantly that the forecast did not constrain ODOT in its distribution of funds to or within the region. This information was shared at TPAC and JPACT. JPACT took action to formally acknowledge receipt of the forecast. See appendix 2021-2024 MTIP Appendix IV for the spring 2018 forecast materials.</p> <p>https://tinyurl.com/y6fotnbs</p>

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>Throughout the OTC discussion of the revenue estimates and allocation of revenues to ODOT-administered funding allocation programs (Fix-It, Non-Highway Enhance, etc.) between summer 2017 to early 2018, the MPO actively commented to the OTC on the various decisions the Commission would make in shaping the STIP, about how those decisions impact the MPO areas. As part of those comment letters, Metro reiterated federal responsibilities related to cooperative development of the STIP and MTIP.</p> <p>Metro will continue to communicate to ODOT staff and the OTC on the need to actively engage with MPOs to consider the needs of the holistic transportation system within the MPO areas before defining the policy direction of their fund allocation programs and the amount and type of revenues distributed to those ODOT funding allocation programs.</p> <p>Additionally, MPOs have requested to participate in the ODOT funding allocation programs administered at the statewide level. If MPOs were provided a better understanding of an order of magnitude forecast of potentially available funds in an MPO area from these statewide funding allocation programs, MPOs could more effectively analyze and communicate MPO area priorities for those ODOT</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>fund allocation programs. A more proactive engagement by ODOT statewide allocation programs to solicit cooperative development of their spending and communicate how they could consider MPO long-range planning goals and performance targets that are relevant to their program purpose would be helpful.</p> <p>Within Region 1, the cooperative process with ODOT in the selection of projects from ODOT allocation programs administered at the Region level was successful in that ODOT was able to provide a financial forecast for the three “Leverage” programs to add Active Transportation, Safety, or Highway elements to “Fix-It” asset management projects during the FFY 2022-2024 allocation process. The Metro MPO boundary contains a large portion of the ODOT Region 1 transportation assets, making it possible for the MPO to analyze and communicate its priorities for these ODOT funding programs. Metro worked with ODOT Region 1 staff to engage at MPO committees on its development and prioritization of the Fix-It and Leverage priorities, by having ODOT staff provide regular updates on process and progress at TPAC and JPACT and to allow for regional discussion. Through this effort, ODOT Region 1 staff were able to be proactive in engaging local agency staff in the project scoping refinement process as a</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>part of the process to define and select priority projects for funding from these allocation programs.</p> <p>All TIP amendments are checked and documented to maintain financial constraint. For ongoing financial constraint of ODOT-led projects and ODOT-administered funding, Metro has instituted a new tool. Metro is now using an Advance Construction fund code programming translation matrix approach. Instead of just programming Advanced Construction to a project, Metro has created multiple Advance Construction fund type codes that contain the expected federal conversion code. Example: If the expected conversion code for Advance Construction is NHPP, then the Advance Construction fund code programmed in the MTIP is "AC-NHPP". The Advance Construction funding is committed against NHPP, enabling a more accurate fiscal constraint of major fund types to be developed and maintained. When the actual conversion code is received, a simple administrative modification occurs to identify the final fund code.</p> <p>Finally, the requirements of the FAST Act and of Oregon HB 2017 have greatly improved the understanding and documentation of adequately</p>

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>operating and maintaining the transportation system by ODOT, transit agencies, and local jurisdictions.</p> <p>ODOT Headquarters has begun to undertake the cooperative revenue forecast for long-range metropolitan planning. We expect this process to not only serve the needs of the long-range forecast but to provide a foundation for a better understanding of how revenues are forecasted, distributed to ODOT fund allocation programs, and then programmed in the TIP on projects. At this time, however, it is not yet clear how these two processes are coordinated.</p>
	Corrective Action 3: By May 27, 2018, Metro must update amendment "Exceptions" in the TIP management procedures to clearly distinguish what changes affect fiscal constraint and ensure those happen via a full amendment per 23 CFR 450.328.	The TIP amendment management procedures were updated in March 2018 to be consistent with the statewide matrix developed by ODOT and FHWA to define when a project change affects fiscal constraint. Those that do are processed as a full amendment with public notification and comment period and adoption by Metro Council resolution prior to submission for inclusion in the STIP.	5/27/2018	Compliance with this corrective action, as described in the Metro Response, continues. In addition, Chapter 8 of the 2021-2024 MTIP outlines the administration and implementation of the MTIP. The statewide matrix is included on page 203.
	Recommendation 3: The Federal review team recommends	The description of the purpose of the STIP, its relationship to the MTIP, how ODOT projects meet the needs of the		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>Metro update the STIP discussion in the TIP to accurately reflect the purpose of the STIP, its relationship to Metro's TIP, and how ODOT projects meet the needs of the Metro area and how they get programmed in the TIP.</p>	<p>Metro area, and how ODOT projects get programmed in the TIP has been updated in the 2021-24 MTIP. The 2021-2024 MTIP focused more on providing a more clear-cut explanation on the role of the MTIP and how the content of the MTIP must be included in the STIP without change. This discussion is spread throughout Chapters 4 and 5 of the 2021-2024 MTIP, in efforts to organize content by partner agency in a consistent predictable manner for the reader.</p> <p>Descriptions of how ODOT projects meet the needs of the Metro area are shown as part of the results of the 2021-2024 MTIP evaluation (see Chapter 3), the discussion of the policy direction to guide the prioritization of ODOT administered funds (see Chapter 4), and in the discussion of the 2021-2024 MTIP policy direction (see Chapter 5). At certain times in the development of the 2021-2024 MTIP, the nature of how the MPO areas needs or the RTP goals were considered in the selection</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>of projects and programs by ODOT Region 1 is clear and direct. An example is with the ODOT Region 1 ARTS funding selection, Metro staff participated in the evaluation committee as a means of coordinating the region's safety policy priorities in the allocation. At other times in the development of the 2021-2024 MTIP, the consideration of the region's transportation needs and goals was implicit, such as with the Fix-It Leverage, where asset management drove the identification of initial priorities and the Metro region provides comments on how the metropolitan region's goals should get factored into final selection.</p> <p>Additionally, the development of the 2021-2024 MTIP had an interesting challenge as every partner agency – ODOT, SMART, and TriMet had significant staffing changes during its development. The key person working with Metro on MTIP coordination was changed and replaced with a person new to</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>Recommendation 4: The Federal review team recommends Metro clarify the Regional Flex Fund Process in the FY 2018-2021 TIP to clearly document the process and ensure Metro is not sub-allocating Federal funding to individual modes or jurisdictions.</p>	<p>Metro staff updated both the 2018-21 MTIP and the 2021-24 MTIP descriptions of the Regional Flexible Funding Allocation process of the metropolitan STBG, TAP, and CMAQ funds. It is clear from the descriptions that Metro is not sub-allocating Federal funding to individual modes or jurisdictions.</p> <p>There are no geographical or agency/jurisdictional references in the policies or process to distribute funding, other than one policy goal of “funding projects throughout the region” (with a clarifying statement quoting the CFR that sub-allocation of funds is not allowed) that is considered and balanced against other policy goals to achieve desired outcomes by decision makers.</p> <p>Funding targets designated for Active Transportation/Complete Streets and the Freight and Economic Development project categories are guidance to help achieve desired policy outcomes of equity, safety, climate emission reductions, and</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		congestion relief. Enhancements and modifications to facilities serving all modes are eligible in both categories and as evidenced by the projects funded in the most recent cycle, most projects are multi-modal and include demand and system management elements.		
	Recommendation 5: The Federal review team recommends Metro consider the audience(s) and purpose of the TIP so the public can easily understand the TIP's purpose, how the TIP implements the priorities identified in the MTP, and can easily find information they are looking for. Consider using plain language and visualization techniques to present the information in an easy to understand	<p>The 2021-24 MTIP utilized more plain language and incorporated more graphic and visual elements to more clearly and easily communicate the TIP purpose, process and content. It also consolidated documentation of compliance with TIP regulations in a technical appendix to help simplify the main body of the document and ease federal staff review of the TIP for meeting regulations.</p> <p>An executive summary brochure was also created and utilized this cycle for the public comment and MTIP adoption process, to further clarify the purpose and projected impacts of the MTIP, whose link can be found here:</p>		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	format. This will help the reader understand the processes and outcomes as they read through the document.	https://tinyurl.com/y5z9ezmz This complemented other efforts to make MTIP materials more public friendly, such as updated content on the website and how the public comment process was structured and approached. For example, the public comment survey for the 2021-2024 MTIP focused on communicating the results and outcomes of the MTIP investment package and asked respondents to rate the region's performance by different outcome areas.		
	Commendation 1: The Federal review team commends Metro and ODOT for taking initiative to review project proposals for project readiness and to address the local project delivery concern.	Metro staff will continue to work on project readiness and local project delivery issues through continuous improvement of regional reporting tools, participation in the state Certification User Group process, and if additional resources are available will conduct more in-depth risk assessment and readiness review of projects seeking RFFA funds. Metro has worked with ODOT and the other Oregon TMA MPOs to develop		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>obligation targets and a certification process that incentivize on-time delivery of local federal-aid projects to further address this concern.</p> <p>Metro is also in the process of obtaining ODOT certification for procurement of planning services and delivery of planning products to improve our capabilities <u>capabilities</u> for on schedule delivery of planning activities.</p>		
Congestion Management Process (CMP)	<p>Recommendation 6: The Federal review team recommends Metro determine what are the basic requirements for CMP evaluation and monitoring and create a sustainable data collection approach that meets the CMP requirements. Metro can then determine any data needs that go above and beyond</p>	<p>Adopted by JPACT and the Metro Council as part of adoption of the 2018 Regional Transportation Plan, Appendix L to the 2018 RTP documents the region's approach to addressing the federal transportation performance-based planning and congestion management requirements contained in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. Appendix L also constitutes the region's official Congestion Management Process (CMP). The CMP has been updated to address recommendations from the</p>		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	the basic requirements.	<p>2017 Federal Certification Review and to incorporate federal transportation performance measures and targets identified through MAP-21-related rulemaking. The appendix can be found here: Federal performance-based planning and congestion management process documentation</p> <p>Key updates to the CMP include:</p> <ul style="list-style-type: none"> • The addition of: Table 2 (pg. 11) documenting key elements of the region's congestion management process. • Scaling back the CMP network to a more manageable scope for data collection, management and reporting purposes, focusing on multimodal transportation facilities and services located on the National Highway System (NHS) and the region's high capacity transit network. The NHS includes the region's interstates and some state-owned arterials and frequent and enhanced transit corridors. See Figure 4 and text on pg. 16 documenting the Congestion Management Network, and Table 4 		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>(pg. 24) documenting transportation data to support on-going CMP monitoring and reporting.</p> <ul style="list-style-type: none"> • The addition of Table 5 (pg. 24) documenting the toolbox of strategies to address congestion in the region and Table 6 (pg. 25) documenting RTP performance measures used to forecast potential effectiveness of strategies. These measures are also used in evaluation of future MTIPs. • The addition of Federal MAP-21/FAST Act transportation performance measures and targets in Tables 7 to 14 (pgs. 31-34). • Together, the federal performance targets defined in Appendix L and regional performance targets defined in Chapter 2 of RTP reflect a comprehensive and multimodal performance-based planning approach to address growing congestion and improve mobility options for people and goods movement, while achieving a broader set of land use, economic, equity and environmental 		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>outcomes. This approach includes modeling tools, analysis and research combined with meaningful public engagement to help quantify and better understand the potential outcomes of policy decisions and investment actions. The framework also guides data collection, tool development and monitoring/reporting activities identified in Chapter 8 (Section 8.5) of the 2018 RTP. The updated CMP continues the region's transition to using observed data for performance monitoring consistent with federal requirements, and can be expanded in the future as data collection and resources allow. The CMP will be re-evaluated as part of scheduled updates to the RTP to respond to new requirements, information learned through monitoring activities and changes in the availability of data and tools so that they can be refined as necessary.</p> <p>As part of the TIP process, RFFA funding application questions provide</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>links to relevant CMP data so the applicant can use that data in providing information about their candidate project.</p> <p>As part of the development of the 2021-2024 MTIP, Metro reported on the monitoring data and performance of the federal performance measures and targets. (See Chapter 3 and 5) The MTIP also discussed, in a qualitative manner, how the package of investments is expected to move the region towards established performance targets. This information is expected to assist with other existing conditions data as part of the CMP and inform the prioritization and allocation of funding.</p>		
	<p>Recommendation 7: The Federal review team recommends Metro develop a congestion management plan that documents the tools and data used and how they are applied to the MTP</p>	<p><i>(This is addressed in response to Recommendation 6)</i></p>		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	and TIP to help the public and decision-makers understand how the CMP informs Metro's processes. This plan could be an effective tool to document a complex process.			
Public Participation	<p>Corrective Action 4: By January 30, 2018, Metro shall update the PPP to meet all requirements of 23 CFR 450.316 and 326(b), including:</p> <ul style="list-style-type: none"> • Identification of key decision points for each major planning process where the MPO requests public comment and the explicit procedures for outreach at these milestones. 	<p>Metro is committed to updating the PPP to meet all requirements of 23 CFR 450.316 and 326(b).</p> <p>To meet this corrective action, Metro has decided to split its Public Engagement Guide to reflect the need for both the public's understanding of public engagement in transportation planning processes (through a Public Participation Plan) and a best practices guide for practitioners (the focus of the Public Engagement Guide). The update to the Public Engagement Guide portion of this new "split" document is expected to be completed later in 2018.</p>	3/16/2018	<p>Metro completed and posted the updated PPP for transportation planning on Jan. 30, 2019, entitled "Be involved in building a better system for getting around greater Portland." The document is published on several pages of the Metro website, including the "Public projects" page (oregonmetro.gov/public-projects). The agency's larger Public Engagement Guide is expected to be updated to incorporate this information and update other engagement practices. Metro also worked to diversify membership in its standing advisory committees during this period, introducing new community leaders as members of MPAC, and most recently to TPAC where a new stipend policy has removed financial barriers that previously limited the socioeconomic diversity in membership. Three new TPAC members and three alternates were appointed in 2020 through a application process.</p> <p>Metro's current Public Engagement Guide includes evaluation criteria for measuring the effectiveness of</p>

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<ul style="list-style-type: none"> • Specific outreach strategies to engage traditionally underserved populations. • Criteria or process to evaluate the effectiveness of outreach processes • In each major planning document, a demonstration of how the explicit processes and procedures identified in the PPP were followed and a summary that characterizes the extent to which public comments influenced TIP development. 			<p>outreach processes. The evaluation criteria can be found on pages 36 – 38.</p> <p>The two most recent planning documents, 2018 RTP update and the 2000-20 MTIP demonstrate how the explicit procedures identified in Metro’s Public Engagement Guide and the new “Be involved in building a better system for get around greater Portland” document were followed. Each plan includes a summary of engagement which explains specific activities, including those to engage traditionally underserved populations.</p> <p>For the 2018 RTP, there were nearly 19,000 touch points with community members through discussion groups, community and regional leadership forums, online surveys, committee and organization briefings and workshops—all tools prescribed in Metro’s Public Engagement Guide. (2018 RTP Appendix D)</p> <p>Recognizing that communities of color and other historically marginalized communities are typically under-represented among online survey respondents, Metro’s engagement strategy included discussion groups with members of Russian/Slavic, youth, African Immigrant, Asian Pacific Islander, Native American, Latinx, and African American communities. In addition, community leaders were invited to participate in regional leadership forums and community leader’s forums at key points to further inform the RTP.</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>The projects and programs in the MTIP continue to implement feedback received through these various means. Following the adoption of the 2018 RTP, the region adopted the policy direction for the 2021-2024 MTIP, which reaffirmed the regional priorities of safety, equity, climate and congestion established in the RTP through extensive public comment. The regional policy direction was taken into account for the different funding allocations processes undertaken by each MTIP partner and Metro through its RFFA process. For the 2021-24 MTIP, Metro conducted a performance evaluation to understand if and how the MTIP package of investments are making progress toward the regional priorities defined by the RTP.</p> <p>Public comments received on the 2021-24 MTIP are summarized in Chapter 7 (2021-24 MTIP) together with an explanation of the engagement process (a public hearing and online survey) as prescribed by Metro's Engagement Guide. The same chapter summarizes major themes from the comments and how they influenced plan development. More detail is available in MTIP Appendix V, p. 54.</p>
	Recommendation 8: The Federal review team recommends Metro identify ways to make Metro's	Metro is following a protocol for removing outdated draft documents and clearly labeling document status (discussion draft, public review draft, final, etc.)		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	website navigation easier, taking special consideration for populations that have limited skills using the Internet, and ensure all outdated draft documents are removed after final adoption occurs.	Metro is currently scoping and budgeting for an upgrade to its website server, with the project anticipated to start in early 2021. As part of this process, Metro will continue its user testing to improve navigation.		
	Commendation 2: The Federal review team commends Metro for providing information on their website in languages other than English. This practice enables constituents with limited English proficiency to learn how to participate in decisions that affect their community.			
Consultation	Corrective Action 5: By June 30, 2018, Metro shall develop and document a	Metro will complete this work in tandem with the current UPWP process and self-certification for 2018.	6/30/2018	Metro has continued to use the annual UPWP process as the hub for consultation across the many transportation planning projects and programs across our region.

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	formal consultation process for the MPO to meet all requirements in 23 CFR 450.316(b-e).	<p>Our goal is to more directly connect consultation to the UPWP in order to create a blanket finding for smaller projects that would therefore also be eligible for administrative amendments, thus streamlining maintenance for the UPWP. Under our proposed process, larger projects would require separate consultation from the UPWP and would be subject to a legislative amendment.</p> <p>As part of this reform, we are also seeking FHWA clarification on UPWP convening responsibilities for Metro and ODOT. Our objective is for Metro to carry this responsibility, including meeting logistics, agency notices and public notice to improve upon and streamline our current process.</p>		<p>The role of consultation in developing the UPWP is described on page 6 of the document and referenced in many of the individual project narratives:</p> <p>https://www.oregonmetro.gov/unified-planning-work-program</p> <p>Consultation in the UPWP process is also set forth in the statewide protocols for all Oregon MPOs developed by ODOT.</p> <p>Metro's consultation with ODOT and the major transit providers in the region is more specifically set forth in a planning agreement that is updated regularly and enacted as a rolling intergovernmental agreement.</p> <p>Planning projects described in the UPWP must also conduct consultation consistent with the general framework required by the UPWP and statewide protocols. This work must be documented as part of this projects. Most notable are updates to the RTP and MTIP. Consultation in the development of the 2018 RTP can be found on page Chapter 1 (page 1-18) and referenced throughout the plan and Appendix D (Public and stakeholder engagement and consultation summary) and documented in the final public comment report</p>

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
				<p>(pages 44-49), located here:</p> <p>https://www.oregonmetro.gov/regional-transportation-plan</p> <p>Consultation done in the development of the 2021-24 Metropolitan Transportation Improvement Program is described in Chapter 7 (page 196) of the final public review draft of the document, located here:</p> <p>https://www.oregonmetro.gov/metropolitan-transportation-improvement-program</p> <p>This most recent update to the MTIP followed the same consultation practices with tribes and agencies that was piloted with the 2018 RTP. In this process, participants are asked to identify process stages of MTIP and RTP updates where and how they would like information or consultation. This information is used to continually improve the consultation process in periodic updates to MTIP and RTP.</p> <p>In early 2020, Metro hired a full-time Tribal Liaison <u>Liaison</u> to expand our coordination and consultation with tribes across a range of Metro's activities in the region. This includes ensuring the tribes are consulted early and often in our regional transportation planning activities.</p>

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
Civil Rights and Environmental Justice	<p>Corrective Action 6: By October 1, 2018, to come into compliance with Section 504 of the Rehabilitation Act of 1973/Americans with Disabilities Act (ADA) of 1990, Metro must:</p> <ul style="list-style-type: none"> Designate an employee who will serve as coordinator for Section 504 and ADA matters. Conduct an ADA self-evaluation that identifies universal access barriers and describes the methods to remove the barriers along with specified timelines. Develop a Section 504/ADA nondiscriminatio nondiscriminatio <u>n</u> 	<p>Metro is committed to coming into full compliance with Section 504 of the Rehabilitation Act of 1973/Americans with Disabilities Act (ADA) of 1990, including:</p> <ul style="list-style-type: none"> designating an employee who serves as coordinator for Section 504 and ADA Titles II and III (the Director of Human Resources will continue to be responsible for Title I) (July 2018). conducting an ADA self-evaluation that identifies universal access barriers and describes the methods to remove the barriers along with specified timelines was completed in July 2018. Work continues on the programs evaluation and engagement. Metro expects to publish the ADA Self-Evaluation & Facilities Update Plan for Metro Regional Center in spring 2021. developing a Section 504/ADA nondiscrimination notice, to be posted internally and externally (for employees' and the public's information), which has been posted online and will be included 	10/1/2018	<p>An employee for Section 504 and ADA matters was designated before Oct. 1, 2018 (Mary Rowe, HR director). The new HR Director, Julio Garcia, holds the designation currently.</p> <p>An ADA self-evaluation that identifies universal access barriers and describes the methods to remove the barriers was completed in July 2018. Many improvements are slated as part of the building's maintenance schedule; a full secified<u>specified</u> timeline and budget forecast was also compelted<u>completed</u>. The development of the self-assessment and transition plan for the Metro Regional Center building included engagement of staff and the public.</p> <p>The evaluation of programs is underway-, the self-evaluation and transition plan is expected to conclude in spring 2021. This process also includes engagement with staff and the public.</p> <p>A Section 504/ADA nondiscrimination notice was developed and posted to the Metro website and included in federal documents.</p>

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>n notice, to be posted internally and externally (for employees' and the public's information).</p>	<p>in planning reports and meeting agendas and posted internally in 2018 (March 2018).</p> <ul style="list-style-type: none"> Metro has completed a review of the region's demographics as part of the 2015-18 MTIP and as part of the 2018 RTP. In early 2019, Metro will use American Community Survey data analysis to assess shifting demographics for communities of color and communities with lower income since the 2010 Census (January 2019). <p>To inform the 2018 RTP development and adoption, the Transportation Equity Analysis will assess and contrast the benefits and burdens for EJ and non-EJ populations as part of the 2018 RTP development and adoption. This work was piloted in the 2015-18 MTIP and will continue to frame subsequent MTIP updates (December 2018)</p>		
	<p>Recommendation 9: The Federal review team recommends Metro ensure they are addressing the</p>	<p>Currently, Metro prepares a biennial summary of community representative demographics for our MPO committees as part of its annual Title VI report to ODOT. Additionally,</p>		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	needs of underserved populations, particularly when the demographics of the region are changing and to continue to identify how projects and programs would benefit and/or burden environmental justice (EJ) populations compared to non-EJ populations. Metro should consider using the MTP goals, objectives, and indicators as criteria for this EJ benefits and burden analysis. Metro should also review the demographic composition of the MPO Committees and explicitly document how Metro will ensure they are	<p>Metro has proposed 2-year reviews of all Metro committees as part of our Diversity Action Plan.</p> <p>While capacity constraints have limited Metro's ability to meet this reporting goal agency-wide, we intend to bring this review into the Title VI Plan for all members (rather than just community representatives) of MPO committees as part of the next update to the plan. Metro conducted a pilot processes for collecting demographic information from committee members in 2019, the next survey will occur in 2021.</p> <p>To address benefits and burdens for EJ and non-EJ populations, the 2018 RTP included a transportation equity evaluation of the financially constrained 2018 RTP investment strategy (Appendix E - Transportation equity evaluation).</p> <p>To ensure that recent input from historically marginalized communities informed the equity assessment, and were ultimately reflected in the RTP,</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	representative of community.	<p>project staff analyzed six public engagement results from transportation-related planning efforts since 2014, focusing on what was heard from people of color and people with lower incomes. The transportation-related planning efforts included the 2014 RTP, the Southwest Corridor Plan, the Powell-Division transit and development strategy, and the early phases of the 2018 RTP development.</p> <p>A civil rights analysis of the 2021-2024 MTIP was undertaken as part of the broader 2021-2024 MTIP performance assessment. The civil rights analysis focused on the outcomes defined in the 2018 RTP transportation equity analysis, which focused on the transportation priorities identified by historically marginalized communities, namely communities of color, people with limited English proficiency, and lower-income households. The discussions of the results and formal determination of findings can be</p>		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		found in Chapter 5 of the 2021-2024 MTIP.		
	Commendation 3: The Federal review team commends Metro for implementing their 2015 LEP Plan by customizing public outreach translation needs based on the geography of projects.			
	Recommendation 10: The Federal review team recommends Metro identify stakeholders solicited for public comments on their Title VI Plan, Title VI Analysis Reports and other federally required documentation.	<p>Metro completed a review of changing demographics in the region as part of the 2015-18 MTIP and as part of the 2018 RTP. Metro uses ACS Data analysis to see if communities of color have shifted geographically since the 2010 Census (January 2019).</p> <p>Metro tracks participation in public comment periods for the RTP, MTIP and RFFA as well as other community engagement initiatives. The RTP process involved community members and stakeholders through a</p>		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<p>variety of activities (see the Public and Stakeholder Engagement and Consultation summary, p. 3)</p> <p>Participants were asked to provide demographic information during the following activities related to the RTP, MTIP and RFFA to help Metro know if we are hearing from a representative group of people that reflects our diverse communities and a broad range of experiences in our region:</p> <ul style="list-style-type: none"> • 2018 Regional Transportation Plan Update Online Quick Poll 1 Report (October 2015) • 2018 Regional Transportation Plan Comment summary Winter 2016 comment opportunity • 2017 Public Comment Report: Priorities For our Transportation Future (May 2017) • 2018 Public Comment Report: Building a Shared Strategy: Priorities For our Transportation Future (April 2018) • 2018 Public Comment Report: Adopting a Plan of Action • 2021-24 MTIP Appendix 5.3 2021-2024 MTIP Public Comment Report 		

2020 Federal Certification Review 2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
		<ul style="list-style-type: none"> Public comments on proposed projects for 2022-24 regional flexible funds (October 2019) (p. 66) <p>Metro uses ACS Data analysis to see if communities of color have shifted geographically since the 2010 Census.</p> <p>Currently, we prepare an annual summary report of community representative demographics for our MPO committees. Metro has proposed 2-year reviews of for all Metro committees as part of our Diversity Action Plan. While capacity constraints have limited Metro's ability to meet this reporting goal agency-wide, we intend to bring this review into the Title VI Plan for MPO committees as part of the next update to the plan.</p>		
Performance-Based Planning and Programming	Recommendation 11: The Federal review team recommends Metro continue to work with ODOT and TriMet to implement Federal planning requirements for	Metro adopted our first outcomes-based Regional Transportation Plan (RTP) that relies on targets and performance measures to ensure progress toward plan goals. While the range of outcomes and correlating performance measures in the RTP are much more		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>performance-based planning and programming, including:</p> <ul style="list-style-type: none"> • Discussing the new requirements, identify which processes need updating to meet new requirements and a plan for updates, data collection and sharing requirements to be ready for PBPP. • Making necessary connections to other performance-based plans, including Statewide Plans. • Further develop data needs to ensure that future MTP and TIP updates implement an 	<p>comprehensive than required under new federal regulations, the framework in our RTP closely matches federal requirements where they overlap.</p> <p>In late 2018, Metro will adopt our third performance-based RTP and as part of this major update to the plan, we are conducting a significant overhaul of the plan's targets and performance measures. This work is partly driven by capacity constraints within our agency, and our ability to sustainably monitor, model and report data for performance measures, and the need to align our measures with federal requirements for efficiency.</p> <p>We are still working through our approach to meeting some federal measures, and have been coordinating with ODOT and TriMet to ensure that we can collectively meet these new requirements. Because of our capacity constraints, we expect to rely heavily on ODOT</p>		

2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<p>objective-driven, performance-based planning process</p> <ul style="list-style-type: none"> Updating Planning Agreements that describe how transportation planning efforts will be coordinated between the agencies and document specific roles and responsibilities each agency has in the performance of transportation planning for the region. Reviewing MTP and TIP project prioritization and decision-making processes and how they support a performance-based process. 	<p>data in the near term to meet the new requirements.</p> <p>Currently, we expect to have an initial approach and agreement on responsibilities with our agency partners this year, and on schedule to meet minimum federal requirements.</p> <p>As discussed previously, Metro and ODOT plan to follow the 2018 RTP adoption with an update to our regional mobility policy (which regulates both the RTP and the Oregon Highway Plan for the Metro region). Our goal is to continue linking our mobility policy to the 24 mobility corridors that make up our Regional Mobility Atlas, and we believe this approach strongly meets the intent of federal regulations for tailoring our performance-based planning and programming to conditions on the ground. As part of this work, we will likely fine-tune our performance targets and measures as they relate to federal requirements.</p>		

**2020 Federal Certification Review
2017 USDOT Findings and 2020 Metro Response**

Planning Topic	2017 USDOT Findings	2020 Metro Response	Corrective Actions Due Date	Certification Status (December 20, 2020)
	<ul style="list-style-type: none"> Identifying a way to categorize MTP and TIP projects in a way that will assist the MPO in meeting the new performance-based planning and programming requirements. Reviewing publications, tools, and resources available on FHWA and FTA's websites for good practices and assistance in implementing Transportation Performance Management and PBPP. 	<p>This work will be completed prior to the next update to the RTP, and will either result in an amendment to the plan or will be incorporated into the 2023 update. Once the new policy has been adopted into the RTP (either through amendment or a scheduled update), it will then apply to subsequent MTIP updates.</p>		

METRO

Regional Transportation Planning

1 Transportation Planning	\$ 1,109,920
2 Climate Smart Implementation	\$ 13,569
3 Regional Transportation Plan Update (2023)	\$ 605,697
4 Metropolitan Transportation Improvement Plan	\$ 1,100,073
5 Air Quality Program	\$ 25,848
6 Regional Transit Program	\$ 54,274
7 Regional Mobility Policy Update	\$ 306,778
8 Regional Freight Program	\$ 159,345
9 Regional Freight Delay and Commodities Movement	\$ 222,891
10 Complete Streets Program	\$ 96,081
11 Regional Travel Options (RTO) and Safe Routes to School Program	\$ 3,852,228
12 Transportation System Management and Operations (TSMO) - Regional Mobility Program	\$ 246,642
13 Enhanced Transit Concepts Pilot Program	\$ 115,759
14 Economic Value Atlas (EVA) Implementation	\$ 287,222
Regional Transportation Planning Total:	\$ 8,196,326

Regional Corridor/Area Planning

1 Corridor Refinement and Project Development (Investment Areas)	\$ 340,988
2 Southwest Corridor Transit Project	\$ 396,695
3 Columbia Connects	\$ 258,857
4 MAX tunnel study	\$ 40,000
5 City of Portland Transit and Equitable Development Assessment	\$ 203,696
6 Tualatin Valley Highway Transit and Development Project	\$ 848,488
Regional Corridor/Area Planning Total:	\$ 2,088,725

Administration & Support

1 MPO Management and Services	\$ 470,145
2 Civil Rights and Environmental Justice	\$ 98,235
3 Data Management and Visualization	\$ 1,346,982
4 Economic, Demographic and Land Use Forecasting Program	\$ 377,616
5 Travel Forecast Maintenance, Development and Application	\$ 1,476,176
6 Oregon Household Travel Survey	\$ 92,072
7 Technical Assistance Program	\$ 105,479
8 Intergovernmental Agreement Fund Program	\$ 51,696
Administration & Support Total:	\$ 4,018,401

GRAND TOTAL

Requirements

Total Direct and Indirect Costs

\$ 1,109,920	
\$ 13,569	
\$ 605,697	
\$ 1,100,073	
\$ 25,848	
\$ 54,274	
\$ 306,778	
\$ 159,345	
\$ 222,891	
\$ 96,081	
\$ 3,852,228	
\$ 246,642	
\$ 115,759	
\$ 287,222	
\$ 8,196,326	
\$ 340,988	
\$ 396,695	
\$ 258,857	
\$ 40,000	
\$ 203,696	
\$ 848,488	
\$ 2,088,725	
\$ 470,145	
\$ 98,235	
\$ 1,346,982	
\$ 377,616	
\$ 1,476,176	
\$ 92,072	
\$ 105,479	
\$ 51,696	
\$ 4,018,401	
\$ 14,303,452	

Resources

PL	PL Match (ODOT)	5303	5303 Match (Metro)	STBG	STBG Match (Metro)	FTA, FHWA, ODOT Discretionary Grants	FTA, FHWA, ODOT Grants Match (Metro)	Metro Direct Contribution	Local Support	Total
\$ 890,692	\$ 101,944	\$ 105,239	\$ 12,045							\$ 1,109,920
		\$ 12,175	\$ 1,393							\$ 13,569
\$ 65,028	\$ 7,443	\$ 478,464	\$ 54,762							\$ 605,697
		\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480			\$ 134,576		\$ 1,100,073
		\$ 23,193	\$ 2,655							\$ 25,848
		\$ 48,700	\$ 5,574							\$ 54,274
		\$ 275,272	\$ 31,506							\$ 306,778
				\$ 142,980	\$ 16,365					\$ 159,345
				\$ 200,000	\$ 22,891					\$ 222,891
		\$ 86,213	\$ 9,867							\$ 96,081
						\$ 3,656,869	\$ 195,359			\$ 3,852,228
				\$ 221,312	\$ 25,330					\$ 246,642
								\$ 115,759		\$ 115,759
								\$ 287,222		\$ 287,222
\$ 955,720	\$ 109,387	\$ 1,393,386	\$ 159,479	\$ 1,066,503	\$ 122,066	\$ 3,656,869	\$ 195,359	\$ 537,557	\$ -	\$ 8,196,326
				\$ 12,175	\$ 1,393			\$ 327,420		\$ 340,988
						\$ 343,048	\$ 39,263		\$ 14,384	\$ 396,695
				\$ 232,273	\$ 26,585					\$ 258,857
								\$ 40,000		\$ 40,000
						\$ 182,776	\$ 20,920			\$ 203,696
				\$ 326,622	\$ 37,383	\$ 434,727	\$ 49,756			\$ 848,488
\$ -	\$ -	\$ -	\$ -	\$ 571,070	\$ 65,361	\$ 960,551	\$ 109,939	\$ 367,420	\$ 14,384	\$ 2,088,725
		\$ 421,861	\$ 48,284							\$ 470,145
		\$ 88,146	\$ 10,089							\$ 98,235
								\$ 543,528		\$ 1,346,982
		\$ 163,434	\$ 18,706					\$ 118,591	\$ 76,885	\$ 377,616
		\$ 786,277	\$ 89,993					\$ 206,791	\$ 393,115	\$ 1,476,176
		\$ 82,616	\$ 9,456							\$ 92,072
				\$ 94,646	\$ 10,833					\$ 105,479
								\$ 51,696		\$ 51,696
\$ 1,753,267	\$ 200,669	\$ 510,007	\$ 58,373	\$ 94,646	\$ 10,833	\$ -	\$ -	\$ 920,606	\$ 470,000	\$ 4,018,401
\$ 2,708,987	\$ 310,056	\$ 1,903,393	\$ 217,852	\$ 1,732,219	\$ 198,261	\$ 4,617,420	\$ 305,298	\$ 1,825,583	\$ 484,384	\$ 14,303,452

As of 3/17/2021

METRO

Requirements		Resources							
Total Direct and Indirect Costs		Federal-MPO Funding				Other Funding			Total
PL*		5303	STBG	FTA, FHWA, ODOT		Metro Contribution	Metro Match	Local Support	
1	Transportation Planning	\$ 917,832	\$ 800,548	\$ 105,239			\$ 12,045		\$ 917,832
2	Climate Smart Implementation	\$ 13,569		\$ 12,175			\$ 1,393		\$ 13,569
3	Regional Transportation Plan Update (2022)	\$ 605,696	\$ 72,470	\$ 478,464			\$ 54,762		\$ 605,696
4	Metropolitan Transportation Improvement Plan	\$ 1,100,073		\$ 224,246	\$ 645,200	\$ 131,115	\$ 99,512		\$ 1,100,073
5	Regional Transit Program	\$ 54,274		\$ 48,700			\$ 5,574		\$ 54,274
6	Regional Mobility Policy Update	\$ 306,778		\$ 275,272			\$ 31,506		\$ 306,778
7	Regional Freight Program	\$ 382,237		\$ 142,980	\$ 200,000		\$ 39,257		\$ 382,237
8	Complete Streets Program	\$ 96,081		\$ 86,213			\$ 9,867		\$ 96,081
9	Regional Travel Options (RTO) and Safe Routes to School Program	\$ 3,852,228			\$ 3,656,869		\$ 195,359		\$ 3,852,228
10	Transportation System Management and Operations (TSMO) – Regional Mobility Program	\$ 246,642		\$ 221,312			\$ 25,330		\$ 246,642
11	Enhanced Transit Concepts Pilot Program	\$ 115,759				\$ 115,759			\$ 115,759
12	Economic Value Atlas (EVA) Implementation	\$ 287,222				\$ 287,222			\$ 287,222
Regional Transportation Planning Total:		\$ 7,978,391	\$ 873,018	\$ 1,373,289	\$ 1,066,512	\$ 3,656,869	\$ 534,096	\$ 474,606	\$ 7,978,391
Corridor/Area Planning									
1	Corridor Refinement and Project Development (Investment Areas)	\$ 340,988		\$ 12,175		\$ 327,420	\$ 1,393		\$ 340,988
2	Southwest Corridor Transit Project	\$ 396,695			\$ 343,048		\$ 39,263	\$ 14,384	\$ 396,695
3	Columbia Connects	\$ 258,857		\$ 232,273			\$ 26,585		\$ 258,857
4	MAX tunnel study	\$ 40,000				\$ 40,000			\$ 40,000
5	City of Portland Transit and Equitable Development Assessment	\$ 203,696			\$ 182,776		\$ 20,920		\$ 203,696
6	Tualatin Valley Highway Transit and Development Project	\$ 848,489		\$ 326,622	\$ 434,727		\$ 87,140		\$ 848,489
Corridor/Area Planning Total:		\$ 2,088,726		\$ 571,070	\$ 960,551	\$ 367,420	\$ 175,301	\$ 14,384	\$ 2,088,726
Administration & Support									
1	MPO Management and Services	\$ 470,145		\$ 421,861			\$ 48,284		\$ 470,145
2	Civil Rights and Environmental Justice	\$ 98,235		\$ 88,146			\$ 10,089		\$ 98,235
3	Data Management and Visualization	\$ 1,346,982	\$ 803,454			\$ 543,528			\$ 1,346,982
4	Economic, Demographic and Land Use Forecasting Program	\$ 377,616	\$ 182,140			\$ 118,591		\$ 76,885	\$ 377,616
5	Travel Forecast Maintenance, Development and Application	\$ 1,476,176	\$ 876,270			\$ 206,791		\$ 393,115	\$ 1,476,176
6	Oregon Household Travel Survey	\$ 92,072	\$ 92,072						\$ 92,072
7	Technical Assistance Program	\$ 105,479		\$ 94,646			\$ 10,833		\$ 105,479
8	Air Quality Program	\$ 25,848		\$ 23,193			\$ 2,655		\$ 25,848
9	Intergovernmental Agreement Fund Program	\$ 51,696				\$ 51,696			\$ 51,696
Administration & Support Total:		\$ 4,044,249	\$ 1,953,936	\$ 533,200	\$ 94,646	\$ 920,606	\$ 71,861	\$ 470,000	\$ 4,044,249
GRAND TOTAL		\$ 14,111,365	\$ 2,826,954	\$ 1,906,490	\$ 1,732,228	\$ 4,617,420	\$ 1,822,121	\$ 721,768	\$ 14,111,365

*PL includes ODOT Match
As of 1/28/2021

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

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

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

Metro Council President

Lynn Peterson

Metro Councilors

Shirley Craddick, District 1

Christine Lewis, District 2

Gerritt Rosenthal, District 3

Juan Carlos González District 4

Mary Nolan, District 5

Bob Stacey, District 6

Auditor

Brian Evans

Stay in touch with news, stories and things to do.

oregonmetro.gov/news

If you have a disability and need accommodations, call 503-220-2781, or call Metro’s TDD line at 503-797-1804. If you require a sign language interpreter, call at least 48 hours in advance.



Metro

600 NE Grand Ave.
Portland, OR 97232-2736
503-797-1700
503-797-1804 TDD
503-797-1795 fax

For more information, visit
oregonmetro.gov/rtp

Printed on recycled-content paper

February-April 2021

2020 Metro Self-Certification

1. Metropolitan Planning Organization Designation

Metro is the metropolitan planning organization (MPO) designated by Congress and the State of Oregon for the Oregon portion of the Portland/Vancouver urbanized area, covering 24 cities and three counties. It is Metro's responsibility to meet the requirements of federal planning rules as defined in Title 23 of U.S. Code Part 450 Subpart C and Title 49 of U.S. Code Part 613 Subpart A, the Oregon Transportation Planning Rule, which implements Statewide Planning Goal 12, and the Metro Charter for this MPO area. In combination, these requirements call for development of a multi-modal transportation system plan that is integrated with and supports the region's land use plans, and meets federal and state planning requirements.

Metro is governed by an elected regional council, in accordance with a voter-approved charter. The Metro Council is comprised of representatives from six districts and a Council President elected region-wide. The Chief Operating Officer is appointed by the Metro Council and leads the day-to-day operations of Metro. Metro uses a decision-making structure that provides state, regional and local governments the opportunity to participate in the transportation and land use decisions of the organization. Two key committees are the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC). These committees are comprised of elected and appointed officials and receive technical advice from the Transportation Policy Alternatives Committee (TPAC) and the Metro Technical Advisory Committee (MTAC).

2. Geographic Scope

The Metropolitan Planning Area boundary establishes the area in which the Metropolitan Planning Organization conducts federally mandated transportation planning work, including: a long-range Regional Transportation Plan, the Metropolitan Transportation Improvement Program for capital improvements identified for a four-year construction period, a Unified Planning Work Program, a congestion management process, and conformity to the state implementation plan for air quality for transportation related emissions.

The Metropolitan Planning Area (MPA) boundary is a federal requirement for the metropolitan planning process. The boundary is established by the governor and individual Metropolitan Planning Organizations within the state, in accordance with federal metropolitan planning regulations. The MPA boundary must encompass the existing urbanized area and the contiguous areas expected to be urbanized within a 20-year forecast period. Other factors may also be considered to bring adjacent territory into the MPA boundary. The boundary may be expanded to encompass the entire metropolitan statistical area or combined as defined by the federal Office of Management and Budget.

The current boundary was updated and approved by the Governor of Oregon in July 2015 following the release of the new urbanized area definitions by the Census Bureau. The planning area boundary includes the urbanized area, areas within the Metro jurisdictional boundary, urban reserve areas representing areas that may urbanize within the next 20 years, and the areas around 5 key transportation facility interchanges adjacent to and that serve the urban area.

3. Responsibilities, Cooperation and Coordination

Metro uses a decision-making structure, which provides state, regional, and local governments the opportunity to participate in the transportation and land use decisions of the organization. The two key committees are JPACT and MPAC. These committees receive recommendations from the Transportation Policy Alternatives Committee (TPAC) and the Metro Technical Advisory Committee (MTAC).

Joint Policy Advisory Committee on Transportation

JPACT is chaired by a Metro Councilor and includes two additional Metro Councilors, seven locally elected officials representing cities and counties, and appointed officials from the Oregon Department of Transportation (ODOT), TriMet, the Port of Portland, and the Department of Environmental Quality (DEQ). The State of Washington is also represented with three seats that are traditionally filled by two locally elected officials and an appointed official from the Washington Department of Transportation (WSDOT). All transportation-related actions (including Federal MPO actions) are recommended by JPACT to the Metro Council. The Metro Council can approve the recommendations or refer them back to JPACT with a specific concern for reconsideration.

Final approval of each action requires the concurrence of both JPACT and the Metro Council. JPACT is primarily involved in periodic updates to the Regional Transportation Plan (RTP), Metropolitan Transportation Improvement Program (MTIP), and review of ongoing studies and financial issues affecting transportation planning in the region.

Bi-State Coordination Committee

Based on a recommendation from the I-5 Transportation & Trade Partnership Strategic Plan, the Bi-State Transportation Committee became the Bi-State Coordination Committee in early 2004. The Bi-State Coordination Committee was chartered through resolutions approved by Metro, Multnomah County, the cities of Portland and Gresham, TriMet, ODOT, the Port of Portland, Southwest Washington Regional Transportation Council (RTC), Clark County, C-Tran, Washington State Department of Transportation (WSDOT) and the Port of Vancouver. The Committee is charged with reviewing and coordinating all issues of bi-state significance for transportation and land use.

Metro Policy Advisory Committee

MPAC was established by Metro Charter to provide a vehicle for local government involvement in Metro's growth management planning activities. It includes eleven locally-elected officials, three appointed officials representing special districts, TriMet, a representative of school districts, three citizens, two Metro Councilors (with non-voting status), two officials from Clark County, Washington and an appointed official from the State of Oregon (with non-voting status). Under Metro Charter, this committee has responsibility for recommending to the Metro Council adoption of, or amendment to, any element of the Charter-required Regional Framework Plan.

The Regional Framework Plan was first adopted in December 1997 and addresses the following topics:

- Transportation
- Land Use (including the Metro Urban Growth Boundary (UGB))
- Open Space and Parks
- Water Supply and Watershed Management

- Natural Hazards
- Coordination with Clark County, Washington
- Management and Implementation

In accordance with these requirements, the Regional Transportation Plan is developed to meet Federal transportation planning guidelines such as FAST Act and MAP-21, the Oregon Transportation Planning Rule, and Metro Charter requirements, with input from both MPAC and JPACT. This ensures proper integration of transportation, land use, and environmental concerns.

4. Metropolitan Transportation Planning Products

a. Unified Planning Work Program

The Unified Planning Work Program (UPWP) is developed annually by Metro as the MPO for the Portland metropolitan area. It is a federally - required document that serves as a tool for coordinating federally-funded transportation planning activities to be conducted over the course of each fiscal year, beginning on July 1st. Included in the UPWP are detailed descriptions of the transportation planning tasks, listings of various activities, and a summary of the amount and source of state and federal funds to be used for planning activities. The UPWP is developed by Metro with input from local governments, TriMet, ODOT, Port of Portland, FHWA and FTA. Additionally, Metro must annually undergo a process known as self-certification to demonstrate that the Portland metropolitan region's planning process is being conducted in accordance with all applicable federal transportation planning requirements. Self-certification is conducted in conjunction with annual adoption of the UPWP.

b. Regional Transportation Plan (RTP)

The RTP must be prepared and updated every 4 years and cover a minimum 20-year planning horizon with air quality conformity and fiscal constraint.

Scope of the planning process

The metropolitan planning process shall provide for consideration of projects and strategies that will:

- a. support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- b. increase the safety of the transportation system for motorized and non-motorized users;
- c. increase the security of the transportation system for motorized and non-motorized users;
- d. increase the accessibility and mobility of people and for freight;
- e. protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- f. enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- g. promote efficient system management and operation; and
- h. emphasize the preservation of the existing transportation system.

Metropolitan planning organizations (MPOs) must establish and use a performance-based approach to transportation decision making and development of transportation plans to support the national goal areas:

- **Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair
- **Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System
- **System Reliability** - To improve the efficiency of the surface transportation system
- **Freight Movement and Economic Vitality** - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental Sustainability** - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced Project Delivery Delays** - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Elements of the RTP

The long-range transportation plan must include the following:

- Identification of transportation facilities (including major roadways, transit, bike, pedestrian and intermodal facilities and intermodal connectors) that function as an integrated metropolitan transportation system.
- A description of the performance measures and performance targets used in assessing the performance of the transportation system and how their development was coordinated with state and public transportation providers
- A system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets
- A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan.
- A financial plan that demonstrates how the adopted transportation plan can be implemented; indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan; and recommends any additional financing strategies for needed projects and programs.
- Operational and management strategies to improve the performance of existing transportation facilities to manage vehicular congestion and maximize the safety and mobility of people and goods.
- Capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs.
- Proposed transportation and transit enhancement activities

c. Metropolitan Transportation Improvement Program

The Metropolitan Transportation Improvement Program (MTIP) is a critical tool for implementing and monitoring progress of the Regional Transportation Plan (RTP) and 2040 Growth Concept. The MTIP programs and monitors funding for all regionally significant projects

in the metropolitan area. Additionally, the program administers the allocation of urban Surface Transportation Program (STP), Congestion Mitigation Air Quality (CMAQ) and Transportation Alternatives Program (TAP) funding through the regional flexible fund process. Projects are allocated funding based upon technical and policy considerations that weigh the ability of individual projects to implement federal, state, regional and local goals. Funding for projects in the program are constrained by expected revenue as defined in the Financial Plan.

The MTIP is also subject to federal and state air quality requirements, and a determination is made during each allocation to ensure that the updated MTIP conforms to air quality regulations. These activities require special coordination with staff from U.S. Department of Transportation, U.S. Environmental Protection Agency, Oregon Department of Environmental Quality, Oregon Department of Transportation (ODOT), TriMet, South Metro Area Regional Transit (SMART), and other regional, county and city agencies.

The 2021 -24 MTIP was adopted in July 2020 and was incorporated into the 2021 -24 STIP. Amendments to the MTIP and development of the 2024 -27 MTIP are included as part of the Metropolitan Transportation Improvement Program work program.

The short-range metropolitan TIP includes the following required elements:

- A priority list of proposed federally supported projects and strategies to be carried out within the TIP period.
- A financial plan that demonstrates how the TIP can be implemented.
- Descriptions of each project in the TIP.
- Programming of funds in year of expenditure dollars.
- Documentation of how the TIP meets other federal requirements such as addressing the federal planning factors and making progress toward adopted transportation system performance targets.
- The MTIP also includes publication of the annual list of obligated projects. The most recent publication was provided in December 2020. All prior year obligation reports are available on the Metro website.

D. Congestion Management Process (CMP)

The 2007 SAFETEA-LU federal transportation legislation updated requirement for a Congestion Management Process (CMP) for metropolitan planning organizations (MPOs) in Transportation Management Areas (TMAs – urban areas with a population exceeding 200,000), placing a greater emphasis on management and operations and enhancing the linkage between the CMP and the long-range regional transportation plan (RTP) through an objective-driven, performance-based approach. MAP-21 retained the CMP requirement while enhancing requirements for congestion and reliability monitoring and reporting. The most recent federal transportation legislation, FAST Act, retained the CMP requirement set forth in MAP-21.

A CMP is a systematic approach for managing congestion that provides information on transportation system performance. It recommends a range of strategies to minimize congestion and enhance the mobility of people and goods. These multimodal strategies include, but are not limited to, operational improvements, travel demand management, policy approaches, and additions to capacity. The region's CMP will continue to advance the goals of

the 2014 RTP and strengthen the connection between the RTP and the Metropolitan Transportation Improvement Program (MTIP).

The goal of the CMP is to provide for the safe and effective management and operation of new and existing transportation facilities through the use of demand reduction and operational management strategies. As part of federal transportation performance and congestion management monitoring and reporting, Metro also continues to address federal MAP-21 and FAST Act transportation performance monitoring and management requirements that were adopted as part of the 2018 Regional Transportation Plan (RTP). The performance targets are for federal monitoring and reporting purposes and are coordinated with the Oregon Department of Transportation (ODOT), TriMet, South Metro Area Regional Transit (SMART) and C-TRAN. The regional targets support the region's Congestion Management Process, the 2018 policy guidance on safety, congestion and air quality, and complements other performance measures and targets contained in Chapter 2 of the 2018 RTP.

E. Air Quality

The Air Quality Program ensures the Regional Transportation Plan (RTP) and the Metropolitan Transportation Improvement Program (MTIP) for the Portland metropolitan area address state and federal regulations and coordinates with other air quality initiatives in the region.

While the region is no longer an active Maintenance Area for Ozone precursors or Carbon Monoxide (CO) and therefore is not required to complete air quality conformity analysis and findings for those pollutants for each RTP and MTIP update, the region is still required to comply with the State Implementation Plan (SIP) requirements that were developed and adopted in response to previously being out of compliance for those pollutants. The SIP requirements still in effect include the Transportation Control Measures (TCMs) adopted within the Ozone and CO SIPs.

Most immediately relevant of the TCMs is the requirement to annually monitor the region's motor vehicle miles traveled (VMT) per capita and institute spending and planning requirements if the rate increases significantly. Specifically, if the rate increases by 5% in a year, planning requirements are instigated to investigate the cause and propose remedies to reduce the VMT per capita rate. If the rate increases again in the second year by 5% or more, mandatory spending increases on programs that help reduce VMT would be instituted, potentially redirecting funds from other projects.

Metro also has agreements with the Oregon Department of Environmental Quality to cooperate on monitoring and analyzing emissions for all of the federal criteria pollutants and for other emissions known to impact human health as a part of the transportation planning and programming process. To do so, Metro keeps its transportation emissions model current to federal guidelines.

5. Planning Factors

Moving Ahead for Progress in the 21st Century (MAP-21), passed by U.S. Congress and signed into law by the President in 2012, defines specific planning factors and national goal areas to be considered when developing transportation plans and programs in a metropolitan area. MAP-21 creates a streamlined and performance-based surface transportation investment program and

builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991. The most recent federal transportation funding act, *the Fixing America's Surface Transportation (FAST) Act* continues all of the metropolitan planning requirements that were in effect under MAP-21.

Current requirements call for MPOs to conduct planning that explicitly considers and analyzes, as appropriate, eleven factors defined in federal legislation:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase the accessibility and mobility of people and for freight;
5. Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation; and
8. Emphasize the preservation of the existing transportation system.
9. Improving transportation system resiliency and reliability;
10. Reducing (or mitigating) the storm water impacts of surface transportation; and
11. Enhancing travel and tourism.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
1. Support Economic Vitality	<ul style="list-style-type: none"> • 2018 RTP policies are linked to land use strategies that promote economic development. • Industrial areas and intermodal facilities identified in policies as “primary” areas of focus for planned improvements. • Comprehensive, multimodal freight improvements that link intermodal facilities to industry are detailed for 20-year plan period. • Highway LOS policy tailored to protect key freight corridors. • The 2018 RTP recognizes need for freight linkages to destinations beyond the region by all modes. 	<ul style="list-style-type: none"> • All projects subject to consistency with RTP policies on economic development and promotion of “primary” land use element of 2040 development such as centers, industrial areas and intermodal facilities. • Special category for freight improvements in Metro allocation process calls out the unique importance for these projects. • Coordinate with ODOT allocations to support their Transportation Plan Goal 3 of Economic Vitality for all investments, and includes a specific project funding program, the Immediate Opportunity Fund, that supports local development projects which demonstrate job growth. 	<ul style="list-style-type: none"> • 2018 Regional Transit Strategy designed to support continued development of regional centers and central city by increasing transit accessibility to these locations. • HCT improvements identified in the 2018 Regional Transit Strategy for major commute corridors lessen need for major capacity improvements in these locations, allowing for freight improvements in other corridors.
2. Increase Safety	<ul style="list-style-type: none"> • The 2018 RTP policies call out safety as a primary focus for improvements to the system. • Safety is identified as one of three implementation priorities for all modal systems (along with preservation of the system and implementation of the region’s 2040-growth management strategy). 	<ul style="list-style-type: none"> • All Metro allocation projects rated according to specific safety criteria. • All Metro allocation projects must be consistent with regional street design guidelines that provide safe designs for all modes of travel. • Coordinate with ODOT 	<ul style="list-style-type: none"> • Station area planning for proposed HCT improvements is primarily driven by pedestrian access and safety considerations.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
		All Roads Transportation Safety funding program select projects with proven safety elements to address high crash sites/corridors.	
3. Increase Security	<ul style="list-style-type: none"> • The 2018 RTP calls for implementing investments to increase system monitoring for operations, management, and security of the regional mobility corridor system. 	<ul style="list-style-type: none"> • Coordinate with ODOT on implementation of their Transportation Plan Goal 5 of Safety and Security. • Looking to incorporate recommendations from the current Metro area Emergency Transportation Routes technical study and any follow-up studies into funding programs. • TriMet has updated its approach and investments in public safety and security utilizing recommendations from its Transit Public Safety Advisory Committee to address racial justice issues. 	<ul style="list-style-type: none"> • System security has been a routine element of the HCT program, and does not represent a substantial change to current practice.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
4. Increase Accessibility	<ul style="list-style-type: none"> • The 2018 RTP policies are organized on the principle of providing accessibility to centers and employment areas with a balanced, multi-modal transportation system. • The policies also identify the need for freight mobility in key freight corridors and to provide freight access to industrial areas and intermodal facilities. 	<ul style="list-style-type: none"> • Measurable increases in accessibility to priority land use elements of the 2040-growth concept is a criterion for all projects. • The MTIP program places a heavy emphasis on non-auto modes in an effort to improve multi-modal accessibility in the region. 	<ul style="list-style-type: none"> • The planned HCT improvements in the region will provide increased accessibility to the most congested corridors and centers. • Planned HCT improvements provide mobility options to persons traditionally underserved by the transportation system.
5. Protect Environment and Quality of Life	<ul style="list-style-type: none"> • The 2018 RTP is constructed as a transportation strategy for implementing the region's 2040-growth concept. The growth concept is a long-term vision for retaining the region's livability through managed growth. • The 2018 RTP system has been "sized" to minimize the impact on the built and natural environment. • The region has developed an environmental street design guidebook to facilitate environmentally sound transportation improvements in sensitive areas, and to coordinate transportation project development with regional strategies to protect endangered species. • The 2018 RTP conforms to the Clean Air Act. 	<ul style="list-style-type: none"> • The MTIP implements the Transportation Control Measures (TCMs) of the air quality SIP for CO and Ozone related emissions.. • The MTIP focuses on allocating funds for clean air (CMAQ), livability (Transportation Enhancement) and multi- and alternative modes (STIP). • Bridge projects in lieu of culverts have been funded through the MTIP and other regional sources to enhance endangered salmon and steelhead passage. 	<ul style="list-style-type: none"> • Light rail improvements provide emission-free transportation alternatives to the automobile in some of the region's most congested corridors and centers. • HCT transportation alternatives enhance quality of life for residents by providing an alternative to auto travel in congested corridors and centers.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
5. Protect Environment and Quality of Life (continued)	<ul style="list-style-type: none"> • Many new transit, bicycle, pedestrian and TDM projects have been added to the plan in recent updates to provide a more balanced multi-modal system that maintains livability. • 2018 RTP transit, bicycle, pedestrian and TDM projects planned for the next 20 years will complement the compact urban form envisioned in the 2040 growth concept by promoting an energy-efficient transportation system. • Metro coordinates its system level planning with resource agencies to identify and resolve key issues. 		
6. System Integration/ Connectivity	<ul style="list-style-type: none"> • The 2018 RTP includes a functional classification system for all modes that establishes an integrated modal hierarchy. • The 2018 RTP policies and Functional Plan* include a street design element that integrates transportation modes in relation to land use for regional facilities. • The 2018 RTP policies and Functional Plan include connectivity provisions that will increase local and major street connectivity. • The 2018 RTP freight policies and projects address the intermodal connectivity needs at major freight terminals in the region. • The intermodal management system identifies key intermodal links in the 	<ul style="list-style-type: none"> • Projects funded through the MTIP must be consistent with regional street design guidelines and the RTP that has resolved system integration and connectivity issues.. • Freight improvements are evaluated according to resolving potential conflicts with other modes. 	<ul style="list-style-type: none"> • Planned HCT improvements are closely integrated with other modes, including pedestrian and bicycle access plans for station areas and park-and-ride and passenger drop-off facilities at major stations.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
	region.		
7. Efficient Management & Operations	<ul style="list-style-type: none"> • The 2018 RTP policy chapter includes specific system management policies aimed at promoting efficient system management and operation. • Proposed 2018 RTP projects include many system management improvements along regional corridors. • The 2018 RTP financial analysis includes a comprehensive summary of current and anticipated operations and maintenance costs. 	<ul style="list-style-type: none"> • The regional travel options (RTO) and TSMO programs are funded through Metro allocations, • TDM/TSMO is encouraged to be included in the scope of capital projects to reduce SOV pressure on congested corridors. • ODOT also provides funding support to TDM and TSMO programs. • TriMet and SMART both operate TDM and Employer commute reduction programs. 	<ul style="list-style-type: none"> • Proposed HCT improvements include redesigned feeder bus systems that take advantage of new HCT capacity and reduce the number of redundant transit lines.
8. System Preservation	<ul style="list-style-type: none"> • Proposed 2018 RTP projects include major roadway preservation projects. • The 2018 RTP financial analysis includes a comprehensive summary of current and anticipated operations and maintenance costs. 	<ul style="list-style-type: none"> • Reconstruction projects that provide long-term maintenance are identified as a funding priority. • The ODOT Fix-It program and TriMet and SMART Preventive Maintenance programs that fund system preservation are two of the largest investment areas in the MTIP. 	<ul style="list-style-type: none"> • The 2018 RTP financial plan includes the 30-year costs of HCT maintenance and operation for planned HCT systems.
9. Resilience and Reliability	<ul style="list-style-type: none"> • The 2018 RTP policy chapter includes specific system resilience and reliability policies aimed at promoting predictable system management and operation needed to meet broader RTP outcomes, 	<ul style="list-style-type: none"> • Projects funded through the MTIP must be adopted as part of the 2018 RTP and thereby found to be consistent with RTP policies for resiliency and 	<ul style="list-style-type: none"> • HCT projects defined in the 2018 RTP are part of a regional reliability strategy, as defined in RTP policy and evaluated in the RTP systems analysis of proposed investments.

Table 1: Federal Transportation Planning Factors

Factor	System Planning (RTP)	Funding Strategy (MTIP)	High Capacity Transit (HCT)
	such as economic vitality and transportation equity.	reliability through systems analysis of proposed RTP investments. <ul style="list-style-type: none"> MTIP coordination with ODOT's efforts to incorporate resilience into the Fix-It funding program including the effects of climate change on asset management approach to their maintenance projects. 	
10. Stormwater Mitigation	<ul style="list-style-type: none"> The 2018 RTP policy chapter includes specific stormwater management policies that shaped the projects and programs in the plan. Street design best practices for implementing the 2018 RTP stormwater policies were published in the 2019 Designing Livable Streets guidelines. 	<ul style="list-style-type: none"> Projects funded through the MTIP must be consistent with regional street design policy for stormwater management in the 2018 RTP and the 2019 Livable Streets guidelines that implement the policy. 	<ul style="list-style-type: none"> HCT projects funded through the MTIP must be designed to be consistent with regional street design policy for stormwater management in the 2018 RTP and the 2019 Livable Streets guidelines.
11. Enhanced Travel and Tourism	<ul style="list-style-type: none"> The 2018 RTP policy chapter includes specific system management policies aimed at promoting economic vitality, including travel and tourism as key components of the regional economy. Proposed 2018 RTP projects were evaluated for consistency with regional policies as part of plan adoption. 	<ul style="list-style-type: none"> Projects funded through the MTIP must be adopted as part of the 2018 RTP and thereby found to be consistent with RTP policies for promoting economic vitality, including enhancing travel and tourism. 	<ul style="list-style-type: none"> HCT projects defined in the 2018 RTP are part of a regional economic vitality strategy, as defined in RTP policy and evaluated in the RTP systems analysis of proposed investments.

- * *Functional Plan = Urban Growth Management Functional Plan, an adopted regulation that requires local governments in Metro's jurisdiction to complete certain planning tasks.*

MAP-21 also requires state DOTs and MPOs to establish performance measures and set performance targets for each of the seven national goal areas to provide a means to ensure efficient investment of federal transportation funds, increase accountability and transparency, and improve investment decision-making. The MAP-21 national goal areas are:

1. Safety
2. Infrastructure condition
3. Congestion reduction
4. System reliability
5. Freight movement and economic vitality
6. Environmental sustainability
7. Reduce project delivery delays

6. Public Involvement

Federal regulations place significant emphasis on broadening participation in transportation planning to include key stakeholders who have not historically been involved in the planning process, including the business community, members of the public, community groups, and other governmental agencies. Effective public involvement will result in meaningful opportunities for the public to participate in the planning process.

Metro is committed to transparency and access to decisions, services and information for everyone throughout the region. Metro strives to be responsive to the people of the region, provide clear and concise informational materials and address the ideas and concerns raised by the community. Public engagement activities for decision-making processes are documented and given full consideration.

Metro's public involvement practices follow the agency's Public Engagement Guide (formerly the Public Involvement Policy for Transportation Planning) which reflects changes in the federal transportation authorization act, MAP-21. Metro's public involvement policies establish consistent procedures to ensure all people have reasonable opportunities to be engaged in planning and policy process. Procedures include outreach to communities underserved by transportation projects, public notices and opportunities for comment. The policies also include nondiscrimination standards that Metro, its subcontractors and all local governments must meet when developing or implementing projects that receive funding through Metro. When appropriate, Metro follows specific federal and state direction, such as those associated with the National Environmental Policy Act and Oregon Department of Land Conservation and Development rules, on engagement and notice and comment practices.

In 2012, Metro created a new public engagement review process, designed to ensure that Metro's public involvement is effective, reaches diverse audiences and harnesses emerging best practices.

Title VI – In July 2017, Metro completed and submitted its Title VI Plan to ODOT. This plan is now being implemented through updates to Metro's RTP and MTIP, and through corridor planning and other agency activities in the region. It includes both a non-discrimination policy and complaint procedure. In December 2019, Metro submitted its updated Limited English Proficiency Plan as part of an updated Title VI Program to FTA. The next Title VI Plan will be released in 2021. The most recent Title VI Annual Compliance Report for ODOT, covering a 12 month period from July 1, 2018, through June 30, 2020 was accepted by ODOT December 30, 2020. The next annual report will be due Oct. 1, 2021, covering July 1, 2020 to June 30, 2021.

Environmental Justice – The intent of environmental justice (EJ) practices is to ensure the needs of minority and disadvantaged populations are considered and the relative benefits/impacts of individual projects on local communities are thoroughly assessed and vetted. Metro continues to expand and explore environmental justice efforts that provide early access to and consideration of planning and project development activities. Metro's EJ program is organized to communicate and seek input on project proposals and to carry those efforts into the analysis, community review and decision-making processes.

Title VI and Environmental Justice in action – The information from and practices for engaging underserved communities were applied to the 2018 Regional Transportation Plan (RTP) update and the 2018-21 Metropolitan Transportation Improvement Program (MTIP), particularly in the civil

rights assessment, which sought to better assess the benefits and burdens of regional, programmatic investments for these communities. Using the information from the RFFA process and engaging advocates helped define and determine thresholds for analysis of effects on communities of color, with limited English proficiency and with low-income as well as communities of older and younger adults.

Diversity, Equity and Inclusion – In 2010, Metro established an agency diversity action team. The team is responsible for identifying opportunities to collaboratively develop and implement sustainable diversity initiatives across and throughout the agency. Metro's diversity efforts are most evident in three areas: Contracts and Purchasing, Community Outreach, and Recruitment and Retention. Metro initiated the Equity Strategy Program, with the objective of creating an organizing framework to help Metro consistently incorporate equity into policy and decision-making. In 2014 as a result of the work of the diversity action team, Metro's communication department explicitly identified a community engagement division, with a focus on better engaging historically underrepresented communities. These efforts aim to go beyond current regulations and guidance for engaging and considering the needs of and effects on communities of color, with limited English proficiency and with low incomes, but work in coordination with Metro's Title VI and Environmental Justice civil rights program. The *Strategic Plan to Advance Racial Equity, Diversity, and Inclusion* was adopted in June 2016.

7. Disadvantaged Business Enterprise

The Metro Disadvantaged Business Enterprise (DBE) seeks to achieve the following:

- Ensure nondiscrimination in the award and administration of assisted contracts;
- Create a level playing field on which DBEs can compete fairly for assisted contracts;
- Ensure that the DBE Program is narrowly tailored in accordance with applicable law;
- Ensure that only firms that fully meet 49 CFR 26 eligibility standards are permitted to participate as DBE's;
- Help remove barriers to the participation of DBEs in assisted contracts; and
- Assist the development of firms that can compete successfully in the market place outside the DBE program.

Policy Statement

Metro is committed to the participation of Disadvantaged Business Enterprise (DBEs) in Metro contracting opportunities in accordance with 49 Code of Federal Regulations (CFR) Part 26, Effective March 4, 1999.

It is the policy of Metro to practice nondiscrimination on the basis of race, color, sex, and/or national origin in the award and administration of Metro assisted contracts. The intention of Metro is to create a level playing field on which DBEs can compete fairly for contracts and subcontracts relating to Metro planning and professional service activities.

The Metro Council is responsible for establishing the DBE policy for Metro. The Executive Officer is responsible to ensure adherence to this policy. The Assistant Director of Administrative Services and the DBE Outreach Coordinator are responsible for the development, implementation and monitoring of the DBE program for contracts in accordance with the Metro

nondiscrimination policy. It is the expectation of the Executive Officer that all Metro personnel shall adhere to the spirit, as well as the provisions and procedures, of the DBE program.

This policy will be circulated to all Metro personnel and to members of the community that perform or are interested in performing work on Metro contracts. The complete DBE Program for contracts goals and the overall annual DBE goals analysis are available for review at the:

Metro
Contracts Division
600 NE Grand Avenue
Portland, Oregon 97232

8. Americans with Disabilities Act

Metro is committed to ensuring its programs, services, facilities and events are inclusive and accessible to people with disabilities. Over the last two decades Metro has completed reviews of its facilities and periodically reviews its policies and practices for compliance with a variety of laws, including the Title II of the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act. Metro also systematically reviews new policies and practices for conformance to the requirements of federal and state civil rights and employment laws and requires design professionals, construction contractors and in-house maintenance staff to follow accessible design and construction standards, including the ADA Standards for Accessible Design and the Oregon Structural Specialty Code, during all new construction and renovations.

Metro provides services for people with disabilities –services include: devices and systems assistive listening devices, signage, American Sign Language or audio described interpretation, open captioning, Braille, etc.

An ADA self-evaluation that identifies universal access barriers and describes the methods to remove the barriers was completed in July 2018. Many improvements are slated as part of the building's maintenance schedule; a fully specified timeline and budget forecast was developed the following year. The development of the self-assessment and transition plan for the Metro Regional Center building included engagement of staff and the public. The evaluation of programs is underway this year, the self-evaluation and transition plan is expected to conclude in 2021. This process also includes engagement with staff and the public.

9. Lobbying

Annually Metro certifies compliance with 49 CFR 20 through the FTA TEAM system and will file the Disclosure of Lobbying Activities form pursuant to 31 USC 1352. A Metro employee outside of the Planning & Development Department and MPO staff does provide support to local elected officials who communicate regional priorities for updates to federal transportation policy and project funding to members of Congress (and potentially federal staff in the future). No federal funds are used to support these activities.

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO.21-5165, FOR THE PURPOSE OF ADOPTING THE FISCAL YEAR 2021-22 UNIFIED PLANNING WORK PROGRAM AND CERTIFYING THAT THE PORTLAND METROPOLITAN AREA IS IN COMPLIANCE WITH FEDERAL TRANSPORTATION PLANNING REQUIREMENTS

Date: April 2, 2021

Prepared by: John Mermin
John.Mermin@oregonmetro.gov

BACKGROUND

The Unified Planning Work Program (UPWP) is developed annually by Metro as the Metropolitan Planning Organization (MPO) for the Portland Metropolitan Area. It is a federally-required document that serves as a guide for transportation planning activities to be conducted over the course of each fiscal year, beginning July 1.

The UPWP is developed by Metro with input from local governments, TriMet, ODOT, the Port of Portland, FHWA, and FTA. Included in the UPWP are detailed descriptions of the transportation planning tasks, listings of various activities, and a summary of the amount and source of state and federal funds to be used for planning activities.

As an MPO, Metro must annually undergo a process known as self-certification to demonstrate that the Portland metropolitan region's planning process is being conducted in accordance with all applicable federal transportation planning requirements, as a prerequisite to receiving federal funds. The annual self-certification is processed in tandem with the Unified Planning Work Program (UPWP) and documents that Metro has met those requirements. Required self-certification areas include:

- Metropolitan Planning Organization (MPO) designation
- Geographic scope
- Agreements
- Responsibilities, cooperation and coordination
- Metropolitan Transportation Planning products
- Planning factors
- Public Involvement
- Title VI
- Environmental Justice
- Disadvantaged Business Enterprise (DBE)
- Americans with Disabilities Act (ADA)
- Construction Contracts
- Lobbying

Each of these areas is discussed in Exhibit B to Resolution No.21-5165

Additionally, every four years, Metro undergoes a quadrennial certification review (with the Federal Transit Administration [FTA] and Federal Highway Administration [FHWA]) to ensure compliance with federal transportation planning requirements. The most recent quadrennial certification review occurred in December 2020. Metro has provided a table in Appendix A of the 2021-22 UPWP that describes progress in addressing the Federal Corrective Actions included in the 2020 review.

ANALYSIS/INFORMATION

1. **Known Opposition** – No known opposition
2. **Legal Antecedents** – this resolution adopts a UPWP for the Portland Metropolitan area, as defined in Title 23 of the Code of Federal Regulations, Parts 450 and 420 and title 49, of the Code of Federal Regulations, Part 13. This resolution also certifies that the Portland metropolitan area is in compliance with Federal transportation planning requirements, as defined in Title 23 of the Code of Federal Regulations, Parts 450 and 500, and title 49, of the Code of Federal Regulations, Part 613.
3. **Anticipated Effects** – Approval means that grants can be submitted and contracts executed so work can commence on July 1, 2021 in accordance with established Metro priorities.
4. **Budget Impacts** – Approval of this resolution is a companion to the UPWP. It is a prerequisite to receipt of Federal planning funds and is, therefore, critical to the Metro budget. The UPWP matches projects and studies reflected in the proposed Metro budget submitted by the Metro Chief Operating Officer to the Metro Council. The UPWP is subject to revision in the final adopted Metro budget.

RECOMMENDED ACTION

Approve Resolution No.21-5165 adopting a Unified Planning Work Program for the Fiscal Year 2021-22 and certifying that the Portland metropolitan area is in compliance with federal transportation planning requirements.

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ACCEPTING THE	)	RESOLUTION NO. 21-5160
FINDINGS AND RECOMMENDATIONS IN THE)	
REGIONAL EMERGENCY TRANSPORTATION	)	Introduced by Chief Operating Officer
ROUTES UPDATE PHASE ONE REPORT	)	Marissa Madrigal in concurrence with
	)	Council President Lynn Peterson

WHEREAS, our region's infrastructure systems need to be resilient and prepared for multiple natural hazards, which include earthquakes, wildfires, landslides, floods, severe weather and volcanic events, and the increasing impacts of climate change; and

WHEREAS, emergency management planning will help mitigate the risks these hazards pose to the public health and safety of communities and the region's economic prosperity; and

WHEREAS, research and experience demonstrate that climate change and natural hazards have a disproportionate effect on historically marginalized communities, including Black, Indigenous and people of color (BIPOC), people with limited English proficiency, people with low income, youth, seniors, and people with disabilities, who typically have fewer resources and more exposure to environmental hazards, and are, therefore, the most vulnerable to displacement, adverse health effects, job loss, property damage and other effects; and

WHEREAS the Regional Disaster Preparedness Organization (RDPO) was created by intergovernmental agreement in 2015 as a partnership of government agencies, non-governmental organizations, and private-sector stakeholders in the Portland-Vancouver metropolitan region collaborating to build upon and unify various regional preparedness efforts and increase the region's resilience to disasters; and

WHEREAS, as a member of the RDPO Metro plays an important role in transportation and emergency management planning related to regional functions, such as data and mapping, disaster debris management and emergency transportation route designations to improve disaster response coordination and help reduce loss of life, injury and property damage during disasters; and

WHEREAS, the Regional Emergency Transportation Routes (ETR) Update is a joint planning effort between the Regional Disaster Preparedness Organization (RDPO) and Metro, exemplifying regional collaboration and coordination to prepare for disasters that affect the transportation system; and

WHEREAS, the 2018 Regional Transportation Plan (RTP) identified the need for an update to the region's designated regional emergency transportation routes to support future planning, policy-making and investment related to regional emergency management, transportation recovery and resiliency; and

WHEREAS, Regional ETRS were first designated within the Metro jurisdictional boundary in 1996 by the Regional Emergency Management Group (REMG) at the recommendation of the Regional Emergency Transportation Route Task Force facilitated by Metro, as priority routes targeted for rapid damage assessment and debris removal during a major regional emergency or disaster and used to transport emergency resources and materials, including first responders (e.g., police, fire and emergency medical services), essential supplies, debris, equipment, patients and personnel; and

WHEREAS, the Regional ETRs were last updated in 2005 and a Memorandum of Understanding was signed by local jurisdictions, the Port of Portland and the Oregon and Washington Departments of

Transportation that formalized commitments for assessing and reporting the status and condition of identified emergency transportation routes following an earthquake and coordinating activities under emergency conditions in relation to those routes; and

WHEREAS, since 2005, the region has experienced significant growth and demographic changes, and new technology, data and mapping have greatly expanded understanding of current hazard risks in the region, particularly seismic, wildfire, landslide, and flooding risks; and

WHEREAS, the RDPO ETR work group, a multi-disciplinary team of more than 30 local, regional, and state emergency management, transportation planning, engineering, operations and public works staff from 17 agencies within the five counties, supported the Phase 1 planning effort, including development of recommendations for future planning work; and

WHEREAS, the geographic scope of the planning effort was the five-county Portland-Vancouver metropolitan area, including Clark County in the state of Washington, and Columbia, Clackamas, Multnomah and Washington counties in the state of Oregon; and

WHEREAS, RDPO and Metro staff coordinated and consulted with cities, counties and agencies throughout the process to address specific needs of each agency or jurisdiction and facilitate collaboration and coordination among the agencies and jurisdictions, including: transportation, emergency management, and public works departments of each of the five counties and the City of Portland, the Oregon Department of Transportation (ODOT), the Washington Department of Transportation (WSDOT), the Oregon Department of Geologic and Mineral Industries (DOGAMI), transit providers, port districts, and cities within each of the five counties; and

WHEREAS, updates to the Regional ETRs incorporate changes recommended by the City of Portland, Clackamas, Columbia, Multnomah and Washington counties and ODOT through recent work that evaluated seismic risks along Statewide Seismic Lifeline Routes (SSLRs) identified in the Oregon Highway Plan; and

WHEREAS, agencies and jurisdictions recommended additional updates to the Regional ETRs and critical infrastructure and essential facilities to be included in the analysis through a series of consultation meetings convened by RDPO and Metro in Fall 2020; and

WHEREAS, the Regional Emergency Transportation Routes Update Report identifies a network of local and state-owned route segments in the region that should be designated as Regional ETRs, and summarizes key findings about the resilience and connectivity of these routes and recommendations for future planning work, including a second planning phase to tier and operationalize the routes; and

WHEREAS, the analysis found many of the Regional ETRs and their bridges are vulnerable to significant seismic and other hazard risks, such as flooding, landslides and liquefaction; and

WHEREAS, the analysis found the network of Regional ETRs provide adequate connectivity and access to the SSLRs as well as the region's population centers, isolated populations, areas with high concentrations of vulnerable populations, and critical infrastructure and essential facilities of state and regional importance; and

WHEREAS, the report was developed in collaboration with the ETR work group and reflects input from regional committees and elected bodies, such as the Transportation Policy Alternatives Committee (TPAC), the Metro Technical Advisory Committee (MTAC), the Regional Transportation Advisory Committee (RTAC), the County Coordinating Committees, Southwest Washington Regional Transportation Council (SW RTC), the Joint Policy Advisory Committee on Transportation (JPACT), the

Metro Council, and the RDPO Steering and Policy Committees and work groups, including the RDPO emergency management work group; and

WHEREAS, by accepting the report and updated routes, the Metro Council hereby recognizes all routes designated in the report are of state and regional importance during an emergency; and

WHEREAS, by accepting the report and updated routes, the Metro Council further recognizes the value in using the findings and recommendations in this report to inform the recommended second phase of work and ongoing local, regional and state efforts to improve the region's resilience and to develop funding strategies to make these routes more resilient; now therefore,

BE IT RESOLVED THAT:

1. The Metro Council hereby accepts:
 - a. the updated Regional ETRs for the metropolitan planning area (MPA) boundary, as shown in the attached Exhibit A;
 - b. the updated Regional ETRs for the five-county Portland-Vancouver region, as shown in the attached Exhibit B; and
 - c. the findings and recommendations in the Regional Emergency Transportation Routes Update Phase 1 Report, as shown in the attached Exhibit C.
2. The Metro Council hereby directs staff to use the updated Regional ETR maps and report to inform planning, policy and investment priorities in the 2023 Regional Transportation Plan update and ongoing efforts to improve the region's resilience and to develop funding strategies to make these routes more resilient.

ADOPTED by the Metro Council this _____ day of _____, 2021.

Lynn Peterson, Council President

Approved as to Form:

Carrie MacLaren, Metro Attorney

Note:** The Final Phase One Report (Exhibit C) and updated maps (Exhibit A and Exhibit B) were not available for the advance TPAC packet. **The Draft Phase One Report and related maps are provided for reference.

Pending TPAC's recommendation to JPACT, the Regional Emergency Transportation Routes Update Phase One Final Report and updated maps (reflecting the changes recommended in Attachment 1) will be included in April 15 JPACT meeting packet.

Draft Emergency Transportation Routes

Note: Exhibit A and Exhibit B will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.


DRAFT Exhibit A to Resolution No. 21-5160

Regional Emergency Transportation Routes

State Seismic Lifeline Routes

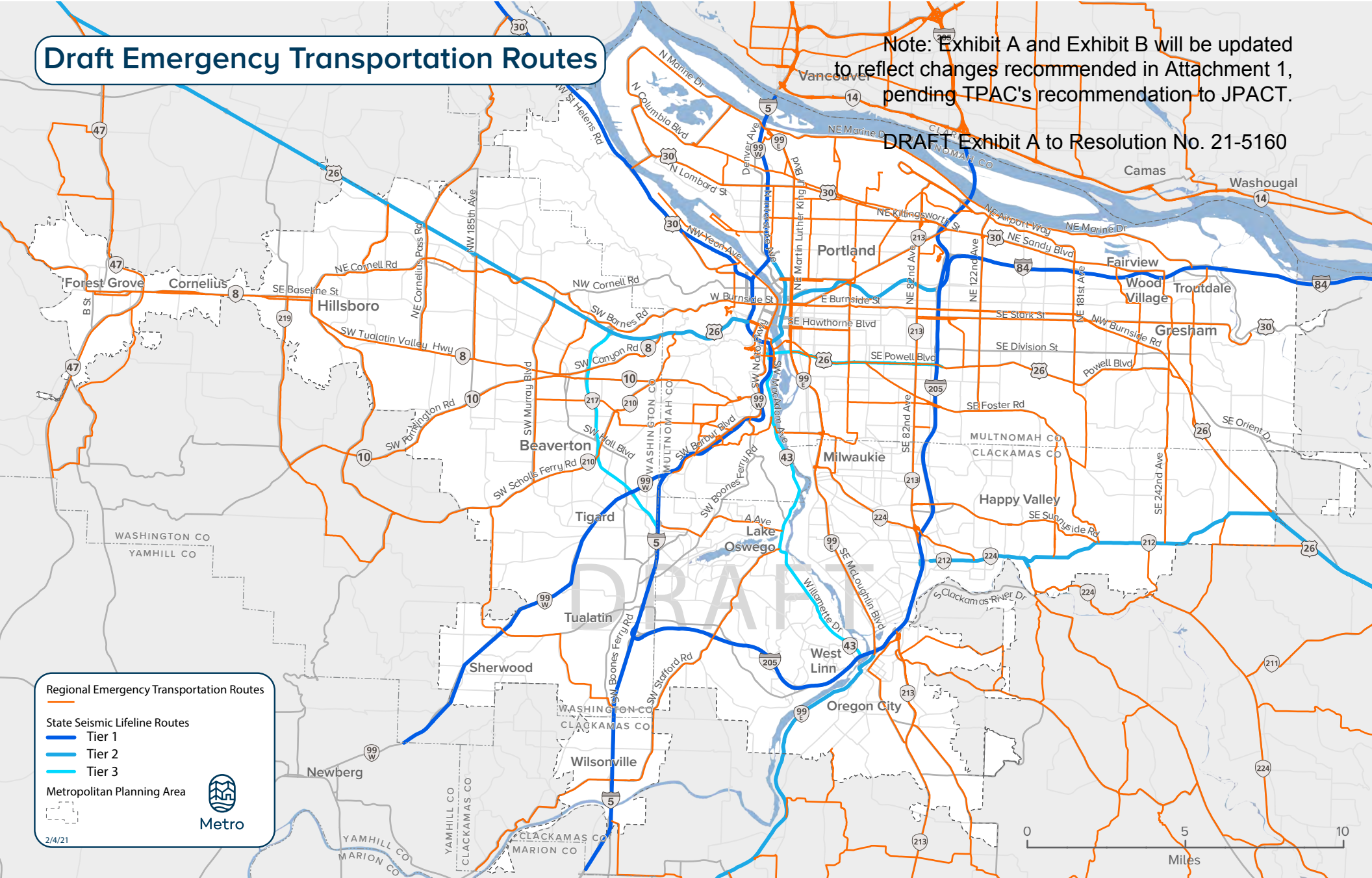
- Tier 1
- Tier 2
- Tier 3

Metropolitan Planning Area



Metro

2/4/21



Note: Exhibit A and Exhibit B will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

DRAFT Exhibit B to Resolution No. 21-5160
2/4/21

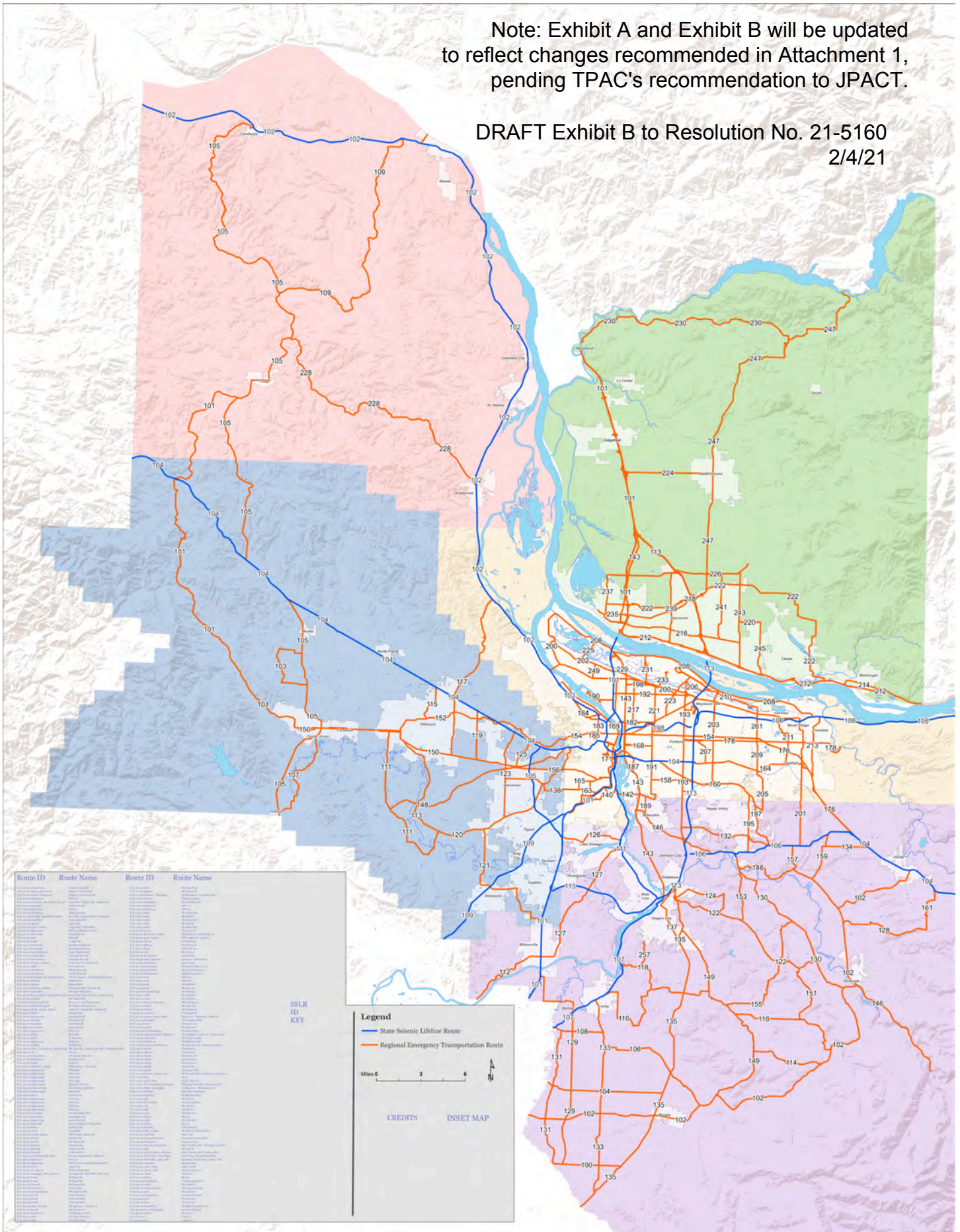


Exhibit C to Resolution No. 21-5160
Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.



DRAFT

Phase I Draft Report

Regional Emergency Transportation Routes Update for the Portland-Vancouver Metropolitan Region in Oregon and Washington

Prepared for



February 4, 2021
154-035-016



DRAFT

Phase 1 Draft Report

Regional Emergency Transportation Routes Update

for the Portland-Vancouver Metropolitan Region in Oregon and Washington

Prepared for
RDPO and
Metro

February 4, 2021
154-035-016

Prepared by
Thuy Tu Consulting, LLC and
Salus Resilience

DRAFT

Allison M. Pyrch, PE, GE
Associate, Geotechnical Engineer



ACKNOWLEDGMENTS

Regional Disaster Preparedness Organization

Denise Barrett

Laura Hanson

Metro

Margi Bradway

Tom Kloster

Kim Ellis

Matthew Hampton

Zac Christensen

Joe Gordon

Consultants

Thuy Tu Consulting

Thuy Tu

Hart Crowser/Salus Resilience

Allison Pyrch

Cascade GIS and Consulting

Erica McCormick

FLO Analytics

Jed Roberts

Ethan Poole

EXECUTIVE SUMMARY

The five-county Portland-Vancouver metropolitan region's infrastructure systems need to be resilient and prepared for multiple natural hazards, including earthquakes, wildfires, landslides, floods, volcanoes, extreme weather events, and the increasing impacts of climate change. Emergency management planning will help mitigate the risks these hazards pose to the public health and safety of communities and the region's economic prosperity and quality of life.

Research and experience demonstrate that climate change and natural hazards have a disproportionate effect on historically marginalized communities, including Black, Indigenous and people of color (BIPOC), people with limited English proficiency, people with low income, youth, seniors, and people with disabilities, who typically have fewer resources and more exposure to environmental hazards, and are, therefore, the most vulnerable to displacement, adverse health effects, job loss, property damage and other effects.

A critical element of emergency preparedness for the region's hazards includes designation of emergency transportation routes (ETRs). First designated in 1996 by the Regional Emergency Management Group (REMG), the region established its first official network of regional ETRs. The last update occurred in 2006, under the direction of the Regional Emergency Management Technical Committee (REMTEC) of the Regional Emergency Management Group (REMG) predecessor to the RDPO.

Over the past 15 years, the region has experienced significant growth and demographic changes and new technology, data and mapping have greatly expanded our understanding of the region's natural hazard risks, particularly to a catastrophic Cascadia Subduction Zone (CSZ) earthquake. During that same period investments were made to improve seismic resilience of some roads and bridges in the region and additional planning was completed by the City of Portland, the five counties and the Oregon Department of Transportation (ODOT) to evaluate seismic risks along state-designated seismic lifeline routes (SSLRs) located in Oregon.



A partnership between the Regional Disaster Preparedness Organization (RDPO) and Metro, this planning effort updated the Regional Emergency Transportation Routes (RETRs) for the five-county Portland-Vancouver metropolitan region. The geographic scope of the effort included Clackamas, Columbia, Multnomah and Washington counties in Oregon and Clark County in Washington.

Regional ETRs are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris- removal.

These routes would be used to move people, resources and materials, such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies. These routes are also expected to have a key role in post-disaster recovery efforts.

rdpo.net/emergency-transportation-routes

The Regional Disaster Preparedness Organization (RDPO) and Metro initiated an update of the regional ETRs (RETRs) with funding from the Urban Areas Security Initiative (UASI). A literature review and other research conducted by the Transportation Research and Education Center (TREC) at PSU in August 2019 served as a foundation, providing a summary of recent work as well as identifying best practices and considerations for updating the RETRs. A consultant team, hired in fall 2019, provided technical support and facilitated the update with the work group, under the direction of project managers from both RDPO and Metro, and oversight from executives at both agencies.

This report presents the results of the two-year collaborative planning effort and recommendations for future work.

Phase 1 Project Scope and Timeline

The geographic scope of the planning effort included Clark County in the State of Washington and Columbia, Clackamas, Multnomah and Washington counties in the State of Oregon. The RDPO established a multi-disciplinary work group of more than thirty representatives from seventeen agencies to provide expertise in emergency management, transportation planning, public works, engineering, operations, ports and public transit.

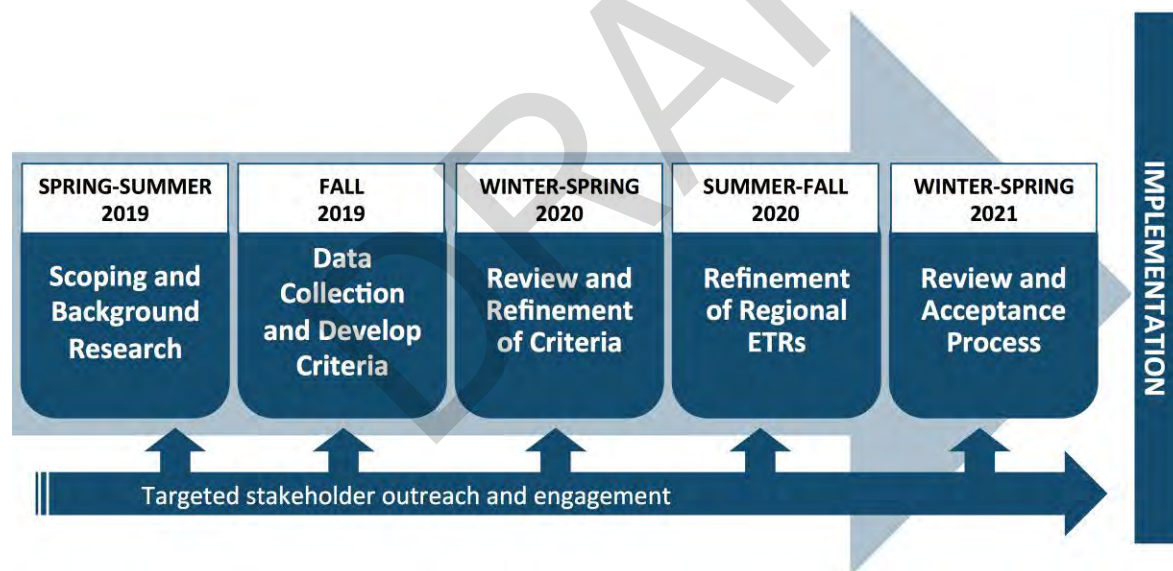


Figure ES.1 Phase 1 Project Timeline

Phase 1 Project Outcomes and Deliverables

This project represents the first phase of a multi-phase update to the regional ETRs. This phase resulted in:

- Multi-disciplinary collaboration of emergency management with transportation planning, engineering and operations, ports, transit and public works stakeholders.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Enhanced visibility of RETRs and improved understanding of their resilience that informed a regional dialogue regarding resilience and recovery among policymakers, senior leadership and planners.
- A regionally-accepted network that provides adequate connectivity to critical infrastructure and essential facilities, as well as the region's population centers and vulnerable communities.
- A comprehensive regional GIS database and online RETR viewer established for current and future planning and operations. The data and on-line viewer provide valuable resources to support transportation resilience, recovery and related initiatives in the region.
- A regionally-accepted set of recommendations for follow-on work to support ongoing local, regional and state efforts to improve the region's resilience.

Engagement of policymakers, planners, and other stakeholders was extensive for this RETR update to better integrate transportation planning with planning for resiliency, recovery, and emergency response, as well as the investments that will be needed to make the region's transportation system more resilient

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Coordination and Consultation

Regional Disaster Preparedness Organization (RDPO)

RDPO Policy Committee

RDPO Steering Committee

REMTEC- Regional Emergency Manager Technical Committee (formerly called REMG)

RDPO ETR Work Group

RDPO Public Works Work Group

Metro

Metro Council

Metro Technical Advisory Committee (MTAC)

Transportation Policy Alternatives Committee (TPAC)

Joint Policy Advisory Committee on Transportation (JPACT)

SW Washington Regional Transportation Council (SW RTC)

Oregon Department of Transportation (ODOT)

Washington Department of Transportation (WSDOT)

Oregon Department of Geology and Mineral Industries (DOGAMI)

Tri-County Metropolitan Transportation District (TriMet)

South Metro Area Regional Transit (SMART)

Clark County Public Transit Benefit Area Authority (C-TRAN)

Ports of Vancouver and Portland

Clark Regional Emergency Services Agency (CRESA)

Cities and Counties (five county region)

ETR Work Group



Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Key Findings from the Analysis



CONNECTIVITY AND ACCESS FINDINGS

The updated routes provide adequate connectivity and access to the routes and regionally-significant critical infrastructure and facilities identified through the process. However, there remain areas with limited alternate routes, areas with higher hazard vulnerability that may require more redundancy, and some areas with higher reliance on state routes. These areas need further attention in future phases. In addition, further study of critical infrastructure and essential facilities will help with operational decisions and future RETR updates, as they are critical in post-disaster response and continuity of life-saving/sustaining services to communities.



ROUTE RESILIENCE FINDINGS

The analysis demonstrates seismic and landslide impacts to roads and bridges will hinder connectivity and access during an emergency. Further planning and investment is needed to seismically strengthen bridges, particularly for crossings of the Columbia and Willamette rivers. Additional analysis that anticipates transportation impacts and closures that may result from a CSZ earthquake, landslide, wildfire and flood hazard risks on RETRs will be beneficial for operational decisions, disaster debris management plans and future updates. Further, an expansive engineering analysis would be necessary to identify roads and bridges at risk and propose specific retrofits to improve their survivability after a severe earthquake.



COMMUNITY AND EQUITY FINDINGS

The updated routes provide adequate connectivity and access to the region's population centers and areas with concentrations of vulnerable populations. However, there are limited alternate routes and transportation services in some rural areas where there is also a higher prevalence of people over 65, people under 18 and low-income households, with fewer travel options.

Measuring social vulnerability is complex. More in-depth equity analysis and community-specific engagement is needed to better understand and address the unique needs of urban and rural communities, particularly potential disproportionate impacts and the needs of vulnerable populations. This can help identify potential areas of concern and inform the best approaches to enhance connectivity and access, while ensuring equitable outcomes in emergencies.

BY THE NUMBERS

[insert TBD three summary infographics on the routes]

XX miles of routes are designated

XX miles new routes were designated

X% of critical infrastructure and essential facilities connected

Add regional map of the updated routes (SSLRs and RETRs)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Conclusions and Next Steps

The regional emergency transportation routes play an important role in the region's resilience and ability to respond to multiple hazards, particularly to a catastrophic CSZ earthquake. The data set and on-line RETR viewer produced in this effort will be distributed to emergency managers and transportation planners throughout the region for use in future planning and during disaster response and the early recovery period. Coordinated planning can inform emergency transportation response planning and set the stage for agencies to seek funding for improvements to increase route resiliency to accelerate response and recovery times within the region.

Section 8 of the report outlines a set of necessary follow-on work raised during the course of this planning effort, but which the current project could not meaningfully address. The recommendations are summarized below, including a Phase 2 project led by RDPO and Metro (pending funding from the Urban Areas Security Initiative) to address recommendations 2, 3, 4 and 6. Additional resources are needed to advance the full list of recommendations for future work.

	Recommendation	Level	Lead / Key Partners
1	Integrate RETRs into other planning and investment decision-making processes	State, Regional, and Local	Various
2	Prioritize or tier the regional ETRs	Regional	RDPO & Metro (RETR Phase 2)
3	Develop RETR management plans to include: RETR operations in an emergency, evaluation of specific hazard events, maintenance and coordination between jurisdictions, and transition to recovery	Local with regional facilitation	Local jurisdictions with facilitation by RDPO & Metro (RETR Phase 2)
4	Better address vulnerable populations	Regional and Local	RDPO & Metro (RETR Phase 2 and Social vulnerability Tool (SVT))
5	Integrate RETR and LETRs into evacuation planning	Local and regional	TBD
6	Formalize the RETRs and agree to a plan for consistent updates	Regional	RDPO & Metro (RETR Phase 2)
7	Engineering evaluation of top priority routes for seismic upgrades	Local and regional	TBD
8	Evaluate river routes	Regional/State	Ports and Coast Guard, State Resilience Office
9	Develop equity-centered public messaging for transportation in emergencies	Regional	RDPO Public Messaging TF
10	Evaluate bike and pedestrian options for emergency transportation	Local	Various

This report was developed and is being released at a time when the Portland-Vancouver region — along with the rest of the world — is confronting a different kind of disaster in the response to COVID-19. The region (and Oregon) also experienced devastating wildfires in September 2020 as this work was underway, underscoring the need to be prepared and resilient. The alignment of these circumstances has provided an opportunity to reflect on how the current public health and economic disruption, and the 2020 wildfires are both like and unlike the kind of disruption that may occur at a regional scale following a CSZ event.

Contents

1.0 INTRODUCTION	1
1.1 Purpose and Outcomes	2
1.1.1 Project Purpose	2
1.1.2 Regional ETR Project Update Purpose	2
1.1.3 Key Project Deliverables	3
1.1.4 Process and Timeline	4
1.2 Document Contents	4
2.0 STAKEHOLDER ENGAGEMENT PROCESS	5
2.1 Introduction	5
2.2 Project Timeline and Process	6
2.3 Stakeholder Engagement Overview	6
2.3.1 Summary of Key Engagement Activities | 2019 to 2021	7
2.3.2 Agency and Jurisdictional Outreach and Coordination	7
2.3.3 Community Engagement	8
2.3.4 Public Information	9
3.0 BACKGROUND AND HISTORY	9
3.1 History of RETRs	9
3.2 Summary of Portland State University Research	11
3.3 ODOT and Local Government Document Review	12
3.3.1 Statewide Seismic Lifeline Routes Review	12
3.3.2 ODOT and County Seismic Lifeline Bridge Detour Reports	12
3.3.3 City of Portland Transportation Recovery Plan	13
4.0 OVERVIEW OF KEY CONCEPTS AND ETR DEVELOPMENT METHODOLOGY	13
4.1 Key Concepts and Definitions	13
4.1.1 Define ETRs	13
4.1.2 Define Critical Facilities and Essential Facilities	13
4.2 Data Compilation	17
4.3 Develop Evaluation Framework for RETR Designation	18
4.4 Evaluate Potential ETRs	18
4.4.1 Connectivity and Access Factors	19
4.4.2 Route Resilience Factors	20
4.4.3 Community and Equity Factors	20
4.4.4 Route Characteristics	20

5.0 DATA COLLECTION AND ANALYSES	21
5.1 Data Collection	21
5.2 Data Compilation	21
5.2.1 RETR Network Development	21
5.2.2 Compiling Essential Facilities and Critical Infrastructure Data	22
5.2.3 Compiling Natural Hazard Data	22
5.2.4 Compiling Population and Demographic Data	22
6.0 ANALYSIS RESULTS AND RECOMMENDATIONS	23
6.1 Analysis Discussion	23
6.2 Route Naming Convention	23
6.3 Analysis Results	24
6.3.1 Assessment of Route Connectivity	24
6.3.2 Assessment of Route Resilience	35
6.3.3 Assessment of Community and Equity	45
6.4 RETR Update Key Findings	58
6.4.1 Overall Findings	58
6.4.2 Connectivity and Access Findings	59
6.4.3 Route Resilience Findings	59
6.4.4 Community and Equity Findings	60
7.0 FINAL UPDATED ROUTE SUMMARY	60
8.0 ANTICIPATED APPLICATIONS AND RECOMMENDATIONS FOR FUTURE WORK	61
8.1 Integration of ETR Work in Planning (Ongoing – Continuous)	62
8.2 Project Second Phase: Prioritizing, Operational Planning, and Formalizing the RETRs (Near Term – Next 1 to 5 Years)	65
8.3 Additional Follow-On Work to Advance Emergency Transportation Plans and Resilience (Longer-Term – 5 to 10 Years)	70
REFERENCES	72
GLOSSARY OF TERMS	75
ACRONYMS	79

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

FIGURES

Figure 1.1: Key Project Deliverables.....	3
Figure 1.2: Process and Timeline for RETR Update Project.....	4
Figure 2.1: Timeline for Updating Regional Emergency Transportation Routes.....	6
Figure 3.1: Evolution of RETRs.....	10
Figure 4.1: Emergency Transportation Route Tiers.....	15
Figure 4.2: STRAHNET, SSLR and RETRs in the Portland-Vancouver Metropolitan Region.....	16
Figure 4.3: Summary of RETR Evaluation Framework Factors.....	19
Figure 6.1. STRAHNET, RETRs, SSLRs Relative to City Limits, UGBs and UGAs.....	25
Figure 6.2. RETRs Relative to Population Density.....	27
Figure 6.3. RETRs relative to City Limits ,Urban Growth Boundaries and Urban Growth Areas.....	28
Figure 6.4. RETRs relative to State/Regional Critical Infrastructure.....	30
Figure 6.5. RETRs relative to State/Regional Essential Facilities.....	31
Figure 6.6. RETRs relative to City/County Critical Infrastructure.....	32
Figure 6.7. RETRs relative to City/County Essential Facilities.....	33
Figure 6.8. RETRs relative to Community/Neighborhood Essential Facilities.....	34
Figure 6.9. RETRs and SSLRs in relation to Liquefaction Hazard.....	36
Figure 6.10. RETRS in relation to Seismically Vulnerable Bridges.....	38
Figure 6.11. RETRs relative to Community/Neighborhood Essential Facilities.....	40
Figure 6.12. RETRS and SSLRS in relation to Potential Debris.....	42
Figure 6.13. RETRs in relation to FEMA Flood Hazards Zones.....	44
Figure 6.14. RETRs and SSLRs relative to People of Color.....	47
Figure 6.15. RETRs and SSLRs relative to People Under the Age of 18.....	48
Figure 6.16. RETRs and SSLRs relative to People Over the Age of 65.....	49
Figure 6.17. RETRs and SSLRs relative to Households with No Vehicle.....	50
Figure 6.18. RETRs and SSLRs relative to People with Limited English Proficiency.....	51
Figure 6.19. RETRs and SSLRs relative to People with Low Income.....	52
Figure 6.20. RETRs and SSLRs Relative to Equity Focus Areas.....	54
Figure 6.21. RETRs Relative to Equity Focus Areas Above the 5-County Density Rate.....	56
Figure 6.22. Areas of Vulnerable Populations with High Density Screen.....	57

TABLES

4.1 Critical Infrastructure and Essential Facilities	14
6.1 ETR IDs for RETRs and SSLRs	Attached
6.2 Connectivity to Critical Infrastructure and Essential Facilities	Attached
6.3 RETRs Subject to Liquefaction Hazards	Attached
6.4 Bridge Vulnerabilities on RETRs and SSLRs	Attached
6.5 RETRs with Significant Landslide Risk	Attached
6.6 RETRs with Flood Risk	Attached
6.7 Vulnerable Population Definitions and Data Sources	45
8.1 Summary of Recommendations	61
8.2 Other State, Regional, and Local Plans that Connect to the RETR Update Project	62

APPENDIX A

Emergency Transportation Routes Work Group (ETRG) Members

APPENDIX B

Stakeholder Engagement Process

APPENDIX C

TREC at PSU Metropolitan Regional ETR Report

APPENDIX D

Chapter 6 - 2012 ODOT Seismic Lifeline Vulnerability Synthesis and Identification Report

APPENDIX E

GIS Methodology Report (FLO)

APPENDIX F

Large Format Maps (not included in Draft)

DRAFT

Phase 1 Draft Report

Regional Emergency Transportation Routes Update

for the Portland-Vancouver Metropolitan Region in for the Portland-Vancouver Metropolitan Region in Oregon and Washington

1.0 INTRODUCTION

In 2019, the Regional Disaster Preparedness Organization (RDPO), in partnership with Metro, contracted the Thuy Tu Consulting Team, consisting of Thuy Tu Consulting, LLC; Salus Resilience; Cascade GIS & Consulting, LLC; and FLO Analytics to update the designated Regional Emergency Transportation Routes (RETRs) for the five-county Portland-Vancouver metropolitan region. The approximately 4,440-square mile study area consists of Clackamas, Columbia, Multnomah, and Washington counties in Oregon as well as Clark County in Washington. The last update occurred in 2006¹ under the Regional Emergency Management Technical Committee (REMTEC) of the Regional Emergency Management Group (REMG) predecessor to the RDPO.

For this RETR update effort, the project team assembled data, input, and participation from agencies within the region; established a methodology and evaluation factors; and developed a process and proposed evaluation framework to update the existing RETRs. This first phase establishes an agreed upon updated and cataloged network of RETRs, a comprehensive dataset for use in future planning and update efforts, and an evaluation that will aid future phases of work. A second phase of the project will enable the agencies within RDPO to regionally prioritize and operationalize the RETRs for an emergency response to a Cascadia Subduction Zone (CSZ) level event or other regional emergency.

Coordinated planning and prioritization can then to inform emergency transportation response planning and set the stage for agencies to seek funding for improvements to increase route resiliency to accelerate response and recovery times within the region. Although this effort is primarily focused on updating the RETRs for emergency response immediately following a large seismic event, considerations for other natural hazards, such as flooding, landslide, and severe weather, have been incorporated into the data set and project recommendations for future consideration, including work to support all hazard transportation recovery planning.

¹ REMG was created in 1993 through an intergovernmental agreement between the five counties, City of Portland, Metro, and 15 other jurisdictions in the Portland Metropolitan Region and consisted of a technical committee (REMTEC), and a policy committee of elected leaders (REMPAC). The mission was focused on information-sharing and networking among public and private sector emergency managers and advancing projects like the ETR project. REMTEC reported to REMPAC (elected leaders representing member jurisdictions) about opportunities for and the status of their regional collaborative efforts. The RDPO absorbed REMTEC into its structure, as well as the work groups of the then UASI program structure, and created new Steering and Policy Committees when its IGA was fully executed in early 2015.

1.1 Purpose and Outcomes

1.1.1 Project Purpose

This report presents the results of a 2-year regional project led by the RDPO and Metro to update RETRs in the five-county Portland-Vancouver metropolitan region. The geographic scope of the planning effort included Clark County in the state of Washington, and Columbia, Clackamas, Multnomah and Washington Counties in the state of Oregon.

1.1.2 Regional ETR Project Update Purpose

The regional ETR update project (2019-2021) built upon an existing network of regional Emergency Transportation Routes (ETRs) designated in 1996 and updated in 2006. The project accounted for multiple natural hazard risks and incorporated updated natural hazard risk analyses, such as the Oregon Department of Geology and Mineral Industries (DOGAMI) Enhanced Earthquake Impact Analysis (2018-2020) and more recent planning work by the City of Portland, the five counties, and the Oregon Department of Transportation (ODOT) to evaluate seismic risks along state-designated seismic lifeline routes (SSLRs) located in Oregon. The project also accounted for seismic updates to infrastructure within the region since 2006, such as the seismically resilient Sellwood and Tilikum Crossing bridges. **The project resulted in an expanded network of regionally-designated surface transportation routes that connects the region's most critical infrastructure and essential facilities, population centers and most vulnerable communities in the event of an emergency.**

The RETR update project report is not:

- An engineering evaluation
- A cost benefit analysis
- A capital investment plan
- A publicly reviewed plan
- A multi-modal study
- An operational plan or guideline

This planning effort was supported by the ETR work group (EWRG), a multi-disciplinary team of more than 30 local, regional, and state emergency management, transportation planning, engineering, and operations and public works staff from 17 agencies within the five counties. The EWRG provided input on the project scope and deliverables and helped to coordinate and solicit input on key deliverables from stakeholders in their respective jurisdictions. The members of this work group are listed in Appendix A.

Project Outcomes

1. Multi-disciplinary collaboration of emergency management with transportation planning, engineering, and operations, ports, transit and public works stakeholders.
2. Enhanced visibility of regional ETRs and improved understanding of their resilience that informed a regional dialogue regarding resilience and recovery among policymakers, senior leadership, and planners in the region.
3. A regionally-accepted network of updated RETRs that provides adequate connectivity to critical infrastructure and essential facilities as well as the region's population centers and vulnerable communities.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

4. A comprehensive Geographical Information System (GIS) database and on-line RETR viewer established for future planning and operations. The data and on-line viewer provide valuable resources to support transportation resilience, recovery and related initiatives in the region .
5. A regionally-accepted set of recommendations for follow-on work to support ongoing local, regional and state efforts to improve the region's resilience.

1.1.3 Key Project Deliverables

As guided by the EWRG, the key deliverables of this first phase of the RETR update project include the following:

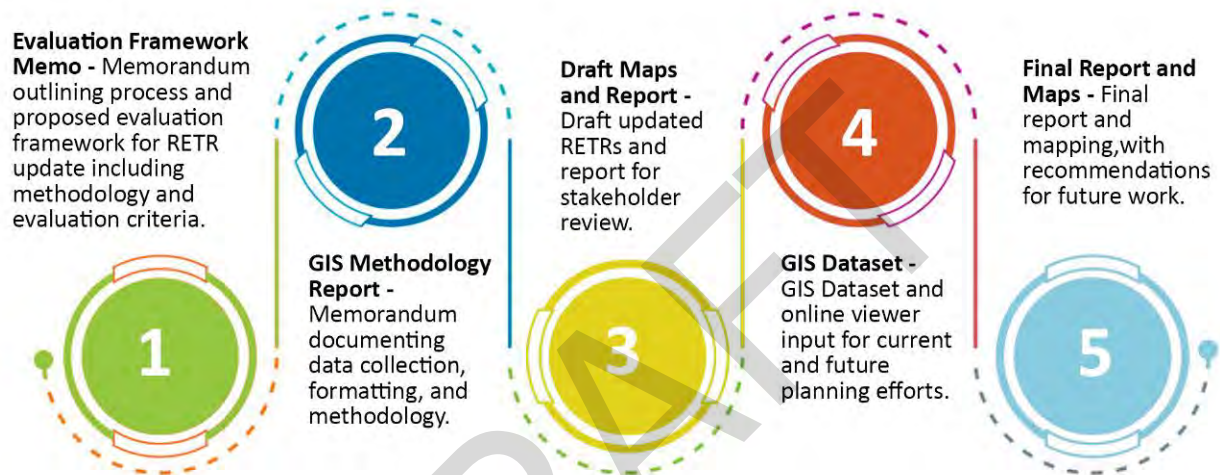


Figure 1.1: Key Project Deliverables

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

1.1.4 Process and Timeline

The project team established the following process and timeline for updating the RETRs.

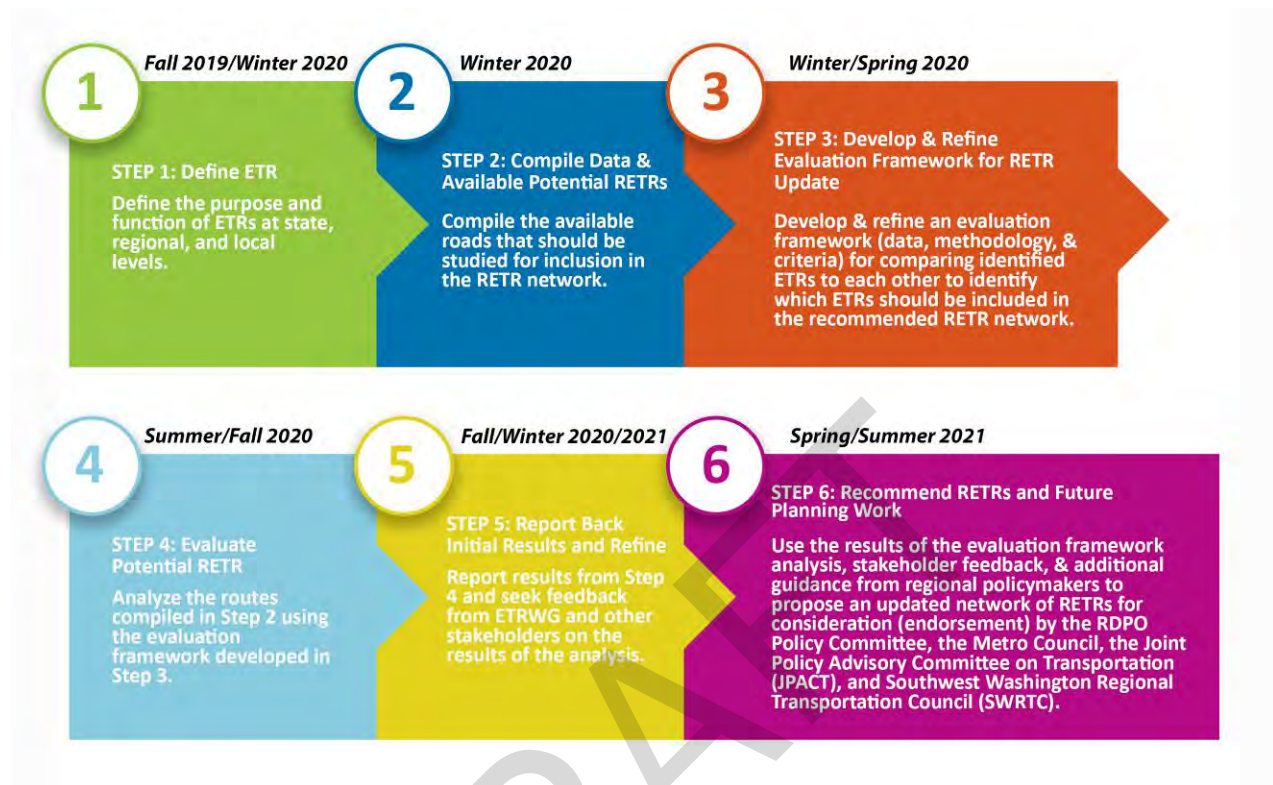


Figure 1.2: Process and Timeline for RETR Update Project

1.2 Document Contents

- **Section 1** provides the introduction, purpose, and project outcomes with key deliverable and approach.
- **Section 2** provides the background and history of regional ETRs and the summary of a Portland State University (PSU) memorandum on best practices for emergency transportation route designations developed in 2019.
- **Section 3** provides an overview of key concepts and the ETR development methodology. Definitions are provided for ETRs, critical infrastructure, and essential facilities. The process included compiling data and available potential RETR routes; developing the evaluation framework for RETR designation; and evaluating the potential RETRs based on route connectivity and access, route resiliency, and community and equity.
- **Section 4** provides a brief summary of data collection, data analysis methods, and mapping components for the project.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- **Section 5** provides analysis results, considerations and assessments of route connectivity, and route resilience and community and equity implications. A discussion on debris management, route redundancy, highlighted routes with significant resilience issues, and routes to be refined at a later date is also provided in this section.
- **Section 6** provides the final updated route summary.
- **Section 7** outlines the anticipated applications and recommendations for future planning work.

2.0 STAKEHOLDER ENGAGEMENT PROCESS

2.1 Introduction

A partnership of the Regional Disaster Preparedness Organization (RDPO) and Metro, the Regional Emergency Transportation Routes (RETRs) update resulted in an update to the regional ETR designations for the five-county Portland-Vancouver region, which includes Clackamas, Columbia, Multnomah and Washington counties in Oregon and Clark County in Washington. The last update occurred in 2006.

A project management team comprised of RDPO and Metro project managers provided day-to-day oversight of the project and management of the consultant team. A project executive team comprised of RDPO and Metro management provided strategic policy guidance and support to the project management team.

The ETR working group—a multi-disciplinary team of more than 30 local, regional, and state emergency management, transportation planning and public works staff from 17 agencies—supported the planning effort. The working group provided input on the project deliverables and helped to solicit input on key deliverables from stakeholders in their respective jurisdictions.

The planning effort evaluated existing and potential routes across a range of connectivity, resilience and equity factors to recommend an updated set of designated regional ETRs that:

- Connect to Statewide Lifeline Routes in Oregon
- Provide connectivity and access to state and regional critical facilities and essential destinations within and across the five-county region



A partnership between the Regional Disaster Preparedness Organization (RDPO) and Metro, this planning effort updated the Regional Emergency Transportation Routes (RETRs) for the five-county Portland-Vancouver metropolitan region. The geographic scope of the effort included Clackamas, Columbia, Multnomah and Washington counties in Oregon and Clark County in Washington. Regional ETRs are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-clearance. These routes would be used to move people, resources and materials, such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies. These routes are also expected to have a key role in post-disaster recovery efforts.

rdpo.net/emergency-transportation-routes

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Provide connectivity and access to the region's population centers and most vulnerable communities

The planning effort also developed a database of readily available geospatial data and identified recommendations for future planning work. The database is expected to be a valuable resource for coordination with stakeholders for ongoing state, regional, and local emergency response planning and resilience efforts as well as development of local and regional transportation plans and capital improvement programs. Coordinated planning can help set the stage for agencies and the region to seek funding for improvements to increase route resiliency to decrease response and recovery times within the region.

2.2 Project Timeline and Process

The overall project timeline is provided in **Figure 2-1**.

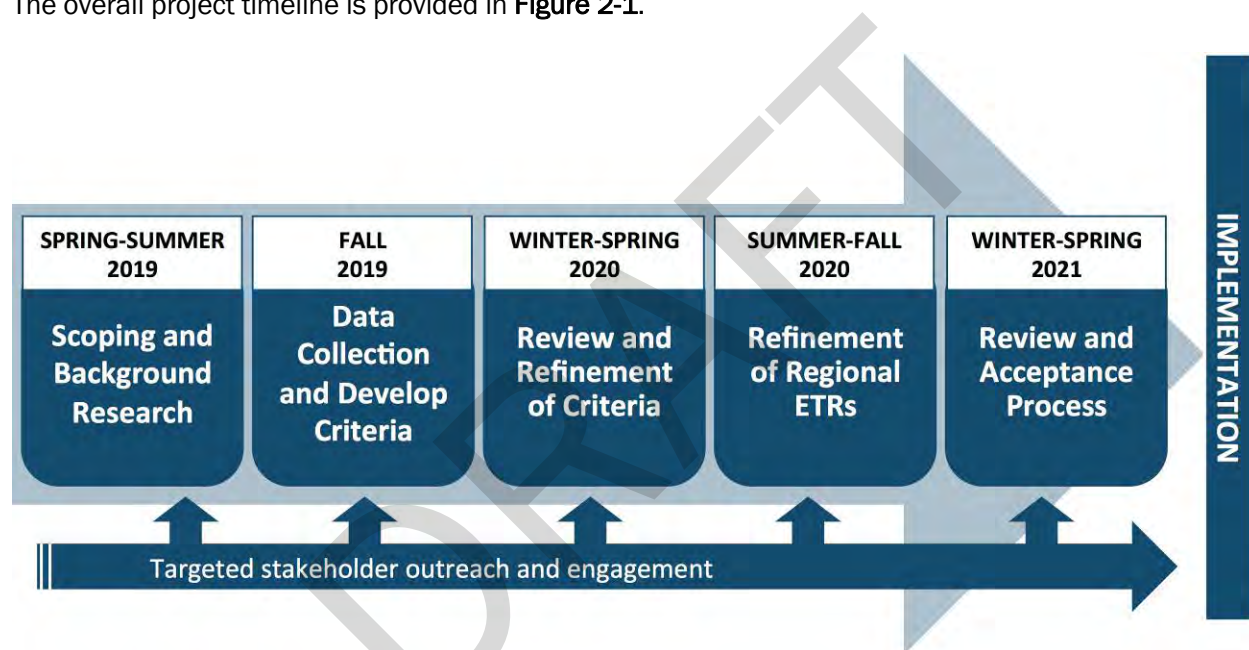


Figure 2.1: Timeline for Updating Regional Emergency Transportation Routes

Technical work and engagement of policymakers, planners and other stakeholders was more extensive for this RETR update to better integrate transportation planning with planning for resiliency, recovery and emergency response as well as the investments that will be needed to make the region's transportation system more resilient.

2.3 Stakeholder Engagement Overview

The RDPO and Metro developed a focused stakeholder engagement plan with the ETR work group that aimed to:

- Communicate complete, accurate, understandable, and timely information to the regional stakeholders throughout the project.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Actively seek stakeholder input prior to key milestones during the project and share with Metro Council and RDPO Steering and Policy committees in a manner that supports the decision-making and acceptance process.
- Build broad stakeholder support for project outcomes.
- Provide meaningful opportunities for input from policymakers and key stakeholders.

2.3.1 Summary of Key Engagement Activities | 2019 to 2021

The stakeholder engagement plan guided the strategic direction, approach and desired outcomes for sharing information with and seeking input from local, regional and state partners and relevant transportation, emergency management, and public works stakeholders throughout the process.

The engagement plan relied on existing RDPO and Metro technical and policy committees and working groups (including the ETR work group that was formed to advise on this project) as well as briefings to county coordinating committees to engage individual cities within each county in a coordinated manner.

A summary of activities in 2019 and 2020 is provided below (2021 engagement will be added to the final report):

- 7 Regional ETR work group meetings (2019-2020)
- 2 TPAC/MTAC workshops (2019-2020)
- 1 community leaders' forum (2019)
- 10 county-level coordinating committee meetings (2020)
- 3 county-level coordinating committee meetings (2020)
- 8 jurisdictional specific meetings to review draft maps (2020)
- 3 REMTEC briefings (2019-2020)
- 2 Public Works work group briefings (2020)
- 3 RDPO Steering Committee briefings (2019-2020)
- 1 Joint Policy Advisory Committee on Transportation briefing (2019)
- 1 Metro Council briefing (2020)
- 1 Southwest Washington Regional Transportation Council briefing (2020)

2.3.2 Agency and Jurisdictional Outreach and Coordination

RDPO and Metro staff engaged and consulted with cities, counties and agencies with focused outreach and communication efforts to address specific needs of each agency or jurisdiction and facilitated collaboration and coordination among the agencies and jurisdictions in the process. Throughout the process, staff engaged, consulted and coordinated with:

- Transportation, emergency management, and public works departments of each of the five counties and the City of Portland (via the RDPO's working groups for these disciplines)
- Oregon Department of Transportation (ODOT)
- Washington Department of Transportation (WSDOT)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Oregon Department of Geologic and Mineral Industries (DOGAMI)
- Transit providers, including TriMet, SMART, and C-TRAN
- Port of Vancouver
- Port of Portland
- Cities within each of the five counties (through RDPO working groups, Metro advisory committees, jurisdiction specific meetings, and county coordinating committee meetings)
- Clark Regional Emergency Services Agency (CRESA)

The team convened seven ETR work group meetings and two joint MTAC/TPAC workshops in 2019 and 2020. The project team engaged the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT), standing County Coordinating Committees (as well as their technical advisory committees), Southwest Washington Regional Transportation Council (SW RTC), and Southwest Washington Regional Transportation Advisory Committee (RTAC).

The RDPO working groups of REMTEC, which includes representatives from electric and natural gas utilities and Public Works (which includes the Regional Water Provider's Consortium), were engaged and consulted as key stakeholders due to their roles in emergency response and/or critical infrastructure and social services for vulnerable populations.

In March 2020, the COVID-19 emergency declaration and response prompted Emergency Operations Centers (EOCs) to activate region-wide and forced cancellation of in-person meetings throughout Oregon and Washington for the remainder of the project. As a result, most engagement activities in 2020 occurred online using virtual meeting platforms.

2.3.3 Community Engagement

On August 2, 2019, Metro hosted a community leaders' technical briefing and discussion, bringing together community leaders focused on social equity, environmental justice, labor fairness and community engagement. Invitees included community representatives on Metro Policy Advisory Committee (MPAC), Metro's Committee on Racial Equity (CORE), Metro's Public Engagement Review Committee (PERC), Metro Technical Advisory Committee (MTAC) and Metro's Transportation Policy Alternatives Committee (TPAC), as well as previous participants in 2018 Regional Transportation Plan (RTP) regional leadership forums and those involved in discussions about an affordable housing measure. More than 100 community leaders were invited, and approximately 20 leaders participated. The regional ETR update was one of three planning efforts community leaders were asked to provide feedback on.

Organizations who participated in the Community Leaders' Forum:

- Woodlawn Neighborhood Association
- Urban League
- Sullivan's Gulch Neighborhood
- Asian Pacific American Network of Oregon (APANO)
- Immigrant and Refugee Community Organization (IRCO)
- Portland African American Leadership Forum (PAALF)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Willamette Falls Trust
- Proud Ground
- The Street Trust
- 1000 Friends of Oregon
- Transportation for America
- Verde
- Central City Concern
- East Portland Action Plan
- Safe Routes to School Partnership

Appendix B contains a summary of the discussion.

2.3.4 Public Information

Information on the progression of the project was communicated through a project website (<https://rdpo.net/emergency-transportation-routes>), project factsheets, and ongoing agency and jurisdictional outreach.

Appendix B includes a summary of key engagement and consultation activities from 2019 to 2021, which includes agency and jurisdictional outreach and coordination, community engagement, public information, decision-making processes and endorsements. **Section 8** outlines the recommendations for future planning and engagement work.

3.0 BACKGROUND AND HISTORY

3.1 History of RETRs

First designated in 1996 by REMG, the current RETRs are priority routes targeted for rapid damage assessment and debris removal during an emergency to facilitate life-saving and life-sustaining response activities. They were established in a memorandum of understanding (MOU) between the ODOT; WSDOT; the Port of Portland; Clackamas, Columbia, Multnomah, and Washington counties; and the City of Portland in 2006. The route changes are shown below in Figure 3.1.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

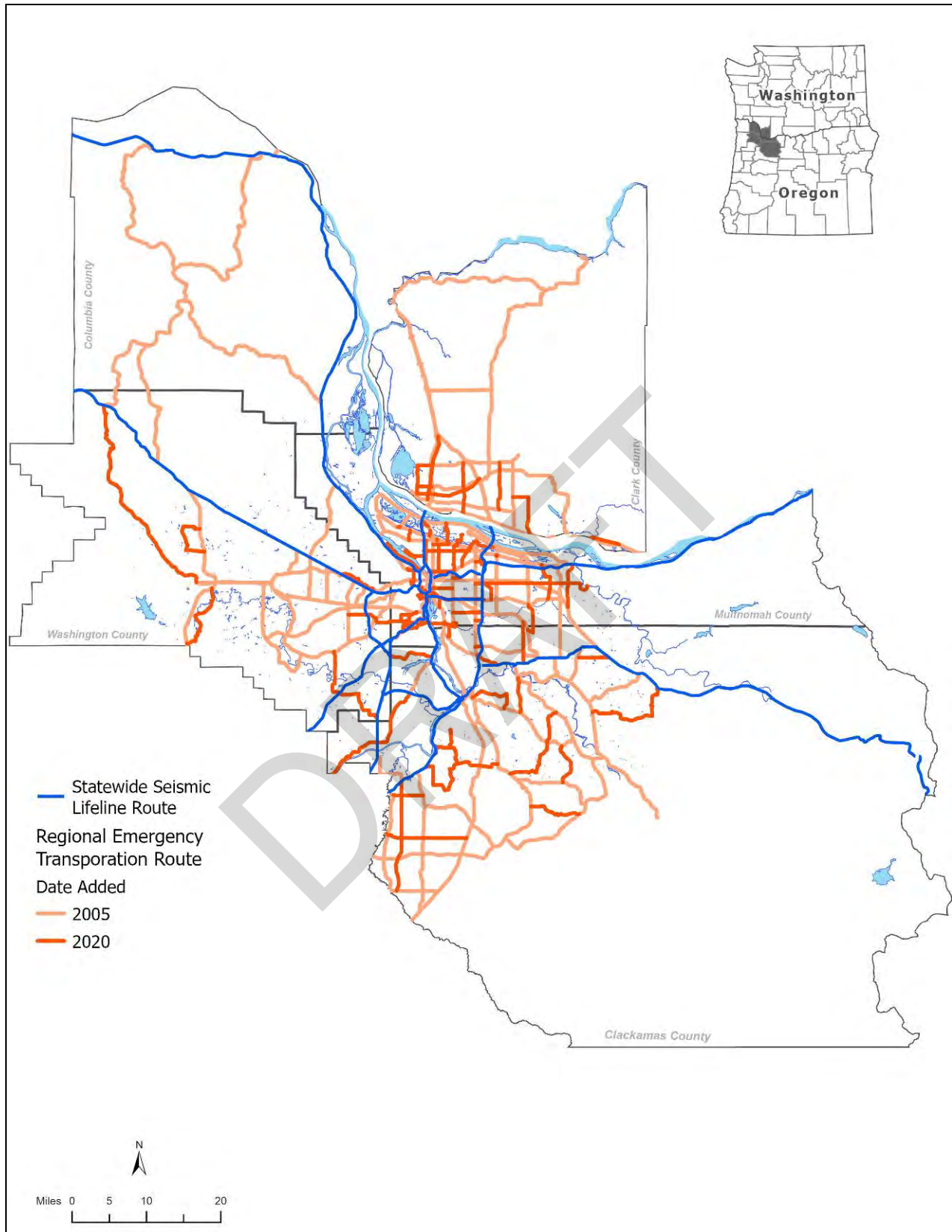


Figure 3.1. Evolution of RETRs

Since 2006, the region has experienced significant growth and demographic changes and new technology, data, and mapping have greatly expanded our understanding of the effects of seismic hazards in the region. The project considered these population trends and better-defined risks, as well as priorities for emergency response. Priorities for emergency response include debris removal and transport of first responders (e.g., police, fire, public works, emergency medical services), fuel, essential supplies, debris, and patients, and access to critical facilities and services, especially for vulnerable populations.

This RETR project delivers an updated RETR map and data in GIS platform, a list of ETR corridors, and accompanying report, and recommendations for use by state, regional, and local entities in future planning for resiliency, recovery and emergency response.

For the purposes of this project, the RETRs were primarily evaluated using a seismic lens (including landslide risk), specifically for a CSZ level event. The evaluation considered other hazards, such as flooding and landslides,; however, due to the limited scope and budget of this project, a future project that includes a more detailed evaluation of these and other hazards, such as wildfire, severe weather, and climate change, has been recommended in *Section 7 Anticipated Applications and Recommendations for Future Work* of this report.

3.2 Summary of Portland State University Research

A background research report developed by the Transportation Research and Education Center (TREC) at PSU in August 2019 provides a summary of best practices and considerations for updating the RETRs in the Portland-Vancouver metropolitan region. That report is included in this report as Appendix C. The authors reviewed local, regional, and statewide technical documents and reports authored by various planning, policy, and emergency management agencies. They also solicited feedback from representatives at the City of Portland Bureau of Transportation (PBOT) and ODOT, as well as Multnomah, Washington, Clackamas, Columbia and Clark counties. These documents are included in the appendix of the report, their publication date, agency, and how ETRs are defined within the document and their context on emergency transportation is outlined in the review summary.

Based on the PSU research, four types of ETRs were discussed in local, regional, and statewide planning, engineering, and emergency management documents. Among all the documents reviewed, the majority of the documents identified transportation as crucial to recovery after a disaster. Some pointed out that routes may be impassable following an event, and others discussed the use of evacuation routes in the event of an emergency; however, none established criteria or processes for identifying ETRs at the local or regional level. The background provided in this report acted as the foundation for the development of our update methodology outlined in *Section 3.0 Overview of Key Concepts and ETR Development Methodology*.

3.3 ODOT and Local Government Document Review

3.3.1 Statewide Seismic Lifeline Routes Review

The team reviewed the ODOT Seismic Lifelines Evaluation, Vulnerability Synthesis, and Identification report dated May 2012 and subsequent Seismic Plus report (2014). This report identified three main goals of lifeline routes.

1. Support survivability and emergency response efforts immediately following event
2. Provide transportation to facilities that are critical to life support functions for interim period following event
3. Support statewide economic recovery

The reports establish a three-tier system for prioritizing retrofits of lifeline segments, with the most critical linkages necessary to serve the greatest number of residents at the lowest investment of time and money get top priority. Links to the reports are provided below, and Section 6 of the report outlining ODOT's Statewide Seismic Lifeline Routes is provided in Appendix D. which includes tier definitions and a map of Tier 1, 2, 3 routes.

<https://www.oregon.gov/ODOT/Planning/Documents/Seismic-Lifelines-Evaluation-Vulnerability-Synthese-Identification.pdf>

https://www.oregon.gov/ODOT/Bridge/Docs_Seismic/Seismic-Plus-Report_2014.pdf

3.3.2 ODOT and County Seismic Lifeline Bridge Detour Reports

In 2018, ODOT requested that each county in western Oregon develop recommendation for local alternate routes that could serve as detours to SSLRs (defined in *Section 3.1.2 Define Critical Facilities and Essential Facilities*) that have seismically vulnerable bridges. The goal was to evaluate potentially more resilient bridges or routes with bridges that would be more cost-effective to retrofit or replace than retrofitting or replacing seismically-vulnerable bridges on the statewide seismic lifeline routes. Multnomah, Clackamas, and Washington counties completed this review concurrent with the RETR update.

Each county convened a work group that included ODOT and the cities in their respective county to complete this work. While the overall approach, stakeholder engagement and level of analysis varied in each county, each county considered unstable slopes, liquefaction, and landslide susceptibility in their evaluation of ETRs. Clackamas County used this work to update and prioritize their County's ETRs considering hazard data as well as populated areas, isolated populations and locations of critical infrastructure and essential facilities. Washington County used this work as an opportunity to update their County ETRs, similar to Clackamas County, but did not prioritize their routes. Multnomah County limited their focus to the SSLRs, considering unstable slopes and landslide susceptibility and did not review their County ETRs more broadly to identify potential updates, considering populated areas and locations of critical facilities. Recommendations for seismic detour routes from each county were shared with the RETR project team and have been included in the updated RETRs.

3.3.3 City of Portland Transportation Recovery Plan

In addition to the three ODOT/County seismic lifeline bridge detour reports, the City of Portland developed a Transportation Recovery Plan in 2018. Development of the plan included a review of ETRs and critical infrastructure and facilities in the City of Portland. The Plan identified several recommendations that have been included in the updated Regional ETRs, including the addition of:

- New and/or improved transportation facilities (such as the new Sellwood Bridge and the Tilikum Crossing)
- Routes that provide access to the Oregon Health Sciences University (OHSU) campus, TriMet's Center Street, Merlo and Columbia Boulevard bus garages.

4.0 OVERVIEW OF KEY CONCEPTS AND ETR DEVELOPMENT METHODOLOGY

4.1 Key Concepts and Definitions

4.1.1 Define ETRs

The first step in developing our methodology was to develop specific definitions of ETRs based on the PSU/TREC research included in Appendix C, on local, regional, and state ETRs planned in the region; best practices from other states and British Columbia, Canada; and discussions with the RDPO EWRG and other stakeholders. The results of this research and stakeholder discussions indicate that the levels and types of ETRs planned within the region have not been consistently defined to date and often overlap. To establish a common definition in the region, **an ETR is defined as a route used during and after a major regional emergency or disaster to transport emergency resources and materials, including essential supplies, debris, equipment, patients, and personnel.** It is recognized these routes will also play an important role as the region transitions from emergency response to recovery in the short- and long-term. Section 3.1 .2 distinguished between five tiers of ETRs and their role in an emergency,

Emergency Transportation Route (ETR):

Routes used during and after a major regional emergency or disaster to transport resources and materials including first responders (e.g., police, fire and emergency medical services), fuel, essential supplies, debris, equipment, patients and personnel.

4.1.2 Define Critical Facilities and Essential Facilities

Critical infrastructure and essential facilities are grouped into three categories: State/Regional, County/City, and Community/Neighborhood. Critical infrastructure in this case includes lifelines other than the roadway transportation network, such as water, wastewater, electricity, fuel, communications, and intermodal transportation (e.g., transit, rail, airports, and marine terminals, river access points). Utility GIS data were not readily available for this project; however, a brief review of connectivity to Portland Water Bureau (PWB) critical infrastructure was included. These data are not included in the overall GIS database for security reasons.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Essential facilities included places such as hospitals and health care facilities; emergency operations centers (EOCs); police and fire stations; public works facilities; state, regional, and local points of distribution (PODs); designated debris management sites; and shelters and community centers.

Table 4.1 below shows how critical infrastructure and essential facilities are grouped into the three categories based on what is typically accessed from each level of ETR (see graphic on following page for levels). Further details on the critical infrastructure and essential facilities incorporated in the GIS analysis can be found on in *Section 4.2 Compiled Data and Available Potential RETRs*.

Table 4.1 – Critical Infrastructure and Essential Facilities

Category	Critical Infrastructure Considered	Essential Facilities Considered
State/Regional	<ul style="list-style-type: none"> • Airports • Marine port terminals • Rail yards • Regional level lifeline facilities, such as power and water transmission lines and state and regional fuel PODs • Regional transit facilities, such as transit EOCs, bus barns, and maintenance facilities 	<ul style="list-style-type: none"> • Regional hospitals • State, regional and county EOCs • State and regional PODs • State and county public works facilities and equipment stores • Regional Debris management sites • Fairgrounds
City/County	<ul style="list-style-type: none"> • Local lifeline facilities, such as local water transmission infrastructure • Local river connections (boat ramps) • Transit hubs and transit centers 	<ul style="list-style-type: none"> • Health clinics and local hospitals and health care facilities • Police and fire stations • City EOCs • County and city PODs • City and utility public works facilities • Designated debris management sites • Local Transit Centers
Community/Neighborhood	<ul style="list-style-type: none"> • Lifeline distribution systems • Isolated lifeline distribution infrastructure 	<ul style="list-style-type: none"> • Churches • Schools • Community centers • Shelters • Community PODs

Considering the background research and stakeholder input, the project team identified five tiers of ETRs in the region, as listed below and shown on Figure 4.1 below. A discussion of each tier follows.

- Federal Strategic Highway Network (STRAHNET)
- Statewide Seismic Lifeline Routes (SSLRs)
- Regional Emergency Transportation Routes (RETRs)
- Local Emergency Transportation Routes (LETRs)
- Local Emergency Response Routes (LERRs)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.



Figure 4.1: Emergency Transportation Route Tiers

Federal Strategic Highway Network (STRAHNET) and Connectors

The STRAHNET is a national system of roads identified by the Department of Defense (DOD) in coordination with the Federal Highway Administration (FHWA) for the purposes of emergency mobilization and peacetime movement of heavy armor, fuel, ammunition, repair parts, food, and other commodities.

Statewide Seismic Lifeline Routes (SSLRs)

State-owned roadways pre-designated in the Oregon Highway Plan by the Oregon Transportation Commission as priority transportation routes in Oregon. SSLRs provide key emergency response connections between regions within Oregon. Their primary function is to provide “a network of streets, highways, and bridges to facilitate emergency services response and to support rapid economic recovery after a disaster.” The Oregon Department of Transportation (ODOT) has identified tiered levels of SSLRs that are prioritized by the desired time for routes to be open to vehicular traffic after an event (e.g., Tier 1 routes are most important and desired to be open first).

Regional Emergency Transportation Routes (RETRs)

A network of state- and locally owned (county and city) roadways pre-designated by the region as priority transportation routes that can best provide connectivity for emergency operations in the region in the event of a major disaster or earthquake. These routes are priorities targeted during an emergency for rapid damage assessment and debris clearance and used to facilitate life-saving and life-sustaining response activities throughout the region.

These routes often connect multiple jurisdictions in the region, providing key emergency response connections from SSLRs to State/Regional essential facilities and critical infrastructure, as well as to local ETRs in each county. Their primary function is to form a regional backbone of roads that connect regional population centers, essential facilities, and critical infrastructure and services of state and regional importance to the SSLRs.

Local Emergency Transportation Routes (LETs)

Locally owned roadways, pre-designated by local agencies (county and city) as priority transportation routes intended to provide a local network of arterials, collector, and local streets that will connect LERR (defined below) to RETRs. They are generally used to connect to more City/County critical infrastructure and essential facilities either directly or via RETRs.

Local Emergency Response Routes (LERRs)

Locally owned roadways intended to provide a network of streets to facilitate prompt response to routine fire, police, and medical emergencies within a single jurisdiction. LERRs also provide a connection from LETRs to Community/Neighborhood facilities and services, such as shelters, medical facilities, and community PODs. These facilities are often not pre-designated and can be defined based on the community needs, scale of the disaster, and resulting damage.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

The Figure 4.2 displays the STRAHNET, SSLR and RETR for the region.

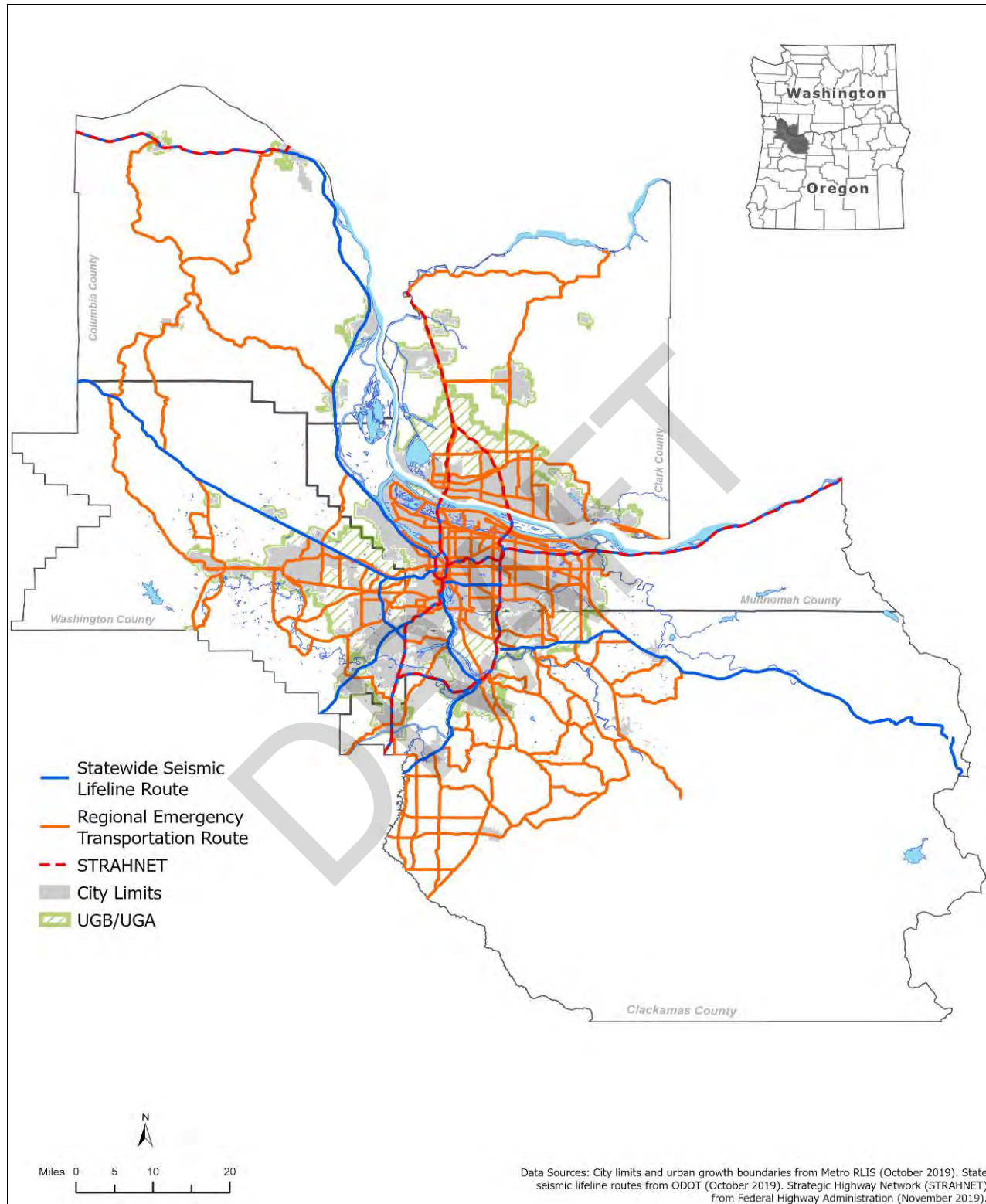


Figure 4.2: STRAHNET, SSLR and RETRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

4.2 Data Compilation

The geographic scope of this project is the five-county Portland-Vancouver metropolitan area, including Clackamas, Clark, Columbia, Multnomah, and Washington counties (Counties) and their cities.

A regional geospatial data inventory was needed to support the evaluation and update process. The team compiled and aggregated readily available GIS data provided by project stakeholders and publicly available data from authoritative federal, state and regional sources to support the analysis. These data included:

- STRAHNET routes
- ODOT statewide seismic lifeline routes
- 1996/2006 regional Emergency transportation routes
- County and PBOT emergency transportation route designations (local and regional)
- County identified alternative detour routes to ODOT statewide seismic lifeline routes
- Routes and streets
- Tunnels and culverts
- Essential facilities, including:
 - Hospitals, clinics and other medical facilities
 - Police stations and fire stations
 - Critical vehicles and equipment storage facilities
 - Universities, schools, parks, and churches
 - Government buildings
 - Emergency Operations Centers (EOCs) – city, county, regional and state
 - Points of Distribution (PODs)
 - City and utility public works facilities
 - Disaster debris management sites
 - Fairgrounds
- Critical infrastructure, including:
 - Routes and streets within the region
 - River ports, marine terminals, major shipping facilities, and airports
 - Transit locations and infrastructure (bus garages, transit stations/centers, transit maintenance sites)
 - Water infrastructure and fuel PODs
- ODOT bridge Seismic vulnerability (Oregon only)

Additional data collected included.

- Geologic hazard data (including landslide risk) as identified by DOGAMI and Clark County, Washington/Washington State Department of Natural Resources (WADNR)
- Urban growth boundaries (Oregon)
- Urban growth areas (Washington)
- Regional growth distribution to identify current and future population centers (Metro)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Demographic data to identify vulnerable populations in the region, including race, ethnicity, English language proficiency, access to a vehicle, income, and age (U.S. Census data American Community Survey (2013-17) compiled by Metro)
- Designated over-dimensional freight routes (Metro)
- Utility providers were also consulted through RDPO's Public Works work group and Portland critical water infrastructure was considered in the evaluation.

4.3 Develop Evaluation Framework for RETR Designation

Based on the above definition of RETRs and the background research and stakeholder input received to date, the project team prepared the following recommendations for defining the methodology and criteria for evaluating and updating the RETRs.

The criteria used to establish the existing RETRs in 1996 and 2006 served as a starting point and included:

- State routes serving the metropolitan area were considered primary because of their high capacity and ability to handle oversized vehicles
- Relatively flat routes with few major gradients or potential landslide areas
- Routes serving major population centers
- At-grade level alternative routes at overpasses and underpasses

Additionally, the Counties and the City of Portland included the following additional criteria during their more recent internal reviews of ETRs and participation in ODOT's recent Seismic Lifeline Bridge Detour work described in Section 2.3.2.

- Seismic resilience of routes, including bridge seismic vulnerability and landslide risk
- Ability of roadway to accommodate over-dimensional vehicles and larger volumes of vehicles
- Access to airports, hospitals, and isolated communities

4.4 Evaluate Potential ETRs

The planning effort evaluated existing and potential routes across a range of connectivity, resilience and equity factors, shown in Figure 3.3, to recommend an updated set of designated regional ETRs that:

- Connect Statewide Seismic Lifeline Routes in Oregon.
- Provide connectivity and access to state and regional critical infrastructure and essential facilities within and across the five-county region.
- Provide connectivity and access to the region's population centers, isolated communities and most vulnerable populations.

The evaluation followed a methodology informed by the research conducted by PSU, available data sets and feedback from the EWRG and additional stakeholders. The evaluation addressed three key factors: Connectivity and Access, Route Resilience, and Community and Equity.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

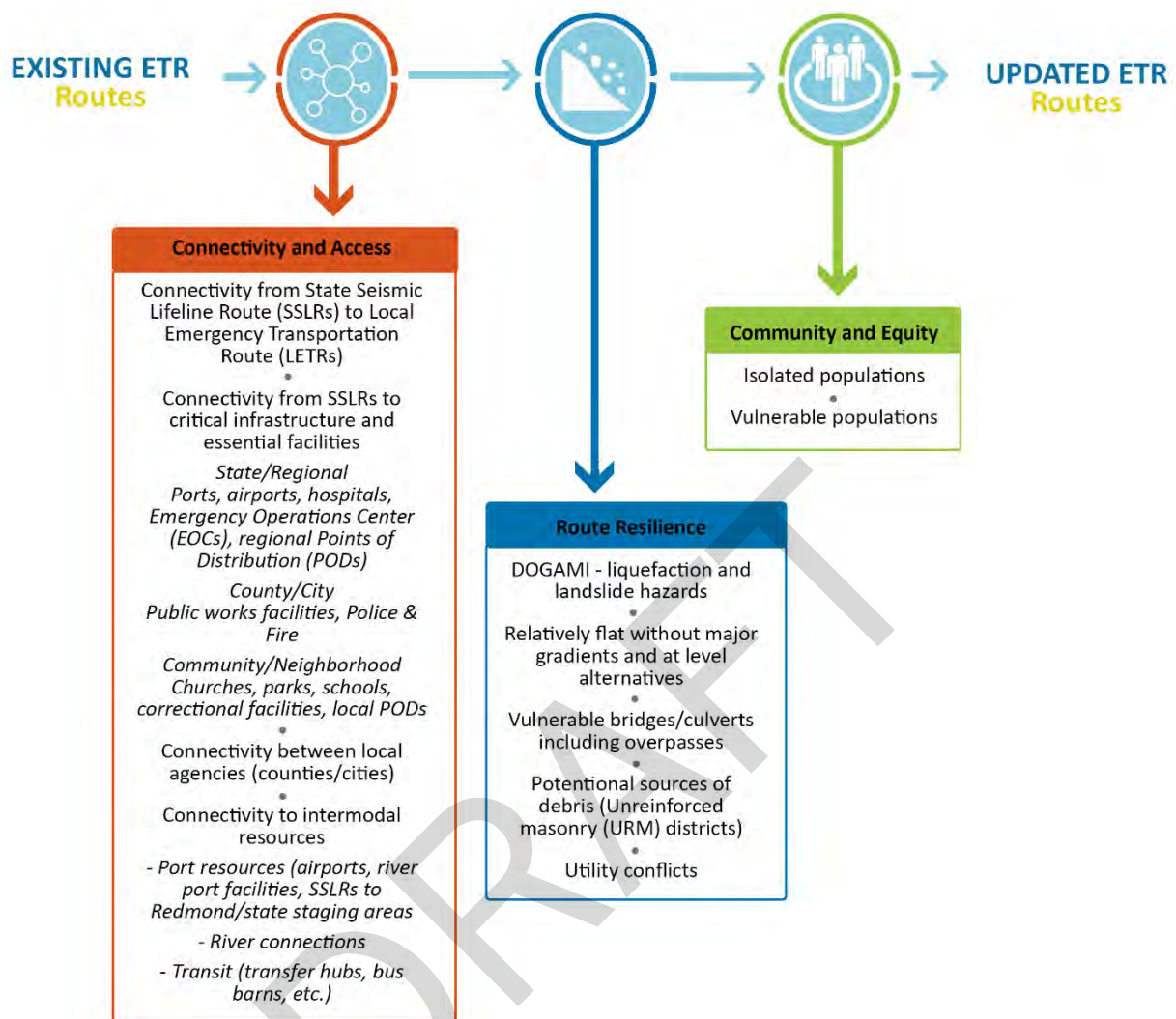


Figure 4.3: Summary of RETR Evaluation Framework Factors

Each of the factors considered in the evaluation are outlined below.

4.4.1 Connectivity and Access Factors

The “Connectivity and Access” category relates to route proximity to key resources that are likely to be essential after a disaster/seismic event.

- Connectivity and Access from SSLRs to LETs
- Connectivity and Access from SSLRs to critical infrastructure and essential facilities (tiered by level as summarized in Table 1)
 - State/Regional – state, regional and county EOCs and PODs, hospitals, public works facilities
 - County/City – city EOCs and PODs, police and fire, health care facilities
 - Community/Neighborhood – churches, parks, schools, correctional facilities, community PODs (generally accessed through LETs and LERRs)

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- Connectivity and Access between local jurisdictions (counties/cities)
- Connectivity and Access to intermodal resources
 - Connectivity and Access to freight intermodal facilities
 1. SSLRs to Redmond Airport/Pendleton and other state staging areas
 2. Portland International Airport (PDX), Hillsboro and Troutdale Airports
 3. River port facilities and marine terminals (both sides of the Willamette and Columbia Rivers)
 4. Rail yards and rail lines (
 - Connectivity and Access to TriMet/C-TRAN/SMART transit facilities (transfer hubs, bus barns, maintenance facilities, etc.)

4.4.2 Route Resilience Factors

The “Route Resilience” category relates to the vulnerability of the route itself (including tunnels, bridges and culverts) to seismic and other natural hazards.

- Liquefaction and landslide hazards (DOGAMI and WADNR)
- Relatively flat routes without major gradients and at level alternatives
- Vulnerable bridges
- Potential sources of debris (unreinforced masonry (URM) districts)

4.4.3 Community and Equity Factors

The “Community and Equity” category relates to route proximity to population centers; isolated populations; and vulnerable populations after a disaster/seismic event for purposes of equitable rescue operations, emergency response or evacuation and providing equitable access to critical destinations (e.g., hospitals, temporary shelters, etc.).

The project used regional growth distribution data prepared by Metro in consultation with local jurisdictions in the five-county region to identify current populations centers and isolated populations. In addition, Metro compiled U.S. Census American Community Survey (ACS) 5-Year Estimates (2013-2017) data to identify census tracts with above regional average concentrations of potentially vulnerable populations in the five-county region. For this project, vulnerable populations are defined as people of color by race and ethnicity, people under the age of 18, people over the age of 65, households with no vehicle, people with limited English proficiency, and people with low-income. Low-income is defined as incomes equal to or less than 200 percent of the Federal Poverty Level (2016), adjusted for household size. The 2016 federal poverty level for a two-person household was \$16,020.

4.4.4 Route Characteristics

Originally, route characteristics were proposed as an additional evaluation factor for the project. This category related to the characteristics of the route itself—pavement width, access control, and ability to accommodate large vehicles and freight and ability to accommodate oversized vehicles and freight vehicles. These characteristics are important in the case of a disaster or seismic event because they can help determine route usability for large volumes of traffic, evacuation purposes, walking and biking to essential facilities, moving emergency response vehicles and freight (including over-dimensional vehicles), and transit to and from populated areas. However, these data are not consistently available

across the region, making an evaluation of this factor infeasible at this time. These considerations are important when operationalization is considered by owner agencies and should be included when additional evaluation and route tiering is developed in Phase 2 as described in *Section 7 Anticipated Applications and Recommendations for Future Work* of this report.

5.0 DATA COLLECTION AND ANALYSES

Project GIS data were collected, aggregated and evaluated by Cascade Consulting, LLC and FLO Analytics. The project resulted in a large amount of aggregated data, both existing data as well as derived through subsequent analysis. A detailed data collection and analysis methodology is included as Appendix E and summarized below. Results of the analysis are presented in *Section 5 Analysis Results and Recommendations*.

5.1 Data Collection

A data request was submitted to EWRG, Metro, and additional stakeholders during the first phase of the project. The project GIS team worked with the stakeholders to gather and identify all readily available and relevant data, including existing designated RETRs, potential new RETRs identified through more recent ODOT and local planning efforts, essential facilities, and critical infrastructure. Data were captured “as-is” from stakeholders and publicly available authoritative federal, state and regional sources, such as FEMA, ODOT, DOGAMI and Metro. Data were collected from July 2019 to December 2020. Table 1 in Appendix E provides a summary of the data by theme, source, date, and file type.

5.2 Data Compilation

The project GIS team developed a working database for use in ETR evaluation. Data stored in a format other than GIS were georeferenced and organized thematically into a geodatabase. Single datasets comprised of various themes were split into their corresponding thematic datasets. For example, police stations were extracted from the dataset of all government buildings. In some cases, features were individually reviewed and attributed before being split and organized thematically. All data were projected to have a common coordinate system, specifically Oregon State Plane HARN NAD83, International Feet, the coordinate system used by the City of Portland and Metro. More detail on data compilation is included in Appendix E.

5.2.1 RETR Network Development

The original RETR layer for this project was created using a combination of the routes designated and compiled in GIS in 1996 and revised in 2006. Where in conflict, precedence was given to the more recent 2006 routes. Note the 2006 routes did not extend into Columbia and Clark counties.

Additional routes were identified as RETRs through a stakeholder review process (see *Section 1.2 Stakeholder Engagement Process*). New routes were identified by Clackamas County, Multnomah County, Washington County, and PBOT during initial data gathering in 2019 and early 2020 as a result of ODOT and local government planning efforts (see *Section 2.3 ODOT and Local Government Document Review*). Additional routes were identified during subsequent jurisdiction-specific meetings

held in summer and early fall 2020, and during EWRG review of the updated draft routes in early 2021.

Road alignments from 1996 and 2006 data layers were merged with current authoritative source data produced by Metro (Clackamas, Multnomah, and Washington counties), Columbia County, and Clark County into one data layer for use in identifying RETRs. This data layer served as the source alignment for the updated RETRs.

5.2.2 Compiling Essential Facilities and Critical Infrastructure Data

Essential facilities and critical infrastructure were consolidated into three GIS layers following the RETR framework categories of state/regional (category 1), city/county (category 2), and community/neighborhood (category 3). As an example, state, regional, county and transit EOCs were combined into a category 1 essential facilities EOC layer, and city EOCs were combined into a category 2 essential facilities EOC layer. See Table 3.1 in *Section 3.0 Overview of Key Concepts and ETR Development Methodology* for the categorization of essential facilities and critical infrastructure.

5.2.3 Compiling Natural Hazard Data

GIS data for natural hazards were collected from several sources, including DOGAMI and Washington State Department of Natural Resources (WADNR). GIS data representing seismic hazards, including seismic liquefaction susceptibility and debris expectations, were provided by DOGAMI. Landslide susceptibility and existing landslide hazards in Oregon were provided by DOGAMI and by WADNR for Clark County. Flood hazard data were provided by Federal Emergency Management Agency (FEMA).

5.2.4 Compiling Population and Demographic Data

Metro provided population and socioeconomic data for the community and equity analysis. The project used population density to identify and map current populations centers and isolated populations.

A number of factors, including race, poverty and lack of access to transportation may contribute to vulnerability. To identify and map communities that will most likely need support before, during an after an emergency event, Metro used the U.S. Census ACS 5-Year Estimates (2013-2017), aggregated to Census tracts to identify census tracts with above the five-county regional average concentrations of vulnerable populations. For purposes of this project, vulnerable populations have been defined as people of color (POC), people with limited English proficiency (LEP), people with low income, households with no vehicles, people under the age of 18, people over the age of 65. People of color are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, some other race, two or more races, and any race combined with Hispanic or Latino ethnicity. Due to significant margins of error in the ACS data, the analysis was not able to account for people with disabilities. This should be addressed in the future planning work.

Metro also prepared a GIS data layer – called RETR Equity Focus Areas (EFAs) – to evaluate providing emergency access to vulnerable populations with a focus on race and income. RETR EFAs are census tracts that represent communities where the rate of POC or LEP or people with low income (i.e., income

equal to or less than 200% of the Federal Poverty Level [2016] adjusted for household size) is greater than the 5-county regional average.

Additional discussion of the analysis and methods is included in Appendix E and *Section 5 Analysis Results and Recommendations* and *Section 7 Anticipated Applications and Recommendations for Future Work*.

6.0 ANALYSIS RESULTS AND RECOMMENDATIONS

6.1 Analysis Discussion

The RETR evaluation analysis was completed in two stages. The first stage included developing GIS mapping layers that included all existing 1996 and 2006 existing RETRs, SSLRs, geologic hazard data, bridge seismic vulnerability data, and all collected critical infrastructure and essential facilities. The project team then consulted with members of the ERWG from each county, the City of Portland, transit agencies, and port districts to review the GIS data to identify missing critical infrastructure, essential facilities, and routes to be included in the analysis. An on-line viewer and static maps were created to support the review. The discussions resulted in the addition of essential facilities and critical infrastructure of regional importance to the dataset. Routes were added to account for new and seismically updated infrastructure, county-identified detour routes that avoid seismically vulnerable bridges, and provide additional connectivity to ports, hospitals, and transit facilities.

Once the additional routes were added and a naming convention designated, the GIS evaluation for connectivity, resilience, and equity was completed. The evaluations and results are described in the sections below.

6.2 Route Naming Convention

During the first phase of evaluation, it was determined that a consistent naming convention should be developed in order to help with route evaluation, identification, and use. With direction from the work group, the team developed a naming convention that provides consistency, as well as the ability to add and update routes during future phases of work and update cycles. The routes identification (IDs) have the format as outlined below and are included in Table 5.1 (attached and end of text) and on Figure 6.1 in *Section 6 Final Updated Route Summary*.

(S/R/L)-#-XXX-00-RouteName

- The “S/R/L” term designates whether it is a state, regional, or local route.
- The “#” term will be the route tier as designated by ODOT or by the region and localities in future phases of work.
- Each route has a three-digit number “XXX” assigned to it as a route ID that reflects the location and direction of the route. Routes with an odd ID are north/south routes and those with even IDs run east/west. These numbers currently run between 100 and 265 for the updated routes.
- The “00” term indicates if a route has segments. Route 101-01 and 101-02 connect to make route 101. Routes with “00” only have one segment.
- The “RouteName” reflects the road name(s) that make up the ETR.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Additionally, included in Table 5.1 (attached) is a designation of each route as a Primary or Alternate Route. Alternate routes were designated in 2020 to provide a detour route where expected failure of vulnerable bridges will close a primary RETR after a seismic event. These were identified by each county when working with ODOT to identify detour routes to SSLRs as described in Section 2.3.2. If vulnerable bridges are seismically retrofitted or replaced, the need for these routes should be evaluated for future RETR updates.

Interstate highways are identified as SSLRs in Oregon however, WSODT has not completed an official route designation process at this time.

6.3 Analysis Results

6.3.1 Assessment of Route Connectivity

Each RETR was evaluated for connectivity visually using the GIS mapping layers as well as using the data analysis methods described in *Section 4 Data Collection and Analysis*. Each evaluation is detailed below.

6.3.1.1 Connection from SSLRs to Region and LETRs

We visually evaluated the ETR network using GIS data mapping in order to evaluate if RETRs provide adequate connection between state and federal routes and facilities and regional facilities and local routes. As shown on Figure 5.1, the proposed RETRs provide adequate connection between state routes and regional areas as well as local routes. Further, the updated RETRs provide good connectivity between the jurisdictions within the region.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

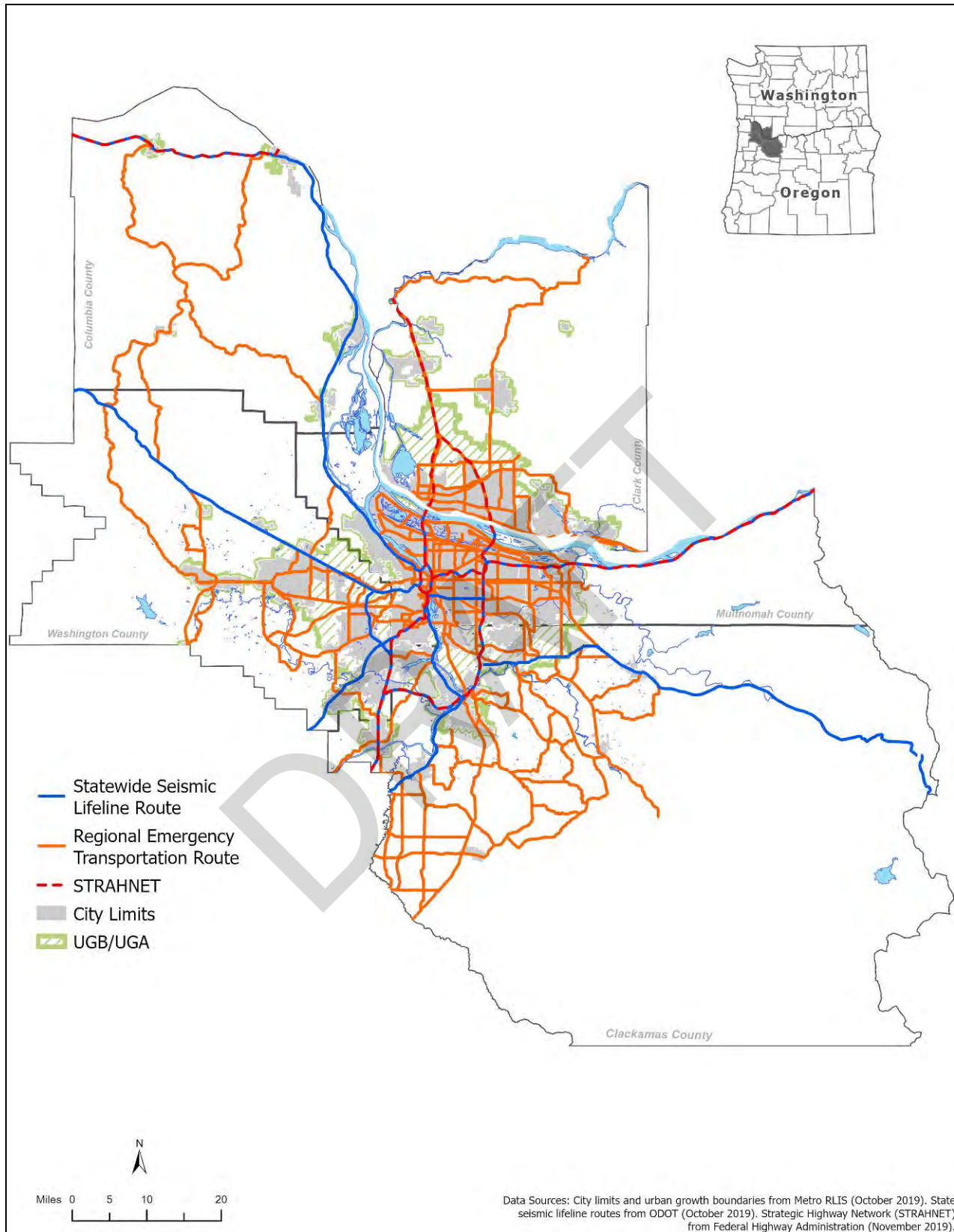


Figure 6.1. STRAHNET, RETRs, SSLRs Relative to City Limits, UGBs and UGAs

6.3.1.2 Population

Population density, city limits, urban growth areas in Washington and urban growth boundaries in Oregon were considered when evaluating if the RETRs provided adequate route connectivity to the region's population centers. These evaluations were conducted visually using the GIS mapped database as shown on Figures 5.2 and 5.3. In general, there is a higher density and redundancy of RETRs in the highest density population areas. One anomaly to this is the western portion of Clackamas County where route redundancy is higher than other areas in the region with similar population densities

DRAFT

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

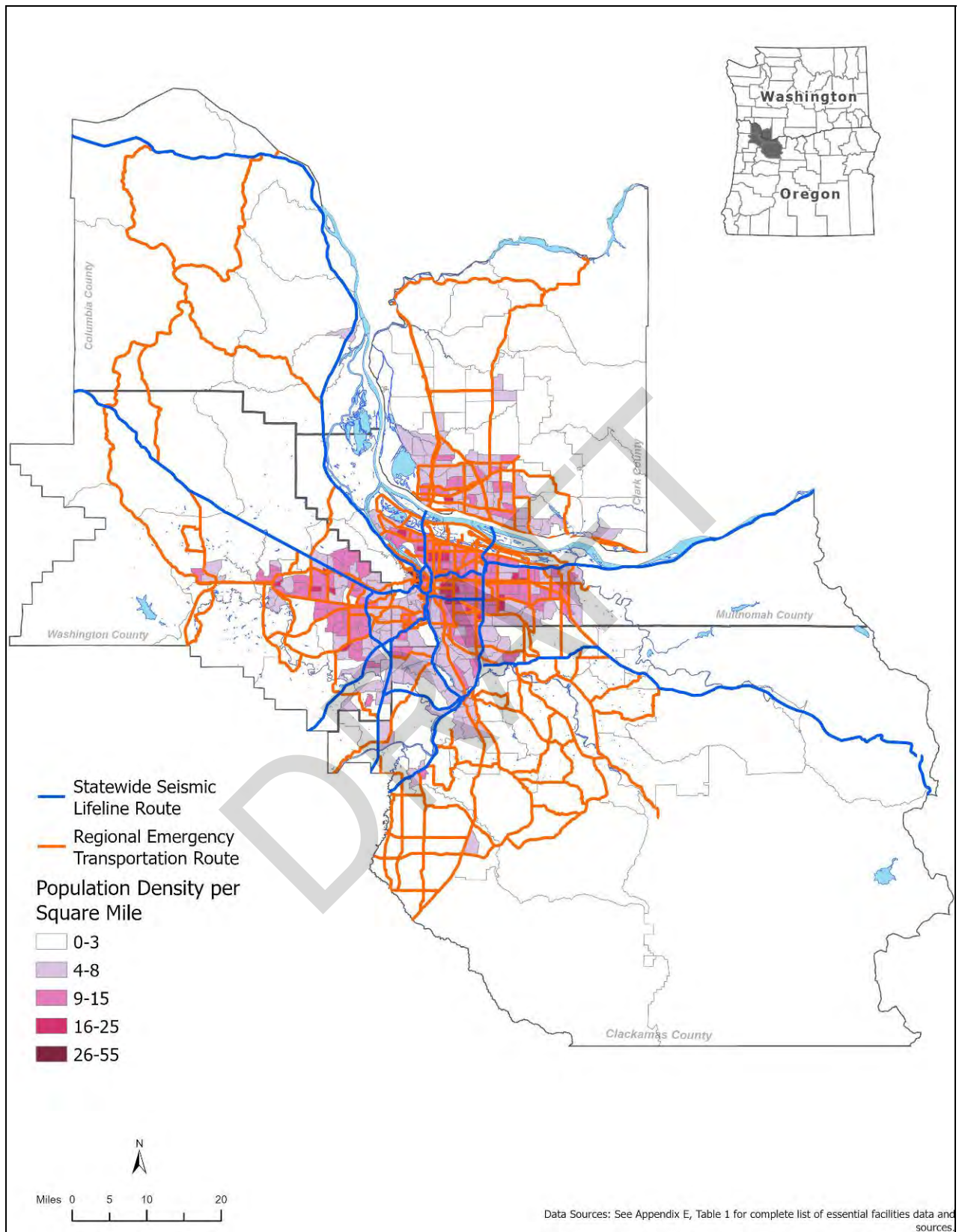


Figure 6.2. RETRs Relative to Population Density

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

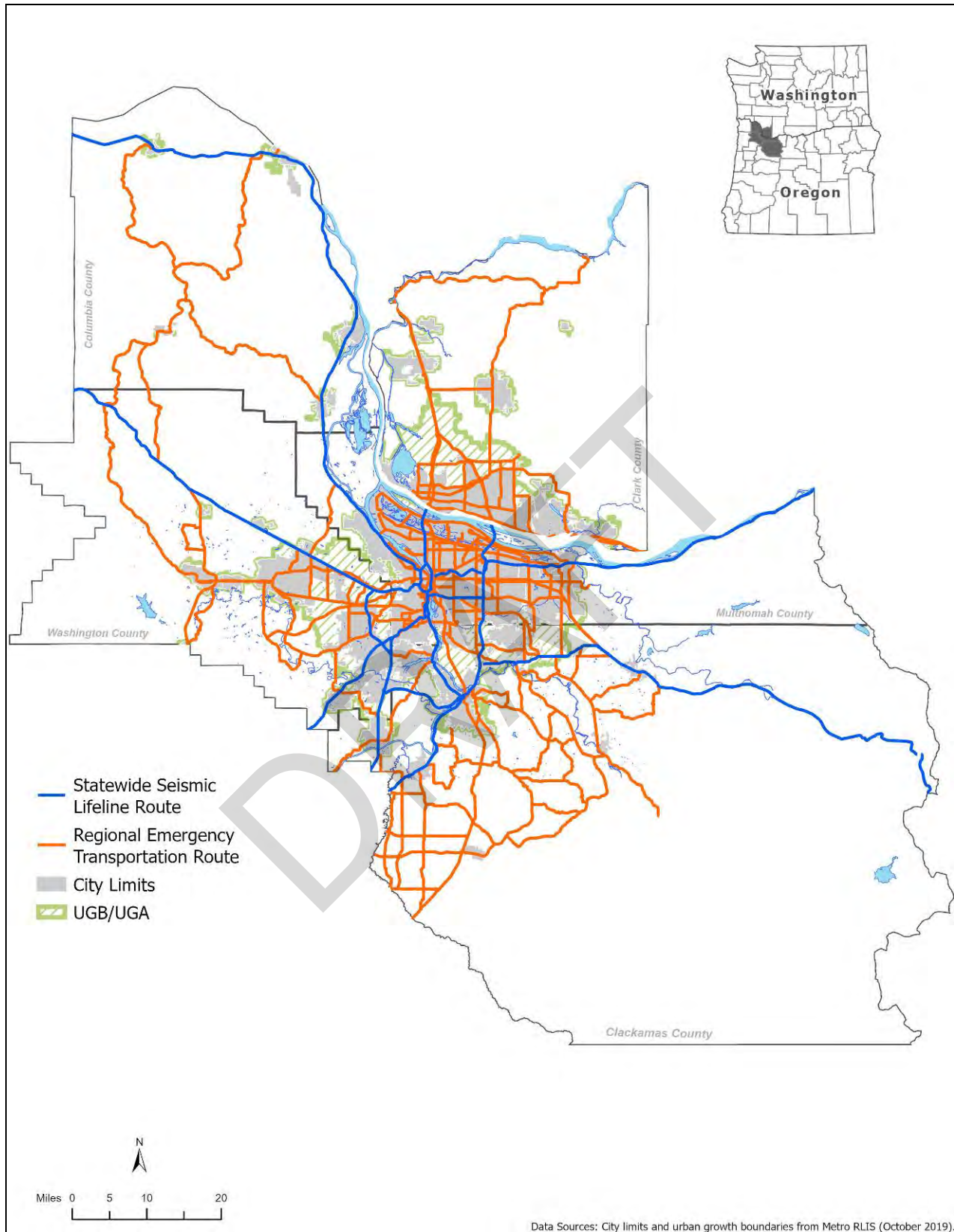


Figure 6.3. RETRs relative to City Limits, Urban Growth Boundaries and Urban Growth Areas

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Based on a visual inspection, all major areas of high population density and cities are directly accessed by SSLRs or RETRs with the exception of Yacolt in Clark County. Clark County staff indicated that there are local routes that access Yacolt and a direct RETR connection is not necessary. Future updates should revisit the density and connectivity within the urban growth boundaries (UGBs) in Oregon and designated urban growth areas (UGAs) in Washington to determine if additional regional emergency transportation route designations are warranted based on population growth and community needs.

6.3.1.3 Critical Infrastructure and Essential Facilities

Connectivity to Critical Infrastructure and Essential Facilities categorized as State/Regional, City/County, and Community/Neighborhood as outlined in Table 3.1. Connectivity to these facilities was evaluated visually using the GIS mapped database as shown on Figures 6.4 through 6.8.

DRAFT

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

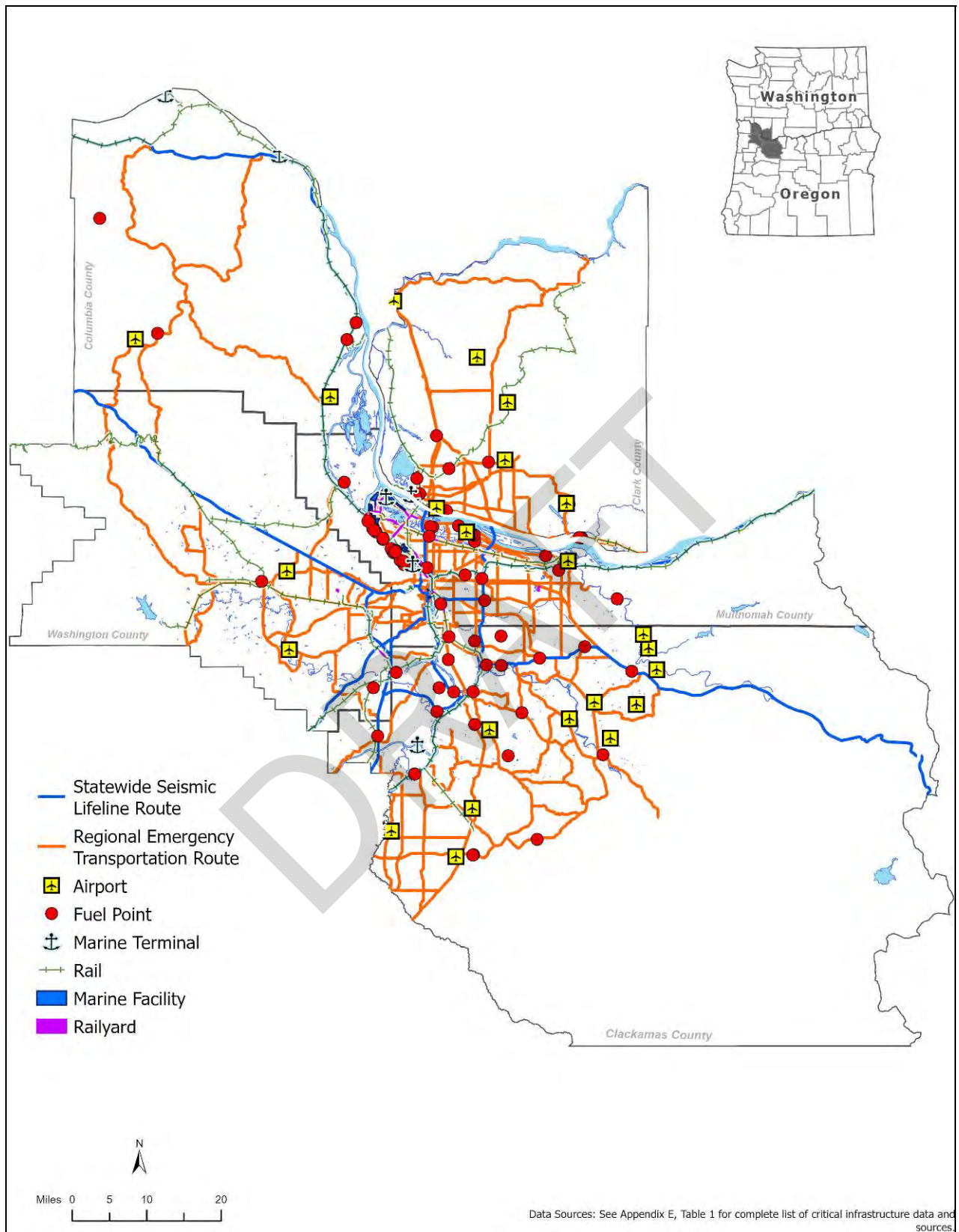


Figure 6.4. RETRs relative to State/Regional Critical Infrastructure

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

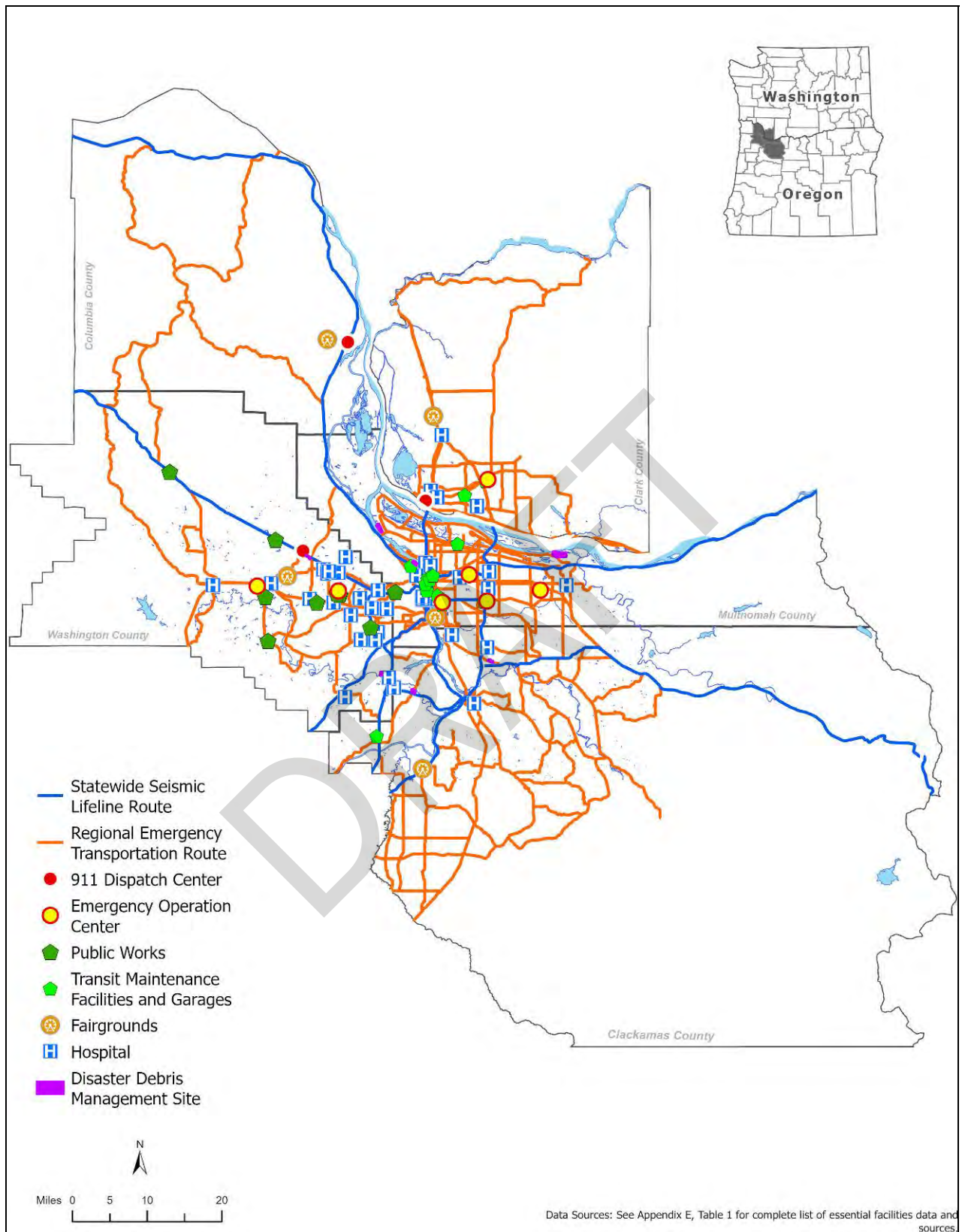


Figure 6.5. RETRs relative to State/Regional Essential Facilities

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

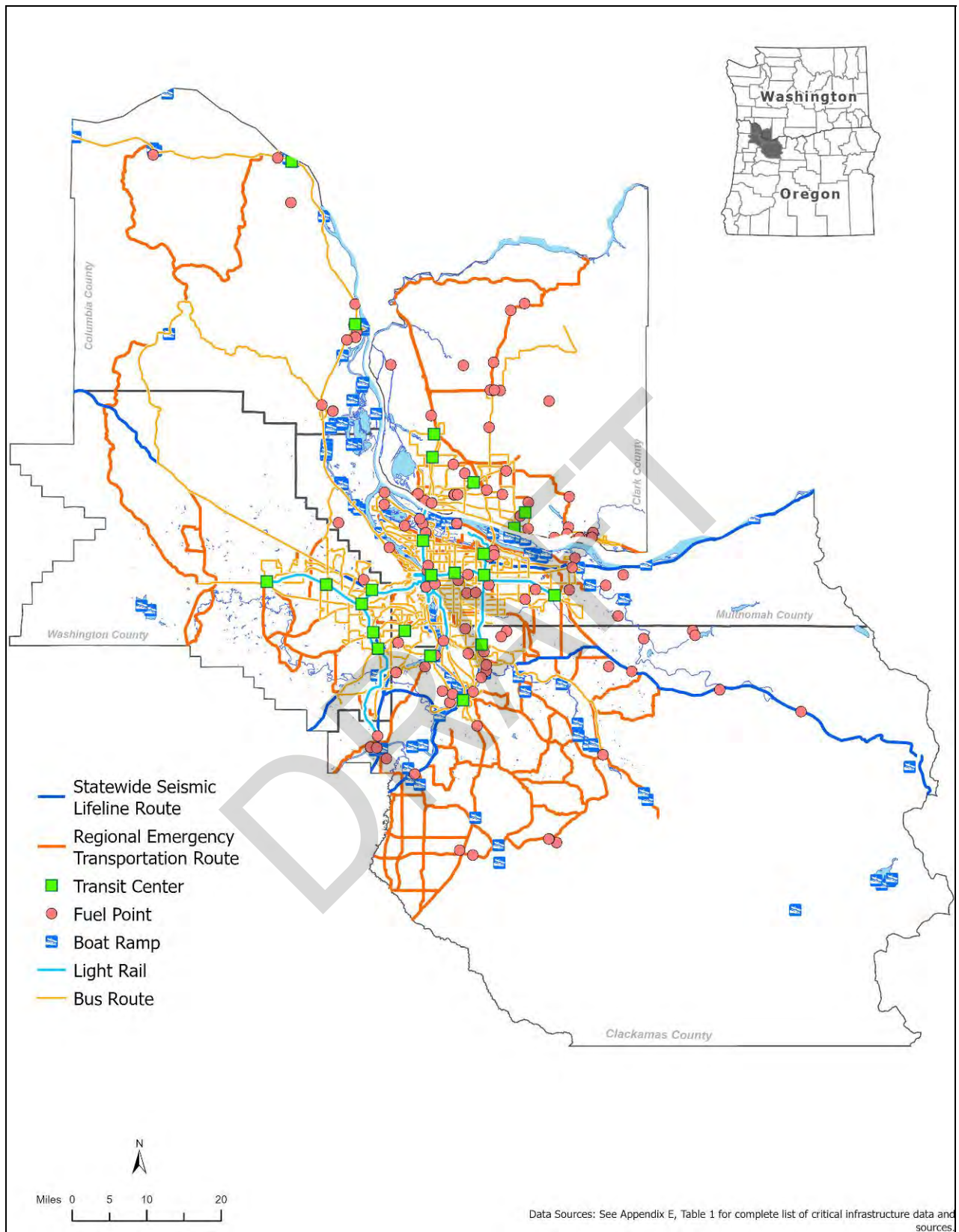


Figure 6.6. RETRs relative to City/County Critical Infrastructure

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

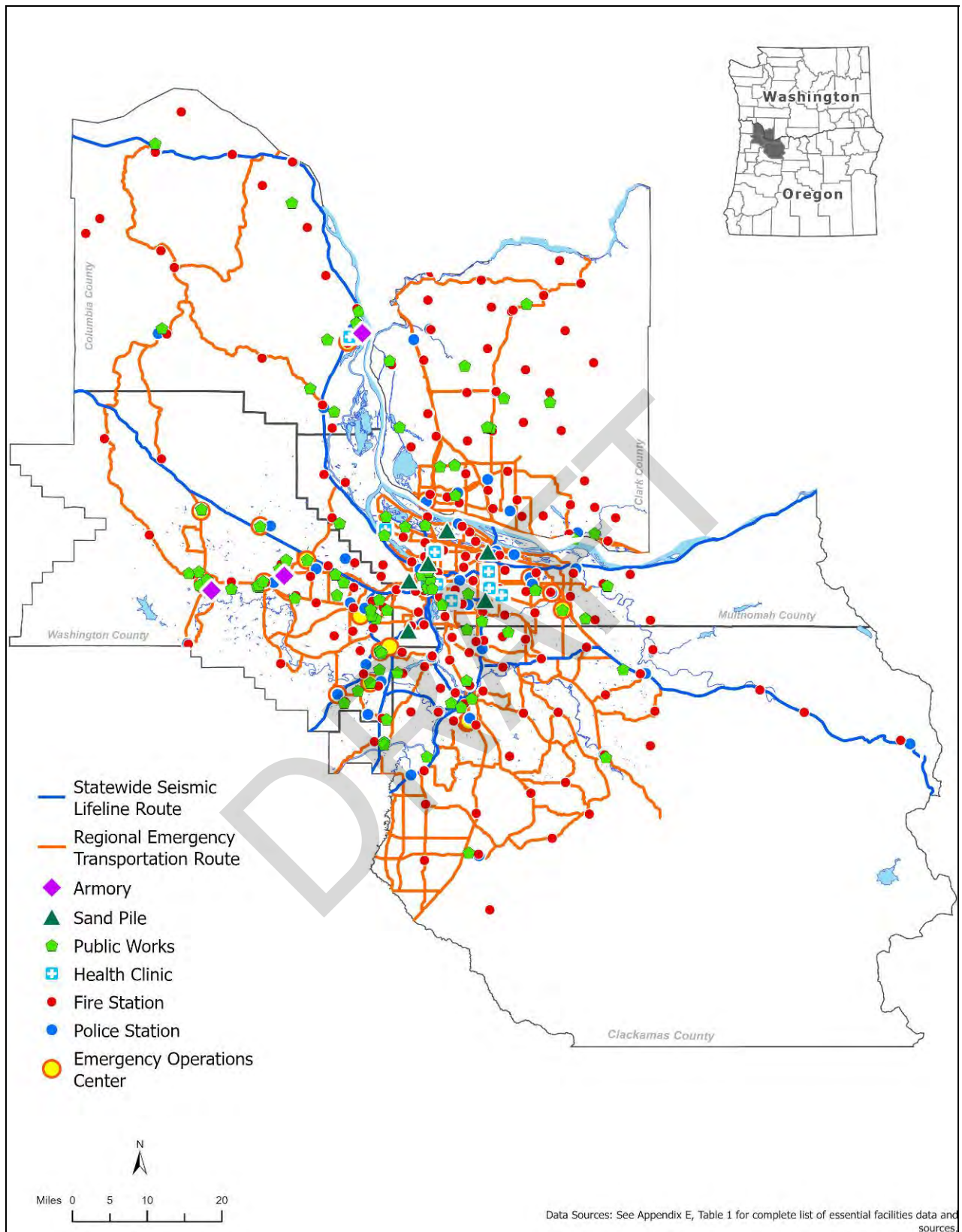


Figure 6.7. RETRs relative to City/County Essential Facilities

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

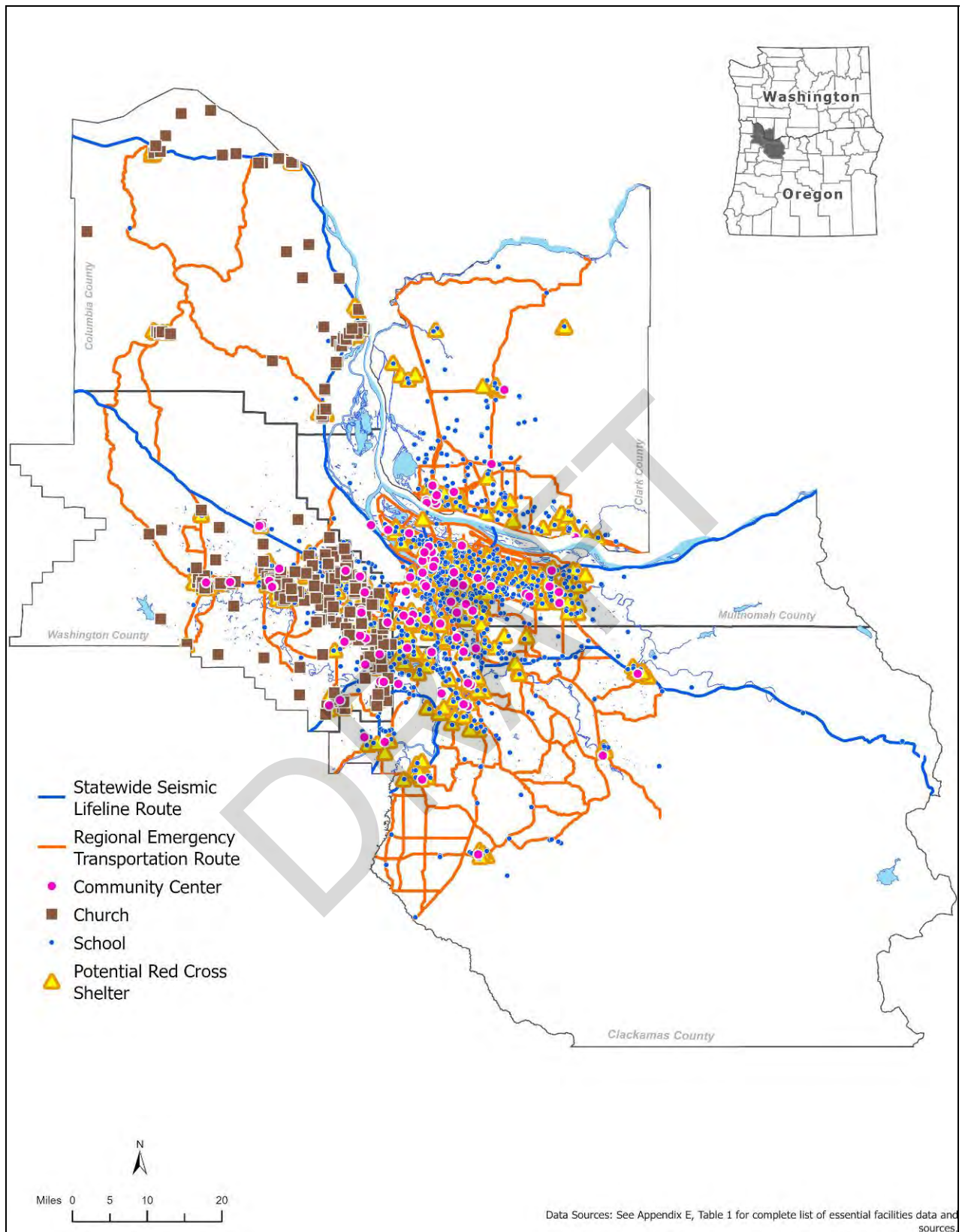


Figure 6.8. RETRs relative to Community/Neighborhood Essential Facilities

In addition to the visual evaluation, the GIS database was used to evaluate how many of each of the six categories were located within one-quarter mile of an RETR and/or SSLR. Results are outlined in Table 6.2 (attached).

Tabular results for State/Regional locations show that the majority of the locations are within a quarter mile of an RETR and/or SSLR. Additions of routes in 2020 increased these percentages for transit and hospital locations, as well as for port facilities. Additional

visual evaluation indicates that much of the State/Regional critical infrastructure is composed of larger facilities with dedicated access roads that are accessible from the updated regional ETRs. In general, the updated regional ETRs provide good connectivity to State/Regional locations based on our evaluation; in particular they provide good coverage for access to essential facilities for emergency management and emergency response purposes (their primary function).

Due to variability in local ETR update methodology and the timing of recent updates, there is variability in the number of routes designated by the counties for the regional update. In particular, Clackamas County has a very robust network of regionally designated ETRs. When evaluating connectivity, it is noted that some of the routes do not appear to connect to either critical infrastructure/facilities or to vulnerable populations or higher density population areas. It is therefore recommended that the regional designations are revisited in Phase 2 evaluation when prioritizations are determined. Some of these routes may need to be tiered, or may be more appropriately designated as a local ETR.

6.3.2 Assessment of Route Resilience

The evaluation of route resilience considered seismic, landslides, and flood hazards. The latest data from DOGAMI regarding seismic and landslide hazards, FEMA flood hazard data, and ODOT bridge vulnerability data were used in the analysis. Data references are included in the GIS Methodology document included in Appendix E.

6.3.2.1 Seismic Hazards

The RDPO five-county region is at risk for multiple types of earthquakes, including a shallow crustal event on the order of 6 to 7M and a 9.0M CSZ event. In general, the CSZ event is more frequent and effects a much larger geographic area than a crustal event. Recent work by DOGAMI indicates that localized damage is much greater in the event of a shallow crustal event; however, these events are less likely to occur within the next 50 years. This study concentrated on resilience to a CSZ event mainly because it represents significant damage, is more likely to occur within a 20- to 50-year planning horizon, and will affect a much larger geographic area, resulting in a larger problem for emergency response and long-term recovery.

Based on the DOGAMI data, significant shaking is anticipated throughout the region such that significant infrastructure damage is expected due to the CSZ event. However, ground shaking does not necessarily result in direct damage to roadways. Shaking directly damages buildings and infrastructure, causing debris to fall into roads; bridges to fail; and soil to soften (liquefy), settle, and move laterally. Liquefaction is the result of seismic shaking causing loose, non-clay soils to lose strength and liquefy resulting in settlement and lateral movement toward slopes and water bodies. This study evaluated RETRS for resilience using liquefaction hazard data. This is generally where roads and embankments can expect the most damage.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

As shown in Figure 6.9, large portions of the region are at risk for moderate to severe liquefaction damage. This generally occurs along rivers and in areas of manmade fill. Many of the RETRs are vulnerable to liquefaction damage.

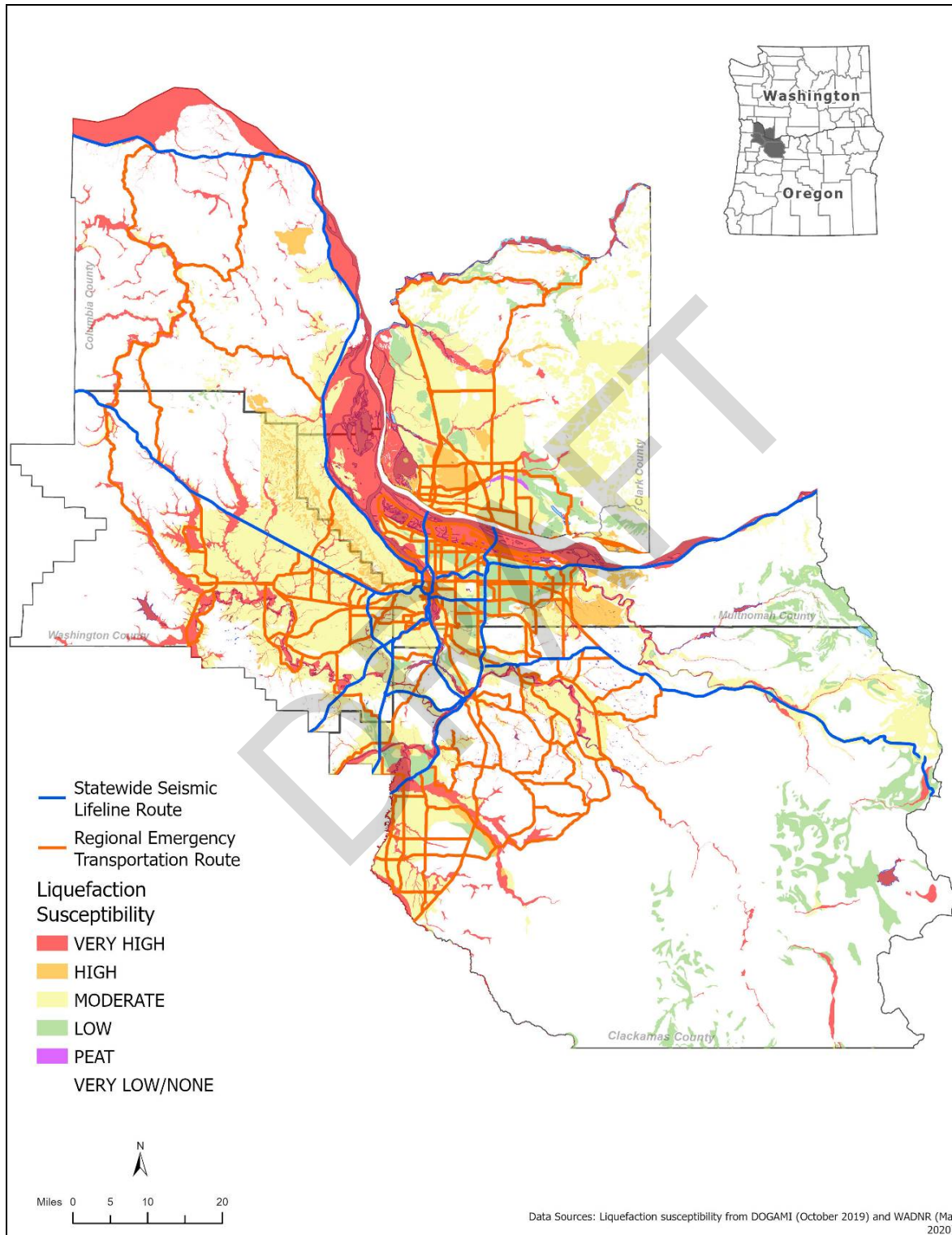


Figure 6.9. RETRs and SSLRs in relation to Liquefaction Hazard

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Individual RETRs affected by liquefaction hazard above moderate are highlighted in Table 6.3 (attached). Bridge crossings, Marine Drive and access to the Port of Portland and PDX, access to the Port of Vancouver, rural routes along rivers in Washington and Clackamas counties, and the central area of downtown Portland are most likely to be severely impacted by liquefaction. Future evaluation of RETRs should consider adding redundancy with more resilient routes where possible and potentially eliminating routes where mitigation is unlikely to be completed due to scale and cost.

6.3.2.2 Seismically Vulnerable Bridges

ODOT has completed an extensive study of bridge vulnerability in the state and has worked with the four Oregon counties to identify vulnerable bridges on ETR routes. They have designated bridges as “Vulnerable,” “Potentially Vulnerable,” and “Not Vulnerable.” Based on information from ODOT, single-span bridges were not evaluated and were included as “Not Vulnerable” because they are easier to fix and generally less likely to catastrophically fail. This is an acceptable assumption when considering bridge repair prioritization; however, for the purposes of evaluating ETRs, single-span bridges that fail will close an RETR even if the repairs can be done more quickly due to the simplicity of the bridges. For this reason, single-span bridges are identified as “Not Evaluated.” Further, data for overpasses and onramps was not universally included in this evaluation; however, failures of these structures can greatly impede use of an RETR after an earthquake. In general, at grade routes should be considered for redundancy purposes, while ODOT and local agencies are working on bridge retrofits and replacements on all RETRs. Due to the scale of bridge vulnerability on these routes, it is unlikely that mitigation will be completed on all the RETR routes. Regional phasing and tiering that mirrors ODOT’s program can help to evaluate the criticality of RETRs and resilience improvements so that available funds can be applied in a manner to increase RETR resilience as quickly as possible.

WSDOT has not evaluated their bridges with the same methodology as ODOT; hence, in the map all WSDOT bridges are marked “Not Evaluated.” However, the state of Washington has made significant investments in seismic strengthening of their bridges following the 2001 Nisqually Earthquake. Therefore, some of the bridges in Clark County may have a higher degree of resilience to seismic risk, they just have not been evaluated to be represented in this report together with the ODOT bridges. In the future, an investigation into the seismic resilience of bridges on the RETRs in Clark County together with WSDOT would be beneficial to inform understanding of vulnerabilities and areas to prioritize investment to increase seismic resilience of bridges where needed.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

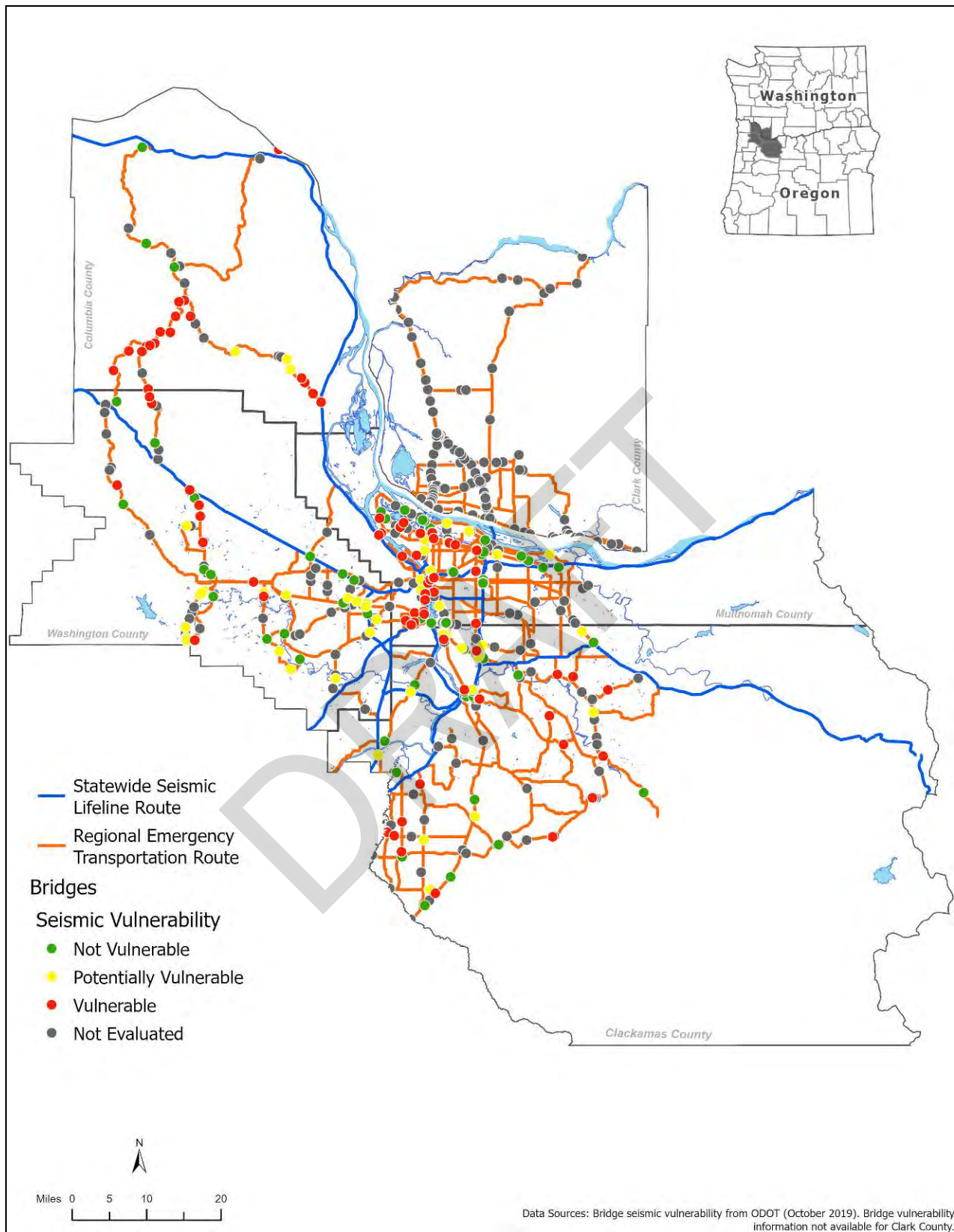


Figure 6.10. RETRS in relation to Seismically Vulnerable Bridges

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

As shown on Figure 5.11 and in Table 6.4 (attached), vulnerable bridges are one of the larger hazards to the RETR system. In an area with many water crossings and grade changes, bridges will affect a large majority of the RETR system. Routes with multiple river crossings are especially vulnerable. A highlight of this evaluation is the connection across the Willamette and Columbia rivers. Very few river crossings are expected to be operational within weeks to months after an event. Further evaluation of bridge vulnerability as well as prioritization based on RETR needs should be considered in future phases of work; further planning around marine transportation options in emergencies can also support contingency planning for bridge failures in a catastrophic response and recovery.

6.3.2.3 Landslide Hazards

Landslide hazard was evaluated using the latest DOGAMI (Oregon) and WADNR (Washington) data for general landslide risk, as well as existing mapped landslides. Figure 6.11 shows both general risk as well as the locations of existing landslides and Table 5.5 (attached) highlights routes with significant landslide risk. Generally, areas of high risk, (red) and mapped landslides overlap. Landslides can be a hazard during periods of wet weather but should also be expected during a seismic event.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

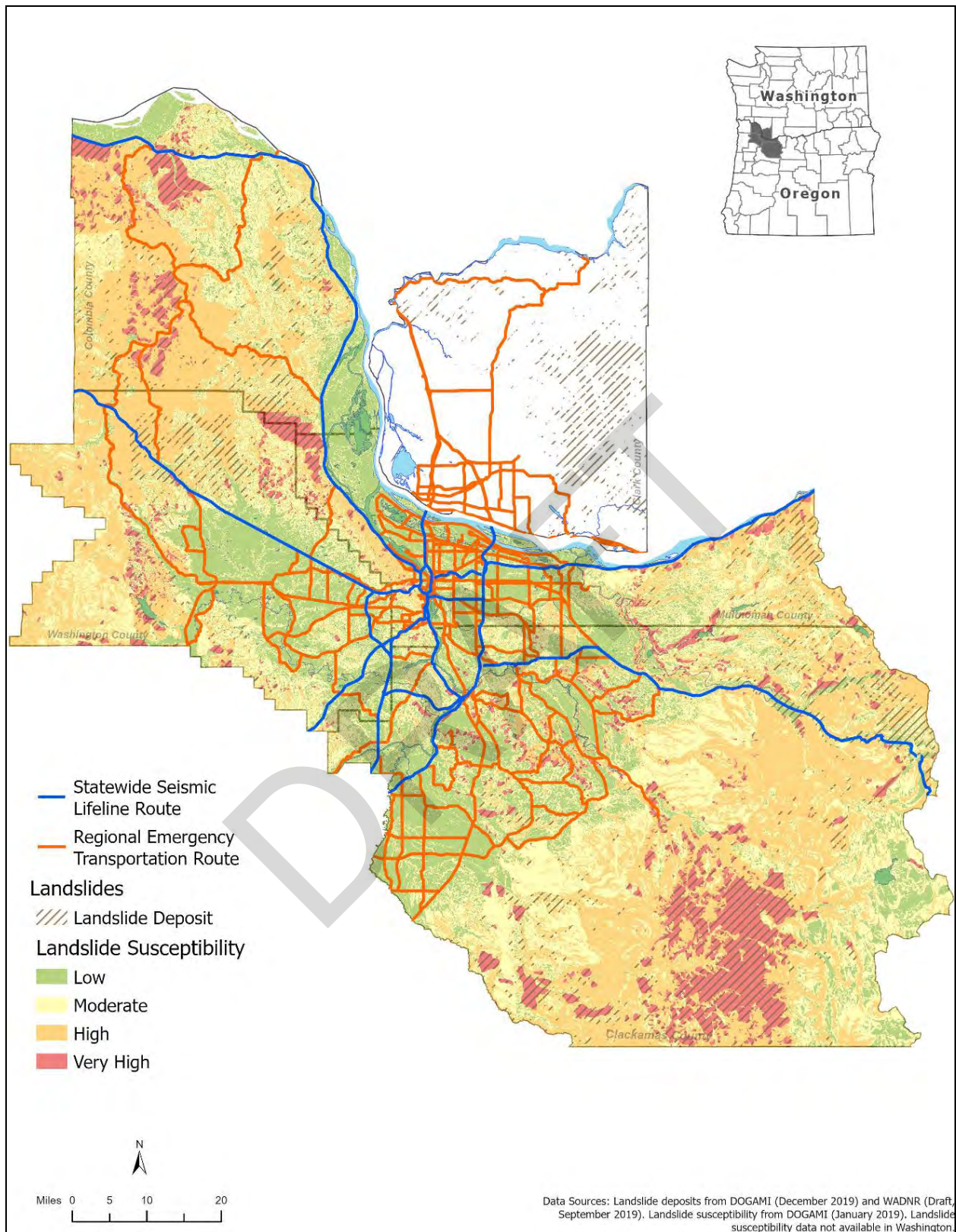


Figure 6.11. RETRs relative to Community/Neighborhood Essential Facilities

Based on the data, there are routes with significant landslide risk. These are generally in rural areas and may not have redundancy in the RETR system to provide access in the event of a landslide. Rural Columbia and Clackamas counties are at the most risk due to landslides that are likely to isolate populations. The Portland west hills are also highly at risk and could cut off Washington County from supplies coming from the east. Landslides during a wet season could result in local isolated communities; however, widespread landslides during a CSZ event will add to the already significant RETR damage due to shaking and liquefaction.

6.3.2.4 Potential Sources of Debris

Debris and debris management can be one of the major issues that can hinder emergency response after an earthquake. Debris from fallen buildings, downed bridges, and landslide or rockfall debris can block roadways and render an RETR unusable. Further, RETRs are needed for debris management functions to continue by providing access for debris removal. In order to evaluate the RETR system from a debris perspective, we used the 2017 DOGAMI debris estimates for the region. These maps provide estimates of tons of debris per area based on census tract areas as shown on Figure 5.13.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

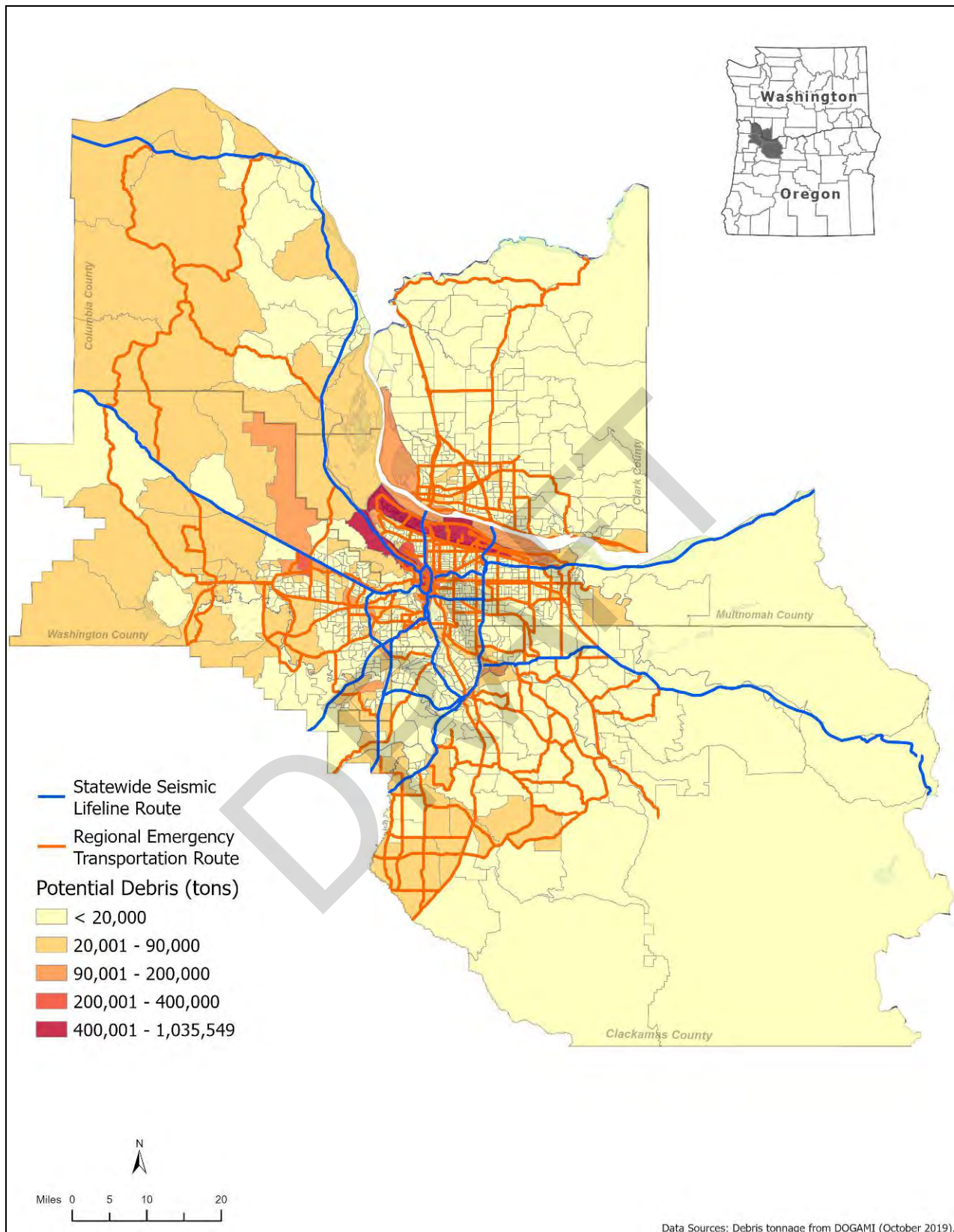


Figure 6.12. RETRS and SSLRS in relation to Potential Debris

For the most part, the highest risk areas (red) are industrial and commercial development areas on liquefiable soils and/or areas of older buildings in city and towns where unreinforced masonry (URM) and older building stock are concentrated will have a higher risk of debris blocking RETRs. The Critical Energy Hub and areas around the ports are all located on liquefiable soils and data indicated they will have large amounts of debris. In both cases, the potential for this debris to be hazardous materials is high. Risk to resilience of ETRs is high in these areas; however, ETRs will also be needed to connect these areas to debris management areas and disaster debris disposal sites.

Further, after a review of this data larger census tract areas that are based on population result in large amounts of debris. This results in larger census tracts of mostly rural land mapped as having a large amount of debris. Upon review, this may not be especially useful for emergency management planning. Large areas of rural land will likely have more spread out debris with significantly less effect on ETRs and access to communities. Future work with DOGAMI is recommended to evaluate this data set to better account for where significant debris is anticipated to affect the usability of the RETRS as well as where access will be required to remove, sort, and dispose of debris.

6.3.2.5 Flood Hazards

FEMA Flood hazard zones for the 100- and 500-year floods are shown in relation to the RETRS on Figure 6.13.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

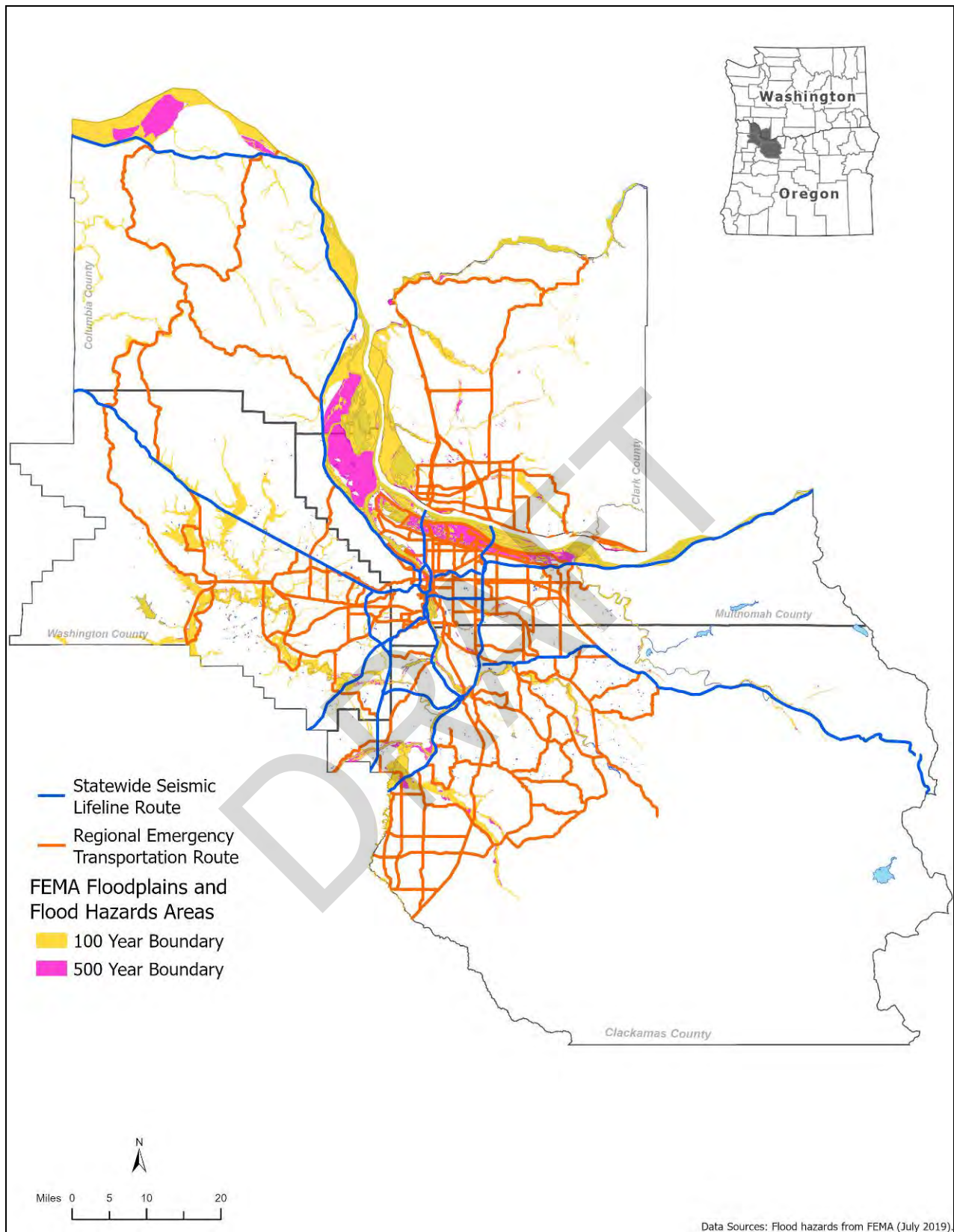


Figure 6.13. RETRs in relation to FEMA Flood Hazards Zones

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Flood hazards in the region are located in low lying areas and along rivers. RETR risk as a whole is relatively low; however, areas along the Willamette River are likely to be isolated during a flood event due to a lack of RETR redundancy. RETR routes with high flood risk are outlined in Table 6.6 (attached).

Generally, the most susceptible routes are along the Columbia and Willamette rivers. Access along the Columbia River and near PDX as well as Naito Parkway in downtown Portland are specifically susceptible to flooding based on our analysis. Flooding could also lead to isolated populations in rural areas where RETRs follow rivers. However, based on our evaluation, there is generally sufficient RETR redundancy in the majority of areas within the region to reach populations and assets during a flood event even if detours may be long.

6.3.3 Assessment of Community and Equity

As described in Section 3.0 Overview of Key Concepts and ETR Development Methodology, Metro compiled ACS 5-Year Estimates (2013-2017) data aggregated to Census tracts to evaluate RETRs with regards to providing emergency access to vulnerable populations. These populations may be disproportionately affected by an earthquake or other disaster as well as during emergency response. For evaluation purposes, areas with vulnerable populations above the five-county regional average were identified and considered. Definitions and the five-county regional average rates for each vulnerable population by percentage (%) higher than the average in the region are shown in Table 6.7 below. These data in relation to RETRs are presented graphically on Figures 6.14 to 6.19.

Table 6.7 – Vulnerable Population Definitions and Data Sources

	Five-county Regional Average Percent of Population	Description
People of color (POC)	26.0	Persons who identify as non-white Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, some other race, two or more races, and any race combined with Hispanic or Latino ethnicity
People under the age of 18 (18)	22.3	Persons who are under the age of 18
People over the age of 65 (65)	13.5	Persons who are over the age of 65
Households with no vehicle (NV)	7.7	Measures level of access to a vehicle for households
People with Limited English proficiency (LEP)	7.2	Persons who identify as unable “to speak English very well”.
People with low-income (LI)	28.0	Persons with incomes equal to or less than 200% of the Federal Poverty Level (2016), adjusted for household size. The 2016 federal poverty level for a two-person household was \$16,020.

Source: U.S. Census American Community Survey 5-year average estimates (2013-2017).

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

6.3.3.1 RETR and SSLR Access to Specific Vulnerable Populations

Figures 6.14 through 6.19 show the RETRs and SSLRs in relation to areas of the six identified vulnerable populations in concentrations over the 5-county regional average as described above. Represented in red for map is the percentage higher than average for the region for each respective category (shown in Table 6.7).

DRAFT

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

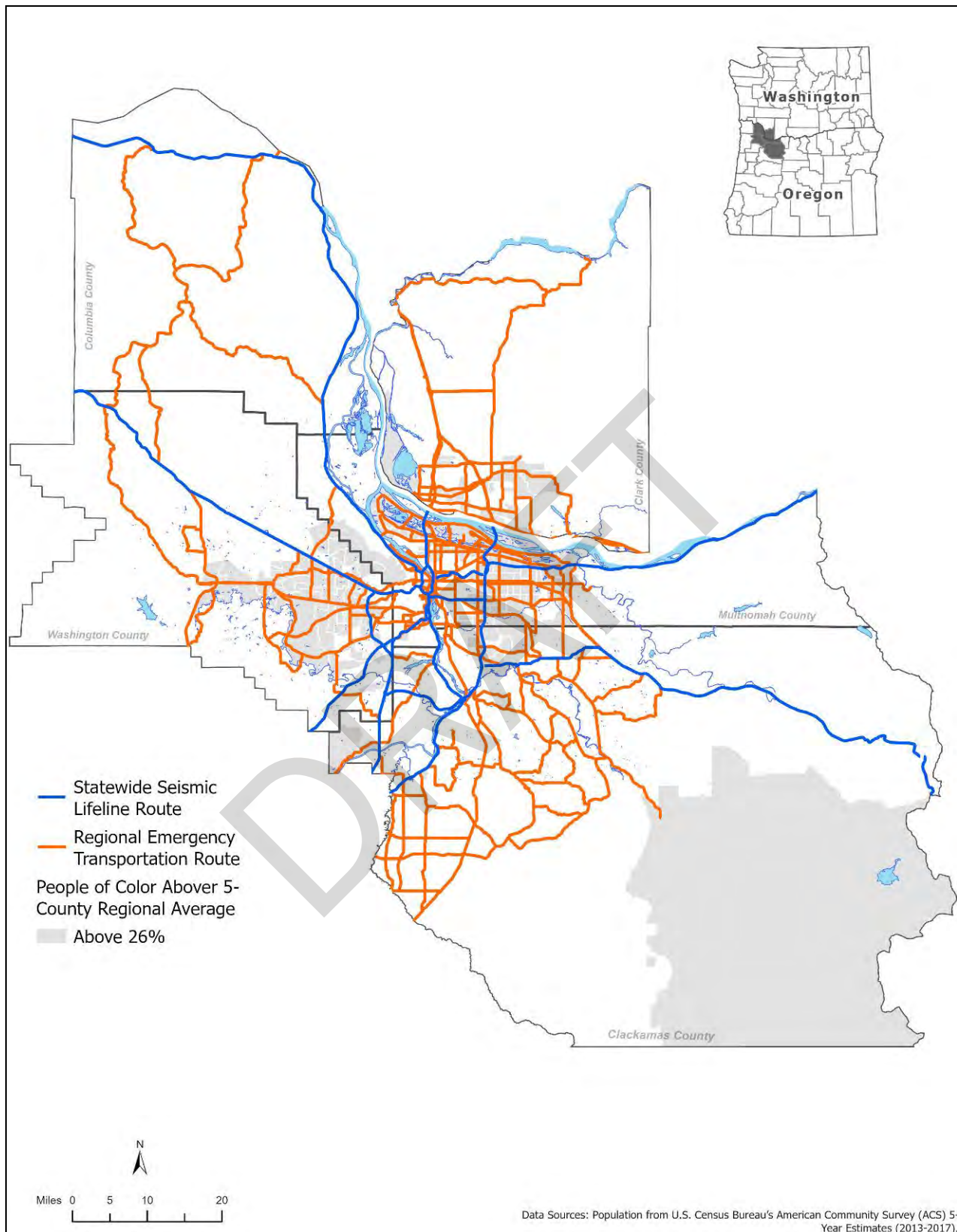


Figure 6.14. RETRs and SSLRs relative to People of Color

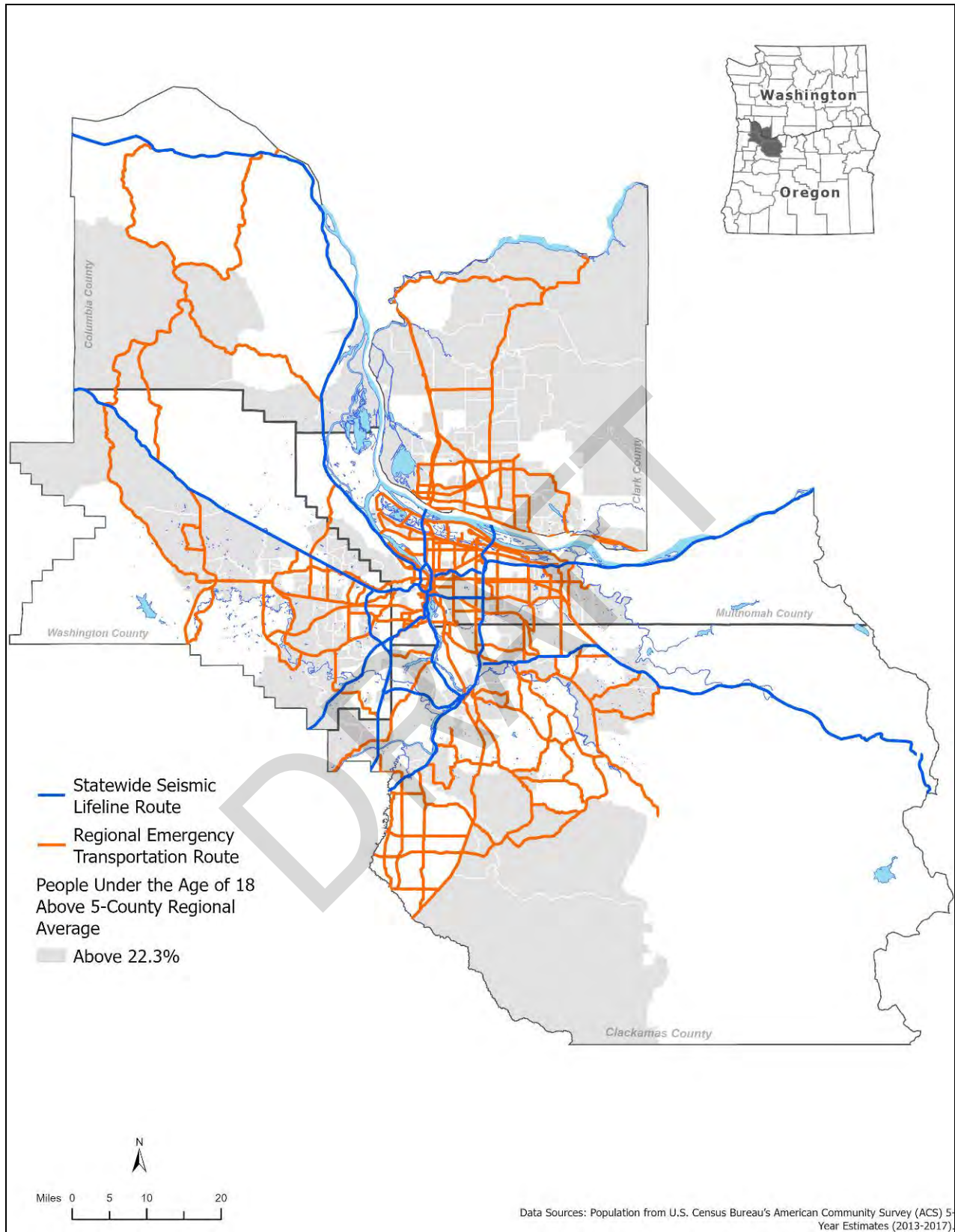


Figure 6.15. RETRs and SSLRs relative to People Under the Age of 18

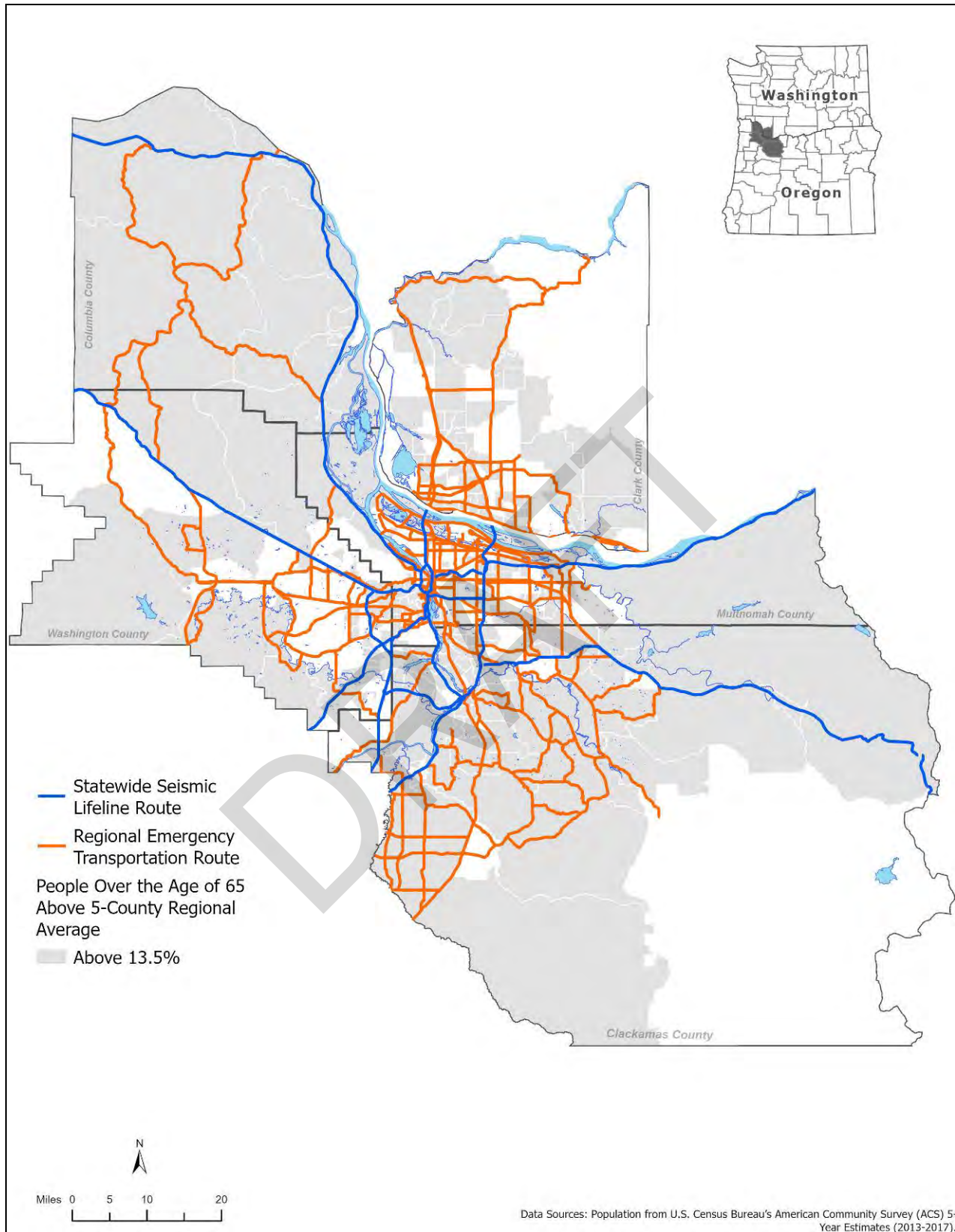


Figure 6.16. RETRs and SSLRs relative to People Over the Age of 65

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

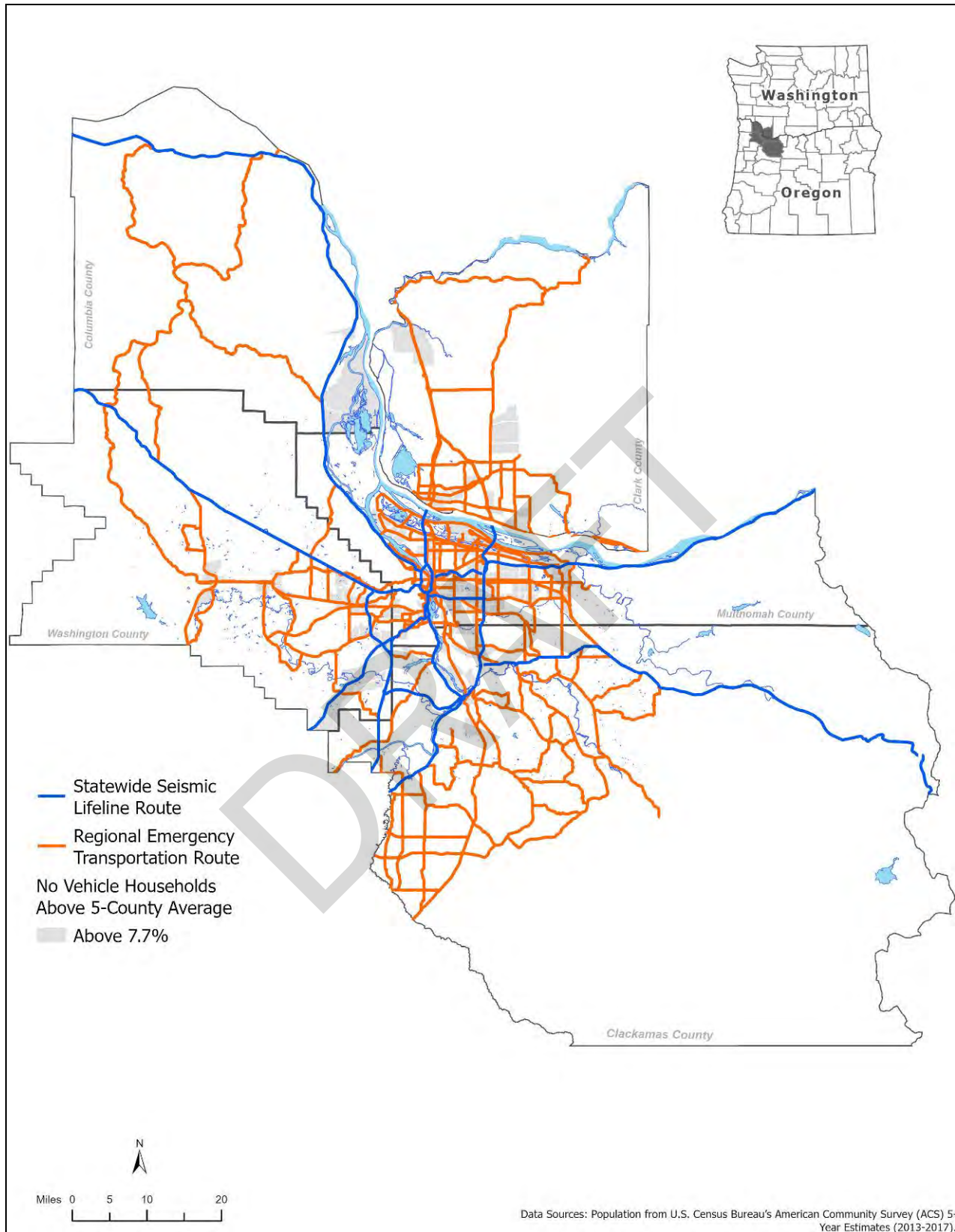


Figure 6.17. RETRs and SSLRs relative to Households with No Vehicle

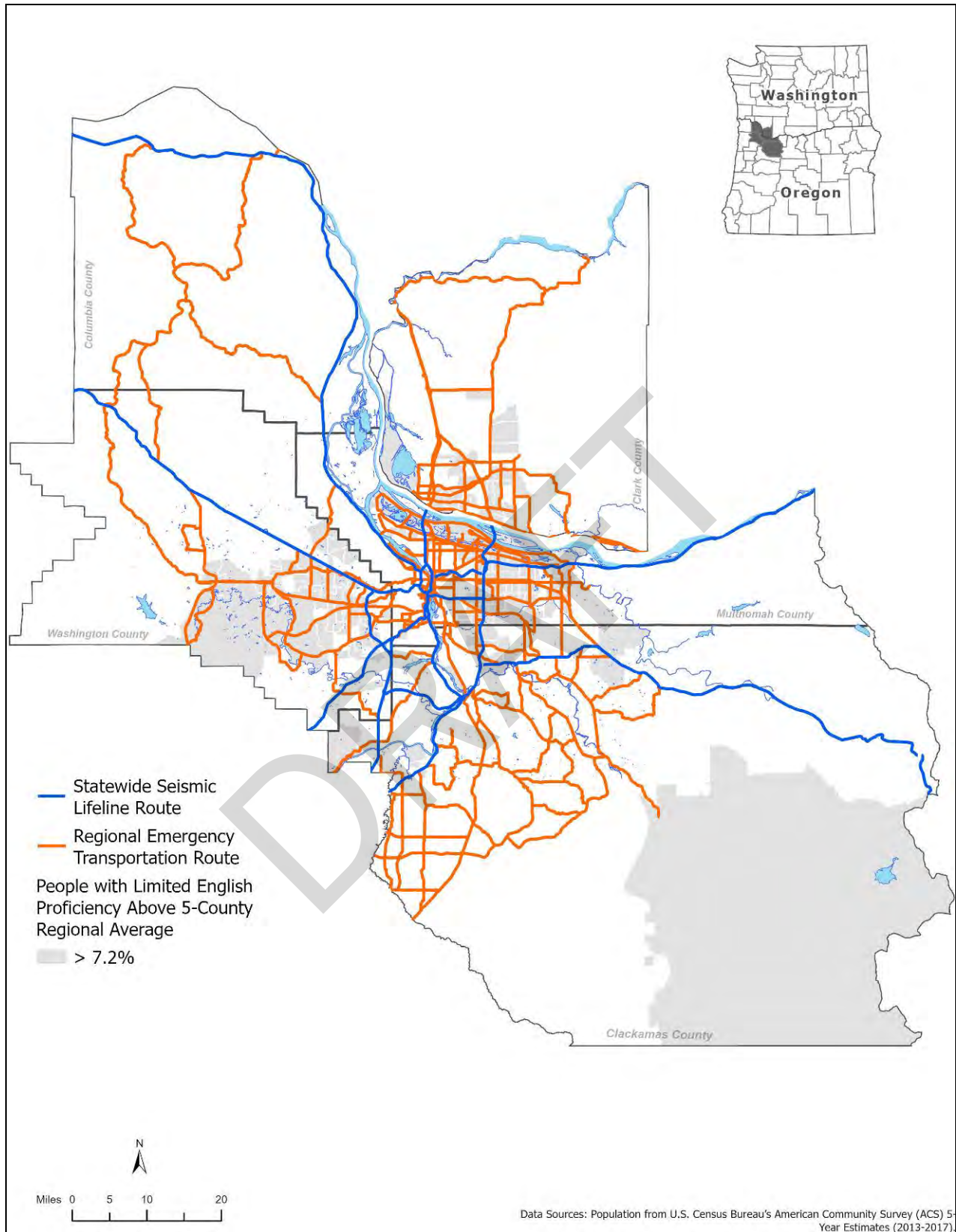


Figure 6.18. RETRs and SSLRs relative to People with Limited English Proficiency

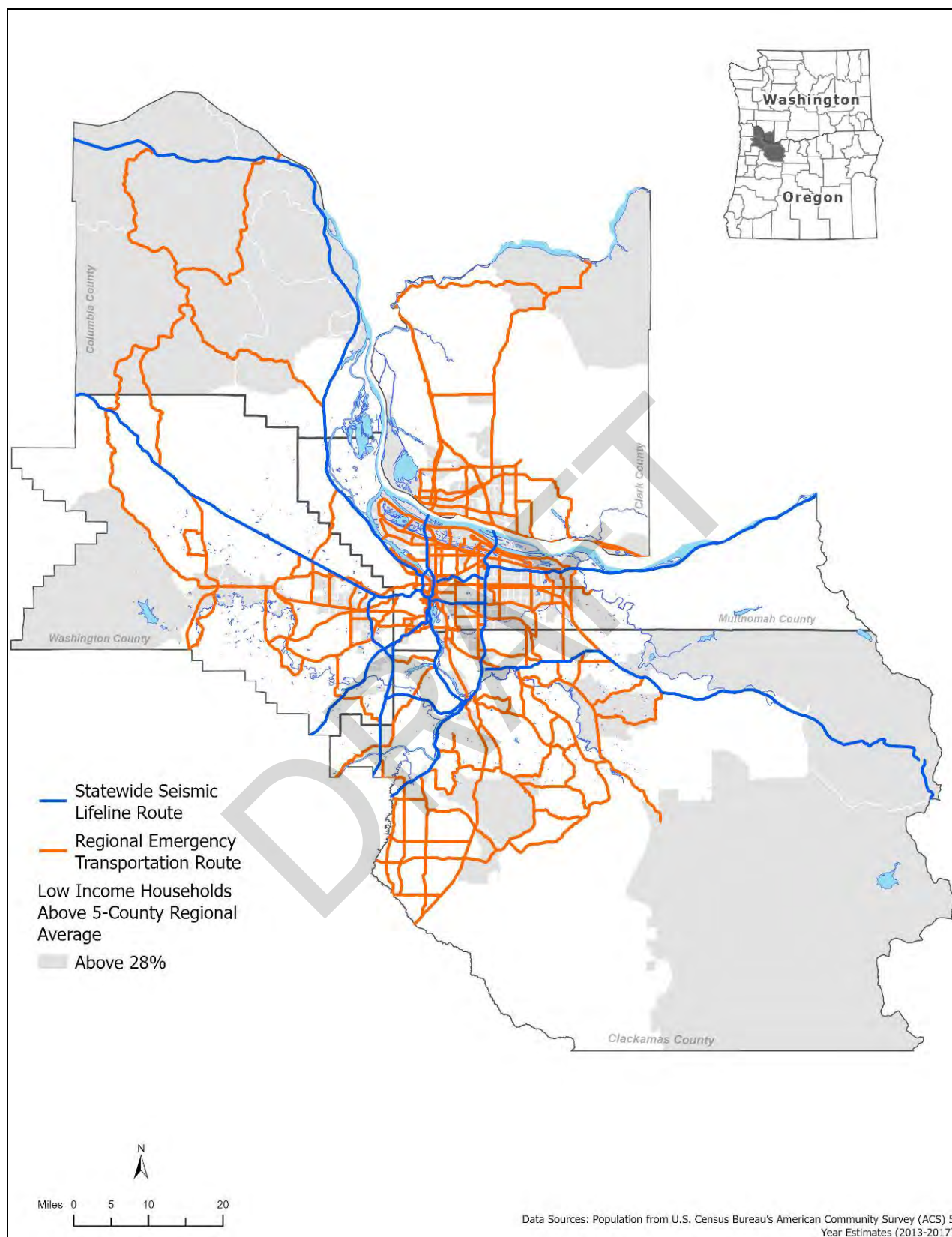


Figure 6.19. RETRs and SSLRs relative to People with Low Income

Based on this evaluation, the updated RETR system provides adequate access to vulnerable populations in the region. Further, vulnerable populations are not only concentrated in urban areas. People with low Income and people over the age of 65 especially are concentrated in rural areas. These populations are more likely to be isolated due to a lack of redundancy of RETRs. The RETRs and SSLRs traverse through vulnerable communities to ensure connectivity and accessibility; however, caution would be applied to those communities to make sure they would not be overburdened by emergency response related service vehicles, such as for debris management, etc. Connectivity and accessibility needs for urban and rural communities vary greatly; for example, access to transit would likely be of more importance to in more urban contexts and access to fuel PODs would likely be higher priority for rural communities. The accessibility needs for people with low-income, people over the age of 65, and people under the age of 18 is of significance and should be addressed through future community-based emergency preparedness and debris management planning and engagement.

6.3.3.2 Additional Social Vulnerability Evaluations

In addition to individual vulnerable population evaluations, it is valuable to consider where multiple vulnerable populations intersect and are concentrated. Figures 6.20 through 6.22 present these evaluations.

To support this evaluation, Metro identified census tracts in the five-county region with above regional average concentrations of the following three categories of vulnerable populations: people of color (POC) by race and ethnicity, people with limited English proficiency (LEP), and people with low-income (LI). Called RETR Equity Focus Areas (EFAs), the EFAs do not account for population density, but only when a census tract exceeds the 5-county regional average rates for POC, LEP or LI. To better account for concentrations of these populations in urban and rural areas, Metro applied a separate population density screen to the EFAs at the block group level using the ACS 5-year estimates (2013-2017). Block groups are enumeration units used by the U.S. Census that are smaller than census tracts.

While the RETR EFAs were identified using demographic data at the census tract level (because the margins of error are too large at the block group level), block groups were used to determine the density of total population to better account for concentrations of people of color, people with limited English proficiency and people with low income in urban and rural areas. The five-county regional average population density is 0.76 people per acre. Higher population density is defined as equal to or more than 0.76 people per acre per block group and lower population density means less than 0.76 people per acre per block group.

Figure 6.20 shows RETR EFAs in the region defined above in *Section 4.0 Overview of Key Concepts and ETR Development Methodology* as areas with one or more of the POC, LEI, and LI populations above the five-county regional averages for each population.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

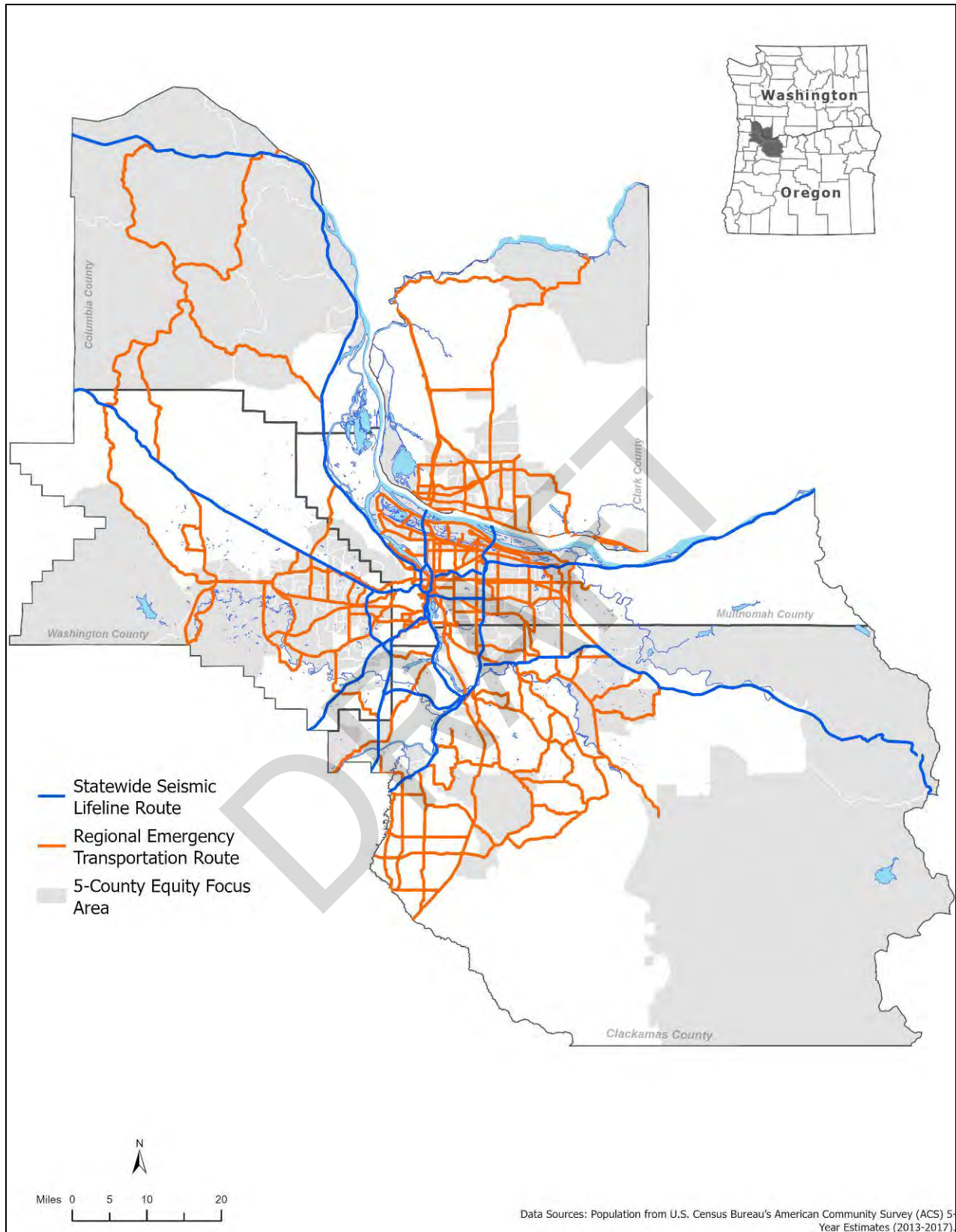


Figure 6.20. RETRs and SSLRs Relative to Equity Focus Areas

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Figure 6.21 presents the RETRs relative to EFA census tracts further screened by areas with above the regional average population density. Higher density equity focus areas are defined as block groups within EFA census tracts with more than 0.76 people per acre. The analysis shows RETRs and SSLRs provide connectivity and service to equity focus areas with higher population densities in both for urban and rural areas.

DRAFT

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

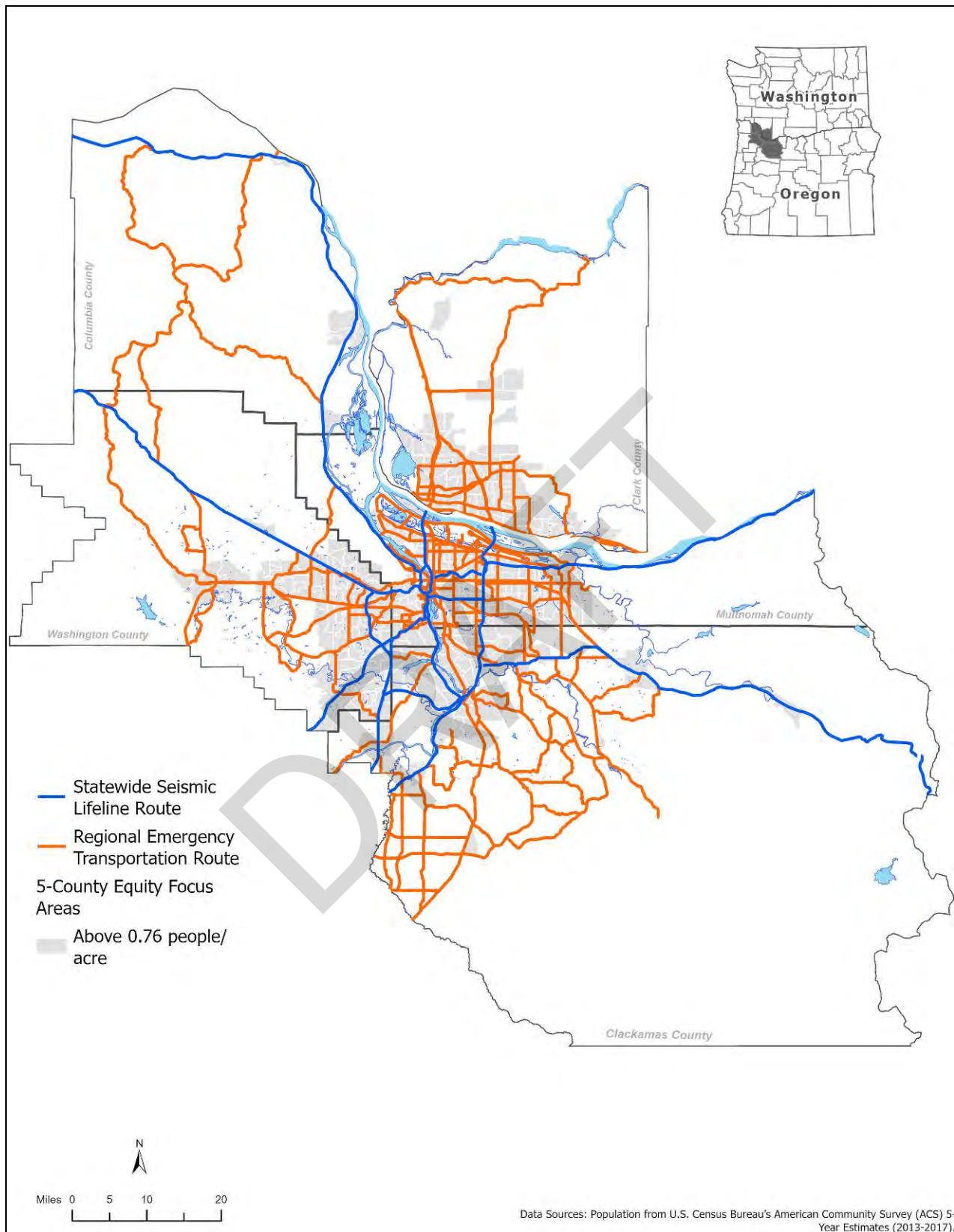


Figure 6.21. RETRs Relative to Equity Focus Areas Above the 5-County Density Rate

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Figure 6.22 shows census tracts with concentrations of vulnerable populations with show shading to indicate how many types of vulnerabilities are present in each tract (0 through 6).

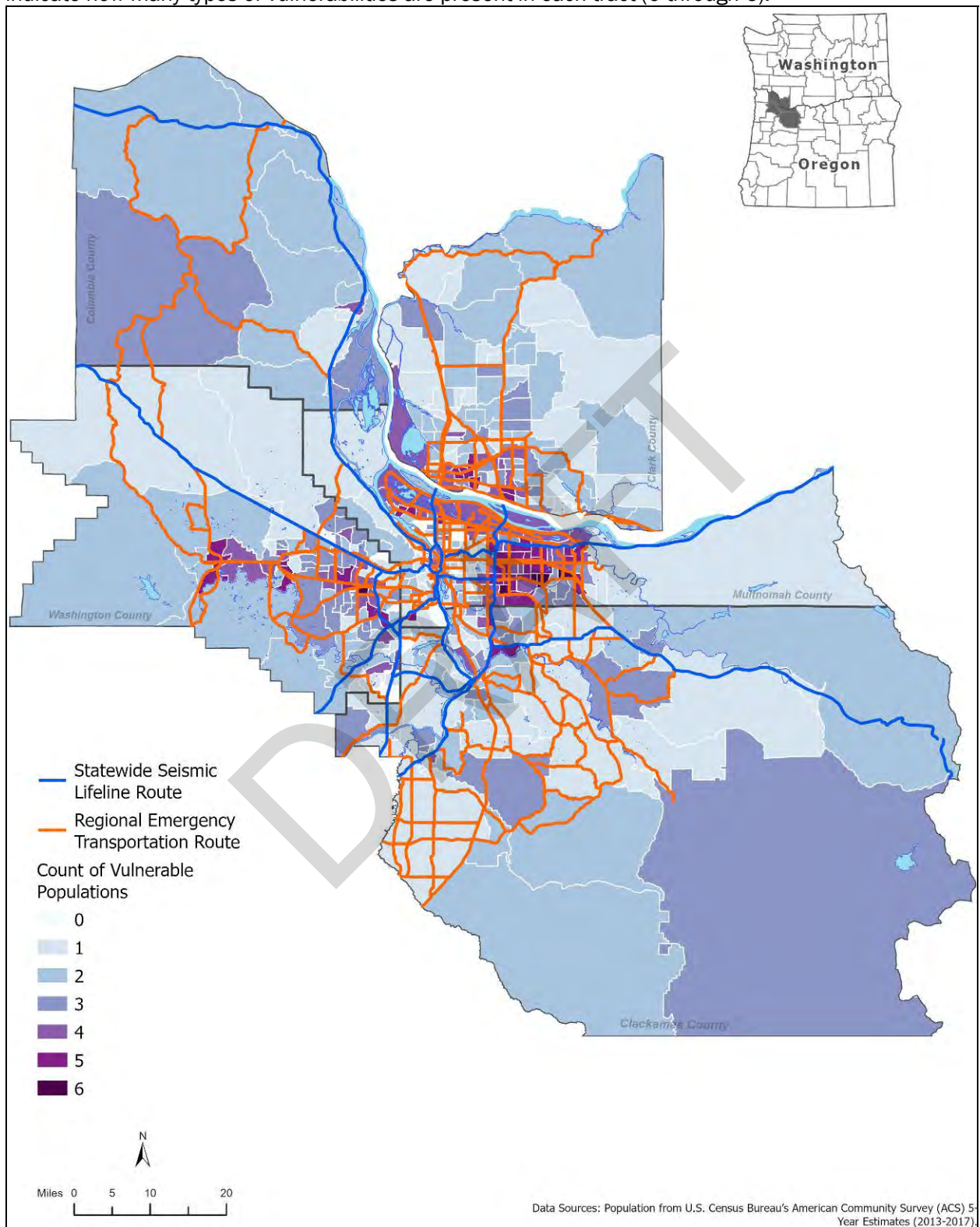


Figure 6.22. Areas of Vulnerable Populations with High Density Screen

This work provides a preliminary assessment of considering community and social equity factors to evaluate the potential benefits and burdens of the RETRs and SSLRs routes. Based on the demographic mapping for the EFAs with a higher density screen (Figure 5.22) and the mapping that shows census tracts that include higher than average concentrations of multiple vulnerable populations (Figure 5.24), the RETRs and SSLRs provide adequate connectivity and accessibility for vulnerable populations in urban and rural communities. However, when screened with route resilience, many of the rural populations may become isolated from emergency response resources during seismic, flood, or landslide events. Further, these areas are less likely to be accessed quickly after an event. Therefore, work building resilience and emergency supplies within these communities will be important.

In disaster planning for social vulnerabilities and connectivity to emergency routes, an in-depth look at the demographics and socioeconomic attributes, such as poverty, income, education, gender, age, race, ethnicity, housing, health, and physical abilities, are all critical factors to consider for evaluating whether distribution of benefits and burdens is equitable. Social vulnerability factors to consider in future planning efforts include:

- Diversity and composition of families and households (e.g., single head of households, government-assisted households)
- Race/ethnicity/language
- Socioeconomic status (income, employment and education)
- Special needs of people without vehicles, older adults, people with disabilities or people who do not understand English well
- Lack of access to resources by those most in need of assistance (medical, housing, food, affordability, disability, etc.)
- Networks to provide access to economic resources

A more thorough analysis of these factors in combination with direct engagement of potentially vulnerable populations is recommended to provide a more in-depth look at the equity implications and help planners better prepare for an respond to emergency events. *Section 7.0 Anticipated Applications and Recommendations for Future Work* describes potential upcoming work to address these needs.

6.4 RETR Update Key Findings

6.4.1 Overall Findings

Based on our evaluation, the currently proposed system of RETRs provides adequate connectivity and access to routes and facilities identified during the methodology development. However, the route resilience evaluation highlighted significant weaknesses that will likely result in isolated populations and issues connecting critical infrastructure used for response and recovery to the populations and responders that need access. Supply distribution into the region via the ground vehicle transportation network from the east (PDX/Ports/Redmond Airport) and the west (ships off the coast) will be difficult if not impossible in the event of a large earthquake. The Willamette and Columbia rivers will be barriers to emergency response traffic due to areas of liquefaction and landslide, potential petroleum product

pollution from the CEI Hub, as well as significant bridge vulnerability. Bridge vulnerability and landslides are also likely to contribute to isolated populations in rural areas due to a lack of ETR redundancy. These weaknesses highlight the need to plan and mitigate for areas of low resilience to natural hazards without adequate route redundancy, and to develop guidelines operationalization use of the routes during an emergency. Some specific observations are included below and future work is discussed in *Section 7.0 Anticipated Applications and Recommendations for Future Work*.

The vulnerabilities of the ETR network are significant and will likely require billions of dollars to adequately mitigate hazards to the full ETR system. Due to the limited availability of funding for transportation in the state and region, this makes the development of a tiered or phased system of ETRs like ODOTs system critical. Prioritization of routes can help local agencies better plan for improvements to higher priority infrastructure and seek funding for resilience improvements to increase the resilience of the ETR system as quickly as possible. This prioritization should include not only resilience considerations, but a cost/benefit analysis that can develop the most efficient and cost effective way to increase resilience as quickly as possible. Phase 2 of this effort that will include some of this work is outlined in more detail in *Section 7.0 Anticipated Applications and Recommendations for Future Work*.

6.4.2 Connectivity and Access Findings

- Route redundancy in the east side of Portland and in the SW corner of the region is high in the current RETR system when compared to the critical infrastructure and essential facilities mapped in these areas. Prioritization of routes should be considered and some of the current RETRs may be able to be designated LETRs.
- Further refinement of critical infrastructure and essential facilities designations within the region would be beneficial before the next phase the of RETR update. Due to variability in the classifications (between jurisdictions and disciplines), a working definition was established for this project as outlined in *Section 3.0 Overview of Key Concepts and ETR Development Methodology*. Additional facilities and services could be incorporated in future updates.
- Areas of Clark County outside of the Vancouver area have UGB areas that are serviced by fewer RETRs than other areas of similar population/urban growth in the region. Furthermore, the majority of the routes are state routes. It may be prudent to increase RETR redundancy in these areas with more RETRs on local agency facilities.

6.4.3 Route Resilience Findings

- In the event of a large earthquake, bridge vulnerability and expected damage due to liquefaction will greatly hinder the connectivity of the RETRs and the region. Seismically induced landslides will further disrupt the system. This is particularly an issue in rural areas where route redundancy is not sufficient to avoid isolated populations and in areas where river crossings are imperative for emergency response. Based on information from emergency management, the majority of the supplies for the region will be coming from the east and the Redmond Airport. Crossings of the Willamette and Columbia rivers are imperative to distribute supplies within the region.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

- As mentioned with the bridge vulnerability map, information about bridge resilience is available from ODOT, but is not available from WSDOT. However, WSDOT has invested in seismic resilience of facilities statewide; therefore, the lack of information available to compile with the ODOT data should not be taken to indicate deficiency of infrastructure, just lack of available comparable data at this time. Further information about WSDOT bridge resilience should be incorporated when available.
- Lack of regional ETR redundancy results in Columbia County being especially vulnerable in both earthquake and flood events.
- Landslides outside of an earthquake event generally occur as singular events or as a small group. However, increased wildfires will develop increased risk for landslide events during wet weather periods and increased storm events may result in more landslides at a time. Additional mapping and considerations for landslide and wildfire events should be considered in future updates.
- As mentioned above, the DOGAMI debris data should be further evaluated to better reflect expected damage to the regional ETRs as well as where access will be needed to manage and remove debris within the region.

6.4.4 Community and Equity Findings

- The evaluation of vulnerable populations highlighted prevalence of over 65, under 18, and low-income populations in rural areas where there is less redundancy of regional ETRs and fewer travel options are available.
- The evaluation demonstrated different vulnerabilities in the rural and urban contexts; particularly the aging population in rural areas and more reliance on public transit or alternate modes of transportation in the urban areas.
- Ultimately, this was an evaluation of existing data; however, no conversations were held with communities classified as vulnerable within the data criteria. Future work needs to take these mapped results back to communities for discussion about how well the data represents their experience, and what additional information is needed to better represent their unique vulnerabilities and needs for the purposes of RETR planning (and others). Fortunately, the RDPO/Metro Social Vulnerability Tool (SVT) project will conduct outreach to a wide range of communities in 2021 to validate and explore factors for just such incorporation into future planning.

7.0 FINAL UPDATED ROUTE SUMMARY

The final updated RETR network as described above is detailed in Table 6.1 and shown on Figure 6.1 (*map with legend to be provided with large format*) below and attached in Appendix F as large format. This effort resulted in 192 RETR segments in addition to the 35 SSLR segments identified by ODOT.

8.0 ANTICIPATED APPLICATIONS AND RECOMMENDATIONS FOR FUTURE WORK

This section summarizes recommended future work that emerged during this two-year first phase of the regional ETR update project. Recommendations address topics raised by project stakeholders and/or were identified during the evaluation that fell outside the scope and budget for the initial phase of work (2019-2021). It is important to note that all future project work is contingent upon funding. Many of the proposed projects require further partnership between emergency management, planning organizations, and owner/operators of transportation facilities. The RDPO Steering Committee should continue to leverage the Urban Areas Security Initiative (UASI) federal grant to the region to continue immediate planning needs; it is also important that transportation stakeholders and entities with capital investment responsibilities for facilities similarly prioritize funding to accelerate our region's transportation resilience and preparedness.

Table 8.1 – Summary of Recommendations

	Recommendation	Level	Lead / Key Partners
1	Integrate RETRs into other planning and investment decision-making processes	State, Regional, and Local	Various
2	Prioritize or tier the regional ETRs	Regional	RDPO & Metro (RETR Phase 2)
3	Develop RETR management plans to include: RETR operations in an emergency, evaluation of specific hazard events, maintenance and coordination between jurisdictions, and transition to recovery	Local with regional facilitation	Local jurisdictions with facilitation by RDPO & Metro (RETR Phase 2)
4	Better address vulnerable populations	Regional and Local	RDPO & Metro (RETR Phase 2 and Social vulnerability Tool (SVT))
5	Integrate RETR and LETRs into evacuation planning	Local and regional	TBD
6	Formalize the RETRs and agree to a plan for consistent updates	Regional	RDPO & Metro (RETR Phase 2)
7	Engineering evaluation of top priority routes for seismic upgrades	Local and regional	TBD
8	Evaluate river routes	Regional/State	Ports and Coast Guard, State Resilience Office
9	Develop equity-centered public messaging for transportation in emergencies	Regional	RDPO Public Messaging TF
10	Evaluate bike and pedestrian options for emergency transportation	Local	Various

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

8.1 Integration of ETR Work in Planning (Ongoing – Continuous)

Recommendation 1. Integrate RETRs into other planning and investment decision-making processes

As with all planning, the RETR work ties to many other efforts. The Table 8.2 below is a summary of those interrelated plans, projects and initiatives. Most are likely to be referenced throughout the detailed near and longer-term recommendations sections. RETRs and the local routes that serve the regional routes should be incorporated into many future planning efforts, including emergency response plans and exercises, natural hazards mitigation planning, master planning, local and regional transportation system plan updates, and capital improvement planning.

The RETRs should be prioritized for resilience upgrades as projects are planned by local, regional, and state agencies as well as transportation providers. Based on understanding of upcoming federal grant opportunities, including the need for transportation resilience upgrades, these planning efforts will help demonstrate the urgency and necessity when applying for mitigation grants.

Table 8.2 – Other State, Regional, and Local Plans that Connect to the RETR Update Project

#	PROJECT / PLAN	OWNER / LEAD	FOCUS AREA	STATUS / DATE	RELATION TO RETRs
1	Social Vulnerability Toolkit (SVT)	RDPO and Metro	An enhanced GIS data platform for analysis of social vulnerabilities in the region	Initiated 2020, due by 2022	Key input for equity analysis. To be incorporated with RETR Phase 2 roll-out with local jurisdictions.
2	Transportation Recovery Planning	RDPO with Portland State University's Transportation Research and Education Center (PSU TREC)	Dissemination of PSU/PBEM/PBOT developed transportation recovery toolkit and plan; to promote further plans in region	Portland Toolkit and Plan established 2017, dissemination project 2020-2022	RETRs should be evaluated for recovery purposes with this toolkit, and recommendations made for any recovery-specific additions/changes.
3	Emergency Fuel Planning	RDPO with the Oregon Department of Energy (ODOE) and CAN Research	Assessment of emergency fuel needs for continuity of essential services in a catastrophic event, and plan development for fuel management in a large-scale emergency	Initiated in 2019, to be completed in early 2021. TBD on local or regional exercises to follow.	Fuel distribution in a catastrophic event will be reliant on the RETRs (along with SSLRs). Primary locations of fuel storage and distribution need to be accessible from SSLR/RETRs.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

#	PROJECT / PLAN	OWNER / LEAD	FOCUS AREA	STATUS / DATE	RELATION TO RETRs
4	Regional Critical Facilities Project	RDPO	Consistent designation of critical facilities region-wide and a toolkit to help prioritize use during a real-world event	2017- PAUSED	A consistent designation of critical facilities that support essential services is needed to further refine connectivity criteria of the RETRs for Phase 2 operationalizing with local jurisdictions.
5	Regional Transportation Plan (RTP)	Metro	Coordinates and plans investments in the regional transportation system (Portland tri-county urban area)	Updated every 5 years; Next RTP update due in Dec. 2023	RETRs can inform updates to regional transportation policies and criteria for prioritizing projects and programs in the plan.
6	Regional Disaster Debris Management Planning	Metro	Designates disaster debris management sites and provides guidance for Metro on how to manage and coordinate debris operations and system disruptions following a debris-generating event.	Periodically updated; last update completed in 2018	RETRs provide important connections for moving debris and to access disaster debris disposal sites.
7	Regional Transportation Plan	SW RTC	Coordinates and plans investments in the regional transportation system (Clark County, WA)	Updated every 5 years; Next update due late 2023	RETRs can inform updates to regional transportation policies and criteria for prioritizing projects and programs in the plan.
8	Regional Resiliency Assessment Program (RRAP)	Cybersecurity and Infrastructure Security Agency (CISA) with Oregon Governor's Resilience Office	Assessment of multi-modal transportation solutions for a catastrophic earthquake	In progress since 2018. Estimated completion summer 2021.	Incorporate the "islands" created by a catastrophic earthquake (disruptions in the transportation networks) into the Phase 2 RETR operational planning with counties/cities.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

#	PROJECT / PLAN	OWNER / LEAD	FOCUS AREA	STATUS / DATE	RELATION TO RETRs
9	Earthquake Ready Burnside Bridge Project (EQRBB)	Multnomah County	Project to seismically upgrade the Burnside Bridge to establish a downtown river crossing that will be available for immediate use for life safety following a catastrophic earthquake	2017-2030	RETR designation of Burnside as a key east-west route for emergency response is an important support for this effort; likewise, if successful this seismic investment is an important reinforcement of a central RETR for the regional transportation capacity.
10	Oregon Highway Plan Update	ODOT	Statewide Seismic Lifeline Routes (SSLRs) are designated in this plan	2021-22	The connection between SSLRs and LETRs drive a large part of the RETR designations.
11	Port of Portland Resilience Program	Port of Portland	Prepare the Port to support emergency response and return to operations after catastrophic events or disruptions through physical and operational actions and partnerships. Design and construct a seismically resilient runway at PDX to support immediate response and long-term recovery.	TBD	RETRs are critical connections between PDX and Marine Terminal 6, which have the potential to serve as essential aid, transportation and logistics connection points between the Portland metropolitan region and areas outside the region within and beyond Oregon.
12	Portland Bureau of Transportation (PBOT) Transportation Resilience Strategy	PBOT, City of Portland	Outline social and physical impacts to natural hazards; begin identifying mitigation solutions	Jan-June 2021	Recent efforts in transportation resilience and recovery, and social equity will be inputs into this plan

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

#	PROJECT / PLAN	OWNER / LEAD	FOCUS AREA	STATUS / DATE	RELATION TO RETRs
13	Local hazard-specific evacuation plans	TBD	Geographic and hazard specific plans to evacuate populations at risk	TBD	Use of RETRs for evacuations came into question in 2020 wildfire season and needs to be clarified
14	City and County Transportation System Plans (TSPs)	Cities/Counties	Long-range plans identify transportation needs for at least a 20-year period and define priority capital projects and programs (including maintenance of the system & funding)	Periodically each 7-10 years (varies)	Regional ETRs should be considered for resilience investments.
15	City and County Roadway Capital Improvement Plans (CIPs)	Cities/Counties	Defines near-term priority capital projects (including maintenance of the system and funding); draws from TSP and other plans/studies.	Periodically updated every 3-5 years	Regional ETRs should be considered for resilience investments.

8.2 Project Second Phase: Prioritizing, Operational Planning, and Formalizing the RETRs (Near Term – Next 1 to 5 Years)

A project concept was successfully submitted to the 2021 UASI pipeline of the RDPO in November 2020. The project concept for a second phase of work, if approved, will be funded in late 2021 for implementation in 2022-2024. The project proposal addresses most of the recommended near-term priorities.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Recommendation 2. Prioritize or tier the RETRs

An immediate next step will be to prioritize or tier the 192 RETR segments. With the phase 1 updated in 2021, 87 of routes were added to the 104 of 2006 established routes. With this most recent update, the network of RETRs is more robust, providing enhanced connectivity. However, for capital investment planning purposes, it will be most useful to determine key routes for seismic and other natural hazard resilience investment. It will also be important to make operational distinctions between different RETRs for prioritization in a real-world event.

For example, ODOT established a 3-tier system for their SSLRs, which could be emulated or adapted for the RETRs. ODOT's tiered system is based on the desired time required to get the routes open. As shown in Appendix D, Tier 1 routes are prioritized to be cleared and repaired first, then Tier 2 and so forth. Tiering and prioritization can also be helpful when planning capital improvements and applying for state and federal funding to improve resilience. Funding can be applied according to prioritization so that the most critical ETRs are retrofitted first.

The proposed Phase 2 project will develop a methodology for prioritization or tiering, work with owners/operators of the RETR facilities, as well as the elected leadership and local officials, whose ultimate decision it will be to endorse recommended tiering/prioritization for future investment and operational planning.

RETR OPERATIONAL CONSIDERATIONS

- Active landslides and high-risk landslide areas
- Areas of expected high liquefaction and flood zones
- Route geometry for emergency and large vehicle access
- Road grade and bridge vulnerability including overpasses and overcrossings.
- Route access restrictions for first responders and public
- Pedestrian access and alternate transit alternatives
- Public messaging regarding use of RETRs
- Debris management plans, equipment access, and temporary storage sites
- Coordination on multi-jurisdictional routes
- Planned jurisdictional transfers (State to local ownership)
- SSLR alternative regional and local routes identified by seismic resilience assessments (2019-2020)
- Local responsibilities for SSLR route damage assessment and debris clearance (if any)

Input from the following:

- Oregon Department of Transportation (ODOT) Tiering
- Regional Resiliency Assessment Program (RRAP) Study, Oregon
- Metro Regional Transportation Plan (RTP)
- Metro Regional Debris Management Plan
- RDPO Transportation Recovery project
- Local capital improvement plans
- Transit infrastructure investments

Recommendation 3. Develop RETR management plans to include: RETR operations in an emergency, evaluation of specific hazard events, and maintenance and coordination between jurisdictions, and transition to recovery.

Local Ownership

The proposed next phase of the project will focus on operationalizing the RETRS with local jurisdictions. Road and bridge facilities in the RETRs are owned and operated by the counties or state, and as such, planning can be coordinated with regional partners, but is ultimately owned by the local jurisdictions. We anticipate that due to equipment and personnel availability, local agencies will likely be responsible for clearing select ODOT routes and will have full responsibility for clearing regional and local routes.

All Hazards Approach

Local jurisdictions should consider the use of their tiered/prioritized RETRs against potential regional hazard risks, including snow and ice events, landslide or flooding events, and wildfire. Different disasters may require activating different routes suited to unique events and/or types of hazards. Future evaluation efforts should consider other hazards due to the effects of climate change, such as increased landslides and wildfires, damage to bridges and culverts due to washouts and flash flood events, increased and prolonged storm events, and flooding and water level rise.

Develop Detailed Operational Plans for ETRs and/or Incorporate into Existing Emergency Plans

It is recommended that detailed emergency transportation plans and response procedures are developed to better define concepts, such as ETR use, users, priorities and responsibilities for route maintenance, debris clearance, and repair. A coordinated plan with a timeline and associated responsibilities for federal, state, regional, and local emergency responders would provide the framework for developing emergency transportation response plans for varying levels of government. It would also be prudent to incorporate management and use of ETRs during future preparedness exercises.

The use of ETRs immediately after disaster in the region will depend on event-specific damage and needs, and knowing that it will be difficult to limit access to ETRs in the event of a large-scale disaster before federal and state aid and personnel are able to supplement local law enforcement. Currently, there are no plans to limit or restrict the use of ETRs by law enforcement.

Debris Management and Route Restoration

All levels of ETRs will need to be accessed and cleared of debris and potential obstructions, as well as damaged bridges, bridge approaches, or slope and embankment failures will have to be repaired. ETRs should be cleared according to the operational planning developed in future phases of this project. An example would be to clear based on order of importance from SSLRs to LERRs. Emergency debris management plans for the RETRs should be coordinated with the Metro Debris Management Plan that includes debris management site locations.

Cross-Jurisdiction Coordination

Part of the next phase of planning will be to evaluate LETRs and LERRs at jurisdictional boundaries, including those outside the region, to assess where they cross into a neighboring jurisdiction, district and/or community. In such instances, it is prudent to coordinate with the neighboring jurisdiction to ensure the road's designation as a local or RETR is consistent across jurisdictional boundaries and operational plans for real-world events will be coordinated.

Response to Recovery

It is inevitable that ETRs, designated to facilitate immediate response priorities, will also be used for post-emergency recovery. As such, plans should include a timeline that details how the use of these routes will vary across jurisdictions and change after an event and during the recovery phase. Further, a better definition of federal, state, regional, and local responsibilities for recovery and repair of the routes is warranted.

In 2021 the RDPO, in partnership with PSU's TREC will disseminate a toolkit developed by PBOT, PBEM, and PSU in 2018 to facilitate real-time decision-making about route restoration for recovery purposes. This dissemination project will provide important input on recovery considerations that can be applied in the Phase 2 RETR project to better address the transition of ETRs from emergency response to recovery purposes.

Recommendation 4. Better address vulnerable populations

This project evaluates districts and neighborhoods where ETRs intersect with vulnerable communities that may be disproportionately affected by an earthquake or other disaster (e.g., more heavily damaged areas or limited access to medical care facilities). Future planning will need to acknowledge where the inequities in emergency preparedness and response would occur, and therefore, specifically address diversity, equity, and inclusion in transportation aspects of emergency response and recovery planning.

Input from community leaders identified the need to ensure this body of work is relevant to community disaster preparedness activities and that there are clear lines of communication about how ETRs are implemented in the overall disaster planning at the regional and local levels. Though most leaders understand the need for the RETR project, many emphasized that there are current infrastructure improvements in communities that need to be addressed, and future infrastructure improvement plans should balance the local needs of these emergency routes with helping local communities to prepare for disasters. This is an opportunity to consider current community needs when improving the resilience of RETRs.

RDPO Project to Develop Social Vulnerability Analysis Tools and Data (2020-22)

The RDPO received funding from the Urban Areas Security Initiative (UASI) to support development of tools and data to identify social vulnerability across the five-county region as well as within each of the five counties.

The tools will help identify people in the region who are most likely to experience barriers to services and programs before, during and after disasters. Factors that will be considered in this effort include race, income, houseless, functional and access needs, limited English proficiency, among others.

Tools are expected to include:

- A regional definition for social vulnerability.
- A set of common social vulnerability indicator datasets (including national and available local data) that will be compiled into a regional and county-level social vulnerability index.
- Maps and GIS data that geospatially display the data for each index.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

The overarching concern brought up by community leaders was to adequately evaluate who would be served by these prioritized RETRs and to ensure that future planning prioritizes serving those with less access to resources in a disaster. To this end, the RDPO/Metro Social Vulnerability Tool (SVT) project advancing in 2021 will provide important up-to-date data for deeper evaluation of these considerations with local communities in the proposed Phase 2 project.

Recommendation 5. Integrate RETR and LETR into evacuation planning

Currently, each local jurisdiction maintains evacuation plans for specific vulnerable geographies and communities depending on their specific hazard risks. It is important that local jurisdictions integrate the RETR and LETR into their evacuation plans, and wherever possible, coordinate across jurisdictional boundaries to plan contingencies for evacuations that may rely on RETRs spanning boundaries.

2020 Wildfire Evacuations

During September 2020 when all of Clackamas County was on evacuation notice due to four simultaneous wildfire events within their boundaries, affordable housing partners in the region reached out to the RETR project team to get input on evacuation contingencies for their vulnerable populations. The RETR planning team directed inquiries back to the Clackamas and Multnomah County EOCs. This highlights the need for clarity about the purpose of ETRs and decision-making authority in a real-world incidents.

Recommendation 6. Formalize the RETRs and agree to a plan for consistent updates

The regional partners will likely benefit from an updated formalized agreement (MOUs or other types of agreement, etc.) between agencies, including ODOT, which defines a plan for clearing debris and repairing RETRs based on their prioritization/tiering and in line with local operational and emergency plans.

As roadway and capital improvement programs progress and infrastructure ages, routes should be updated to reflect the current state of infrastructure resilience against the hazard risks. Further, improvements to route corridors or new roadway corridors should be included in any route program updates on a regular basis.

It is recommended that the RETRs be updated at a minimum on a 10-year cycle: next update to commence in 2028 (anticipated 3-year timeframe to complete update by 2031).

It is recommended the regional partners, RDPO and Metro, conduct a shorter 5-year update to capture changes in the GIS data layers for any updated infrastructure, new critical facilities, and any updated or refreshed social vulnerability data.

8.3 Additional Follow-On Work to Advance Emergency Transportation Plans and Resilience (Longer-Term – 5 to 10 Years)

Recommendation 7. Engineering evaluation of top priority routes for seismic upgrades

Conducting a detailed engineering evaluation of all RETRs is not practical from a resource investment perspective. However, stakeholders should consider further investment in conducting site specific geotechnical and structural evaluations on a select group of RETRs (including bridges) to make informed investments to maximize seismic resilience and connectivity between LETRs, RETRs, and SSLRs in a catastrophic earthquake scenario. Details of the considerations to harden infrastructure include bridge/crossing age and vulnerability evaluations, including structural and geotechnical analyses and evaluation of the vulnerability of the route in general between crossings for liquefaction, lateral spread, and/or landslides. Route priority should also be considered. The system as a whole should be evaluated as well for both engineering and emergency response considerations. This will help identify areas where a lower tiered route may be considerably cheaper to harden than a higher priority route and still provide adequate connectivity.

Caltrans recently commissioned a **vulnerability study** of its State Highway System (SHS) to climate-change and extreme weather events. The result will identify transportation assets at risk of damage from these events, and will assist in future planning, design and funding decisions for adaption actions.

Recommendation 8. Evaluate river routes

The definitions in this study are related to ground transportation routes and do not include river routes. While the ETR project considered access to ports and shipping facilities, based on the numerous rivers in the region and the general expectation of large-scale bridge damage, we anticipate that ground transportation will be significantly affected. We recommend that RDPO and Metro consider a follow-up project that examines the potential use of river routes, including how river debris will be managed and what options are available for using watercraft for supply and freight distribution as well as public evacuation from damaged areas.

If a major earthquake occurs during daytime hours when most of the population is at their place of work or school, then a major issue for the immediate response phase is to help the public return home and/or reunite with family after an event, especially in the case where they are across a river from home and/or family. It would be prudent to develop a plan to facilitate public crossings of both the Willamette and the Columbia rivers after an event assuming that neither the I-5 nor I-205 bridges are functional.

Future efforts to better determine where ETRs intersect with vulnerable communities that may be disproportionately affected by an earthquake or other disaster (more heavily damaged areas or limited access to medical care facilities, etc.). Future planning will need to acknowledge where the inequities in emergency response would occur, and therefore, specifically address diversity, equity, and inclusion in emergency response and recovery planning.

Recommendation 9. Develop equity-centered public information and messaging about transportation systems in emergencies

Further pursuing equity on ETRs as discussed above means incorporating clear communication with communities about where ETRs are, how they should factor into preparedness planning, and how improving ETRs would impact their community. This also includes communication in different languages, using culturally-appropriate approaches and longer planning timeframes to incorporate voices less familiar with these planning processes. Future planning work should provide opportunities for community outreach and education, including people of different language groups, ages, socio-economic class, communities of color, and abilities to ensure that a broad cross section of community voices are represented and provided meaningful opportunities to shape the outcomes.

Develop a messaging campaign and information that helps communicate the role of ETRs and their uses prior to an incident. An example would be to include education about walking, biking, or other methods of transportation in lieu of driving to keep roads clear and promote public responsibility to keep RETRs available for emergency services.

Recommendation 10. Evaluate bike and pedestrian options for emergency transportation

In alignment with the equity information approach, future joint transportation and emergency planning at local levels should incorporate bike and pedestrian access to their LETRs and LERRs. An option could include isolated lanes on main LETRs or separate facilities that are provided specifically for non-motorized uses and transit vehicles.

REFERENCES

Clackamas County, 2018. Clackamas County Lifeline Seismic Bridge Priority Detour Recommendations Final Report, November 2018.

Clark Regional Emergency Services Agency 2013. Clark Regional Comprehensive Emergency Management Plan, The Emergency Operations Plan for Clark County, its Seven Cities, and Partnering Agencies, December 2013.

Clark Regional Emergency Services Agency 2011. Clark County Hazard Identification Vulnerability Analysis, 2011.

Metro 2018a. Regional Transportation Plan, 2018.

Metro 2018b. Metro Disaster Debris Management Plan, August 2018.

Metro 1996. Regional Emergency Transportation Routes, March 1996.

Multnomah County 2020. Draft Multnomah County Resilient Detour Routes: Recommendations to Oregon Department of Transportation, December 2020.

Multnomah County Department of Community Services – Transportation Division 2016a. Multnomah County Transportation System Plan, June 2016

Multnomah County Department of Community Services – Transportation Division 2016b. Road & Bridge Incident Response Inspection Plan, 2016.

Multnomah County Emergency Management 2017. Multnomah County Multi-Jurisdictional Natural Hazards Mitigation Plan, July 2017.

Oregon Department of Transportation (ODOT) 2015. Oregon Highway Plan, Oregon Department of Transportation, 2015.

Oregon Department of Transportation (ODOT) 2014. Oregon Highways Seismic Plus Report, Oregon Department of Transportation, October 2014.

https://www.oregon.gov/ODOT/Bridge/Docs_Seismic/Seismic-Plus-Report_2014.pdf

Oregon Department of Transportation (ODOT) 2013. Oregon Highway Seismic Options Report, Oregon Department of Transportation, March 2013.

Oregon Department of Transportation (ODOT) 2012. Seismic Lifelines Evaluation, Vulnerability Synthesis, and Identification, Oregon Department of Transportation, May 2012.

<https://www.oregon.gov/ODOT/Planning/Documents/Seismic-Lifelines-Evaluation-Vulnerability-Synthese-Identification.pdf>

Oregon Seismic Safety Policy Advisory Commission 2013. The Oregon Resilience Plan, February 2013.

Oregon, State of, 2017. Oregon State Infrastructure Protection Plan, March 2017.

Port of Portland 2019. Hillsboro Airport Seismic Resilience Assessment, February 2019.

Port of Portland 2018. Hillsboro Airport Master Plan Update, June 2018.

Port of Portland 2015. Port of Portland Corporate Seismic Risk Assessment Study, May 2015.

Portland Bureau of Emergency Management 2018. Portland Transportation Recovery Plan, July 2018.

Portland Bureau of Emergency Management 2017a. Preparedness Report, June 2017.

Portland Bureau of Emergency Management 2017b. Annex D | Evacuation Plan, October 2017.

Portland Bureau of Planning and Sustainability 2012. Portland Local Energy Assurance Plan, June 2012.

Portland Bureau of Transportation 2019. Portland 2035 Transportation System Plan, 2019 Minor Update.

Portland Bureau of Transportation 2018. Designing a Methodology for Portland's Emergency Transportation Routes, August 2018.

Portland Bureau of Transportation 2015. Post-Earthquake Bridge Inspection Response Plan, 2015.

Portland State University (PSU) 2019. Background and Considerations for Updating the Regional Emergency Transportation Routes in the Portland-Vancouver Metropolitan Region, Transportation Research and Education Center, Portland State University, August 2019.

https://drive.google.com/file/d/1BG1JKogOW1njE7ynr_OMzOCMQ7WCb99r/view

Portland State University 2018. Resilient Infrastructure Planning Exercise (RIPE) Summary of Findings, City of Portland, Institute for Sustainable Solutions, June 2018

Regional Disaster Preparedness Organization 2017. Regional Facility Assessment Project, Site Identification and Criteria Report, November 2017.

Regional Disaster Preparedness Organization 2017 – 2021 Strategic Plan/ Portland Homeland Security Strategy.

Washington County 2019. Memorandum on Washington County Bridge Seismic Resiliency Detour Recommendation Priorities, July 1, 2019.

Washington Military Department of Emergency Management Division 2016. Comprehensive Emergency Management Plan, June 2016.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Washington State Department of Transportation (WSDOT) 2015. Washington Transportation Plan, Washington State Transportation Commission, State's Metropolitan Planning Organizations, Regional Transportation Planning Organization, January 2015.

Washington State Department of Transportation (WSDOT) 2007. 2007 – 2026 Highway System Plan, High Benefit Low Cost, December 2007.

DRAFT

GLOSSARY OF TERMS

Accessibility

The ability or ease to reach desired goods, services, activities and destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices.

Arterial

Arterials provide direct, relatively high speed service for longer trips and large traffic volumes. Mobility is emphasized, and access is limited. These facilities form the primary connections between the central city, regional centers, industrial areas and intermodal facilities, as well as between neighboring cities and the metro region. Arterials generally span several jurisdictions and often are designated to be of statewide importance and serve as major freight routes.

Capacity

A transportation facility's ability to accommodate moving people or vehicles in a given place during a given time period.

Climate Change

Any change in global or regional climate patterns over time, whether due to natural variability or as a result of human activity that persists for an extended period, that is attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Collector

Collectors provide a bridge between arterials and local roads. Collectors link small towns to arterials as well as collect traffic from local roads.

Community Centers

Key local destinations such as schools, libraries, grocery stores, pharmacies, hospitals and other medical facilities, general stores, and other places, which provide key services and/ or daily needs.

Connectivity

The degree to which the local and regional street, pedestrian, bicycle, transit and freight systems in a given area are interconnected.

Critical Infrastructure

Lifelines other than the roadway transportation network such as water, wastewater, electricity, fuel, communications, and intermodal transportation such as transit, rail, air, and waterway. Critical infrastructure and services of state and regional importance during a disaster include intermodal port facilities, such as river ports, airports and marine terminals, and transfer points.

Debris Clearance

Debris removal is defined as the clearance, removal, and/or disposal of items such as trees, sand, gravel, building components, wreckage, vehicles, and personal property.

Essential Facilities

Hospitals and health care facilities, Emergency Operation Centers, police and fire, public works facilities, state, regional, and local points of distribution, designated debris management sites, and shelters and community centers.

Emergency Transportation Route

Routes used during and after a major regional emergency or disaster to transport resources and materials including first responders (e.g., police, fire and emergency medical services), fuel, essential supplies, debris, equipment, patients and personnel.

Equity Focus Area

Equity focus areas are Census tracts that represent communities where the rate of people of color or people with limited English proficiency is greater than the five-county regional average, or people with low income, i.e., incomes equal to or less than 200% of the Federal Poverty Level.

Functional Classification

Functional classification is the process by which streets and highways are grouped in classes (systems) according to the character of service provided. There are three main functional classes as defined by the United States Federal Highway Administration: arterial, collector, and local. Throughways and freeways fall under arterial in the federal classification system.

Geospatial Data

Geographic information is the data or information that identifies the geographic location of features and boundaries on Earth, such as natural or constructed features, oceans, and more. Spatial data is usually stored as coordinates and topology, and is data that can be mapped.

Intermodal Facilities

A transportation element that allows passenger and/or freight connections between modes of transportation. Examples include airports, rail stations, marine terminals, and rail yards that facilitate the transfer of containers or trailers.

Isolated Populations

Vulnerable populations in urban and rural areas are particularly at risk of isolation. People with disabilities, youth, and the elderly are often left out entirely in urban planning. Many cannot leave their homes or do not have access to transportation, and therefore, suffer from isolation.

Local Streets or Roads

Local streets primarily provide direct access to adjacent land. Streets are designed as multi-modal facilities that accommodate bicycles, pedestrians and transit, with an emphasis on vehicle mobility and special pedestrian infrastructure on transit streets.

Network

Connected routes forming a cohesive system.

Population Centers

In demographics, the center of population (or population center) of a region is a geographical point that describes areas of concentration of people within a region.

Rapid Damage Assessment

Damage Assessment is a preliminary onsite evaluation of damage or loss caused by an accident or natural event. Damage assessments record the extent of damage, what can be replaced, restored or salvaged. It may also estimate the time required for repair, replacement and recovery. Rapid Damage Assessment is critical during the response phase of a natural or human-caused disaster. This information is used to measure the amount of damage, the area of damage, and to determine the resources necessary to mitigate and recover from a disaster.

Regional Transportation Plan

A long-range transportation plan that is developed and adopted for a metropolitan planning area (MPA) covering a planning horizon of at least 20 years. Usually RTPs are updated every five years through the metropolitan transportation planning process. The plan identifies and analyzes transportation needs of the metropolitan region and creates a framework for implementing policies and project priorities.

Route Maintenance

Route Maintenance or road maintenance involves remedying defects such as potholes that occur in the carriageway from time to time (corrective maintenance) and providing treatments such as crack sealing which will slow the rate of deterioration (preventative maintenance).

Single Occupancy Vehicle

Motor vehicles occupied and privately operated where the occupant is the driver. The drivers of SOVs use their vehicles primarily for personal travel, daily commuting and for running errands.

Slope and/or Embankment Failures

A slope failure is when a slope collapses abruptly due to weakened self-retainability of the earth under the influence of a rainfall or an earthquake. Embankments are constructed by placing and compacting successive layers of a fill material onto a foundation soil. Steeper slopes have greater risks for instability, hence more prone for slope failure. Excessive water in slopes is never good as it destabilizes the slope by adding weight, destroying cohesion between grains, and reducing friction.

Traffic

Movement of motorized vehicles, non-motorized vehicles and pedestrians on transportation facilities. Often traffic levels are expressed as the number of units moving over or through a particular location during a specific time period.

Users

A motorist, passenger, public transportation operator or user, truck driver, bicyclist, motorcyclist, or pedestrian, including a person with disabilities.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Vulnerable Populations

Vulnerable populations are groups and communities at a higher risk for poor health or longer recovery as a result of the barriers they experience to social, economic, political and environmental resources, as well as limitations due to illness or disability.

DRAFT

ACRONYMS

18- Under the Age of 18

65 – Over the Age of 65

ACS - U.S. Census Bureau's American Community Survey

ADT – Average Daily Traffic

C-TRAN – Clark County Public Transit Benefit Area Authority

CIP – Capital Improvement Plan

CISA – Cybersecurity & Infrastructure Security Agency

COVID-19 – Coronavirus disease of 2019

CRESA – Clark Regional Emergency Services Agency

CSZ – Cascadia Subduction Zone

DOD – Department of Defense

DOGAMI – Department of Geology and Mineral Industries

EFA – Equity Focus Area

EOC – Emergency Operations Center

EQRBB – Earthquake Ready Burnside Bridge Project

ETR – Emergency Transportation Route

EWRG – ETR Work Group

FEMA – Federal Emergency Management Agency

FHWA – Federal Highway Administration

GIS – Geographic Information System

ID – Route Identification

JPACT – Joint Policy Advisory Committee on Transportation

LERR – Local Emergency Response Route

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

LEP – Limited English Proficiency

LETR – Local Emergency Transportation Route

LI – Low Income

NV – No Vehicle

MOU – Memorandum of Understanding

MTAC – Metro Technical Advisory Committee

ODOE – Oregon Department of Energy

ODOT – Oregon Department of Transportation

OHSU – Oregon Health Sciences University

PBOT – Portland Bureau of Transportation

PDX – Portland International Airport

POC – People of Color

POD – Point of Distribution

PSU – Portland State University

PWB – Portland Water Bureau

RDPO – Regional Disaster Preparedness Organization

REMTEC – RDPO Emergency Managers Work Group

RETR – Regional Emergency Transportation Route

RRAP – Regional Resiliency Assessment Program

RTP – Regional Transportation Plan

SHS – State Highway System

SMART - South Metro Area Regional Transit

SOV – Single Occupancy Vehicle

SRAHNET – Federal Strategic Highway Network

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

SSLR – Statewide Seismic Lifeline Route (Oregon only)

SVT – Social Vulnerability Tool

SW RTC – Southwest Washington Regional Transportation Council

TPAC – Transportation Policy Alternatives Committee

TREC – Transportation Research and Education Center

TriMet – Tri-County Metropolitan Transportation District of Oregon.

TSP – Transportation System Plan

UGA – Urban Growth Area (Washington only)

UGB – Urban Growth Boundary (Oregon only)

UASI – Urban Areas Security Initiative

UPRR – Union Pacific Railroad

URM – Unreinforced Masonry

WADNR – Washington State Department of Natural Resources

WSDOT – Washington Department of Transportation

F:\Notebooks\154035016_RDPO_Regional_ETR_Updates\Deliverables\Report-DRAFT-2_02-04-21\RDPO-ETR-Report-DRAFT_2.doc

Table 6.1 - ETR IDs for RETRS and SSLRs

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
R-X-100-00-MonteCristo	HWY 213	Meridian Rd		2005	4.7
R-X-101-01-Timber_GalesCreek	HWY 26	HWY 47		2005	10.2
R-X-101-02-Timber_GalesCreek	HWY 26 (Sunset HWY)	HWY 8 (Tualatin Valley HWY)		2020	22.5
R-X-102-00-Highway211	Marion Co Line	HWY 26		2005	42.3
R-X-103-00-Greenville_KansasCity_Kemper	HWY 47	HWY 47		2020	6.0
R-X-104-00-Barnards	HWY 213	Marion Co Line		2020	7.9
R-X-105-00-Highway47	Yamhill Co Line	HWY 30		2005	60.1
R-X-106-00-Macksburg	HWY 211	HWY 170 (Marquam Canby HWY)		2005	8.6
R-X-107-00-FernHill_SpringHill_Gaston	HWY 47	HWY 47		2020	7.4
R-X-108-00-LoneElder	S Meridian Rd	HWY 170		2020	2.9
R-X-109-00-Apirary	HWY 30	HWY 47		2005	20.7
R-X-110-00-Carus_Mulino	HWY 99E	Beavercreek Rd		2020	11.9
R-X-111-00-Highway219	HWY 8	HWY 210		2005	10.1
R-X-112-00-Wilsonville	I-5	Clackamas Co Line		2020	5.9
R-X-113-00-River	Scholls Ferry Rd	HWY 8 (Tualatin Valley HWY)		2005	8.2
R-X-114-00-Unger	Beavercreek Rd	HWY 211		2020	5.2
R-X-115-01-Brookwood	HWY 26	Shute Rd		2005	2.2
R-X-115-02-Brookwood	Cornell Rd	Shute Rd		2005	2.9
R-X-116-00-UpperHighland	HWY 211	Beavercreek Rd		2005	8.2
R-X-117-01-CorneliusPass	HWY 8	Multnomah Co Line		2005	7.1
R-X-117-02-CorneliusPass	Multnomah Co Line	HWY 30		2005	4.9
R-X-118-00-NewEra_Penman	HWY 99E	S Carus Rd / Mulino Rd		2020	4.1
R-X-119-00-185th	HWY 26	HWY 8 (Tualatin Valley HWY)		2005	3.3
R-X-120-01-SchollsFerry	Multnomah Co Line	HWY 26		2005	1.4
R-X-120-02-SchollsFerry	River Rd	Multnomah Co Line		2005	12.7
R-X-121-00-RoyRogers_TualatinSherwood	Scholls Ferry Rd	I-5 (Or)		2020	10.0
R-X-122-00-Redland	Springwater Rd	HWY 213		2005	12.3
R-X-123-00-Murray	Scholls Ferry Rd	HWY 26		2005	6.0
R-X-124-00-Holcomb_Bradley	HWY 213	Redland Rd		2020	5.2
R-X-125-00-CedarHills	HWY 26	HWY 8 (Tualatin Valley HWY)		2005	2.1
R-X-126-00-BoonesFerry_CountryClub_Kruse	I-5 (Or)	Or-43		2020	4.4
R-X-127-00-Stafford	I-5 (Or)	I-205 (Or)		2020	6.3
R-X-127-00-Stafford_McVey	HWY 43	I-205 (Or)		2005	3.7
R-X-128-00-WildcatMountain	HWY 211	SE Firwood Rd		2020	6.6
R-X-129-00-Arndt_Airport_Barlow	99E	I-5		2005	4.6
R-X-129-00-Barlow	HWY 99E	S Monte Cristo Rd		2020	10.5

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
R-X-130-00-Springwater	HWY 211	HWY 224		2005	11.8
R-X-131-00-Meridian	S Monte Cristo Rd	99E		2005	10.1
R-X-132-01-Sunnyside	I-205	HWY 212		2005	5.9
R-X-132-02-Sunnyside	SE 82nd Ave	I-205		2020	1.5
R-X-133-01-Highway170	HWY 211	99E		2005	7.9
R-X-133-02-Kropf	HWY 213	HWY 211		2005	5.7
R-X-134-00-Kelso	Amisiggar Rd / Kelso Rd / Richey Rd	HWY 26		2020	2.9
R-X-135-00-Highway213	Marion Co Line	I-205		2005	27.5
R-X-137-00-Molalla	HWY 213	7th Ave		2005	2.2
R-X-138-00-Allen_GardenHome_Multnomah	Murray Blvd	I-5 (Or)		2020	6.8
R-X-139-00-7th	Washington St	Molalla Ave		2005	0.5
R-X-140-00-TaylorsFerry	I-5 (Or)	HWY 43		2020	2.5
R-X-141-00-Washington	7th St	HWY 213		2005	1.4
R-X-142-00-Dolph	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW 26th Ave		2020	0.6
R-X-142-00-Sellwood_Tacoma	HWY 43	HWY 99E		2020	2.2
R-X-143-01-Highway99E	HWY 99E	Multnomah Co Line		2005	8.7
R-X-143-02-Highway99E	NE Lombard St (HWY 30)	I-5		2005	4.1
R-X-143-03-Highway99E	Multnomah Co Line	SE Division St Structure		2005	7.0
R-X-143-04-Highway99E	SE Division St Structure	NE Lombard St		2005	6.9
R-X-143-05-Highway99E	W Mill Plain Blvd	I-205		2020	6.1
R-X-144-00-JohnsonCreek	SE 39th Ave	HWY 99E		2020	1.8
R-X-145-00-Highway99W	SW 60th Ave	SW Naito Pkwy		2005	5.0
R-X-146-00-Flavel	82nd Ave	SE 92nd Ave		2020	0.5
R-X-146-00-Highway224	SE 82nd Ave	HWY 212		2020	2.2
R-X-146-01-Highway224	HWY 212	HWY 211 (Eagle Creek - Sandy HWY)		2005	9.4
R-X-146-02-Highway224	HWY 99E	I-205		2005	4.2
R-X-146-03-Highway224	Estacada	Ripplebrook		2005	8.4
R-X-147-00-Terwilliger	SW Taylors Ferry Rd	I-5 (Or)		2020	0.6
R-X-148-00-Farmington	Cedar Hills Blvd	HWY 219		2005	9.7
R-X-149-00-Beavercreek	HWY 213	HWY 211		2005	15.2
R-X-150-00-Highway8	HWY 47	HWY 26		2005	24.2
R-X-151-00-Fellows	Redland Rd	Upper Highland Rd		2020	4.5
R-X-152-01-Cornell	Main St	HWY 26		2005	7.4
R-X-152-02-Cornell_Barnes	HWY 26 (Sunset HWY)	HWY 217		2020	3.5
R-X-153-00-Hattan	Springwater Rd	Redland Rd		2020	3.5
R-X-154-00-Barnes	HWY 217	W Burnside Rd		2005	1.8
R-X-154-01-Burnside	Brg	Brg		2005	0.3
R-X-154-02-Burnside	Burnside Bridge	160th Ave E 330ft		2005	11.4

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
R-X-154-03-Burnside	Burnside Bridge	SW Barnes Rd		2005	3.9
R-X-155-00-LowerHighland_Ridge	Beavercreek Rd	Springwater Rd		2020	9.5
R-X-156-01-Highway10	SW 65th Ave	SW Barbur Blvd (99W)		2005	3.5
R-X-156-02-Highway10	SW 65th Ave	Cedar Hills Rd		2005	3.3
R-X-157-00-232nd	HWY 224	HWY 212		2005	1.9
R-X-158-00-Woodstock	SE 39th Ave	SE Foster Rd		2020	2.7
R-X-159-00-Amisigger_Kelso_Richey	HWY 224	HWY 212		2005	3.5
R-X-160-01-Foster	SE Jenne Rd	Multnomah Co Line		2005	1.2
R-X-160-02-Foster	SE Powell Blvd	SE Jenne Rd		2005	6.8
R-X-161-00-Firwood	SE Wildcat Mountain Dr	HWY 26		2020	3.3
R-X-162-00-AerialTram	Brg	Brg		2020	0.6
R-X-163-00-CapitolHighway	HWY 10	I-5 (Or)		2020	2.5
R-X-164-01-Powell	SE Powell Blvd	SE 174th Ave		2005	3.8
R-X-164-02-Powell	SE 174th Ave	SE Burnside Rd		2005	4.2
R-X-164-03-Powell	HWY 99E	SE Powell Blvd		2020	4.9
R-X-165-00-45th_Vermont	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW Capitol HWY		2020	1.4
R-X-167-00-Moody	SW Naito Pkwy	SW Lowell St		2020	1.6
R-X-168-00-Hawthorne	HWY 99E	SE 39th Ave		2020	1.8
R-X-169-01-Naito	W Burnside Rd	NW 15th Ave		2005	1.6
R-X-169-02-Naito	SW Barbur Blvd	685ft N Of I-405		2005	2.1
R-X-169-03-Naito	685 Ft N Of I-405	W Burnside Rd		2005	1.1
R-X-170-00-Madison	HWY 99E	SE Hawthorne Blvd		2020	0.4
R-X-171-00-Broadway_Terwilliger	SW Market And SW Clay	Ohso		2020	2.5
R-X-172-00-Tilikum	Brg	Brg		2020	0.7
R-X-174-00-Washington	NE 82nd Ave	SE Stark St		2020	1.3
R-X-176-01-Highway26	SE Powell Blvd	Multnomah Co Line		2005	11.1
R-X-176-02-Highway26	Multnomah Co Line	HWY 212		2005	5.4
R-X-178-01-Sandy	E Burnside Rd	NE Columbia Blvd		2005	5.7
R-X-178-01-Stark	82nd Ave	242nd Ave / Hogan Rd / 238th Dr		2020	8.1
R-X-178-02-Sandy	NE Columbia Blvd	NE 181st Ave		2005	4.2
R-X-178-02-Stark	242nd Ave / Hogan Rd / 238th Dr	Stark St Brg		2020	3.2
R-X-178-03-Sandy	NE 181st Ave	I-84		2005	2.9
R-X-180-00-Glisan	NE Cesar E Chavez Blvd	NE 53rd Ave		2020	0.7
R-X-182-00-Broadway_Weidler	I-5 (Or)	NE Sandy Blvd		2020	3.8
R-X-183-00-23rd_Vaughn	NW Nicolai St	W Burnside St		2020	1.6
R-X-184-00-Nicolai	NW Front Ave	NW St Helens Rd @ Kitttridge		2005	2.5
R-X-185-00-Murray	W Burnside St	SW Canyon Rd		2020	1.2
R-X-186-00-Front	NW Naito Parkway	NW 61st Ave		2020	4.1

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
R-X-187-00-17th	HWY 99E	SE Powell Blvnd		2020	1.1
R-X-188-00-RockyButte	NE 82nd Ave	Joseph Wood Hill Park		2020	1.9
R-X-189-00-32nd_Harrison	Johnson Creek Blvd	HWY 224		2020	1.2
R-X-190-00-SwanIsland	I-5 (Or)	I-5 (Or)		2020	3.1
R-X-191-01-CesarChavez	E Burnside Rd	I-84		2005	1.0
R-X-191-02-CesarChavez	SE Crystal Springs Blvd	E Burnside Rd		2005	4.0
R-X-192-00-Killingsworth	I-5 (Or)	N Lombard St		2020	4.3
R-X-193-01-82nd	SE Clatsop St	NE Holman St		2005	9.1
R-X-193-02-82nd	NE Alderwood	NE Airport Way		2005	0.7
R-X-193-03-82nd	NE Holman St	NE Alderwood Rd		2005	1.1
R-X-193-04-82nd	I-205	SE Clatsop St		2005	4.4
R-X-194-00-StJohnsBridge	Brg	Brg		2005	0.4
R-X-195-01-172nd	Sunnyside Rd	HWY 212		2020	1.6
R-X-195-02-172nd	SE Foster Rd	Sunnyside Rd		2020	2.8
R-X-196-00-Highway20Bypass	HWY 30 (Nw St Helens Rd)	N Lombard Blvd		2005	0.4
R-X-197-00-Foster	Multnomah Co Line	HWY 212		2005	3.6
R-X-198-00-Dekum	HWY 99E	NE Columbia Blvd		2020	2.0
R-X-200-00-Lombard	N Kelley Point Park Rd	N Columbia Blvd		2005	13.5
R-X-201-00-242nd_Hogan_238th	HWY 212	I-84		2005	9.2
R-X-202-00-Columbia	N Lombard St	NE Sandy Blvd		2005	11.3
R-X-203-01-122nd	E Burnside Rd	NE Marine Dr		2005	3.2
R-X-203-02-122nd	SE Foster Rd	E Burnside Rd		2005	3.2
R-X-204-00-ColumbiaRamp	NE Columbia Blvd	N Portland Rd		2020	0.4
R-X-205-00-Highland-190th-Tillstrom	SE Powell Blvd	SE Foster Rd		2020	3.4
R-X-206-01-Alderwood	NE 82nd Ave	Airport Way		2020	1.9
R-X-206-02-Alderwood	NE Columbia Blvd	NE 82nd Ave		2020	0.9
R-X-207-00-112th-CherryBlossom	SE Stark St	SE Powell Blvd		2020	2.0
R-X-208-01-Marine	N Portland Rd	I-5		2005	1.3
R-X-208-02-Marine	N Kelley Point Park Rd	N Portland Rd		2005	3.4
R-X-208-03-Marine	NE 185th Dr	I-84		2005	3.9
R-X-208-04-Marine	I-5	NE 185th Ave		2005	11.0
R-X-209-00-182nd	SE Powell Blvd	E Burnside Rd		2005	2.2
R-X-210-01-Airport	I-205	NE 181st Ave		2005	4.7
R-X-210-02-Airport	Pdx	I-205		2005	5.1
R-X-211-00-Fairview_Glisan_223	NE Sandy Blvd	SE Powell Blvd		2020	4.7
R-X-212-00-SR14	I-5	Skamania Co. Line		2005	52.1
R-X-213-00-257th_Kane	I-84	HWY 26		2020	4.3
R-X-214-00-WashougalRiver_Evergreen	SR-14	SR-14		2020	3.1

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
R-X-215-00-Albina_Mississippi	N Lombard St	Kerby Ave		2020	2.3
R-X-216-01-MillPlain	I-5	SE 164th Ave		2005	8.2
R-X-216-02-MillPlain	I-5	Port Of Vancouver		2005	2.9
R-X-217-00-15th	NE Dekum St	NE Broadway / NE Weidler St		2020	2.6
R-X-218-00-FourthPlain	I-5 (Wa)	I-205 (Wa)		2020	4.8
R-X-219-00-11th	NE Columbia Blvd	N Lombard St		2020	0.1
R-X-220-00-18th	162nd / 164th Ave	192nd Ave		2020	1.5
R-X-221-00-42nd	NE Columbia Blvd	NE Broadway / Weidler St		2020	3.4
R-X-222-00-SR500	SR-14	I-5		2005	36.5
R-X-223-00-Cully	NE Sandy Blvd	NE Columbia Blvd		2020	1.9
R-X-224-00-SR502	I-5	SR-503		2005	11.3
R-X-225-00-Portland	N Columbia Blvd	N Marine Dr		2005	1.7
R-X-226-00-78th_Padden	I-5	NE 172nd Ave		2005	13.9
R-X-227-00-DeltaPark	I-5 (Or)	HWY 99E		2020	1.3
R-X-228-00-ScapooseVernonia	HWY 30	HWY 47		2005	20.1
R-X-229-00-Vancouver	HWY 99E	NE Columbia Blvd		2020	0.5
R-X-230-00-Haynes_CedarCreek	I-5	SR-503		2005	16.5
R-X-231-00-33rd	NE Columbia Blvd	NE Marine Dr		2020	2.6
R-X-233-00-47th_Cornfoot_Airtrans	NE Columbia Blvd	Airtrans Way		2020	1.6
R-X-235-00-FruitValley_FourthPlain	Lakeshore / Fruit Valley / 39th / 78th	I-5 (Wa)		2020	2.0
R-X-237-00-FruitValley_39th_78th	I-5	NE 78th / Padden Pkwy		2020	4.5
R-X-239-00-Andresen	SR-14	NE 78th / Padden Pkwy		2020	4.9
R-X-241-00-136th_137th	NE 78th / Padden Pkwy	Mill Plain (Vancouver)		2020	5.4
R-X-243-00-162nd_164th	SR-14	Ward Rd		2005	6.7
R-X-245-00-192nd	18th Ave	SR-14		2020	3.6
R-X-247-00-SR503	Cowlitz Co. Line	SR-500		2005	27.8
R-X-249-00-Chautauqua	NE Columbia Blvd	N Lombard St		2020	1.0
R-X-251-00-Dewitt	HWY 10	HWY 10		2020	0.3
R-X-253-00-Sandy122Ramp	NE 122nd Ave	NE Sandy Blvd		2020	0.3
R-X-255-00-40th	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW Capitol HWY		2020	0.2
R-X-257-00-CentralPoint	S New Era Rd / Penman Rd	Parrish Rd		2020	1.9
R-X-259-00-26th	SW Taylors Ferry Rd	HWY 99W		2020	0.7
R-X-261-00-181st	E Burnside Rd	NE Sandy Blvd		2005	1.6
R-X-263-00-MarketClay	I-405 / HWY 26	SW Naito Parkway		2005	1.3
R-X-265-00-LewisClarkBridge	Brg	Brg		2005	0.7
R-X-267-00-Gideon	SE 17th	Tilikum Crossing		2020	0.9
S-O-108-02-I84	I-205	US-197	1	2013	33.9
S-O-113-01-I205	I-84	US-26	1	2013	2.4

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	From	To	Tier	VERSION	Route Length (miles)
S-0-113-02-I205	US-26	OR-224	1	2013	5.5
S-0-113-03-I205	OR-224	OR-212	1	2013	0.9
S-0-113-04-I205	OR-212	OR-99E	1	2013	3.3
S-0-113-05-I205	OR-99E	OR-43	1	2013	0.5
S-0-113-06-I205	OR-43	I-5	1	2013	8.8
S-0-113-07-I205	WA Border	I-84	1	2013	5.1
S-1-101-01-I5	WA Border	I-405	1	2013	5.3
S-1-102-00-US30	US-101	I-405	1	2013	67.2
S-1-103-01-I405	I-5	US-30	1	2013	1.2
S-1-103-02-I405	US-30	US-26	1	2013	1.4
S-1-103-03-I405	US-26	I-5/OR-43/US-26	1	2013	1.6
S-1-109-01-OR99W	I-5	OR-217	1	2013	1.1
S-1-109-02-OR99W	OR-217	OR-219	1	2013	11.2
S-2-101-02-I5	I-405	I-84	2	2013	1.4
S-2-101-03-I5	I-84	I-405/OR 43/US-26	2	2013	1.9
S-2-101-04-I5	I-405/OR 43/US-26	OR-99W	1	2013	6.0
S-2-101-05-I5	I-205	OR-214	1	2013	7.6
S-2-101-06-I5	OR-217	I-205	1	2013	3.8
S-2-101-07-I5	OR-99W	OR-217	1	2013	1.5
S-2-104-01-US26	OR-103	OR-47	2	2013	16.0
S-2-104-02-US26	OR-47	OR-217	2	2013	18.8
S-2-104-03-US26	OR-217	I-405	2	2013	4.8
S-2-104-04-US26	OR-212	US-97	2	2013	41.2
S-2-106-00-OR212	I-205	US-26	2	2013	12.5
S-2-107-01-OR99E	I-205	OR-43	2	2013	0.5
S-2-107-02-OR99E	OR-43	OR-214	2	2013	12.3
S-2-108-01-I84	I-5	I-205	2	2013	5.0
S-3-104-05-US26	OR-43	OR-99E	3	2013	0.7
S-3-104-06-US26	OR-99E	I-205	3	2013	8.3
S-3-105-01-OR217	OR-99W	I-5	3	2013	1.6
S-3-105-02-OR217	US-26 to	OR-99W	3	2013	5.9
S-3-111-00-OR43	US-26	I-205	3	2013	11.1
S-X-101-08-I5	Or / Wa Border	Hayes Rd		2005	64.2
S-X-113-23-I205	I-5	SR-14		2005	35.6

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

Table 6.2 Connectivity to Critical Infrastructure and Essential Facilities

Category	Type	CI/EF	Percent Within 1/4 Mile of RETR/SSLR
State/Regional	CI	Public Works	78
State/Regional	CI	Public Works	67
State/Regional	CI	Transit Facilities	70
State/Regional	CI	Fuel Points	85
State/Regional	CI	Airports	48
State/Regional	CI	Marine Facilities	75
State/Regional	CI	Marine Terminals	50
State/Regional	CI	Rail	59
State/Regional	CI	Railyards	91
State/Regional	EF	911 Dispatch Centers	100
State/Regional	EF	DDMS	86
State/Regional	EF	Hospitals	91
City/County	CI	Boat Ramps	7
City/County	CI	Bus Lines	100
City/County	CI	Light Rail	95
City/County	CI	Light Rail	95
City/County	CI	Transit Centers	91
City/County	CI	Fuel Points	60
City/County	EF	Armories	67
City/County	EF	EOC	22
City/County	EF	Fire	35
City/County	EF	Health Care Clinics	91
City/County	EF	Police	61
City/County	EF	Public Works	54
City/County	EF	Sand Piles	100
Community/Neighborhood	CI	Trails	46
Community/Neighborhood	EF	Churches	58
Community/Neighborhood	EF	Community Centers	58
Community/Neighborhood	EF	Parks	53
Community/Neighborhood	EF	Schools	58
Community/Neighborhood	EF	Shelters	60

Table 6.3 RETRs Subject to Liquefaction Hazards

ETR ID 2021	From	To	Very High	High	Moderate	Total	At least 25% Above High Risk	At Least 50% At Risk
R-X-169-01-Naito	W Burnside Rd	NW 15th Ave	100	0	0	100	High Risk	High Risk
R-X-172-00-Tilikum	Brg	Brg	100	0	0	100	High Risk	High Risk
R-X-186-00-Front	NW Naito Parkway	NW 61st Ave	100	0	0	100	High Risk	High Risk
R-X-193-02-82nd	NE Alderwood	NE Airport Way	100	0	0	100	High Risk	High Risk
R-X-193-03-82nd	NE Holman St	NE Alderwood Rd	100	0	0	100	High Risk	High Risk
R-X-194-00-StJohnsBridge	Brg	Brg	100	0	0	100	High Risk	High Risk
R-X-206-01-Alderwood	NE 82nd Ave	Airport Way	100	0	0	100	High Risk	High Risk
R-X-208-01-Marine	N Portland Rd	I-5	100	0	0	100	High Risk	High Risk
R-X-208-02-Marine	N Kelley Point Park Rd	N Portland Rd	100	0	0	100	High Risk	High Risk
R-X-208-03-Marine	NE 185th Dr	I-84	100	0	0	100	High Risk	High Risk
R-X-208-04-Marine	I-5	NE 185th Ave	100	0	0	100	High Risk	High Risk
R-X-210-02-Airport	Pdx	I-205	100	0	0	100	High Risk	High Risk
R-X-227-00-DeltaPark	I-5 (Or)	HWY 99E	100	0	0	100	High Risk	High Risk
R-X-265-00-LewisClarkBridge	Brg	Brg	100	0	0	100	High Risk	High Risk
R-X-233-00-47th_Cornfoot_Airtrans	NE Columbia Blvd	Airtrans Way	96	0	4	100	High Risk	High Risk
R-X-229-00-Vancouver	HWY 99E	NE Columbia Blvd	93	0	7	100	High Risk	High Risk
R-X-231-00-33rd	NE Columbia Blvd	NE Marine Dr	93	0	7	100	High Risk	High Risk
R-X-143-02-Highway99E	NE Lombard St (HWY 30)	I-5	92	0	8	100	High Risk	High Risk
R-X-225-00-Portland	N Columbia Blvd	N Marine Dr	92	0	8	100	High Risk	High Risk
R-X-167-00-Moody	SW Naito Pkwy	SW Lowell St	90	0	10	100	High Risk	High Risk
R-X-206-02-Alderwood	NE Columbia Blvd	NE 82nd Ave	86	0	14	100	High Risk	High Risk
R-X-169-03-Naito	685 Ft N Of I-405	W Burnside Rd	65	0	35	100	High Risk	High Risk
R-X-239-00-Andresen	SR-14	NE 78th / Padden Pkwy	48	0	52	100	High Risk	High Risk
R-X-184-00-Nicolai	NW Front Ave	NW St Helens Rd @ Kittridge	42	0	58	100	High Risk	High Risk
R-X-103-00-Greenville_KansasCity_Kemper	HWY 47	HWY 47	39	0	61	100	High Risk	High Risk
R-X-111-00-Highway219	HWY 8	HWY 210	37	0	63	100	High Risk	High Risk
R-X-170-00-Madison	HWY 99E	SE Hawthorne Blvd	34	0	66	100	High Risk	High Risk
R-X-267-00-SEGideon	SE 17th	Tilikum Crossing	28	0	72	100	High Risk	High Risk
R-X-100-00-MonteCristo	HWY 213	Meridian Rd	26	0	74	100	High Risk	High Risk
R-X-154-03-Burnside	Burnside Bridge	SW Barnes Rd	16	14	70	100	High Risk	High Risk
R-X-106-00-Macksburg	HWY 211	HWY 170 (Marquam Canby HWY)	0	72	28	100	High Risk	High Risk
R-X-146-02-Highway224	HWY 99E	I-205	24	0	76	100		High Risk
R-X-162-00-AerialTram	Brg	Brg	23	0	77	100		High Risk
R-X-142-00-Sellwood_Tacoma	HWY 43	HWY 99E	21	0	79	100		High Risk
R-X-117-01-CorneliusPass	HWY 8	Multnomah Co Line	19	0	81	100		High Risk
R-X-171-00-Broadway_Terwilliger	SW Market And SW Clay	Ohsu	17	0	83	100		High Risk
R-X-115-02-Brookwood	Cornell Rd	Shute Rd	15	0	85	100		High Risk
R-X-129-00-Barlow	HWY 99E	S Monte Cristo Rd	15	0	85	100		High Risk
R-X-119-00-185th	HWY 26	HWY 8 (Tualatin Valley HWY)	12	0	88	100		High Risk
R-X-196-00-Highway20Bypass	HWY 30 (Nw St Helens Rd)	N Lombard Blvd	12	0	88	100		High Risk

ETR ID 2021	From	To	Very High	High	Moderate	Total	At least 25% Above High Risk	At Least 50% At Risk
R-X-138-00-Allen_GardenHome_Multnomah	Murray Blvd	I-5 (Or)	11	0	89	100		High Risk
R-X-150-00-Highway8	HWY 47	HWY 26	10	4	86	100		High Risk
R-X-235-00-FruitValley_FourthPlain	Lakeshore / Fruit Valley / 39th / 78th	I-5 (Wa)	10	8	82	100		High Risk
R-X-115-01-Brookwood	HWY 26	Shute Rd	9	0	91	100		High Risk
R-X-117-02-CorneliusPass	Multnomah Co Line	HWY 30	9	9	82	100		High Risk
R-X-131-00-Meridian	S Monte Cristo Rd	99E	9	0	91	100		High Risk
R-X-148-00-Farmington	Cedar Hills Blvd	HWY 219	9	0	91	100		High Risk
R-X-152-01Cornell	Main St	HWY 26	9	0	91	100		High Risk
R-X-160-01-Foster	SE Jenne Rd	Multnomah Co Line	6	0	94	100		High Risk
R-X-182-00-Broadway_Weidler	I-5 (Or)	NE Sandy Blvd	6	0	94	100		High Risk
R-X-259-00-26th	SW Taylors Ferry Rd	HWY 99W	6	0	94	100		High Risk
R-X-143-03-Highway99E	Multnomah Co Line	SE Division St Structure	5	0	95	100		High Risk
R-X-168-00-Hawthorne	HWY 99E	SE 39th Ave	5	0	95	100		High Risk
R-X-165-00-45th_Vermont	SW Allen Rd / Garden Home Rd / Multnomah Blvd	SW Capitol HWY	3	0	97	100		High Risk
R-X-132-02-Sunnyside	SE 82nd Ave	I-205	2	0	98	100		High Risk
R-X-140-00-TaylorsFerry	I-5 (Or)	HWY 43	2	0	98	100		High Risk
R-X-147-00-Terwilliger	SW Taylors Ferry Rd	I-5 (Or)	2	0	98	100		High Risk
R-X-202-00-Columbia	N Lombard St	NE Sandy Blvd	2	0	98	100		High Risk
R-X-183-00-23rd_Vaughn	NW Nicolai St	W Burnside St	1	0	99	100		High Risk
R-X-226-00-78th_Padden	I-5	NE 172nd Ave	1	20	79	100		High Risk
R-X-108-00-LoneElder	S Meridian Rd	HWY 170	0	0	100	100		High Risk
R-X-120-01-SchollsFerry	Multnomah Co Line	HWY 26	0	0	100	100		High Risk
R-X-125-00-CedarHills	HWY 26	HWY 8 (Tualatin Valley HWY)	0	0	100	100		High Risk
R-X-142-00-Dolph	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW 26th Ave	0	0	100	100		High Risk
R-X-144-00-JohnsonCreek	SE 39th Ave	HWY 99E	0	0	100	100		High Risk
R-X-154-01-Burnside	Brg	Brg	0	0	100	100		High Risk
R-X-156-01-Highway10	SW 65th Ave	SW Barbur Blvd (99W)	0	0	100	100		High Risk
R-X-156-02-Highway10	SW 65th Ave	Cedar Hills Rd	0	0	100	100		High Risk
R-X-163-00-CapitolHighway	HWY 10	I-5 (Or)	0	0	100	100		High Risk
R-X-169-02-Naito	SW Barbur Blvd	685ft N Of 1-405	0	0	100	100		High Risk
R-X-180-00-Glisan	NE Cesar E Chavez Blvd	NE 53rd Ave	0	0	100	100		High Risk
R-X-185-00-Murray	W Burnside St	SW Canyon Rd	0	0	100	100		High Risk
R-X-187-00-17th	HWY 99E	SE Powell Blbvd	0	0	100	100		High Risk
R-X-189-00-32nd_Harrison	Johnson Creek Blvd	HWY 224	0	0	100	100		High Risk
R-X-191-01-CesarChavez	E Burnside Rd	I-84	0	0	100	100		High Risk
R-X-191-02-CesarChavez	SE Crystal Springs Blvd	E Burnside Rd	0	0	100	100		High Risk
R-X-204-00-ColumbiaRamp	NE Columbia Blvd	N Portland Rd	0	0	100	100		High Risk
R-X-216-01-MillPlain	I-5	SE 164th Ave	0	2	98	100		High Risk
R-X-218-00-FourthPlain	I-5 (Wa)	I-205 (Wa)	0	7	93	100		High Risk
R-X-219-00-11th	NE Columbia Blvd	N Lombard St	0	0	100	100		High Risk
R-X-220-00-18th	162nd / 164th Ave	192nd Ave	0	0	100	100		High Risk
R-X-237-00-FruitValley_39th_78th	I-5	NE 78th / Padden Pkwy	0	12	88	100		High Risk

ETR ID 2021	From	To	Very High	High	Moderate	Total	At least 25% Above High Risk	At Least 50% At Risk
R-X-251-00-Dewitt	HWY 10	HWY 10	0	0	100	100		High Risk
R-X-253-00-Sandy122Ramp	NE 122nd Ave	NE Sandy Blvd	0	0	100	100		High Risk
R-X-255-00-40th	SW Allen Rd / Garden Home Rd / Multnomah Blvd	SW Capitol HWY	0	0	100	100		High Risk
R-X-263-00-MarketClay	I-405 / HWY 26	SW Naito Parkway	0	0	100	100		High Risk
R-X-216-02-MillPlain	I-5	Port Of Vancouver	2	34	63	99	High Risk	High Risk
R-X-190-00-SwanIsland	I-5 (Or)	I-5 (Or)	89	0	9	98	High Risk	High Risk
R-X-113-00-River	Scholls Ferry Rd	HWY 8 (Tualatin Valley HWY)	6	0	92	98		High Risk
R-X-198-00-Dekum	HWY 99E	NE Columbia Blvd	0	0	98	98		High Risk
R-X-210-01-Airport	I-205	NE 181st Ave	97	0	0	97	High Risk	High Risk
R-X-214-00-WashougalRiver_Evergreen	SR-14	SR-14	0	7	90	97		High Risk
R-X-107-00-FernHill_SpringHill_Gaston	HWY 47	HWY 47	36	0	59	95	High Risk	High Risk
R-X-145-00-Highway99W	SW 60th Ave	SW Naito Pkwy	7	0	88	95		High Risk
R-X-112-00-Wilsonville	I-5	Clackamas Co Line	5	0	89	94		High Risk
R-X-129-00-Arndt_Airport_Barlow	99E	I-5	46	0	47	93	High Risk	High Risk
R-X-143-05-Highway99E	W Mill Plain Blvd	I-205	0	31	62	93	High Risk	High Risk
R-X-200-00-Lombard	N Kelley Point Park Rd	N Columbia Blvd	17	0	76	93		High Risk
R-X-146-00-Highway224	SE 82nd Ave	HWY 212	5	0	88	93		High Risk
R-X-241-00-136th_137th	NE 78th / Padden Pkwy	Mill Plain (Vancouver)	0	1	92	93		High Risk
R-X-243-00-162nd_164th	SR-14	Ward Rd	0	0	92	92		High Risk
R-X-120-02-SchollsFerry	River Rd	Multnomah Co Line	17	0	74	91		High Risk
R-X-178-02-Sandy	NE Columbia Blvd	NE 181st Ave	0	0	91	91		High Risk
R-X-224-00-SR502	I-5	SR-503	0	0	90	90		High Risk
R-X-146-01-Highway224	HWY 212	HWY 211 (Eagle Creek - Sandy HWY)	5	0	84	89		High Risk
R-X-152-02-Cornell_Barnes	HWY 26 (Sunset HWY)	HWY 217	7	0	81	88		High Risk
R-X-212-00-SR14	I-5	Skamania Co. Line	1	42	40	83	High Risk	High Risk
R-X-143-04-Highway99E	SE Division St Structure	NE Lombard St	8	0	75	83		High Risk
R-X-101-01-Timber_GalesCreek	HWY 26	HWY 47	77	0	3	80	High Risk	High Risk
R-X-195-02-172nd	SE Foster Rd	Sunnyside Rd	1	0	77	78		High Risk
R-X-133-02-Kropf	HWY 213	HWY 211	3	0	73	76		High Risk
R-X-193-04-82nd	I-205	SE Clatsop St	12	0	63	75		High Risk
R-X-141-00-Washington	7th St	HWY 213	70	0	4	74	High Risk	High Risk
R-X-222-00-SR500	SR-14	I-5	2	23	49	74		High Risk
R-X-245-00-192nd	18th Ave	SR-14	0	0	72	72		High Risk
R-X-105-00-Highway47	Yamhill Co Line	HWY 30	54	0	17	71	High Risk	High Risk
R-X-126-00-BoonesFerry_CountryClub_Kruse	I-5 (Or)	Or-43	0	0	71	71		High Risk
R-X-249-00-Chautauqua	NE Columbia Blvd	N Lombard St	0	0	71	71		High Risk
R-X-139-00-7th	Washington St	Molalla Ave	0	0	70	70		High Risk
R-X-118-00-NewEra_Penman	HWY 99E	S Carus Rd / Mulino Rd	11	0	57	68		High Risk
R-X-130-00-Springwater	HWY 211	HWY 224	4	0	63	67		High Risk
R-X-121-00-RoyRogers_TualatinSherwood	Scholls Ferry Rd	I-5 (Or)	11	0	55	66		High Risk
R-X-201-00-242nd_Hogan_238th	HWY 212	I-84	13	13	38	64	High Risk	High Risk
R-X-178-02-Stark	242nd Ave / Hogan Rd / 238th Dr	Stark St Brg	11	0	53	64		High Risk

ETR ID 2021	From	To	Very High	High	Moderate	Total	At least 25% Above High Risk	At Least 50% At Risk
R-X-132-01-Sunnyside	I-205	HWY 212	3	0	61	64		High Risk
R-X-164-03-Powell	HWY 99E	SE Powell Blvd	0	0	60	60		High Risk
R-X-143-01-Highway99E	HWY 99E	Multnomah Co Line	13	0	46	59		High Risk
R-X-133-01-Highway170	HWY 211	99E	8	0	51	59		High Risk
R-X-178-01-Sandy	E Burnside Rd	NE Columbia Blvd	0	0	59	59		High Risk
R-X-101-02-Timber_GalesCreek	HWY 26 (Sunset HWY)	HWY 8 (Tualatin Valley HWY)	40	0	18	58	High Risk	High Risk
R-X-135-00-Highway213	Marion Co Line	I-205	29	3	25	57	High Risk	High Risk
R-X-217-00-15th	NE Dekum St	NE Broadway / NE Weidler St	0	0	54	54		High Risk
R-X-228-00-ScapooseVernonia	HWY 30	HWY 47	47	0	6	53	High Risk	High Risk
R-X-221-00-42nd	NE Columbia Blvd	NE Broadway / Weidler St	4	0	49	53		High Risk
R-X-176-01-Highway26	SE Powell Blvd	Multnomah Co Line	17	20	12	49	High Risk	
R-X-213-00-257th_Kane	I-84	HWY 26	8	24	17	49	High Risk	
R-X-153-00-Hattan	Springwater Rd	Redland Rd	1	0	48	49		
R-X-176-02-Highway26	Multnomah Co Line	HWY 212	47	0	0	47	High Risk	
R-X-257-00-CentralPoint	S New Era Rd / Penman Rd	Parrish Rd	5	0	41	46		
R-X-102-00-Highway211	Marion Co Line	HWY 26	27	2	16	45	High Risk	
R-X-104-00-Barnards	HWY 213	Marion Co Line	7	0	37	44		
R-X-205-00-Highland-190th-Tillstrom	SE Powell Blvd	SE Foster Rd	6	16	20	42		
R-X-127-00-Stafford	I-5 (Or)	I-205 (Or)	2	0	40	42		
R-X-203-01-122nd	E Burnside Rd	NE Marine Dr	24	0	16	40		
R-X-211-00-Fairview_Glisan_223	NE Sandy Blvd	SE Powell Blvd	21	0	19	40		
R-X-164-02-Powell	SE 174th Ave	SE Burnside Rd	14	21	3	38	High Risk	
R-X-247-00-SR503	Cowlitz Co. Line	SR-500	1	5	32	38		
R-X-154-00-Barnes	HWY 217	W Burnside Rd	0	2	36	38		
R-X-110-00-Carus_Mulino	HWY 99E	Beavercreek Rd	24	0	13	37		
R-X-230-00-Haynes_CedarCreek	I-5	SR-503	23	2	11	36		
R-X-193-01-82nd	SE Clatsop St	NE Holman St	6	0	30	36		
R-X-215-00-Albina_Mississippi	N Lombard St	Kerby Ave	3	0	32	35		
R-X-109-00-Apirary	HWY 30	HWY 47	32	0	1	33	High Risk	
R-X-128-00-WildcatMountain	HWY 211	SE Firwood Rd	1	0	31	32		
R-X-146-03-Highway224	Estacada	Ripplebrook	16	0	15	31		
R-X-122-00-Redland	Springwater Rd	HWY 213	11	4	15	30		
R-X-127-00-Stafford_McVey	HWY 43	I-205 (Or)	7	0	23	30		
R-X-154-02-Burnside	Burnside Bridge	160th Ave E 330ft	1	0	29	30		
R-X-223-00-Cully	NE Sandy Blvd	NE Columbia Blvd	0	0	30	30		
R-X-124-00-Holcomb_Bradley	HWY 213	Redland Rd	13	0	11	24		
R-X-197-00-Foster	Multnomah Co Line	HWY 212	3	0	18	21		
R-X-123-00-Murray	Scholls Ferry Rd	HWY 26	16	0	0	16		
R-X-192-00-Killingsworth	I-5 (Or)	N Lombard St	0	0	16	16		
R-X-155-00-LowerHighland_Ridge	Beavercreek Rd	Springwater Rd	5	0	10	15		
R-X-159-00-Amisigger_Kelso_Richey	HWY 224	HWY 212	1	0	14	15		
R-X-160-02-Foster	SE Powell Blvd	SE Jenne Rd	2	0	12	14		

ETR ID 2021	From	To	Very High	High	Moderate	Total	At least 25% Above High Risk	At Least 50% At Risk
R-X-157-00-232nd	HWY 224	HWY 212	0	0	14	14		
R-X-151-00-Fellows	Redland Rd	Upper Highland Rd	0	0	5	5		
R-X-149-00-Beavercreek	HWY 213	HWY 211	4	0	0	4		
R-X-158-00-Woodstock	SE 39th Ave	SE Foster Rd	0	0	4	4		

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Table 6.4 Bridge Vulnerabilities on RETRs and SSLRs

ETR_ID_2020	ROUTENAME	Not Evaluated	Not Vulnerable	Potentially Vulnerable	Vulnerable
R-X-100-00-MonteCristo	S Monte Cristo Rd	1	0	2	0
R-X-101-01-Timber_GalesCreek	Timber / Vernonia Rd	1	1	0	4
R-X-101-02-Timber_GalesCreek	Timber / Gales Creek Rd	6	1	0	1
R-X-102-00-Highway211	HWY 211	14	2	1	4
R-X-103-00-Greenville_KansasCity_Kemper	Greenville / Kansas City / Kemper Rd	1	0	1	0
R-X-104-00-Barnards	S Barnards Rd	1	0	0	3
R-X-105-00-Highway47	HWY 47	18	8	9	17
R-X-107-00-FernHill_SpringHill_Gaston	Fern Hill / Spring Hill Rd / Gaston Rd	1	1	1	1
R-X-108-00-LoneElder	S Lone Elder Rd	1	0	0	0
R-X-109-00-Apirary	Apiary Rd	2	1	0	0
R-X-110-00-Carus_Mulino	S Carus Rd / Mulino Rd	2	0	0	0
R-X-111-00-Highway219	HWY 219 (Hillsboro HWY)	1	1	3	1
R-X-113-00-River	River Rd	1	1	0	0
R-X-117-01-CorneliusPass	Cornelius Pass Rd	5	1	0	0
R-X-118-00-NewEra_Penman	S New Era Rd / Penman Rd	3	0	0	0
R-X-119-00-185th	NW 185th Ave	2	0	0	0
R-X-120-02-SchollsFerry	Scholls Ferry Rd	5	1	2	0
R-X-121-00-RoyRogers_TualatinSherwood	SW Roy Rogers / Tualatin Sherwood Rd	4	0	1	0
R-X-122-00-Redland	Redland Rd	0	2	0	3
R-X-123-00-Murray	Murray Blvd	1	2	1	0
R-X-124-00-Holcomb_Bradley	S Holcomb Blvd / Bradley Rd	0	1	0	0
R-X-125-00-CedarHills	SW Cedar Hills Blvd	0	0	1	0
R-X-127-00-Stafford	SW Stafford Rd	0	1	1	0
R-X-127-00-Stafford_McVey	Mcvey Ave / SW Stafford Rd	1	1	1	0
R-X-128-00-WildcatMountain	SE Wildcat Mountain Dr	0	0	1	0
R-X-129-00-Arndt_Airport_Barlow	Arndt Rd / Airport Rd / Barlow Rd	1	1	1	0
R-X-129-00-Barlow	S Barlow Rd	0	0	0	2
R-X-130-00-Springwater	Springwater Rd	1	1	0	0
R-X-131-00-Meridian	S Meridian Rd	2	0	0	0
R-X-132-01-Sunnyside	Sunnyside Rd	2	0	1	0
R-X-132-02-Sunnyside	Sunnyside Rd	1	0	1	0
R-X-133-01-Highway170	HWY 170	1	0	1	1
R-X-133-02-Kropf	Kropf Rd	1	0	0	0
R-X-135-00-Highway213	HWY 213	6	6	2	1

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	ROUTENAME	Not Evaluated	Not Vulnerable	Potentially Vulnerable	Vulnerable
R-X-138-00-Allen_GardenHome_Multnomah	SW Allen Rd / Garden Home Rd / Multnomah Blvd	1	1	1	2
R-X-141-00-Washington	Washington St	2	2	1	0
R-X-142-00-Dolph	Dolph Ct	0	0	0	1
R-X-142-00-Sellwood_Tacoma	Sellwood Brg / Tacoma St	5	4	0	0
R-X-143-01-Highway99E	HWY 99E	5	6	2	2
R-X-143-02-Highway99E	HWY 99E	0	5	0	2
R-X-143-03-Highway99E	HWY 99E	7	4	1	1
R-X-143-04-Highway99E	HWY 99E	0	1	0	5
R-X-143-05-Highway99E	Main St / HWY 99	11	0	0	0
R-X-144-00-JohnsonCreek	SE Johnson Creek Blvd	6	3	0	0
R-X-145-00-Highway99W	HWY 99W	1	1	2	4
R-X-146-00-Highway224	HWY 224	1	3	3	0
R-X-146-01-Highway224	HWY 224	2	1	0	1
R-X-146-02-Highway224	HWY 224	1	3	6	0
R-X-146-03-Highway224	HWY 224	0	1	0	1
R-X-147-00-Terwilliger	SW Terwilliger Blvd	1	1	0	0
R-X-148-00-Farmington	Farmington Rd	5	2	0	0
R-X-149-00-Beavercreek	Beavercreek Rd	2	0	0	0
R-X-150-00-Highway8	HWY 8 (Tualatin Valley HWY)	2	3	2	1
R-X-151-00-Fellows	S Fellows Rd	0	0	0	1
R-X-152-01-Cornell	Cornell Rd	2	1	0	0
R-X-152-02-Cornell_Barnes	NW Cornell / Barnes Rd	1	1	0	0
R-X-153-00-Hattan	S Hattan Rd	1	0	0	0
R-X-154-01-Burnside	Burnside Brg	0	0	0	3
R-X-154-02-Burnside	E Burnside Rd	0	1	0	4
R-X-154-03-Burnside	W Burnside St	1	0	1	2
R-X-155-00-LowerHighland_Ridge	S Lower Highland Rd / Ridge Rd	0	0	0	1
R-X-156-01-Highway10	HWY 10	2	0	3	2
R-X-156-02-Highway10	HWY 10 (Beaverton Hillsdale HWY)	2	1	1	0
R-X-157-00-232nd	232nd Ave	0	0	0	1
R-X-159-00-Amisigger_Kelso_Richey	Amisigger Rd / Kelso Rd / Richey Rd	0	0	0	1
R-X-160-01-Foster	SE Foster Rd	1	0	0	0
R-X-160-02-Foster	SE Foster Rd	2	0	0	0
R-X-162-00-AerialTram	Aerial Tram	2	1	1	0
R-X-163-00-CapitolHighway	SW Capitol HWY	0	0	0	2
R-X-164-02-Powell	SE Powell Blvd	2	0	0	0

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	ROUTENAME	Not Evaluated	Not Vulnerable	Potentially Vulnerable	Vulnerable
R-X-164-03-Powell	SE Powell Blvd	1	0	0	0
R-X-169-01-Naito	NW Naito Parkway	0	1	0	2
R-X-169-02-Naito	SW Naito Pkwy	2	2	1	2
R-X-169-03-Naito	SW Naito Pkwy	0	0	0	3
R-X-171-00-Broadway_Terwilliger	SW Broadway / Terwilliger Blvd	1	0	2	0
R-X-172-00-Tilikum	Tilikum Crossing	0	1	0	1
R-X-174-00-Washington	SE Washington St	2	2	0	0
R-X-176-01-Highway26	HWY 26	3	0	0	0
R-X-176-02-Highway26	HWY 26	0	1	1	0
R-X-178-01-Sandy	NE Sandy Blvd	1	3	0	3
R-X-178-01-Stark	SE Stark St	2	2	0	0
R-X-178-02-Sandy	NE Sandy Blvd	1	2	1	0
R-X-178-02-Stark	SE Stark St	2	0	0	0
R-X-178-03-Sandy	NE Sandy Blvd	0	2	0	0
R-X-182-00-Broadway_Weidler	NE Broadway / NE Weidler St	1	1	2	0
R-X-185-00-Murray	SW Murray St	1	0	0	0
R-X-186-00-Front	NW Front Ave	0	0	0	1
R-X-187-00-17th	SE 17th Ave	0	0	1	0
R-X-189-00-32nd_Harrison	32nd Ave / SE Harrison	1	0	0	0
R-X-190-00-SwanIsland	Swan Island	2	0	0	1
R-X-191-01-CesarChavez	NE Cesar E Chavez Ave	1	1	0	0
R-X-192-00-Killingsworth	NE Killingsworth St	0	0	1	0
R-X-193-01-82nd	82nd Ave	1	1	1	4
R-X-193-04-82nd	SE 82nd Ave	4	1	3	2
R-X-194-00-StJohnsBridge	St Johns Brg	0	0	0	2
R-X-196-00-Highway20Bypass	HWY 30 Bypass	0	0	0	1
R-X-197-00-Foster	SE Foster Rd	1	0	0	0
R-X-198-00-Dekum	NE Dekum St	1	0	2	1
R-X-200-00-Lombard	N Lombard St	3	1	4	5
R-X-201-00-242nd_Hogan_238th	242nd Ave / Hogan Rd / 238th Dr	1	1	0	0
R-X-202-00-Columbia	NE Columbia Blvd	4	5	5	6
R-X-203-01-122nd	NE 122nd Ave	3	0	1	0
R-X-204-00-ColumbiaRamp	Columbia Ramp	0	1	2	1
R-X-206-01-Alderwood	NE Alderwood Rd	2	0	0	0
R-X-208-01-Marine	N Marine Dr	2	1	0	0
R-X-208-02-Marine	N Marine Dr	2	1	0	0

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	ROUTENAME	Not Evaluated	Not Vulnerable	Potentially Vulnerable	Vulnerable
R-X-208-03-Marine	NE Marine Dr	0	0	1	0
R-X-208-04-Marine	NE Marine Dr	0	2	1	0
R-X-210-01-Airport	Airport Way	2	2	0	0
R-X-210-02-Airport	NE Airport Way	2	1	1	0
R-X-211-00-Fairview_Glisan_223	NE Fairview Pkwy / Glisan St / 223rd Ave	0	1	0	0
R-X-212-00-SR14	SR-14	33	0	0	0
R-X-214-00-WashougalRiver_Evergreen	Washougal River Rd / Evergreen Way	1	0	0	0
R-X-215-00-Albina_Mississippi	N Albina Ave / Mississippi Ave	0	0	2	0
R-X-216-01-MillPlain	Mill Plain (Vancouver)	11	0	0	0
R-X-216-02-MillPlain	W Mill Plain Blvd	9	0	0	0
R-X-218-00-FourthPlain	Fourth Plain Blvd	4	0	0	0
R-X-221-00-42nd	NE 42nd Ave	1	1	0	1
R-X-222-00-SR500	SR-500	28	0	0	0
R-X-224-00-SR502	SR-502	4	0	0	0
R-X-225-00-Portland	N Portland Rd	2	1	2	2
R-X-226-00-78th_Padden	NE 78th St / Padden Pkwy	9	0	0	0
R-X-227-00-DeltaPark	Delta Park	0	2	0	0
R-X-228-00-ScappooseVernonia	Scappoose Vernonia Rd.	4	0	3	6
R-X-229-00-Vancouver	Vancouver Ave	0	3	0	1
R-X-230-00-Haynes_CedarCreek	NE / Nw Hayes Rd / NE Cedar Creek Rd	4	0	0	0
R-X-231-00-33rd	NE 33rd Dr	3	0	3	1
R-X-235-00-FruitValley_FourthPlain	Fruit Valley / Fourth Plain Blvd	2	0	0	0
R-X-237-00-FruitValley_39th_78th	Lakeshore / Fruit Valley / 39th / 78th	3	0	0	0
R-X-239-00-Andresen	Andresen Rd	1	0	0	0
R-X-243-00-162nd_164th	162nd / 164th Ave	1	0	0	0
R-X-245-00-192nd	192nd Ave	1	0	0	0
R-X-247-00-SR503	SR-503	8	0	0	0
R-X-253-00-Sandy122Ramp	Sandy-122nd Ramp	1	0	1	0
R-X-255-00-40th	SW 40th Ave	0	0	0	1
R-X-257-00-CentralPoint	S Central Point Rd	1	0	0	0
R-X-259-00-26th	SW 26th Ave	0	0	0	1
R-X-261-00-181st	NE 181st Ave	0	1	0	0
R-X-265-00-LewisClarkBridge	Lewis & Clark Brg	0	0	0	1
R-X-267-00-Gideon	SE Gideon	0	1	0	1
S-X-101-08-I5	I-5 (Wa)	58	0	0	0
S-X-113-23-I205	I-205 (Wa)	50	0	0	0

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

ETR_ID_2020	ROUTENAME	Not Evaluated	Not Vulnerable	Potentially Vulnerable	Vulnerable
S-0-108-02-I84	I-84	0	2	0	0
S-0-113-01-I205	I-205	2	3	0	0
S-0-113-02-I205	I-205	0	1	3	0
S-0-113-03-I205	I-205	0	1	2	0
S-0-113-04-I205	I-205	2	1	1	0
S-0-113-05-I205	I-205	1	1	0	0
S-0-113-06-I205	I-205	0	0	1	0
S-0-113-07-I205	I-205	2	2	0	0
S-1-101-01-I5	I-5	0	1	2	0
S-1-102-00-US30	US-30	0	0	0	2
S-1-103-02-I405	I-405	0	0	1	0
S-1-103-03-I405	I-405	0	1	2	1
S-2-101-02-I5	I-5	0	0	2	3
S-2-101-03-I5	I-5	1	1	1	4
S-2-101-04-I5	I-5	1	2	2	4
S-2-101-05-I5	I-5	0	0	1	0
S-2-104-01-US26	US-26	2	0	0	1
S-2-104-02-US26	US-26	0	3	0	0
S-2-104-03-US26	US-26	1	0	0	0
S-2-107-01-OR99E	OR-99E	1	0	0	0
S-2-108-01-I84	I-84	1	2	0	4
S-3-104-05-US26	US-26	1	1	1	0
S-3-104-06-US26	US-26	1	0	0	0
S-3-105-02-OR217	OR-217	1	1	3	0
S-3-111-00-OR43	OR-43	3	3	1	1

Table 6.5 RETRs with Significant Landslide Risk

ETR_ID_2020	ROUTE_FROM	ROUTE_TO	LAND_SUSC				PERCENT_HAZARD
			Very High	High	Moderate		
R-X-100-00-MonteCristo	HWY 213	Meridian Rd			43	Moderate	43
R-X-101-01-Timber_GalesCreek	HWY 26	HWY 47		53	23	Moderate	23
R-X-101-02-Timber_GalesCreek	HWY 26 (Sunset HWY)	HWY 8 (Tualatin Valley HWY)		46	24	Moderate	24
R-X-102-00-Highway211	Marion Co Line	HWY 26		11	27	High	11
R-X-103-00-Greenville_KansasCity_Kemper	HWY 47	HWY 47			10	Moderate	10
R-X-104-00-Barnards	HWY 213	Marion Co Line			12	Moderate	12
R-X-105-00-Highway47	Yamhill Co Line	HWY 30	5	64	12	VERY HIGH	5
R-X-106-00-Macksburg	HWY 211	HWY 170 (Marquam Canby HWY)			15	Moderate	15
R-X-107-00-FernHill_SpringHill_Gaston	HWY 47	HWY 47		16	35	High	16
R-X-108-00-LoneElder	S Meridian Rd	HWY 170			11	Moderate	11
R-X-109-00-Apirary	HWY 30	HWY 47		36	36	High	36
R-X-110-00-Carus_Mulino	HWY 99E	Beavercreek Rd			25	Moderate	25
R-X-111-00-Highway219	HWY 8	HWY 210		5	22	High	5
R-X-112-00-Wilsonville	I-5	Clackamas Co Line		19	26	High	19
R-X-113-00-River	Scholls Ferry Rd	HWY 8 (Tualatin Valley HWY)			27	Moderate	27
R-X-114-00-Unger	Beavercreek Rd	HWY 211			30	Moderate	30
R-X-115-01-Brookwood	HWY 26	Shute Rd			20	Moderate	20
R-X-115-02-Brookwood	Cornell Rd	Shute Rd			24	Moderate	24
R-X-116-00-UpperHighland	HWY 211	Beavercreek Rd			32	Moderate	32
R-X-117-01-CorneliusPass	HWY 8	Multnomah Co Line			31	Moderate	31
R-X-117-02-CorneliusPass	Multnomah Co Line	HWY 30	9	44	39	High	44
R-X-118-00-NewEra_Penman	HWY 99E	S Carus Rd / Mulino Rd		11	34	High	11
R-X-119-00-185th	HWY 26	HWY 8 (Tualatin Valley HWY)			32	Moderate	32
R-X-120-01-SchollsFerry	Multnomah Co Line	HWY 26		16	51	High	16
R-X-120-02-SchollsFerry	River Rd	Multnomah Co Line			30	Moderate	30
R-X-121-00-RoyRogers_TualatinSherwood	Scholls Ferry Rd	I-5 (Or)		5	29	High	5
R-X-122-00-Redland	Springwater Rd	HWY 213	6	8	32	VERY HIGH	6
R-X-123-00-Murray	Scholls Ferry Rd	HWY 26			43	Moderate	43
R-X-124-00-Holcomb_Bradley	HWY 213	Redland Rd		6	43	High	6
R-X-125-00-CedarHills	HWY 26	HWY 8 (Tualatin Valley HWY)		5	23	High	5
R-X-126-00-BoonesFerry_CountryClub_Kruse	I-5 (Or)	Or-43			29	Moderate	29
R-X-127-00-Stafford	I-5 (Or)	I-205 (Or)		6	39	High	6
R-X-127-00-Stafford_McVey	HWY 43	I-205 (Or)		7	54	High	7
R-X-128-00-WildcatMountain	HWY 211	SE Firwood Rd	9	7	39	High	7
R-X-129-00-Arndt_Airport_Barlow	99E	I-5			24	Moderate	24
R-X-129-00-Barlow	HWY 99E	S Monte Cristo Rd			11	Moderate	11
R-X-130-00-Springwater	HWY 211	HWY 224		9	14	High	9
R-X-131-00-Meridian	S Monte Cristo Rd	99E			14	Moderate	14
R-X-132-01-Sunnyside	I-205	HWY 212			24	Moderate	24
R-X-132-02-Sunnyside	SE 82nd Ave	I-205			26	Moderate	26
R-X-133-01-Highway170	HWY 211	99E			12	Moderate	12
R-X-133-02-Kropf	HWY 213	HWY 211			19	Moderate	19
R-X-134-00-Kelso	Amisigger Rd / Kelso Rd / Richey Rd	HWY 26			5	Moderate	5
R-X-135-00-Highway213	Marion Co Line	I-205	5	8	30	VERY HIGH	5
R-X-137-00-Molalla	HWY 213	7th Ave			6	Moderate	6
R-X-138-00-Allen_GardenHome_Multnomah	Murray Blvd	I-5 (Or)		6	24	High	6
R-X-139-00-7th	Washington St	Molalla Ave			54	Moderate	54
R-X-140-00-TaylorsFerry	I-5 (Or)	HWY 43		14	55	High	14

ETR_ID_2020	ROUTE_FROM	ROUTE_TO	LAND_SUSC				PERCENT_HAZARD
			Very High	High	Moderate		
R-X-141-00-Washington	7th St	HWY 213		8	25	High	8
R-X-142-00-Dolph	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW 26th Ave			71	Moderate	71
R-X-142-00-Sellwood_Tacoma	HWY 43	HWY 99E		8	20	High	8
R-X-143-01-Highway99E	HWY 99E	Multnomah Co Line		6	21	High	6
R-X-143-02-Highway99E	NE Lombard St (HWY 30)	I-5		18	33	High	18
R-X-143-03-Highway99E	Multnomah Co Line	SE Division St Structure			12	Moderate	12
R-X-143-04-Highway99E	SE Division St Structure	NE Lombard St			6	Moderate	6
R-X-143-05-Highway99E	W Mill Plain Blvd	I-205				OTHER	100
R-X-144-00-JohnsonCreek	SE 39th Ave	HWY 99E		11	29	High	11
R-X-145-00-Highway99W	SW 60th Ave	SW Naito Pkwy		12	23	High	12
R-X-146-00-Highway224	SE 82nd Ave	HWY 212			10	Moderate	10
R-X-146-01-Highway224	HWY 212	HWY 211 (Eagle Creek - Sandy HWY)	15	25	11	Moderate	11
R-X-146-02-Highway224	HWY 99E	I-205			22	Moderate	22
R-X-146-03-Highway224	Estacada	Ripplebrook	16	20	61	VERY HIGH	16
R-X-147-00-Terwilliger	SW Taylors Ferry Rd	I-5 (Or)		11	49	High	11
R-X-148-00-Farmington	Cedar Hills Blvd	HWY 219			19	Moderate	19
R-X-149-00-Beavercreek	HWY 213	HWY 211		8	25	High	8
R-X-150-00-Highway8	HWY 47	HWY 26			7	Moderate	7
R-X-151-00-Fellows	Redland Rd	Upper Highland Rd		31	14	Moderate	14
R-X-152-01Cornell	Main St	HWY 26			7	Moderate	7
R-X-152-02-Cornell_Barnes	HWY 26 (Sunset HWY)	HWY 217			25	Moderate	25
R-X-153-00-Hattan	Springwater Rd	Redland Rd		14	37	High	14
R-X-154-00-Barnes	HWY 217	W Burnside Rd		7	49	High	7
R-X-154-01-Burnside	Brg	Brg		5	15	High	5
R-X-154-02-Burnside	Burnside Bridge	160th Ave E 330ft			13	Moderate	13
R-X-154-03-Burnside	Burnside Bridge	SW Barnes Rd		16	45	High	16
R-X-155-00-LowerHighland_Ridge	Beavercreek Rd	Springwater Rd		24	18	Moderate	18
R-X-156-01-Highway10	SW 65th Ave	SW Barbur Blvd (99W)		10	31	High	10
R-X-156-02-Highway10	SW 65th Ave	Cedar Hills Rd			9	Moderate	9
R-X-157-00-232nd	HWY 224	HWY 212	15	11	28	High	11
R-X-159-00-Amisigger_Kelso_Richey	HWY 224	HWY 212	13	9	12	High	9
R-X-160-01-Foster	SE Jenne Rd	Multnomah Co Line			35	Moderate	35
R-X-160-02-Foster	SE Powell Blvd	SE Jenne Rd			14	Moderate	14
R-X-161-00-Firwood	SE Wildcat Mountain Dr	HWY 26			36	Moderate	36
R-X-162-00-AerialTram	Brg	Brg		25	55	Moderate	55
R-X-163-00-CapitolHighway	HWY 10	I-5 (Or)			34	Moderate	34
R-X-164-02-Powell	SE 174th Ave	SE Burnside Rd			10	Moderate	10
R-X-164-03-Powell	HWY 99E	SE Powell Blvd			6	Moderate	6
R-X-165-00-45th_Vermont	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW Capitol HWY		7	34	High	7
R-X-167-00-Moody	SW Naito Pkwy	SW Lowell St		16	5	Moderate	5
R-X-168-00-Hawthorne	HWY 99E	SE 39th Ave			5	Moderate	5
R-X-169-01-Naito	W Burnside Rd	NW 15th Ave			14	Moderate	14
R-X-169-02-Naito	SW Barbur Blvd	685ft N Of I-405		16	31	High	16
R-X-169-03-Naito	685 Ft N Of I-405	W Burnside Rd			19	Moderate	19
R-X-171-00-Broadway_Terwilliger	SW Market And SW Clay	Ohsu		45	30	High	45
R-X-172-00-Tilikum	Brg	Brg			10	Moderate	10
R-X-176-02-Highway26	Multnomah Co Line	HWY 212			11	Moderate	11
R-X-178-01-Sandy	E Burnside Rd	NE Columbia Blvd			8	Moderate	8
R-X-178-02-Sandy	NE Columbia Blvd	NE 181st Ave			8	Moderate	8
R-X-178-02-Stark	242nd Ave / Hogan Rd / 238th Dr	Stark St Brg		24	25	High	24

ETR_ID_2020	ROUTE_FROM	ROUTE_TO	LAND_SUSC				PERCENT_HAZARD
			Very High	High	Moderate		
R-X-178-03-Sandy	NE 181st Ave	I-84			30	Moderate	30
R-X-180-00-Glisan	NE Cesar E Chavez Blvd	NE 53rd Ave			14	Moderate	14
R-X-183-00-23rd_Vaughn	NW Nicolai St	W Burnside St		6	13	High	6
R-X-184-00-Nicolai	NW Front Ave	NW St Helens Rd @ Kittridge			18	Moderate	18
R-X-185-00-Murray	W Burnside St	SW Canyon Rd	92			VERY HIGH	92
R-X-188-00-RockyButte	NE 82nd Ave	Joseph Wood Hill Park		27	34	High	27
R-X-189-00-32nd_Harrison	Johnson Creek Blvd	HWY 224			28	Moderate	28
R-X-190-00-SwanIsland	I-5 (Or)	I-5 (Or)			12	Moderate	12
R-X-191-01-CesarChavez	E Burnside Rd	I-84			40	Moderate	40
R-X-191-02-CesarChavez	SE Crystal Springs Blvd	E Burnside Rd			43	Moderate	43
R-X-192-00-Killingsworth	I-5 (Or)	N Lombard St			8	Moderate	8
R-X-193-01-82nd	SE Clatsop St	NE Holman St			19	Moderate	19
R-X-193-03-82nd	NE Holman St	NE Alderwood Rd			38	Moderate	38
R-X-193-04-82nd	I-205	SE Clatsop St			17	Moderate	17
R-X-194-00-StJohnsBridge	Brg	Brg			21	Moderate	21
R-X-195-01-172nd	Sunnyside Rd	HWY 212			45	Moderate	45
R-X-195-02-172nd	SE Foster Rd	Sunnyside Rd			16	Moderate	16
R-X-196-00-Highway20Bypass	HWY 30 (Nw St Helens Rd)	N Lombard Blvd			51	Moderate	51
R-X-197-00-Foster	Multnomah Co Line	HWY 212			58	Moderate	58
R-X-198-00-Dekum	HWY 99E	NE Columbia Blvd			34	Moderate	34
R-X-200-00-Lombard	N Kelley Point Park Rd	N Columbia Blvd			11	Moderate	11
R-X-201-00-242nd_Hogan_238th	HWY 212	I-84			26	Moderate	26
R-X-202-00-Columbia	N Lombard St	NE Sandy Blvd			14	Moderate	14
R-X-203-01-122nd	E Burnside Rd	NE Marine Dr		5	17	High	5
R-X-204-00-ColumbiaRamp	NE Columbia Blvd	N Portland Rd			13	Moderate	13
R-X-205-00-Highland-190th-Tillstrom	SE Powell Blvd	SE Foster Rd			45	Moderate	45
R-X-206-01-Alderwood	NE 82nd Ave	Airport Way			12	Moderate	12
R-X-206-02-Alderwood	NE Columbia Blldv	NE 82nd Ave			14	Moderate	14
R-X-207-00-112th-CherryBlossom	SE Stark St	SE Powell Blvd			10	Moderate	10
R-X-208-01-Marine	N Portland Rd	I-5			10	Moderate	10
R-X-208-02-Marine	N Kelley Point Park Rd	N Portland Rd			11	Moderate	11
R-X-208-03-Marine	NE 185th Dr	I-84			45	Moderate	45
R-X-208-04-Marine	I-5	NE 185th Ave		35	45	Moderate	45
R-X-209-00-182nd	SE Powell Blvd	E Burnside Rd			7	Moderate	7
R-X-210-01-Airport	I-205	NE 181st Ave			10	Moderate	10
R-X-211-00-Fairview_Glisan_223	NE Sandy Blvd	SE Powell Blvd		6	29	High	6
R-X-213-00-257th_Kane	I-84	HWY 26			25	Moderate	25
R-X-215-00-Albina_Mississippi	N Lombard St	Kerby Ave			24	Moderate	24
R-X-217-00-15th	NE Dekum St	NE Broadway / NE Weidler St			27	Moderate	27
R-X-221-00-42nd	NE Columbia Blvd	NE Broadway / Weidler St			30	Moderate	30
R-X-223-00-Cully	NE Sandy Blvd	NE Columbia Blvd			10	Moderate	10
R-X-224-00-SR502	I-5	SR-503				OTHER	100
R-X-225-00-Portland	N Columbia Blvd	N Marine Dr		5	13	High	5
R-X-227-00-DeltaPark	I-5 (Or)	HWY 99E			16	Moderate	16
R-X-228-00-ScapooseVernonia	HWY 30	HWY 47		76	10	Moderate	10
R-X-229-00-Vancouver	HWY 99E	NE Columbia Blvd		6	6	Moderate	6
R-X-231-00-33rd	NE Columbia Blvd	NE Marine Dr		6	37	High	6
R-X-233-00-47th_Cornfoot_Airtrans	NE Columbia Blvd	Airtrans Way			21	Moderate	21
R-X-249-00-Chautauqua	NE Columbia Blvd	N Lombard St			10	Moderate	10
R-X-251-00-Dewitt	HWY 10	HWY 10			37	Moderate	37

ETR_ID_2020	ROUTE_FROM	ROUTE_TO	LAND_SUSC				PERCENT_HAZARD
			Very High	High	Moderate		
R-X-253-00-Sandy122Ramp	NE 122nd Ave	NE Sandy Blvd		5	54	High	5
R-X-255-00-40th	SW Allen Rd/Garden Home Rd/Multnomah Blvd	SW Capitol HWY			51	Moderate	51
R-X-257-00-CentralPoint	S New Era Rd / Penman Rd	Parrish Rd	34	14	32	High	14
R-X-259-00-26th	SW Taylors Ferry Rd	HWY 99W		5	49	High	5
R-X-261-00-181st	E Burnside Rd	NE Sandy Blvd			18	Moderate	18
R-X-263-00-MarketClay	I-405 / HWY 26	SW Naito Parkway			24	Moderate	24
R-X-265-00-LewisClarkBridge	Brg	Brg			32	Moderate	32

Table 6.6 RETRs with Flood Risk

ETR_ID_2020	ROUTENAME	ROUTE_TO	ROUTE_FROM	Percent Hazard			At Risk (if > 25%)
				100 year	500 year	Total	
R-X-154-01-Burnside	Burnside Brg	Brg	Brg	81	19	100	High Risk
R-X-169-01-Naito	NW Naito Parkway	NW 15th Ave	W Burnside Rd		100	100	High Risk
R-X-193-02-82nd	82nd Ave	NE Airport Way	NE Alderwood		100	100	High Risk
R-X-193-03-82nd	NE 82nd Ave	NE Alderwood Rd	NE Holman St		100	100	High Risk
R-X-206-01-Alderwood	NE Alderwood Rd	Airport Way	NE 82nd Ave		100	100	High Risk
R-X-210-02-Airport	NE Airport Way	I-205	Pdx		100	100	High Risk
R-X-227-00-DeltaPark	Delta Park	HWY 99E	I-5 (Or)		99	99	High Risk
R-X-208-04-Marine	NE Marine Dr	NE 185th Ave	I-5	67	30	97	High Risk
R-X-233-00-47th_Cornfoot_Airtrans	47th / Cornfoot Rd / Airtrans Way	Airtrans Way	NE Columbia Blvd	9	86	95	High Risk
R-X-210-01-Airport	Airport Way	NE 181st Ave	I-205		93	93	High Risk
R-X-231-00-33rd	NE 33rd Dr	NE Marine Dr	NE Columbia Blvd	15	77	92	High Risk
R-X-208-01-Marine	N Marine Dr	I-5	N Portland Rd	28	62	90	High Risk
R-X-167-00-Moody	SW Moody Ave	SW Lowell St	SW Naito Pkwy	24	62	86	High Risk
R-X-194-00-StJohnsBridge	St Johns Brg	Brg	Brg		86	86	High Risk
R-X-208-02-Marine	N Marine Dr	N Portland Rd	N Kelley Point Park Rd	5	80	85	High Risk
R-X-206-02-Alderwood	NE Alderwood Rd	NE 82nd Ave	NE Columbia Blldv		83	83	High Risk
R-X-125-00-CedarHills	SW Cedar Hills Blvd	HWY 8 (Tualatin Valley HWY)	HWY 26	77		77	High Risk
R-X-141-00-Washington	Washington St	HWY 213	7th St	71		71	High Risk
R-X-103-00-Greenville_KansasCity_Kemper	Greenville / Kansas City / Kemper Rd	HWY 47	HWY 47	58		58	High Risk
R-X-225-00-Portland	N Portland Rd	N Marine Dr	N Columbia Blvd	27	29	56	High Risk
R-X-265-00-LewisClarkBridge	Lewis & Clark Brg	Brg	Brg	52		52	High Risk
R-X-169-03-Naito	SW Naito Pkwy	W Burnside Rd	685 Ft N Of I-405		48	48	High Risk
R-X-229-00-Vancouver	Vancouver Ave	NE Columbia Blvd	HWY 99E	13	35	48	High Risk
R-X-172-00-Tilikum	Tilikum Crossing	Brg	Brg	44		44	High Risk
R-X-186-00-Front	NW Front Ave	NW 61st Ave	NW Naito Parkway		37	37	High Risk
R-X-208-03-Marine	NE Marine Dr	I-84	NE 185th Dr	31	5	36	High Risk
R-X-129-00-Arndt_Airport_Barlow	Arndt Rd / Airport Rd / Barlow Rd	I-5	99E	20	14	34	High Risk
R-X-107-00-FernHill_SpringHill_Gaston	Fern Hill / Spring Hill Rd / Gaston Rd	HWY 47	HWY 47	25		25	
R-X-143-01-Highway99E	HWY 99E	Multnomah Co Line	HWY 99E		23	23	
R-X-203-01-122nd	NE 122nd Ave	NE Marine Dr	E Burnside Rd		23	23	
R-X-146-00-Flavel	SE Flavel St	SE 92nd Ave	82nd Ave	22		22	
R-X-228-00-ScappooseVernonia	Scappoose Vernonia Rd.	HWY 47	HWY 30	20		20	
R-X-190-00-SwanIsland	Swan Island	I-5 (Or)	I-5 (Or)		17	17	
R-X-110-00-Carus_Mulino	S Carus Rd / Mulino Rd	Beavercreek Rd	HWY 99E	8	8	16	
R-X-109-00-Apirary	Apiary Rd	HWY 47	HWY 30	15		15	
R-X-230-00-Haynes_CedarCreek	NE / Nw Hayes Rd / NE Cedar Creek Rd	SR-503	I-5	14		14	
R-X-101-01-Timber_GalesCreek	Timber / Vernonia Rd	HWY 47	HWY 26	13		13	
R-X-142-00-Sellwood_Tacoma	Sellwood Brg / Tacoma St	HWY 99E	HWY 43	13		13	
R-X-144-00-JohnsonCreek	SE Johnson Creek Blvd	HWY 99E	SE 39th Ave	13		13	
R-X-200-00-Lombard	N Lombard St	N Columbia Blvd	N Kelley Point Park Rd		12	12	
R-X-111-00-Highway219	HWY 219 (Hillsboro HWY)	HWY 210	HWY 8	11		11	
R-X-154-03-Burnside	W Burnside St	SW Barnes Rd	Burnside Bridge		11	11	
R-X-105-00-Highway47	HWY 47	HWY 30	Yamhill Co Line	10		10	
R-X-203-02-122nd	SE 122nd Ave	E Burnside Rd	SE Foster Rd	5	5	10	
R-X-160-02-Foster	SE Foster Rd	SE Jenne Rd	SE Powell Blvd	9		9	
R-X-216-02-MillPlain	W Mill Plain Blvd	Port Of Vancouver	I-5		9	9	
R-X-106-00-Macksburg	Macksburg Rd	HWY 170 (Marquam Canby HWY)	HWY 211		8	8	

ETR_ID_2020	ROUTENAME	ROUTE_TO	ROUTE_FROM	Percent Hazard			At Risk (if > 25%)
				100 year	500 year	Total	
R-X-122-00-Redland	Redland Rd	HWY 213	Springwater Rd	8		8	
R-X-211-00-Fairview_Glisan_223	NE Fairview Pkwy / Glisan St / 223rd Ave	SE Powell Blvd	NE Sandy Blvd	8		8	
R-X-162-00-AerialTram	Aerial Tram	Brg	Brg		7	7	
R-X-194-00-StJohnsBridge	St Johns Brg	Brg	Brg		7	7	
R-X-241-00-136th_137th	136th / 137th	Mill Plain (Vancouver)	NE 78th / Padden Pkwy		7	7	
R-X-135-00-Highway213	HWY 213	I-205	Marion Co Line	6		6	
R-X-156-02-Highway10	HWY 10 (Beaverton Hillsdale HWY)	Cedar Hills Rd	SW 65th Ave	6		6	
R-X-224-00-SR502	SR-502	SR-503	I-5	6		6	
R-X-113-00-River	River Rd	HWY 8 (Tualatin Valley HWY)	Scholls Ferry Rd	5		5	
R-X-127-00-Stafford_McVey	Mcvey Ave / SW Stafford Rd	I-205 (Or)	HWY 43		5	5	
R-X-133-01-Highway170	HWY 170	99E	HWY 211	5		5	
R-X-160-01-Foster	SE Foster Rd	Multnomah Co Line	SE Jenne Rd	5		5	
R-X-178-03-Sandy	NE Sandy Blvd	I-84	NE 181st Ave		5	5	
R-X-193-01-82nd	82nd Ave	NE Holman St	SE Clatsop St		5	5	

APPENDIX A Regional Emergency Transportation Routes Work Group (EWRG) Members

APPENDIX A

Regional Emergency Transportation Routes Work Group (EWRG) Members

Regional Emergency Transportation Routes Work Group

We wish to thank the following agencies and individuals have participated in the Regional ETR Work Group from 2018 to present.

Agency		Participants
1	Regional Disaster Preparedness Organization (RDPO)	Laura Hanson, Chair
2	Metro	Kim Ellis, Co-chair Matthew Hampton Zac Christensen Molly Vogt Daniel Nibouar
3	Tri-County Metropolitan Transportation District of Oregon (TriMet)	Alex Ubiadas Justin Dillon
4	C-TRAN	Bob Medcraft
5	Oregon Department of Transportation (ODOT)	Albert Nako Talia Jacobson Bruce Johnson (retired) Tom Braibish Geoff Bowyer Michael Zimmerman Glen Bolen
6	Washington Department of Transportation (WSDOT)	Monique Rabideau John Himmel
7	Oregon Department of Geology and Mineral Industries (DOGAMI)	John Bauer (retired)
8	Oregon Counties Association	Brian Worley
9	Portland State University (PSU) Transportation Research and Education Center (TREC)	John MacArthur
10	Port of Portland	Art Spillman Alex Howard Greg Theisen
11	Clackamas County Disaster Management	Nancy Bush
12	Washington County Emergency Management	Ken Schlegel John Wheeler
13	Washington County Operations and Maintenance	Todd Watkins

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

	Agency	Participants
14	Multnomah County Emergency Management	Lisa Corbly David Lentzner
15	Multnomah County Transportation Division	Megan Neill Allison Boyd Tina LeFebvre
16	Portland Bureau of Emergency Management (PBEM)	Jonna Papaefthimiou
17	Portland Bureau of Transportation (PBOT)	Mauricio Leclerc Emily Tritsch Michael Serritella
18	Clark Regional Emergency Services Agency	Anthony Vendetti Cindy Stanley
19	Columbia County Emergency Management	Shaun Brown Steve Pegram
20	Columbia County Public Works	Mike Russell Lonny Welter (retired)
21	Gresham Transportation Manager	Chris Strong
22	City of Wilsonville Public Works	Martin Montalvo

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

APPENDIX B

Stakeholder Engagement Process

APPENDIX B

Regional Emergency Transportation Routes Update

Stakeholder Engagement

Summary of Engagement Activities

February 4, 2021

TABLE OF CONTENTS

Table of contents i

Summary of engagement activities | 2019 to 2021 1

 2019 Engagement Activities..... 1

 2020 Engagement Activities..... 1

 2021 Engagement Activities (Planned) 2

- Attachment 1 – Engagement Schedule
- Attachment 2 – Community Leaders’ Forum Summary

SUMMARY OF ENGAGEMENT ACTIVITIES | 2019 TO 2021

A detailed project engagement schedule is provided in **Attachment 1**.

2019 Engagement Activities

In 2019, Metro and RDPO worked closely together with a work group comprised of local, regional, and state partners in transportation planning and emergency management as well as engaged the Portland State University Transportation Research and Education Center (TREC) and a team of local consultants to provide the following for the ETR project work group.

- Conduct a [policy review and research on best practices](#) for establishing emergency transportation routes
- Assemble readily available datasets to support the evaluation process
- Develop and refine the draft RETR evaluation framework.

Four meetings of the ETR work group were held.

In August 2019, Metro hosted a community leaders' technical briefing and discussion, bringing together community leaders focused on social equity, environmental justice, labor fairness and community engagement. More than 100 community leaders were invited, and approximately 20 leaders participated. A summary of the discussion is provided in **Attachment 2**.

2020 Engagement Activities

From January to February 2020, the project team requested feedback on the draft evaluation framework from regional technical committees and work groups as well as regional policymakers.

In March 2020, mid-way through the project, the COVID-19 emergency declaration and response prompted Emergency Operations Centers (EOCs) to activate region-wide and forced cancellation of in-person meetings throughout Oregon and Washington for the remainder of the project.

In April 2020, the project team made adjustments to the work plan and engagement schedule to advance the project:

- The draft methodology and criteria were made available online for groups or individual stakeholders who wanted to review and provide comments through the end of May. No additional comments were received.
- The project team applied the draft methodology and evaluation factors to the routes and datasets collected for preliminary review and refinement by the ETR work group in July.

The team felt confident making these adjustments to the work plan given the substantive feedback previously provided by the ETR Work Group and positive feedback received from other stakeholders prior to the emergency declaration.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

In July 2020, the preliminary routes with maps were presented to the ETR work group by the consulting team, enabling the work group to review draft outputs of the methodology and provide substantive feedback on the evaluation factors, methodology, and data used before preparing the draft report and maps for review (and subsequent refinement) by project stakeholders.

In September 2020, catastrophic wildfires in the region and other parts of Oregon further delayed completion of project deliverables and engagement activities. The continued delays required requesting a project extension from the Urban Areas Security Initiative (UASI) to June 2021.

From August to October 2020, staff convened a series of on-line jurisdictional meetings to request feedback on the preliminary maps and recommendations for future work. The meetings were held with each of the five counties (and their respective cities) as well as the Port of Portland, Port of Vancouver, City of Portland, TriMet, and the South Metro Area Regional Transit (SMART). The project team prepared an on-line viewer to support the jurisdictional review. The review identified data limitations and gaps, and new potential ETRs to be included in the analysis.

From November to December 2020, the project team incorporated the missing data (when readily available) and the additional potential ETRs, updated the ETR analysis and prepared a draft report with updated maps and recommendations for future work. The ETR work group reviewed and provided feedback on the draft report in advance of broader engagement planned for 2021.

2021 Engagement Activities (Planned)

From January to April 2021, updated maps, draft findings, and recommendations for future work were brought forward for review and consideration by regional technical committees and work groups, county coordinating committees as well as regional policymakers, including the RDPO Steering Committee, the RDPO Policy Committee, the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT), the Metro Policy Advisory Committee (MPAC) and the Southwest Washington Regional Transportation Council (SW RTC).

A regional dissemination webinar is anticipated in May 2021 to more broadly share the updated maps, data findings, and recommendations for future planning work.

REGIONAL EMERGENCY TRANSPORTATION ROUTES UPDATE

ENGAGEMENT SCHEDULE | 2020 - 2021

2020

Month	When	Who	What
January	1/23	ETR Working Group	<ul style="list-style-type: none"> Project update Seek feedback on draft criteria and methodology Seek feedback on recommendations for future work
February	2/19	TPAC/MTAC workshop; ETR Working Group members invited	
	Via RDPO email	RDPO work groups (e.g., public works, law enforcement, healthcare)	
March	3/2	East Multnomah County Transportation Committee TAC	
	3/6	REMTEC	
	3/10	Metro Council	
	4/13	East Multnomah County Transportation Committee	
April	4/30	Washington County Coordinating Committee TAC	
	5/18	Washington County Coordinating Committee	
May	5/20	Clackamas County C-4 Metro Subcommittee	
July	7/9	REMTEC	Seek feedback on preliminary maps
	7/17	Regional Transportation Advisory Committee	
	7/21	ETR Working Group	Project update
August	8/3	RDPO Steering Committee	Project update
	8/4	SW Regional Transportation Council (RTC)	Jurisdiction specific review of preliminary maps
	8/12	Clark County, Vancouver, WSDOT staff	Jurisdiction specific review of preliminary maps
	8/19	City of Portland staff	
	8/20	Multnomah County staff	
September	9/2	East Multnomah County Transportation Committee TAC	Jurisdiction specific review of preliminary maps
	9/8	Clackamas County, Cities of Happy Valley, Gladstone, Lake Oswego, Milwaukie, Oregon City, West Linn and Wilsonville staff	
	9/10	Washington County, Cities of Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard and Tualatin staff	
	9/14	Columbia County staff	
	9/23	RDPO Public Works WG Meeting	Project update
October	10/1	REMTEC	Jurisdiction specific
	10/5	Ports of Portland and Vancouver staff	

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Attachment 1

Month	When	Who	What
	10/9	TriMet, C-TRAN and SMART staff	review of preliminary maps
	10/26	ETR Working Group	Seek feedback on draft maps and report recommendations
	Via email	RDPO Public Works WG	Send out links to the maps and technical documents to review
December	Via email	ETR Working Group Reviews DRAFT Report	Email/online no meeting
	12/7	RDPO Steering Committee	Project update

2021

Final Review Process (planned)

Who	Anticipated Date
ETR Work Group Review	Jan. 20
REMTEC	Feb. 5
RDPO Steering Committee	Feb. 8
Transportation Policy Alternatives Committee (TPAC)/ Metro Technical Advisory Committee (MTAC) workshop	Feb. 17
Joint Policy Advisory Committee on Transportation	Feb. 18
Regional Technical Advisory Committee	Feb. 19
RDPO Policy Committee	Feb. 19
Metro Council	Feb. 23
Metro Policy Advisory Committee	Feb. 24
Southwest Washington Regional Transportation Council	March 5

Who	Anticipated Date
Clackamas County TAC	Feb. 24
East Multnomah County Transportation Committee TAC	March 3
Washington County Coordinating Committee TAC	March 4
Washington County Coordinating Committee (policy)	March 15
East Multnomah County Transportation Committee (policy)	March 15
C-4 subcommittee (policy)	March 18

Acceptance Process (planned)

Who	Anticipated Date
RTAC – seek recommendation to the SW RTC	March 19 or April 16
TPAC – seek recommendation to JPACT	April 2 or May 7
SW RTC – seek acceptance of updated map, report findings and recommendations for future work	April 6 or May 4
JPACT – seek recommendation to the Metro Council	April 15 or May 20
Metro Council – seek acceptance of updated map, report findings and recommendations for future work	April or May <i>pending JPACT action</i>
RDPO Policy Committee – seek acceptance of updated map, report findings and recommendations for future work	May or June <i>pending Metro Council and SW RTC action</i>

COMMUNITY LEADERS' TECHNICAL BRIEFING AND DISCUSSION

Friday, August 2, 2019

Meeting Summary of Regional Emergency Transportation Routes Discussion

On Aug. 2, 2019, Metro hosted a community leaders' technical briefing and discussion, bringing together community leaders focused on social equity, environmental justice, labor fairness and community engagement. Invitees included community representatives on the Metro Policy Advisory Committee (MPAC), Metro's Committee on Racial Equity (CORE), Metro's Public Engagement Review Committee (PERC), Metro Technical Advisory Committee (MTAC) and Metro's Transportation Policy Alternatives Committee (TPAC), as well as previous participants in 2018 Regional Transportation Plan (RTP) regional leadership forums and those involved in discussions about an affordable housing measure. More than 100 community leaders were invited, and about 20 leaders participated.

Attendees

Community Leaders: Bev Drottar, TPAC community member; Anjala Ehelebe, Woodlawn Neighborhood Association; Hannah Holloway, Urban League; DJ Hefferman, Sullivan's Gulch Neighborhood; Allie Yee, APANO; Coi Vu, IRCO Asian Family Center; Ali Mohamad Yusuf, IRCO; Sydney McCotter Bicknell, PAALF; Andrew Basin, Willamette Falls Trust; Diane Linn, Proud Ground; Richi Poudyal, The Street Trust; Nicole Johnson, 1000 Friends of Oregon; Chris Rall, Transportation for America; Vivian Satterfield, Verde; Mercedes Elizalde, Central City Concern; Arlene Kimura, East Portland Action Plan; Carol Chesarek, MTAC community member; Kari Schlosshauer, Safe Routes to School Partnership

Metro staff: Clifford Higgins (facilitator), Lake McTighe, Caleb Winter, Eryn Kehe, Matt Bihn

Cliff Higgins kicked off the meeting with introductions and an agenda overview.

Discussion 2: Emergency Transportation Routes

Presentation and large group discussion

- Cliff Higgins presented about the Emergency Transportation Routes Study to the group. He discussed some background on the region's existing Emergency Transportation Routes and the need to update the regional routes to reflect changing population centers, demographics, technology and new information about hazard risks. The study will both identify priority routes and also make recommendations on planning and investments to make those routes more resilient in preparation for major disasters.
- There were questions about how this project will go beyond just route prioritization and identification to also consider the connections between routes and ways community members can access the routes during an emergency.

Small group discussions:

Below are the major themes and takeaways from each of the small group discussions on this topic. The participants in these small groups were responding to the following prompts:

- 1) Based on how we've described it, is this project on the right track?
 - 2) Does the problem to be solved make sense?
 - 3) What else should we consider as this project moves forward?
 - 4) How can we best pursue equity on this topic?
- Participants generally agreed that this project was on the right track, but wanted to make sure it is relevant to individual community disaster preparedness and that there are clear lines of communication about how emergency routes play into overall disaster planning regionally.
 - Though most participants understood the need for the project, many emphasized that there are infrastructure improvement needs in communities now that need addressing, and this project must balance the local needs of these emergency routes with helping local communities to prepare for disasters. There were some suggestions of phasing improvements on certain routes to better serve community's immediate needs.
 - As the project moves forward, there was an interest in how we can learn from best practices in other communities who have experienced significant natural disasters.
 - Individuals brought up specific examples of necessary coordination with other utilities in this planning effort, including: water and sewer lines under Burnside, Powell and Division, the Linnton fuel tanks (fire risk) and major institutions housing vulnerable or dependent populations such as jails, nursing homes or hospitals.
 - The overarching concern brought up by each of the groups was to adequately evaluate who would be served by these prioritized emergency transportation routes, and ensuring that the planning prioritizes serving those with fewer access to resources in a disaster.
 - Pursuing equity on this topic means clear communication with communities about how to prepare for a disaster, where emergency transportation routes are how improving emergency transportation routes would impact their neighborhood. This also includes communication in different languages and longer planning timeframes to incorporate voices less familiar with these planning processes.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

APPENDIX C

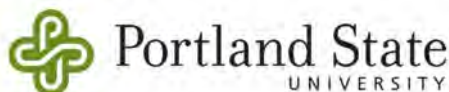
TREC at PSU Metropolitan Regional ETR Report

Background and Considerations for Updating the Regional Emergency Transportation Routes in the Portland-Vancouver Metropolitan Region

Baxter Shandobil
John MacArthur

*Transportation Research and Education Center
Portland State University*

August 2019



Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

This page intentionally blank

Table of Contents

Section I: Project Background	2
Section II: Report Organization	5
Section III: ETR Types	6
Section IV - Literature Review	10
Section V: Access Considerations	11
Section VI: Roadway Considerations	16
Section VII: Policy and Management Considerations	17
Appendix A: Local, Regional and National Planning, Policy and Disaster Management Documents Reviewed	22
Appendix B: City, county, and state planners and emergency transportation personnel consulted	39
Appendix C: Pertinent Planning and Disaster Management Documents from Other Regions	41
Appendix D: Non-pertinent planning and emergency documents from other jurisdictions that were reviewed	46
Appendix E: Details on Lifeline Goals, Objectives, Criteria, and Tiers	47

Section I: Project Background

Natural disasters can happen any time and the Pacific Northwest is in a highly seismically active region. In addition to the risk posed by the three shallow, crustal fault lines that intersect Portland, geologists believe that there is a 24 percent chance of a magnitude 8.0 or greater earthquake occurring in the Cascadia Subduction Zone within the next 50 years.^{1, 2} Landslides, wildfires, flooding, volcanic activity, and extreme snow and ice events pose additional threats, and when they strike, the transportation system must be resilient in order to facilitate emergency response and recovery activities.

In 1996, the Portland Metro region first designated Emergency Transportation Routes (ETRs), to be used after a major regional disaster to move emergency resources such as personnel, supplies and equipment to designated staging areas and subsequent deployment to heavily damaged areas. The 1996 report of the Metro Regional Emergency Transportation Routes Task Force identified several factors that influence the designation of routes as emergency transportation corridors, including:

- The response phase lasts a relatively short time, so the focus of the task force was on primary ETRs for use during the first 72 hours following an event.
- In past earthquakes, injured people generally found ways to access medical care and were not transported by ambulance to a hospital. The task force identified distributing patients from overloaded or out-of-action medical centers to underutilized ones, perhaps outside of the major impact area, as a primary concern.
- Utilities tend to congregate on major arterials. Downed wires or collapsed water or sewer mains may render these roads impassable. Freeways are less likely to be impacted by damaged utility facilities.
- Airport facilities and air traffic control systems could be damaged by the event. Alternatives for access to airlift locations should be considered for ETR selection.

¹ Monahan, R. (2019). "When the Big One Hits, Hundreds of Portland's Buildings Could Crumble. Is it Fair to Make Property Owners Prepare?" *Willamette Week*. Retrieved from <https://www.wweek.com/news/city/2019/03/06/when-the-big-one-hits-hundreds-of-portlands-buildings-could-crumble-is-it-fair-to-make-property-owners-prepare/> on 3/14/19/

² Read, R (2015). "Oregon State earthquake, tsunami expert Chris Goldfinger: 'It's not hopeless.'" *The Oregonian*. Retrieved from https://www.oregonlive.com/pacific-northwest-news/2015/07/tsunami_earthquake_cascadia_ch.html on 3/14/19.

The task force used four criteria for selecting specific routes:

1. State routes serving the metropolitan area were considered primary because of their high capacity and ability to handle oversized vehicles. Additionally, local emergency corridors are often only accessible via a state route.
2. Relatively flat routes with few major gradients or potential slide areas.
3. Routes should serve major population centers.
4. At-grade level alternative routing at overpasses and underpasses.

While the criteria established in the 1996 Report of the Metro Regional Emergency Transportation Routes Task Force are important, there are other additional criteria that are worth considering (see Sections V through VII).

In 2006, the current regional ETRs were established in a Memorandum of Understanding between Oregon Department of Transportation (ODOT), Washington State Department of Transportation (WSDOT), Metro and local jurisdictions in the Portland-Vancouver metropolitan region.

The MOU describes after-event procedures such as the chain of reporting and jurisdictional responsibility for each road and bridge segment of the ETR network. It also specifies basic assessment procedures, establishes standards on the reporting of route status, and designates the Richter scale magnitude earthquakes for which different response levels are activated. However, the MOU offers minimal guidance on how routes are established and updated.

Since 2006, the ETRs have not been updated thru the MOU and the current designations are not being maintained at a regional level. Recently, some local jurisdictions have identified changes to the local ETRs but these changes have not been shared or updated regionally.

ODOT is currently evaluating the seismic resilience of the state-designated Lifeline Routes in the Portland-Vancouver region portion of Oregon. Overall, ODOT is working with each county in Oregon to further assess the state designated lifeline routes and locally designated ETRs to anticipate seismic impacts to bridge and overpass infrastructure on the state's designated lifeline arterial streets and throughways. The ODOT analysis includes an evaluation of the cost-benefit to seismically update bridge and overpass facilities along state-owned routes compared to the cost-benefit to seismically update adjacent county routes. In addition, each county in Oregon is recommending changes to the ETRs within their respective jurisdiction based on this analysis and local information, when available.

In 2018, Clackamas County updated their routes while evaluating bridge and overpass facilities on the Statewide Lifeline Routes for ODOT. In 2019, Washington County, Columbia County and

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region pending TPAC's recommendation to JPACT, August 2019

Multnomah County will complete a similar analysis of their ETRs in partnership with ODOT. Clark County, in Washington State, will complete a similar analysis of their ETRs using DOGAMI data and analysis. Independent of ODOT's work with the counties, the City of Portland conducted an update of their ETRs in 2018, which will be brought into this planning effort.

Given the above work, the designation of current ETRs need to be re-evaluated to reflect updates recommended by the City of Portland and each of the five counties.

The Regional Disaster Preparedness Organization (RDPO) and Metro are coordinating efforts with transportation, emergency management and public works departments of each county and the City of Portland, ODOT and Washington Department of Transportation (WSDOT), as well as the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT), Southwest Regional Transportation Council (RTC), TriMet, SMART, C-TRAN and DOGAMI.

The Regional Emergency Transportation Routes (ETRs) update project will update the existing regional ETRs for the 5-county Portland-Vancouver metropolitan region by updating the regional ETR map. The project will also make recommendations on elements to be included in an updated memorandum of understanding (MOU), mutual aid or other written agreements needed to implement ETRs, and provide information to support future planning work related to regional transportation recovery, resiliency and emergency management.

The regional project will update existing designated regional routes using the latest DOGAMI seismic data, ODOT Lifeline analysis and subsequent county-level bridges and ETR analysis. This will also ensure the updated ETRs are responsive to local and state knowledge and priorities in our rapidly growing and changing region. Planning and updates to infrastructure within the region since 2006 will also inform the ETR update; particularly the now seismically-resilient Sellwood and Tilikum Crossing bridges owned by Multnomah County and TriMet, and recommendations identified in the 2018 Earthquake Ready Burnside Project Feasibility Report.

Given the limited time and funding available, this report is not intended to be an exhaustive literature review, nor make authoritative recommendations. Rather, it will serve as a resource document for the contracted consultants leading a longer regional ETR refinement process by providing a general knowledge base, cataloging relevant documents, and describing considerations and lessons learned from other regions that have been reviewed

Between March and June of 2019, Metro and RDPO partnered with a Portland State University's (PSU) Transportation Research and Education Center (TREC) to perform desk research to evaluate the policy framework in which ETRs currently operate in the Portland-Vancouver metropolitan region, as well as best practices from other regions with similar vulnerabilities.

Section II: Report Organization

Throughout the research process, we reviewed dozens of planning, policy, emergency management, and technical documents, and solicited feedback from representatives at Portland Bureau of Transportation (PBOT) and ODOT, as well as Multnomah, Washington, Clackamas, Columbia and Clark counties. Additionally, we had a phone conversation with Mike Andrews from North Shore Emergency Management in British Columbia about their current emergency transportation management policies and future plans in a region with similar vulnerabilities.

Appendix B contains a table of all parties consulted during this process.

One of the initial key findings was a lack of consistency in how ETRs are both named and defined between jurisdictions. In **Section III**, seen below, we identify the four types of emergency transportation routes discussed in local, regional, and statewide planning, engineering, and emergency management documents. Additionally the degree to which ETRs are identified in planning documents between local and regional governments varies widely. ETRs are discussed in multiple sections of Metro's 2018 Regional Transportation Plan (RTP), while the Transportation System Plans (TSP) of the cities and counties in the Portland-Vancouver region hardly mention them at all. The table in **Appendix A**, identifies all local, regional, and statewide documents reviewed during the research process, their publication date and agency, how ETRs are defined within the document, relevant content on emergency transportation.

In addition to local, regional, and state emergency management memos, documents from other regions that have similar vulnerabilities as Oregon, or that have other natural disasters that would warrant established emergency transportation routes as an important disaster planning measure were reviewed. Given the limited time and budget of this project, only selected documents were reviewed. Among those documents, the majority identified transportation as crucial to recovery after a disaster. Some point out that routes may be impassable following an event, and others discuss the use of evacuation routes in the event of an emergency, however none established criteria or a process for identifying emergency transportation routes. While not particularly helpful for establishing best practices, they are included in the table in **Appendix D** so that the contractors hired to lead the larger regional ETR update project can focus their energy elsewhere and be advised on which documents are *not* pertinent.

Several of the emergency management documents from other regions that were reviewed *did* have pertinent discussion of emergency transportation routes, and other considerations that may be useful when updating the Portland-Vancouver region's existing ETRs (**Appendix C**). Sections **V, VI, and VII** synthesize the insights gained from this best practices research (**Section IV**) along with local, regional and statewide planning, technical, and emergency management documents, conversations with planners and disaster management experts into considerations for the regional ETR update.

Section III: ETR Types

We have identified four distinct types of emergency transportation routes within Oregon and in particular the Portland—Vancouver region, all of which serve different purposes/have different functions. The four types of emergency transportation routes are:

1. **Local Emergency Response Streets (Routes)** are intended to provide a network of streets to facilitate prompt response to routine fire, police, and medical emergencies within a single jurisdiction. These streets, which are often identified by first responders and local and regional emergency managers with some input from transportation planners and policymakers, may receive specific design treatments such as wide streets and lanes, large curb radii, parking restrictions, and a lack of center medians, pedestrian islands, traffic circles, or speed bumps in order to ensure freedom of movement for emergency response vehicles. (This term originated from the City of Portland, and the authors believe is an applicable term to include in this update project.)
2. During a large-scale event, seismic or otherwise, **Local Emergency Transportation Routes (ETRs)** are used both during the initial response phase and early recovery phase to both transport first responders and supplies such as fuel, food, and medical equipment that aid with recovery and therefore must connect with, staging areas, essential infrastructure (power generation, fuel, water mains, etc.) and intermodal transfer points either directly or via **Regional Emergency Transportation Routes** (defined below). These routes are pre-designated by local jurisdictions with input from neighboring jurisdictions, Metro, and the Regional Disaster Preparedness Organization (RDPO), as they must connect with the Regional ETR network. Locally designated ETRs may also cross into a neighboring jurisdiction. In such instances, it is prudent to coordinate with the neighboring jurisdiction to ensure the road's designation as an ETR is consistent across jurisdictional boundaries.

Prioritization of local ETRs in terms of retrofitting prior to an event, or inspection and debris clearance after an event is at the discretion of the local government but should be coordinated with local, regional and state partner governments. Given limited resources, prioritization of routes could be used to inform funding priorities for seismic retrofitting and hardening of assets (for example ODOT and Metro could use for future funding criteria).

Locally designated ETRs also serve as detours for segments of **Statewide Lifeline Routes** that have been identified as Tier 2 or Tier 3 (defined below and in Appendix E).

Often, ETRs are focused on the movement of emergency vehicles, cars, trucks, and buses. However, after an emergency in many metropolitan/urban, many people may not have access to public or private transportation. Alternative routes for pedestrians and bicycles should be considered in some areas to enhance mobility while also maintaining

the right of way for emergency responders on the primary ETRs. For example, some pedestrians and bikes may use unimproved, spontaneous pathways, but in some instances we may want to include bridges for bike/pedestrian use, and connections of pathways to the ETRs; during recovery it may become prudent to designate certain streets/routes for bike/pedestrian and others for cars.

As an example of how municipalities can expand their own ETRs for non-motorized use as a subset of the larger regional ETR network, the City of Portland is incorporating active transportation into the city's emergency response plans through a process called Bike ETRs (BETRs).

3. **Regional Emergency Transportation Routes** are pre-designated routes critical to the movement of emergency responders and supplies between *regional* nodes in Multnomah County, Washington County, Clackamas County, Columbia County in Oregon, and Clark County in the state of Washington. Because the regional ETRs connect across jurisdictions and connect with local ETRs and Statewide Lifeline Routes, the authors suggest that Metro and RDPO to facilitate the process for updating designated Regional ETRs, with input from and in coordination with local jurisdictions, ODOT and WSDOT. These routes may overlap with local ETRs, however their primary function is to form a backbone of roads connecting population centers as well as critical infrastructure and services of regional importance. Routes within the regional system may be tiered, so that the most critical links receive prioritization for retrofitting, maintenance, inspection or debris clearance and management.

As an example, an East-West regional ETR may connect a fuel supply depot in Portland to a staging area in Beaverton. Local ETRs in Beaverton and Washington County distribute supplies to local distribution areas and population centers.

Regional routes may overlap with locally designated ETRs in some instances. For example, at present, segments of SE Foster Road are identified as both local Multnomah County ETRs and as regional ETRs.

In accordance with the 2006 Memorandum of Understanding, cities, counties, and state transportation departments prioritize the damage assessment and debris clearance of ETRs over other local streets.

4. **Statewide Lifeline Routes** are state-owned roadways considered critical to emergency response and recovery activity at the statewide level in Oregon and Washington. Defined in Policy 1E of the Oregon Highway Plan, the Lifeline Routes are intended to facilitate immediate emergency services and disaster response as well as support rapid statewide economic recovery. While local and regional ETRs support the movement of emergency responders within a region, Lifeline Routes allow for the movement of both emergency responders and freight to transport goods needed for recovery between regions within Oregon. The OHP states that in planning for lifeline routes, focus on

susceptibility of the route and improvements on it (bridges and other structures) to disasters such as earthquakes, landslides, and flooding and to consider the presence of designated lifeline routes in system investment and management decisions and in coordination efforts with local land use and transportation planning activities.

For example, the Redmond Municipal Airport in Deschutes County is thought to be more seismically resilient than Portland International Airport and is designated as the main airport for airlifting emergency response and recovery supplies. Lifeline Routes connect Redmond Municipal Airport with population centers across the state of Oregon.

The term **Lifeline Corridors** is used to denote the combination of Lifeline Route highways, and Local ETRs identified as Lifeline detours as not to imply that Lifeline Routes are to be used at the exclusion of other parallel roads if necessary.

While the focus of this report is Regional ETRs, there is more substantial documentation on the process of designating statewide Lifeline Routes and prioritizing them for seismic retrofitting. Although Lifeline Routes are functionally different than regional ETRs, many of the designation criteria are the same, and, as a result, the methodology used by ODOT can help inform the Regional ETR update process. Therefore, Lifeline Routes are discussed in greater detail in this section and in Appendix E.

Lifeline Routes have three main goals which capture needs during three distinct periods following a seismic event: short, medium, and long-term response and recovery. Within each goal is a series of specific actionable objectives to achieve each goal, and a series of criteria to evaluate how well each Lifeline segment can achieve the related objectives and goals. A cost-benefit analysis based on these criteria is used to categorize Lifeline Routes into a 3-tiered system for prioritizing seismic retrofits. Critical linkages necessary to serve the greatest number of residents at the lowest investment of time and money are given top priority. The specific goals, objectives, criteria and tiers used to designate Lifeline Routes are detailed in Appendix E.

It is useful to think of Lifelines, regional ETRs, and local ETRs as a street hierarchy (Figure 1). Lifelines connect regions of statewide importance and are limited to a few key north-south and east-west routes. Regional ETRs connect nodes of population and critical infrastructure within a region (i.e. Burnside connects Portland Metro east to west), and local ETRs connect regional nodes to destinations of local importance (populated areas, distribution centers, medical facilities, fire stations, etc.) As an example, Figure 2, seen below, depicts selected Lifelines, Regional ETRs and Local ETRs.

Figure 1. Emergency Transportation Route Hierarchy

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPAC, August 2019

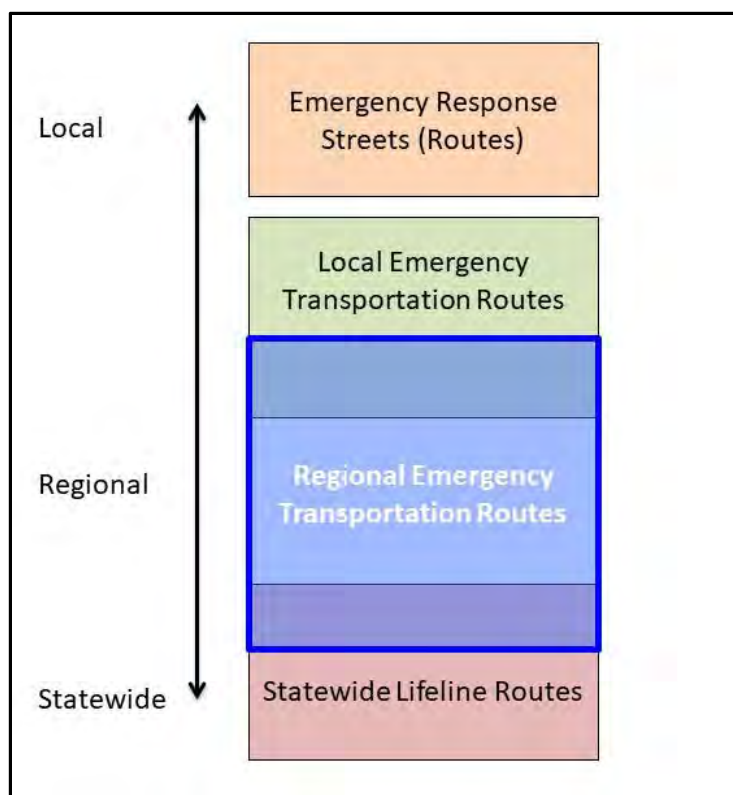


Figure 2. Selected Lifelines, Regional ETRs, and Local ETRs*



*Not all routes and key destinations are depicted. Rather, the map serves as an example of the hierarchy of emergency transportation routes.

Section IV - Literature Review

Our literature review of planning and emergency management documents from regions outside of Oregon proved largely unfruitful chiefly because most MPOs do not have established ETRs in the same way that Metro does. Pre-established evacuation routes in areas prone to hurricanes and flooding are common, however, these are functionally different than ETRs as they are designed to quickly move people out of an area, rather than bring emergency responders and supplies to an area.

West Coast Cities

Several emergency management documents from regions with similar hazards as Oregon were reviewed, including the State of California Emergency Plan, the Bay Area Earthquake Plan, the City and County of San Francisco Emergency Response Plan, and the City of Seattle Comprehensive Emergency Management Plan (See appendices C and D for a full list). While they all acknowledge the importance of a resilient transportation network, there is no discussion of a predetermined emergency transportation network, let alone a methodology for creating one.

Seattle prioritizes snow and ice routes to be plowed first during extreme winter weather events. These routes tend to be on major arterials and transit routes, but the Seattle Comprehensive Emergency Management Plan offers little detail on other criteria used.

British Columbia

Of all documents reviewed from regions outside of Oregon, the British Columbia Disaster Response Primer, and the British Columbia Disaster Response Transportation Planning Guide for Road Transportation were most relevant to the regional ETR update. Similar to ETRs, British Columbia establishes a network of regional and provincial routes “vital to the functioning of the transportation network in the impact area and movement of emergency resources cross-jurisdictionally.” While these so called “Critical Routes” are pre-designated with the latest information regarding resiliency, BC disaster management experts recognize that these routes may fail given the unpredictable nature of disasters. In the event that a Critical Route is impassable, or does not provide sufficient access to the affected area, a separate system of Disaster Response Routes (DRRs) are activated post-event. DRRs are for the exclusive use of emergency response vehicles, or critical personnel with valid identification (exclusively for their use, as a separate system). The report further differentiates between short, medium, and long-term DRRs, which utilize different levels of traffic control and access restrictions.

Sections V through VII describe some considerations for updating Metro’s regional ETRs organized by access considerations, roadway considerations, and policy and jurisdictional considerations.

Section V: Access Considerations

There are a wide range of locations that need to be accessible following a major earthquake. Table 1, seen below, contains a list of critical assets organized by regional importance (local, regional, statewide). This list is neither comprehensive nor prescriptive, rather it summarizes key destinations identified during the literature review for this project. Assuredly, there are additional locations of importance not identified here.

Background and Considerations for Updating the Regional EIRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPAC, August 2019

Table 1. Critical Assets by Regional Importance

Locations	Regional Importance		
	Local	Regional	Statewide
Major Hospitals	X	X	X
Urgent Care, Clinics, Medical Centers	X		
Fire, Police, and Ambulance	X	X	
National Guard			X
Airports		X	X
Marine Ports		X	X
Rail Yard		X	X
Fuel Depots		X	X
Fueling Stations	X		
Utilities: Electricity, Natural Gas	X	X	
Staging Areas	X	X	X
Community Points of Distribution	X		
Mass Shelter	X	X	
Transit Garages	X	X	
Drinking Water	X	X	
Food Sources	X	X	
Sewage Treatment Sites	X		
Disaster Debris Management Sites	X	X	
City Halls	X		
Emergency Operations Centers	X	X	
Community Centers	X		
Childcare Facilities	X		
Homeless Shelters	X		
Jails	X		
Residential Care Facilities	X		
Schools	X		

Additional Access Considerations:

- **Lifelines and critical infrastructure and services are interdependent:** Swift emergency response depends not only on the road itself, but the availability of other critical services such as radio, cellular, and broadband internet connections for communications, electricity or fuel for generators at hospitals, and water to suppress fires and support life-saving efforts. ETRs should connect with access points to other critical infrastructure so that services can be resumed as quickly as possible following an event. Due to security concerns, utility providers are often apprehensive about sharing the locations of critical assets and will only do so on a “need to know basis.” However, there is a strong case that emergency preparedness planners need to know. One approach could be to share initial mapping and data with utility providers with a request to identify issues or network gaps.
- **Emergency vehicle energy sources may change:** Today, the majority of emergency response vehicles and heavy trucks and machinery are propelled by internal combustion engines fueled by gasoline, diesel, biodiesel, or compressed natural gas. Thus, connecting to fuel depots is crucial to keep vehicles in service. However, as electric vehicles continue to mainstream and models for light-duty use, such as pickups and vans, fueling needs may change such that charging stations, and power generation and transmission sites become more relevant.
- **Public access to ETRs:** The primary function of ETRs is to facilitate the movement of emergency responders, supplies, and other personnel that aid with immediate response and life-saving activities and the initial transition to recovery. Consideration should be given as to whether regional ETRs will be accessible to the general public (and in what timeframe, and in light of access needs including access to shelters, points-of-distribution, hospitals, etc).

The most likely disaster scenario (major earthquakes) generally do not trigger large-scale evacuations. Unlike a hurricane, where people generally have advanced warning, and vacate the area prior to the event, earthquakes are usually “shelter-in-place” events. However, depending on when the earthquake occurs, there may be a significant number of people that need to travel home or an agreed upon meeting place to reconnect with family. According to the Transportation Technical Memorandum in the City of Portland’s Evacuation Plan, a full-scale evacuation would cause congestion greater than a typical peak travel period. While a full-scale evacuation is unlikely, general traffic, perhaps worsened by panic, could impede emergency response. Mass relocation out of the region may occur during the recovery period, and likely warrants more consideration as part of transportation recovery planning.

Emergency management documents from British Columbia explicitly state that first responders will either receive police escort on their "Disaster Response Routes," or routes will be closed to the public entirely.

- **Public outreach about ETRs:** If ETRs are for the exclusive use of emergency responders, it still may be valuable for the public to be educated about their location through public outreach plan, so that they know where they should avoid in order to relieve congestion for re-supply operations, but give information on Commodity/Community Points of Distribution (C-POD) sites where they can expect to find help. However, during the literature review no instances of public engagement in the ETR planning process were identified; typically, outreach includes first responder agencies. ETRs generally do not extend into local neighborhood streets, and people may have to travel to receive medical care, so an understanding of where responders will be able to access may be beneficial. One of the public comments from the Portland Mitigation Action Plan that all jurisdictions can benefit from called for "Culture and language-appropriate webpage for new Portlanders [ergo all citizens] to access emergency information, videos, and events in their preferred language" - it is important that however public messaging about ETRs occurs it adheres to best practices about universally accessible formats, particularly in light of the fact that telecommunications may be down for a period of time following a seismic event.
- **Getting emergency responders and support staff to staging areas or rallying points:** While it is impossible to account for all of the dispersed residential locations of essential employees (i.e., employees needed to operate the sites and services listed in Table 1) when establishing ETRs, it is important to consider that they will need safe passage to their designated rallying point in order to perform their duties.
- **Consider the locations of isolated, marginalized or underserved communities:** Considerations need to be made for isolated, marginalized and underserved community areas. Often these communities lack access to public or private transportation and include higher proportions of people with low-incomes, people of color, older adults, people living with disabilities, houseless individuals and families, and be immigrant communities where English is not the primary language.
- **Alternate modes of transportation (i.e., helipads and makeshift aircraft landing zones, rail or marine terminals):** Despite the best efforts of emergency planners, key surface transportation links may fail in a large earthquake. Alternate transportation landing zones on both sides of the Columbia and Willamette rivers would provide first responders access to areas that cannot be reached otherwise.
- **Consider the movement of bicycles and pedestrians:** Following a disaster or major emergency, travel by foot or by bicycle (and scooters) may be the best option for a many people to move around the region. However, there are many people with mobility challenges or who need accommodation (i.e., wheelchairs or strollers) that should be

considered. Many roads may be impassable, and ETRs may be reserved for the movement of disaster responders. Fuel may also be reserved for the exclusive use of vehicles leading the response and recovery effort and not provided to the general public for an extended length of time. Moreover, walking or cycling may be the only option for residents without access to public or private transportation, which is a solution that does not work for many people due to mobility challenges. In order to keep ETRs clear for emergency response, planning processes to identify and manage alternative routes for other traffic at the time of need may need to be established.

- **Access to debris management areas:** There is a need to be prepared for a debris generating incident that overwhelms the existing solid waste infrastructure and to ensure the efficient, orderly and timely removal and disposal of debris. For example, Metro's Disaster Debris Management Plan provides guidance for Metro on how to manage and coordinate debris operations and system disruptions and identifies potential disaster debris management sites. Similarly, the Multnomah County Disaster Debris Management Plan outlines how debris will be cleared from roadways in two phases. During the immediate response, debris is pushed to the side so that traffic may pass, but no effort is made to remove the debris until short-term recovery. During short-term recovery, crews will need access to debris management sites in order to make roads fully operational again.
- **Critical Energy Infrastructure (CEI) Hub:** The CEI Hub is a six-mile stretch along the western bank of the Willamette in Portland's NW Industrial area that contains the majority of Oregon's energy infrastructure for petroleum, natural gas, liquefied natural gas, and electricity. DOGAMI data and analysis indicate that there is significant liquefaction and seismic risk within the CEI Hub. While it is critical the ETR network connects with the CEI hub so that damage can be assessed and operations restored after a non-seismic disaster, the CEI is in a liquefaction zone and will likely be destroyed or inaccessible. Additionally, ETRs in a liquefaction zone are at risk of significant damage themselves.
- **Connects to major population and economic centers as well as isolated, marginalized and underserved communities:** It is important to connect major population and economic centers both for emergency responses but also with the intention for recovery. These locations will be important for people to have access to services and jobs in post disaster recovery.
- **Intermodal transfer points:** Supplies needed to aid recovery could be sent to the region via rail, air, or marine vessel. ETRs must connect to resilient marine ports, marine terminals, airports, and rail yards.
- **Public transit:** In the event of an emergency, TriMet, C-Tran and other publicly-owned buses could be used to shuttle response and recovery personnel and supplies between areas of need. Buses can also be used to shuttle the public out of hazard areas and

to/from mass shelters and community points of distribution, for example. Access to bus garages and maintenance sites is necessary in order to make use of these vehicles.

Section VI: Roadway Considerations

- **Consider infrastructure constructed since the last ETR update:** Seismic upgrades to existing routes, as well as new bridges and roadways can improve the reach and survivability of emergency transportation routes. For example, since the last ETR update in 2006 two existing bridges have become more resilient and one new bridge has been constructed. The Sellwood Bridge and Sauvie Island Bridges have been replaced and are multimodal. In addition, the new Tilikum Crossing has opened for city buses, the Portland Streetcar, bicycles, pedestrians, and emergency vehicles. The Regional ETRs network may make use of these three resilient Willamette crossings. It is also worth noting development patterns in comprehensive plans to understand the projected transportation demands/flows.
- **Bicycle and pedestrian bridges:** If bollards are removable, and the path is wide enough, crossings typically reserved for bicycles and pedestrians could be used for emergency vehicles.
- **Debris management can impact movement for other modes.** During the first phase of debris clearance impedances are pushed to the side of the right of way before being removed later. This may allow for emergency vehicles to pass, while also creating an impediment for people using wheelchairs, strollers, others with mobility challenges, pedestrians, scooters and bicycles. If forced to use the vehicle lanes, may slow emergency responders.
- **Utilities may also share the right of way with ETRs:** Utilities may need to be accessed on these roads following an earthquake. Utility repair efforts could impede the path of first responders. Moreover, the utilities themselves pose a threat in the form of gas leaks, downed power lines, and broken water mains.
- **Consider the network as a whole, not just specific links:** The relative elevation of roads and bridges should be considered to ensure that connections can actually be made between existing routes. For example, on the current regional ETR map, Naito Parkway appears to intersect with the Burnside Bridge, when in fact, there is no road access between the two.
- **Flat routes, with few major gradients or potential slide areas.**
- **At-grade alternative routing at overpasses and underpasses.**

- **Intrinsic seismic resilience:** When Portland Metro's ETRs were first established in 1996, the Burnside Bridge was originally chosen as the key Willamette River crossing because bascule bridge types were considered less vulnerable and cheaper to seismically retrofit. Single span bridges are considered to be resilient during earthquakes and are more easily replaced if damaged.
- **Wide right of way:** Wide roads that can accommodate oversized support vehicles with wide turning radii are preferable.
- **Limited use of traffic calming devices:** design treatments like speed bumps and traffic calming circles can hinder the movement of emergency response vehicles.
- **ETRs may still be impassible after an event** While ETRs are chosen with the latest information on seismic and landslide risk, in an emergency, they may still fail or be impassable. Authorities must be prepared to designate alternate routes following an earthquake.
- **Automated vehicles:** While emergency response vehicles will likely still require a driver behind the wheel for the foreseeable future, automated emergency response vehicles and semi-trucks carrying recovery supplies are a real possibility in the coming decades. Debris in the right of way, or damaged roads may hamper their ability to operate as designed.

Section VII: Policy and Management Considerations

- **Defined roles and responsibilities prior to an event and for periodic updates to designated routes:** While the current MOU assigns responsibilities for the inspection and debris clearance of ETRs in the immediate aftermath of an event, there is little documentation on which entities should be involved in establishing, managing, and updating ETRs. As regional conveners, Metro is the logical choice to catalog existing Lifelines, local ETRs, and regional ETRs and RDPO and Metro together to facilitate regional ETR mapping updates with input from partner jurisdictions.
- **GIS Data Management and Mapping:** A single recognized dataset that contains all Lifeline Routes, Local ETRs, and Regional ETRs within the region would facilitate the coordination of local routes between jurisdictions, and with the larger system of regional routes, as well as serve as a resource for first responders, inspectors, debris managers and transportation planners. Metro is a logical candidate for managing the ETR dataset within the Regional Land Information System (RLIS) for all local Emergency Response

Streets (ERS), local and regional ETRs, and Statewide Lifeline Routes (defined in Section III). Metro's RLIS is a compilation of more than 100 GIS data layers that serve as the spatial data infrastructure for the Portland metropolitan area. Since the inception of RLIS in the late 1980s, Metro's Data Resource Center staff have worked with regional partners to collect and combine a wide array of data into a seamless dataset for use in region-wide decision-making.

- **Tiered regional ETRs:** While all roads within the regional ETR network are considered vital to disaster response and recovery, inevitably there will have to be a choice made about which segments should be prioritized for retrofitting (if needed) prior to an event, and which should be inspected, cleared, or repaired following an event. "Tier 1" regional ETRs could indicate the routes that absolutely must be passable in the event of a disaster, and should thus be placed at the top of the project list for seismic upgrades, and in disaster response plans. While Tiers 2 and 3 are still vital to recovery, they should be upgraded, repaired, or inspected only after Tier 1 routes are restored or deemed safe for emergency vehicles.

During the literature review no examples were found to guide best practice on ETR tiering/prioritization. The only useful input is found in the criteria development of state lifeline routes. This region will therefore need to develop criteria for prioritization and/or tiering routes.

- **Set restoration targets and timelines:** Establishing restoration timelines helps set expectations for other agencies, and the users of the ETRs. Additionally, restoration timelines may dictate design or engineering considerations of the roadway itself.
- **Differentiation between response and recovery:** The immediate response to a crisis requires access to different destinations, requires different skills, and has different time horizons than the recovery phase.

Documented criteria and methodology for selecting and prioritizing ETRs:

Sections V and VI describe some considerations for the physical characteristics of roadways used as ETRs, as well as locations that may need to be accessible in the event of an emergency (ie. depending on time of day a school or community center may not need to be opened immediately). However, a system of prioritizing access to these locations is needed. Clearly defined and prioritized criteria will help identify the most important routes and interdependencies.

- **Regular Updates:** While the upcoming regional ETR update is the first since 2006, the current MOU outlines responsibility for the RDPO Emergency Management working group (REMTEC) to coordinate updates on a 5-year cycle. Updates aligned with the RTP update cycle (currently every five years) could help ritualize the process and prevent future lapses. An update cycle for regional ETRs deserves further discussion.

- Integrate ETRs into Local and Regional Transportation Plans and Capital Improvement Plans:** If resiliency is part of the rubric for project funding, statewide Lifeline Routes, local and regional ETRs should be identified in city and county TSPs and the RTP so that facilities in need of retrofitting can be prioritized for seismic upgrades, and design treatments that adequately accommodate emergency response vehicles can be included. They can also be included in CIPs and in grant criteria.
- Enhance communication and coordination between relevant stakeholders:** Effective communication and coordination helps build understanding of the importance of these routes and broad support for needed investments.
- Consider all interdependent variables when designating and updating ETRs:** ETR designation is influenced by many factors including (but not limited to) existing infrastructure and its resiliency, the location of crucial assets and emergency services, and the latest science on seismic, landslide, and liquefaction risk. A change to any one of these variables has implications for all of the others.

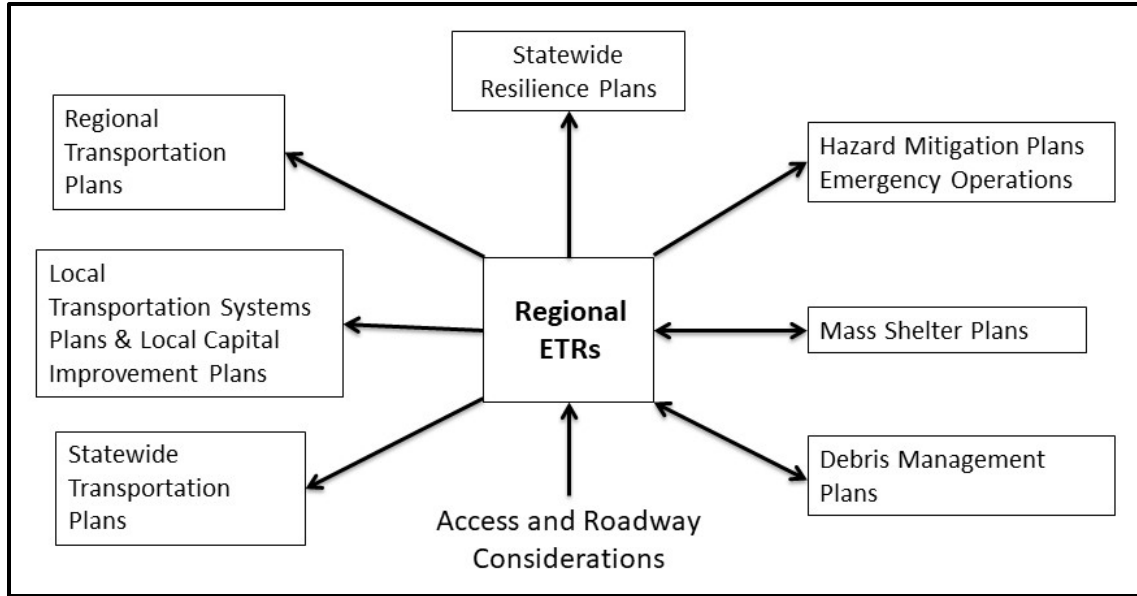
As a hypothetical example, new DOGAMI landslide risk data may show that a link previously thought to be resilient will likely be impassable after a large earthquake. In response, a parallel route is identified as a replacement. However, a close-by hospital is not accessible from the parallel route.

Alternatively, a municipality constructs a new neighborhood fire station and alters their locally designated ETRs to ensure access for emergency responders, which in turn affects how Regional ETRs connect to local ETRs.

Figure 3 below diagrams some (but certainly not all) of the interactions between the aforementioned variables.

Figure 3. Regional ETR relationship to local, regional and state plans

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region, pending TPAC's recommendation to JPAC, August 2019



Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPAC.
Background and Considerations for Updating the Regional EIRs in the Portland-Vancouver Metropolitan Region
August 2019

Appendix A: Local, Regional and National Planning, Policy and Disaster Management Documents Reviewed

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
Federal Documents					
Highway Evacuations in Selected Metropolitan Areas: Assessment of Impediments	U.S. Department of Transportation Federal Highway Administration	April 2010	No formal definition. This document is more focused on evacuating people out of a disaster zone than facilitating movement of emergency responders.	<p>-Assess mass evacuation plans for the country's high-threat, high-density areas (including Portland) and identify and prioritize deficiencies on those routes that could impede evacuations.</p> <p>-Portland no-notice event Vulnerabilities: Earthquakes, wildland/urban interface fires, landslides, volcanoes.</p> <p>-None would trigger full scale evacuation, rather most residents would shelter in place.</p> <p>Some Top Highway Impediments include:</p> <p>-Bridge Vulnerabilities (2 of 4 highway bridges have been retrofitted, and all sit in liquefiable soil).</p> <p>-157 city-owned overpasses and bridges could fall onto major thruways.</p> <p>Capacity and Infrastructure Limitations: Highways operate at capacity during peak periods. Chokepoints would cause problematic congestion during an evacuation.</p>	Federal and National
Statewide Documents					
Seismic Lifelines Evaluation, Vulnerability Synthesis, and Identification CH2M Hill	ODOT / CH2M Hill	May 2012	<p>No definition for ETRs.</p> <p>3 main goals of Lifeline routes:</p> <p>-Support survivability and Emergency response efforts immediately</p>	<p>Purpose: Facilitate implementation of Lifeline Routes. IDs specific highways/bridge retrofits key to Lifeline routes.</p> <p>Focused on routes of statewide importance, not local ETRs</p> <p>IDs Lifeline Corridors in Portland area (page 6-9)</p> <p>Establishes 3 tier system for prioritizing retrofits of lifeline segments. Most</p>	Oregon

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
prepared for ODOT			<p>following event</p> <ul style="list-style-type: none"> -Provide transportation to facilities that are critical to life support functions for interim period following event. -Support Statewide economic recovery <p>(Document lists objectives and criteria to support each goal)</p> <p>Lifeline Route vs Corridor:</p> <p>Refers to lifeline corridors as such because it is not intended that lifeline routes are used at the exclusion of other alternatives in the same vicinity...."Future seismic vulnerability evaluation and remediation prioritization are likely to ID least cost alternatives for providing a seismically resilient route that include detours off of the ID'd roadway to bypass critical seismic vulnerabilities...Corridor is used to denote ID'd highway, along with easily accessed adjacent roadways as necessary."</p>	critical linkages necessary to serve greatest number of residents at the lowest investment of time and money get top priority.	

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
ODOT Seismic Plus	ODOT	October 2014	<p>No Formal Definition of Lifeline route given.</p> <p>Discusses seismic vulnerabilities of highways in more general terms.</p>	<p>-Discusses phased seismic investment in Oregon state highways, in more general terms not just "Lifeline" routes.</p> <p>-Offers cost estimates for retrofitting infrastructure in each phase (Appendix A)</p> <p>-Appendix B discusses hazards at statewide-level and diagrams common vulnerabilities and hazard mitigation techniques (similar to Oregon Resilience Plan).</p> <p>-Refers back to CH2M Hill Seismic Lifelines Evaluation (End Appendix B) and identifies stakeholders consulted during that process:</p> <ul style="list-style-type: none"> -Oregon Seismic Safety Policy Advisory Commission -DOGAMI <p>During Resilient Oregon Plan development, Oregon Ports Association, Department of Aviation, Rail Advisory Committee, Oregon Freight Advisory Committee, Portland State University, and Oregon State University consulted.</p> <p>-Appendix C: Lifeline Selection Summary Report is a summary of the Lifeline route selection process found in Oregon Seismic Lifeline Report from CH2M Hill</p>	Oregon
<p>Oregon Resilience Plan</p> <p>Transportation Chapter (Page 105)</p>	Oregon Seismic Safety Policy Advisory Commission	February 2013	<p>No formal definition. Instead, states that resilience Goal for transportation network is to first facilitate immediate emergency response, including permitting personnel to access critical areas and allowing the delivery of supplies, and second to restore general mobility within specified time periods for various</p>	<p>-Describes and diagrams some common vulnerabilities of highway bridges and common slope failure models. Includes possible mitigation strategies for both.</p> <p>-Breaks down vulnerabilities (in general terms) by state zone):</p> <ul style="list-style-type: none"> -Willamette -Central Oregon -Tsunami induction zone (per DOGAMI) -Coastal Zone (outside tsunami zone) <p>...and by Mode: Highway, rail, air, ports, transit</p>	Oregon

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
			<p>areas of the state.</p> <p>Priorities highways into 3 tiers:</p> <p>Tier 1: Small backbone system that allows access to vulnerable regions, major population centers, and areas considered to vital to rescue operations</p> <p>Tier 2: Larger network that provides access to most urban areas and restores major commercial operations.</p> <p>Tier 3: More complete transportation network.</p> <p>Reliance targets established at 3 levels:</p> <p>Minimal: A minimum level of service is restored, primarily for the use of emergency responders, repair crews, and vehicles transporting food and other critical supplies</p> <p>Functional: Although service is not yet restored to full capacity, it is sufficient to get the economy moving again--for example, one truck/freight traffic can be accommodated.</p>	<p>-Chart describing current state of Oregon's transportation systems and the anticipated time to restore service after a CSZ event. Includes targets for relative time needed to restore service if the system were strengthened or retrofitted. Page 141</p> <p>-Makes recommendations by mode (Page 146). Mostly calls for further study, but includes relevant points on highways, local roads, and transit:</p> <p>Highways: The longer investment in bridge and slope strengthening is delayed, the greater the cost and potential adverse effects of an earthquake will have on the state economy.</p> <p>Public Transit:</p> <ul style="list-style-type: none"> -Plan, collaborate with local and regional emergency planners. -Inventory Assets (rolling stock and facilities) -Assess locations of vulnerable, transit-dependent populations -Assess routes, noting vulnerabilities of both current and alternate routes. -ID alternate routes ahead of event. -Potential tactical hardening or relocation of assets <p>Local Roads: One observation made after the recent subduction zone earthquake in Chile: Local road/bridge system survived better than the state system because local roads tended to be straighter and wider, which resulted in larger roadway cuts and fills which make them more susceptible to damage. As a result, many local roads used as detours for damaged state highways/bridges. On the other hand, because many local roads and streets are narrow, with sharp curves, they cannot safely handle high volumes of traffic.</p>	

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
			Operational: Restoration is up to 90 % of capacity: A full level of service has been restored and is sufficient to allow people to commute to school and work.		
Washington State Comprehensive Emergency Management Plan	Washington Military Department Emergency Management Division	June 2016	No Definition for ETR/Lifeline Route	<p>Little discussion of emergency routes.</p> <p>Under "Responsibilities" section, the Department of Transportation "Reconstructs, repairs, and maintains the state transportation system including designation of alternate routes in coordination with counties, cities, and ports."</p>	Washington
Washington State Transportation System Plan	WSDOT	2007	No Definition for ETR/Lifeline Route	<p>Under "Safety" subheading:</p> <p>Goal C: Encourage Inter-Agency Collaboration on Emergency Preparedness and Response</p> <p>Recommended Actions:</p> <ul style="list-style-type: none"> -Accelerate efforts for interagency and cross-jurisdictional disaster responses, such as communications systems that work with each other and agreed-to strategies and routes for evacuation of injured persons, and provision of emergency shelter, food, and medical supplies. -Continue to develop plans to facilitate the movement of goods and supplies in the event of a disaster that affects transportation infrastructure. -Recognize and supports transit's role in emergency response efforts, such as evacuating large numbers of people or transporting those with special needs. 	Washington
Washington State Highway Plan	WSDOT	2007	No Formal ETR/Lifeline Definition	<p>Emergency Preparedness (P.36):</p> <p>"For immediate response purposes, the designation of alternate routes and the development of evacuation plans are important issues.</p> <p>For long-term planning, any substandard structures on evacuation routes</p>	Washington

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				<p>should be identified and targeted for improvements. Mitigation measures defined through the vulnerability assessment process should also be implemented to protect critical infrastructure across the highway system.”</p> <p>Seismic Retrofits Needs (P. 19): The seismic program priorizes bridge projects based on essential lifelines that need to remain in service following a seismic event, and where the bridges are located in the seismic risk zones. All bridges within the highest risk zone and those on interstates in the moderate risk zone will have a higher priority and will be retrofitted first. Those bridges with single columns located in the low-moderate range will also be retrofitted after the higher risk areas have been completed.”</p>	
Regional Documents					
Memoranda of Understanding (MOU) Resolution 03-3352	-ODOT -WSDOT -PBOT -Metro DRC -REMTEC -Clark County -Tri-Met -Port of Portland -Clackamas County -Columbia County -Multnomah County -Washington County -State EOC/ECC	Adopted October 2003	“Road authorities and other local officials in the Portland metropolitan area have identified those roadways in the region that they consider critical to the movement of response resources and designated them as Emergency Transportation Routes (ETRs)”	The MOU describes after-event procedures such as the chain of reporting and jurisdictional responsibility for each road and bridge segment of the ETR network. It also specifies basic assessment procedures, establishes standards on the reporting of route status, and designates the Richter scale magnitude earthquakes for which different response levels are activated.	Metro and other Regional Partners -> Agreements
Metro Regional Transportation Plan 2018	Metro	December 2018	“priority routes targeted during an emergency for debris-clearance and transportation corridors to	Ch 8: (8.2.3.10 - page 8.32 - 8.35) Describes (this) process of updating the Emergency Transportation Routes.	Metro and other Regional Partners -> 2018 RTP - Relevant

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
			<p>facilitate life-saving and sustaining response activities.”</p> <p>-Section 8.2.3.10</p>	<p>Includes a map of current ETRs as designated in 2006.</p> <p>Expected Outcomes:</p> <p>-ID Criteria by which to evaluate and refine existing ETRs and any alternates that are considered in this work.</p> <p>ODOT considered seismic resiliency in establishment of their lifeline routes to which the ETRs must connect</p> <p>-Recommendations for new MOU. Define reasonable time frame for periodic updates.</p> <p>-Recommendations on updated ETRs for consideration by JPACT and the METro Council in the next update to the next RTP and other relevant regional plans, policies and strategies.</p> <p>-Recommendations for future planning work related to regional transportation recovery, resiliency, and emergency mgmt.</p> <p>Ch 2: Objective 5.3 - Preparedness and Resiliency: Reduce the vulnerability of regional transportation infrastructure to natural disasters, climate change and hazardous incidents</p> <p>Falls under Goal 5 - Safety and Security</p> <p>Ch 3: System Policies to achieve our vision:</p> <p>Sub-section 3.2.3 Climate Leadership Policies → Sub-heading 3.2.3.5 Transportation Preparedness and resilience:</p> <p>Discuss need to respond to natural disasters quickly, collaboratively, and equitably, in order to be able to transport fuel, essential supplies, and medical transport.</p> <p>Discusses need for transportation system that is resilient in event of extreme weather events, flooding, and fires, not just earthquakes.</p>	Chapters

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				Lists potential opportunities for future regional collaboration in support of transportation preparedness and resilience:	
Memo from Multnomah County Willamette River Bridges Capital Improvement Project	Multnomah County	March 2014	No Definition	<p>Discusses how Burnside Street and Bridge were selected by ODOT as a Lifeline route.</p> <p>-Mentions that it was made part of the regional ETRs in March 1996.</p> <p>Metro and ODOT team selected Burnside bridge because of</p> <p>Intrinsic seismic resiliency (bascul bridge type considered less vulnerable / cheaper to seismically retrofit)</p> <p>- Streets with least amount of seismic vulnerabilities. (Less bridges, less failure points than adjacent routes)</p> <p>Belief that only one route over Willamette required because emergency services available on both sides of river.</p>	Metro and other Regional Partners
Regional Emergency Transportation Routes: Report of the Metro Regional Emergency Routes Task Force	Metro Regional Emergency Transportation Routes Task Force	March 1996	"A Primary Emergency Transportation Route is a route use after a major regional disaster to move emergency resources such as personnel, supplies, and equipment to designated staging areas and subsequent deployment to heavily damaged areas."	<p>-Includes a short "recommendations" section.</p> <p>-Describes initial efforts and the conceptual framework for ETRs:</p> <p>-Major arterials may be blocked because of downed wires or collapsed water/sewer mains.</p> <p>-Response phase lasts a short time. The task force focused on primary ETRs for use during the initial response period (first 72 hours after an event)</p> <p>-Most victims are not transported by ambulance to a hospital. Injured people will generally find medical care, and a primary medical concern is getting patients distributed from overloaded or out-of-action medical centers to underutilized ones. Includes need to move patients out of the impacted area to less affected areas.</p> <p>-Airport's facilities or traffic control systems may be damaged. Alternatives for airlift should be factored into emergency transportation corridor selection..</p> <p>-Includes Primary Route Selection Criteria:</p> <p>1. State routes servicing metro area considered primary because of high</p>	Metro and Other Regional Partners

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				<p>capacity and ability to handle oversized vehicles. Local emergency corridors often accessible via state route only.</p> <p>2. Relatively flat with few gradients or potential slide areas.</p> <p>3. Serve major population center</p> <p>4. Routes should offer at-grade level alternative routing at overpasses and underpasses.</p> <p>-Includes map of ETRs as established in 1996.</p> <p>-Describes Steps for Implementing ETRs:</p> <p>1. Regional emergency transportation plan in relation to ETR designation.</p> <p>2. Method for testing plan through ETR exercise.</p> <p>3. Plan describing operating procedures/responsibility assignment.</p> <p>4. Establish MOU between participating jurisdictions</p> <p>5. Standardized maps for response, recovery, mitigation activities.</p> <p>-Task force calls for permanent committee to develop standard operating procedures</p> <p>-Includes example MOU from Los Angeles County.</p>	
RIPE Report (Report from multi-agency disaster preparedness exercise)	<p>BES, BDS, BIBS, BPS, CBO, OMF, PBEM, PBOT, PF&R, PP&R, PWB</p> <p>-Bureau of Revenue and Financial Services,</p>	June 2018	No Formal Definition	<p>-Failure of other assets (natural gas, water mains, etc.) could compromise important roads and bridges</p> <p>-Many assets ID'd as critical by BES, Parks and Water likely inaccessible.</p> <p>-Transportation's top priority: Clean/repair ETRs to meet needs of emergency responders/hospitals. However, many of those ETRs are not near critical assets that other infrastructure bureaus will need immediate access to (drinking water/sewage).</p> <p>-Many ETRs intersect water, sewer, storm pipes, which, if broken, would result</p>	Metro and Other Regional Partners

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
	-Bureau of Technology Services, -Office of Mayor Ted Wheeler, -Multnomah County Bridges			in washed out ETRs and sinkholes.	
Local Documents					
Designing a Methodology for Portland's Emergency Transportation Routes	PBOT	August 2018	<p>Emergency Response Routes are focused on the response phase of a disaster – the days and possibly weeks after an event. They include restrictions on the treatments that can applied to the street and are designated as routes for emergency responders such as fire, ambulance, and police services.</p> <p>-"comes from Portland's TSP. These are the roads utilized by emergency responders for access around the city."</p> <p>Emergency Transportation Routes are regionally-defined, updated on an ad hoc basis, and are used to prioritize major thoroughfare traffic after a</p>	<p>Report that proposes what redesigned ETRs could look like/makes suggestions for considerations/methodology for updating ETRs.</p> <p>-Suggested routes designed to augment, not replace, current ETRs</p> <p>-Sought input from various Portland agencies.</p> <p>-Concern about Kerby Facility given its vulnerability to nearby infrastructure collapse, liquefaction, and East Bank Fault. Suggested distributing resources to maintenance sites on both sides of Willamette.</p> <p>-Adding resilience as qualifying attribute for TSP projects, or a separate program specifically for addressing most pressing resilience needs in transportation infrastructure.</p> <p>-In several cases, ETRs overlap but are not actually connected: for example, West Burnside and Southwest Naito Parkway appear to connect, but are actually at separate elevations. In these cases, minor routes are proposed to eliminate the gaps and provide connectivity between two major routes.</p> <p>-Worth considering obligation to maintain each additional lane mile of ETR and repair after a seismic event.</p>	Local -> Portland

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
			<p>disaster or significant disruption to transportation services. ETRs are focused on the recovery phase – the weeks and months after an event.</p> <p>-part of an intergovernmental agreement signed in 2006 by municipal governments within the Portland region. These routes provide prioritization for which roads are repaired first after a disaster.</p>		
Multnomah County Multi-Jurisdictional Hazard Mitigation Plan	Multnomah County Emergency Management	July 2017	<p>Seismic Lifeline: State highways identified as most able to serve response and rescue operations, reaching the most people and best supporting economic recovery.</p> <p>No ETR Definition</p>	<p>-IDs and Maps critical facilities (2.7) in 3 categories</p> <p>Emergency:</p> <p>Fire, Ambulance, Hospitals, Licensed Medical Facilities, Urgent Care, Law Enforcement</p> <p>Administrative:</p> <p>Airports, City Halls, Community Centers, County Assets, Libraries</p> <p>Special Population:</p> <p>Childcare Facilities, Homeless Shelters, Jails, Residential Care Facilities, Schools.</p> <p>-Table IDs key transportation system elements (Section 2.5.1)</p> <p>-References Bridge Capital Improvement Program (2.5.2)</p> <p>-References 2012 ODOT Seismic Lifeline Report and Oregon Resilience Plan.</p> <p>-Six-mile stretch along Willamette in Portland's NW Industrial area identified as</p>	Local -> Multnomah County

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				"Critical Energy Infrastructure (CEI) Hub" contains the majority of Oregon's energy infrastructure for petroleum, natural gas, liquefied natural gas, and electricity. There is significant liquefaction and seismic risk within the CEI Hub. (Section 3.1).	
Gresham TSP	City of Gresham Transportation	?	No Definition	Little mention of emergency preparedness. The city's emergency preparedness page links to the Multnomah County Multi-Jurisdictional Hazard Mitigation Page.	Left out of folder (no discussion of ETRs)
Clackamas County TSP	Clackamas County Transportation	December 2013	No Definition	Essentially no discussion of the transportation system's role in emergency response. Section 5.A. Compliance and Coordination Policies "Work with the Oregon Office of Emergency MGMT to ensure that the TSP supports effective responses to natural and human-caused disasters and emergencies and other incidents, and access during these incidents."	Left out of folder (no discussion of ETRs)
Beaverton TSP	City of Beaverton	September 2010	No Definition	Only discussion of emergency response: "Ensure that adequate access for emergency services vehicles is provided throughout the city: Actions: -Work cooperatively with Tualatin Valley Fire and Rescue and other Washington County emergency service providers to designate and periodically update Primary and Secondary Emergency Response Routes . Continue to work with these agencies to establish acceptable traffic calming strategies for these routes. -Recognize the route designations and associated acceptable traffic calming strategies in the City's Traffic Calming Program.	Left out of folder (no discussion of ETRs)
Washington County TSP	Washington County	Nov. 2018	No Definition	Mentions of providing emergency access to responders.	Left out of folder (no discussion of ETRs)
Tualatin TSP	City of Tualatin	Updated February	No Definition	None	Left out of folder (no discussion of

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
		2014			ETRs)
Portland TSP	PBOT	2018	<p>“Emergency Response Streets are intended to provide a network of streets to facilitate prompt emergency response.” (P 99 - street classification descriptions).</p> <p>Classifies emergency response streets into Major, Secondary, and Minor Response streets.</p> <p>Describes appropriate design treatments (in general terms) for each class of emergency response street (Balance of emergency vehicle mobility vs. traffic calming)</p>	<p>Modal Policy:</p> <p>“Emergency Response: Maintain a network of accessible emergency response streets to facilitate safe and expedient emergency response and evacuation. Ensure that police, fire, ambulance, and other emergency providers can reach their destinations in a timely fashion, without negatively impacting traffic calming and other measures intended to reduce crashes and improve safety.” (P. 24)</p>	
Post-Earthquake Bridge Inspection Response Plan	PBOT	2015	<p>No Definition of Emergency Transportation Route or Lifeline Route. The prioritization tiers differentiate between Lifeline routes and Emergency Response Routes. However, it is unclear if ERRs and ETRs have been conflated with the term ‘Emergency Response Streets’ used in Portland’s TSP.</p> <p>The introduction says “this plan is intended to be in compliance with the MOU</p>	<p>-Determines the inspection response by PBOT bridge personnel for a given earthquake magnitude, and prioritizes structures into 3 groups:</p> <p>Priority 1 (High):</p> <ul style="list-style-type: none"> -Bridges based on Seismic Lifeline Route -Bridges on Emergency Response Routes (ERRs) classified as more vulnerable, vulnerable or less vulnerable. -Other bridges over I-84 not included above. <p>Priority 2 (Medium):</p> <ul style="list-style-type: none"> -Pedestrian bridges over ERRs or Seismic Lifeline Routes classified as more vulnerable and vulnerable. 	Local -> Portland

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
			Emergency Transportation Route, Post-Earthquake Damage Assessment and Coordination (No. 21,273) and with the City of Portland Ordinance No. 180656."	<ul style="list-style-type: none"> -Bridges on ERRs classified as less vulnerable and resilient. -Bridges on Freight Routes (all classifications) -Bridges on Transit Routes (all classifications) <p>Priority 3 (Lowest):</p> <ul style="list-style-type: none"> -All other bridges -Includes several maps with priority 1, 2, and 3 bridge locations, as well as routes inspectors should follow. -Include procedures and forms for the inspections. 	
Basic Emergency Operations Plan 2016	Portland Bureau of Emergency Management	2016	No Definition	<ul style="list-style-type: none"> -Discusses ETRs only as they pertain to PBOT (damage assessment, debris clearance) under "Responsibilities" section. PPB/PF&R tasked with "coordinating with PBOT and ECC (if activated) to define immediate routes and destinations for evacuees," and to "direct and control traffic, secure and prevent unauthorized access to damaged or impassable roadways. -Discusses the vulnerabilities of transportation and other critical infrastructure in general terms. -Maps Critical Facilities by <p><i>Emergency Services:</i> (Emergency Coordination Centers, Medical Care Facilities, Police/Fire Stations).</p> <p><i>High Potential Loss Facilities:</i> (Dams, Military, Nuclear Power Plants, Hazards Materials, Schools, <i>Other Assets:</i> [zoo, jail, nursing/assisted living facilities])</p>	Local -> Portland
Portland Mitigation Action Plan	Portland Bureau of Emergency Management	2016	No Definition	<p>Minimal discussion of ETRs.</p> <p>Comments from Portlanders in the public engagement section(3.7):</p> <ul style="list-style-type: none"> -Prioritize clearing bike paths so that non-automobile traffic can flow safely and develop plans to locate aid stations along these routes. 	Local -> Portland

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				<p>-Prioritize road access to grocery stores, medical offices, and hospitals. Consider isolated communities in establishing road-clearing priorities.</p> <p>-Pre-Established detour routes for access in and out of known landslide risk areas.</p> <p>-Culture and language-appropriate webpage for new Portlanders to access emergency information, videos, and events in their preferred language.</p>	
Multnomah County Disaster Debris Management Plan	Multnomah County Department of Community Services & Emergency Management	September 2016	No Definition	<p>Priority roads are divided into Emergency Transportation Routes and secondary Emergency Transportation Routes for east Multnomah County.</p> <p>A list of all priority roads for clearance can be found in in Attachment A: Emergency Transportation Routes.</p>	Local->Multnomah County
Clackamas County Lifeline Seismic Bridge Priority Detour Recommendations	Clackamas County Disaster Management	November 2018	No Formal Definition	<p>Objective: -'Re-evaluate county's ETRs by taking into consideration and establishing connections from critical facilities and the County's populated areas to the ODOT's lifeline routes. Prioritize the findings for seismic bridge retrofit or replacement, considering unstable slopes, landslides and other data available to inform decisions.'</p> <p>-'Review ODOT's lifeline routes and locations of vulnerable or potentially vulnerable bridges. Identify alternative routes on local roads that may be more cost effective to seismically retrofit or replace local bridges, considering unstable slopes and landslides as information is available'</p> <p>-ETR criteria expressed only in general terms</p> <p>-'Capitalize on current efforts and data to update and prioritize the County's ETRs.'</p> <p>-References Oregon Resilience plan's recommendations for retrofitting Lifeline routes.</p> <p>-Single-span bridges not considered because they are expected to perform well during an earthquake, and If damaged, they are more easily repaired.</p> <p>-Discusses outreach process.</p>	Local -> Clackamas County

Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

August 2019

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
				<ul style="list-style-type: none"> - Provides detour recommendations to ODOT Lifelines -Prioritizes and gives cost estimate to bridge retrofits on ETRs -Maps state and county bridge vulnerabilities as well as landslide risk around the routes 	
Clackamas County Emergency Operations Plan - Transportation Annex	Clackamas County	2017	No Formals Definition	Discuss how transportation infrastructure may be damaged and that there are ETRs in place.	Local -> Clackamas County
ODOT/Multnomah County Triage Project Kick Off Meeting PowerPoint	Multnomah Department of Community Services - Transportation Division	2019	No Formal Definition	<p>Project Objectives:</p> <p><i>Review existing ETRs:</i></p> <ul style="list-style-type: none"> •Re-evaluate the county's Emergency Transportation Routes (ETR) by taking into consideration connections from critical facilities and populated areas to the ODOT's lifeline routes. •Prioritize the findings for seismic bridge retrofit or replacement, considering unstable slopes, landslides and other data available to inform decisions. <p><i>Identify Detour Routes:</i></p> <ul style="list-style-type: none"> •Review ODOT's lifeline routes and locations of vulnerable or potentially vulnerable bridges. •Identify alternative routes on local roads that may be more cost effective to seismically retrofit or replace local bridges, considering unstable slopes and landslides as information is available. 	
City of Portland's Evacuation Plan: Attachment 1 - Transportation	Portland Office of Emergency Management (Prepared by CH2M Hill)	December 2008	Emergency Transportation Routes are intended for primary inspection and also used by emergency vehicles after an earthquake. They	<ul style="list-style-type: none"> -Modified travel demand model used to determine if evacuation routes could handle. -Divides city into 5 analysis zones. -During an evacuation all zones would experience congestion greater than typical PM peak. However, some arterials identified as evacuation routes may 	Local - > Portland

Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

August 2019

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
Technical Memorandum			<p>generally share the same roadways as the evacuation routes.</p> <p>City has ID'd primary and secondary Evacuation Routes.</p> <p>Primary routes generally follow major roadways and would typically be evacuated before secondary routes.</p>	<p>still have excess capacity.</p> <ul style="list-style-type: none"> -Maps evacuation routes, which usually share roads with ETRs. -Maps projected congestion on evacuation routes during an evacuation event. -Maps proposed revisions to evacuation routes 	

Appendix B: City, county, and state planners and emergency transportation personnel consulted

Name	Agency	Position	Contact
Jake Davis	Portland State University / PBOT	Master of Urban Planning Student / Intern	Jake.Davis@portlandoregon.gov
Emily Tritsch	PBOT	Asset Manager	Emily.Tritsch@portlandoregon.gov
Mike Bezner	Clackamas County	Assistant Director for Transportation	MikeBez@clackamas.us
Albert Nako	ODOT	Seismic Standards Engineer	Albert.NAKO@odot.state.or.us
Ken Schlegel	Washington County	Emergency Management Coordinator	Ken_Schlegel@co.washington.or.us
John Jensen	Washington County	Senior Engineer	John_Jensen@co.washington.or.us
Lonny Welter	Columbia County Road Department	Transportation Planner	lonny.welter@co.columbia.or.us
Anthony Vendetti	Clark Regional Emergency Services Agency	Emergency Management Coordinator	anthony.vendetti@clark.wa.gov
Megan Neill	Multnomah County	Engineering Services Coordinator	megan.neill@multco.us
Mike Andrews	North Shore Emergency Management (British Columbia)	Deputy Director	mandrews@nsem.info

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPAC.
Background and Considerations for Updating the Regional EIRs in the Portland-Vancouver Metropolitan Region
August 2019

Appendix C: Pertinent Planning and Disaster Management Documents from Other Regions

Document	Agency	Date	ETR as defined in Document	Contents pertaining to Emergency Transportation	Folder Location
City of Seattle Comprehensive Emergency Management Plan Emergency Support Function #1 - Transportation CEMP - Annex IV Documentation	Office of Emergency Management	August 2018	The City's interdependent lifeline systems include transportation, power, water, sewer, natural gas, liquid fuel, telephone services, fiber-optic networks, cellular services, and cable services. This complex system of infrastructure is comprised of a mix of public and private sector assets and resources.	Identifies emergency support functions of Seattle Department of Transportation. Some include: -Update SDOT Snow and Ice Readiness Plan annually. -Designate snow and ice routes by service levels. -Coordinate with Metro transit to align snow and ice routes with us routes where possible. -Develop and maintain procedures to assign a liaison from Metro Transit and SPD to the Operations Center -Oversee damage assessments of city roadway and bridge structures. (Includes other post-event duties)	Other States and MPOs
CALTRANS Transit Emergency Planning Guidance	California Department of Transportation - Division of Mass Transportation	July 2007	None	"Plans should be established for alternative facilities, equipment, personnel, and other resources necessary to maintaining service during crisis, or resume service as quickly as possible following disaster. Typically, organizations will ID and pre-contract for alternate facilities in the event of catastrophic infrastructure loss. Facilities should meet accessibility standards to ensure an employee or contractor with a disability can effectively perform their duties."	Other States and MPOs
British Columbia Disaster Response Primer	Government of British Columbia	June 2018	Critical Routes: Regional and provincial routes vital to the functioning of the transportation network in the impact area and movement of emergency resources cross-jurisdictionally at the regional	-Establishes common understanding of disaster response transportation strategies and terminology. -"While critical routes are chosen with the latest intelligence regarding resiliency, the possibility still exists of actual routes post-disaster deviating from pre-designated critical routes dues to the unpredictable nature of disasters"	Other States and MPOs

		<p>level.</p> <p>Also essential for movement of emergency resources at the local level.</p> <p>Critical Routes are to be established before an event.</p> <p>Disaster Response Routes (DRRS) are used to expedite movement for official purposes to achieve emergency response or recovery objectives. DRRs are not designated pre-event. They are determined at the time of the event based on the needs of response and recovery and available options. DRRs may or may not coincide with Critical Routes. DRRs are coordinated regionally and/or provincially.</p> <p>Short term DRRs consist of coordinated convoys for emergency personnel and resources. When short term DRRs are utilized, police officer escort will be used to move the convoy.</p> <p>Medium term DRRs are established during a local and/or provincial state of emergency when the power to control or prohibit travel to or from any area of BC is in effect. For road transportation, <i>the general public will be restricted from DRRs with the use of traffic</i></p>	<p>Transportation Node: any designated location within a transportation route or network where resources, personnel or vehicles (and/or vessels, aircraft, etc) can enter or change route. Potential transportation nodes should be identified in the preparedness phase.</p> <p>Transportation Node Types:</p> <p><i>Staging Areas:</i></p> <p>Movement control points where resources are received, prioritized and organized prior to deployment (provincial, regional, local).</p> <p><i>Community points of distribution:</i></p> <p>Locations where emergency supplies are disseminated to the public following a disaster.</p> <p><i>Transfer Points:</i></p> <p>Locations or facilities where the transfer of resources and/or personnel can occur between one mode of transport to another.</p> <p>-Discusses strategies for recovery, steps for DRR activation, who gets transportation priority, and with what sort of identification.</p>	
--	--	---	--	--

			<p><i>control devices and mechanisms.</i> DRRs may utilize both directions of travel, or specific lanes of travel.</p> <p>Long term DRRs may be required after the state of emergency has expired. Would require municipal/statewide resolution restricting use of roadway. The General public would be excluded.</p>		
British Columbia Disaster Response Transportation Planning Guide for Road Transportation	Government of British Columbia	June 2018	See British Columbia Disaster Response Primer Above	<p>-Provides guidance on selecting Critical Routes, Disaster Response Routes, Staging Areas, and signage.</p> <p>-Also includes guidance on changing pre-established critical routes.</p>	Other States and MPOs
Lifelines: Lessons from Natural Hazards in Canterbury (New Zealand)	Centre for Advanced Engineering	December 2012	No Formal Definition	<p>-Need for coordinated approach when reinstating utilities as roads often form the top layer.</p> <p>-Establish relationships with helicopter services. Useful for determining status of transportation links if cell/radio network lost. Useful for moving people and supplies until link is repaired.</p> <p>3 Aspects of Infrastructure Resilience:</p> <p>-Robust physical assets with key network routes and facilities having appropriate redundancy.</p> <p>-Effective coordination arrangements (pre and post-event).</p> <p>-Realistic end-user expectations and appropriate measures of back-up arrangements.</p>	Other States and MPOs
Post Hurricane Sandy Transportation	Federal Highway Administration	October 2017	No Formal Definition	Some damage done from storm not detected for months after the storm.	Federal and National

Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

August 2019

Resilience Study in New York, New Jersey, and Connecticut				<p>Barriers to effective adaptation of transportation resiliency measures:</p> <ul style="list-style-type: none"> -Cross-agency coordination and jurisdictional issues can create delays and obstacles. -Legal and regulatory hurdles can hinder adaptation responses. (ROW acquisition, lawsuits from impacted landowners, environmental and community impact studies). -Limited sources of funding for transportation adaptation projects, and those that do exist are highly competitive, or can be only accessed after a disaster. Proactive adaptation needs to be folded into projects in the development pipeline, or there needs to be a strong case to implement standalone projects. 	
Best Practices: Emergency Access in Healthy Streets	Ryan Snyder Associates and County of Los Angeles Public Health	March 2013	No Definition	Discusses street design considerations to accommodate emergency vehicles	Other States and MPOs

Background and Considerations for Updating the Regional ETRs in the Portland-Vancouver Metropolitan Region

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending JPAC's recommendation to JPACT.

Appendix D: Non-pertinent planning and emergency documents from other jurisdictions that were reviewed

Document	Agency	Date Published
State of California Emergency Plan	State of California	October 2017
City and County of San Francisco Emergency Response Plan	San Francisco Department of Emergency Management	May 2017
MTC Regional Transportation Emergency Security Planning Report	San Francisco Bay Area Metropolitan Planning Organization	December 2008
Bay Area Earthquake Plan	California Governor's Office of Emergency Services / FEMA Region IX	July 2016
Move Seattle	Seattle Department of Transportation	Spring 2015
Vancouver Transportation 2040	City of Vancouver Streets and Transportation	
Catastrophic Hurricane Evacuation Plan Evaluation: A Report to Congress	U.S. Department of Transportation and U.S. Department of Homeland Security	2006
New Jersey Transportation System Plan	New Jersey Department of Transportation	2008
New Jersey Transit Corporation Comprehensive Emergency Management Plan	New Jersey Transit Corporation	2010
Plan 2045 Connecting North Jersey	North Jersey Transportation Planning Authority	2017

Appendix E: Details on Lifeline Goals, Objectives, Criteria, and Tiers

Section III describes how Statewide Lifeline Routes have three main goals, which capture needs during three distinct periods following a seismic event: short, medium, and long-term response and recovery. Within each goal is a series of specific actionable objectives to achieve each goal, and a series of criteria to evaluate how well each Lifeline segment can achieve the related objectives and goals. These goals, objectives and actions are as follows:

Goal 1 (Short-term): Support survivability and emergency response efforts immediately following the event.

Objective 1A: Retain routes necessary to bring emergency responders to the emergency location.

Criteria:

- Bridge and roadway seismic resilience
- Critical non-redundant access to a major area
- Access to fire stations and hospitals
- Access to ODOT maintenance facilities
- Ability to control access during response and recovery
- Dam safety
- Roadway width
- Access to ports and airports
- Access to population centers

Objective 1B: Retain routes necessary to transport injured people from the damaged area to hospitals and other care facilities.

Objective 1C: Retain routes necessary to transport emergency response personnel, equipment and materials to damaged area.

Criteria:

- Bridge and roadway seismic resilience
- Critical non-redundant access to a major area
- Access to emergency response staging areas
- Dam safety
- Roadway width
- Freight access
- Access to hospitals

Goal 2 (Medium-term): Provide transportation facilities that are critical to life support functions for an interim period following the event.

Objective 2A: Retain routes critical to bring life support resources (food, water, sanitation, communications, energy, and personnel) to the emergency location.

Criteria:

- Bridge seismic resilience *after* short-term repair
- Access to ODOT maintenance facilities
- Access to fire stations and hospitals
- Access to critical utility components (fuel depots and communication facilities)
- Dam safety
- Freight access
- Access to ports and airports
- Roadway seismic resilience

Objective 2B: Retain regional routes to hospitals.

Criteria:

- Access to hospitals

Objective 2C: Retain evacuation routes out of the affected region.

Criteria:

- Access to central Oregon.
- Importance of route to freight movement
- Access to ports and airports

Goal 3 (Long-term): Support statewide economic recovery.

Objective 3A: Retain designated critical freight corridors.

Criteria:

- Critical non-redundant access to major area
- Bridge and roadway seismic resilience *after* short-term repair
- Access to ports, airports, and railroads
- Freight access

Objective 3B: Support statewide mobility for connections outside of the affected region.

Criteria:

- Access to central Oregon.
- Access to ports, airports, and railroads

Objective 3C: Retain transportation facilities that allow travel between large metro areas.

Criteria:

- Critical non-redundant access to major area
- Connection to centers of commerce

Tiers:

A cost-benefit analysis based on these criteria is used to categorize Lifeline Routes into a 3-tiered system for prioritizing seismic retrofits. Critical linkages necessary to serve the greatest number of residents at the lowest investment of time and money are given top priority. The 3 tiers of Lifeline Routes are:

Tier 1: A small backbone system that allows access to vulnerable regions, major population centers, and areas are considered to be vital to rescue operations while minimizing retrofit costs. Other characteristics of a Tier 1 network include:

- A contiguous network (no isolated Tier 1 segments).
- Penetration to each geographic region.
- Redundant Willamette River crossings in Portland.
- Access to the eastern (less seismically vulnerable) part of the state.

Tier 2: A larger network that provides access to most urban areas and restores major commercial operations. Tier 2 routes add additional redundancy to allow for increased traffic volumes and alternate routes in high-population areas.

Tier 3: A more complete transportation network.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

APPENDIX D

Chapter 6 - 2012 ODOT Seismic Lifeline Vulnerability Synthesis and Identification Report

6.0 Seismic Lifeline Routes

6.1 Overview and Definitions of the Tiers

Given the existing vulnerabilities of our built environment in Oregon, the many seismic hazards in the natural environment, and the geographic spread of the population, it is quite likely that nearly every roadway in the western half of the state would be needed to serve as a lifeline following a major CSZ event. As the years go by and the effects of age and use require the rehabilitation or replacement of our existing transportation infrastructure, the system will become more seismically resilient as those rehabilitations and replacements are accomplished according to design standards that take into account these recently identified seismic hazards. However, if a CSZ Mw 9.0 were to occur today, it is possible that nearly every state highway in Western Oregon would be impassible, possibly severely limiting ground transportation for many months. A program to immediately (within the next few years) retrofit all seismic lifeline routes in western Oregon to current design standards is likely beyond our means as a society to accomplish. Even if the State were to embark on a program of rapid seismic strengthening of the entire transportation system, it would be prudent to begin where the most benefit is accomplished in the least time for the least cost.

After a catastrophic earthquake, it is anticipated that ground transportation will be supplemented by air and water transport as necessary to address the most-critical needs. Air and water transportation services are much more limited in capacity and availability than ground transportation; consequently, the shorter the distance from a functioning ground transportation system to the area of need, and the fewer numbers of people in need, the more likely it is that the available air and water transportation vehicles and infrastructure will be able to meet all needs.

A prioritized seismic lifeline system should attempt to provide the following three functions:

1. First and foremost, it should provide access to and through the state, allowing access to the seismically vulnerable areas of the state (study area) for emergency responders and economic recovery.
2. Secondly, it should attempt to provide access into each region of the state.
3. Lastly, it should serve as a transportation network that provides redundant access throughout the state.

The PMT used the results of the evaluation framework and a review of system connectivity and key geographic features to identify a three-tiered seismic lifeline system—Tier 1 being the highest priority roadway segment, Tier 2 being the next highest, and Tier 3 being the third highest priority grouping. It is intended that seismically resilient infrastructure along each lifeline route tier would accomplish the three goals listed above and would consist of the following:

- Tier 1: A system that provides access to and through the study area from Central Oregon, Washington, and California, and provides access to each region within the study area
- Tier 2: Additional roadway segments that extend the reach of the Tier 1 system throughout seismically vulnerable areas of the state and that provide lifeline route redundancy in the Portland Metro Area and Willamette Valley
- Tier 3: Roadway segments that, together with Tier 1 and Tier 2, provide an interconnected network (with redundant paths) to serve all of the study area

The purpose of having three tiers of lifeline routes is to establish guidelines for prioritizing seismic retrofits of highways and bridges with the highest priority roadways being those that provide the most critical linkages necessary to serve the greatest number of residents in the study area, at the lowest investment of time and money. Ideally, as discussed previously, vulnerabilities along all three tiers of lifeline routes (as well as the remainder of public transportation facilities statewide) should be addressed. Recognizing potential cost restrictions, use of this tiered system is intended to provide the State of Oregon with guidance for identifying project priorities. It should be noted that this lifeline system is intended to serve statewide transportation needs, not to directly access all locations in the state. Planning for the needs of individuals and local communities is the responsibility of statewide, regional, and local agencies, whose core mission is emergency planning and response. As local response and recovery plans are developed, it is recommended that local earthquake preparation efforts include recognition of the state lifeline routes and could include evaluation of local roadways with a methodology similar to that used here.

The following sections define each tier and describe the recommended tier system within six geographic areas.

6.1.1 Tier 1

The routes identified as Tier 1 are considered the most significant and necessary to provide a functioning statewide transportation system. A functioning Tier 1 lifeline system will allow traffic to flow through the study area and to each region. Required characteristics of the Tier 1 system are as follows:

- Contiguous (all segments connected, with no isolated segments or groups of segments) connection to each geographic region of the study area with access to the most populous areas in those regions
- Access to the most-critical utilities required for statewide response and recovery (in particular fuel depots)
- Access from the east to the most-seismically vulnerable regions of the state
- Redundant crossings of the Willamette River in Portland
- Minimization of cost of retrofit and/or repair (fewest number of routes with least vulnerabilities that provide characteristics in the preceding bullets)

6.1.2 Tier 2

The Tier 2 lifeline routes provide additional connectivity and redundancy to the Tier 1 lifeline system. The Tier 2 system would allow for direct access to more locations, fewer miles to travel between some locations, increased traffic volume capacity, and alternate routes in high-population regions in the event of outages on the Tier 1 system. Requirements for this tier include the following:

- Contiguous (all segments connected, with no isolated segments or groups of segments)
- Redundant routes to provide circulation within the Portland Metro Geographic Zone and north-south movement within the Willamette Valley
- Minimization of cost of retrofit and/or repair (fewest number of routes with least vulnerabilities that provide characteristics in the preceding bullets)

6.1.3 Tier 3

The Tier 3 lifeline routes provide additional connectivity and redundancy to the lifeline systems provided by Tiers 1 and 2.

Together, the Tiers 1, 2, and 3 lifelines will comprise the Oregon Seismic Lifeline System and will accomplish the following:

- Include all of US 101 to provide access to all of the Oregon coast (the most-seismically vulnerable regions of the state)
- Include routes that have been identified as providing access to the most-critical utilities (the final seismic lifeline system includes all segments identified as providing access to critical utilities, except those providing access to power generation facilities on the Santiam and McKenzie rivers).
- Include all routes that have been identified as providing access to emergency response staging areas
- Include all routes that have been designated as strategic freight corridors or freight facilities
- Provide alternate routes between any two nodes that connect two or more segments (any node that is not a dead end)
- Minimize cost of retrofit and/or repair (fewest number of routes with least vulnerabilities that provide characteristics in the preceding bullets)

6.1.4 Study Routes Not Identified as Seismic Lifeline Routes

Several routes included in the study, as listed in Section 2.1, have not been identified as seismic lifeline routes on the statewide Seismic Lifeline Route System. Although these routes may be important for local circulation during a seismic event, they are not likely to function as key corridors on a statewide level. Several of these routes have more-significant and extensive vulnerabilities than do adjacent routes that can serve the same purpose in a statewide system. All of these routes are less favorable than routes included in the Seismic Lifeline Route System with respect to a variety of evaluation framework criteria.

6.2 Proposed Oregon Seismic Lifeline Routes

6.2.1 Seismic Lifeline Tier Designations

Figure 6-1 shows the proposed seismic lifeline routes with tier designations.

The proposed Tier 1 lifeline network shown provides roadway access to within about 50 air miles of all locations in western Oregon. Significant factors in the designation of each study route are discussed as follows by geographic zone. Total roadway miles for each tier are as follows:

- Tier 1: 1,146 miles
- Tier 2: 705 miles
- Tier 3: 422 miles

This provides a total of 2,273 miles of designated lifeline route. Study routes not identified as a seismic lifeline total 298 miles.

Figure 6-2 presents an overlay of the lifeline system on the peak ground acceleration coefficients used for the evaluation of bridge resilience in this study.

FIGURE 6-1

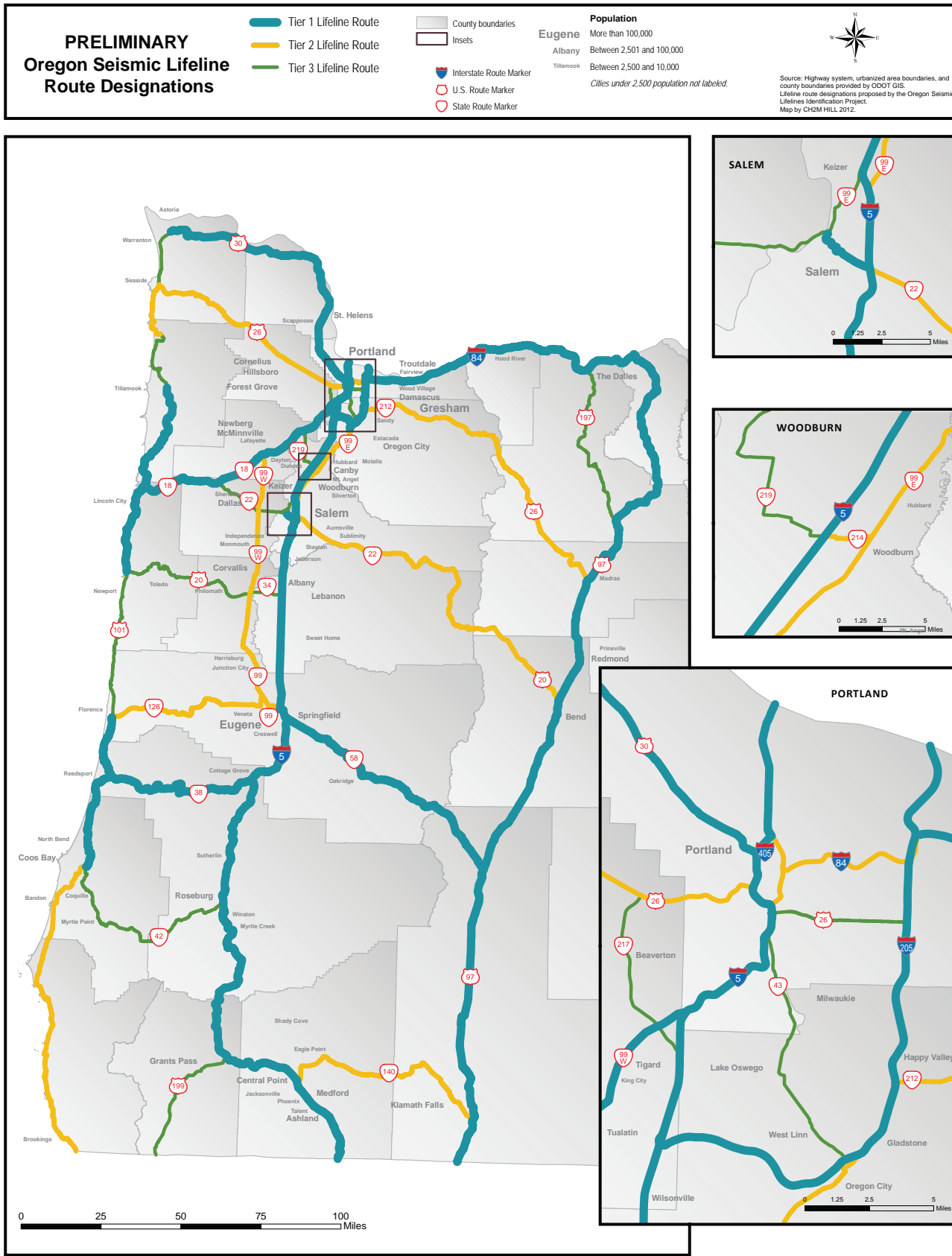


FIGURE 6-2
Lifeline Routes n Seismic Ris

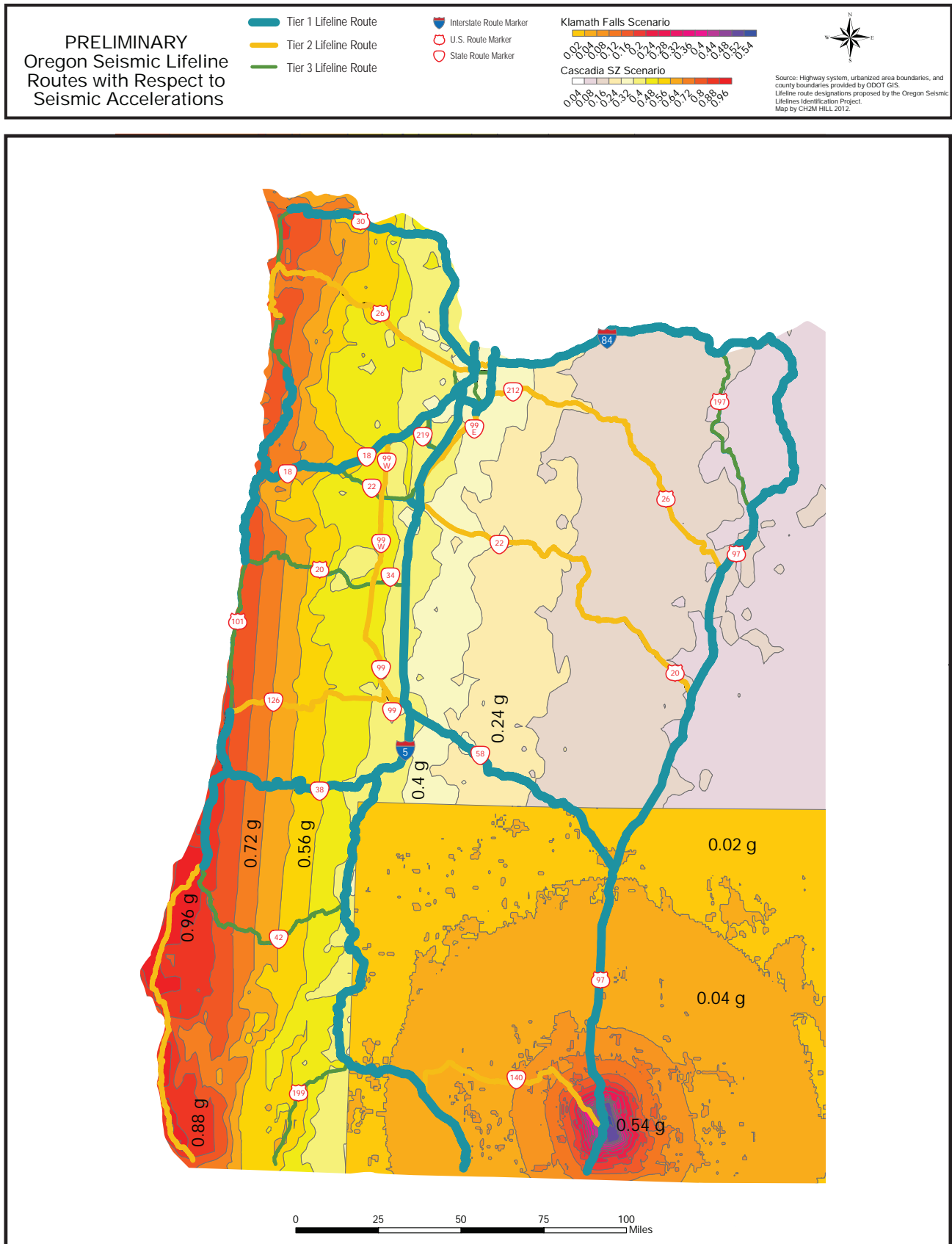


Table 6-1 contains a tabulation of lifeline roadway miles within three classifications of peak ground acceleration (PGA) coefficients, by tier for the CSZ seismic event. These CSZ PGA zones generally correlate to geographic areas with the high acceleration zone being the coast and Coast Range mountains, the moderate acceleration zone the inland valleys, and low acceleration zone the Cascades and central Oregon.

TABLE 6-1

Lifeline Roadway Length by CSZ Seismic Acceleration Zone and Tier (Miles)

CSZ PGA Zone	Approximate PGA (g)	Tier 1	Tier 2	Tier 3	Total
High	0.56 – 0.96	217	211	236	664
Moderate	0.24 – 0.48	540	313	127	979
Low	0.08 – 0.16	389	181	59	630
Total		1,146	705	422	2,273

6.2.2 Lifeline Corridor Definition

In the following discussion, the roadways selected to serve as lifeline routes are referred to as corridors since it is not intended that the identified state highways be used as seismic lifeline routes to the exclusion of other alternatives in the same vicinity. Future seismic vulnerability evaluation and remediation prioritization efforts are likely to identify least cost alternatives for providing a seismically resilient route that include detours off of the identified roadway to bypass critical seismic vulnerabilities. Therefore, the term “corridor” is used to denote that the identified highway, along with easily accessed adjacent roadways as necessary, are intended to serve as the seismic lifeline route.

Future efforts to identify possible detours around seismic vulnerabilities should take advantage of the information available in emergency closure response plans such as the “Pre-Identified Detour Routes for I-5” documents that are available in District Manager offices. Once this information has been reviewed and detailed seismic vulnerability assessments have been conducted, the exact route along specific roadways can be identified within the designated lifeline route corridors and the seismic retrofit needs can be prioritized. However, it is assumed that the final seismic lifeline routes will consist primarily of the roadways identified in this study.

6.2.3 Coast Geographic Zone

The Coast Geographic Zone is the most-seismically vulnerable geographic zone and is the most difficult to access because of geographic constraints. Although it could be argued that the critical post-earthquake needs of the region should dictate that all routes be Tier 1, this is not necessary to meet the statewide transportation goals (listed previously) that govern the identification of Tier 1 routes. Specifically, the conditions of US 101, the extent of the area being studied and limited resources make it infeasible to plan on being able to drive the full length of US 101 or being able to cross the Coast Range on all of the east-west study routes in this zone, nor is this necessary to accomplish the goals and provide the characteristics of the Tier 1 lifeline system. The reality is that the vulnerabilities are so extensive on these routes that the majority of the cost of making the entire lifeline system acceptably resilient is associated with this region. Because of the high vulnerability of the zone, it is paramount that emergency services and recovery resources can reach this zone from other zones. Consequently, the

consensus of the PMT and SC was that all needs are best served with a Tier 1 backbone system selected according to the criteria described in Section 6.1.

Tier 1

The Tier 1 system in the Coast Geographic Zone consists of the following three separate access corridors:

- OR 30 from Portland to Astoria
- OR 18 from the Valley to US 101 and north and south on US 101 from Tillamook to Newport
- OR 38 from I-5 to US 101 and north and south on US 101 from Florence to Coos Bay

Tier 2

The Tier 2 system in the Coast Geographic Zone consists of the following three access corridors:

- US 26 from Portland to US 101 and north and south on US 101 from Seaside to Nehalem
- OR 126 from the Valley to US 101 at Florence
- US 101 from Coos Bay to the California border

Tier 3

The Tier 3 system in the Coast Geographic Zone consists of the following corridors:

- US 101 from Astoria to Seaside
- US 101 from Nehalem to Tillamook
- OR 22 from its junction with OR 18 to the Valley
- OR 20 from Corvallis to Newport
- OR 42 from I-5 to US 101
- US 199 from I-5 to the California border

Segments Considered but Not Designated as Lifelines

The only state highways in the Coast Geographic Zone not designated a seismic lifeline are OR 103 and OR 202 from US 26 to Astoria. In spite of significant vulnerabilities on many of the routes, all other segments in the Coast Geographic Zone have been selected to be seismic lifelines because of their wide geographic distribution and the at-risk populations they serve.

Tier Designation Discussion

North Coast (Astoria to Tillamook). A special evaluation of the three possible routes from Portland to Astoria was performed by using the evaluation framework. In this evaluation, the parameters for each segment along each alternate route were summed, and then the evaluation framework methodology was applied to each alternate route composed of the combined segments. Because this analysis showed OR 30 was preferable by most measures, this highway was designated Tier 1.

US 101 from Astoria to Seaside has significant vulnerabilities in the areas of the bay crossing at Astoria and the low-lying area in downtown Seaside; therefore, it was designated Tier 3.

The system of US 26 to US 101 down to Nehalem was designated Tier 2. US 101 from Nehalem to Tillamook was designated Tier 3 because of extensive vulnerabilities in the low-lying areas of Nehalem and Tillamook Bays.

OR 102 and OR 202 were included in the study to evaluate alternate access to Astoria, but were found to not provide significant overall benefit compared to the other routes; therefore, these highways were not designated as lifelines.

Central Coast (Tillamook to Coos Bay). Five state highways were evaluated as east-west lifelines through this section of the Coast Geographic Zone. The project team preferred that the Tier 1 lifelines not be adjacent routes.

Of these five east-west highways, OR 42 was rated lower on most measures and significantly lower for bridge and roadway seismic resilience. This is a case where the segment rated marginally better on several criteria and therefore rated well on the PMT Weighted Evaluation Framework, but rated much worse on resilience criteria. This means that significantly more investment would be required to provide adequate seismic resilience on this route than on other alternatives, with little added benefit. Therefore, this highway was identified as a Tier 3 lifeline.

Of the four routes remaining as candidates to serve as Tier 1 lifelines, two serve the northern portion and two serve the southern portion of this central coast area. Of the two northern routes, OR 18 and OR 20, OR 18 has much better resilience ratings. The southern two routes, OR 126 and OR 38, are comparable on most measures. The best-rated sections of US 101 are between Florence and Coos Bay. OR 126 provides access to the north end and OR 38 provides access to the middle of this section of US 101. It is preferable to access the midpoint of a transportation corridor because this location is most beneficial for emergency response and recovery. A midpoint corridor location allows road and bridge repair crews to start in the middle of this section of US 101 and work both ways away from the center, rather than starting at one end and working the length toward the other end. Selection of OR 38 as a Tier 1 lifeline also provides access to the center of this higher-population area (from Florence to Coos Bay), whereas selection of OR 126 would provide access at the northern end of this area, much farther from Coos Bay. Therefore, OR 38 and US 101 north to Florence and south to Coos Bay were designated Tier 1.

Similarly, because of their central position with respect to more resilient portions of US 101, central location between population centers, and higher resilience ratings, OR 18 and the segments of US 101 north to Tillamook and south to Newport were identified as Tier 1 lifelines. OR 18 did not rate well with the PMT Weight Evaluation Framework; however, this is primarily due to the fact that the segment joins US 101 slightly north of Lincoln City and therefore does not rate well on a number of connections criteria, which are not pertinent to its selection as a Tier 1 route given the function it serves and the close proximity of the connection criteria parameters. OR 18 rates better with respect to the criteria rating and the alternative resilience emphasis rating.

Of the remaining two east-west lifelines, OR 26 has the superior seismic resilience; therefore, this highway was designated Tier 2. OR 20 was then designated Tier 3. US 101 between Newport and Florence also was designated Tier 3.

Southern Coast (Coos Bay to California). The only segments in this area are US 101 from Coos Bay to the Oregon/California border and US 199 from I-5 to the California border. The Tier 1 lifeline network extends to the north end of the southern US 101 segment, which rates in the middle range of the coastal segments, and the roadway serves a highly vulnerable and isolated region; therefore, it was identified as a Tier 2 lifeline. US 199 provides a third connection to the California border and has been designated Tier 3 since the I-5 connection is Tier 1 and US 101 is Tier 2.

6.2.4 Portland Metro Geographic Zone

In addition to encompassing the largest population concentration in the state, the Portland Metro Geographic Zone contains many facilities (such as transportation, communication, and fuel depots) that are critical to statewide earthquake response and long-term economic recovery. For these reasons, this

zone has a higher concentration of lifeline routes than do the other geographic zones and has redundant Tier 1 crossings of the Willamette River.

Tier 1

The Tier 1 system in the Portland Metro Geographic Zone consists of the following corridors:

- I-5, excluding the section between the northern and southern I-405 interchanges
- I-205
- OR 99W from I-5 to OR 217

Tier 2

The Tier 2 system in the Portland Metro Geographic Zone consists of the following three access corridors:

- I-84
- I-5 between the northern and southern I-405 interchanges

US 26 from OR 217 to I-405

The Tier 3 system in the Portland Metro Geographic Zone consists of the following corridors:

- OR 217
- US 26 from I-5 to I-205
- OR 43

Segments Considered but Not Designated as Lifelines

The following segments were considered but were not designated as lifelines:

- OR 224
- OR 99E from US 26 to Oregon City

Tier Designation Discussion

The single-most significant criteria for lifeline tier designations in the Portland Metro Geographic Zone were the known seismic vulnerabilities of the Willamette River crossings and key interchange structures. For these structures, more-comprehensive seismic vulnerability assessments have been performed than those performed within the REDARS2 evaluation. Since these structures are very large, they represent a significant percentage of the lifeline system bridge deck area and, therefore, potential seismic retrofit cost.

The Willamette River crossings evaluated for this study are the I-405 Fremont Bridge, the I-5 Marquam Bridge, the US 26 Ross Island Bridge, and the I-205 Abernathy Bridge. The US 26 route is not a prime candidate for a variety of reasons other than seismic resilience issues, so this leaves the other three routes as potential candidates for the desired two Tier 1 Willamette River Crossings. Of these three, the Marquam Bridge is the most-seismically vulnerable. In addition, the segment of I-5 north of the Marquam Bridge along with the I-5/I-84 interchange includes several structures that have been determined to have severe seismic vulnerabilities. Therefore, the Tier 1 Willamette River crossings are I-405 and I-205. This also provides one crossing in the downtown area and one on the outer edge of the geographic zone.

I-5, with the exception of the segment between the end points of I-405, is designated Tier 1 because it is arguably the most-important transportation corridor in the state and does not have significantly more identified vulnerabilities than any alternate routes.

I-205 is also Tier 1 for its Willamette River crossing discussed previously and since it serves a significant role—providing access to the Portland International Airport, connecting I-5, to the I-84 and OR 212/US 26 corridors to the east, and connecting to the Washington state border.

I-405 serves the important function of connecting I-5 to OR 30 and the important fuel and communications facilities in that area, as well as containing the Willamette River crossing discussed previously. Therefore, I-405 has been designated Tier 1.

The final Tier 1 segment in the Portland Metro Geographic Zone is a short piece of OR 99W that provides connection from I-5 to the Tier 1 OR 99W segment in the Valley Geographic Zone.

In spite of the critical seismic vulnerabilities, I-5 between I-405 intersections, and I-84 between I-5 and I-205 have been designated Tier 2 due to the critical function they serve in the statewide transportation network.

US 26 in the Coast Geographic Zone was designated Tier 2 and must be connected to the Portland Metro Geographic Zone by a Tier 1 or 2 segment. The two alternatives for this connection are US 26 to I-405 and OR 217 to OR 99W. US 26 rates better on almost every measure and provides a more direct connection to the Tier 1 lifelines and supporting facilities. Therefore, US 26 was designated Tier 1. OR 217 was designated Tier 3 because it provides significant extra capacity through and around the Portland Metro area.

The remaining routes (US 26 from I-5 to I-205, OR 99E, OR 224, and OR 43) pass through the south and east portions of the city. Of these routes, US 26 from I-5 to I-205 and OR 43 rate the best. Because US 26 provides access to some critical facilities, serves as an alternate route to I-84, and provides a fourth Willamette River crossing, it was designated Tier 3. OR 43 provides an alternative to I-5 south on the west side of the Willamette River and was designated Tier 3, with the exception of the short segment of OR 43 from I-205 to OR 99E.

The short segment of OR 43 from I-205 to OR 99E has not been designated a seismic lifeline route because it would be the fifth Willamette River crossing in the Portland Metro Geographic Zone and is adjacent to the I-205 Tier 2 crossing of the Willamette. OR 224 and OR 99E from US 26 to I-205 would not serve significant functions in the statewide transportation network beyond those already provided by other seismic lifelines in the area and therefore have not been designated as seismic lifeline routes.

The short segment of OR 99E from I-205 to OR 43 was designated Tier 2 to connect with the Tier 2 segment of OR 99E in the Valley Geographic Zone.

6.2.5 Valley Geographic Zone

The Valley Geographic Zone generally consists of two or three north-south routes through the Willamette Valley and a variety of east-west connectors between those routes, intended to provide for redundant routes for north-south movement.

Tier 1

The Tier 1 system in the Valley Geographic Zone consists of the following corridors:

- I-5
- OR 99W from I-5 to OR 18 near Dayton
- OR 18 from OR 99W near Dayton to McMinnville
- OR 22 from I-5 to OR 99E in Salem

Tier 2

The Tier 2 system in the Valley Geographic Zone consists of the following corridors:

- US 26 from OR 47 to OR 217
- OR 99W from McMinnville to Junction City
- OR 99 from Junction City to I-5 in Eugene
- OR 99E from Oregon City to I-5 in Salem
- OR 214 in Woodburn from I-5 to OR 99E

Tier 3

The Tier 3 system in the Valley Geographic Zone consists of the following corridors:

- OR 219 from Newberg to Woodburn
- OR 99E in Salem from I-5 to OR 22
- OR 22 from OR 99W to Salem
- OR 34 from Corvallis to I-5

Segments Considered but Not Designated as Lifelines

The following segments were considered but were not designated as lifelines:

- OR 47
- OR 99W from north of Dayton to the south side of McMinnville
- OR 99E from Albany to Junction City
- OR 569 in Eugene

Tier Designation Discussion

Most segments of I-5 in the Valley Geographic Zone rate as well or better than the alternatives. These ratings, as well as the capacity and importance of I-5, justifies a Tier 1 designation for all of I-5 through this zone.

In the McMinnville area, OR 99W and OR 18 were included as alternate routes. The evaluation framework rating was slightly better for OR 18; therefore, OR 18 through McMinnville and OR 99W from near Dayton to I-5 in Tigard were designated Tier 1 to join to the Tier 1-designated OR 18 in the Coast Geographic Zone. With OR 18 through McMinnville designated Tier 1, the adjacent segments of OR 99W do not serve a significant function; therefore, they are not designated as seismic lifeline routes.

The last route in this zone designated Tier 1 is a piece of OR 22 in Salem that connects the state government offices to I-5.

Routes available to serve as north-south travel alternatives to I-5 are OR 99E, OR 99W, and OR 47. OR 99E, from Oregon City to Woodburn, is very significant because it provides a route from the Portland Metro area to points south without a Willamette River crossing. Large river crossings have some level of

seismic vulnerability even when constructed to current code requirement. They also do not generally have many alternatives. Because inclusion of routes that do not require large river crossings is preferred in the seismic lifeline system, OR 99E from Oregon City to Salem was designated Tier 2.

On the other side of the valley, OR 99W provides a route from the Portland Metro area to the south valley without large river crossings. Therefore, it was designated Tier 2 from McMinnville to I-5 in Eugene. In the south Valley, OR 99E was included in the study between Albany and Junction City. However, this route has very low seismic resilience and does not serve a statewide transportation function already served by I-5 and OR 99W. Therefore, OR 99E from Albany to Junction City was not designated a seismic lifeline route.

OR 47 could provide additional north-south travel redundancy; however, it did not rate well with respect to many criteria and therefore was not designated as a seismic lifeline.

US 26 from OR 47 to OR 217 was designated Tier 2 to provide a connection to the Tier 2 segment of US 26 in the Coast Geographic Zone.

OR 214 in Woodburn from I-5 to OR 99E was designated Tier 2 because it provides valuable connectivity between those routes in a short distance.

The following routes, which were rated reasonably well and serve to provide additional connectivity between the north-south routes, were designated Tier 3: OR 219 from Newberg to Woodburn, OR 99E in Salem from I-5 to OR 22, OR 22 from OR 99W to Salem, and OR 34 from Corvallis to I-5.

OR 569 in Eugene has very low seismic resilience and was rated lower than the adjacent alternate segment of OR 99; therefore, OR 569 was not designated as a seismic lifeline route.

6.2.6 South I-5 Geographic Zone

The only roadway in this zone is I-5 from Eugene to the California border. All of I-5 in this zone was designated Tier 1 because of the regional importance of I-5, the connection to California, and the lack of alternate corridors.

6.2.7 Cascades Geographic Zone

The Cascades Geographic Zone lifeline routes consist of five crossings of the Cascade Mountains from western to central Oregon. These routes serve to connect the highly seismically affected western portion of the state to the central portion of the state, which is expected to be far less affected by a CSZ event. In addition, the southernmost route can serve as a connection from Medford to the Klamath Falls area in the event of a seismic event in the Klamath Falls area.

Tier 1

The Tier 1 system in the Cascades Geographic Zone consists of the following corridors:

- I-84/OR 58

Tier 2

The Tier 2 system in the Cascades Geographic Zone consists of three corridors:

- OR 212 and US 26
- OR 22 from Salem to Santiam Junction and US 20 from Santiam Junction to Bend
- OR 140 and OR 62

Tier 3

No corridors are designated as Tier 3 in the Cascades Geographic Zone.

Segments Considered but Not Designated as Lifelines

The following segments were considered but were not designated as lifelines:

- OR 34 from I-5 to Lebanon and US 20 from Lebanon to Santiam Junction
- OR 126 from I-5 to Santiam Junction
- OR 126 from US 20 to US 97

Tier Designation Discussion

I-84 serves a critical transportation function for the state and rated well; therefore, it was designated Tier 1. The other route that rated well is the OR 212 to US 26 route from Portland to Madras; however, since it is adjacent to I-84 and less significant as a freight corridor and in providing access to critical utilities, it is also designated Tier 2.

The second Cascades Geographic Zone route designated Tier 1 is OR 58. This selection was intended to provide a Tier 1 route from the southern end of the Willamette Valley to central Oregon. OR 58 was preferred over other routes for the Tier 1 designation because of its importance as a freight route and its central location.

The southernmost Cascades route, OR 140 and OR 62, was designated Tier 2 for the access it provides between Medford and Klamath Falls.

The remaining three routes through the Cascades Geographic Zone begin in Salem, Corvallis, and Eugene and converge at Santiam Junction, then continue to Bend on US 20. Because of their relative ratings, in particular their importance to freight, OR 22 was designated Tier 2. OR 34/US 20 was not designated as a seismic lifeline primarily due to its limited capacity to carry freight traffic. OR 126 was not designated a lifeline because it did not provide significant statewide transportation function beyond that already provided by OR 22 and OR 58. US 20 from Santiam Junction to Bend was designated Tier 2 as a continuation of OR 22. Because OR 126 from Sisters to Redmond rated lower than US 20 and US 97, provided no additional function, and there are few seismic vulnerabilities in this area that would warrant alternate routes, it was not designated as a lifeline.

6.2.8 Central Geographic Zone

Tier 1

The Tier 1 system in the Central Geographic Zone consists of the following corridors:

- I-84 from The Dalles to Biggs Junction
- US 97

Tier 2

No Tier 2 corridors are located in the Central Geographic Zone

Tier 3

The one Tier 3 corridor in the Central Geographic Zone is US 197.

Segments Considered but Not Designated as Lifelines

All segments considered in this zone were designated as lifelines.

Tier Designation Discussion

Because the ground shaking levels in the Central Geographic Zone (east of the Cascades) from a CSZ seismic event are much lower than for the zones to the west, damage in the area is expected to be minimal. US 97 will serve as a critical transportation corridor for the response to and recovery from such an event. Consequently, it is important that all vulnerabilities that do exist are taken care of.

Furthermore, US 97 will be an important lifeline in the event of a Klamath Falls area seismic event. For these reasons, US 97 was designated Tier 1.

Two alternate routes connect US 97 north of Madras to I-84 in The Dalles—US 197 and US 97 from US 197 to I-84 at Biggs Junction and then west on to I-84 to The Dalles. The US 97 and I-84 route rated better on most criteria and therefore was designated Tier 1. Because the US 197 route provides access to critical utilities, it was designated Tier 3 rather than being dropped from the system.

Table 6-2 lists each segment studied in the project, its tier designation (or lack thereof) and a brief description of the justification for inclusion or exclusion as a seismic lifeline routes.

TABLE 6-2
Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
1	I-5	Portland Metro	1	Washington border to I-405	1	I-5
2	I-5	Portland Metro	1	I-405 to I-84	2	Significant known vulnerabilities on this segment at I-84 interchange
3	I-5	Portland Metro	1	I-84 to I-405/OR 43/US 26	2	Significant known vulnerabilities on this segment at I-84 interchange and Marquam Bridge (I-5 over Willamette River), Fremont (I-405) and Abernathy (I-205) bridges selected as Tier 1
4	I-5	Portland Metro	1	I-405/OR 43/US 26 to OR 99W	1	I-5
5	I-5	Portland Metro	1	OR 99W to OR 217	1	I-5
6	I-5	Portland Metro	1	OR 217 to I-205	1	I-5
7	I-5	Valley	1	I-205 to OR 214	1	I-5
8	I-5	Valley	1	OR 214 to OR 99E Bus.	1	I-5

TABLE 6-2
 Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
9	I-5	Valley	1	OR 99E Bus. to OR 99E	1	I-5
10	I-5	Valley	1	OR 99E to OR 22	1	I-5
11	I-5	Valley	1	OR 22 to OR 99E	1	I-5
12	I-5	Valley	1	OR 99E to OR 34	1	I-5
13	I-5	Valley	1	OR 34 to OR 569	1	I-5
14	I-5	Valley	1	OR 569 to OR 126/OR 99	1	I-5
15	I-5	South I-5	1	OR 126 to OR 58	1	I-5
16	I-5	South I-5	1	OR 58 to OR 38	1	I-5
17	I-5	South I-5	1	OR 38 to OR 42	1	I-5
18	I-5	South I-5	1	OR 42 to OR 199	1	I-5
19	I-5	South I-5	1	OR 199 to OR 140	1	I-5
20	I-5	South I-5	1	OR 140 to California border	1	I-5
21	I-84	Portland Metro	2	I-5 to I-205	2	Provides connection to east from Tier 2 portion of I-5
22	I-84	Cascades	2	I-205 to US 197	1	Interstate connection to east
23	I-84	Central	2	US 197 to US 97	1	Interstate connection to east
24	I-205	Portland Metro	64	Washington border to I-84	1	Access to airport
25	I-205	Portland Metro	64	I-84 to US 26	1	Connection between other Tier 1 lifelines
26	I-205	Portland Metro	64	US 26 to OR 224	1	Connection between other Tier 1 lifelines
27	I-205	Portland Metro	64	OR 224 to OR 212	1	Connection between other Tier 1 lifelines
28	I-205	Portland Metro	64	OR 212 to OR 99E	1	Connection between other Tier 1 lifelines
29	I-205	Portland Metro	64	OR 99E to OR 43	1	One of two Tier 1 Willamette River crossing in Portland Metro Geographic Zone
30	I-205	Portland Metro	64	OR 43 to I-5	1	Connection between other Tier 1 lifelines

TABLE 6-2
 Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
31	I-405	Portland Metro	61	I-5 to US 30	1	Connection between other Tier 1 lifelines, access to fuel, and Portland circulation, one of two Tier 1 Willamette River crossings
32	I-405	Portland Metro	61	US 30 to US 26	1	Connection between other Tier 1 lifelines, access to fuel, and Portland circulation
33	I-405	Portland Metro	61	US 26 to I-5/OR 43/US 26	1	Connection between other Tier 1 lifelines, access to fuel, and Portland circulation
34	OR 217	Portland Metro	144	US 26 to OR 99W	3	Low resilience
35	OR 217	Portland Metro	144	OR 99W to I-5	3	Low resilience
36	OR 99W	Portland Metro	91	I-5 to OR 217	1	Connection to Tier 1 route to coast
37	OR 99W	Valley	91	OR 217 to OR 219	1	Connection to Tier 1 route to coast
38	OR 99W	Valley	91	OR 219 to OR 18	1	Connection to Tier 1 route to coast
39	OR 99W	Valley	91	OR 18 to OR 47	0	Redundant to OR 18
40	OR 99W	Valley	91	OR 47 to OR 18	0	Redundant to OR 18
41	OR 99W	Valley	91	OR 18 to OR 22	2	Alternate to I-5
42	OR 99W	Valley	91	OR 22 to US 20	2	Alternate to I-5
43	OR 99W	Valley	91	US 20 to 99E/99W merge	2	Alternate to I-5
44	OR 99	Valley	91	99E/99W merge to OR 569/126	2	Alternate to I-5
45	OR 99	Valley	91	OR 569/126 to I-5	2	Alternate to I-5
46	OR 99E	Portland Metro	81	US 26 to OR 224	0	Redundant to OR 43 and US 26
47	OR 99E	Portland Metro	81	OR 224 to I-205	0	Redundant to OR 43 and US 26
48	OR 99E	Portland Metro	81	I-205 to OR 43	2	Alternate to I-5
49	OR 99E	Valley	81	OR 43 to OR 214	2	Alternate to I-5
50	OR 99E	Valley	81	OR 214 to I-5	2	Alternate to I-5
51	OR 99E	Valley	81	I-5 in Albany to OR 34	0	Redundant to I-5 and OR 99W

TABLE 6-2
 Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
52	OR 99E	Valley	81	OR 34 to 99E/99W merge	0	Redundant to I-5 and OR 99W
53	OR 47	Valley	29	OR 26 to OR 99W	0	Redundant to I-5 and OR 99W
54	OR 212	Cascades	174	I-205 to US 26	2	Redundant connection to Central Oregon, less critical to freight than I-84 route to east
55	OR 224	Portland Metro	171	OR 99E to I-205	0	Redundant to OR 43 and US 26
56	OR 18	Valley	39	OR 99W to OR 99W	1	Connection to Tier 1 route to coast
57	OR 18	Coast	39	OR 99W to OR 22	1	Central Tier 1 route to coast
58	OR 18	Coast	39	OR 22 to US 101	1	Central Tier 1 route to coast
59	OR 43	Portland Metro	3	US 26 to I-205	3	Additional capacity in Portland
60	OR 43	Portland Metro	3	I-205 to OR 99E	0	Redundant crossing of Willamette
61	US 30	Coast	92	US 101 to I-405	1	Northern Tier 1 route to coast
62	OR 202	Coast	102	US 101 to OR 103	0	Redundant route to Astoria
63	OR 103	Coast	103	OR 103 to US 26	0	Redundant route to Astoria
64	US 101	Coast	9	OR 202 to US 26	3	Low resilience
65	US 101	Coast	9	US 26 to OR 18	1, 2, 3	Tier 2 access to Nehalem, Tier 3 due to low resilience Nehalem to Tillamook, Tier 1 access from OR 18 to Tillamook
66	US 101	Coast	9	OR 18 to US 20	1	Tier 1 access from OR 18 to Newport
67	US 101	Coast	9	US 20 to OR 126	3	Low resilience
68	US 101	Coast	9	OR 126 to OR 38	1	Tier 1 access from OR 38 to Florence
69	US 101	Coast	9	OR 38 to OR 42	1	Tier 1 access from OR 38 to Coos Bay
70	US 101	Coast	9	OR 42 to California border	2	Access to south coast
71	US 197	Central	4	I-84 to US 97	3	Redundant to US 97 and I-84 but provides access to critical utilities
72	US 97	Central	42	I-84 to US 197	1	North-south lifeline outside of highly CSZ event affected zone
73	US 97	Central	4	US 197 to US 26	1	North-south lifeline outside of highly CSZ event affected zone

TABLE 6-2
 Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
74	US 97	Central	4	US 26 to OR 126	1	North-south lifeline outside of highly CSZ event affected zone
75	US 97	Central	4	OR 126 to US 20	1	North-south lifeline outside of highly CSZ event affected zone
76	US 97	Central	4	US 20 to OR 58	1	North-south lifeline outside of highly CSZ event affected zone
77	US 97	Central	4	OR 58 to OR 140	1	North-south lifeline outside of highly CSZ event affected zone and access to Klamath Falls
78	US 97	Central	4	OR 140 to California border	1	North-south lifeline outside of highly CSZ event affected zone and access to Klamath Falls
79	US 26	Coast	47	US 101 to OR 103	2	Intermediate route to coast
80	US 26	Coast	47	OR 103 to OR 47	2	Intermediate route to coast
81	US 26	Valley	47	OR 47 to OR 217	2	Intermediate route to coast
82	US 26	Portland Metro	47	OR 217 to I-405	2	Intermediate route to coast
83	US 26	Portland Metro	26	I-5/OR 43/US 26 to OR 99E	3	Fourth Willamette River crossing in Portland Metro Geographic Zone
84	US 26	Portland Metro	26	OR 99E to I-205	3	Alternate route through Portland, mostly at grade with many detours available
85	US 26	Cascades	53	OR 212 to US 97	2	Redundant connection to Central Oregon, less critical to freight than I-84 route to east
86	OR 22	Cascades	162	I-5 to Santiam Jct	2	Freight route
87	US 20	Coast	33	US 101 to OR 99W	3	Low resilience
88	OR 34	Valley	210	OR 99W to OR 99E	3	Connection from OR 99W to I-5
89	OR 34	Valley	210	OR 99E to I-5	3	Connection from OR 99W to I-5
90	OR 34	Cascades	210	I-5 to US 20	0	Redundant to OR 22
91	US 20	Cascades	16	OR 34 to OR 126	0	Redundant to OR 22
92	US 20	Cascades	16	OR 126 to OR 22	0	Redundant to OR 22
93	US 20	Cascades	16	OR 22 to OR 126	2	Continuation of OR 22 route to Bend
94	US 20	Cascades	16	OR 126 to US 97	2	Continuation of OR 22 route to Bend
95	OR 126	Coast	62	US 101 to OR 99/ OR 569	2	Alternate route to OR 38

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

TABLE 6-2
Tier Designation by Segment

Seg.	Highway	Geographic Zone	ODOT Hwy No.	Description (Point to Point)	Tier	Tier Designation Justification Notes
96	OR 569	Valley	69	OR 99/OR 126 to I-5	0	Redundant to OR 99
97	OR 126	Cascades	69	I-5 to US 20	0	Redundant to OR 58
98	OR 38	Coast	45	US 101 to I-5	1	Southern Tier 1 route to coast
99	OR 58	Cascades	18	I-5 to US 97	1	Tier 1 route to Central Oregon
100	OR 42	Coast	35	US 101 to I-5	3	Alternate to OR 38
101	OR 140	Cascades	270	I-5 to US 97	2	Medford – Klamath Falls connection
102	US 199	Coast	25	I-5 to California border	3	Access to southern Oregon and CA border
103	OR 22	Coast	30	OR 18 to OR 99W	3	Alternate connection of OR 18 to OR 99W
104	OR 22	Valley	30	OR 99W to OR 99E Bus.	3	east west connection OR 99W to I-5, alternate crossing of Willamette
105	OR 22	Valley	30	OR 99E Bus. To I-5	1	Connection of State Government to I-5
106	OR 219	Valley	140	OR 99W to I-5	3	Alternate crossing of Willamette
107	OR 214	Valley	140	I-5 to OR 99E	2	East west connection OR 99E to I-5
108	OR 126	Cascades	15	US 20 to US 97	0	Redundant to US 20
109	OR 99E Bus.	Valley	72	I-5 to OR 22	3	Alternate to I-5 and OR 22

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

APPENDIX E

GIS Methodology Report (FLO)

Appendix E: GIS Methodology

RDPO/Metro Regional Emergency Transportation Routes Update Project

Prepared by:

Cascade GIS & Consulting
and FLO Analytics

Date: February 2, 2021

Prepared for:

Thuy Tu Consulting &
Salus Resilience

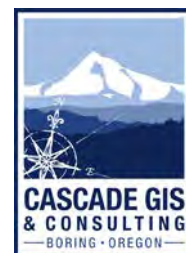


TABLE OF CONTENTS

	Page
CHAPTER 1: GIS METHODOLOGY STATEMENT	1-1
1.1 INTRODUCTION	1-1
1.2 ORGANIZATION OF DOCUMENT	1-1
CHAPTER 2: REGIONAL DATA AGGREGATION	2-1
2.1 INTRODUCTION	2-1
2.2 METHODOLOGY	2-2
2.2.1 Data Collection	2-2
2.2.2 Data Compilation	2-9
2.2.3 Data Consolidation	2-10
2.3 FINAL DATA LAYERS	2-14
CHAPTER 3: ETR MODELING	3-1
3.1 INTRODUCTION	3-1
3.2 METHODOLOGY	3-2
3.2.1 Existing Regional ETRs	3-2
3.2.2 Spatial Analysis	3-14
3.3 LIMITATIONS AND DATA GAPS	3-17
CHAPTER 4: LIST OF ACRONYMS	4-1

CHAPTER 1: GIS METHODOLOGY STATEMENT

1.1 INTRODUCTION

This GIS Methodology provides supplementary information to the Regional Emergency Transportation Routes (ETR) Update Project report. The Regional ETR report includes significant background and stakeholder information describing the scope of the current project and delineating an approach for future work. The GIS Methodology provides additional background and details of the technical approach to this update.

Primary methodology development, data compilation, and initial analysis were completed by Cascade GIS staff, including Principal Analyst Erica McCormick, and GIS Analysts Andy Wilson and Tyler Harris. The project transitioned to FLO Analytics in Fall 2020. Finalization of the data compilation and analysis were completed by Senior GIS Analyst Jed Roberts and GIS Technician Ethan Poole.

1.2 ORGANIZATION OF DOCUMENT

The Methodology is organized by technical approach as follows:

- **Chapter 1 - GIS Methodology Statement:** This chapter describes the purpose and organization of this document.
- **Chapter 2 - Regional Data Aggregation:** This chapter describes the methodology for compilation of regional data.
- **Chapter 3 - Regional ETR Update Modeling:** This chapter describes the GIS methodology used to develop the updated Regional ETRs.
- **Chapter 4 - List of Acronyms**

CHAPTER 2: REGIONAL DATA AGGREGATION

2.1 INTRODUCTION

The project required the creation of a GIS database of existing regional data. The approximately 4,400-square-mile study area in the Portland Metro Area consists of Clackamas, Columbia, Multnomah, and Washington counties in Oregon as well as Clark County in Washington. Some data extended beyond the study area.

A regional geospatial data inventory was needed to evaluate the Regional ETRs based on the final framework criteria and to perform analyses of connectivity, resilience, and community equity. The data inventoried fall under five broad categories:

- **Critical infrastructure:** Defined and prioritized in the framework criteria for the project, critical infrastructure has been sub-categorized as having a role in emergency response at the state/regional, city/county, or community/neighborhood level.
- **Essential facilities:** As with critical infrastructure, defined and prioritized in the framework criteria and sub-categorized by emergency response role.
- **Routes:** Regional ETRs developed in 1996 and revised in 2005 served as the foundation for updated routes. Updates to existing routes were coordinated through a stakeholder engagement process.
- **Analysis:** Regional ETRs were analyzed for resilience and social equity. Earthquake, landslide, and flood hazard data were used to analyze resilience. Socioeconomic data from the U.S. Census American Community Survey were used to analyze equity.
- **Reference:** Various datasets were used to inform and support the project team's decisions about adding, removing, or changing Regional ETRs.

GIS data were obtained in two ways: through direct coordination with stakeholders and from publicly available sources. All GIS data were reviewed, compiled, and aggregated in a comprehensive geospatial data inventory. Data were collected from

public repositories and from stakeholders over a period of eighteen months, from July 2019 through December 2020. Stakeholders were provided with a formal list of requested items in September 2019. Following the data request, and follow-up correspondence, a wide range of data formats were received including GIS data (shapefiles, geodatabases, and layer packages), spreadsheets, PDFs, and descriptions and addresses via email. To facilitate stakeholder review of Regional ETRs and analysis data, Metro staff posted working data on an online web map at points throughout the project.

2.2 METHODOLOGY

ArcGIS Advanced 10.8 software was used. The original and derivative data were reviewed and geoprocessed in ArcMap and ArcCatalog. FLO Analytics developed analysis workflows using Alteryx 2020.4.

2.2.1 DATA COLLECTION

All stakeholder data were organized in folders by agency and date received. No changes were made to these original data. A spreadsheet was maintained to track the progress of data collection, identify data gaps, and to follow-up with stakeholders as needed. The data compiled also included publicly available data from authoritative entities and sources, including Metro's Regional Land Information System (RLIS), Federal Emergency Management Agency (FEMA), the Oregon Department of Geology and Mineral Industries (DOGAMI), City of Portland's Portland Maps, Oregon Geospatial Enterprise Office (GEO), Oregon Department of Transportation (ODOT) and Washington Department of Transportation (WSDOT) GIS, Clark County GIS, and the Washington Geospatial Open Data Portal. Table 1 provides a summary of the data collected from stakeholders and public sources.

Table 1. Summary of GIS data compiled from stakeholders and public sources

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
911 dispatch centers	Essential facility	State/regional	Clark County	Nov-19	Email
			Washington County	Jan-20	Email
Airports	Essential facility	State/regional	Columbia County	Sep-19	Shapefile
			Metro RLIS	Aug-16	Shapefile
			Washington Department of Transportation	Unknown	Shapefile
Armories	Essential facility	City/county	Columbia County	Sep-19	Shapefile
			Washington County	Oct-19	Geodatabase
Average daily traffic	Reference	n/a	City of Gresham	Feb-20	Shapefile
			City of Portland	Apr-20	
			Clackamas County	Jan-20	Shapefile
			Clark County	Feb-20	Access, shapefile
			Columbia County	Jan-20	Shapefile
			Multnomah County	Sep-19	Shapefile
			Port of Portland	Oct-19	PDF
			Washington County	Oct-19	Geodatabase
Bike routes	Critical infrastructure	City/county	Metro	Oct-19	Geodatabase
			Metro RLIS	Oct-18	Shapefile
			Multnomah County	Sep-19	Shapefile
			Port of Portland	Oct-19	PDF
			Portland Bureau of Transportation	Oct-19	Geodatabase
Boat ramps	Critical infrastructure	City/county	Oregon Geospatial Enterprise Office	Unknown	Shapefile
Bridges	Reference	n/a	Clackamas County	Nov-19	Shapefile
			Clackamas County	Nov-19	Shapefile
			Clark County	Jan-20	Geodatabase
			Metro	Oct-19	Shapefile

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
			Oregon Department of Transportation	Oct-19	Shapefile
			Portland Bureau of Transportation	Oct-19	Geodatabase
			Washington County	Oct-19	Geodatabase
			Washington Department of Transportation	Unknown	Geodatabase
Bus routes	Critical infrastructure	City/county	Columbia County	Apr-20	Shapefile
			Trimet	Oct-19	Shapefile
			Washington County	Oct-19	Geodatabase
Churches	Essential facility	Community / neighborhood	Columbia County	Sep-19	Shapefile
			Washington County	Oct-19	Geodatabase
City limits	Reference	n/a	Metro RLIS	Apr-20	Shapefile
Community centers	Essential facility	Community / neighborhood	City of Gresham	Jan-19	Address
			Metro RLIS	Oct-18	Shapefile
			Portland Bureau of Transportation	Oct-19	Geodatabase
Debris tonnage (seismic induced)	Reference	n/a	Oregon Department of Geology and Mineral Industries	Oct-19	Geodatabase
Disaster debris management sites	Essential facility	State/regional	Metro	Jan-20	Shapefile, PDF
Emergency operations centers	Essential facility	City/county; state/regional	City of Gresham	Jan-20	Email
			City of Portland	Nov-19	Shapefile
			Clackamas County	Nov-19	Shapefile
			Clark County	Nov-19	Email
			Port of Portland	Oct-19	Email
			Trimet	Nov-19	Spreadsheet, shapefile
			Washington County	Jan-20	Email
			Washington Department of Transportation	Nov-20	Email

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
Fairgrounds	Essential facility	State/regional	Google maps	Oct-20	Address
Fire and rescue	Essential facility	City/county	Columbia County	Nov-19	Shapefile
			Washington County	Oct-19	Geodatabase
Flood hazards	Analysis	n/a	Federal Emergency Management Agency	Jul-19	Shapefile
Freight routes	Reference	n/a	Metro	Oct-19	PDF, shapefile
			Multnomah County	Sep-19	Shapefile
			Washington Department of Transportation	Aug-19	PDF
Fuel retail	Critical infrastructure	City/county	CNA	Dec-20	Geodatabase
Fuel storage	Critical infrastructure	State/regional	CNA	Dec-20	Geodatabase
Health care clinics	Essential facility	City/county	Columbia County	Sep-19	Shapefile
			Washington County	Oct-19	Geodatabase
Highways	Reference	n/a	Oregon Geospatial Enterprise Office	Oct-18	Geodatabase
Highways (STRAHNET)	Reference	n/a	Metro	Nov-19	Shapefile
Hospitals	Essential facility	State/regional	Metro RLIS	Nov-18	Shapefile
			Oregon Geospatial Enterprise Office	Jan-14	Geodatabase
			Washington Geospatial Data Open Portal	Oct-19	Shapefile
Landslide deposits	Analysis	n/a	Oregon Department of Geology and Mineral Industries	Dec-19	Geodatabase
			Washington Department of Natural Resources	Sep-19	Shapefile
Landslide scarps	Analysis	n/a	Oregon Department of Geology and Mineral Industries	Dec-19	Geodatabase

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
Landslide susceptibility	Analysis	n/a	Oregon Department of Geology and Mineral Industries	Jan-19	Geodatabase
			Washington Department of Natural Resources	Sep-19	Shapefile
Light rail	Critical infrastructure	City/county	Washington County	Oct-19	Geodatabase
Liquefaction susceptibility	Analysis	n/a	Oregon Department of Geology and Mineral Industries	Oct-19	Geodatabase
			Washington Department of Natural Resources	May-20	Map package
Marine facilities	Critical infrastructure	State/regional	Metro	May-19	Shapefile
Marine terminals	Critical infrastructure	State/regional	Columbia County	Oct-19	Shapefile
			Port of Vancouver	Nov-19	PDF
Natural areas	Essential facility	Community / neighborhood	Metro RLIS	Oct-19	Shapefile
Parks	Essential facility	Community / neighborhood	Clark County	Unknown	Shapefile
			Columbia County	Sep-19	Shapefile
			Portland Bureau of Transportation	Oct-19	Geodatabase
Police	Essential facility	City/county	City of Gresham	Jan-20	Email
			Port of Portland	Oct-19	Email
			Washington County Consolidated Communications Agency	Jan-20	Shapefile
Population	Analysis	n/a	Metro	May-20	Shapefile
Public land ownership	Reference	n/a	Bureau of Land Management	Oct-18	Geodatabase
Public works facilities	Essential facility	City/county; state/regional	City of Gresham	Jan-20	Email
			Clackamas County	Dec-19	Shapefile
			Clark County	Jan-20	Geodatabase
			Columbia County	Sep-19	Shapefile

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
			Port of Portland	Nov-19	Shapefile
			Port of Vancouver	Nov-19	PDF
			Portland Water Bureau	Dec-19	Spreadsheet
			Washington County	Oct-19	Geodatabase
Rail	Critical infrastructure	State/regional	Columbia County	Sep-19	Shapefile
			Metro RLIS	Jul-18	Geodatabase
			Washington County	Oct-19	Geodatabase
Railyards	Critical infrastructure	State/regional	Metro	Nov-19	Shapefile
Regional emergency transportation routes (1996)	Routes	n/a	Metro	Sep-19	Layer package, shapefile
Regional emergency transportation routes (2005)	Routes	n/a	Metro	Sep-19	Layer package, shapefile
Regional emergency transportation routes (2021)	Routes	n/a	Clackamas County	Jun-19	Geodatabase
			Clark County	Oct-19	Email
			Columbia County	Sep-19	Shapefile
			Multnomah County	Sep-19	Shapefile
			Portland Bureau of Transportation	Oct-19	Geodatabase
			Washington County	Oct-19	Email
			Washington County	Oct-19	Geodatabase
Sand piles	Essential facility	City/county	Portland Bureau of Transportation	Oct-19	Geodatabase
Schools	Essential facility	Community / neighborhood	Columbia County	Sep-19	Shapefile
			Portland Bureau of Transportation	Oct-19	Geodatabase
			Washington Geospatial Data Open Portal	Oct-19	Shapefile
Shelters	Essential facility	Community / neighborhood	Federal Emergency Management Agency	Oct-20	Google KMZ
Snow routes	Critical infrastructure	City/county	Clark County	Nov-19	Geodatabase, PDF

Theme	Type / Use	Essential Facility / Critical Infrastructure Category	Data Provider	Date Acquired / Published	Format
State seismic lifeline routes	Reference	n/a	Oregon Department of Transportation	Oct-19	Shapefile
Streets	Reference	n/a	Clark County	Nov-19	Shapefile
			Columbia County	Sep-19	Shapefile
			Metro RLIS	Oct-19	Shapefile
Trails	Critical infrastructure	Community / neighborhood	Clark County	Unknown	Shapefile
			Metro RLIS	Oct-19	Shapefile
Transit centers	Critical infrastructure	City/county	Trimet	Nov-19	Spreadsheet, shapefile
			Washington Department of Transportation	Nov-19	Shapefile
Transit facilities	Essential facility	State/regional	Trimet	Nov-19	Spreadsheet, shapefile
Unreinforced masonry buildings	Reference	n/a	City of Portland (Open Data Hub)	Feb-20	Shapefile
Urban growth boundaries	Reference	n/a	Metro RLIS	Oct-19	Shapefile
Vulnerable populations	Analysis	n/a	Metro	Oct-19	Geodatabase

Datasets included are DOGAMI's seismic impact study results, cadastral boundaries (states, counties, cities, urban growth boundaries), ownership (public lands), demographics (underserved and vulnerable populations), critical emergency or community facilities (police stations, fire stations, emergency operations centers [EOCs], parks, schools, hospitals, etc.), transportation features (state seismic lifeline routes, roads, bridges, bike routes, transit centers, bus stops, bus routes, trails, rail, freight routes, throughways, and pedestrian routes), transportation facilities, geology and soils, seismic hazards (shaking and landslides), flood hazard areas and floodplains, and emergency response layers (i.e., locations where emergency equipment are stored).

This project resulted in a large amount of aggregated data, both existing data as well as derived through subsequent analysis. All data were securely managed and curated with redundant back-ups.

2.2.2 DATA COMPILATION

The GIS data were then compiled thematically in a file geodatabase in ArcCatalog (Figure 1). Therefore, shapefiles were exported as feature classes into the appropriate thematic feature dataset. Some datasets with multiple types of features were split across thematic datasets. For example, police stations may have been extracted from a file of all government buildings. In some files, features were individually reviewed and attributed with facility type and category before being split and organized thematically. Some data files were post-processed to extract optimal values. For example, Clark County Average Daily Traffic (ADT) was received as a shapefile with numerous associated tables. The Count tables contained all past ADT records for the 625 intersections, yielding over 3,400 records. These were reduced in Excel using conditional statements before joining to the spatial data so that only the most recent data for any given intersection is shown. City of Portland data also included numerous features for any given intersection and were therefore processed in Excel, after selecting the desired traffic types.

All data were projected to a common coordinate system, specifically Oregon State Plane HARN NAD83, International Feet, the coordinate system used by the City of Portland and Metro. The vertical datum assigned was North American Vertical Datum (NAVD) 1988.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

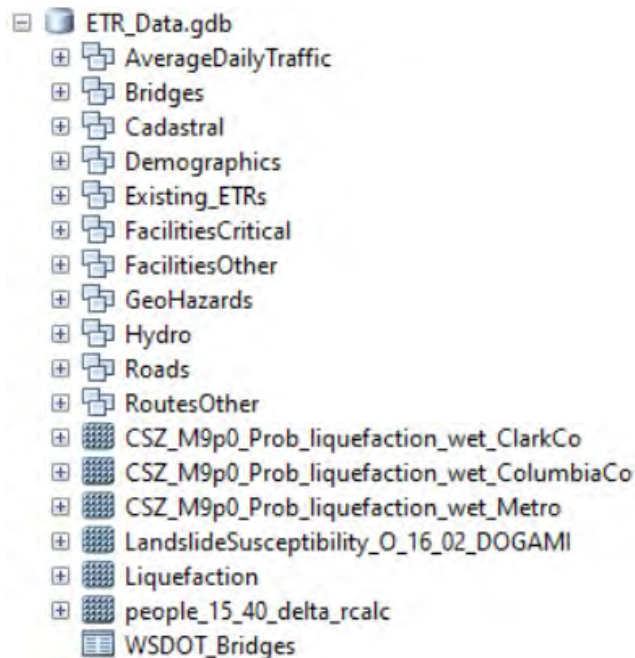


Figure 1. The source data organized thematically in an Esri file geodatabase.

2.2.3 DATA CONSOLIDATION

Related features were then consolidated into single, consistent master layers following the Regional ETR framework criteria. State/regional level critical infrastructure and essential facilities were combined into a single Category 1 EOC layer for each theme (e.g., emergency operation centers). The same was done for city/county level (Category 2) and community/neighborhood level (Category 3) themes.

A series of models were developed in ArcGIS ModelBuilder to facilitate the merging of these layers. In addition to *Merge*, other tools used within the models include *Select*, *Clip*, *Feature to Point*, *Mosaic to New Raster*, and *Dissolve*, predominantly from the Analysis and Data Management toolboxes. Limited field mapping was performed within the *Merge* tool parameters where appropriate. The extensive number of datasets (with thousands of attribute columns) precluded field mapping every attribute.

The ADT model used conditional if/else statements written in Python to populate a single ADT field (representing the most recent total ADT counts) drawing from

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

numerous input columns in the Clark County layer to limit null and zero values. Remaining null and zero values were removed. The City of Portland ADT weekend and weekday traffic types were used. Types such as *covid test* and *bike only* were not used.

Roads were merged into a complete coverage for the study area. Inputs included Metro's "Streets", Columbia County's "Streets" and Clark County's "Roads". The "LocalID" field was field mapped using the "LocalID" attributes in both of the Oregon layers and the "RoadsID" attribute from the Clark County layer.

Parks (from stakeholder data) and the parks and natural areas features from Metro's Outdoor Recreation and Conservation Areas layer were combined. A public lands layer was created using library data curated in-house to be included as part of the basemap as needed.

Geohazard data consisted of liquefaction susceptibility, landslide hazard, landslide inventories, loss estimates (debris tonnage), and unreinforced masonry buildings. Classified liquefaction susceptibility from two of DOGAMI's studies were used: OFR O-19-09¹ and OFR O-20-01². The latter study is a risk assessment and did not result in a published liquefaction susceptibility product³. Liquefaction susceptibility in Clark County was an intermediate product however and though it remains unpublished it is a significant improvement on the latest published data for the county, a 2004 Washington Department of Natural Resources (WA DNR)⁴ data layer. Our study

¹ "Coseismic landslide susceptibility, liquefaction susceptibility, and soil amplification class maps, Clackamas, Columbia, Multnomah, and Washington Counties, Oregon: For use in Hazus: FEMA's methodology for estimating potential losses from disasters." By Christina A. Appleby, William J. Burns, Robert W. Hairston-Porter, and John M. Bauer. Oregon Department of Geology and Mineral Industries Open-File Report O-19-09. 2019.

² "Probability of Permanent Ground Deformation due to liquefaction, Cascadia Subduction Zone Magnitude 9.0 Earthquake, Wet Soil Conditions, for Clark County, Washington." By John M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang. Oregon Department of Geology and Mineral Industries Open-File Report O-20-01. 2020.

³ "Liquefaction_RC2." Shapefile. Intermediate data developed for DOGAMI's Open-File Report O-20-01. Incorporates WA DNR's 2004 liquefaction susceptibility, updated geologic mapping, and updated landslides. WA DNR. 2020.

⁴ "Liquefaction Susceptibility and Site Class Maps of Washington State, By County" by Stephen P. Palmer, Sammantha L. Magsino, Eric L. Bilderback, James L. Poelstra, Derek S. Folger, and Rebecca A. Niggemann. WASHINGTON DIVISION OF GEOLOGY AND EARTH RESOURCES. Open File Report 2004-20. 2004.

therefore used the unpublished 2020 data. The DOGAMI data are classified using a scale from None to High. Washington's data were classified using a different scale from None to Very High and included categories for water and peat. These were merged into a single layer and the liquefaction categories field mapped to a new field. The 2004 layer was reviewed to determine a relative classification for peat. Landslide susceptibility was included from DOGAMI's OFR-O-16-02 study⁵, using the raster classified from Low to Very High. Landslide inventory polygons were compiled from DOGAMI's SLIDO 4.0⁶, DOGAMI's OFR-O-19-09⁷ and WA DNR's unpublished 2017 data⁸ for Clark County. Landslide point data also used SLIDO as well as local data provided by Clackamas County, Washington County, and ODOT. All scarps and scarp flanks are from SLIDO. Debris tonnage was referenced using the neighborhood unit loss estimates from DOGAMI's OFR 18-02^{9,10} and OFR O-20-01^{11,12} studies. The loss

⁵ "Landslide Susceptibility Overview Map of Oregon." By William J. Burns, Katherine A. Mickelson, and Ian P. Madin. In *Landslide susceptibility overview map of Oregon*. Oregon Department of Geology and Mineral Industries Open-File Report O-16-02. 2016.

⁶ "Statewide Landslide Information Database for Oregon Release-4.0 (SLIDO R-4.0)." Geodatabase. By Jon J. Franczyk, William J. Burns, and Nancy C. Calhoun. Oregon Department of Geology and Mineral Industries. 2019.

⁷ "Soil Amplification Classes and Landslides Geologic Group for Clackamas, Columbia, Multnomah, and Washington Counties, Oregon." By Christina A. Appleby, William J. Burns, Robert W. Hairston-Porter, and John M. Bauer. In *Coseismic landslide susceptibility, liquefaction susceptibility, and soil amplification class maps, Clackamas, Columbia, Multnomah, and Washington Counties, Oregon: For use in Hazus: FEMA's methodology for estimating potential losses from disasters*. Oregon Department of Geology and Mineral Industries Open-File Report O-19-09. 2019.

⁸ "DRAFT_Clark_County_SLIP_Landslide" Shapefile. By Washington Geological Survey. 2017.

⁹ "Neighborhood Units for Clackamas, Multnomah, and Washington Counties, Oregon." Feature class. By John M. Bauer, William J. Burns, and Ian P. Madin. In *Earthquake regional impact analysis for Clackamas, Multnomah, and Washington Counties, Oregon*. Oregon Department of Geology and Mineral Industries Open-File Report O-18-02. 2018.

¹⁰ "Loss estimates per Neighborhood Unit, Cascadia Subduction Zone M 9.0 earthquake, wet (saturated) conditions scenario, Clackamas, Multnomah, and Washington Counties, Oregon" File geodatabase table. By John M. Bauer, William J. Burns, and Ian P. Madin. In *Earthquake regional impact analysis for Clackamas, Multnomah, and Washington Counties, Oregon*. Oregon Department of Geology and Mineral Industries Open-File Report O-18-02. 2018.

¹¹ "Neighborhood Units for Columbia County, Oregon, and Clark County, Washington." Feature class. By John M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang In *Earthquake regional impact analysis for Columbia County, Oregon, and Clark County, Washington*. Oregon Department of Geology and Mineral Industries Open-File Report O-20-01. 2020.

¹² "Loss_Neighborhood_Unit_CSZ_M9p0_wet." File geodatabase table. By John M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang In *Earthquake regional impact analysis for Columbia County, Oregon, and Clark County, Washington*. Oregon Department of Geology and Mineral Industries Open-File Report O-20-01. 2020.

estimate tables for a Cascadia Subduction Zone wet season scenario were joined to the feature classes and merged into a single layer. Unreinforced masonry was acquired from the City of Portland's open data hub¹³.

Flood hazards were evaluated using FEMA's latest National Flood Hazard Layer¹⁴.

Numerous ETRs were provided by stakeholders including Clackamas County, Columbia County, Multnomah County, Washington County, and the Portland Bureau of Transportation (PBOT). Those that were not also Regional ETRs or SSLRs were considered Local ETRs (LETR). The SSLRs consist of ODOT's Lifeline routes¹⁵.

Bridges required additional processing. Nineteen inputs were received, which included point, line and polygon data. These had various levels of precision, accuracy, and attribution. In addition, there were numerous duplicates between inputs. The ODOT and WSDOT bridges were given precedence. A single layer of bridges without duplicates along the Regional ETRs was needed. Most duplicates were not spatially coincident and points were not well aligned with the road features. Manual editing and several GIS tools including *Near*, *Find Identical*, *Buffer*, and *Frequency* were used to remove bridges not located along the routes, remove duplicates, merge the bridges, and attribute with seismic vulnerability. The bridge data received from ODOT¹⁶ contained seismic vulnerability classifications whereas the others did not. Bridges without seismic vulnerability were attributed as "Not Evaluated".

These consolidated data layers were organized in an Esri file geodatabase separate from the compiled source data geodatabase (Figure 2). No sensitive information protected under non-disclosure agreements was included in either file geodatabase.

¹³ "Unreinforced Masonry (URM) Buildings." City of Portland. 2020.

¹⁴ "Flood Plains (FEMA)." The National Flood Hazard Layer (NFHL). By the Federal Emergency Management Agency (FEMA). 2019.

¹⁵ "SeismicPlus_Routest (sic)". Shapefile of the ODOT Lifelines received October 10, 2019. ODOT.

¹⁶ Local and State bridges for Clackamas, Columbia, Multnomah, and Washington Counties. Eight shapefiles. Received October 10, 2019. ODOT.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

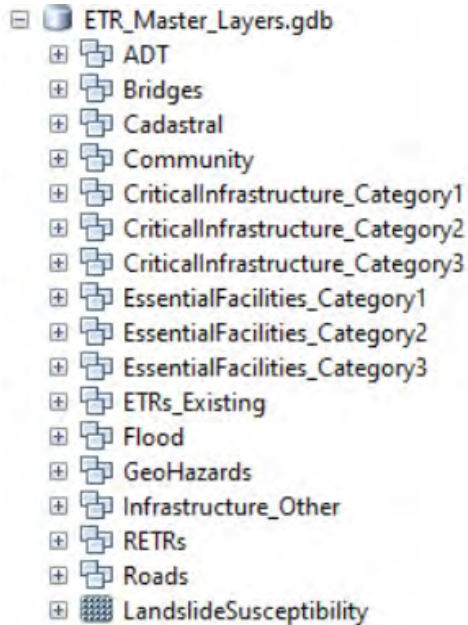


Figure 2. The consolidated GIS layers.

These master data layers can be used for several purposes:

1. As inputs for the analyses to evaluate the updated Regional ETRs,
2. For cartographic efficiency, and
3. To identify remaining data gaps.

2.3 FINAL DATA LAYERS

The resulting data layers were used as reference or in evaluating the Regional ETRs for the five-county study area: ADT, bridges, city limits, UGBs, vulnerable populations, population density, 911 dispatch centers, EOCs, public works, disaster debris management sites, hospitals, fire stations, police stations, sand piles, health clinics, armories, shelters, schools, churches, community centers, airports, fuel storage, marine terminals, marine facilities, railyards, rail, transit centers, boat ramps, light rail, bus routes, bike routes, trails, culverts, tunnels, flood hazard areas, landslide inventory, landslide susceptibility, liquefaction susceptibility, unreinforced masonry buildings, and debris tonnage.

CHAPTER 3: ETR MODELING

3.1 INTRODUCTION

A single base dataset of the most recent ETRs was needed to evaluate proximity to essential facilities, critical infrastructure, and exposure to hazards. The source data included ETRs designated by the Regional Emergency Management Group (REMG) and updated by Metro Data Resource Center (DRC) in GIS in 2005

"Metro_EmergencyTransportationRoutes" shapefile¹, representing the most recent version of ETRs in the region; 1996 ETRs designated by REMG and compiled in GIS by Metro DRC in "etr" shapefile²; Clark County's "Roads" shapefile³; and Columbia County's "Streets" shapefile⁴.

Following an initial visual evaluation, additional recommended routes were added to the 1996 and 2005 ETRs dataset, which was used as the backbone to the final data Regional ETR deliverable and therefore needed to be as accurate as possible. The updated Regional ETR layer was then re-evaluated for proximity and hazards. The final Regional ETR layer can be used at a scale of 1:3,000 or smaller.

¹ "Metro_EmergencyTransportationRoutes" Shapefile. Emergency Transportation Routes in Clackamas, Multnomah, & Washington Counties, for use in disaster response and recovery. From July 2005 *Memorandum of Understanding, Emergency Transportation Route Post-Earthquake Damage Assessment and Coordination. Portland, Oregon/ Vancouver, Washington Regional Area*. Misc. Contracts and Agreements ODOT No. 21,273. Metro Data Resource Center. 2005.

² "etr" Shapefile. From Metro Data Resource Center. *Regional Emergency Transportation Routes Report*. Metro Regional Emergency Transportation Routes Task Force. 1996.

³ "Roads" Shapefile available on the Clark County Open Data Hub. Clark County GIS. 2019.

⁴ "Streets" Shapefile. Columbia County GIS. 2019.

3.2 METHODOLOGY

3.2.1 EXISTING REGIONAL ETRs

The first Regional ETR layer was created using a combination of the routes designated by REMG and compiled in GIS in 1996 and 2005, giving precedence to the 2005 routes. In the tri-county Metro area, the 2005 data were used and updated. Because the 2005 routes did not extend into Columbia and Clark counties, they were joined with the relevant routes identified during the 1996 study. In addition, ETRs recently created by DOGAMI⁵ based off the 2005 routes were reviewed and referred to for consistency.

Whereas the 2005 data layer was still mostly accurate, the 1996 polylines had four main issues precluding their use:

1. Roads were misaligned up to 250 feet (Figure 3),
2. Ground conditions in Clark County have changed significantly since 1996 (Figure 4),
3. Highway ramps were not consistently included (Figure 5), and
4. They lacked "LocalID" attribution.

⁵ "Emergency_Transportation_Routes- Potential Impact of a Major Earthquake on Emergency Transportation Routes in Columbia County, Oregon, and Clark County, Washington" Feature class in RDPO_Earthquake_Impact_Analysis_Phase2.gdb. By John M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang. 2020. Oregon Department of Geology and Mineral Industries Open-File Report O-20-01.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

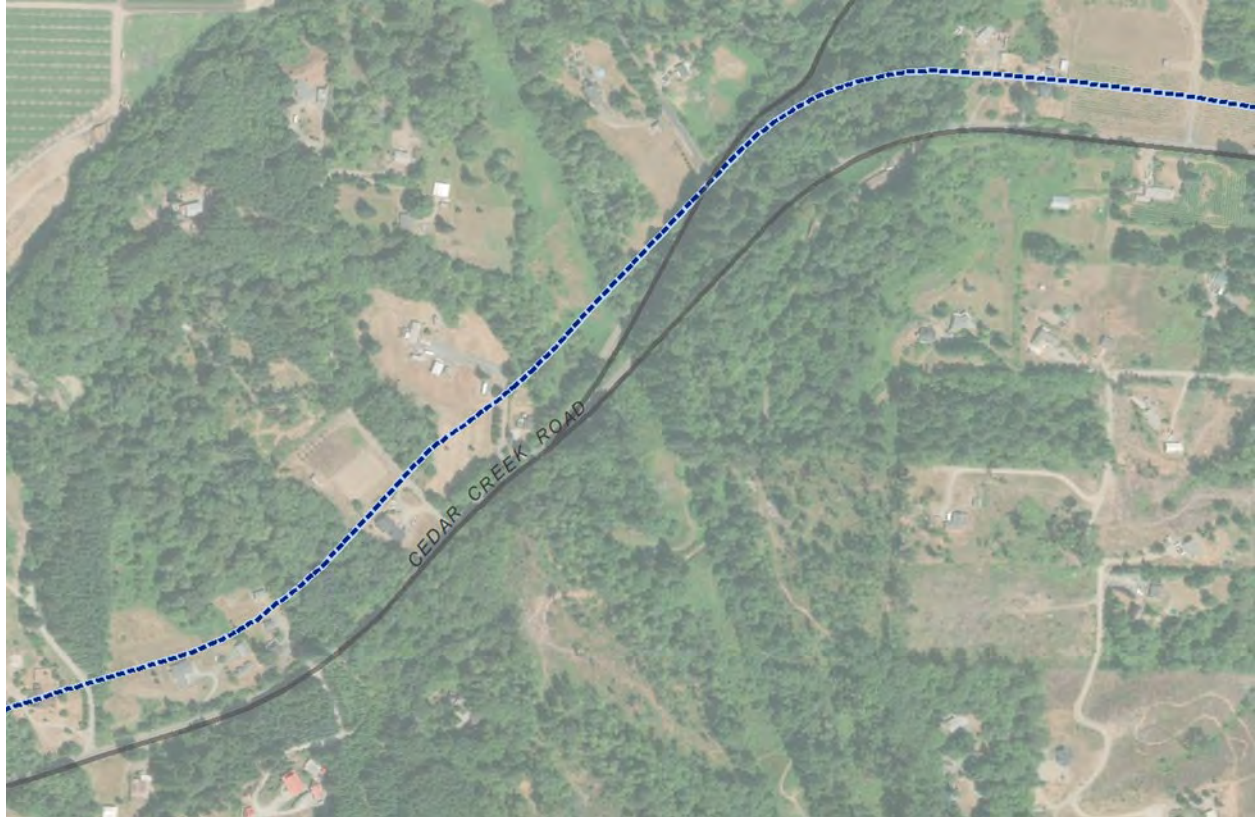


Figure 3. The Hayes Road/Cedar Creek Road 1996 ETR segment (in blue) was misaligned up to 250 feet.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.



Figure 4. Some Clark County routes in the original 1996 ETRs (in blue) have been significantly realigned, such as Padden Parkway/SR-500.



Figure 5. Road improvements and approaches were incorporated. For example, 72nd Street no longer connects 78th Street and what was 83rd Street. 83rd Street has been replaced by Padden Parkway. In addition, the old ETRs (in blue) did not include highway ramps.

Development of a Baseline Regional ETR Layer

To stage the Regional ETR inputs a model was developed to prepare the roads, clip the 2005 routes, extract the 1996 routes in Clark and Columbia Counties from authoritative road layers, and assign the ETR segment IDs to the Clark and Columbia

routes. The 2005 layer was clipped to the study area extent, keeping river crossings intact, while removing extraneous segments beyond the study area. Road alignments in Clark County have changed significantly since 1996, precluding minor manual edits to the 1996 shapefile and necessitating a fresh start. Therefore, the roads identified in the 1996 ETRs were extracted from the County's 2019 "Roads" layer. These primarily included "Interstate", "Interstate Ramp", "State Route", and "SR Ramp" features as well as a few "Primary Arterials", using a SQL query. The 1996 ETRs were clipped to Clark and Columbia counties. These were then used to spatially join the ETR segment ID numbers to the routes outside of the tri-county Metro area. A copy was made for manual editing. Little has changed in Columbia County, however, roads were misaligned in several locations. Therefore, the Columbia County "Streets" layer was similarly used to extract that county's designated ETRs, using a SQL query to select the highways and other relevant roads and ramps as identified in the 1996 study. These were clipped to the study area, spatially joined with the ETR segment IDs, and a copy was made for manual editing.

Manual editing of each of the three ETR inputs (2005 ETR routes, Columbia County routes, and Clark County routes) consisted of the following:

1. For Clark County, excess segments that resulted from the SQL query were removed, where they extended beyond the designated ETRs.
2. Similarly, excess fragments were removed in Columbia County. For example, parts of Highway 47 that pass through Vernonia are classified as streets (Rose Street and Bridge Street). The portions of these streets pulled out during the SQL query that extended beyond the ETRs were removed.
3. The ETR IDs were edited in Clark and Columbia counties where needed, primarily at ramps since these had no previous counterpart.
4. The 2005 routes were manually edited where necessary to coincide with current road alignments. These changes mainly occurred at interchanges (Figure 6). Road segmentation was updated as well, for example where new intersections have been constructed resulting in new "LocalIDs".
5. The ETR IDs in Clackamas, Multnomah and Washington counties were edited for accuracy.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.



Figure 6. Highway ramps were updated, such as at this interchange between I-205 and 82nd Avenue. The 2005 ETRs (in red) are overlain on the RLIS Streets network (in blue). Inconsistencies were corrected.

Regional ETR Ownership

Following manual edits to the inputs, additional steps were modeled to assign ownership and to combine the layers into a single coverage. An “OWNER” field was added to the Columbia County layer to maintain consistency with the 2005 layer. Field Calculator was used to attribute the routes with ownership, using ODOT’s most recent Oregon Transportation Network roads dataset⁶ for verification. Because the polylines did not align sufficiently with the Columbia County Roads layer, an accurate

⁶ Oregon Transportation Network - 2017” Geodatabase. By Geographic Information Services Unit, Oregon Department of Transportation (ODOT). 2018.

spatial join for ownership attribution was not feasible. The "ROADOWNER" attributes from the ODOT data were used and then formatted to be consistent with the 2005 layer. Python scripts were then written to convert the names to those matching the 2005 attributes. For example, "Oregon Department of Transportation" was replaced with "ODOT" and "Columbia County" was replaced with "COLUMBIA CO."

In Clark County, the Roads layer used to extract the routes also contained jurisdiction information. An OWNER field was added to reclass County information for consistency. After coordination with Clark County GIS staff, a combination of the "JURIS" and "RoadClass" fields was used. Where RoadClass referred to interstates, state routes, or their ramps, these were reclassified using python to "WSDOT". For all other classifications, the city or county jurisdictions in the JURIS field were used, populating the new "OWNER" field.

The process described above provided a baseline of ownership information that was known to be inaccurate for some Regional ETRs. In January 2021 a table of information was provided to stakeholders for their review and the ownership field was updated based on their feedback.

Regional ETR Road Classifications

The 2005 ETRs lacked road classifications. Therefore, the RLIS Streets were used to assign this information with the spatial join tool (using the SHARE_A_LINE_SEGMENT_WITH match option) and the *Transfer Attributes* tool. RLIS Streets uses a code in the Type field, rather than a text string. A "ROAD_CLASS" field was added to the ETR dataset. Field Calculator was used to populate it with the Type code and Python scripts were written to replace the Type number with the road classification text string, as detailed in the RLIS metadata. For example, value 1110 equates to "Freeway;" value 1120 equates to "Ramps for freeways, interchanges and feeders."

Regional ETR Route Connectivity

The *Snap* tool was then used to snap the routes together to ensure connectivity (Figure 7). These were then merged into a single dataset, using field mapping to

correlate fields across inputs⁷. Field Calculator and Python were again used to format fields for consistency, such as to convert text to upper case. A new field was added for "COUNTY". The counties were then spatially joined. "STATE" was populated as well. Extraneous fields were deleted with the *Delete Field* tool and a copy was created and stored in the project geodatabase.

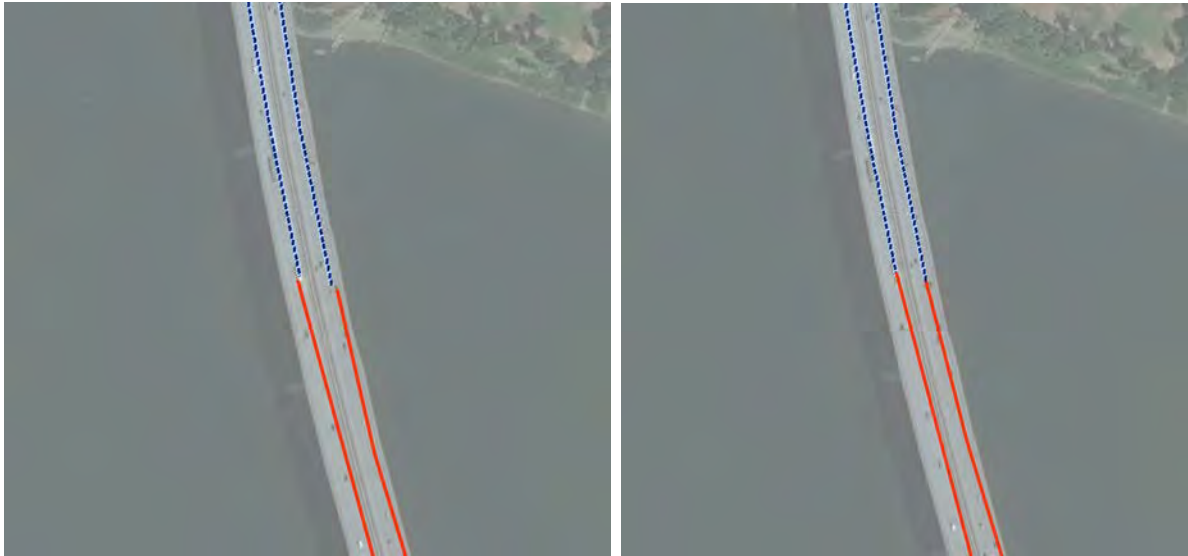


Figure 7. The 2005 routes (in red) were snapped to the Clark County routes (in blue) to ensure connectivity. Scale 1:2,000.

The attribute table was exported to Excel where the route names, from, and to fields were standardized for Clark and Columbia counties. This was then joined back to the spatial data. The refined Regional ETR layer was reviewed for QA/QC using visual and tabular checks including identifying duplicates (*Find Identical*) and mismatches (*Dissolve* and *Transfer Attributes*). The attributes are shown in Figure 8.

⁷ The Columbia County roads data contained no road classifications.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

ROUTENAME	ETR_ID_2005	ETR_ID_2020	ROUTE_FROM	ROUTE_TO	VERSION	ROUTE_TYPE	TOTAL_ROUTE_LENGTH
162nd / 164th Ave	60	R-X-243-00-162nd_164th	SR-14	Ward Rd	2005	Primary	35271.42883
SE 182nd Ave	55	R-X-209-00-182nd	SE Powell Blvd	E Burnside Rd	2005	Primary	11574.7655
232nd Ave	2	R-X-157-00-232nd	HWY 224	HWY 212	2005	Primary	10005.600279
242nd Ave / Hogan Rd / 238th Dr	3	R-X-201-00-242nd_Hogan_238th	HWY 212	I-84	2005	Primary	48836.718032
7th Ave	8	R-X-139-00-7th	Washington St	Molalla Ave	2005	Primary	2694.412237
82nd Ave	22	R-X-193-01-82nd	SE Clatsop St	NE Holman St	2005	Primary	48198.6343
82nd Ave	24	R-X-193-02-82nd	NE Alderwood	NE Airport Way	2005	Primary	3706.948812
Amisigler Rd / Kelso Rd / Richey Rd	100	R-X-159-00-Amisigler_Kelso_Richey	HWY 224	HWY 212	2005	Primary	18353.808888
Aplary Rd	83	R-X-109-00-Aplary	HWY 30	HWY 47	2005	Primary	109263.606288
Arndt Rd / Airport Rd / Barlow Rd	102	R-X-129-00-Arndt_Airport_Barlow	99E	I-5	2005	Primary	24362.296332
Beavercreek Rd	5	R-X-149-00-Beavercreek	HWY 213	HWY 211	2005	Primary	80084.841178
Brookwood Parkway	61	R-X-115-01-Brookwood	HWY 26	Shute Rd	2005	Primary	11446.491288
Brookwood Parkway	91	R-X-115-02-Brookwood	Cornell Rd	Shute Rd	2005	Primary	15058.436445
Burnside Brg	1	R-X-154-01-Burnside	Brg	Brg	2005	Primary	1415.628901

Figure 8. The attribute table of the Regional ETR layer.

Revisions to Baseline Regional ETRs

Additional routes beyond the 1996 and 2005 inputs then needed to be added to the Regional ETR layer before beginning the spatial analysis evaluation. After internal and stakeholder review, several routes were manually added. The Regional ETR layer was dissolved by "ETR ID", "ROUTE_FROM" and "ROUTE_TO" to create a layer of route segments. New routes were added to this dissolved route segment layer. These included ETR routes received from Clackamas County⁸, Multnomah County^{9,10}, Washington County^{11,12}, and PBOT¹³ during initial data gathering and additional routes identified during subsequent jurisdiction-specific meetings held in summer 2020.

Using the stakeholder-provided data to the extent possible, routes were added using a combination of edit and merge tools. Each input had different schema and levels of precision and accuracy. All routes were individually cross-checked and edited to align with the RLIS Streets layer to facilitate "LocalID" attribution and because the RLIS Streets layer has the most accurate road alignments. The From and To attributes were manually entered in addition to a "ROUTE_TYPE" attribute that identified whether

⁸ "ClackamasETRs" Feature class received June 18, 2019. Clackamas County.

⁹ "MultcoETRs" Shapefile received September 16, 2019. Multnomah County.

¹⁰ "MultnomahCountyProposedSeismicETR" Shapefile received June 4, 2020. Multnomah County.

¹¹ "ETR" Feature class received October 25, 2019. Washington County.

¹² "SeismicResiliencyRoute_WashCo" Feature class received October 25, 2019. Washington County.

¹³ "tsp_etr_coverage" Geodatabase of four feature classes received October 15, 2019.

routes were primary or alternate (i.e. detours around vulnerable bridges). The “Primary” and “Alternate” terms were already in use by Clackamas County and were therefore adopted for this study.

Establishing a Regional ETR Route Identification Naming Convention

During the first phase of evaluation, it was determined that a consistent naming convention should be developed to help with route evaluation, identification, and use. With direction from the work group, the team developed a naming convention that provides consistency, as well as the ability to add and update routes during future phases of work and update cycles. The route identification convention is (S/R/L)-#-XXX-00-RouteName, where:

- The S/R/L term designates whether it is a State, Regional, or Local route
- The # term will be the route tier as designated by ODOT or by the region and localities in future phases of work
- Each route has a three-digit number XXX assigned to it as an ID that reflects the location and direction of the route. Routes with an odd ID are north/south routes and those with even IDs run east/west. These numbers currently run between 100 and 267 for the updated route segments.
- The 00 term indicates if a route has segments. Route 101-01 and 101-02 connect to make route 101. Routes with “00” only have one segment.
- The RouteName reflects the road name(s) that make up the ETR.

Handling of Oregon State Seismic Lifeline Routes

The Oregon SSLRs were removed from the Regional ETR layer, to be consistent with the various ETR definitions (i.e. SSLRs vs RETRs vs LETRs). On-ramps and off-ramps were carefully evaluated. Connectivity of Regional ETRs to Oregon SSLRs was ensured.

Final Regional ETR Segments

The Regional ETRs originally had 122 segments. Following the removal of the Oregon SSLRs and several other existing routes (Table 2) and the addition of the new routes (Table 3), the Regional ETRs had 188 route segments for final evaluation.

Table 2. Summary of Regional ETRs removed from 1996/2005 baseline

Route Name and Segment	Jurisdiction(s)
Regional ETRs	
Wildcat Mountain Drive	Clackamas County
Eagle Fern Road	Clackamas County
NE 78 th Street (re-aligned to Padden Parkway)	Clark County, City of Vancouver
NE 83 rd Street (re-aligned to Padden Parkway)	City of Vancouver
State Route 502 or NE 10 th Avenue (I-5 bypass between exits 9 and 11)	Clark County
I-5 Columbia River Bridge	Multnomah County, Clark County, Portland, Vancouver
I-205 Columbia River Bridge	Multnomah County, Clark County, Vancouver
Oregon SSLRs	
I-5	Clackamas County, Multnomah County, Washington County, Portland, Tigard, Tualatin, Wilsonville
I-205	Clackamas County, Multnomah County, Washington County, Gladstone, Maywood Park, Oregon City, Portland, Tualatin, West Linn
I-405	Multnomah County, Portland
I-84	Multnomah County, Fairview, Gresham, Portland, Troutdale, Wood Village
US Highway 26	Clackamas County, Columbia County, Multnomah County, Washington County, Beaverton, Hillsboro, Portland, Sandy
US Highway 30	Columbia County, Multnomah County, Clatskanie, Columbia City, Portland, Rainier, Scappoose, St. Helens
State Highway 212	Clackamas County, Happy Valley
State Highway 217	Washington County, Beaverton, Tigard
State Highway 43	Clackamas County, Multnomah County, Lake Oswego, Portland, West Linn
State Highway 99E	Clackamas County, Canby, Oregon City
State Highway 99W	Multnomah County, Washington County, Portland, Sherwood, Tigard, Tualatin

Table 3. Summary of Regional ETRs added to 1996/2005 baseline

Route Name and Segment	Jurisdiction(s)
SE Firwood Road	Clackamas County
SE Kelso Road	Clackamas County
S Fellows Road	Clackamas County
S Unger Road	Clackamas County
S Lower Highland Road / Ridge Road	Clackamas County
S Carus Road / Mulino Road	Clackamas County, Canby
S New Era Road / Penman Road	Clackamas County
S Central Point Road	Clackamas County, Oregon City
S Lone Elder Road	Clackamas County
S Barlow Road	Clackamas County
S Barnards Road	Clackamas County
Wilsonville Road	Clackamas County, Wilsonville
SW Stafford Road	Clackamas County, Wilsonville
SW Roy Rogers / Tualatin Sherwood Road	Clackamas County, Washington County, Wilsonville, Tualatin, Sherwood, Tigard
Kruse Way / Boones Ferry / Country Club	Clackamas County, Lake Oswego
S Holcomb Boulevard / Bradley Road	Clackamas County, Oregon City
S Hattan Road	Clackamas County
State Highway 224	Clackamas County, Happy Valley
SE 172 nd Avenue	Clackamas County, Happy Valley
Sunnyside Road	Clackamas County
SW Highland / 190 th Drive / Tillstrom Road	Clackamas County, Multnomah County, Happy Valley, Gresham
SE Stark Street	Multnomah County, Gresham, Troutdale
257 th / Kane Drive	Multnomah County, Gresham, Troutdale
NE Fairview Parkway / Glisan Street / 223 rd Avenue	Multnomah County, Gresham, Fairview
SE 112 th Avenue / SE Cherry Blossom Drive	Multnomah County, Portland
SE Flavel Street	Multnomah County, Portland
Rocky Butte	Multnomah County, Portland
SE Woodstock Boulevard	Multnomah County, Portland
SE Gideon	Multnomah County, Portland
SE 17 th Avenue / SE Holgate Blvd	Multnomah County, Portland
SE Hawthorne Boulevard	Multnomah County, Portland
Sellwood Bridge / Tacoma Street	Multnomah County, Portland
NE Glisan Street	Multnomah County, Portland

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

Route Name and Segment	Jurisdiction(s)
NE Broadway / NE Weidler Street	Multnomah County, Portland
NE Cully Boulevard	Multnomah County, Portland
NE 42 nd Avenue	Multnomah County, Portland
NE 15 th Avenue	Multnomah County, Portland
NE Killingsworth Street	Multnomah County, Portland
NE Dekum Street	Multnomah County, Portland
NE Lombard Street	Multnomah County, Portland
NE 47 th / Cornfoot Road / Airtrans Way	Multnomah County, Portland
NE 33 rd Drive	Multnomah County, Portland
Vancouver Avenue	Multnomah County, Portland
Delta Park	Multnomah County, Portland
Swan Island	Multnomah County, Portland
N Albina Avenue / N Mississippi Avenue	Multnomah County, Portland
N Chautauqua Boulevard	Multnomah County, Portland
NW Front Avenue	Multnomah County, Portland
Tilikum Crossing	Multnomah County, Portland
SW Moody Avenue	Multnomah County, Portland
Aerial Tram	Multnomah County, Portland
SW Broadway / Terwilliger Boulevard	Multnomah County, Portland
SW Murray Street	Multnomah County, Portland
NW Vaughn Street / NW 23 rd Avenue	Multnomah County, Portland
SW Dewitt Street	Multnomah County, Portland
SW Capitol Highway	Multnomah County, Portland
SW Taylors Ferry Road	Multnomah County, Portland
SW Terwilliger Boulevard	Multnomah County, Portland
Dolph Court	Multnomah County, Portland
SW 45 th Avenue / Vermont Street	Multnomah County, Portland
SW 26 th Avenue	Multnomah County, Portland
SW 40 th Avenue	Multnomah County, Portland
SW Allen Road / Garden Home Road / Multnomah Boulevard	Multnomah County, Washington County, Portland, Beaverton
NW Cornell / Barnes Road	Washington County, Beaverton
Fern Hill / Spring Hill Road / Gaston Road	Washington County, Gaston, Forest Grove
Timber / Gales Creek Road	Washington County, Forest Grove
Greenville / Kansas City / Kemper Road	Washington County
Washougal River Road / Evergreen Way	Clark County, Washougal
192 nd Avenue	Clark County, Vancouver

Route Name and Segment	Jurisdiction(s)
NE 18 th Street	Clark County, Vancouver
136 th / 137 th	Clark County, Vancouver
Andersen Road	Clark County, Vancouver
Fourth Plain Boulevard	Clark County, Vancouver
Fruit Valley / Fourth Plain Boulevard	Clark County, Vancouver
Lakeshore / Fruit Valley / 39 th / 78 th	Clark County, Vancouver
Main Street / Highway 99	Clark County, Vancouver

3.2.2 SPATIAL ANALYSIS

The Regional ETR segment layer was used as the input for spatial analyses. The evaluation was broken into three parts, and therefore three modeling efforts. These include a proximity analysis, a resilience analysis, and a community and equity analysis. All results were exported to Excel spreadsheets and provided to the team for further analysis.

Critical Infrastructure/Essential Facilities Proximity Analysis

Model inputs included the consolidated facilities and infrastructure layers (see Table 1) plus a dissolved buffer of one quarter-mile on both sides of the Regional ETRs (Figure 9). The study area was first used to clip the boat ramps and trails to the five-county region. A batched spatial join was then utilized for each of the six categories (i.e., Categories 1-3 of both critical infrastructure and essential facilities). The spatial join, as opposed to a clip function, preserved all features in the output regardless of whether they were in or out of the buffer, attributing them with their relationship to the buffer, thereby facilitating the percentage calculation of those within the buffer. The study area feature class, which was attributed with county, was again used to attribute the Regional ETR segments with county. The Near tool was used to calculate the distance between the city limits to the nearest Regional ETR. Each of these calculations were then tabulated in a spreadsheet.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

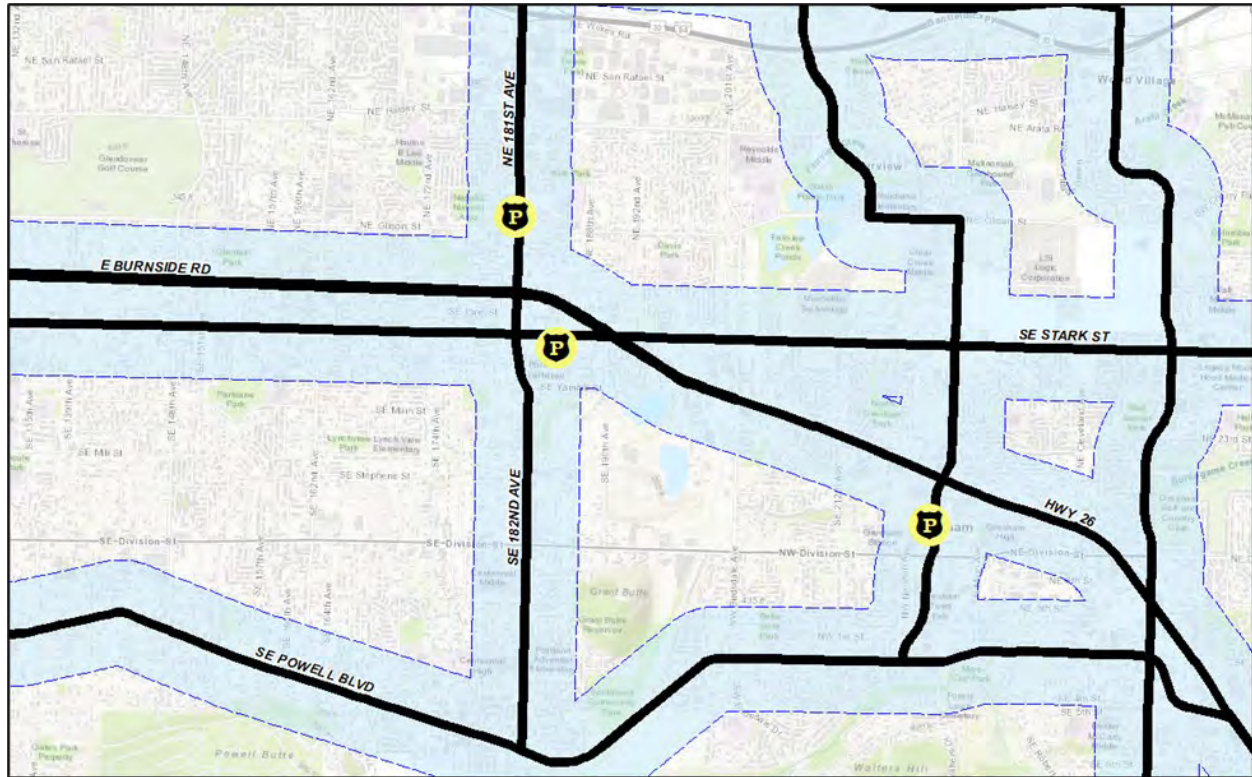


Figure 9. Police stations within the quarter-mile buffer.

Resilience Analysis

The hazards data (geohazards and flood) were used as inputs for the resilience analysis. Landslide susceptibility was converted from raster to polygons. Liquefaction susceptibility, landslide susceptibility, landslide inventory, and flood hazard areas were then joined with the Regional ETR segments using the *Identity* tool (Figure 10). Results were dissolved by classification. An Alteryx workflow was used to calculate the percentage of the classifications along each route. The tables were exported from Alteryx to spreadsheets.

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1, pending TPAC's recommendation to JPACT.

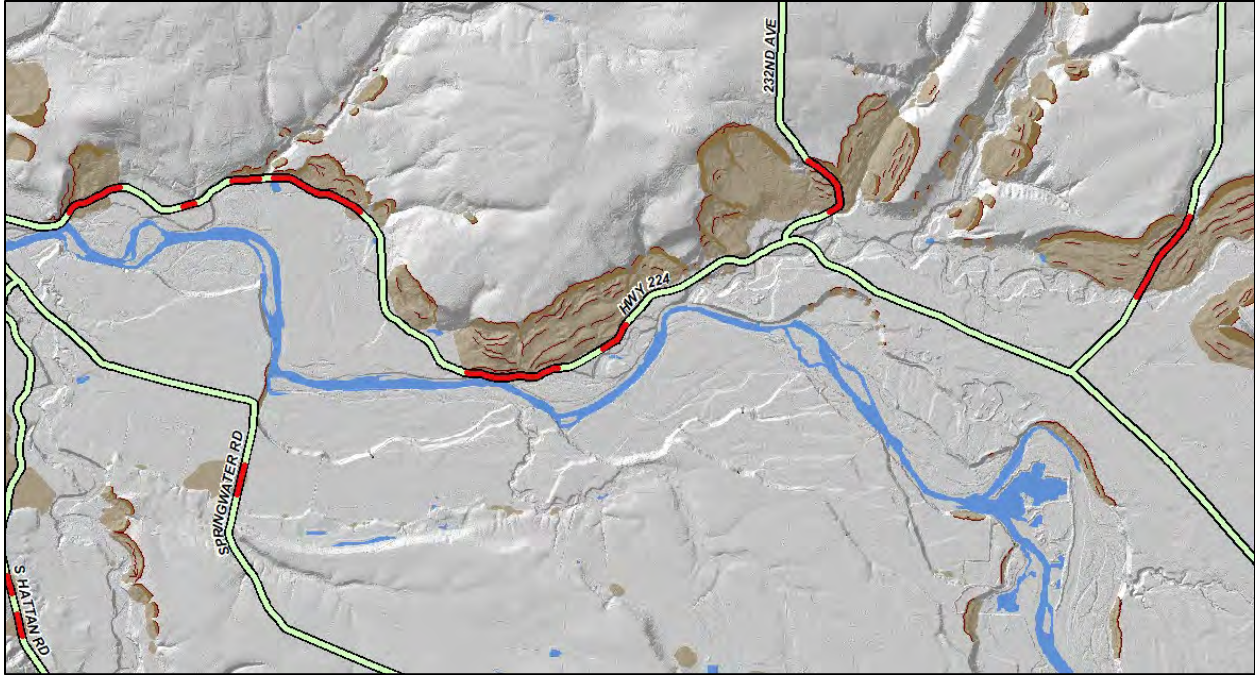


Figure 10. The percentage of hazards on each route segment was calculated using GIS tools. Landslide inventory is shown above. The red sections overlap with the hazard.

Community and Equity Analysis

To determine how well Regional ETRs provide emergency access to vulnerable populations, Metro developed “equity focus areas” (EFAs). EFAs were created from the U.S. Census Bureau’s American Community Survey (ACS) 5-Year Estimates (2013-2017) and are geographically aggregated to Census tracts. Six population indicators were used to identify vulnerable populations and develop EFAs:

- People of color¹⁴
- Under the age of 18
- Over the age of 65
- Households with no vehicle

¹⁴ People of color are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, some other race, two or more races, and any race combined with Hispanic or Latino ethnicity.

- Limited English proficiency
- Low income (less than 200% of the federal poverty level)

To determine which Census tracts were EFAs, first the average percent population for each indicator was calculated for the five-county study area. Then tracts were flagged where the percent population exceeded the study area average. Finally, population density at the block group level (subset of a tract) was calculated and compared to the study area's average population density to identify high-density Census tracts. Any tract that includes a high-density block group and is flagged for any of the six indicators is designated as an EFA.

A simple proximity analysis in ArcGIS was used to determine that there was connectivity of all EFAs to at least one Regional ETR.

3.3 LIMITATIONS AND DATA GAPS

This process revealed several gaps in data coverage, including:

- Disaster Debris Management Sites (outside of Metro jurisdictional boundary),
- Churches (outside Columbia and Washington Counties),
- Updated liquefaction susceptibility for Clark County (most recent published, data are from 2004; this study uses unpublished 2020 data),
- Landslide susceptibility for Clark County (only partial 2018 coverage exists),
- Road characteristics (number of lanes, road geometry, pavement width, turning radius, medians, signalized intersections, multiple driveways),
- Seismic vulnerability for local Oregon bridges (other than those evaluated by ODOT),
- Seismic vulnerability for state and local Washington bridges, and
- The equivalent of Oregon Statewide Seismic Lifeline Routes (SSLRs) for Washington.

Several data and analysis limitations should also be highlighted, including:

- Resilience analyses relies on the intersection of Regional ETRs with hazard layers. In the case of landslide deposits and scarps this does not account for future risk, such as an ETR that does not intersect a landslide deposit but is

downslope from it. For this reason, it is important to also consider landslide susceptibility along Regional ETRs.

- Community and equity analyses relies on U.S. Census American Community Survey estimates, which are known to be less accurate in rural Census tracts.
- Route ownership and road characteristics were not available consistently throughout the study area. Additional coordination with transportation agencies would be needed to provide or confirm these aspects of the Regional ETRs.
- Seismic induced debris tonnage was provided by DOGAMI in aggregate by neighborhood geographic unit. For larger neighborhoods especially, it does not provide insight into the proximity of debris sources (e.g., unreinforced masonry buildings) to Regional ETRs and the likelihood debris may either block the ETR or be difficult to access for removal via the ETR.

CHAPTER 4: LIST OF ACRONYMS

ADT: Average Daily Traffic

DOGAMI: Oregon Department of Geology and Mineral Industries

EFA: Equity Focus Area

EOC: Emergency Operations Center

ETR: Emergency Transportation Route

GIS: Geographic Information Systems

ODOT: Oregon Department of Transportation

RDPO: Regional Disaster Preparedness Organization

RLIS: Regional Land Information System (Metro)

SSLR: State Seismic Lifeline Route

WA DNR: Washington Department of Natural Resources

WSDOT: Washington Department of Transportation

Note: Exhibit C will be updated to reflect changes recommended in Attachment 1,
pending TPAC's recommendation to JPACT.

APPENDIX F

Large Format Maps (not included in Draft)

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: March 25, 2021

To: Transportation Policy Alternatives Committee (TPAC) and interested parties

From: Kim Ellis, Metro
Laura Hanson, Regional Disaster Preparedness Organization (RDPO)

Subject: Regional Emergency Transportation Routes (RETRs) Update: **Resolution No. 21-5160 – RECOMMENDATION TO JPACT REQUESTED**

PURPOSE

The purpose of this memo is to ask TPAC to recommend the Joint Policy Advisory Committee on Transportation (JPACT) accept the Regional Emergency Transportation Routes Update Phase One Final Report and updated maps, which will include the changes recommended in Attachment 1.

Note: The Final Phase One Report and updated maps were not available for the advance TPAC packet. Pending TPAC's recommendation to JPACT, the Regional Emergency Transportation Routes Update Phase One Final Report (reflecting the changes recommended in Attachment 1) will be included in April 15 JPACT meeting packet.

ACTION REQUESTED

TPAC's recommendation to JPACT on Resolution No. 21-5160, including the changes recommended in Attachment 1.

BACKGROUND

On Feb. 4, 2021, the draft Regional Emergency Transportation Routes (RETRs) and a draft report were published in the [online RETR viewer](#) and on the [project website](#) for review and feedback. Between Feb. 4 and March 25, 2021, Metro and the Regional Disaster Preparedness Organization (RDPO) facilitated a review process to gather comments on the updated routes, draft report and recommendations for future work. The review process focused on various policy bodies and policy and technical advisory committees in the region that oversee transportation and emergency management planning and decision-making in the region.

A schedule of the review process is provided in Table 1.



A partnership between the RDPO and Metro, this project updated the Regional Emergency Transportation Routes (RETRs) for the five-county Portland-Vancouver metropolitan region, which includes Clackamas, Columbia, Multnomah and Washington counties in Oregon and Clark County in Washington.

Regional ETRs are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-clearance. These routes would be used to move resources and materials, such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies.

These routes are also expected to have a key role in post-disaster recovery efforts.

rdpo.net/emergency-transportation-routes

Table 1. Final review process – Regional Committees and County Committees

Who	Date
ETR Work Group Review	Jan. 20
RDPO Emergency Managers Work Group - REMTEC	Feb. 5
RDPO Steering Committee	Feb. 8
Transportation Policy Alternatives Committee (TPAC)/Metro Technical Advisory Committee (MTAC) workshop	Feb. 17
Joint Policy Advisory Committee on Transportation	Feb. 18
Regional Technical Advisory Committee (RTAC)	Feb. 19
RDPO Policy Committee	Feb. 19
Metro Council	Feb. 23
Metro Policy Advisory Committee (MPAC)	Feb. 24
Clackamas County TAC	Feb. 24
Southwest Washington Regional Transportation Council	March 2
East Multnomah County Transportation Committee TAC	March 3
Washington County Coordinating Committee TAC	March 4
RDPO Emergency Managers Work Group - REMTEC	March 5
Washington County Coordinating Committee (policy)	March 15
East Multnomah County Transportation Committee (policy)	March 15
Clackamas County C-4 subcommittee (policy)	March 18
Joint Policy Advisory Committee on Transportation	March 19
RDPO Policy Committee	March 20
RDPO Public Works Work Group	March 24

Attachment 1 summarizes recommended changes to the draft RETRs and the draft report to respond to all substantive comments received during the review process. Recommended changes include technical corrections to maps and data, additional RETR updates, and expanding descriptions of the recommendations for future work. Other feedback included:

- Broad appreciation for this work and recognition of its importance to planning and investment in the region;
- Acknowledgement that significant gaps in data and planning remain to be addressed (during Phase 2 and other efforts);
- Request for more jurisdictional and policymaker engagement in Phase 2 RETR effort; and
- Look for opportunities to connect and advance future work to address likely Critical Energy Infrastructure Hub failure, needs of vulnerable populations, evacuation planning needs as well as roles of river routes and transit during a regional emergency.

NEXT STEPS

Pending TPAC's recommendation to JPACT, the Regional Emergency Transportation Routes Update Phase One Final Report (reflecting the changes recommended in Attachment 1) will be included in April 15 JPACT meeting packet for JPACT's consideration. Other regional bodies will consider accepting the final report and updated routes:

- **April 5** – RDPO Steering Committee recommendation the RDPO Policy Committee
- **April 15** – JPACT recommendation to the Metro Council (*as part of the consent agenda*)
- **April 16** – RTAC recommendation to the SW RTC
- **April 29** – Metro Council recommendation, pending JPACT action (*as part of the consent agenda*)
- **May 4** – SW RTC recommendation, pending RTAC action
- **May 21** – RDPO Policy Committee recommendation, pending RDPO Steering Committee action'

A regional dissemination workshop is anticipated in late-May 2021 to more broadly share the updated maps, data, on-line RETR viewer and recommendations for Phase 2 of the RETR update.

2021 Regional Emergency Transportation Route (RETR) Update
Summary of Comments Received and Recommended Actions
 (comments received Feb. 4 to March 24, 2021)

Attachment 1
 3/26/2021

The Updated Regional Emergency Transportation Routes (RETRs) were published in a draft report on Feb. 4, 2021 which included maps, appendices, and an online viewer. The Regional Disaster Preparedness Organization (RDPO) and Metro facilitated a stakeholder review process to gather comments from various policy bodies and policy and technical advisory committees in the region that oversee transportation and emergency management planning and decision-making. Feedback was provided at meetings and via emails between February 4 and March 24, 2021. This document summarizes recommended changes to respond to all substantive comments received during the review period. All recommended changes will be reflected in the final report and maps brought forward for acceptance by the Joint Policy Advisory Committee on Transportation, the Metro Council, the Southwest Washington Regional Transportation Council and the RDPO Policy Committee. *ALL COMMENTS ARE PARAPHRASED FROM DISCUSSIONS AND MEETING MINUTES*

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
1	Washington and Columbia County Routes				2/19/21	RDPO Policy Committee	Washington County and Columbia County are closer to the epicenter of a CSZ earthquake. Note the update has lower redundancy of routes in that western part of the region- how will we connect if those areas get cut off?	Columbia County low route redundancy is well noted in the report and is largely due to geological constraints. Washington County has limited SSLR redundancy with their coastal neighbors (only Highway 26). A shelter-in-place approach is the current plan statewide. However, the coastal communities do have plans to receive support from federal and state marine assets to be deployed immediately post-event.
2	Route Redundancy	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The low redundancy of routes in some areas should inform preparations for an incident and the prioritization of routes - justification of prioritizing regionally to help prioritize funding to take into account vulnerabilities and to improve their resilience.	As noted, this is a key justification for prioritizing routes regionally as recommended in the Phase 2 work.
3	Critical Energy Infrastructure (CEI) Hub	Sharon	Meiren	Commissioner, Multnomah County	2/19/21	RDPO Policy Committee	There have been multiple Critical Energy Infrastructure (CEI) Hub studies ongoing in the county/city. How was the CEI Hub included in the RETR update? It is important to identify what routes will be cut off if the CEI Hub falls into the river as anticipated in a catastrophic earthquake.	Update Section 7 of the RETR Report to: - incorporate a discussion of previous and current Critical Energy Infrastructure Hub studies - recommend future planning work to identify RETRs that are likely to be cut off if the CEI Hub - add references to Regional Emergency Fuel Management Planning (concurrent) and upcoming regional exercise and other relevant planning efforts to show how this effort relates to other efforts that are under way or planned. Recommendation to incorporate findings in the Phase 2 prioritization and operationalization process with local partners.
4	Critical Energy Infrastructure (CEI) Hub	Joanne	Hardesty	Commissioner, City of Portland	2/19/21	RDPO Policy Committee	We cannot implement this plan until the CEI Hub is addressed.	The RETR Update is not a plan; it provides information and route designations that can be used to inform development of policies and more detailed planning at the state, regional and local levels. Other RDPO and State efforts are under way to address the CEI Hub. The recommended Phase 2 work (if funded by the Urban Areas Security Initiative) is anticipated to tier or prioritize routes for operational purposes, and can take this into consideration. See also response to Comment #3.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
5	Clackamas County Critical Facilities	Smith	Tootie	Clackamas County Chairperson	2/19/21	RDPO Policy Committee	It appears Clackamas Co. public works facilities, as well as the 911 call center and Clackamas County EOC in Oregon City are missing from the regional map.	Update as requested. The 911 center was inadvertently not included and the EOC and some public work facilities were mis-categorized in the GIS dataset. The public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
6	Clackamas County Critical Facilities	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The report needs to ensure all of the County public works facilities are represented across the region.	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
7	General	Pippenger	Dan	Port of Portland	2/19/21	RDPO Policy Committee	Expressed appreciation for the effort that went into this Phase 1 update, the report and data produced are a great resource for the region. It would be a big achievement for the region to prioritize/tier the routes in Phase 2.	Comment noted.
8	Public Works Facilities	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The report needs to ensure all of the County public works facilities are consistently represented across the region.	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
9	General	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	Important to balance pre-incident planning with real-world incident response. There are things we can mitigate now and plan toward, and then we also need to be clear on protocols in an incident. We need both.	No change needed. Aligns to the report recommendation to use the RETR Update to inform the next Metro Regional Transportation Plan (RTP), Southwest Washington Regional Transportation Council RTP and for the next phase of RETR project to work with local, state and regional jurisdictions on guidelines for RETRs in real incidents.
10	All Routes	Joanne	Hardesty	Commissioner, City of Portland	2/18/2021	Metro JPACT Meeting	It is unclear why so many routes were added and none removed.	Update Section 6.1 to clarify why routes were added and none removed. The report details the process, methodology, and detailed consultation with State and local partners to identify the need for additional routes to improve access to and redundancy in areas with critical infrastructure, essential facilities and vulnerable populations. Routes likely won't be deleted but could be tiered/categorized as lower level routes during Phase 2.
11	Portland Critical Facilities	Joanne	Hardesty	Commissioner, City of Portland	2/18/2021	Metro JPACT Meeting	Were the marine facilities for Fire & Rescue included in the critical infrastructure that was mapped?	The Portland Fire and Rescue facilities at Stations 6,17, 21 are all included in the existing fire and rescue data layer for essential facilities. These three PFR stations have adjacent docks. A further evaluation of marine fire and rescue assets (beyond the City of Portland) will require additional work in Phase 2 to confirm all stations with marine assets are properly/consistently mapped.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
12	Maps, cartography	Patterson	Courtney	Metro Emergency Management	2/8/21	RDPO Steering Committee	Using the color blue for Statewide Seismic Lifeline Routes is confusing on the maps because blue is usually used for rivers.	The SSLRs will be shown as dark navy blue.
13	Resolution for Metro Council and RDPO Policy Committee	Howard	Alex	Port of Portland	2/8/21	RDPO Steering Committee	Recommend to include language on the Phase 2 project concept within the resolutions we put forward to Metro Council and RDPO Policy Committee since we have that work scoped and in funding pipeline.	The Phase 2 project is presented to both RDPO Policy and Metro Council. Because the UASI 2021 application is still pending signature with DHS, we will not put language into the resolutions at this time.
14	Engagement				2/19/21	RTAC meeting	How have PacifiCorp and other utility providers been engaged in this update? PacifiCorp controls the Lewis River dams, which have lava tubes. While outside geographic scope of this project, a dam failure could impact nearby Clark County.	PGE, Pacific Power and NW Natural Gas all provided details on their regional Emergency Operations Centers (primary and secondary) which are included in the regional critical facilities map layers. Analysis of dams is beyond the scope of this project.
15	Route Redundancy				2/19/21	RTAC meeting	The lack of redundant routes in northern Clark County and other more rural parts of the region underscores need to consider that people are likely to be isolated/homebound during a major emergency.	This comment has been forwarded to Clark County agencies for consideration in future planning efforts. The report includes information that Clark County relies on State routes, and that data on the seismic resilience of their bridges is not available at this time. Additional work to develop data on route resilience in Clark County could be beneficial in Phase 2 and other future planning efforts.
16	Individual Routes	Owen	Jeff	TriMet	2/17/21	email	The Merlo Bus Garage does not appear to be directly accessed by the updated RETRs.	Add new RETR connection to Merlo bus garage and other critical assets in the vicinity via Jenkins Road and Merlo Road. TriMet bus barns/maintenance yards are identified as state/regional essential facilities and included in the analysis that informed RETR updates. This recommendation has been coordinated with Washington County transportation and emergency management staff.
17	Landslide Data	Herman	Matt	Clark County	2/17/21	email	<p>Add landslide/slope data for Clark County/Washington State that is available from Washington State's Open Data Portal:</p> <p>(1) https://www.dnr.wa.gov/Publications/fp_gis_slopestability.zip</p> <p>(2) https://geo.wa.gov/</p> <p>(3) https://hub-clarkcountywa.opendata.arcgis.com/</p> <p>The additional data contains:</p> <p>(1) Partial coverage of landslide susceptibility (both and shallow and deep susceptibility) for the Columbia River corridor about four miles inland from the river and east of SE 164th Ave to the county boundary. This coverage intersects all of the Washougal River Rd / Evergreen Way RETR, and parts of SR-500, SR-14, and 192nd Ave RETRs.</p> <p>(2) Partial coverage of landslide mapping from historic geologic maps for the most northeast corner of the county. There is no intersection with RETRs.</p> <p>(3) Countywide slope stability coverage. From the metadata, this is intended for forest land management and is based on regional digital elevation models (i.e. not LiDAR precision).</p>	Add new map figure to the final report to show this data separately from the landslide susceptibility map along with a discussion that the data was not used in the route evaluation because the data was not available for all of Clark County. The ETR analysis included one data layer for landslides hazards for Clark County, which is a draft landslide deposit inventory from Washington Dept. Natural Resources.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
18	Bridges	Owen	Jeff	TriMet	2/17/21	TPAC/MTAC Workshop	Has the seismic vulnerability of the Tillikum Crossing Bridge been accounted for in the data and analysis?	Label the Tillikum Crossing bridge as not evaluated in Figure 6.10. This project did not conduct specific evaluation of the vulnerability of any of the bridges. Figure 6.10 mapped vulnerability data provided by ODOT for multi-span bridges in Oregon; ODOT has not evaluated single-span bridges. WSDOT did not have comparable data available for Washington State, so bridges in Washington State are also shown as "not evaluated" in Figure 6.10 and were not included the GIS analysis.
19	Individual Routes				2/17/21	TPAC/MTAC Workshop	Note the recent jurisdictional transfer of Cornelius Pass to the State (will it become an SSLR)?	Update the ownership field in the GIS data to reflect this change. In addition, this comment has been forwarded to ODOT for consideration as part of their planned update to the Oregon Highway Plan (OHP). SSLRs are designated by the Oregon Transportation Commission in the OHP.
20	Individual Routes	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	email	Designate the full length of Tualatin-Sherwood Road east to I-5 to provide a continuous RETR connection between I-5 and 99W.	Designate this segment of Tualatin-Sherwood Road as requested. This will provide a direct connection between I-5 and 99W and access to the seismically resilient PGE Integrated Operations Center, which will serve as a key hub for PGE operations during a regional emergency.
21	Critical infrastructure	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	Zoom meeting	Add the PGE Integrated Operations Center to the state/regional critical infrastructure data layer. The seismically resilient facility includes an emergency helipad and will serve as a key hub for PGE operations during an emergency.	PGE is constructing their new Integrated Operations Center in Tualatin, to be completed by December 2021. Currently, PGE's regional (and backup) Emergency Operations Centers are listed in the regional EOC data layers. In Phase 2, the PGE EOC primary location will shift to the new Tualatin Integrated Operations Center.
22	Individual Routes	McCarthy	Mike	City of Tualatin	3/2/21	Zoom meeting	Designate Nyberg Road/65th Avenue east of I-5 as a RETR to provide direct access to Meridian Park Hospital.	Designate Nyberg Road/65th Avenue as requested to provide a direct connection to Meridian Park Hospital. Hospitals are critical state/regional assets.
23	Evacuation Planning	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	Zoom meeting	Evacuation planning falls under the authority of County Sheriff's offices. For future planning coordination.	Expand the description of recommendation #5 in the report to recommend the inclusion of County Sheriffs as key stakeholders to engage in future evacuation planning efforts. See also responses to Comments #38, #54 and #55.
24	Railroads	Odermott	Don	City of Hillsboro	2/17/21	TPAC/MTAC Workshop	What role will railroads play during emergency response and recovery?	While this RETR update did not specifically address the role of railroads or river routes, providing adequate access to rail yards, airports and marine terminals were factors in the update to the RETRs given their critical infrastructure role. This resulted in the addition of new RETR designations. Future planning work is recommended to address the role and resiliency of these critical transportation infrastructure elements. For example, rail lines are typically much older than the road network and are anticipated to be significantly impacted by landslides and liquefaction.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
25	Bridges	Odermott	Don	City of Hillsboro	2/17/21	TPAC/MTAC Workshop	Are there specific bridges that should be priorities to harden seismically to leverage limited funding?	This update included a high-level analysis of seismically vulnerability of routes and their bridges; more detailed analysis is recommended for future planning work following completion of Phase 2 of the ETR update. ODOT has prioritized investment in the Statewide Seismic Lifeline Routes (SSLRs) based on detailed engineering analysis conducted in 2012 and 2014. Priority investments are being programmed through the Statewide Transportation Improvement Program (STIP) process.
26	Individual Routes	Deffebach	Chris	Washington County	2/17/21	TPAC/MTAC Workshop	Ownership of Cornelius Pass Road was recently transferred to the Oregon Department of Transportation (ODOT). Will this work inform whether the route should be added to ODOT's statewide seismic lifeline routes?	This comment has been forwarded to ODOT for consideration as part of their planned update to the Oregon Highway Plan (OHP). SSLRs are designated by the Oregon Transportation Commission in the OHP.
27	Policy and Investment	Cooper	Colin	City of Hillsboro	2/22/21	email	How does the RETR report fit into the Regional Transportation Policy and Funding policy scheme? For example, does the I-5 bridge receive a higher priority for federal funding on the State and Metro Federally constrained project list because it is a Tier 1 route?	The RETR Update Report is not a plan and does not establish policy or investment priorities. The Report provides information and a consistent regional planning framework and route designations that can be used to inform the development of policies, more detailed planning and investment decisions at the state, regional and local levels. The recommended Phase 2 work (if funded by the Urban Areas Security Initiative) is anticipated to tier or prioritize routes for operational purposes. The Phase 2 work will also help further inform policy development, planning and investment priorities at all government levels. For example, the next update to the Regional Transportation Plan (RTP) will use the information from Phase 1 (and Phase 2, if available) as a foundation for updating the plan's existing transportation resilience policies and to inform development of the RTP investment strategy. Another example is Multnomah County – they have been using the current routes to prioritize investments in the County CIP and to look for opportunities to seismically upgrade bridges/routes as part of planned projects.
28	Individual Routes			Project team	3/5/21		Add NE 223rd Avenue between Sandy Boulevard to Marine Drive to the RETR designations. This route was identified by Multnomah County staff to be added in Fall 2020 and was inadvertently not included.	Update as requested.
29	Essential facilities			Project team	3/5/21		Review State-owned maintenance yard on OR 47. This facility was identified by Columbia County staff to be added in Fall 2020.	Update this site from city/county to state/regional category; it serves as an important staging area in an area with limited routes.
30	Critical infrastructure			Project team	3/5/21		Add Canby Ferry as critical infrastructure (county/city category). This infrastructure was identified by Clackamas County staff to be added in Fall 2020 and was inadvertently not included.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
31	Critical infrastructure			Project team	3/5/21		Confirm Columbia County rider hub transit centers are reflected (county/city category)	The transit hubs were identified by Columbia County staff to be added in Fall 2020. There are currently transit centers in Rainier and St. Helens, which are city/county critical infrastructure. Clatskanie and Vernonia transit centers only have bus stops, which are not captured as critical infrastructure in this project. This dataset will be further reviewed in Phase 2 in coordination with transit providers.
32	Essential facilities			Project team	3/5/21		Review and refine public works sites as needed to show state/regional and county/city sites consistently across 5-county region	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in coordination with the RDPO Public Works Work Group.
33	Essential facilities			Project team	3/5/21		Review Tualatin Valley Fire and Rescue Command Center (11945 SW 70th Avenue., Tigard, OR) to confirm whether state/regional or county/city essential facility	In this Phase 1 analysis, all fire and rescue assets (stations and command centers) were mapped and included in the local essential facilities. A deeper analysis of assets to be considered "regional" needs to be addressed going into Phase 2 (including marine assets, regional command centers, or in some instances even specialized teams or equipment deployable region-wide)
34	Phase 2 and Future Lynn planning work	Peterson		Metro Council President	2/23/21	Metro Council Work Session	4 things that are key to highlight and address in future planning work: (1) Management of capacity during an emergency - Coordination and consistency as to how to manage/prioritize users of RETRs is needed and should be documented as part of updating the operational guidelines and protocols in Phase 2. (2) Connectivity to emergency response resources - State and County public works staging areas are key for getting supplies and resources where they are needed during a state or regional emergency. Ensure they are consistently reflected throughout 5-county area. (3) Redundancy of emergency response routes - Redundancy is important given vulnerabilities throughout the system of RETRs. Public works staff have an understanding of where potentially vulnerable and isolated populations live as well as limitations of RETRs (e.g., weight or height restricted bridges, areas of frequent flooding/landslides/road closures). It is important to continue engaging public works staff during Phase 2 tiering process. (4) Communications during emergency response - Technology can play an important role in supporting jurisdictional coordination during emergency response and sharing real-time information about routes to use/avoid during an emergency. Other communications pathways also need to be planned in advance to address the diverse needs of vulnerable populations during an emergency, including households without access to a vehicle, people with limited English proficiency, older adults and people living with disabilities.	Phase 2 will address these four themes in the work program, and periodically update the Metro Council on the project status. See also responses to Comments #32 and #33.
35	Evaluation criteria	Councilor Nolan		Metro Council	2/23/21	Metro Council Work Session	Were capacities of the routes themselves evaluated?	Route characteristics were not included in the Phase 1 evaluation due to inconsistent data across the five counties. Route characteristics like road capacity, bridge weight/height restrictions, ability to carry over-dimensional vehicles, and other factors will be considered as part of the Phase 2 data collection and subsequent tiering analysis.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
36	Clark County Routes	Councilor Rosenthal		Metro Councilor	2/23/21	Metro Council Work Session	Do we need to better address bypasses and work around routes in Clark County? They are mostly state routes at this point.	This comment has been forwarded to Clark County agencies for consideration in future planning efforts. The report includes information that Clark County relies on State routes, and that data on the seismic resilience of their bridges is not available at this time. Additional work to develop data on route resilience in Clark County could be beneficial in Phase 2 and other future planning efforts.
37	Community Engagement	Councilor Gonzales		Metro Councilor	2/23/21	Metro Council Work Session	Remember that these routes exist to serve people. Its important we build community resilience with local planning work. Important we reflect geography and language diversity.	Expand discussion in the recommendations for future work related to community engagement and building increased understanding of how routes serve community needs.
38	Evacuation Planning	Lyles Smith	Rachel	Mayor, City of Oregon City	2/24/21	MPAC	This is good, important work. Look for opportunities for future evacuation planning and Phase 2 RETR work on operational guidelines and protocols to be informed by lessons learned from the 2020 wildfires in terms of evacuation route planning, information gaps/needs and coordination/communication of changes to traffic operations among transportation facility owners/operators. For example, there were significant bottlenecks in the OR 213/I-205 area in Oregon City as significant numbers of people evacuated wildfire areas at the same time. How might evacuation route designations be impacted by vulnerable bridges and routes? Are there opportunities to adjust traffic operations to efficiently move large numbers of people/vehicles, e.g., making a whole Interstate operate in one direction like has been done in other metropolitan areas to facilitate evacuation?	While outside the scope of Phase 2, future work on evacuation planning is already called out as a priority at both the local and regional level. Future evacuation planning can address highlighted problem areas identified in these comments. See also responses to Comments #23, #54 and #55.
39	Seismic resilience engineering	Iyall	Bill	Cowlitz Tribe	3/2/21	SW RTC	Recommend to look at SMI tool for seismic measurement. Network in Puget Sound. Do we have here in the Portland region?	ODOT, Multnomah County, and possibly others are working on incorporating ShakeAlert systems for bridge operation and emergency response into their operations. Currently, there is not a consistent system for alerting or measuring shaking in an overall system in Oregon.
40	Stakeholder engagement	Stober	Ty	City of Vancouver	3/2/21	SW RTC	What are we doing to address the routes that connect into other counties? (i.e.. Skamania and Cowlitz). How is this being communicated with them?	Recommend to inviting partners to dissemination workshop and to engage in the Phase 2 work.
41	Phase 2	Medrigy	Gary	Councilor, Clark Co	3/2/21	SW RTC	Would be good to look at weight restrictions for bridges when we do the tiering/prioritization process in Phase 2.	Expand Phase 2 RETR description to identify weight restrictions for bridges be included in the analysis to inform the tiering process.
42	Technical corrections			Project team	3/9/21		Figure 6.11 - Correct figure label to read "RETRs relative to Landslide Susceptibility"	Update as requested.
43	Technical corrections			Project team	3/9/21		Figure 3.1 - Correct typo in legend - "Transportation Route"	Update as requested.
44	Executive summary			Project team	3/9/21		ES-5 - create infographics and add final 5-county map	Update as requested.
45	Technical corrections			Project team	3/9/21		Page 5 - remove gray sidebar about RDPO and project; this is included in executive summary.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
46	Mapping - SSLRs			Project team	3/12/21		Ensure that RETRs have a GIS tie-in to SSLRs for network analysis.	Update published maps to complete gaps in SSLR network. A review of the SSLR source GIS data confirmed that gaps exist (e.g., highway ramps are not designated). This comment has been forwarded to ODOT for consideration in future updates to the SSLR data.
47	Technical corrections	Senechal Biggs	Jean	City of Beaverton	3/15/21	email	Add a table of the existing routes and the proposed new routes to document the additions.	Appendix E includes a table summarizing new routes added during the RETR update. The table will be updated to reflect additional routes added during the review of the draft report.
48	Mapping- SSLRs			Project team	3/16/21		Verify whether or not there are gaps in the ODOT SSLR source GIS data.	Update published maps to complete gaps in SSLR network. A review of the SSLR source GIS data confirmed that gaps exist (e.g., highway on/off-ramps are not designated in ODOT's dataset). This comment has been forwarded to ODOT for consideration in future updates to the SSLR dataset.
49	Individual routes	Nematzu	Chris	City of Wilsonville		email	Add Elligson Road connection in N. Wilsonville to connect two RETRs (Day Road and Stafford Road) to provide a connection to a N-S route if I-5 was not operable during an emergency.	Update as requested.
50	Bridges	Nematzu	Chris	City of Wilsonville		email	Figure 6.10 - I-5/Boone Bridge seismic vulnerability rating (potentially vulnerable) seems at odds with recent planning work done by ODOT and the City of Wilsonville.	To remain consistent, the ODOT data provided for seismic vulnerability ratings is maintained. The I-5 Facility Study does not contradict the rating in use; however, further study following the 2018 report may have been conducted. The RDPO and Metro will continue to pursue further information on Boone Bridge seismic vulnerability rating specifically and recommend an update to the rating if warranted for Phase 2 analysis.
51	Essential facilities	Patterson	Courtney	Metro Emergency Manager	3/9/21	email	Add transfer stations designated on the Regional Solid Waste facilities map to the state/regional essential facilities data layer.	Update as requested.
52	Technical corrections			Project team	3/18/21		Figure 6.8 - Remove churches from the map and geodatabase because data provided was limited to Columbia Co. and Washington County, and as a result was not included in the analysis.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
53	Evacuation Planning	Savas	Paul	Clackamas County Commissioner	3/17/21 and 3/18/2021	C-4 subcommittee briefing and JPACT	Evacuation planning that takes into account the role of SSLRs and RETRs during events like the 2020 wildfires is needed and should be a priority for the region to address in the near-term. The planning work needs to address lessons learned from the wildfire evacuations, including communications gaps, routing and bottlenecks on the transportation network and other identified issues. Request that that Clackamas County Board of Commissioners be engaged in Phase 2 and future evacuation planning work.	While outside the scope of Phase 2, future work on evacuation planning is already called out as a priority at both the local and regional level, pending funding and staff capacity to complete this work. Future evacuation planning can address highlighted problem areas identified in these comments. Update Section 8 (Recommendation 5) to highlight the importance and need for evacuation planning to provide more context about: - The region is planning for sheltering in place when a major earthquake happens. - Wildfires and flooding may be most relevant to focus on. - Recognize that many people will want to evacuate the area following a catastrophic earthquake. - The importance of managing/prioritizing use of SSLRs and RETRs during an evacuation event or other major emergency and communications and technology needed to support this. - The priority for evacuation should be injured/medically fragile and people from areas with cascading impacts, e.g., large fires, chemical releases, landslides, etc. that threaten lives and destroy homes. In addition, the Clackamas County Board of Commissioners will be engaged in Phase 2 and future evacuation planning efforts. See also responses to Comments#23, #38 and #55.
54	Evacuation Planning	Hyzy	Kathy	Milwaukie City Councilor	3/17/21 and 3/18/2021	C-4 subcommittee briefing and JPACT	Recognizing evacuation planning is currently not within the scope of Phase 2, how might the region secure resources to complete this important work?	Federal and state grants have been available to support this type of planning work, including the Department of Homeland Security's Urban Area Security Initiative (UASI) funding for which the RDPO serves as administrator for in the region. See also responses to Comments #23, #38 and #54.
55	River routes	Hardesty	Joanne	City of Portland Commissioner	3/18/21	JPACT	Comment that we will benefit from emergency management plans to utilize marine assets/waterways	This comment supports report recommendation #8 that calls for further analysis of rivers for emergency response. This is an area of work that may be informed by the RRAP (anticipated later 2021) and could build on examples such as Vancouver, BC plans to use waterways following a major earthquake event. The Ports are likewise very supportive of this recommendation.
56	Transit	Linville	Joann	Wilsonville City Councilor	3/17/21 and 3/18/2021	C-4 subcommittee briefing	More work is needed to better define/connect the role of transit during an emergency.	Update Section 8 (Future Planning) to add references to considering the role of transit in the Phase 2 tiering process as well as future evacuation planning efforts.
57	Future planning work	Windsheimer	Rian	ODOT Region 1 Manager	3/18/21	JPACT	Wildfires demonstrated the importance of state and regional routes (SSLRs and RETRs) and resilience work underway in the region. The Transportation Incident Management (TIM) group should be engaged in the Phase 2 work.	Update Section 8 to add references to engaging the TIM group in the Phase 2 work as well as future evacuation planning work.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
58	Technical corrections			Project team	3/19/21		Expand acknowledgement section to identify the list of participating agencies and staff who participated on the ETR working group to more directly acknowledge their engagement and participation.	Update as requested.
59	Technical corrections			Project team	3/19/21		Update Figure 6.22 (Vulnerable Populations) to show block groups with above the regional average population density that are within census tracts with above the regional average for each vulnerable population. This will better highlight where concentrations of multiple vulnerable populations live in the region.	Update as requested.
60	Technical corrections			Project team	3/19/21		Update Appendix E (GIS Methodology) to: - clarify data collected and used in the analysis vs. data collected and available for reference and Phase 2. - clarify data limitations and further work to address in Phase 2 or by other agencies.	Update as requested.
61	Technical corrections	Stasny	Jamie	Clackamas County	3/19/21	email	Central Point Road appears to be cut off at the edge of Oregon City and should be extended through.	Update as requested to extend Central Point Road RETR to connect to Molalla Avenue via Warner Mile Road. This recommendation has been coordinated with the City of Oregon City.
62	Technical corrections	Stasny	Jamie	Clackamas County	3/19/21	email	Recommend that you work with Clackamas County departments to fill in data gaps identified on page 236 included but not limited to churches and debris management sites.	Updates were made to some of the public works and emergency response facilities in Clackamas county. Remaining data gaps will be addressed during the Phase 2 RETR work.
63	Individual Routes	Stasny	Jamie	Clackamas County	3/19/21	email	Identify more "north south" ETRs to connect Troutdale and rural area outside of Gresham to US 26. Staff is concerned that there are limited ETRs north of US 26.	No change recommended at this time. Nearly all of the routes added through the current update have been identified by individual jurisdictions to reflect recent local planning and/or more detailed reviews of the ETRs that were conducted as part of the ODOT/County Seismic Lifeline reviews. The 2018 Clackamas Co. Seismic Lifeline Bridge Detour review identified several additions that were included in the updated RETRs for this project. It would be appropriate for the C2C effort to recommend additional routes to be considered during the Phase 2 RETR effort or future RETR updates. The Phase 2 RETR work is anticipated to begin in early 2022.
64	Technical corrections			Project team	3/19/21		Update Table 6.2 to remove reference to critical infrastructure and essential facilities data that was not used in the Phase 1 analysis.	Update as requested.
65	Technical corrections			Project team	3/22/21		Update Appendix E (GIS Methodology) to clarify how public works essential facilities have different levels of information across the region, as well as relevance at the city/county/regional levels.	Update as requested.

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 21-5160 FOR THE PURPOSE OF ACCEPTING FINDINGS AND RECOMMENDATIONS IN THE REGIONAL EMERGENCY TRANSPORTATION ROUTES UPDATE PHASE ONE REPORT

Date: March 26, 2021

Department: Planning and Development

Meeting Date: April 29, 2021

Prepared by:

Kim Ellis, x1617,

kim.ellis@oregonmetro.gov

ISSUE STATEMENT

The five-county Portland-Vancouver metropolitan region's infrastructure systems need to be resilient and prepared for multiple natural hazards, including earthquakes, wildfires, landslides, floods, volcanoes, extreme weather events, and the increasing impacts of climate change. Emergency management planning will help mitigate the risks these hazards pose to the public health and safety of communities and the region's economic prosperity and quality of life.

A critical element of emergency preparedness for the region's hazards includes designation of regional emergency transportation routes (RETRs). RETRs are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-clearance. These routes would support life-saving and life-sustaining response activities, such as moving first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies. While outside the scope of this project, these routes are also expected to have a key role in both short- and long-term post-disaster recovery efforts.



Regional ETRs are travel routes that, in the case of a major regional emergency or natural disaster, would be prioritized for rapid damage assessment and debris-clearance. These routes would be used to move resources and materials, such as first responders (e.g., police, fire and emergency medical services), patients, debris, fuel and essential supplies. These routes are also expected to have a key role in post-disaster recovery efforts.

rdpo.net/emergency-transportation-routes

A partnership between the Regional Disaster Preparedness Organization (RDPO) and Metro, this project was identified in the 2018 Regional Transportation Plan (RTP) implementation chapter (Chapter 8) as a necessary step to better integrate transportation planning with planning for resiliency, recovery and emergency response. Funding for the project is provided by the Urban Areas Security Initiative (UASI) grant from the Federal Emergency Management Agency (FEMA) that is managed by the RDPO. The UASI grant program makes funding available to enhance regional preparedness in major metropolitan

areas throughout the United States and directly supports expanding regional collaboration to assist in the creation of regional systems for prevention, protection, response and recovery.

Why now?

First designated in 1996 by the Regional Emergency Management Group (REMG) facilitated by Metro, the region established its first official network of regional ETRs. The last update occurred in 2006, under the direction of the Regional Emergency Management Technical Committee (REMTEC) of REMG – the predecessor to the RDPO.

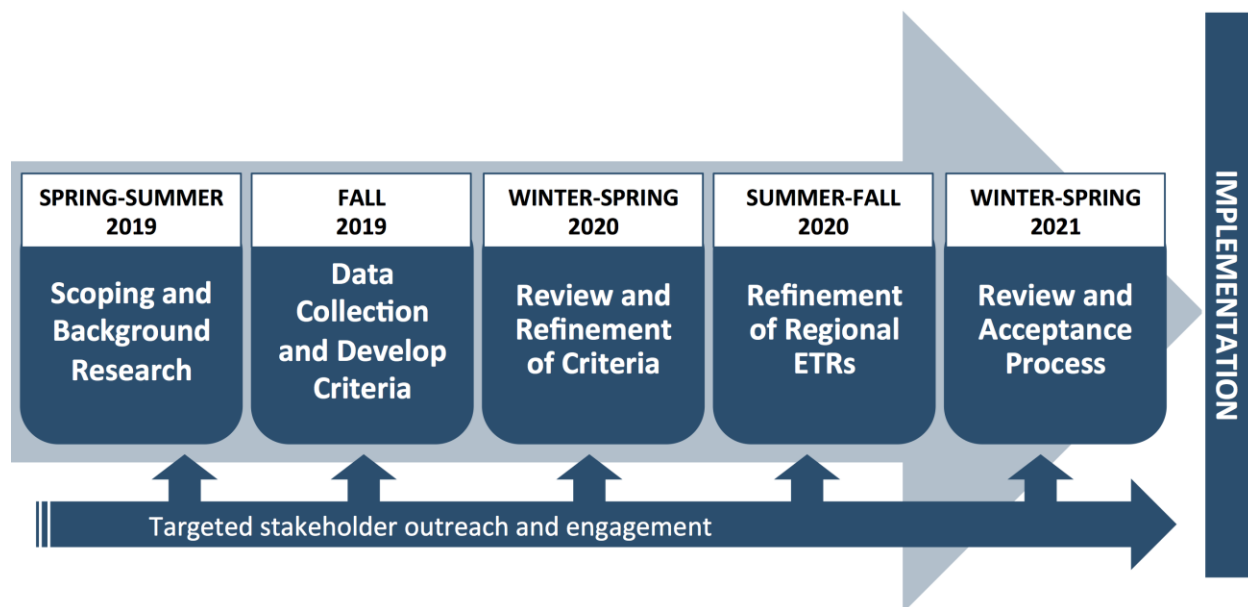
Over the past 15 years, the region has experienced significant growth and demographic changes and new technology, data and mapping have greatly expanded our understanding of the region's natural hazard risks, particularly to a catastrophic Cascadia Subduction Zone (CSZ) earthquake. During that same period investments were made to improve seismic resilience of some roads and bridges in the region and additional planning was completed by the City of Portland, the five counties and the Oregon Department of Transportation (ODOT) to evaluate seismic risks along state-designated seismic lifeline routes (SSLRs) located in Oregon.

Project timeline

The geographic scope of the planning effort included Clark County in the State of Washington and Columbia, Clackamas, Multnomah and Washington counties in the State of Oregon. The RDPO established a multi-disciplinary work group of more than thirty representatives from seventeen agencies to provide expertise in emergency management, transportation planning, public works, engineering, operations, ports and public transit.

The overall project timeline is provided in **Figure 1**.

Figure 1. Phase 1 timeline for updating regional emergency transportation routes



Overview of Phase 1 RETR Update

The RDPO and Metro initiated the first phase of a multi-phase update of the RETRs in Spring 2019. A literature review and other research conducted by the Transportation Research and Education Center (TREC) at PSU in August 2019 served as a foundation. The PSU research summarized recent work and identified best practices and considerations for updating the RETRs. A consultant team, hired in fall 2019, provided technical support and facilitated the RETR update with the multi-disciplinary work group, under the direction of project managers from both RDPO and Metro, and oversight from executives at both agencies to:

- assemble readily available local, regional and state datasets to support the evaluation process;
- develop the RETR evaluation framework and process to review and update the routes; and
- update the RETRs and prepare recommendations for future planning work in coordination and consultation with staff representing emergency management, transportation, operations, port, transit and public works disciplines across the 5-county region.

Phase 1 project outcomes and deliverables

This project represents the first phase of a multi-phase update to the regional ETRs. This phase resulted in:

- Multi-disciplinary collaboration of emergency management with transportation planning, engineering and operations, ports, transit and public works stakeholders.
- Enhanced visibility of RETRs and improved understanding of their resilience that informed a regional dialogue regarding resilience and recovery among policymakers, senior leadership and planners.
- A regionally-accepted network that provides adequate connectivity to critical infrastructure and essential facilities, as well as the region's population centers and vulnerable communities.
- A comprehensive regional GIS database and online RETR viewer established for current and future planning and operations. The data and on-line viewer provide valuable resources to support the Phase 2 RETR Update and other transportation resilience, recovery and related initiatives in the region.
- A regionally-accepted set of recommendations for follow-on work to support ongoing local, regional and state efforts to improve the region's resilience.

Phase 2 is anticipated to begin in early 2022, pending final award of the UASI 2021 application funding and signature with the Department of Homeland Security.

ACTION REQUESTED

Approve Resolution No. 21-5160 accepting the findings and recommendations in the Regional Emergency Transportation Routes Update Phase One Report.

IDENTIFIED POLICY OUTCOMES

Metro continues to play an important role in assisting local emergency management agencies with disaster planning related to regional functions, such as data and mapping, disaster debris management and emergency transportation route designation to improve disaster response coordination and help reduce loss of life, injury and property damage during disasters.

Guided by regional natural hazard policies in [Chapter 5 of the Regional Framework Plan](#) and Goal 5 in [Chapter 2 of the 2018 RTP](#) (Safety and Security), this work supports implementation of the region's [Climate Smart Strategy](#), 2018 RTP and [Metro's Disaster Debris Management Plan](#). This work also advances the 2018 RTP's transportation equity goals and policies, and Metro's agency-wide racial equity goals and [Strategic Plan to Advance Racial Equity Diversity and Inclusion](#).

Pending Council approval of Resolution No. 21-5160, this work will inform planning, policy and investment priorities in the 2023 RTP update and ongoing efforts to improve the region's resilience and to develop funding strategies to make these routes more resilient.

RECOMMENDED ACTION

Staff recommends the Metro Council approval of Resolution No. 21-5160.

ANALYSIS/INFORMATION

Explicit list of stakeholder groups and individuals who have been involved

Engagement of policymakers, planners and other stakeholders is extensive for this RETR update to better integrate transportation planning with planning for resiliency, recovery and emergency response as well as the investments that will be needed to make the region's transportation system more resilient. These routes can be prioritized for resilience upgrades as projects are planned within the region by local, regional and state agencies and transportation providers.

RDPO and Metro staff worked closely with a team of local consultants and the RDPO ETR work group, a multi-disciplinary team of more than 30 local, regional, and state emergency management, transportation planning, engineering, operations and public works staff from 17 agencies within the five counties, to prepare the final report. The work group included staff from transportation, emergency management, and public works departments of each of the five counties and the City of Portland, the Oregon Department of Transportation (ODOT), the Washington Department of Transportation (WSDOT), the Oregon Department of Geologic and Mineral Industries (DOGAMI), transit providers and port districts. Appendix A in the final report lists members of the work group and the agencies they represent.

RDPO and Metro staff coordinated and consulted with each of the five counties and their cities, DOTs, and port and transit districts throughout the process to address specific needs of each agency or jurisdiction and facilitate collaboration and coordination among the agencies and jurisdictions. This included jurisdictional specific meetings, briefings to policy and technical committees affiliated with RDPO, Metro and the SW RTC, and county coordinating committees. Section 2 and Appendix B of the final report summarize project engagement activities.

STAFF REPORT TO RESOLUTION NO. 21-5160

On Feb. 4, 2021, the draft Regional Emergency Transportation Routes (RETRs) and a draft report were published in the online RETR viewer and on the project website for review and feedback. Between Feb. 4 and March 25, 2021, Metro and RDPO facilitated a review process to gather comments on the updated routes, draft report and recommendations for future work. The review process focused on various policy bodies and policy and technical advisory committees in the region that oversee transportation and emergency management planning and decision-making in the region. A schedule of the review process is provided in Table 1.

Table 1. 2021 Final review process

Who	Date
ETR Work Group Review	Jan. 20
RDPO Emergency Managers Work Group - REMTEC	Feb. 5
RDPO Steering Committee	Feb. 8
Transportation Policy Alternatives Committee (TPAC)/Metro Technical Advisory Committee (MTAC) workshop	Feb. 17
Joint Policy Advisory Committee on Transportation	Feb. 18
Regional Technical Advisory Committee (RTAC)	Feb. 19
RDPO Policy Committee	Feb. 19
Metro Council	Feb. 23
Metro Policy Advisory Committee (MPAC)	Feb. 24
Clackamas County TAC	Feb. 24
Southwest Washington Regional Transportation Council	March 2
East Multnomah County Transportation Committee TAC	March 3
Washington County Coordinating Committee TAC	March 4
RDPO Emergency Managers Work Group - REMTEC	March 5
Washington County Coordinating Committee (policy)	March 15
East Multnomah County Transportation Committee (policy)	March 15
Clackamas County C-4 subcommittee (policy)	March 18
Joint Policy Advisory Committee on Transportation	March 19
RDPO Policy Committee	March 20
RDPO Public Works Work Group	March 24

Attachment 1 summarizes recommended changes to the draft RETRs and the draft report to respond to all substantive comments received during the review process. These changes are reflected in the final report. Recommended changes include technical corrections to maps and data, additional RETR updates, and expanding descriptions of the recommendations for future work. Other feedback included:

- Broad appreciation for this work and recognition of its importance to planning and investment in the region;
- Acknowledgement that significant gaps in data and planning remain to be addressed (during Phase 2 and other efforts);
- Request for more jurisdictional and policymaker engagement in Phase 2 RETR effort; and
- Look for opportunities to connect and advance future work to address likely Critical Energy Infrastructure Hub failure, needs of vulnerable populations, evacuation planning needs as well as roles of river routes and transit during a regional emergency.

Known Opposition – No known opposition.

Legal Antecedents

- **Ordinance No. 18-1421** (For the Purpose of Amending the 2014 Regional Transportation Plan to Comply with Federal and State Law and Amending the Regional Framework Plan), adopted on December 6, 2018.
- **Resolution No. 20-5086** (For the Purpose of Adopting the Fiscal Year 2020-21 Unified Planning Work Program and Certifying that the Portland Metropolitan Area is in Compliance With Federal Transportation Planning Requirements), adopted on May 21, 2020.

Anticipated Effects

The regional emergency transportation routes play an important role in the region's resilience and ability to respond to multiple hazards, particularly to a catastrophic CSZ earthquake. The data set and on-line RETR viewer produced in this effort will be distributed to emergency managers and transportation planners throughout the region for use in future planning and during disaster response and the early recovery period. Coordinated planning can inform emergency transportation response planning and set the stage for agencies to seek funding for improvements to increase route resiliency to accelerate response and recovery times within the region.

In addition, Section 8 of the report outlines a set of necessary follow-on work raised during the course of this planning effort, but which the current project could not meaningfully address. It is important to note that all future project work is contingent upon funding. The recommendations include a Phase 2 project led by RDPO and Metro (pending funding from the 2021 UASI grant program). The RETR Phase 2 concept proposal was successfully submitted to UASI for funding through a competitive process on Feb. 8, 2021, and is pending final award of funding and signature with the Department of Homeland Security.

Many of the proposed projects, including RETR Phase 2, require further partnership between emergency managers, planning organizations, and owner/operators of transportation facilities and services. The RDPO should continue to leverage the UASI federal grant to the region to continue immediate planning needs. It is also important that transportation stakeholders and entities with maintenance and capital investment responsibilities for facilities similarly prioritize funding to accelerate our region's resilience.

Budget Impacts

The UASI program provided funding for the consultant team and a portion of Metro planning/project management support. Metro data and mapping support is being funded through Metro's federal planning grants. All of Metro's support for this project was accounted for in the 2020-21 budget approved by the Metro Council on June 18, 2020 and the 2020-2021 Unified Planning Work Program (UPWP) approved by the Metro Council on May 21, 2020. Metro's continued planning, data and mapping support for Phase 2 is contingent on staff capacity and UASI funding.

ATTACHMENT

Attachment 1 – 2021 Regional Emergency Transportation Route (RETR) Update: Summary of Comments Received and Recommended Actions (comments received Feb. 4 to March 24, 2021).

2021 Regional Emergency Transportation Route (RETR) Update
Summary of Comments Received and Recommended Actions
 (comments received Feb. 4 to March 24, 2021)

Attachment 1
 3/26/2021

The Updated Regional Emergency Transportation Routes (RETRs) were published in a draft report on Feb. 4, 2021 which included maps, appendices, and an online viewer. The Regional Disaster Preparedness Organization (RDPO) and Metro facilitated a stakeholder review process to gather comments from various policy bodies and policy and technical advisory committees in the region that oversee transportation and emergency management planning and decision-making. Feedback was provided at meetings and via emails between February 4 and March 24, 2021. This document summarizes recommended changes to respond to all substantive comments received during the review period. All recommended changes will be reflected in the final report and maps brought forward for acceptance by the Joint Policy Advisory Committee on Transportation, the Metro Council, the Southwest Washington Regional Transportation Council and the RDPO Policy Committee. *ALL COMMENTS ARE PARAPHRASED FROM DISCUSSIONS AND MEETING MINUTES*

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
1	Washington and Columbia County Routes				2/19/21	RDPO Policy Committee	Washington County and Columbia County are closer to the epicenter of a CSZ earthquake. Note the update has lower redundancy of routes in that western part of the region- how will we connect if those areas get cut off?	Columbia County low route redundancy is well noted in the report and is largely due to geological constraints. Washington County has limited SSLR redundancy with their coastal neighbors (only Highway 26). A shelter-in-place approach is the current plan statewide. However, the coastal communities do have plans to receive support from federal and state marine assets to be deployed immediately post-event.
2	Route Redundancy	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The low redundancy of routes in some areas should inform preparations for an incident and the prioritization of routes - justification of prioritizing regionally to help prioritize funding to take into account vulnerabilities and to improve their resilience.	As noted, this is a key justification for prioritizing routes regionally as recommended in the Phase 2 work.
3	Critical Energy Infrastructure (CEI) Hub	Sharon	Meiren	Commissioner, Multnomah County	2/19/21	RDPO Policy Committee	There have been multiple Critical Energy Infrastructure (CEI) Hub studies ongoing in the county/city. How was the CEI Hub included in the RETR update? It is important to identify what routes will be cut off if the CEI Hub falls into the river as anticipated in a catastrophic earthquake.	Update Section 7 of the RETR Report to: - incorporate a discussion of previous and current Critical Energy Infrastructure Hub studies - recommend future planning work to identify RETRs that are likely to be cut off if the CEI Hub - add references to Regional Emergency Fuel Management Planning (concurrent) and upcoming regional exercise and other relevant planning efforts to show how this effort relates to other efforts that are under way or planned. Recommendation to incorporate findings in the Phase 2 prioritization and operationalization process with local partners.
4	Critical Energy Infrastructure (CEI) Hub	Joanne	Hardesty	Commissioner, City of Portland	2/19/21	RDPO Policy Committee	We cannot implement this plan until the CEI Hub is addressed.	The RETR Update is not a plan; it provides information and route designations that can be used to inform development of policies and more detailed planning at the state, regional and local levels. Other RDPO and State efforts are under way to address the CEI Hub. The recommended Phase 2 work (if funded by the Urban Areas Security Initiative) is anticipated to tier or prioritize routes for operational purposes, and can take this into consideration. See also response to Comment #3.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
5	Clackamas County Critical Facilities	Smith	Tootie	Clackamas County Chairperson	2/19/21	RDPO Policy Committee	It appears Clackamas Co. public works facilities, as well as the 911 call center and Clackamas County EOC in Oregon City are missing from the regional map.	Update as requested. The 911 center was inadvertently not included and the EOC and some public work facilities were mis-categorized in the GIS dataset. The public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
6	Clackamas County Critical Facilities	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The report needs to ensure all of the County public works facilities are represented across the region.	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
7	General	Pippenger	Dan	Port of Portland	2/19/21	RDPO Policy Committee	Expressed appreciation for the effort that went into this Phase 1 update, the report and data produced are a great resource for the region. It would be a big achievement for the region to prioritize/tier the routes in Phase 2.	Comment noted.
8	Public Works Facilities	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	The report needs to ensure all of the County public works facilities are consistently represented across the region.	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in consultation with the RDPO Public Works Work Group.
9	General	Peterson	Lynn	Metro Council President	2/19/21	RDPO Policy Committee	Important to balance pre-incident planning with real-world incident response. There are things we can mitigate now and plan toward, and then we also need to be clear on protocols in an incident. We need both.	No change needed. Aligns to the report recommendation to use the RETR Update to inform the next Metro Regional Transportation Plan (RTP), Southwest Washington Regional Transportation Council RTP and for the next phase of RETR project to work with local, state and regional jurisdictions on guidelines for RETRs in real incidents.
10	All Routes	Joanne	Hardesty	Commissioner, City of Portland	2/18/2021	Metro JPACT Meeting	It is unclear why so many routes were added and none removed.	Update Section 6.1 to clarify why routes were added and none removed. The report details the process, methodology, and detailed consultation with State and local partners to identify the need for additional routes to improve access to and redundancy in areas with critical infrastructure, essential facilities and vulnerable populations. Routes likely won't be deleted but could be tiered/categorized as lower level routes during Phase 2.
11	Portland Critical Facilities	Joanne	Hardesty	Commissioner, City of Portland	2/18/2021	Metro JPACT Meeting	Were the marine facilities for Fire & Rescue included in the critical infrastructure that was mapped?	The Portland Fire and Rescue facilities at Stations 6,17, 21 are all included in the existing fire and rescue data layer for essential facilities. These three PFR stations have adjacent docks. A further evaluation of marine fire and rescue assets (beyond the City of Portland) will require additional work in Phase 2 to confirm all stations with marine assets are properly/consistently mapped.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
12	Maps, cartography	Patterson	Courtney	Metro Emergency Management	2/8/21	RDPO Steering Committee	Using the color blue for Statewide Seismic Lifeline Routes is confusing on the maps because blue is usually used for rivers.	The SSLRs will be shown as dark navy blue.
13	Resolution for Metro Council and RDPO Policy Committee	Howard	Alex	Port of Portland	2/8/21	RDPO Steering Committee	Recommend to include language on the Phase 2 project concept within the resolutions we put forward to Metro Council and RDPO Policy Committee since we have that work scoped and in funding pipeline.	The Phase 2 project is presented to both RDPO Policy and Metro Council. Because the UASI 2021 application is still pending signature with DHS, we will not put language into the resolutions at this time.
14	Engagement				2/19/21	RTAC meeting	How have PacifiCorp and other utility providers been engaged in this update? PacifiCorp controls the Lewis River dams, which have lava tubes. While outside geographic scope of this project, a dam failure could impact nearby Clark County.	PGE, Pacific Power and NW Natural Gas all provided details on their regional Emergency Operations Centers (primary and secondary) which are included in the regional critical facilities map layers. Analysis of dams is beyond the scope of this project.
15	Route Redundancy				2/19/21	RTAC meeting	The lack of redundant routes in northern Clark County and other more rural parts of the region underscores need to consider that people are likely to be isolated/homebound during a major emergency.	This comment has been forwarded to Clark County agencies for consideration in future planning efforts. The report includes information that Clark County relies on State routes, and that data on the seismic resilience of their bridges is not available at this time. Additional work to develop data on route resilience in Clark County could be beneficial in Phase 2 and other future planning efforts.
16	Individual Routes	Owen	Jeff	TriMet	2/17/21	email	The Merlo Bus Garage does not appear to be directly accessed by the updated RETRs.	Add new RETR connection to Merlo bus garage and other critical assets in the vicinity via Jenkins Road and Merlo Road. TriMet bus barns/maintenance yards are identified as state/regional essential facilities and included in the analysis that informed RETR updates. This recommendation has been coordinated with Washington County transportation and emergency management staff.
17	Landslide Data	Herman	Matt	Clark County	2/17/21	email	<p>Add landslide/slope data for Clark County/Washington State that is available from Washington State's Open Data Portal:</p> <p>(1) https://www.dnr.wa.gov/Publications/fp_gis_slopestability.zip</p> <p>(2) https://geo.wa.gov/</p> <p>(3) https://hub-clarkcountywa.opendata.arcgis.com/</p> <p>The additional data contains:</p> <p>(1) Partial coverage of landslide susceptibility (both and shallow and deep susceptibility) for the Columbia River corridor about four miles inland from the river and east of SE 164th Ave to the county boundary. This coverage intersects all of the Washougal River Rd / Evergreen Way RETR, and parts of SR-500, SR-14, and 192nd Ave RETRs.</p> <p>(2) Partial coverage of landslide mapping from historic geologic maps for the most northeast corner of the county. There is no intersection with RETRs.</p> <p>(3) Countywide slope stability coverage. From the metadata, this is intended for forest land management and is based on regional digital elevation models (i.e. not LiDAR precision).</p>	Add new map figure to the final report to show this data separately from the landslide susceptibility map along with a discussion that the data was not used in the route evaluation because the data was not available for all of Clark County. The ETR analysis included one data layer for landslides hazards for Clark County, which is a draft landslide deposit inventory from Washington Dept. Natural Resources.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
18	Bridges	Owen	Jeff	TriMet	2/17/21	TPAC/MTAC Workshop	Has the seismic vulnerability of the Tillikum Crossing Bridge been accounted for in the data and analysis?	Label the Tillikum Crossing bridge as not evaluated in Figure 6.10. This project did not conduct specific evaluation of the vulnerability of any of the bridges. Figure 6.10 mapped vulnerability data provided by ODOT for multi-span bridges in Oregon; ODOT has not evaluated single-span bridges. WSDOT did not have comparable data available for Washington State, so bridges in Washington State are also shown as "not evaluated" in Figure 6.10 and were not included the GIS analysis.
19	Individual Routes				2/17/21	TPAC/MTAC Workshop	Note the recent jurisdictional transfer of Cornelius Pass to the State (will it become an SSLR)?	Update the ownership field in the GIS data to reflect this change. In addition, this comment has been forwarded to ODOT for consideration as part of their planned update to the Oregon Highway Plan (OHP). SSLRs are designated by the Oregon Transportation Commission in the OHP.
20	Individual Routes	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	email	Designate the full length of Tualatin-Sherwood Road east to I-5 to provide a continuous RETR connection between I-5 and 99W.	Designate this segment of Tualatin-Sherwood Road as requested. This will provide a direct connection between I-5 and 99W and access to the seismically resilient PGE Integrated Operations Center, which will serve as a key hub for PGE operations during a regional emergency.
21	Critical infrastructure	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	Zoom meeting	Add the PGE Integrated Operations Center to the state/regional critical infrastructure data layer. The seismically resilient facility includes an emergency helipad and will serve as a key hub for PGE operations during an emergency.	PGE is constructing their new Integrated Operations Center in Tualatin, to be completed by December 2021. Currently, PGE's regional (and backup) Emergency Operations Centers are listed in the regional EOC data layers. In Phase 2, the PGE EOC primary location will shift to the new Tualatin Integrated Operations Center.
22	Individual Routes	McCarthy	Mike	City of Tualatin	3/2/21	Zoom meeting	Designate Nyberg Road/65th Avenue east of I-5 as a RETR to provide direct access to Meridian Park Hospital.	Designate Nyberg Road/65th Avenue as requested to provide a direct connection to Meridian Park Hospital. Hospitals are critical state/regional assets.
23	Evacuation Planning	Schlegel McCarthy	Ken Mike	Washington County and City of Tualatin staff	3/2/21	Zoom meeting	Evacuation planning falls under the authority of County Sheriff's offices. For future planning coordination.	Expand the description of recommendation #5 in the report to recommend the inclusion of County Sheriffs as key stakeholders to engage in future evacuation planning efforts. See also responses to Comments #38, #54 and #55.
24	Railroads	Odermott	Don	City of Hillsboro	2/17/21	TPAC/MTAC Workshop	What role will railroads play during emergency response and recovery?	While this RETR update did not specifically address the role of railroads or river routes, providing adequate access to rail yards, airports and marine terminals were factors in the update to the RETRs given their critical infrastructure role. This resulted in the addition of new RETR designations. Future planning work is recommended to address the role and resiliency of these critical transportation infrastructure elements. For example, rail lines are typically much older than the road network and are anticipated to be significantly impacted by landslides and liquefaction.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
25	Bridges	Odermott	Don	City of Hillsboro	2/17/21	TPAC/MTAC Workshop	Are there specific bridges that should be priorities to harden seismically to leverage limited funding?	This update included a high-level analysis of seismically vulnerability of routes and their bridges; more detailed analysis is recommended for future planning work following completion of Phase 2 of the ETR update. ODOT has prioritized investment in the Statewide Seismic Lifeline Routes (SSLRs) based on detailed engineering analysis conducted in 2012 and 2014. Priority investments are being programmed through the Statewide Transportation Improvement Program (STIP) process.
26	Individual Routes	Deffebach	Chris	Washington County	2/17/21	TPAC/MTAC Workshop	Ownership of Cornelius Pass Road was recently transferred to the Oregon Department of Transportation (ODOT). Will this work inform whether the route should be added to ODOT's statewide seismic lifeline routes?	This comment has been forwarded to ODOT for consideration as part of their planned update to the Oregon Highway Plan (OHP). SSLRs are designated by the Oregon Transportation Commission in the OHP.
27	Policy and Investment	Cooper	Colin	City of Hillsboro	2/22/21	email	How does the RETR report fit into the Regional Transportation Policy and Funding policy scheme? For example, does the I-5 bridge receive a higher priority for federal funding on the State and Metro Federally constrained project list because it is a Tier 1 route?	The RETR Update Report is not a plan and does not establish policy or investment priorities. The Report provides information and a consistent regional planning framework and route designations that can be used to inform the development of policies, more detailed planning and investment decisions at the state, regional and local levels. The recommended Phase 2 work (if funded by the Urban Areas Security Initiative) is anticipated to tier or prioritize routes for operational purposes. The Phase 2 work will also help further inform policy development, planning and investment priorities at all government levels. For example, the next update to the Regional Transportation Plan (RTP) will use the information from Phase 1 (and Phase 2, if available) as a foundation for updating the plan's existing transportation resilience policies and to inform development of the RTP investment strategy. Another example is Multnomah County – they have been using the current routes to prioritize investments in the County CIP and to look for opportunities to seismically upgrade bridges/routes as part of planned projects.
28	Individual Routes			Project team	3/5/21		Add NE 223rd Avenue between Sandy Boulevard to Marine Drive to the RETR designations. This route was identified by Multnomah County staff to be added in Fall 2020 and was inadvertently not included.	Update as requested.
29	Essential facilities			Project team	3/5/21		Review State-owned maintenance yard on OR 47. This facility was identified by Columbia County staff to be added in Fall 2020.	Update this site from city/county to state/regional category; it serves as an important staging area in an area with limited routes.
30	Critical infrastructure			Project team	3/5/21		Add Canby Ferry as critical infrastructure (county/city category). This infrastructure was identified by Clackamas County staff to be added in Fall 2020 and was inadvertently not included.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
31	Critical infrastructure			Project team	3/5/21		Confirm Columbia County rider hub transit centers are reflected (county/city category)	The transit hubs were identified by Columbia County staff to be added in Fall 2020. There are currently transit centers in Rainier and St. Helens, which are city/county critical infrastructure. Clatskanie and Vernonia transit centers only have bus stops, which are not captured as critical infrastructure in this project. This dataset will be further reviewed in Phase 2 in coordination with transit providers.
32	Essential facilities			Project team	3/5/21		Review and refine public works sites as needed to show state/regional and county/city sites consistently across 5-county region	Update as requested. In addition, the public works dataset will be further reviewed and updated as part of Phase 2, in coordination with the RDPO Public Works Work Group.
33	Essential facilities			Project team	3/5/21		Review Tualatin Valley Fire and Rescue Command Center (11945 SW 70th Avenue., Tigard, OR) to confirm whether state/regional or county/city essential facility	In this Phase 1 analysis, all fire and rescue assets (stations and command centers) were mapped and included in the local essential facilities. A deeper analysis of assets to be considered "regional" needs to be addressed going into Phase 2 (including marine assets, regional command centers, or in some instances even specialized teams or equipment deployable region-wide)
34	Phase 2 and Future Lynn planning work	Peterson		Metro Council President	2/23/21	Metro Council Work Session	4 things that are key to highlight and address in future planning work: (1) Management of capacity during an emergency - Coordination and consistency as to how to manage/prioritize users of RETRs is needed and should be documented as part of updating the operational guidelines and protocols in Phase 2. (2) Connectivity to emergency response resources - State and County public works staging areas are key for getting supplies and resources where they are needed during a state or regional emergency. Ensure they are consistently reflected throughout 5-county area. (3) Redundancy of emergency response routes - Redundancy is important given vulnerabilities throughout the system of RETRs. Public works staff have an understanding of where potentially vulnerable and isolated populations live as well as limitations of RETRs (e.g., weight or height restricted bridges, areas of frequent flooding/landslides/road closures). It is important to continue engaging public works staff during Phase 2 tiering process. (4) Communications during emergency response - Technology can play an important role in supporting jurisdictional coordination during emergency response and sharing real-time information about routes to use/avoid during an emergency. Other communications pathways also need to be planned in advance to address the diverse needs of vulnerable populations during an emergency, including households without access to a vehicle, people with limited English proficiency, older adults and people living with disabilities.	Phase 2 will address these four themes in the work program, and periodically update the Metro Council on the project status. See also responses to Comments #32 and #33.
35	Evaluation criteria	Councilor Nolan		Metro Council	2/23/21	Metro Council Work Session	Were capacities of the routes themselves evaluated?	Route characteristics were not included in the Phase 1 evaluation due to inconsistent data across the five counties. Route characteristics like road capacity, bridge weight/height restrictions, ability to carry over-dimensional vehicles, and other factors will be considered as part of the Phase 2 data collection and subsequent tiering analysis.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
36	Clark County Routes	Councilor Rosenthal		Metro Councilor	2/23/21	Metro Council Work Session	Do we need to better address bypasses and work around routes in Clark County? They are mostly state routes at this point.	This comment has been forwarded to Clark County agencies for consideration in future planning efforts. The report includes information that Clark County relies on State routes, and that data on the seismic resilience of their bridges is not available at this time. Additional work to develop data on route resilience in Clark County could be beneficial in Phase 2 and other future planning efforts.
37	Community Engagement	Councilor Gonzales		Metro Councilor	2/23/21	Metro Council Work Session	Remember that these routes exist to serve people. Its important we build community resilience with local planning work. Important we reflect geography and language diversity.	Expand discussion in the recommendations for future work related to community engagement and building increased understanding of how routes serve community needs.
38	Evacuation Planning	Lyles Smith	Rachel	Mayor, City of Oregon City	2/24/21	MPAC	This is good, important work. Look for opportunities for future evacuation planning and Phase 2 RETR work on operational guidelines and protocols to be informed by lessons learned from the 2020 wildfires in terms of evacuation route planning, information gaps/needs and coordination/communication of changes to traffic operations among transportation facility owners/operators. For example, there were significant bottlenecks in the OR 213/I-205 area in Oregon City as significant numbers of people evacuated wildfire areas at the same time. How might evacuation route designations be impacted by vulnerable bridges and routes? Are there opportunities to adjust traffic operations to efficiently move large numbers of people/vehicles, e.g., making a whole Interstate operate in one direction like has been done in other metropolitan areas to facilitate evacuation?	While outside the scope of Phase 2, future work on evacuation planning is already called out as a priority at both the local and regional level. Future evacuation planning can address highlighted problem areas identified in these comments. See also responses to Comments #23, #54 and #55.
39	Seismic resilience engineering	Iyall	Bill	Cowlitz Tribe	3/2/21	SW RTC	Recommend to look at SMI tool for seismic measurement. Network in Puget Sound. Do we have here in the Portland region?	ODOT, Multnomah County, and possibly others are working on incorporating ShakeAlert systems for bridge operation and emergency response into their operations. Currently, there is not a consistent system for alerting or measuring shaking in an overall system in Oregon.
40	Stakeholder engagement	Stober	Ty	City of Vancouver	3/2/21	SW RTC	What are we doing to address the routes that connect into other counties? (i.e.. Skamania and Cowlitz). How is this being communicated with them?	Recommend to inviting partners to dissemination workshop and to engage in the Phase 2 work.
41	Phase 2	Medrigy	Gary	Councilor, Clark Co	3/2/21	SW RTC	Would be good to look at weight restrictions for bridges when we do the tiering/prioritization process in Phase 2.	Expand Phase 2 RETR description to identify weight restrictions for bridges be included in the analysis to inform the tiering process.
42	Technical corrections			Project team	3/9/21		Figure 6.11 - Correct figure label to read "RETRs relative to Landslide Susceptibility"	Update as requested.
43	Technical corrections			Project team	3/9/21		Figure 3.1 - Correct typo in legend - "Transportation Route"	Update as requested.
44	Executive summary			Project team	3/9/21		ES-5 - create infographics and add final 5-county map	Update as requested.
45	Technical corrections			Project team	3/9/21		Page 5 - remove gray sidebar about RDPO and project; this is included in executive summary.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
46	Mapping - SSLRs			Project team	3/12/21		Ensure that RETRs have a GIS tie-in to SSLRs for network analysis.	Update published maps to complete gaps in SSLR network. A review of the SSLR source GIS data confirmed that gaps exist (e.g., highway ramps are not designated). This comment has been forwarded to ODOT for consideration in future updates to the SSLR data.
47	Technical corrections	Senechal Biggs	Jean	City of Beaverton	3/15/21	email	Add a table of the existing routes and the proposed new routes to document the additions.	Appendix E includes a table summarizing new routes added during the RETR update. The table will be updated to reflect additional routes added during the review of the draft report.
48	Mapping- SSLRs			Project team	3/16/21		Verify whether or not there are gaps in the ODOT SSLR source GIS data.	Update published maps to complete gaps in SSLR network. A review of the SSLR source GIS data confirmed that gaps exist (e.g., highway on/off-ramps are not designated in ODOT's dataset). This comment has been forwarded to ODOT for consideration in future updates to the SSLR dataset.
49	Individual routes	Nematzu	Chris	City of Wilsonville		email	Add Elligson Road connection in N. Wilsonville to connect two RETRs (Day Road and Stafford Road) to provide a connection to a N-S route if I-5 was not operable during an emergency.	Update as requested.
50	Bridges	Nematzu	Chris	City of Wilsonville		email	Figure 6.10 - I-5/Boone Bridge seismic vulnerability rating (potentially vulnerable) seems at odds with recent planning work done by ODOT and the City of Wilsonville.	To remain consistent, the ODOT data provided for seismic vulnerability ratings is maintained. The I-5 Facility Study does not contradict the rating in use; however, further study following the 2018 report may have been conducted. The RDPO and Metro will continue to pursue further information on Boone Bridge seismic vulnerability rating specifically and recommend an update to the rating if warranted for Phase 2 analysis.
51	Essential facilities	Patterson	Courtney	Metro Emergency Manager	3/9/21	email	Add transfer stations designated on the Regional Solid Waste facilities map to the state/regional essential facilities data layer.	Update as requested.
52	Technical corrections			Project team	3/18/21		Figure 6.8 - Remove churches from the map and geodatabase because data provided was limited to Columbia Co. and Washington County, and as a result was not included in the analysis.	Update as requested.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
53	Evacuation Planning	Savas	Paul	Clackamas County Commissioner	3/17/21 and 3/18/2021	C-4 subcommittee briefing and JPACT	Evacuation planning that takes into account the role of SSLRs and RETRs during events like the 2020 wildfires is needed and should be a priority for the region to address in the near-term. The planning work needs to address lessons learned from the wildfire evacuations, including communications gaps, routing and bottlenecks on the transportation network and other identified issues. Request that that Clackamas County Board of Commissioners be engaged in Phase 2 and future evacuation planning work.	While outside the scope of Phase 2, future work on evacuation planning is already called out as a priority at both the local and regional level, pending funding and staff capacity to complete this work. Future evacuation planning can address highlighted problem areas identified in these comments. Update Section 8 (Recommendation 5) to highlight the importance and need for evacuation planning to provide more context about: - The region is planning for sheltering in place when a major earthquake happens. - Wildfires and flooding may be most relevant to focus on. - Recognize that many people will want to evacuate the area following a catastrophic earthquake. - The importance of managing/prioritizing use of SSLRs and RETRs during an evacuation event or other major emergency and communications and technology needed to support this. - The priority for evacuation should be injured/medically fragile and people from areas with cascading impacts, e.g., large fires, chemical releases, landslides, etc. that threaten lives and destroy homes. In addition, the Clackamas County Board of Commissioners will be engaged in Phase 2 and future evacuation planning efforts. See also responses to Comments#23, #38 and #55.
54	Evacuation Planning	Hyzy	Kathy	Milwaukie City Councilor	3/17/21 and 3/18/2021	C-4 subcommittee briefing and JPACT	Recognizing evacuation planning is currently not within the scope of Phase 2, how might the region secure resources to complete this important work?	Federal and state grants have been available to support this type of planning work, including the Department of Homeland Security's Urban Area Security Initiative (UASI) funding for which the RDPO serves as administrator for in the region. See also responses to Comments #23, #38 and #54.
55	River routes	Hardesty	Joanne	City of Portland Commissioner	3/18/21	JPACT	Comment that we will benefit from emergency management plans to utilize marine assets/waterways	This comment supports report recommendation #8 that calls for further analysis of rivers for emergency response. This is an area of work that may be informed by the RRAP (anticipated later 2021) and could build on examples such as Vancouver, BC plans to use waterways following a major earthquake event. The Ports are likewise very supportive of this recommendation.
56	Transit	Linville	Joann	Wilsonville City Councilor	3/17/21 and 3/18/2021	C-4 subcommittee briefing	More work is needed to better define/connect the role of transit during an emergency.	Update Section 8 (Future Planning) to add references to considering the role of transit in the Phase 2 tiering process as well as future evacuation planning efforts.
57	Future planning work	Windsheimer	Rian	ODOT Region 1 Manager	3/18/21	JPACT	Wildfires demonstrated the importance of state and regional routes (SSLRs and RETRs) and resilience work underway in the region. The Transportation Incident Management (TIM) group should be engaged in the Phase 2 work.	Update Section 8 to add references to engaging the TIM group in the Phase 2 work as well as future evacuation planning work.

ITEMS FOR CONSIDERATION - Comments on draft 2021 Regional Emergency Transportation Route (RETR) Update								
#	ITEM	Last name	First name	Affiliation	Date	Meeting	Comment	RDPO and Metro Staff Recommended Action
58	Technical corrections			Project team	3/19/21		Expand acknowledgement section to identify the list of participating agencies and staff who participated on the ETR working group to more directly acknowledge their engagement and participation.	Update as requested.
59	Technical corrections			Project team	3/19/21		Update Figure 6.22 (Vulnerable Populations) to show block groups with above the regional average population density that are within census tracts with above the regional average for each vulnerable population. This will better highlight were concentrations of multiple vulnerable populations live in the region.	Update as requested.
60	Technical corrections			Project team	3/19/21		Update Appendix E (GIS Methodology) to: - clarify data collected and used in the analysis vs. data collected and available for reference and Phase 2. - clarify data limitations and further work to address in Phase 2 or by other agencies.	Update as requested.
61	Technical corrections	Stasny	Jamie	Clackamas County	3/19/21	email	Central Point Road appears to be cut off at the edge of Oregon City and should be extended through.	Update as requested to extend Central Point Road RETR to connect to Molalla Avenue via Warner Mile Road. This recommendation has been coordinated with the City of Oregon City.
62	Technical corrections	Stasny	Jamie	Clackamas County	3/19/21	email	Recommend that you work with Clackamas County departments to fill in data gaps identified on page 236 included but not limited to churches and debris management sites.	Updates were made to some of the public works and emergency response facilities in Clackamas county. Remaining data gaps will be addressed during the Phase 2 RETR work.
63	Individual Routes	Stasny	Jamie	Clackamas County	3/19/21	email	Identify more "north south" ETRs to connect Troutdale and rural area outside of Gresham to US 26. Staff is concerned that there are limited ETRs north of US 26.	No change recommended at this time. Nearly all of the routes added through the current update have been identified by individual jurisdictions to reflect recent local planning and/or more detailed reviews of the ETRs that were conducted as part of the ODOT/County Seismic Lifeline reviews. The 2018 Clackamas Co. Seismic Lifeline Bridge Detour review identified several additions that were included in the updated RETRs for this project. It would be appropriate for the C2C effort to recommend additional routes to be considered during the Phase 2 RETR effort or future RETR updates. The Phase 2 RETR work is anticipated to begin in early 2022.
64	Technical corrections			Project team	3/19/21		Update Table 6.2 to remove reference to critical infrastructure and essential facilities data that was not used in the Phase 1 analysis.	Update as requested.
65	Technical corrections			Project team	3/22/21		Update Appendix E (GIS Methodology) to clarify how public works essential facilities have different levels of information across the region, as well as relevance at the city/county/regional levels.	Update as requested.

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: March 26, 2021

To: TPAC and Interested Parties

From: Dan Kaempff, Principal Transportation Planner

Subject: 2025-2027 RFFA Program Direction update

Purpose

Update TPAC on outcomes of three previous meetings and discuss development of the 2025-2027 Regional Flexible Funds Allocation (RFFA) Program Direction.

Background

The RFFA Program Direction documents how the flexible funds are to be spent to carry out policy objectives of the 2018 RTP. TPAC is responsible for developing a recommended Program Direction to submit to JPACT. TPAC is scheduled to make a recommendation action at their June 4, 2020 meeting. JPACT is scheduled to take action on the TPAC recommendation at their July 15 meeting.

Through a series of RFFA workshops, and JPACT and TPAC meetings this spring, staff and TPAC will work together to recommend an update to the Program Direction. Using the 2022-24 RFFA Program Direction¹ as a starting point, staff will develop a draft updated Program Direction for TPAC's consideration and action. The draft Program Direction will be discussed at TPAC's May 7 meeting. Similar to previous editions, the program direction will include regional policy direction relative to the flexible funding allocation, previously adopted RFFA investment guidance, descriptions of Step 1 investments, and eligibility, criteria, and selection process description for Step 2 project funding.

Council Work Session

Staff presented the RFFA process and timeline to Metro Council in their March 9, 2021 work session to hear their thoughts and gather their input on the focus and specific outcomes they wish to see with the investment of regional dollars. Staff requested Council input on three questions:

1. Continuing the four Regional Transportation Plan (RTP) investment priorities as the foundation of the RFFA program direction
2. Continuing to maintain the two-step allocation framework
3. Willingness to consider modifications to the Step 2 capital projects funding category, including the existing priority project categories and the 75/25 funding target split

In their comments, Council indicated their support for the RTP investment priorities and the two-step RFFA framework, as well as being open to adjustments to the Step 2 capital project category. There was also discussion centered around ensuring the flexible funds allocation demonstrates a commitment to the region's Six Desired Outcomes. A full statement of Council intent is being drafted and will be completed prior to the draft RFFA program direction.

¹ The 2022-2024 RFFA Policy Report is the existing RFFA program direction and is included in the materials for this meeting.

Workshop #1 outcomes

The purpose of the three RFFA workshops is to gather input from jurisdictional representatives and community members to better focus the flexible funds on achieving regional outcomes. The first workshop was held on March 10 and attended by over 80 people. The workshop provided first-time participants with an overview and discussion of the RFFA connection to the RTP investment priorities and the two-step RFFA funding approach. Staff provided participants with a process for providing input for discussion in Workshop #2.

JPACT outcomes

Staff presented the RFFA process and schedule to JPACT in their March 18 meeting. Input from JPACT members indicated there was interest in a new Step 2 approach to allow for more flexibility in the types of projects eligible for funding. Other comments focused on making the application process easier, recognizing the challenges small cities sometimes face in applying for regional funds. There was also input that the funding allocation should exhibit a focus on equity, particularly in how and where new technology is implemented. And that the recent transportation funding measure corridor work should be considered for advancement through Step 2 project funding.

Summary of input to date

Based on input received to date from these three meetings, several key themes are emerging from these discussions:

- There is a need to better understand the Step 1 investments and how they respond to key regional transportation priorities and commitments
- There is interest in adjusting the Step 2 process by reconfiguring or removing project funding categories and targets
- There is interest in continuing to fund projects that best achieve the four RTP investment priorities, but we should consider evaluating other project benefits in addition to the four priorities
- Look for ways to streamline the application process

Workshop questions for further discussion

In response to the input described above, staff is preparing questions to guide conversations at workshops #2 and 3, and requesting feedback from TPAC on the following:

- What are thoughts regarding the input described in this memo? Does this accurately summarize the discussion? Are there other considerations to discuss? (It's recognized there is also input provided from participants in workshop #1 that is not included in this memo.)
- The existing program direction is to evaluate candidate projects relative to their performance in the four RTP investment priorities of equity, safety, climate and congestion. These priorities were developed during the RTP process to address current challenges in implementing the 2040 Growth Concept and achieving the region's desired goals and objectives². Input to date has questioned whether there are any other RTP policies or strategies that should be considered or evaluated for performance by a candidate project to achieve the desired goals and objectives. Do TPAC members have thoughts regarding use of the four RTP investment priorities (Equity, Safety, Climate, Congestion) as the basis of the Step 2 candidate project evaluation framework?
- Should the program direction attempt to assign weighting factors on the relative importance of the four investment priority categories? (The RTP and the current RFFA program direction do not provide direction on weighting of the four investment priorities. The 2022-2024 RFFA technical evaluation scored project categories equally to allow

² A description of the RTP Goals and Objectives and performance measures is found in [Chapter 2 of the 2018 RTP](#). Goals and Objectives are found on page 2- 11, performance targets are found on page 2-24. A description of the RTP investment priorities is found in [Chapter 6 of the 2018 RTP](#) on page 6-3.

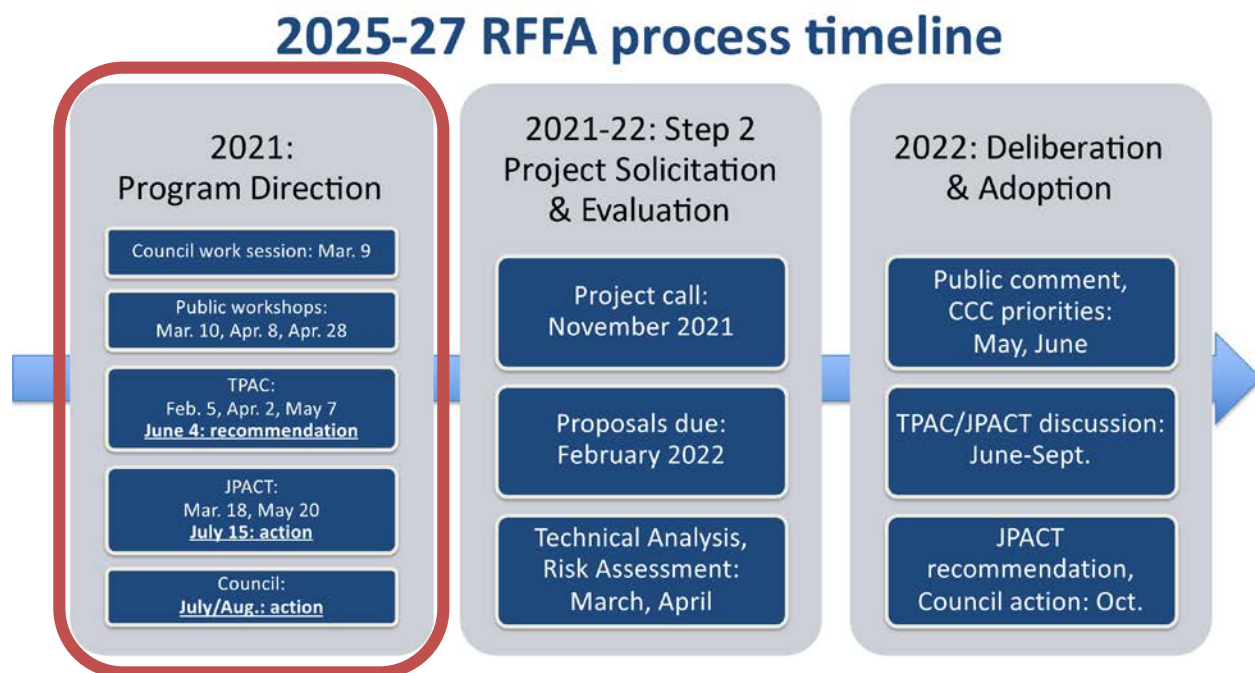
decision makers to consider the performance in each category and decide their relative importance for themselves along with the other input from the risk assessment, and public and sub-regional coordinating committee priorities.)

Process for Step 1 reporting

As a part of each RFFA cycle, Step 1 investment programs prepare a summary report of activities of last three years. These reports will be included in materials for discussion during the May TPAC meeting, and will include a description of outcomes relative to the four RTP investment priorities, and a summary of current and future work.

Timeline

The RFFA process extends into 2022, with the adoption of a final listing of investments. The graphic below illustrates the current phase of this process and provides dates of upcoming meetings and milestones.



**WE ARE
HERE**



2022 – 2024 Regional Flexible Funds Allocation (RFFA) policy report

(Attachment 1 to Resolution 19-4959)

April 2019

oregonmetro.gov/rffa

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 www.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 www.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 assures 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.

The preparation of this policy 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 policy are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.

TABLE OF CONTENTS

• Introduction	1
• Regional Six Desired Outcomes	2
• 2018 Regional Transportation Plan Investment Priorities	2
• Regional Transportation Finance Approach	4
• Regional Flexible Funds Allocation Objectives	4
• 2022-2024 Regional Flexible Funds Structure	5
○ Step 1 – Regional Commitments	5
○ Step 2 – Capital Investments	7
• Step 2 Project Selection Process	14

This page left intentionally blank.

INTRODUCTION

As the federally designated Metropolitan Planning Organization (MPO) for the greater Portland, Oregon area, Metro is responsible for administering federal transportation dollars over which the region has allocation authority. Every three years, Metro conducts a process to select specific investments in the region's transportation system to be funded with these dollars. This process is known as the Regional Flexible Funds Allocation (RFFA). The RFFA is one of several activities required of MPOs, others being the development of the Regional Transportation Plan (RTP), the Metropolitan Transportation Improvement Program (MTIP), and the Unified Planning Work Plan (UPWP).

Through the RFFA process, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council consider how the available funding can be used strategically to address needs identified through the RTP. The RTP establishes the vision, goals and objectives for the Portland region's transportation system, as well as defining performance measures and an investment strategy to ensure progress is made towards creating the envisioned system. In particular, it provides the policy framework to guide how specific sources of transportation funds should be coordinated in order to invest in all parts of the planned system. (This coordination approach is defined through the MTIP Policy Report.)

At the outset of each RFFA cycle, Metro leads a discussion with the region's stakeholders to consider the system's needs, and to develop a policy direction that reflects a consensus on how these funds can best be used strategically to advance important regional priorities. The 2022-2024 RFFA policy framework has now been used for four funding cycles. As such, it is recognized that a more comprehensive review of the RFFA policy should occur in the 2025-2027 cycle.

The policy development phase of the 2022-2024 RFFA cycle occurs directly after a three-year process to develop the 2018 RTP, adopted by JPACT and Metro Council at the end of 2018. In developing the updated RTP, an extensive outreach process resulted in nearly 19,000 individual points of contact with residents, community organizations, businesses, and elected officials.

Through this work with the community, several investment priorities emerged, as defined in Chapter 6.2 of the 2018 RTP. These priorities implement the 2040 Growth Concept by focusing on "moving people and goods, providing access, and helping to create and connect places."¹ Of these priorities, Metro Council determined that the following four were to be the main near-term capital and program investment priorities of the RTP:²

- advancing **Equity**
- improving **Safety**
- implementing the region's **Climate Smart Strategy**
- managing **Congestion**

Along with the adoption of the 2018 RTP, JPACT and Metro Council also adopted updated and new modal and topical strategies for Transportation Safety, Freight, Transit and Emerging Technology in 2018. These strategies more fully articulate the integrated multi-modal regional transportation system and investments needed to improve the existing system, complementing the Regional Travel Options Strategy (2018), Regional Active Transportation Plan (2014), Climate Smart

¹ 2018 Regional Transportation Plan – Chapter 6.2

² Metro Ordinance 18-1421

Strategy (2014) and Regional Transportation System Management and Operations Action Plan (2010). They provide guidance for how the region can thoughtfully direct funding through the RFFA process to advance these four near-term investment priorities.

The 2022-2024 RFFA policy direction builds upon previous RFFA policy established by JPACT and Metro Council. It has been updated to align with new regional policy from the 2018 RTP and the supportive modal and topical strategies, specifically focusing on the four investment priorities noted above. It continues the two-step funding approach adopted for the 2014-2015 allocation cycle, which directs funding towards region-wide investments and supports construction of capital projects in specific focus areas. Unlike previous cycles, the RFFA policy document is now a stand-alone document, separate from the 2021-2024 MTIP Policy Report.³

REGIONAL SIX DESIRED OUTCOMES

In 2008, Metro Council and MPAC adopted the Six Desired Outcomes to form the framework of a performance-based approach for policy and investment decisions. Those outcomes are:

- **Equity:** The benefits and burdens of growth and change are distributed equitably.
- **Vibrant communities:** People live and work in vibrant communities where their everyday needs are easily accessible.
- **Economic prosperity:** Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- **Safe and reliable transportation:** People have safe and reliable transportation choices that enhance their quality of life.
- **Clean air and water:** Current and future generations enjoy clean air, clean water and healthy ecosystems.
- **Climate Leadership:** The region is a leader in minimizing contributions to global warming.

The Six Desired Outcomes shape the way in which all regional plans and policies reflect and orient towards achieving the desired outcomes. The 2018 RTP identifies needed next steps to achieve each of the Six Desired Outcomes for the region's transportation system.

2018 REGIONAL TRANSPORTATION PLAN INVESTMENT PRIORITIES

The 2018 RTP serves as the blueprint for the regional transportation system for the next 25 years. It includes specific goals, objectives and priorities for how the region is to invest to develop the system and performance targets to measure progress towards the goals. Projects funded through the 2022-2024 RFFA are to align with the four primary RTP investment priorities, as detailed in RTP Chapter 6.2. The four priorities are:

- **Equity** – reduce disparities and barriers faced by communities of color, people in poverty, and people with low English proficiency
- **Safety** – reduce fatal and severe injury crashes, particularly focusing on the High Crash Corridor network and equity focus areas identified in the RTP
- **Climate** – expand transit, complete regional active transportation networks, and leverage emerging technology to meet Climate Smart Strategy policies
- **Congestion** – manage congestion and travel demand through low-cost, high value solutions

³ Scheduled for JPACT and Metro Council action in 2019

These near-term investment priorities emerged from a three-year discussion and identification of the region’s most urgent transportation needs. They guided the development and refinement of the 2018 RTP projects and programs list, and reflect direction from JPACT and Metro Council to prioritize near-term investments to address these priorities.

The 2018 RTP also resulted in updates to the plan’s aspirational performance targets. The performance targets are quantitative benchmarks used to assess the region’s progress in carrying out the RTP vision through its investment priorities. These performance targets are the highest order evaluation measures in the RTP performance-based policy framework – providing key criteria by which progress towards the plan goals can be assessed. The targets are listed below in Table 1. A complete description of the performance targets is found in Chapter 2 of the 2018 RTP.

Table 1: Regional Transportation Plan Performance Targets⁴

1		AFFORDABILITY Reduce the combined housing and transportation expenditure for lower-income households by 25%, compared to 2015
2		SAFETY Eliminate transportation fatalities and serious injuries for all users by 2035, with a 50% reduction by 2025 and a 16% reduction by 2020, compared to 2015
3		MULTIMODAL TRAVEL Reduce vehicle miles traveled per person by 10%, compared to 2015
4		MODE SHARE Triple walking, biking and transit mode shares, compared to 2015
5		SYSTEM COMPLETION Complete 100% of the regional network of sidewalks, bikeways and trails
6		CONGESTION Meet the Interim Regional Mobility Policy for throughways, arterials and the regional freight network
7		FREIGHT DELAY Reduce vehicle hours of delay per truck trip by 10%, compared to 2040 No Build
8		CLIMATE CHANGE Reduce per capita greenhouse gas emissions from cars and small trucks by 20% by 2035 and 25% by 2040, compared to 2005
9		CLEAN AIR Maintain or reduce air pollution from mobile sources, compared to 2015

⁴ 2018 Regional Transportation Plan, Chapter 2

REGIONAL TRANSPORTATION FINANCE APPROACH (MTIP POLICY 3)

In May 2009, JPACT developed a regional finance approach to direct how the transportation needs of the region are to be addressed by existing or potential transportation funding sources. This regional finance approach provides a starting point for the various funding programs or sources that are addressed in the MTIP and State Transportation Improvement Program (STIP).

The approach identifies funding mechanisms agencies use and a regional strategy for sources to be pursued to address unmet needs of the different elements of transportation system in the region. The approach has been utilized in the development of RFFA policies since the 2010-2013 MTIP cycle and updated as needed to reflect current planning policy and available funding opportunities. The 2022-2024 RFFA policy follows the most recent regional finance approach adopted as part of the 2021-2024 MTIP.⁵

Uses for regional flexible funds, as defined in the 2021-2024 MTIP policy include:⁶

- Active Transportation
- Arterial Expansion, Improvements, and Reconstruction⁷
- Throughway Expansion⁸
- High-capacity Transit Expansion
- Transportation System Management and Operations
- Regional Travel Options
- Transit Oriented Development

REGIONAL FLEXIBLE FUND ALLOCATION OBJECTIVES

The following objectives define how the RFFA process should be conducted and what outcomes should be achieved with the overall allocation process.

1. Select projects from throughout the region; however, consistent with federal rules, there is no sub-allocation formula or commitment to a particular distribution of funds to any sub-area of the region.
2. Honor previous funding commitments made by JPACT and the Metro Council.
3. Address air quality requirements by ensuring State Implementation Plan for air quality requirements are met and that an adequate pool of CMAQ-eligible projects is available for funding.
4. Achieve multiple transportation policy objectives.
5. Allow use of funding for project development and local match of large-scale projects (greater than \$10 million) that compete well in addressing policy objectives when there is a strong potential to leverage other sources of discretionary funding.

⁵ See Metro Council Resolution 16-4702

⁶ MTIP policy pending adoption by JPACT in April 2019. RFFA policy will be adjusted to mirror final adopted MTIP policy.

⁷ Limited to arterial freight facilities for ITS, small capital projects, and project development.

⁸ Limited to project development with large discretionary funding leverage opportunities to address multiple transportation issues around the mainline facilities, focusing on the multi-modal portions of these projects that are on the regional arterial network adjacent to the freeway interchange.

6. Encourage the application of projects that efficiently and cost-effectively make use of federal funds.
7. Recognize the difference in transportation infrastructure investment needs relative to an area's stage of development (developed, developing, undeveloped) consistent with RTP Table 2.2.
8. Identify project delivery performance issues that may impact ability to complete a project on time and on budget.
9. Ensure agencies have qualifications for leading federal aid transportation projects.
10. Identify opportunities for leveraging, coordinating, and collaboration.

2022-2024 REGIONAL FLEXIBLE FUNDS STRUCTURE

The 2022-2024 RFFA follows the two-step framework the region has followed starting with the 2014-2015 allocation. This framework was adopted to ensure the region is investing in the system in accordance with RTP direction and the RFFA objectives.

Step 1 – Regional Commitments

a. Bond commitments for regional high capacity transit and project development

Regional flexible funds have been used to help construct the region's high-capacity transit system. Since 1998, TriMet has issued bonds to pay for project development and capital construction costs of high-capacity transit line construction, based on a regional commitment of flexible funds to repay the bonded debt. The region's current obligation to repay bond debt extends to 2034. This bond obligation covers investments in Green, Orange, and Southwest Corridor MAX lines, Division Transit Project, and the Eastside Streetcar Loop.

In the 2019-2021 RFFA process, JPACT and Metro Council directed regional funding to be used to develop a selected package of improvements to address regional active transportation needs, and freeway interchanges or arterials that were identified as significant system deficiencies, particularly in the areas of safety and freight delay.

Regional flexible funds were used in a manner consistent with the Regional Transportation Finance Approach that targets these funds to the connecting arterial portions of freeway interchange projects and Active Transportation projects. For projects coordinated with freeway mainline and associated interchange elements, flexible funds were invested as a part of a multi-agency approach to addressing multiple transportation issues around the mainline facilities, and focused on the multi-modal portions of these projects that are on the regional arterial network adjacent to the freeway interchange.

The regional bond commitments through 2034 for transit and project development are shown below in Table 3.

Table 3: Regional bond commitment repayment schedule (millions)

	Transit bond commitment	Project development bond commitment	Total bond commitment
2022	\$21.62	\$1.26	\$22.88
2023	\$21.62	\$1.26	\$22.88
2024	\$21.62	\$1.26	\$22.88
2025	\$21.62	\$1.26	\$22.88
2026	\$21.62	\$1.26	\$22.88
2027	\$21.62	\$1.26	\$22.88
2028	\$17.56	\$1.26	\$18.82
2029	\$17.56	\$1.26	\$18.82
2030	\$17.56	\$1.26	\$18.82
2031	\$17.56	\$1.26	\$18.82
2032	\$17.56	\$1.26	\$18.82
2033	\$17.56	\$1.26	\$18.82
2034	\$17.56	\$1.26	\$18.82

Bond repayment commitments for the 2022-2024 RFFA cycle are:

Transit and Project Development Bond Commitment **\$68.64 million**

b. Region-wide program investments

Three region-wide programs have been defined over time by their regional scope, program administration, and policy coordination, and a consistent allocation of regional flexible funds to support them. The three programs are:

- **Regional Travel Options** – Grants to local partners that support public outreach and encouragement, to help people reduce automobile use and travel by transit, ridesharing, bicycling or walking, and to build a coordinated regional Safe Routes to School program
- **Transit Oriented Development** – Investments to help develop higher-density, affordable and mixed-use projects near transit, to increase the use of the region’s transit system and advance the Region 2040 Growth Concept
- **Transportation System Management and Operations** – Capital funding focused on improving the region’s transportation data, traffic signals, traveler information and other technological solutions to help move people and goods more safely, reliably, and efficiently

Funding targets are set for the existing region-wide programs in this cycle based on their historical allocation levels which includes an annual increase to address increasing program costs and maintain purchasing power. The region-wide programs will be reviewed prior to the final funding decision scheduled for the fall of 2019. The review will provide the following information about each program:

- Program description – description of the program purpose and its major activities
- Regional Funding Strategy Context – description of why the program is appropriate for regional flexible funding, per the Regional Finance Approach

- Directly related RTP performance targets – description of how the program helps the region meet performance targets in the RTP
- Connection to other plans or strategies – description of how program investments are linked to addressing other planning requirements (for example, the State Implementation Plan for air quality)
- Program strategic plan or recent planning work completed to date – description of how the strategic plan helps set priorities for implementation
- Program performance to date – description of specific accomplishments of the program
- Additional opportunities – description of priorities or activities the program would pursue given additional resources

Region-wide program investments for the 2022-2024 RFFA cycle are:

Regional Travel Options (RTO)	\$10.16 Million
Transit Oriented Development (TOD)	\$10.80 Million
Transportation System Management and Operations (TSMO)	\$ 5.74 Million

c. MPO, and Corridor and System Planning

Regional funds have been used to support planning, analysis and management work required of a MPO. JPACT and Metro Council have directed these funds to be spent instead of collecting dues from each partner jurisdiction in the region as was done prior to 1992. Regional funds have also been directed towards continued planning work to further develop regional corridors, transit and freight networks, and to better understand the economic impacts of our transportation investments.

Planning commitments for the 2022-2024 RFFA cycle are:

MPO Planning (in lieu of dues)	\$ 4.33 Million
Corridor and System Planning	\$ 2.05 Million

d. One-Time Strategic Investments

Periodically the region uses regional funds to pay for transportation needs that are not ongoing, but reflect a strategic investment that helps support the goals and objectives of the RTP. In this cycle, funding is directed towards the region's contribution to the Oregon 2020 Travel and Activity Survey. This statewide survey provides MPOs with updated information on travel behaviors occurring within their metropolitan areas. This, in turn, updates the data used in the region's travel demand model and provides decision-makers with analytically valid information to be used in policy and investment decisions.

One-Time Strategic Investments	\$ 0.35 Million
---------------------------------------	------------------------

Step 2 – Capital Investments

The 2014-2015 RFFA policy direction established two Step 2 funding categories which best reflected the region's needs and were guided by the Regional Finance Approach as defined in the MTIP policy. The Step 2 categories are:

- **Active Transportation and Complete Streets**
- **Regional Freight and Economic Development Initiatives**

75 percent of the funding available in Step 2 is directed to the Active Transportation and Complete Streets category, the other 25 percent is directed to the Regional Freight and Economic Development Initiatives category.

JPACT and Metro Council are continuing support for these project focus areas to create a more strategic approach to allocating funds, including:

- A topically or geographically focused impact rather than an array of disconnected projects
- Achieves appreciable impacts on implementing a regional scale strategy given funding amount available
- Addresses specific outcomes utilizing the 2018 Regional Transportation Plan Performance Targets
- Prioritizes catalytic investments (leveraging large benefits or new funding)
- Positions the region to take advantage of federal and state funding opportunities as they arise

In the development of the 2014-15 RFFA, a task force was created to advise JPACT and TPAC on project focus area needs, priorities and project prioritization factors and developed direction for the specific project focus areas. This policy construct will continue in the 2022-2024 RFFA but with adjustments which respond to the 2018 RTP investment policy direction and input received as a part of this policy update process.

While projects funded through the Step 2 categories are to be designed and scoped in a manner reflective of the relevant category's focus area and intended purpose, it is recognized that well-designed projects may result in multiple outcomes. Consideration will be given in the technical evaluation for projects that demonstrate significant outcomes and benefits beyond the primary project purpose.

Example: A project funded through the Freight category that improves freight access to a certain area will likely also include active transportation elements. Preferred project design will incorporate a higher level of active transportation improvements than the minimum required project elements (protected bikeways, wider than standard sidewalks, traffic calming, crosswalks with flashing beacons, etc.

Similarly, an Active Transportation project on a facility that has significant freight traffic will likely include elements to improve the reliability of freight movement and elements to address the safe interface between active transportation and freight movements.

Per RTP Equity Policy 7, projects and programs funded through the RFFA should demonstrate support of family-wage job opportunities and a diverse construction workforce through inclusive hiring practices and contracting opportunities for investments in the transportation system.

ACTIVE TRANSPORTATION AND COMPLETE STREETS

Recommended approach for developing projects

For this project focus area, the task force recommended an approach of selecting travel corridor/areas and identifying project elements that would address the most critical barriers to completing non-auto trips in the corridor/area or a concentrated portion of the corridor/area. Examples of barriers could be the lack of direct pedestrian or bicycle facilities to key destinations in the corridor, inability to safely cross streets to access destinations, or lack of access to transit stop improvements.

To implement this approach with available funding, the following parameters will be utilized:

- improvements will be concentrated geographically in a travel corridor/area or portion thereof,
- project design will consider guidance found in Chapter 9 of the Regional Active Transportation Plan,
- potentially merge portions of several planned projects and several project types (bicycle, trail, pedestrian, transit stops) into a unified corridor/area wide project,
- project development will be allowed as an eligible activity for funding to address project readiness issues or as part of a strategy to phase implementation of projects.

Table 4: Active Transportation and Complete Streets Criteria

RTP investment priorities for RFFA	Criteria
Equity	<p>Purpose: Helps eliminate transportation-related disparities and barriers within RTP Equity Focus Areas⁹</p> <p>Improves access by completing active transportation network gaps in RTP Equity Focus Areas¹⁰</p> <p>And/Or</p> <p>Improves access (whether by service/travel time reliability or through physical infrastructure) to and from the following community assets:</p> <ul style="list-style-type: none"> • Affordable housing • Community places • Employment areas • Title 1 schools (or equivalent)¹¹
Safety	<p>Purpose: Eliminate fatal and severe injury crashes among pedestrians, cyclists and transit users on a Regional High Injury corridor, or at a designated “hotspot”¹²</p> <p>Improves safety with one or more effective safety countermeasure(s) or other technical solutions that:</p> <ul style="list-style-type: none"> • Reduce vehicle speeds • Separate modes • Reduce conflicts between freight and vulnerable users • Implement ADA accessibility • Implement recommendations from documented safety problem/plan

⁹ Equity Focus Areas are defined as communities where the rate of people of color, people in poverty and people with low English proficiency is greater than the regional average and double the density of one or more of these populations. 2018 RTP, Chapter 3.2.2

¹⁰ This can include first/last mile network gaps to transit, infill gaps in an equity focus area co-located on the regional active transportation network, increased connectivity, etc.

¹¹ A school may meet all of the qualification criteria for Title 1 status, but not have that designation due to funding constraints or other considerations.

¹² Identified by Safety Priority Index System (SPIS) or similar method of identifying crash frequency, rate and severity.

RTP investment priorities for RFFA	Criteria
Climate	<p>Purpose: Complete a regional active transportation network gap(s)</p> <p>Project demonstrates how it will reduce transportation-related greenhouse gas emissions through:</p> <ul style="list-style-type: none"> • Reducing or eliminating VMT • Improving transit reliability and travel times/reduces transit delay on Regional Transit Network frequent bus and ETC corridors • Including green infrastructure element in project design
Congestion	<p>Purpose: Incorporate congestion management strategies to provide or improve alternatives to drive-alone trips</p> <p>Project removes barriers or creating access to transit and/or active transportation through:</p> <ul style="list-style-type: none"> • Improving network connectivity • Actively managing and optimizing arterial network to support biking and walking and reducing transit delay • Serving Region 2040 Centers, or high density/projected high growth areas

REGIONAL FREIGHT AND ECONOMIC DEVELOPMENT INITIATIVES

Recommended approach for developing projects

For this project focus area, the task force recommended an approach of allocating funds for two components: construction type projects and planning/strategy development type projects. Eligible project types and criteria that will be utilized to scope and prioritize potential projects are described below.

Construction focus

Capital improvement proposals will focus on:

- System management, such as Intelligent Transportation Systems (ITS), on arterial freight routes. This could include upgrading traffic signal equipment and timing or provide travel information to inform freight trip decisions.
- Small capital projects (e.g. spot widening, installation of mountable curbs to accommodate large truck turning movements, etc.).

Technical measures should be developed that assess the regional impacts of nominated projects such as improving access to regionally significant industrial land or safe movements to/on the regional freight network to ensure a regional interest is served by the project.

Project proposals should demonstrate how the project supports job and economic growth in one or more traded sector industry clusters, as defined in the 2018 RTP.¹³

Planning/strategy development focus

Planning and strategy development proposals will focus on:

- Project development for specific arterial freight routes would evaluate key transportation barriers to the development of traded sector industry clusters, and recommend operations and design improvements to address those barriers.
- Consideration and development of regional strategies to invest in transportation improvements, focused on freight movement and increased job growth in traded sector industries

¹³ 2018 RTP, Chapter 4.5.1

Table 5: Regional Freight and Economic Development Initiatives Criteria

RTP investment priorities for RFFA	Criteria
Equity	<p>Purpose: Supports economic development in traded sector industries by creating jobs, and improving access to job centers¹⁴ and Title 4 industrial employment areas, particularly for RTP Equity Focus Areas¹⁵</p> <p>Reduces impacts to RTP Equity Focus Areas (e.g., reduced noise, land use conflict, air toxics and/or particulate matter emissions)</p>
Safety	<p>Purpose: Eliminate fatal and severe injury crashes by:</p> <ul style="list-style-type: none"> • Removing and mitigating conflicts with <ul style="list-style-type: none"> ○ active transportation ○ railroad crossings ○ turn movements ○ other identified safety issues • Improving safety with one or more effective safety countermeasure(s) or other technical solutions that <ul style="list-style-type: none"> ○ reduce vehicle speeds ○ separate modes ○ reduce conflicts between freight and vulnerable users ○ implement ADA accessibility ○ implement recommendations from documented safety problem/plan
Climate	<p>Purpose: Reduces greenhouse gas emissions</p> <ul style="list-style-type: none"> • Includes ITS or other technological elements to improve efficiency and hot-spot emissions from idling • Uses Complete Streets design; green infrastructure, closing active transportation network gap, etc. • Geometric designs and other operational elements to improve truck flow and bottlenecks on regional freight network¹⁶

¹⁴ Mixed-use areas, and designated 2040 Growth Concept industrial areas.

¹⁵ As defined in 2018 RTP Chapter 3.2.2

¹⁶ Without degrading pedestrian and bicycle safety and comfort.

RTP investment priorities for RFFA	Criteria
Congestion	<p>Purpose: Reduces freight vehicle delay at industrial centers and freight sites (intermodal hubs, terminals, distribution centers, et al)</p> <ul style="list-style-type: none"> • Improves network connectivity for all modes • Improves reliability and access to regional freight network • Reduces need for roadway expansion

Step 2 project funding targets for the 2022-2024 RFFA cycle are:

Active Transportation and Complete Streets:	\$29.74 Million
Regional Freight Initiatives:	\$9.91 Million
TOTAL Step 2:	\$39.65 Million

Table 6: Total Available 2022-2024 Regional Flexible Funds

Step 1	
Transit & Project Development Bond Commitment	\$68.64 million
Region-wide Program Investments, Planning	\$33.08 million
One-Time Strategic Investments	\$0.35 million
Step 2	
Active Transportation & Complete Streets	\$29.74 million
Regional Freight & Economic Development Initiatives	\$9.91 million
Total 2022-2024 RFFA	\$141.72 million

STEP 2 PROJECT SELECTION PROCESS

All project funding proposals submitted through the Step 2 Call for Projects will be considered for selection using the following process:

Call for Projects – Metro will issue a call for project proposals within the two Step 2 funding categories in early April, 2019. Proposals will be due in early June. A workshop will be held early in the project call timeframe to provide direction to applicants and respond to questions.

Technical Evaluation – Proposals will receive a technical score reflecting how well the project addresses the relevant category criteria. In addition to this quantitative analysis, the technical report will also include qualitative information to reflect attributes about each project that may not be reflected in a strict numerical score.

By presenting both quantitative and qualitative information, decision-makers and the public can better understand the technical merits of projects, which will help to better inform the regional decision making process.

Risk Assessment – To ensure that RFFA-funded projects can be delivered as proposed, on time, and within budget, Metro will conduct a risk assessment process on each proposal, and issue a report documenting the findings of the process. Proposals will be evaluated on how completely the project has been planned, developed and scoped, and measure the risk of project completion within the 2022-2024 timeframe.

This report will be made publically available and used as a part of the regional decision-making process.

The Technical Evaluation and Risk Assessment processes will occur concurrently in June-August.

Public Comment – Following issuance of the Technical Evaluation and Risk Assessment reports, Metro will conduct a 30-day public comment period in September, focusing on outreach to community and neighborhood organizations, county coordinating committees and other stakeholders. A joint public meeting of JPACT and Metro Council is planned to give decision-makers the opportunity to hear public testimony on project proposals. A summary of input received through the public comment period will be made available along with the Technical Evaluation and Risk Assessment reports to inform the final RFFA decision making process.

County Coordinating Committee/City of Portland Recommendations – Each county coordinating committee and the City of Portland will have the opportunity to provide recommendations to decision-makers on which projects submitted from their jurisdictions best reflect their local priorities. Recommendations are to be provided to TPAC and JPACT in advance of the JPACT meeting on November 21, 2019.

TPAC/JPACT Discussion and Action – Following the above information gathering steps, TPAC will be asked to consider and discuss all of the input received, and to provide a recommendation to JPACT on a package of projects to be funded, including both Step 1 and Step 2 investments.

JPACT will consider and discuss the TPAC recommendation, and will be requested to take action to refer a package of projects to Metro Council. JPACT action is scheduled for December 19, 2019.

Council Action – Metro Council will consider and take action on the JPACT-referred package in January 2020.

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

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

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

Metro Council President

Lynn Peterson

Metro Councilors

Shirley Craddick, District 1

Christine Lewis, District 2

Craig Dirksen, District 3

Juan Carlos Gonzalez, District 4

Sam Chase, District 5

Bob Stacey, District 6

Auditor

Brian Evans

Stay in touch with news, stories and things to do.

oregonmetro.gov/news

If you have a disability and need accommodations, call 503-220-2781, or call Metro’s TDD line at 503-797-1804. If you require a sign language interpreter, call at least 48 hours in advance.



Metro

600 NE Grand Ave.
Portland, OR 97232-2736
503-797-1700
503-797-1804 TDD
503-797-1795 fax

Cover photo: Jonathan Maus/BikePortland.org

Printed on recycled-content paper

April 4, 2019

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: Friday, March 26, 2021
To: Transportation Policy Alternatives Committee and Interested Parties
From: Grace Cho, Metro
Jeff Owen, TriMet
Eric Loomis, SMART
Subject: 2024-2027 MTIP – Transit Agency Annual Budget Process Update and Programming of Projects

Purpose

To provide TPAC an overview on TriMet and SMART's programming of federal revenues and local service investment recommendations from their annual budget process.

Introduction and Background

As part of Metro's responsibilities as a metropolitan planning organization, Metro is responsible for developing and implementing the Metropolitan Transportation Improvement Program (MTIP). The MTIP documents the process determining how federal transportation funding gets invested and spent across transportation projects and programs in the greater Portland region over the next four years as well as outlines the schedule of expenditures.

The MTIP in development looks to identify and outline the schedule of expenditures for federal fiscal years 2024 through 2027. As part of coordination efforts and recognizing TPAC's role in the development of the MTIP investment program and amendments, partners who administer federal funds – namely ODOT, TriMet and SMART – provide a periodic update and discuss where federal and relevant state and local funds are planned for investment in the near-term.

The annual presentation of the transit agency budget by the transit agencies is part of the 2021-2024 MTIP implementation process and the 2024-2027 MTIP development process. As part of the presentation, the transit agencies will give an overview of the proposed annual budget and the programming of federal funds in the upcoming year fiscal year. The budget presentation also helps to bridge how near-term priorities for the agency and connect to anticipated investments to be identified in the 2024-2027 MTIP. TPAC and JPACT will be asked to take action on the 2024-2027 MTIP in summer 2023.

Public Notice: Provide Comments or Request a Virtual Public Hearing on TriMet's plan for Federal Transit Administration funding for Fiscal Year 2022

TriMet is offering an opportunity to submit comments or request a Virtual Public Hearing on the Proposed Program of Projects (POP) described in this notice. The Virtual Public Hearing is an opportunity for you to submit comments virtually rather than via the email link federal_funding@trimet.org. If requested, the Virtual Public Hearing will be held on Wednesday, April 14, 2021. A TriMet staff member will be present at the Virtual Public Hearing to note your comments; however, there will be no members of TriMet's Board of Directors present. If no request for a Virtual Public Hearing is received by 5 p.m. on Wednesday, March 31, 2021, the Proposed Program of Projects shown below will become the final Program of Projects.

Funding Source	Federal Amount	Federal %	Local Amount	Total Project
Section 5307 Urbanized Area Formula	\$40,537,596	80.00%	\$10,134,399	\$ 50,671,995
Section 5337 State of Good Repair	\$24,836,471	80.00%	\$ 6,209,118	\$ 31,045,589
Section 5310 Enhanced Mobility of Seniors & Individuals w/Disabilities	\$ 1,343,821	62.99%	\$ 789,495	\$ 2,133,316
Section 5339(a) Bus & Bus Facilities	\$ 1,792,000	80.00%	\$ 448,000	\$ 2,240,000
STBG Surface Transportation Block Grant	\$14,299,507	89.73%	\$ 1,636,643	\$ 15,936,150
CMAQ Congestion Mitigation & Air Quality	\$11,000,000	89.73%	\$ 1,258,999	\$ 12,258,999
TOTAL	\$93,809,395		\$20,476,654	\$114,286,049

Details of the Proposed FY2022 Program of Projects are as follows:

Section 5307 Urbanized Area Formula – \$40,537,596 federal

Project name: Bus & Rail Preventive Maintenance (capital expense)

Description: Labor and materials/services used for on-going maintenance of Bus and Rail fleets in TriMet's service district of Clackamas, Multnomah and Washington Counties.

Section 5337 State of Good Repair (High Intensity Motorbus and High Intensity Fixed Guideway) – \$24,836,471 federal

Project name: Bus & Rail Preventive Maintenance (capital expense)

Description: Labor and materials/services used for on-going maintenance of Bus and Rail fleets in TriMet's service district of Clackamas, Multnomah and Washington Counties.

Section 5310 Enhanced Mobility of Seniors & Individuals w/Disabilities – \$1,343,821 federal

Project name: Elderly and persons with disability services (capital and operating expense)

Description: To fund mobility management activities, purchase of services, operating, and preventive maintenance on vehicles for services focused on the elderly and persons with disabilities within the Portland Urbanized Area. Funds will be passed through to Ride Connection and used for TriMet's LIFT Paratransit services.

Subrecipient: Ride Connection

Section 5339(a) Grants for Buses & Bus Facilities – \$1,792,000 federal

Project name: Bus purchases (capital expense)

Description: Purchase fixed route buses.

Surface Transportation Block Grant (STBG) – Combined total of \$14,299,507 federal shown as follows:

- a. Project name: Regional Rail Debt Service – \$10,840,000 federal (capital expense)
Description: Principal and interest payments on GARVEE bonds issued to partially finance the Portland-Milwaukie Light Rail Project, Portland-Lake Oswego Transit Project, Division Transit Project, certain ODOT projects (highway/arterials), Powell Garage, and costs of acquiring transit buses.
- b. Project name: Bus & Rail Preventive Maintenance – \$3,459,507 federal (capital expense)
Description: Labor and materials/services used for on-going maintenance of Bus and Rail fleets in TriMet's service district of Clackamas, Multnomah and Washington Counties.

Congestion Mitigation & Air Quality (CMAQ) – \$11,000,000 federal

Project name: Regional Rail Debt Service (capital expense)

Description: Principal and interest payments on GARVEE bonds issued to partially finance the Portland-Milwaukie Light Rail Project, Portland-Lake Oswego Transit Project, Division Transit Project, certain ODOT projects (highway/arterials), Powell Garage, and costs of acquiring transit buses.

Actual receipt of grant funds and the accounting recognition of grant revenue are contingent on a final federal transportation appropriations bill for next federal fiscal year. These projects show the plan for the maximum expected amount.

Details of additional eligible programs to include in FY2021 Program of Projects is as follows:

Funding Source	Federal Amount	Federal %	Local Amount	Total Project
Section 5312 Safety, Research and Demonstration Program	\$ 825,506	76.76%	\$250,000	\$ 1,075,506
Section 5307 Urbanized Area Formula (CRRSAA)	\$195,649,725	100.00%	\$ 0	\$195,649,725

Section 5312 Safety, Research and Demonstration Program – \$825,506 federal

Project name: Risk Ranking Methodology (capital expense)

Description: Develop a Risk Ranking methodology and Evaluation Tool for grade crossing safety. The tool would be used to measure the relative risk associated with existing conditions at grade crossing, future consideration of incidents and the potential efficacy of new safety treatments to support risk reduction.

Section 5307 Urbanized Area Formula (CRRSAA) – Combined total of \$195,649,725 federal shown as follows:

- a. Project name: Bus Preventive Maintenance - \$1,000,000 (capital expense)
Description: Labor and materials/services used for on-going maintenance of Bus fleet in TriMet's service district of Clackamas, Multnomah and Washington Counties.
- b. Project name: Operating Assistance - \$194,419,927 (operating expense)
Description: Operate, maintain and manage TriMet's Bus, Rail and Paratransit transportation systems.
- c. Project name: Elderly and persons with disability services - \$229,798 (capital expense)
Description: To fund purchase of service activities under TriMet's Paratransit transportation system, that focuses on the elderly and persons with disabilities with the Portland Urbanized Area.

All but one project (CRRSAA) has been selected through TriMet's planning process, which incorporates public involvement and are included in the Metropolitan and State Transportation Improvement Programs. According to FTA, CRRSAA funds used to pay for operating or capital expenses that do not cause substantially functional, locational or capacity changes, do not need to be included in either of these Programs.



**Public Notice: SMART Programs for Federal Transit Administration Funding
Proposed FY2021 (July 1, 2021 to June 30, 2022) Program of Projects (POP)**

SMART is offering three opportunities to submit or present comments at a Public Hearing on the Program of Projects (POP) described in this notice. Opportunity for comments regarding the POP are associated with the City's annual budget process and will be held at Wilsonville City Hall on:

May 19, 2021 6:00 PM – Budget Committee
May 20, 2021 6:00 PM – Budget Committee
June 7, 2021 7:00 PM – City Council

A SMART staff member will be present at the Hearings listed above and be recorded. Additionally, comments can be made via email to: amaccracken@ridesmart.com. If no requests for public comment are received before or at the June X, 2021 hearing, the POP shown below is the final POP along with the City budget for the year.

Projects listed below show the anticipated maximum expenditures. The final amounts are contingent upon final federal transportation appropriations bill for the next fiscal year.

Note: because COVID-19 halted spending and many activities, most projects have been rolled over from the previous fiscal year.

Funding Source	Federal Amount	Federal Percent	Local Amount	Local Percent	Total
1. 5307 Formula	\$381,770	80%	\$95,443	20%	\$477,213
2. STBG to 5307	\$150,000	89.73%	\$17,168	10.27%	\$167,168
3. 5310 Formula	\$35,912	100%	\$0	0%	\$35,912*
4. 5339 Formula	\$47,887	80%	\$9,577	20%	\$57,464
5. 5339 (b)	\$240,000	80%	\$42,353	20%	\$282,353

*100% allowed in FY21 IAW CRRSSA

Program Descriptions

1. 5307 Urbanized Area Formula

Project name: Preventive Maintenance, Engineering & Design

Description: For preventive maintenance of existing vehicle fleet (including .5 service worker) and engineering and design services for SMART Fleet/Administration Phase II Expansion.

2. STBG to 5307

Project name: SMART Options Program

Description: These funds support staff time for the Transportation Demand Management (TDM) Program for SMART called "SMART Options" and focuses on promoting and facilitating transportation options other than driving alone such as walking and biking for business and the residential community. Funding supports one Outreach Coordinator, one Grants and Programs Manager, and two summer interns.

3. 5310 Formula Enhanced Mobility of Seniors and Individuals with Disabilities

a. Project Name: Demand Response Operations

Description: Funds applied to demand response operating costs.

b. Project Name: Travel Training

Description: Contract with 3rd party vendor for mobility management and special transportation service provider in the greater Portland region to provide free travel training for seniors and people with disabilities in Wilsonville.

4. 5339 (a) Bus and Bus Facilities

a. Project Name: WTC Design Upgrade

Description: Engineering and design work for rider amenities including covered walkways, seating, bike locker enclosure, and landscaping.

b. Project Name: Bus Shelters and Amenities

Description: Vendor will produce three design options and their related budgets.

5. 5339 (b) ODOT

Project Name: Bus and Support Vehicle Replacements

Description: replace one diesel rubber-tired trolley with one CNG rubber-tired trolley.

Materials following this page were distributed at the meeting.

March 2021 traffic deaths in Clackamas, Multnomah and Washington Counties*

Unknown, walking, Multnomah, 3/31

Unknown, motorcycling, Multnomah, 3/31

Inna Danilovna Bosovik, 36, and Susan Kay Sturdavant, 65, driving, Multnomah, 3/25

Galdino Salazar Jr., 36, driving, Clackamas, 3/7

Morise Messiah Smith, 21, and Unknown, driving, Multnomah, 3/8

Baylei Mead, 9, walking, Multnomah, 3/6



**ODOT preliminary fatal crash report, as of 3/31/21*





Regional Mobility Policy Update

Stakeholder and public engagement - Spring 2021

Spring 2021 engagement will seek input on how to measure mobility in the region.

Through recent transportation planning efforts and the Regional Mobility Policy update scoping processes, community members and stakeholders have told us what is important about how and why they move around the region.

Based on this input and feedback from two workshops with the TPAC and MTAC in 2020, five key transportation elements were identified as integral to how we view mobility in the Portland region.

Now, we need to identify more holistic ways to measure these elements that address the region's mobility needs and priorities.

This spring, Metro and ODOT are engaging policymakers, practitioners, community leaders and other stakeholders to help shape the proposed elements and measures to include in the updated policy.

Input from this engagement will be shared with regional decision-makers as they work together to develop the recommended outcomes and measures. In June, JPACT and the Metro Council will be asked to direct staff on the measures to be tested through case studies this summer. Staff will report the results of the case studies to stakeholders and decision-makers in Fall 2021. Staff will continue to engage TPAC and MTAC in developing a recommended updated Regional Mobility Policy and action plan for public review and discussion early next year by JPACT, MPAC and the Metro Council.

Potential Mobility Policy Elements

Access - All people and goods can get where they need to go.

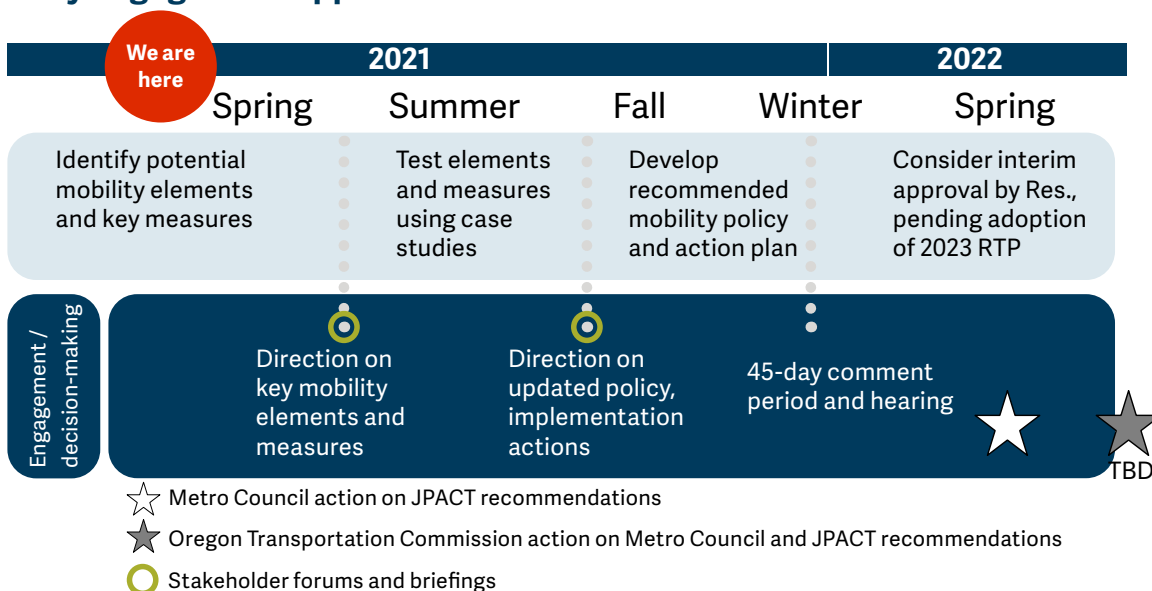
Time Efficiency- People and goods can get where they need to go in a reasonable amount of time.

Reliability- Travel time is reliable or predictable for all modes.

Safety- Available travel options are safe for all users.

Travel Options- People can get where they need to go by a variety of travel options or modes.

Key engagement opportunities



Spring 2021 engagement schedule

Dates are subject to change pending availability of agenda time.

Metro Council and Regional Committees

Who	Anticipated Date
Metro Council	April 13
TransPort Subcommittee to TPAC	April 14
Joint Policy Advisory Committee on Transportation (JPACT)	April 15
Metro Policy Advisory Committee (MPAC)	April 28
County Coordinating Committees	Various dates in April and May
Stakeholder Forums	
JPACT	May 20
Metro Council (<i>requested</i>)	June 15
JPACT (<i>requested</i>)	June 17
Metro Council (<i>requested</i>)	June 29

County Coordinating Committees

Who	Anticipated Date
Clackamas County TAC	April 27
East Multnomah County Transportation Committee TAC	May 5
Washington County Coordinating Committee TAC	May 6
Washington County Coordinating Committee (policy)	May 17
East Multnomah County Transportation Committee (policy)	May 17
Clackamas County C-4 subcommittee (policy)	May 19

Stakeholder Forums

Who	Anticipated Date
Practitioner Forum 1*	April 21, 10 a.m. - noon
Freight and Goods Forum	April 23, 9 - 11 a.m.
Practitioner Forum 2*	April 30, 9 - 11 a.m.
Housing and Land Development Forum	May 4, 9 - 11 a.m.
Community Leaders Forum	May 14, 9 - 11 a.m.

* The two practitioner forums will be the same format/content to provide an option for stakeholders to participate on the date that works best for their schedule.

Interested in participating in a forum?

Send an email to transportation@oregonmetro.gov

Project contacts

Kim Ellis, Metro project manager
Kim.Ellis@oregonmetro.gov

Lidwien Rahman, ODOT project manager
Lidwien.Rahman@odot.state.or.us

April 6, 2021

2021-22 Unified Planning Work Program

TPAC, April 2, 2021

John Mermin, Senior Transportation Planner

What is the UPWP

- Annual federally-required document that ensures efficient use of federal planning funds
- Describes:
 - Transportation planning tasks
 - Relationship to other planning activities in the region
 - Budget summaries

What the UPWP isn't

- Not a regional policy making document
- Not a funding decision document, does not allocate funds
- No construction, design, or preliminary engineering
- Only includes transportation planning projects, federal funds, coming fiscal year

What are we asking you to do?

- Recommend that JPACT adopts Resolution 21-5156 which includes the 2021-22 UPWP (Exhibit A) and self-certification findings that demonstrate that Metro meets federal planning regulations (Exhibit B).

Next Steps

- April 2 TPAC Action
- April 15 JPACT
- May 20 JPACT Action
- May 20 Metro Council Action
- May 21 Submit to USDOT & ODOT
- June 30 IGA signed by Metro COO

Questions?



BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE 2021-24	)	RESOLUTION NO. 21-5169
METROPOLITAN TRANSPORTATION)	
IMPROVEMENT PROGRAM (MTIP) TO	)	Introduced by: Chief Operating Officer
CORRECTLY REFLECT THE NEW METRO STATE	)	Andrew Scott in concurrence with
FISCAL YEAR 2022 UNIFIED PLANNING WORK	)	Council President Lynn Peterson
PROGRAM (UPWP) CONSISTING OF SEVEN)	
PROJECTS PLUS AMENDING FOUR ADDITIONAL)	
PROJECTS TO ENSURE THEIR NEXT FEDERAL)	
APPROVAL STEP CAN OCCUR IMPACTING)	
METRO, ODOT, AND PORTLAND(AP21-09-APR))	

WHEREAS, the Metropolitan Transportation Improvement Program (MTIP) prioritizes projects from the Regional Transportation Plan (RTP) to receive transportation related funding; and

WHEREAS, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council approved the 2021-24 MTIP via Resolution 20-5110 on July 23, 2020; and

WHEREAS, JPACT and the Metro Council must approve any subsequent amendments to add new projects or substantially modify existing projects in the MTIP; and

WHEREAS, the U.S. Department of Transportation (USDOT) has issued clarified MTIP amendment submission rules and definitions for MTIP formal amendments and administrative modifications that both ODOT and all Oregon MPOs must adhere to which includes that all new projects added to the MTIP must complete the formal amendment process; and

WHEREAS, MTIP amendments now must also include assessments for required performance measure compliance, expanded RTP consistency, and strive to meet annual Metro and statewide obligation targets resulting in additional MTIP amendment processing practices and procedures; and

WHEREAS, Metro is now under formal annual obligation targets resulting in additional accountability for Metro to commit, program, obligate, and expend allocated federal formula funds; and

WHEREAS, seven of the eleven projects in April 2021 Formal MTIP Ament Bundle reflect required updates and changes to complete MTIP programming for the State Fiscal Year (SFY) 2022 Unified Planning Work Program (UPWP) to ensure the funds can be obligated by July 1, 2021; and

WHEREAS, the unexpended carryover funds from the SFY 2020 UPWP exceed the 20% funding change threshold and requires the seven UPWP projects to complete a formal/full MTIP amendment; and

WHEREAS, a detailed review determined which approved SFY 2022 UPWP projects can be included in the UPWP Master Agreement and which ones must be programmed as stand-alone projects; and

WHEREAS, funding impacts to the UPWP projects impact Metro's Regional Travel Program, Corridors and Systems Planning, Master Agreement list of Metro annual recurring projects and ODOT Westside Corridor Multimodal Improvements Study; and

WHEREAS, the UPWP Master Agreement list of annual recurring projects consist of federal Planning funds, FTA Section 5303 Transit funds, Surface Transportation Block Grant funds, State Support funds and local funds supporting Regional Transportation Planning projects, Corridor and Area Planning projects, plus Administration and Support projects that total \$8,645,108 for SFY 2022; and

WHEREAS, the April 2021 Formal Amendment includes four non-UPWP related project amendments which include ODOT's OR141 (Hall Blvd), Scholls Ferry Rd to Locust St project which having received OTC approval can now add the construction phase plus funding and move forward toward construction; and

WHEREAS, ODOT has evaluated their OR99W, Rock Creek Northbound Bridge project to install a new bridge rail to meet current safety standards and determined the project can be delayed allowing the funds to be reprogrammed to their Indian Creek bridge project in Region 2; and

WHEREAS, ODOT is adjusting their OR224 repaving project so that it does not overlap with the planned capacity improvement project from Rusk Rd to OR213 allowing the repaving project to progress independently; and

WHEREAS, Portland has completed the required pre-scoping documents for their newly Metro awarded Transportation Systems Management and Operations (TSMO) Local Traffic Signal Controller Replacement project to be programmed in the MTIP and development of the Intergovernmental Agreement to now occur to implement the project; and

WHEREAS, the a review of the proposed project changes has been completed against the current approved Regional Transportation Plan (RTP) to ensure the projects remain consistent with the goals and strategies identified in the RTP with the results confirming that no RTP inconsistencies exist as a result of the project changes from the April 2021 MTIP Formal Amendment; and

WHEREAS, RTP consistency check areas included financial/fiscal constraint verification, eligibility and proper use of committed funds, an assessment of possible air quality impacts, a deviation assessment from approved regional RTP goals and strategies, a validation that the required changes have little or no impact upon regionally significant projects, and a reconfirmation that the MTIP's financial constraint finding is maintained a result of the April 2021 Formal Amendment; and

WHEREAS, Metro's Transportation Policy and Alternatives Committee (TPAC) received their notification plus amendment summary overview, and recommended approval to Metro's Joint Policy Advisory Committee on Transportation (JPACT) on April 2, 2021; and

WHEREAS, JPACT approved Resolution 21-5169 consisting of the April 2021 Formal MTIP Amendment bundle on April 15, 2021 and provided their approval recommendation to Metro Council; now therefore

BE IT RESOLVED that the Metro Council hereby adopts the recommendation of JPACT on May 6, 2021 to formally amend the 2021-24 MTIP to include the required changes identified in the April 2021 Formal MTIP Amendment Bundle and Resolution 21-5169.

ADOPTED by the Metro Council this ____ day of _____ 2021.

Approved as to Form:

Lynn Peterson, Council President

Carrie MacLaren, Metro Attorney

DRAFT



Proposed April 2021 Formal Transition Amendment Bundle
Amendment Type: **Formal/Full**
Amendment #: **AP21-09-APR**
Total Number of Projects: 11

Key Number & MTIP ID	Lead Agency	Project Name	Amendment Action	Added Remarks
Project #1 Key 20879 MTIP ID 70938	Metro	Regional Travel Options- (2020) Metro UPWP Regional Travel Options (SFY 2022)	<u>COMBINE FUNDS:</u> The formal amendment combines STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP	Approved SFY 2022 Unified planning Work Program (UPWP) project
Project #2 Key 20880 MTIP ID 70873	Metro	Regional Travel Options (2021)	<u>SHIFT/SPLIT FUNDS:</u> The formal amendment shift STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to Key 20879 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP. Key 20879 and as carried over from FY 20220 unobligated due to the Covid-19 situation.	Approved SFY 2022 Unified planning Work Program (UPWP) project
Project #3 Key NEW MTIP ID NEW	ODOT	Westside Corridor Multimodal Improvements Study	<u>ADD NEW PROJECT:</u> The formal amend adds the new approved stand-alone UPWP project from the SFY 2022 UPWP	Approved SFY 2022 Unified planning Work Program (UPWP) project
Project #4 Key 20888 MTIP ID 70871	Metro	Corridor and Systems Planning (2020)	<u>SPLIT FUNDS:</u> The amendment splits off \$12,175 of STBG plus required match and commits the funds to Key 20597 to support the Corridor Refinement and Project Development (Investment Areas) planning project in the SFY 2022 UPWP Master Agreement list of projects.	Approved SFY 2022 Unified planning Work Program (UPWP) project

Project #5 Key 20877 MTIP ID 70872	Metro	Regional MPO Planning (2021)	<u>SPLIT FUNDS:</u> The formal amendment splits off required STBG-U federal funds and required match and combines them into Key 20597. The amount is determined by the SFY 2022 UPWP Master List of Projects.	Approved SFY 2022 Unified planning Work Program (UPWP) project
Project #6 Key 20597 MTIP ID 70986	Metro	Portland Metro Planning SFY22	<u>COMBINE FUNDS:</u> The formal amendment updates the SFY 2022 UPWP project Key. The updates are based on the final expected authorized UPWP projects and funding. Key 20597 represents the Master Agreement of UPWP projects that fall into three planning categories: Transportation Planning, Regional Corridor/ Area Planning, and Regional Administration/Support	Approved SFY 2022 Unified planning Work Program (UPWP) project. Key 20597 contains the Master Agreement list of approved SFY 2022 UPWP projects
Project #7 Key 21312 New Project MTIP ID 71055	Metro	Metro Transportation Options (FFY 18-21)	<u>ADD NEW PROJECT:</u> The formal amendment adds the project to the 2021-24 MTIP and provides supplemental funding for the FY 2021 fiscal year for the Metro Regional Travel Options (RTO) program	ODOT approved 1-year program extension adding the FY 2021 fiscal year in supporting the RTO program
Project #8 Key 19267 MTIP ID 70806	ODOT	OR141 (Hall Blvd): Scholls Ferry Rd - Locust St	<u>ADD CONSTRUCTION PHASE:</u> The formal amendment adds the Construction phase to the project. \$3,525,000 addition to the project allows the construction phase to move forward and be obligated during FY 2022. The total project cost increases to \$5,894,707.	
Project #9 Key 21712 MTIP ID 71197	ODOT	OR99W : Rock Creek Bridge	<u>CANCEL PROJECT:</u> The ODOT Bridge program is canceling the project and transferring the funding to the Indian Creek Bridge in Region 2 currently programmed in Key 21118.	

Project #10 Key 21598 MTIP ID 71153	ODOT	OR224: SE 17th Ave OR213 OR224: SE 17th Ave - SE Rusk Road	LIMITS CHANGE: The current project limits overlap with a separate project to add a third lane on OR 224 from Rusk Rd to OR 213. The third lane capacity project is programmed under Key 19720. The limits adjustment allow the rehabilitation/resurfacing project to proceed separately from the capacity enhancing project.	
Project #11 Key NEW TBD MTIP ID NEW TBD	Portland	Local Traffic Signal Controller Replacement	ADD NEW PROJECT: The formal amendment adds the new Metro TSMO awarded project to the MTIP	Metro 2019 TSMO program award



Metro
2021-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

**Formal Amendment
COMBINE FUNDS**
Combine STBG and match from Key
20880 into Key 20879

Lead Agency: Metro		Project Type: Other		ODOT Key: 20879
Project Name: Regional Travel Options (2020) Metro UPWP Regional Travel Options (SFY 2022)	1	ODOT Type: OP-TDM		MTIP ID: 70873
		Performance Meas: No		Status: 0
		Capacity Enhancing: No		Comp Date: 6/30/2022
Project Status: 0 = No activity (Planning)		Conformity Exempt: Yes		RTP ID: 11054
		On State Hwy Sys: No		RFFA ID: 50357
		Mile Post Begin: N/A		RFFA Cycle: 2019-21
		Mile Post End: N/A		UPWP: Yes
		Length: N/A		UPWP Cycle: SFY 2022
Short Description: The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility.		Flex Transfer to FTA: Yes		Transfer Code: 5307
		1st Year Program'd: 2020		Past Amend: 2
		Years Active: 2		OTC Approval: Yes
		STIP Amend #: TBD		MTIP Amnd #: AP21-09-APR
Detailed Description: The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. RTO includes all of the alternatives to driving alone, such as carpooling, vanpooling, riding transit, bicycling, walking and telecommuting. The program maximizes investments in the transportation system and relieves traffic congestion by managing travel demand in the region, particularly during peak commute hours.				
STIP Description: Funding for the Regional Travel Options (RTO) program that implements strategies to help diversify people's trip choices, reduce pollution and improve mobility.				
Last Amendment of Modification: Formal - August Transition Amendment - AG21-01-AUG, PHASE SLIP: Adding the Other phase to the 2021-24 MTIP in FY 2021 with \$2,598,451 of STBG funds plus required match				

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other (Flex Transfer)	Total
Federal Funds								
STBG-U	Z230	2021					\$ 2,598,451	\$ -
STBG-U	Z230	2021					\$ 3,656,869	\$ 3,656,869
								\$ -
							Federal Totals:	\$ 3,656,869
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2021					\$ 297,404	\$ -
Local	Match	2021					\$ 418,545	\$ 418,545
								\$ -
								\$ -
							Local Total	\$ 418,545
Phase Totals Before Amend:			\$ -	\$ -	\$ -	\$ -	\$ 2,895,855	\$ 2,895,855
Phase Totals After Amend:			\$ -	\$ -	\$ -	\$ -	\$ 4,075,414	\$ 4,075,414
Year Of Expenditure (YOE):								\$ 4,075,414

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Project adds STBG-U from Key 20880 to address SFY 2022 RTO needs.

Amendment Summary:

The formal amendment combines STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP. Key 20879 was carried over from FY 20220 unobligated due to the Covid-19 situation. The restructured SFY 2022 RTO program will expand upon planned activities from the planned SFY 2021 year. As a result STBG-U from Key 20880 (which was allocated for SFY 2022 is being combined into Key 20879. The remaining STBG-U and match in Key 20880 will be moved to FY 2025 for use during next year's UPWP.

- > Will Performance Measurements Apply: no

RTP References:

- > RTP ID: 11054 - Regional Travel Options Activities for 2018-2027
- > RTP Description: Metro awards grant funding, coordinates marketing efforts, and provides technical assistance and evaluation to agencies and organizations to encourage people to make fewer auto trips. RTO-funded activities include worksite and college information programs that make transit, bicycling, walking and ridesharing easier to use.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- > UPWP amendment: Yes. The project is identified in the new SFY 2022 UPWP
- > RTP Goals: Goal 3 - Transportation Choices
- > Goal - Objective 3.3 Access to Transit
- > Goal Description: Increase household and job access to current and planned frequent transit service.

Fund Codes:

- > STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion .
- > Local = General local funds provided by the lead agency as part of the required match.

Other

- > On NHS: No
- > Metro Model: No
- > Model category and type: N/A
- > TCM project: No
- > Located on the CMP: No



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
SHIFT FUNDS
Shift STBG and match from Key
20880 into Key 20879

Lead Agency: Metro		Project Type:	Other	ODOT Key:	20880
Project Name: Regional Travel Options (2021)	2	ODOT Type	OP-TDM	MTIP ID:	70873
		Performance Meas:	No	Status:	0
		Capacity Enhancing:	No	Comp Date:	12/31/2025
		Conformity Exempt:	Yes	RTP ID:	11054
Project Status: 0 = No activity (Planning)		On State Hwy Sys:	No	RFFA ID:	50357
Short Description: The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility.		Mile Post Begin:	N/A	RFFA Cycle:	2019-21
		Mile Post End:	N/A	UPWP:	Yes
		Length:	N/A	UPWP Cycle:	SFY 2022
		Flex Transfer to FTA	Yes	Transfer Code	5307
		1st Year Program'd:	2020	Past Amend:	2
		Years Active:	2	OTC Approval:	Yes
		STIP Amend #:	TBD	MTIP Amnd #:	AP21-09-APR
Detailed Description: The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. RTO includes all of the alternatives to driving alone, such as carpooling, vanpooling, riding transit, bicycling, walking and telecommuting. The program maximizes investments in the transportation system and relieves traffic congestion by managing travel demand in the region, particularly during peak commute hours.					
STIP Description: Funding for the Regional Travel Options (RTO) program that implements strategies to help diversify people's trip choices, reduce pollution and improve mobility.					

Last Amendment of Modification: Administrative, AB21-05-DEC2 - December 2020 - Reprogram Other to FY 2022

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other (Flex Transfer)	Total
Federal Funds								
STBG-U	Z230	2021					\$ 2,676,405	\$ -
STBG-U	Z230	2025					\$ 1,617,987	\$ 1,617,987
								\$ -
							Federal Totals:	\$ 1,617,987
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2021					\$ 306,327	\$ -
Local	Match	2025					\$ 185,186	\$ 185,186
								\$ -
								\$ -
							Local Total	\$ 185,186
Phase Totals Before Amend:			\$ -	\$ -	\$ -	\$ -	\$ 2,982,732	\$ 2,982,732
Phase Totals After Amend:			\$ -	\$ -	\$ -	\$ -	\$ 1,803,173	\$ 1,803,173
Year Of Expenditure (YOE):								\$ 1,803,173

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Project shifts \$1,058,418 of STBG-U plus match from Key 20880 to Key 20879 to address SFY 2022 RTO needs.

Amendment Summary:

The formal amendment shift STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to Key 20879 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP. Key 20879 and as carried over from FY 20220 unobligated due to the Covid-19 situation. The restructured SFY 2022 RTO program will expand upon planned activities from the planned SFY 2021 year. As a result STBG-U from Key 20880 (which was allocated fro SFY 2022 is being combined into Key 20879. The remaining STBG-U and match in Key 20880 will be moved to FY 2025 for use during next year's UPWP.

- > Will Performance Measurements Apply: no

RTP References:

- > RTP ID: 11054 - Regional Travel Options Activities for 2018-2027
- > RTP Description: Metro awards grant funding, coordinates marketing efforts, and provides technical assistance and evaluation to agencies and organizations to encourage people to make fewer auto trips. RTO-funded activities include worksite and college information programs that make transit, bicycling, walking and ridesharing easier to use.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- > UPWP amendment: Yes. The project is identified in the new SFY 2022 UPWP
- > RTP Goals: Goal 3 - Transportation Choices
- > Goal - Objective 3.3 Access to Transit –
- > Goal Description: Increase household and job access to current and planned frequent transit service.

Fund Codes:

- > STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion .
- > Local = General local funds provided by the lead agency as part of the required match.

Other

- > On NHS: No
- > Metro Model: No
- > Model category and type: N/A
- > TCM project: No
- > Located on the CMP: No



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
ADD NEW PROJECT
Add new approved SFY 2022 UPWP
stand-alone project

Lead Agency: ODOT		Project Type:	Planning		ODOT Key:	NEW
Project Name: Westside Corridor Multimodal Improvements Study	3	ODOT Type	Planning		MTIP ID:	TBD
		Performance Meas:	No		Status:	0
		Capacity Enhancing:	No		Comp Date:	12/31/2022
		Conformity Exempt:	Yes		RTP ID:	11664
Project Status: 0 = No activity.		On State Hwy Sys:	US26		RFFA ID:	N/A
Short Description: US 26 (Sunset Highway) corridor study to identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor		Mile Post Begin:	Corridor		RFFA Cycle:	N/A
		Mile Post End:	Corridor		UPWP:	Yes
		Length:	Corridor		UPWP Cycle:	SFY 2022
		1st Year Program'd:	2021		Past Amend:	0
		Years Active:	0		OTC Approval:	No
		STIP Amend #:	TBD		MTIP Amend:	AP21-09-APR
Detailed Description: US 26 (Sunset Highway) corridor study which extends from the Oregon Coast through the Vista Ridge Tunnel where it intersects with the I-405 loop accessing I-5, and I-84 to identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor. Options will be evaluated for their potential to address existing deficiencies and support future growth in freight, commuters, and commercial traffic between Hillsboro's Silicon Forest, Northern Washington County's agricultural freight, and the Portland Central City, the international freight distribution hub of I-5 and I-84, the Port of Portland marine terminals, rail facilities, and the Portland International Airport. Commute trip reduction opportunities and assumptions about remote workforce will be included. The study will evaluate multimodal improvements in support of regional and statewide goals, including climate.						
STIP Description: The study will identify the multimodal needs, challenges and opportunities in the corridor. Options will be evaluated for their potential to address existing deficiencies and support future growth in freight, commuters, and commercial traffic between Hillsboro's Silicon Forest, Northern Washington County's agricultural freight, and the Portland Central City, the international freight distribution hub of I-5 and I-84, the Port of Portland marine terminals, rail facilities, and the Portland International Airport. Commute trip reduction opportunities and assumptions about remote workforce will be included. The study will evaluate multimodal improvements in support of regional and statewide goals, including climate.						
Last Amendment of Modification: Administrative: None - Initial MTIP programming being completed						

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
State STBG	2240	2021	\$ 863,636					\$ 863,636
								\$ -
								\$ -
							Federal Totals:	\$ 863,636
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
State	Match	2021	\$ 98,847					\$ 98,847
Other	OVM	2021	\$ 37,517					\$ 37,517
								\$ -
							State Total:	\$ 136,364
Local Funds								
								\$ -
								\$ -
							Local Total	\$ -
Phase Totals Before Amend:			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Phase Totals After Amend:			\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
Year Of Expenditure (YOE):								\$ 1,000,000

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Approved SFY UPWP stand-alone project. Funding is identified for ODOT.

Amendment Summary:

The formal amendment adds the new SFY 2022 approved UPWP project to the MTIP. Project funding is for ODOT and a consultant will be used. As such, the project is required to be a stand-alone project in the MTIP. The study will identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor. Options will be evaluated for their potential to address existing deficiencies and support future growth in freight, commuters, and commercial traffic between Hillsboro's Silicon Forest, Northern Washington County's agricultural freight, and the Portland Central City, the international freight distribution hub of I-5 and I-84, the Port of Portland marine terminals, rail facilities, and the Portland International Airport

- > Will Performance Measurements Apply: No

RTP References:

- > RTP ID: 11664 - Corridor Investment Areas Activities for 2018-2027
- > RTP Description: The RTP identifies mobility corridors and future high capacity transit capital investments needed to support the 2040 Growth Concept. Corridor investment areas activities focus on aligning investments around specific outcomes to support local and regional goals in locations with multijurisdictional interests. Investment areas activities include completing corridor refinement planning and developing multimodal projects in major transportation corridors identified in the RTP as well as developing shared investment strategies to align local, regional and state investments in economic investment areas that support the region's growth economy. Activities include ongoing involvement in local and regional transit and roadway project conception, funding, and design. Metro provides assistance to local jurisdictions for the development of specific projects as well as corridor-based programs identified in the RTP.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- > UPWP amendment: Yes. The project is part of the new SFY 2022 UPWP. The SFY 2022 UPWP is progressing through Metro's approval process. TPAC approval is set for April 5, 2022 with Council approval planned by June. The mTIP amendment is progressing concurrently with the SFY 2022 UPWP.
- > RTP Goals: Goal 11: Transparency and Accountability
- > Goal - Objective 11.2 Performance-Based Planning
- > Goal Description: Objective 11.2 Performance-Based Planning – Make transportation investment decisions using a performance-based planning approach that is aligned with the RTP goals and supported by meaningful public engagement, multimodal data and analysis.

Fund Codes:

- > State STBG = Federal Surface Transportation Block Grant funds appropriated to the states with a portion reserved for the State DOT for eligible projects .
- > State = General state funds provided by ODOT as part of the required match.

Other

- > On NHS: Yes
- > Metro Model: No
- > Model category and type: N/A Planning project
- > TCM project: No
- > Located on the CMP: Yes



Metro
2021-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
SPLIT FUNDS
Split STBG and match from Key
20888 into Key 20879

Lead Agency: Metro		Project Type:	Planning	ODOT Key:	20888
Project Name: Corridor and Systems Planning (2020)	4	ODOT Type	Planning	MTIP ID:	70871
		Performance Meas:	No	Status:	0
Project Status: 0 = No activity (Corridor planning revenue placeholder)		Capacity Enhancing:	No	Comp Date:	12/31/2025
		Conformity Exempt:	Yes	RTP ID:	11103
Short Description: Corridors and Systems Planning Program conducts planning level work in corridors. Emphasizes the integration of land use and transportation. Determines regional system needs, functions, desired outcomes, performance measures, investment strategies.		On State Hwy Sys:	No	RFFA ID:	50364
		Mile Post Begin:	N/A	RFFA Cycle:	2019-21
		Mile Post End:	N/A	UPWP:	Yes
		Length:	N/A	UPWP Cycle:	SFY 2022
		Flex Transfer to FTA	No	Transfer Code	N/A
		1st Year Program'd:	2020	Past Amend:	4
		Years Active:	2	OTC Approval:	Yes
		STIP Amend #:	TBD	MTIP Amnd #:	AP21-09-APR
Detailed Description: The Corridor and Systems Planning program focuses on completing planning level work in corridors that emphasizes the integration of land use and transportation in determining regional system needs, functions, desired outcomes, performance measures, and investment strategies. This work enables jurisdictions and other regional agencies to prioritize investments in the transportation system. The program evaluates priority corridors in the region and identifying investments to improve mobility of all travel modes in these areas.					
STIP Description: Conduct planning level work that emphasizes the integration of land use and transportation in corridors. The Corridors and Systems Planning Program determines regional system needs, functions, desired outcomes, performance measures, and investment strategies.					

Last Amendment of Modification: Administrative - December 2020 - AB21-05-DEC2 Reprogram Planning to FY 2022

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
STBG-U	Z230	2022	\$ 404,234					\$ -
STBG-U	Z230	2022	\$ 392,059					\$ 392,059
								\$ -
							Federal Totals:	\$ 392,059
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2022	\$ 46,266					\$ -
Local	Match	2022	\$ 44,873					\$ 44,873
								\$ -
								\$ -
							Local Total	\$ 44,873
Phase Totals Before Amend:			\$ 450,500	\$ -	\$ -	\$ -	\$ -	\$ 450,500
Phase Totals After Amend:			\$ 436,932	\$ -	\$ -	\$ -	\$ -	\$ 436,932
Year Of Expenditure (YOE):								\$ 436,932

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > \$12k shifted to key 20597 supporting UPWP corridor study efforts.

Amendment Summary:

The formal amendment splits off \$12,175 of STBG-U and required match and shifts the funds to Key 20597. The \$12,175 directly supports the Corridor Refinement and Project Development (Investment Areas) planning project. The funding supports system planning and develops multimodal projects in major transportation corridors identified in the Regional Transportation Plan (RTP) as well as developing shared investment strategies to align local, regional and state investments in economic investment areas that support the region's growth economy

- > Will Performance Measurements Apply: Yes - No

RTP References:

- > RTP ID: 11103 - Regional MPO Activities for 2018-2027
- > RTP Description: System planning, topical planning, and activities that Metro must conduct for the period 2018-2027 in order to remain certified as an metropolitan planning organization (MPO) by the federal government and be eligible to receive and distribute federal transportation dollars.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning and technical studies
- > UPWP amendment: Yes. The project is part of the new SFY 2022 Metro UPWP. The SFY 2022 UPWP is progressing through the Metro approval process concurrently with this MTIP Amendment.
- > RTP Goals: Goal 11 - Transparency and Accountability
- > Goal 11.2 - Performance Based Planning
- > Goal Description: Make transportation investment decisions using a performance-based planning approach that is aligned with the RTP goals and supported by meaningful public engagement, multimodal data and analysis.

Fund Codes:

- > STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion .
- > Local = General local funds provided by the lead agency as part of the required match.

Other

- > On NHS: N/A
- > Metro Model: No
- > Model category and type: N/A
- > TCM project: No
- > Located on the CMP: No



Metro
2021-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
SPLIT FUNDS
Split STBG and match and commit
into Key 20597

Lead Agency: Metro		Project Type:	Planning		ODOT Key:	20877
Project Name: Regional MPO Planning (2021)	5	ODOT Type	Planning		MTIP ID:	70872
		Performance Meas:	No		Status:	0
Project Status: 0 = No activity (Planning)		Capacity Enhancing:	No		Comp Date:	12/31/2025
		Conformity Exempt:	Yes		RTP ID:	11103
		On State Hwy Sys:	No		RFFA ID:	50365
		Mile Post Begin:	N/A		RFFA Cycle:	2019-21
		Mile Post End:	N/A		UPWP:	No
		Length:	N/A		UPWP Cycle:	N/A
		Flex Transfer to FTA	Yes		Transfer Code	N/A
		1st Year Program'd:	2021		Past Amend:	0
		Years Active:	1		OTC Approval:	No
		STIP Amend #: TBD			MTIP Amnd #: AP21-09-APR	
Detailed Description: This program provides support to Metro in meeting MPO mandates, established through federal regulations. Examples of these requirements include development and adoption of a long-range plan (RTP) and a short-range transportation improvement program (TIP), support for a decision-making structure that includes local governments and state and regional transportation providers, participation in the development of local plans and projects that implement regional policy, maintenance of travel demand models for planning by Metro, local governments and state and regional transportation service providers. In addition, these responsibilities include maintenance of land use, economic, demographic, GIS and aerial photo services for planning by Metro, local governments, and state and regional transportation providers, and compliance with federal certification requirements like environmental justice and air quality.						
STIP Description: Funding for Metro to meet Metropolitan Planning Organization mandates, established through the federal regulations.						

Last Amendment of Modification: None. This is the first amendment to the project.

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
STBG-U	Z230	2021	\$ 1,359,877					\$ -
STBG-U	Z230	2025	\$ 154,280					\$ 154,280
								\$ -
								\$ -
							Federal Totals:	\$ 154,280
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2021	\$ 155,644					\$ -
Local	Match	2025	\$ 17,658					\$ 17,658
								\$ -
								\$ -
							Local Total	\$ 17,658
Phase Totals Before Amend:			\$ 1,515,521	\$ -	\$ -	\$ -	\$ -	\$ 1,515,521
Phase Totals After Amend:			\$ 171,938	\$ -	\$ -	\$ -	\$ -	\$ 171,938
Year Of Expenditure (YOE):								\$ 171,938

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Fund split and combining into Key 20597 results from final SFY 2022 UPWP Master Agreement of projects as detailed in Page 1 of the Rosetta Stone.

Amendment Summary:

The formal amendment splits off required STBG-U federal funds and required match and combines them into Key 20597. The amount is determined by the SFY 2022 UPWP Master List of Projects. Together with the PL and 5303 funds in Key 20597, the SFY 2022 UPWP Master List of projects will be able to complete the final agreement and obligate the federals around July 2021.

- > Will Performance Measurements Apply: No

RTP References:

- > RTP ID: 11103 - Regional MPO Activities for 2018-2027
- > RTP Description: System planning, topical planning, and activities that Metro must conduct for the period 2018-2027 in order to remain certified as an metropolitan planning organization (MPO) by the federal government and be eligible to receive and distribute federal transportation dollars.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning and Technical Studies
- > UPWP amendment: Not applicable & not required
- > RTP Goals: Goal 11 - Transparency and Accountability
- > Goal 11.2 Performance Based Planning
- > Goal Description: Make transportation investment decisions using a performance-based planning approach that is aligned with the RTP goals and supported by meaningful public engagement, multimodal data and analysis.

Fund Codes:

- > STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion .
- > Local = General local funds provided by the lead agency as part of the required match.

Other

- > On NHS: No
- > Metro Model: N/A
- > Model category and type: N/A
- > TCM project: No
- > Located on the CMP: No



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

**Formal Amendment
COMBINE FUNDS**
Combine STBG plus add Carryover
PL and 5303

Lead Agency: Metro		Project Type:	Planning	ODOT Key:	20597
Project Name: Portland Metro Planning SFY22	6	ODOT Type	Planning	MTIP ID:	70986
		Performance Meas:	No	Status:	0
Project Status: 0 = No activity (Planning)		Capacity Enhancing:	No	Comp Date:	6/30/2022
		Conformity Exempt:	Yes	RTP ID:	11103
Short Description: Portland Metro MPO planning funds for Federal fiscal year 2021. Projects will be selected in the future through the MPO process. Completion of the MPO's SFY 2022 required Unified Planning Work Program (UPWP) activities supporting the categories of Transportation Planning, Regional Corridor/Area Planning, and Regional Administration/Support		On State Hwy Sys:	No	RFFA ID:	
		Mile Post Begin:	N/A	RFFA Cycle:	2019-21
		Mile Post End:	N/A	UPWP:	Yes
		Length:	N/A	UPWP Cycle:	SFY 2022
		Flex Transfer to FTA	No	Transfer Code	N/A
		1st Year Program'd:	2020	Past Amend:	2
		Years Active:	2	OTC Approval:	Yes
		STIP Amend #:	TBD	MTIP Amnd #:	AP21-09-APR
Detailed Description: The Unified Planning Work Program (UPWP) is a federally required document which defines Metro's annual list of transportation planning activities along with the committed federal funding to be accomplished during the state fiscal year (July 1 to June 30th). The UPWP documents the metropolitan planning requirements, and planning priorities facing the Portland metropolitan area.					
STIP Description: Portland Metro MPO planning funds for Federal fiscal year 2021. Projects will be selected in the future through the MPO process.					

Last Amendment of Modification: None: First amendment of the project

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other	Construction	Total
Federal Funds								
PL	Z450	2021	\$ 1,907,827					\$ -
PL	Z450	2021	\$ 2,536,626					\$ 2,536,626
5303	Z77D	2021	\$ 618,917					\$ -
5303	Z277D	2021	\$ 1,903,393					\$ 1,903,393
STBG	Z230	2021	\$ 1,205,597					\$ 1,205,597
								\$ -
							Federal Totals:	\$ 5,645,616
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
State (to PL)	Match	2021	\$ 218,359					\$ -
State (to PL)	Match	2021	\$ 290,328					\$ 290,328
Other (OVM)	OTH0	2021				\$ 225,000		\$ 225,000
								\$ -
Note: State Other funds are authorized State Support funds by ODOT. Added to Other phase to avoid confusion							State Total:	\$ 515,328
Local Funds								
Local (5303)	Match	2021	\$ 70,838					\$ -
Local (5303)	Match	2021	\$ 217,852					\$ 217,852
Local (STBG)	Match	2021	\$ 137,986					\$ 137,986
Other (OVM)	OTH0	2021	\$ 2,128,326					\$ 2,128,326
								\$ -
Note: Local Other funds are overmatch							Local Total	\$ 2,484,164
Phase Totals Before Amend:			\$ 2,815,941	\$ -	\$ -	\$ -	\$ -	\$ 2,815,941
Phase Totals After Amend:			\$ 8,420,108	\$ -	\$ -	\$ 225,000	\$ -	\$ 8,645,108
Year Of Expenditure (YOE):								\$ 8,645,108

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Add C/O PL and 5303 plus add STBG from Key 20877 and State Support funds to develop SFY 2022 UPWP Master Agreement Project Grouping Bucket
- > The addition of the carryover PL and 5303 represents a 52% cost increase to the project requiring a formal amendment to complete. All other associated UPWP projects will be part of the formal amendment as well. This includes adjustments to Keys 20877 and 20880.

Amendment Summary:

The formal amendment updates the SFY 2022 UPWP project Key. The updates are based on the final expected authorized UPWP projects and funding. Key 20597 represents the Master Agreement of UPWP projects that fall into three planning categories: Transportation Planning, Regional Corridor/Area Planning, and Regional Administration/Support. The authorized funding includes federal Planning funds (PL), FTA Section 5303 Planning funds, and Surface Transportation Block Grant (STBG) funds. Additionally ODOT is contributing \$225,000 of State support funds plus the match requirement for the PL funds. Together, the approved SFY 2022 UPWP planning activities total \$8,645,108.

- > Will Performance Measurements Apply: No

RTP References:

- > RTP ID: 11103 - Regional MPO Activities for 2018-2027
- > RTP Description: System planning, topical planning, and activities that Metro must conduct for the period 2018-2027 in order to remain certified as an metropolitan planning organization (MPO) by the federal government and be eligible to receive and distribute federal transportation dollars.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning and Technical Studies
- > UPWP amendment: Yes
- > RTP Goals: Goal 11 - Transparency and Accountability
- > Goal 11.2 - Performance Based Planning
- > Goal Description: Make transportation investment decisions using a performance-based planning approach that is aligned with the RTP goals and supported by meaningful public engagement, multimodal data and analysis.

Fund Codes:

- > STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion allocated to the MPOs.
- > PL = Federal Planning funds allocated to MPOs to complete various required regional planning actions
- > State = State funds normally committed to the project as part of the required match.
- > 5303 = Federal Section 5303 transit funds used to complete various transit planning activities.
- > Local = General local funds provided by the lead agency as part of the required match.
- > Other = General local or state funds provided by the lead agency above the required match amount to support phase costs above the federal and match amount programmed.

Other

- > On NHS: No
- > Metro Model: N/A
- > Model category and type: N/A
- > TCM project: No



Metro
2021-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
ADD NEW PROJECT
FY 2021 program year added to RTO
funding

Lead Agency: Metro		Project Type:	Other		ODOT Key:	21312
Project Name: Metro Transportation Options (FFY 18-21)	7	ODOT Type	OP-TDM		MTIP ID:	71055
		Performance Meas:	No		Status:	0
Project Status: 0 = No activity (Planning)		Capacity Enhancing:	No		Comp Date:	12/31/2023
		Conformity Exempt:	Yes		RTP ID:	11054
		On State Hwy Sys:	No		RFFA ID:	50357
		Mile Post Begin:	N/A		RFFA Cycle:	2019-21
		Mile Post End:	N/A		UPWP:	Yes
		Length:	N/A		UPWP Cycle:	SFY 2022
		Flex Transfer to FTA	Yes		Transfer Code	5307
		1st Year Program'd:	2020		Past Amend:	2
		Years Active:	2		OTC Approval:	Yes
		STIP Amend #:	21-24-0583		MTIP Amnd #:	AP21-09-APR
Detailed Description: Supplemental funding award from ODOT to the Metro FY 2021 Regional Travel Options (RTO) program in Key 20879. The RTO program implements strategies to help diversify trip choices, reduce pollution and improve mobility. RTO includes all of the alternatives to driving alone, such as carpooling, vanpooling, riding transit, bicycling, walking and telecommuting.						
STIP Description: Promote available transportation alternatives.						
Last Amendment of Modification: None: First amendment to the project						

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other (RTO, TDM)	Total
Federal Funds								
State STBG	2240	2018					\$ 574,732	\$ 574,732
AC-STBGS	ACP0	2021					\$ 147,676	\$ 147,676
								\$ -
								\$ -
Note: AC-STBGS Federal share = 92.30% per STIP Summary Sheet							Federal Totals:	\$ 722,408
Federal Fund Obligations \$:							\$ 574,732	Federal Aid ID
EA Number:							TDM00019	0000(270)
Initial Obligation Date:							9/25/2018	
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2018					\$ 47,963	\$ 47,963
Local	Match	2021					\$ 12,324	\$ 12,324
								\$ -
								\$ -
							Local Total	\$ 60,287
Phase Totals Before Amend:			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Phase Totals After Amend:			\$ -	\$ -	\$ -	\$ -	\$ 782,695	\$ 782,695
Year Of Expenditure (YOE):								\$ 782,695

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > ODOT Supplemental funding by extending the program years to be 2018-2021

Amendment Summary:

The project was part of the 2018-21 MTIP. ODOT provides the RTO program with supplemental funding by agreement. \$574,732 of State STBG were committed and obligated in support of the Metro RTO program. The program years were 2018-2020. Per agreement between Metro and ODOT, the program years for this allocation have been extended to include FY 2021. This equals a total addition of \$160,000 in new funding for FY 2021. The federal portion will be \$147,676. Through this formal amendment, Key 21312 is being re-added to the MTIP with the new added FY 2021 funding year.

- > Will Performance Measurements Apply: No

RTP References:

- > RTP ID: 11054 - Regional Travel Options Activities for 2018-2027
- > RTP Description: Metro awards grant funding, coordinates marketing efforts, and provides technical assistance and evaluation to agencies and organizations to encourage people to make fewer auto trips. RTO-funded activities include worksite and college information programs that make transit, bicycling, walking and ridesharing easier to use.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Other - Planning and Technical Studies
- > UPWP amendment: Yes
- > RTP Goals: Goal 3 - Transportation Choices
- > Goal Objective 3.3 Access to Transit
- > Goal Description: Increase household and job access to current and planned frequent transit service.

Fund Codes:

- > State STBG = Federal Surface Transportation Block Grant funds appropriated to the states and used by the DOT for eligible projects.
- > AC-STBGS = Advance Construction programmatic fund type code used as a funding placeholder with the expectation that State STBG will be used as the final federal funds to be obligated.
- > Local = General local funds provided by the lead agency as part of the required match.

Other

- > On NHS: Yes
- > Metro Model: Yes
- > Model category and type: Pedestrian - Pedestrian Parkway
- > TCM project: No
- > Located on the CMP: Yes



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
ADD CONSTRUCTION PHASE
Add Cons phase funding

Lead Agency: ODOT		Project Type: Safety		ODOT Key: 19267
Project Name: OR141 (Hall Blvd): Scholls Ferry Rd - Locust St	8	ODOT Type Bike/Ped		MTIP ID: 70806
		Performance Meas: Yes		Status: 5
Project Status: 5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.		Capacity Enhancing: No		Comp Date: 12/31/2023
		Conformity Exempt: Yes		RTP ID: 12095
Short Description: In Beaverton on OR141 from Scholls Ferry Rd to Locust St (MP 2.82 to 4.10), construct and complete ADA curb and ramp improvements to include pedestrian push button poles, relocate signal junction boxes, and radar detection upgrades to improve access.		On State Hwy Sys: OR141		RFFA ID: N/A
		Mile Post Begin: 2.82		RFFA Cycle: N/A
		Mile Post End: 4.10		UPWP: No
		Length: N/A		UPWP Cycle: N/A
		Flex Transfer to FTA No		Transfer Code N/A
		1st Year Program'd: 2020		Past Amend: 5
		Years Active: 2		OTC Approval: Yes
		STIP Amend #: 21-24-0609		MTIP Amnd #: AP21-09-APR
Detailed Description: In Beaverton on OR141 from Scholls Ferry Rd to Locust St (MP 2.82 to 4.10), construct and complete ADA curb and ramp improvements to include pedestrian push button poles, relocate signal junction boxes, and radar detection upgrades to improve access.				
STIP Description: Upgrade curb ramps in compliance with Americans with Disabilities Act (ADA) standards. Pedestrian push button poles, relocate signal junction boxes, and radar detection upgrades to improve access..				
Last Amendment of Modification: Formal - September 2020 - SP21-02-SEP - LIMITS CHANGE: The Mile Post limits for the project are expanded by 0.28 miles which triggers the formal amendment.				

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
State STP	M240	2016	-	\$ 191,125				\$ -
State STP (5-200k)	2231	2016		\$ 639,775				\$ 639,775
Redistribution	Z030 + M030	2016		\$ 526,452				\$ 526,452
AC-STBGS	ACP0	2016		\$ 448,650				\$ -
AC-STBGS	ACP0	2020			\$ 1,013,949			\$ -
Redistribution	Z030	2020			\$ 960,111			\$ 960,111
AC-STBGS	ACP0	2022					\$ 3,162,982	\$ 3,162,982
Federal Totals:								\$ 5,289,320
Federal Fund Obligations \$:				\$ 1,166,227	\$ 960,111			Federal Aid ID
EA Number:				PE002488	R9626000			
Initial Obligation Date:				4/9/2015	8/25/2020			
EA End Date:				N/A	N/A			
Known Expenditures:				N/A	N/A			
State Funds								
State (STP)	Match	2016	-	\$ 21,875				\$ -
State (STP)	Match	2016		\$ 73,225				\$ 73,225
State (Redist)	Match	2016		\$ 60,255				\$ 60,255
State (AC)	Match	2016		\$ 51,350				\$ -
State (AC)	Match	2020			\$ 116,051			\$ -
State (Redist)	Match	2020			\$ 109,889			\$ 109,889
State (AC)	Match	2022					\$ 362,018	\$ 362,018
State Total:								\$ 605,387
Local Funds								
								\$ -
								\$ -
Local Total								\$ -
Phase Totals Before Amend:			\$ -	\$ 1,299,707	\$ 1,130,000	\$ -	\$ -	\$ 2,429,707
Phase Totals After Amend:			\$ -	\$ 1,299,707	\$ 1,070,000	\$ -	\$ 3,525,000	\$ 5,894,707
Year Of Expenditure (YOE):								\$ 5,894,707

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Adding Construction phase to MTIP to FY 2022. Cost increase = \$3,465,000 = a 143% increase to the project.

Amendment Summary:

The formal amendment adds the construction phase to the project with an obligation year planned for FY 2022. The project remained in the prior obligated portion to the MTIP since PE and ROW were obligated by the end of the 2018-21 MTIP. With the addition of the Construction phase to the project, Key 19267 now becomes an active project in the MTIP again. A formal amendment is required when the construction is added to the MTIP. Additionally, the cost increase to the project is 143% which would have required a formal amendment.

- > Will Performance Measurements Apply: Yes - Safety

RTP References:

- > RTP ID: 12095 - Safety & Operations Projects
- > RTP Description: Projects to improve safety or operational efficiencies such as pedestrian crossings of arterial roads, railroad crossing repairs, slide and rock fall protections, illumination, signals and signal operations systems, that do not add motor vehicle capacity.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Safety - Projects that correct, improve, or eliminate a hazardous location or feature
- > UPWP amendment: No
- > RTP Goals: Goal 5 - Safety and Security
- > Goal 5.1 - Transportation Safety
- > Goal Description: Eliminate fatal and severe injury crashes for all modes of travel.

Fund Codes:

- > State STP or STBG = Federal Surface Transportation Block Grant funds appropriated to the state DOT and then committed to eligible projects .
- > State STBG 5-200K = Federal STBG funds limited for use in areas of population between 5,000 to 200,000.
- > AC-STBGS = Federal Advance Construction fund type placeholder the state DOT will use when the committed federal fund is not immediately available. In this case the expected federal fund is State STBG.
- > Redistribution = Federal funds that are taken from other states for failing to reach their obligation targets and then redistributed to other states as a reward for reaching their obligation target goals. Generally, the eligibility for Redistribution funds are the same as STBG.
- > State = General state funds provided by the lead agency as part of the required match.

Other

- > On NHS: No
- > Metro Model: Yes
- > Model category and type: OR 141 is identified as an Minor Arterial in the Metro Motor Vehicle modeling network
- > TCM project: No
- > Located on the CMP: No



Metro
2021-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

**Formal Amendment
CANCEL PROJECT**

Lead Agency: Metro		Project Type:	Bridge		ODOT Key:	21712
Project Name: OR99W : Rock Creek NB Bridge	9	ODOT Type	Bridge		MTIP ID:	71197
		Performance Meas:	Safety		Status:	0
Project Status: 0 = No activity		Capacity Enhancing:	No		Comp Date:	N/A
		Conformity Exempt:	Yes		RTP ID:	N/A
Short Description: Install new bridge rail to meet current safety standards		On State Hwy Sys:	OR99W		RFFA ID:	N/A
		Mile Post Begin:	13.82		RFFA Cycle:	N/A
		Mile Post End:	13.84		UPWP:	No
		Length:	0.02		UPWP Cycle:	N/A
		Flex Transfer to FTA	No		Transfer Code	N/A
		1st Year Program'd:	2020		Past Amend:	2
		Years Active:	2		OTC Approval:	Yes
		STIP Amend #:	21-24-0607		MTIP Amnd #:	AP21-09-APR
Detailed Description: Install new bridge rail to meet current safety standards						
CANCEL PROJECT FROM 2021-24 MTIP						
STIP Description: Install new bridge rail to meet current safety standards.						

Last Amendment of Modification: August 2020 - Administrative - AB21-01-AUG1- Slip PE to 2021

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
NHPP	2001	2021	-	\$ 66,471			\$ -	-
NHPP	2001	2021	-				\$ 618,334	-
							\$ -	-
							\$ -	-
							\$ -	-
							Federal Totals:	\$ -
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
State	Match	2021	-	\$ 7,608			\$ -	-
State	Match	2021					\$ 70,771	-
							\$ -	-
							\$ -	-
							State Total:	\$ -
Local Funds								
							\$ -	-
							\$ -	-
							Local Total	\$ -
Phase Totals Before Amend:			\$ -	\$ 74,079	\$ -	\$ -	\$ 689,105	\$ 763,184
Phase Totals After Amend:			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Year Of Expenditure (YOE):								\$ -

Notes and Summary of Changes:

- > Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.
- > Canceled project will transfer funding to Key 20118 Indian Creek bridge in Region 2.

Amendment Summary:

The formal amendment cancels the project and finding from the 2021-24 MTIP. The ODOT Bridge program has decided to cancel moving forward with this project and transfer all funding to Indian Creek bridge in Key 20118 in Region 2.

- > Will Performance Measurements Apply: Yes - no

RTP References:

- > RTP ID: 12092 - Bridge Rehabilitation & Repair
- > RTP Description: Projects to repair or rehabilitate bridges, such as painting, joint repair, bridge deck repair, seismic retrofit, etcetera, that do not add motor vehicle capacity.
- > Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Safety - Guardrails, median barriers, crash cushions.
- > UPWP amendment: No
- > RTP Goals: Goal 5 - Safety and Security
- > Goal 5.1 - Transportation Safety
- > Goal Description: Eliminate fatal and severe injury crashes for all modes of travel.

Fund Codes:

- > NHPP = Federal National Highway Performance Program funds. .
- > State = General State funds provided by the lead agency as part of the required match.

Other

- > On NHS: Yes
- > Metro Model: No
- > Model category and type: N/A
- > TCM project: No
- > Located on the CMP: Yes



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
LIMITS CHANGE
Adjust limits to be 17th to Rusk

Lead Agency: ODOT		Project Type:	O&M		ODOT Key:	21598
Project Name: OR224: SE 17th Ave - OR213 OR224: SE 17th Ave - SE Rusk Road	10	ODOT Type	Preserve		MTIP ID:	71153
		Performance Meas:	No		Status:	4
Project Status: 4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%, 90% design activities initiated).		Capacity Enhancing:	No		Comp Date:	
		Conformity Exempt:	Yes		RTP ID:	12094
		On State Hwy Sys:	OR224		RFFA ID:	N/A
		Mile Post Begin:	-0.01		RFFA Cycle:	N/A
		Mile Post End:	3.95 2.72		UPWP:	No
		Length:	3.96 2.73		UPWP Cycle:	N/A
		Flex Transfer to FTA	No		Transfer Code	N/A
		1st Year Program'd:	2021		Past Amend:	0
		Years Active:	1		OTC Approval:	No
		STIP Amend #: 21-24-0586			MTIP Amnd #:	AP21-09-APR
Detailed Description: Design for a future pavement resurfacing project to repair cracking, rutting and wear to keep this section safe for travel.						
STIP Description: Design for a future construction project to repair cracking, rutting and wear to keep this section safe for travel.						
Last Amendment of Modification: None: First amendment to the project						

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
NHPP	Z001	2021	-	\$ 2,348,893				\$ -
NHPP	Z001	2021		\$ 2,263,649				\$ 2,263,649
AC-NHPP (89.73%)	ACP0	2022			\$ 85,243			\$ 85,243
								\$ -
							Federal Totals:	\$ 2,348,892
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
State	Match	2021	-	\$ 268,841				\$ -
State	Match	2021		\$ 259,085				\$ 259,085
State	Match	2022			\$ 9,757			\$ 9,757
								\$ -
							State Total:	\$ 268,842
Local Funds								
								\$ -
								\$ -
							Local Total	\$ -
Phase Totals Before Amend:			\$ -	\$ 2,617,734	\$ -	\$ -	\$ -	\$ 2,617,734
Phase Totals After Amend:			\$ -	\$ 2,522,734	\$ 95,000	\$ -	\$ -	\$ 2,617,734
Year Of Expenditure (YOE):								\$ 2,617,734

Notes and Summary of Changes:

> Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.

Amendment Summary:

The formal amendment adjusts the project limits to be SE Lake to Rusk Rd. The PE phase cost has been re-estimated allowing \$95,000 to be shifted forward to Right-of-Way. The total project cost remains unchanged at \$2,617,734. The project scope remains unchanged as a roadway rehabilitation/rehab project. The project limit reduction reflects now ends at Rusk road where a separate capacity project will add a third lane to OR 224 from Rusk to OR213. The amendment now separates the rehabilitation project from the capacity improvement.

> Will Performance Measurements Apply: Yes - Safety

RTP References:

> RTP ID: 12094 - Highway Pavement Maintenance

> RTP Description: Pavement rehabilitation/repair projects includes overlays, slurry seals, full pavement replacement, and other minor roadway improvements (curb and gutters, adding/widening shoulders) that do not add motor vehicle capacity.

> Exemption Status: Project is not an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Safety - Pavement resurfacing and/or rehabilitation -

> UPWP amendment: No

> RTP Goals: Goal 10 Fiscal Stewardship

> Goal 10.1 - Infrastructure Condition

> Goal Description: Plan, build and maintain regional transportation assets to maximize their useful life, minimize project

Fund Codes:

> NHPP = Federal National Highway Performance Program funds appropriated to the states.

> AC-NHPP = Advance Construction fund type placeholder allowing the project phase to move forward until the federal fund type code is identified and committed to the project. For this project, the programmatic fund type code is anticipated to be NHPP.

> State = General state funds provided by the lead agency as part of the required match.

Other

> On NHS: Yes

> Metro Model: Yes

> Model category and type: Throughway, Metro Motor Vehicle modeling network

> TCM project: No

> Located on the CMP: Yes



Metro
20121-24 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Formal Amendment
ADD NEW PROJECT
Add Portland's new TSMO ATC
upgrade project

Lead Agency: Portland		Project Type:	TSMO/ITS		ODOT Key:	NEW
Project Name: Local Traffic Signal Controller Replacement	11	ODOT Type	TBD		MTIP ID:	NEW
		Performance Meas:	ITS		Status:	0
Project Status: 1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinement, etc.)		Capacity Enhancing:	No		Comp Date:	12/31/2022
		Conformity Exempt:	Yes		RTP ID:	11103
		On State Hwy Sys:	No		RFFA ID:	N/A
		Mile Post Begin:	N/A		RFFA Cycle:	N/A
		Mile Post End:	N/A		UPWP:	No
		Length:	N/A		UPWP Cycle:	N/A
		TSMO Award:	Yes		TSMO Call	2019
		1st Year Program'd:	2021		Past Amend:	0
		Years Active:	0		OTC Approval:	No
		STIP Amend #:	TBD		MTIP Amnd #:	AP21-09-APR
Detailed Description: 2019 TSMO Awarded project. This project includes purchasing Advanced Transportation Controllers (ATCs, hardware and software) and converting the existing traffic signal timing at 141 traffic signals. Upgrade locations have been selected based on the priorities in the PBOT ITS Plan.						
STIP Description: TBD						
Last Amendment of Modification: None: Initial programming						

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other (TSMO/ITS)	Total
Federal Funds								
STBG-U	2230	2022					\$ 840,435	\$ 840,435
								\$ -
								\$ -
							Federal Totals:	\$ 840,435
Federal Fund Obligations \$:								Federal Aid ID
EA Number:								
Initial Obligation Date:								
EA End Date:								
Known Expenditures:								
State Funds								
								\$ -
								\$ -
							State Total:	\$ -
Local Funds								
Local	Match	2022					\$ 96,192	\$ 96,192
								\$ -
							Local Total	\$ 96,192
Phase Totals Before Amend:			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Phase Totals After Amend:			\$ -	\$ -	\$ -	\$ -	\$ 936,627	\$ 936,627
Year Of Expenditure (YOE):								\$ 936,627

Notes and Summary of Changes:

> Red font = prior amended funding or project details. Blue font = amended changes to funding or project details. Black font indicates no change has occurred.

Amendment Summary:

The formal amendment adds the new 2019 TSMO awarded project to the 2021-24 MTIP. The project is an Transportation Systems Management (TSMO) project that will purchase Advanced Transportation Controllers (ATCs, hardware and software) and converting the existing traffic signal timing at 141 traffic signals throughout Portland.

> Will Performance Measurements Apply: Yes - ITS

RTP References:

> RTP ID: 11104

> RTP Description: Implement and maintain Transportations System Management and Operations (TSMO) investments used by multiple agencies (e.g., Central Signal System, traffic signal priority, data communications and archiving) and coordinate response to crashes. The regional program also includes strategy planning (e.g., periodic TSMO Strategy updates), coordination of activities for TransPort subcommittee to TPAC, updates to the blueprints for agency software and hardware systems (ITS Architecture), improving traveler information with live-streaming data for connected vehicle and mobile information systems (TripCheck Traveler Information Portal Enhancement), and improving “big data” processing (PSU PORTAL) to support analyzing performance measures.

> Exemption Status: Project is an exempt, non-capacity type project per 40 CFR 93.126, Table 2 - Safety - Traffic control devices and operating assistance other than signalization projects.

> UPWP amendment: No

> RTP Goals: Goal 4 - Reliability and Efficiency

> Goal Objective 4.2 - Travel Management

> Goal Description: Increase the use of real-time data and decision-making systems to actively manage transit, freight, arterial and throughway corridors.

Fund Codes:

> STBG-U = Federal Surface Transportation Block Grant funds appropriated to the states with a portion allocated to the MPOs for various eligible projects

> Local = General local funds provided by the lead agency as part of the required match.

Other

> On NHS: N/A

> Metro Model: N/A

> Model category and type: N/A

> TCM project: No

> Located on the CMP: No

Memo



Metro

600 NE Grand Ave.
Portland, OR 97232-2736

Date: March 29, 2021
To: TPAC and Interested Parties
From: Ken Lobeck, Funding Programs Lead
Subject: April 2021 MTIP Formal Amendment & Resolution 21-5169 Approval Request

FORMAL AMENDMENT STAFF REPORT

FOR THE PURPOSE OF AMENDING THE 2021-24 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) TO CORRECTLY REFLECT THE NEW METRO STATE FISCAL YEAR 2022 UNIFIED PLANNING WORK PROGRAM (UPWP) CONSISTING OF SEVEN PROJECTS PLUS AMENDING FOUR ADDITIONAL PROJECTS TO ENSURE THEIR NEXT FEDERAL APPROVAL STEP CAN OCCUR IMPACTING METRO, ODOT, AND PORTLAND(AP21-09-APR)

BACKGROUND

What This Is:

The April 2021 Formal Metropolitan Transportation Improvement Program (MTIP) Formal/Full Amendment which is contained in Resolution 21-5169 and being processed under MTIP Amendment AP21-09-APR.

What is the requested action?

Staff is providing TPAC their official notification and requests they provide JPACT an approval recommendation of Resolution 21-5169 consisting of eleven projects which include required updates to the SFY 2022 UPWP and impacts Metro, ODOT, and Portland.

Proposed March 2021 Formal Amendment Bundle					
Amendment Type: Formal/Full					
Amendment #: AP21-09-APR					
Total Number of Projects: 11					
ODOT Key #	MTIP ID #	Lead Agency	Project Name	Project Description	Description of Changes
SFY 2022 UPWP Related Project Amendments					
Project #1 Key 20879	70938	Metro	Regional Travel Options (2020) Metro UPWP Regional Travel Options (SFY 2022)	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility.	COMBINE FUNDS: The formal amendment combines STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP

ODOT Key #	MTIP ID #	Lead Agency	Project Name	Project Description	Description of Changes
Project #2 Key 20880	70873	Metro	Regional Travel Options (2021)	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility.	SHIFT/SPLIT FUNDS: The formal amendment shift STBG-U (\$1,058,418) plus match (\$121,141) from Key 20880 to Key 20879 to fully fund required RTO activities for SFY 2022. Source of funding is the SFY 2022 UPWP. Key 20879 and as carried over from FY 20220 unobligated due to the Covid-19 situation.
Project #3 Key New	New TBD	ODOT	Westside Corridor Multimodal Improvements Study	US 26 (Sunset Highway) corridor study to identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor	ADD NEW PROJECT: The formal amend adds the new approved stand-alone UPWP project from the SFY 2022 UPWP
Project #4 Key 20888	70871	Metro	Corridor and Systems Planning (2020)	Corridors and Systems Planning Program conducts planning level work in corridors. Emphasizes the integration of land use and transportation. Determines regional system needs, functions, desired outcomes, performance measures, investment strategies.	SPLIT FUNDS: The amendment splits off \$12,175 of STBG-U plus required match and commits the funds to Key 20597 to support the Corridor Refinement and Project Development (Investment Areas) planning project in the SFY 2022 UPWP Master Agreement list of projects.
Project #5 Key 20877	70872	Metro	Regional MPO Planning (2021)	Funding for Metro to meet Metropolitan Planning Organization mandates, established through the federal regulations.	SPLIT FUNDS: The formal amendment splits off required STBG-U federal funds and required match and combines them into Key 20597. The amount is determined by the SFY 2022 UPWP Master List of Projects.
Project #6 Key 20597	70986	Metro	Portland Metro Planning SFY22	Portland Metro MPO planning funds for Federal fiscal year 2021. Projects will be selected in the future through the MPO process. Completion of the MPO's SFY 2022 required Unified Planning Work Program (UPWP) activities supporting the categories of Transportation Planning, Regional Corridor/ Area Planning, and Regional Administration/Support	COMBINE FUNDS: The formal amendment updates the SFY 2022 UPWP project Key. The updates are based on the final expected authorized UPWP projects and funding. Key 20597 represents the Master Agreement of UPWP projects that fall into three planning categories: Transportation Planning, Regional Corridor/ Area Planning, and Regional Administration/Support
Project #7 Key 21312 New Project	71055	Metro	Metro Transportation Options (FFY 18-21)	Supplemental funding from ODOT supporting the Regional Travel Options (RTO) Program and Key 20879 for FY 2021	ADD NEW PROEJCT The formal amendment adds the project to the 2021-24 MTIP and provides supplemental funding for the FY 2021 fiscal year for the Metro Regional Travel Options (RTO) program
End SFY 2022 UPWP Related Project Amendments					

Project #8 Key 19267	70806	ODOT	OR141 (Hall Blvd): Scholls Ferry Rd - Locust St	In Beaverton on OR141 from Scholls Ferry Rd to Locust St (MP 2.82 to 4.10), construct and complete ADA curb and ramp improvements to include pedestrian push button poles, relocate signal junction boxes, and radar detection upgrades to improve access.	<u>ADD CONSTRUCTION PHASE:</u> The formal amendment adds the Construction phase to the project. \$3,525,000 addition to the project allows the construction phase to move forward and be obligated during FY 2022. The total project cost increases to \$5,894,707.
Project #9 Key 21712	71197	ODOT	OR99W : Rock Creek Bridge	Install new bridge rail to meet current safety standards	<u>CANCEL PROJECT:</u> The ODOT Bridge program is canceling the project and transferring the funding to the Indian Creek Bridge in Region 2 currently programmed in Key 21118.
Project #10 Key 21598	71153	ODOT	OR224: SE 17th Ave - OR213 OR224: SE 17th Ave - SE Rusk Road	Design for a future pavement resurfacing project to repair cracking, rutting and wear to keep this section safe for travel	<u>LIMITS CHANGE:</u> The current project limits overlap with a separate project to add a third lane on OR 224 from Rusk Rd to OR 213. The third lane capacity project is programmed under Key 19720. The limits adjustment allow the rehabilitation/resurfacing project to proceed separately from the capacity enhancing project.
Project #11 Key NEW	TBD New	Portland	Local Traffic Signal Controller Replacement	Purchase Advanced Transportation Controllers (ATCs, hardware and software) and converting the existing traffic signal timing at 141 traffic signals throughout Portland	<u>ADD NEW PROJECT</u> The formal amendment adds the new Metro TSMO awarded project to the MTIP

AMENDMENT BUNDLE SUMMARY AND THE UPWP:

The April 2021 MTIP Formal Amendment bundle consists of required updates and changes to two groups of projects totaling eleven projects. First, seven projects involve updates and corrections to the SFY 2022 UPWP projects programmed in the MTIP as revenue placeholders. The second group involves regular changes (add a new project, limits changes, etc.) the usual projects to keep them on their federal delivery timeline.

The inclusion of the SFY 2022 UPWP is new to the MTIP formal amendment process. The purpose of these project amendments is to convert the annual approved UPWP group of projects into MTIP programming logic to enable them to move forward and obligate their federal funds. The conversion process is complex. It involves properly identifying three UPWP classification project types, multiple types of federal funds, an agreed upon carryover amount for two federal funds (PL and FTA 5303), and how the projects are structured and will be implemented.

To help with the updating process, Metro pre-programs UPWP project grouping buckets in the MTIP with annual funding estimates for the major program categories. This occurs for accounting and transparency purposes. Generally, the fund programming for the specific program and obligation year with an accuracy level of 90%-95% of the final authorized amount. Because of timing issues with obtaining a final approved UPWP Master Agreement, this process normally allows for the final updates to occur administratively based on the final approved annual UPWP.

The MTIP programming process for annual UPWP projects has occurred in as outlined below. However, starting with the next annual UPWP, the MTIP programming process will move away from a project “prepositioning” approach to a “revenue draw-down system” for the approved projects. Up through this year, this is how the MTIP programming process has functioned:

1. **Identify PL and 5303 Eligible Carryover:** The SFY 2022 UPWP begins by identifying unexpended funds from the SFY 2020 funding cycle and determines how much federal Planning funds (PL) and FTA Section 5303 planning funds are available for carryover into the new UPWP cycle. In the past, Metro would complete a de-programming process to the applicable project Key code in the MTIP and STIP. The funds would be then credited as available to the new UPWP in development. Example: If a project was awarded \$500,000 in federal PL funds as part of the SFY 2020 UPWP and only \$400,000 was needed and expended during the SFY 2020 year, then \$100,000 would be available for carry-over as unobligated PL funds for the SFY 2022 UPWP cycle.
2. **Determine final fiscal year PL and 5303 fund allocations:** Metro and Salem work together each year to determine the final annual PL and 5303 allocations to incorporated into the next UPWP. Each year's PL and 5303 fund allocation to the MPOs is usually close to the prior year allowing preprogramming estimates to occur with a high level of accuracy.
3. **Determine the annual amount of Surface Transportation Block Grant (STBG) to be committed to the next annual UPWP:** Along with PL and 5303 federal funds, Metro commits a portion of the MPO's allocated STBG funds as part of the Regional Flexible Fund Allocation (RFFA) – Step 1 process. Completing Steps 1 through 3 determines the annual federal revenues available for the next UPWP.
4. **Develop the Projects for the next UPWP:** With a basic budget in place, Metro Planning Staff can now determine the required and eligible UPWP projects to comprise the next UPWP cycle. During this part of the process, project needs are identified, study goals and

deliverables are determined as well as estimated costs. This process takes several months to complete. Many of the identified planning projects are annual recurring projects which continue from year to year. Examples include MTIP management, RTP Updates, Complete Streets Program. One-time studies also are included. The final list of proposed UPWP projects are then categorized into three UPWP Sections which include:

- Regional Transportation Planning
- Regional Corridor/Area Planning
- Administration and Support

The final draft of recommended UPWP projects are listed in a Funding Summary page at the end of the UPWP. The Funding Summary page provides a funding break out for each project. The type of funding (PL, 5303, and STBG) that will support the project is identified along with any local overmatching funds being committed. With the draft UPWP project list completed, all available revenues identified and assigned, and project narratives completed, the new UPWP can begin the Metro review and approval process which usually starts around March of each year. The goal is to have the new UPWP receive final Metro approval by May to ensure time exists to properly develop the UPWP Master Agreement between Metro and ODOT before the end of June. The final objective is to execute the UPWP Master Agreement mid-June to enable the federal funds the ability to be obligated by July 1st.

Metro SFY 2022 UPWP Final Proposed Project and Total Estimated Costs	
METRO	Requirement
	Total Direct and Indirect Costs
Regional Transportation Planning	
1 Transportation Planning	\$ 1,103,320
2 Climate Smart Implementation	\$ 13,563
3 Regional Transportation Plan Update (2023)	\$ 605,637
4 Metropolitan Transportation Improvement Plan	\$ 1,100,073
5 Air Quality Program	\$ 25,848
6 Regional Transit Program	\$ 54,274
7 Regional Mobility Policy Update	\$ 306,778
8 Regional Freight Program	\$ 153,345
9 Regional Freight Delay and Commodities Movement	\$ 222,891
10 Complete Streets Program	\$ 36,081
11 Regional Travel Options (RTO) and Safe Routes to School Program	\$ 3,852,228
12 Transportation System Management and Operations (TSMO) Regional Mobility Program	\$ 246,642
13 Enhanced Transit Concepts Pilot Program	\$ 115,753
14 Economic Value Atlas (EVA) Implementation	\$ 287,222
Regional Transportation Planning Total:	\$ 8,196,326
Regional Corridor/Area Planning	
1 Corridor Refinement and Project Development (Investment Areas)	\$ 340,388
2 Southwest Corridor Transit Project	\$ 396,695
3 Columbia Connects	\$ 258,857
4 MAX tunnel study	\$ 40,000
5 City of Portland Transit and Equitable Development Assessment	\$ 203,636
6 Tualatin Valley Highway Transit and Development Project	\$ 848,488
Regional Corridor/Area Planning Total:	\$ 2,088,725
Administration & Support	
1 MPO Management and Services	\$ 470,145
2 Civil Rights and Environmental Justice	\$ 98,235
3 Data Management and Visualization	\$ 1,346,382
4 Economic, Demographic and Land Use Forecasting Program	\$ 377,616
5 Travel Forecast Maintenance, Development and Application	\$ 1,476,176
6 Oregon Household Travel Survey	\$ 92,072
7 Technical Assistance Program	\$ 105,479
8 Intergovernmental Agreement Fund Program	\$ 51,636
Administration & Support Total:	\$ 4,018,401
GRAND TOTAL	\$ 14,303,452

- Translate the new draft UPWP Funding Summary into MTIP Programming Logic:** Once the new draft UPWP is in place and the final Metro reviews and approval steps begin (normally around March), MTIP programming steps also commence. The purpose of MTIP programming is to provide a required level of funding accounting, transparency, and tracking/monitoring ability for the approved UPWP projects and funds. Unfortunately, the UPWP and MTIP function under different sets of rules and requirements. Translating the UPWP into MTIP programming data can get messy.
- Establish MTIP Project Grouping Category Buckets Along with Revenue Estimates:** Metro has established project grouping buckets which will contain the various UPWP projects and funding along the rules of the MTIP. These buckets are programmed in each constrained year of the MTIP and have included the following:
 - **Metro Planning (For PL and 5303 projects):** Normally approved under the UPWP Master Agreement. For the SFY 2022 cycle, Key 20597 was established for these projects and funds. See next page for MTIP example.
 - **Metro Planning – STBG funds:** This bucket is used to identify the estimated STBG funding that will be committed to the annual UPWP projects. For the SFY 2022 UPWP cycle, Key 20877 was created to hold the STBG for the SFY 2022 UPWP.

- Regional Travel Options (RTO) program:** This bucket was created for the RTO program and is normally funded by STBG funds. The bucket is separate from the others because the federal STBG will be flex-transferred to the Federal Transit Administration (FTA) and obligated through FTA's process. Because of Covid-19 issues, the SFY 2021 RTO buck did obligate and was carried over and made available as part of the SFY 2022 UPWP. Keys 20879 and 20880 contain the allocated program funding across the two years which will be merged into a single project for SFY 2022.

- Corridor and Systems Planning:** This bucket provides a reserve (normally STBG funds) for regional corridor studies Metro will accomplish during the year. The funds are usually split off the bucket and committed specific projects which end up as stand alone UPWP projects in the MTIP. Key 20888 shown at right is an example.

- Stand-Alone UPWP Projects:** Periodically, some approved UPWP projects are required to be programmed in the MTIP as a stand-alone project. The project may involve consultants which then will require a separate Intergovernmental Agreement (IGA) to be developed. Key 20897 above is an example. The use of a consultant as part of the project requires implementation under its own IGA. The project is also acting as the pilot test-project as part of Metro's Planning Certification process.

2021-2026 Metropolitan Transportation Improvement Program (MTIP)
Current Approved Project List with Approved Amendments



LEAD AGENCY		Metro				
PROJECT NAME		Portland Metro Planning SFY22				
Project IDs		Project Description				Project Type
ODOT KEY	20597	Portland Metro MPO planning funds for Federal fiscal year 2021. Projects will be selected in the future through the MPO process.				Other
MTIP ID	70986					
RTP ID						
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning	2021	Metro PL (5303)	\$618,917	\$70,838	\$0	\$689,755
Planning	2021	Metro Planning (2450)	\$1,907,827	\$218,359	\$0	\$2,126,186
FY 21-26 Totals			\$2,526,744	\$289,197	\$0	\$2,815,941
Estimated Project Cost (YOE\$)			\$2,526,744	\$289,197	\$0	\$2,815,941

LEAD AGENCY		Metro				
PROJECT NAME		Regional MPO Planning (2021)				
Project IDs		Project Description				Project Type
ODOT KEY	20877	Funding for Metro to meet Metropolitan Planning Organization mandates established through the federal regulations.				Other
MTIP ID	70872					
RTP ID						
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning	2021	STBG-URBAN	\$1,359,877	\$155,644	\$0	\$1,515,521
FY 21-26 Totals			\$1,359,877	\$155,644	\$0	\$1,515,521
Estimated Project Cost (YOE\$)			\$1,359,877	\$155,644	\$0	\$1,515,521

2021-2026 Metropolitan Transportation Improvement Program (MTIP)
Current Approved Project List with Approved Amendments



LEAD AGENCY		Metro				
PROJECT NAME		Regional Travel Options (2020)				
Project IDs		Project Description				Project Type
ODOT KEY	20879	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility.				Regional travel options
MTIP ID	70873					
RTP ID	11054					
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Other	2021	STBG-URBAN	\$2,598,451	\$297,404	\$0	\$2,895,855
FY 21-26 Totals			\$2,598,451	\$297,404	\$0	\$2,895,855
Estimated Project Cost (YOE\$)			\$2,598,451	\$297,404	\$0	\$2,895,855

LEAD AGENCY		Metro				
PROJECT NAME		Regional Travel Options (2021)				
Project IDs		Project Description				Project Type
ODOT KEY	20880	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility.				Regional travel options
MTIP ID	70873					
RTP ID						
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Other	2022	STBG-URBAN	\$2,676,405	\$306,327	\$0	\$2,982,732
FY 21-26 Totals			\$2,676,405	\$306,327	\$0	\$2,982,732

LEAD AGENCY		Metro				
PROJECT NAME		Corridor and Systems Planning (2020)				
Project IDs		Project Description				Project Type
ODOT KEY	20888	Corridors and Systems Planning Program conducts planning level work in corridors. Emphasizes the integration of land use and transportation. Determines regional system needs functions desired outcomes performance measures investment strategies.				System/corridor planning
MTIP ID	70871					
RTP ID	11103					
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning	2022	STBG-URBAN	\$404,234	\$46,266	\$0	\$450,500
FY 21-26 Totals			\$404,234	\$46,266	\$0	\$450,500
Estimated Project Cost (YOE\$)			\$404,234	\$46,266	\$0	\$450,500

LEAD AGENCY		Metro				
PROJECT NAME		Regional Freight Studies				
Project IDs		Project Description				Project Type
ODOT KEY	20897	Regional freight and economic development planning projects and studies.				Roadway and bridge
MTIP ID	70889					
RTP ID	11103					
Phase	Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning	2021	STBG-URBAN	\$200,000	\$22,891	\$0	\$222,891
FY 21-26 Totals			\$200,000	\$22,891	\$0	\$222,891
Estimated Project Cost (YOE\$)			\$200,000	\$22,891	\$0	\$222,891

By utilizing the project grouping buckets, multiple years of expected UPWP program allocations can occur. When the final UPWP is developed, the buckets could be updated

quickly (usually administratively) allowing the final UPWP Master Agreement to be developed and executed. However, as a result of the new Obligation Targets program, a serious flaw has been identified with use of UPWP project grouping buckets. For the SFY 2023 UPWP cycle Metro will utilize a new revenue and programming structure for the UPWP projects in the MTIP which will avoid conflicts with the Obligation Targets program.

7. Categorize the UPWP projects into the Applicable MTIP Programming Buckets: Using the UPWP Funding Summary page, all projects are reviewed and categorized for MTIP programming. The categories include:

- **Projects to be included in the UPWP Master Agreement.** These UPWP projects normally include the following characteristics:
 - Annual recurring UPWP projects (MTIP management, RTP Update, Complete Streets Program, etc.)
 - Allocated federal PL, STBG, or STBG funding
 - Normally Metro a Metro led project
 - Normally will not require the use of external consultants

Note: See Attachment 1 (also shown below) for the list of SFY 2022 UPWP projects comprising the Master Agreement. For all of the projects, a single agreement will be developed and executed allowing all the included projects to be obligated under one project Key number. The projects and funding will be programmed in Key 20597.

Metro FY 2022 UPWP MTIP Programming for Key 20597 and Others													Version 3/9/2021									
#	Name	Point of Contact	In Master Agreement Key 20597	PL	PL Match	5363	5363 Match	STBG	STBG Match	Other Federal Funds Type	Federal Amount	Match to Federal	Total Federal Amount	Minimum Local Match Total	Local Overmatch Total	Total Project Cost	Federal Percent	Local Minimum Match Percent	Total Local Match Percent			
Regional Transportation Planning																						
1	Transportation Planning	Tom Kloster	Key 20597	\$ 890,692	\$ 101,943.18	\$ 105,239	\$ 12,043	\$ -	\$ -	N/A	\$ -	\$ -	\$ 995,931	\$ 111,989	\$ -	\$ 1,109,920	89.73%	10.27%	10.27%			
	Climate Smart Implementation	Kim Ellis	Key 20597	\$ -	\$ -	\$ 12,173	\$ 1,191	\$ -	\$ -	N/A	\$ -	\$ -	\$ 12,173	\$ 1,191	\$ -	\$ 13,364	89.73%	10.27%	10.27%			
	Regional Transportation Plan Update (2023)	Kim Ellis	Key 20597	\$ 65,028	\$ 7,443	\$ 478,484	\$ 54,762	\$ -	\$ -	N/A	\$ -	\$ -	\$ 543,492	\$ 62,203	\$ -	\$ 605,697	89.73%	10.27%	10.27%			
4	Metropolitan Transportation Improvement Program (MTIP)	Ted Leybold	Key 20597	\$ -	\$ -	\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480	N/A			\$ 866,341	\$ 99,157	\$ 134,576	\$ 1,060,074	78.75%	10.27%	21.23%			
5	Regional Transit Program	Elvort Rose	Key 20597	\$ -	\$ -	\$ 48,700	\$ 3,374	\$ -	\$ -	N/A	\$ -	\$ -	\$ 48,700	\$ 3,374	\$ -	\$ 52,074	89.73%	10.27%	10.27%			
6	Required Mobility Policy Update	Kim Ellis	Key 20597	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ -	N/A	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ 306,778	89.73%	10.27%	10.27%			
7	Regional Freight Program	Tim Collins	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 142,980	\$ 16,363	N/A	\$ -	\$ -	\$ 142,980	\$ 16,363	\$ -	\$ 159,343	89.73%	10.27%	10.27%			
8	Complete Streets Program	Lake McTigue	Key 20597	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ -	N/A	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ 96,080	89.73%	10.27%	10.27%			
10	Transportation System Management and Operations (TSMO) - Regional Mobility Program	Caleb Winter	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 231,312	\$ 26,330	N/A	\$ -	\$ -	\$ 231,312	\$ 26,330	\$ -	\$ 256,642	89.73%	10.27%	10.27%			
Corridor/Area Planning				PL	PL Match	5363	5363 Match	STBG	STBG Match	Other Federal	Federal Amount	Match to Federal										
1	Corridor Refinement and Project Development (Westmonte Area)	Mala Wilkinson	Shift from Key 20888 into 20597	\$ -	\$ -	\$ -	\$ -	\$ 12,173	\$ 1,191	N/A	\$ -	\$ -	\$ 12,173	\$ 1,191	\$ 327,420	\$ 340,593	3.57%	10.27%	96.43%			
3	Columbia Connects	Jeff Baker	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 232,273	\$ 26,363	N/A	\$ -	\$ -	\$ 232,273	\$ 26,363	\$ 327,420	\$ 586,278	39.62%	10.27%	60.38%			
Regional Administration & Support				PL	PL Match	5363	5363 Match	STBG	STBG Match	Other Federal Funds	Federal Amount	Match to Federal										
1	MPO Management and Services	Tom Kloster	Key 20597	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ -	N/A	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ 470,145	89.73%	10.27%	10.27%			
2	Civil Rights and Environmental Justice	Eryn Kelle	Key 20597	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ -	N/A	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ 98,235	89.73%	10.27%	10.27%			
3	Data Management and Visualization	Steve Erickson	Key 20597	\$ 720,999	\$ 82,513	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 720,999	\$ 82,513	\$ 543,528	\$ 1,346,982	53.52%	10.27%	46.48%			
4	Economic, Demographic and Land Use Forecasting Program	Chris Johnson	Key 20597	\$ 165,454	\$ 18,706	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 165,454	\$ 18,706	\$ 195,476	\$ 377,636	43.82%	10.27%	56.72%			
5	Travel Forecast Maintenance, Development and Application	Chris Johnson	Key 20597	\$ 788,277	\$ 89,993	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 788,277	\$ 89,993	\$ 599,906	\$ 1,478,176	53.26%	10.27%	46.74%			
6	Oregon Household Travel Survey	Chris Johnson	Key 20597	\$ 82,616	\$ 9,436	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 82,616	\$ 9,436	\$ -	\$ 92,072	89.73%	10.27%	10.27%			
7	Technical Assistance Program	Chris Johnson	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 94,646	\$ 10,833	N/A	\$ -	\$ -	\$ 94,646	\$ 10,833	\$ -	\$ 105,479	89.73%	10.27%	10.27%			
8	Air Quality Program	Grace Cho	Key 20597	\$ -	\$ -	\$ 23,193	\$ 2,653	\$ -	\$ -	N/A	\$ -	\$ -	\$ 23,193	\$ 2,653	\$ -	\$ 25,846	89.73%	10.27%	10.27%			
UPWP Project Funding Total Requirements				\$ 2,788,996	\$ 318,056	\$ 1,903,393	\$ 217,852	\$ 1,285,997	\$ 157,986	N/A	\$ -	\$ -	\$ 3,817,976	\$ 465,894	\$ 2,126,238	\$ 6,412,136						
PL+State =				\$ 1,019,042	10.27%									\$ 223,000		\$ 8,612,136						
																\$ 8,617,136						

- **UPWP Projects requiring stand-alone programming in the MTIP.** Some approved UPWP projects must be programmed as a stand-alone project in the MTIP due to several factors. These include:
 - The project is an approved UPWP project, but the lead agency is not Metro.

- The project will use of external consultants and require a separate IGA to obligate the federal funds and implement the project.
- The federal funds are not awarded from FHWA and will not follow the FHWA federal process. Example: The awarded funds are FTA based transit funds which will follow the FTA project delivery process.
- The federal funds are FHWA based (e.g. STBG), but will be flex transferred to FTA and follow the FTA project delivery process
- The complexity of the project in scope or funding prevents it from being included in the UPWP Master Agreement list of projects.

Note: Below is a sample list of projects identified in the SFY 2022 UPWP that will be programmed as stand-alone projects in the MTIP.

Separate UPWP Stand-Alone Projects																	
#	Name	POC	Key Number	PL	PL Match	S303	S303 Match	STBG	STBG Match	Catered	Fed \$	Match	Total	Min Match	Overmatch	TTC	Fed %
7	Regional Freight Studies	Tim Collins	Key 20897	\$	-	\$	-	\$	-	\$	200,000	\$	22,891	\$	-	\$	22,891
2	Southwest Corridor Transit Project	Brian Harper	TBD	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
9	Regional Travel Options (RTO) and Safe Routes to School Program	Dan Haemphill	Key 20879 + 20880	\$	-	\$	-	\$	-	\$	343,048	\$	39,283	\$	343,048	\$	39,283
5	City of Portland Transit and Equitable Development Assessment	Brian Harper	TBD	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
6	Tualatin Valley Highway Transit and Development Project	Elizabeth Mox O'Hara	Shift from Key 20888 to new key	\$	-	\$	-	\$	-	\$	326,822	\$	37,383	\$	-	\$	37,383
Total				\$	-	\$	-	\$	-	\$	3,983,491	\$	455,928	\$	-	\$	4,439,419

- **Projects that do not require MTIP programming.** The third category are the approved UPWP projects which do not require MTIP programming. In other words, these projects do not have any federal approval steps which requires them to be programmed in the MTIP. Normally, this means that the approved UPWP project is locally funded and has no federal funds committed to the project. Below is the list of locally funded projects part of the SFY 2022 UPWP.

FY 2022 UPWP Approved Projects - Locally Funded - not included in Key 20597 (and not programmed)																	
#	Name	POC	In Key 20597	PL	Match	S303	Match	STBG	Match	Catered	Fed \$	Match	Total Fed \$	Min Loc	Overmatch	TTC	Fed %
11	Enhanced Transit Concepts Pilot Program	Matt Bilm	N/A Local Funds	\$	-	\$	-	\$	-	\$	-	\$	-	\$	115,759	\$	115,759
12	Economic Value Atlas (EVA) Implementation	Jeff Reier	N/A Local Funds	\$	-	\$	-	\$	-	\$	-	\$	-	\$	287,222	\$	287,222
4	MAX Tunnel Study	Matt Bilm	N/A Local Funds	\$	-	\$	-	\$	-	\$	-	\$	-	\$	40,000	\$	40,000
9	Intergovernmental Agreement Fund Program	Grace Cho	N/A Local Funds	\$	-	\$	-	\$	-	\$	-	\$	-	\$	51,896	\$	51,896

- Update the Current MTIP UPWP Project Grouping Buckets with the Final Programming Amounts:** Once the UPWP projects are assigned to their MTIP programming category, the project grouping buckets can be updated with the correct fund codes and programming amounts.

Added note: In past years, the updates have occurred through an administrative modification. The unexpended carryover funds were already programmed and part of the constrained MTIP. De-obligating the funds and shifting the unexpended carryover forward is considered a lateral move within financially constrained MTIP years. However, the SFY 2022 fiscal reflects the first year of the new Federal Fiscal Year (FFY) 2021-24 constrained MTIP. The unexpended carryover funds now originate from a prior approved MTIP and are outside the 2021-24 MTIP. Therefore, the funds are considered new funding to the 2021-24 MTIP. The addition of the carryover funds are significant enough to exceed the 20% threshold and trigger a formal/full amendment.

- UPWP Project Keys Updated as part of the April 2021 Formal Amendment.** The following projects are being updated or added to the MTIP as part of the April 2021 Formal Amendment to properly reflect the projects and funding for the SFY 2022 UPWP. They include:

SFY 2022 UPWP MTIP Project Amendments as Part of the April 2021 Formal MTIP Amendment				
Project Key	Name	Lead Agency	Type	Amendment Action in Support of the SFY 2022 UPWP
20879	Regional Travel Options (2020) Metro UPWP Regional Travel Options (SFY 2022)	Metro	Stand Alone	Combines funds from Key 20880 into Key 20879 to fully fund the SFY 2022 Regional Travel Options (RTO) program. Key 20879 will be the primary project Key to obligate the approved funds for the SFY 2022 RTO program. The remaining funds in 20880 are being moved out to FFY 2025.
20880	Regional Travel Options (2021)	Metro	Stand Alone	
New (TBD)	Westside Corridor Multimodal Improvements Study	ODOT	Stand Alone	Adding the new SFY UPWP approved project to the MTIP
20888	Corridor and Systems Planning (2020)	Metro	Stand Alone	Splitting \$12,175 off this project grouping bucket to support the as part of the SFY 2022 UPWP Master Agreement list of Projects
20887	Regional MPO Planning (2021)	Metro	Master Agreement	Shifting the majority of funding over to Key 20597 to complete the STBG requirement to the UPWP Master Agreement. The remaining STBG is being pushed out to FFY 2025 and will be recommitted to the UPWP for the SFY 2023 cycle.
20597	Portland Metro Planning SFY22	Metro	Master Agreement	Updated PL and 5303 plus adds STBG from 20887 to reflect the SFY 2022 UPWP Master Agreement list of projects
21312 New Project	Metro Transportation Options (FFY 18-21)	Metro	Stand Alone	Adds the ODOT approved supplemental funding for the SFY 2022 UPWP RTO program to the MTIP

A detailed summary of the SFY 2022 UPWP projects amended are provided below. There are 7 projects impacted:

Project 1: <u>Regional Travel Options (2020)</u> <u>Metro UPWP Regional Travel Options (SFY 2022)</u>	
Lead Agency:	Metro
ODOT Key Number:	20879 MTIP ID Number: 70873
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> Yes • <u>Proposed improvements:</u> The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. Source: Existing project. • <u>Amendment Action:</u> Increase funding • <u>Funding:</u> The funding is federal Step1 Regional Flexible Funding Allocation (RFFA) supporting the Regional Travel Options (RTO) program. The approved funding originates from the SFY 2022 UPWP Funding Summary. This is an annual UPWP recurring project. The project is a UPWP Stand-alone project in the MTIP because the federal STBG funds will be flex-transferred to FTA • FTA Conversion Code: Section 5307. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: MPO Region wide ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No. ○ Metro approval date: Tentatively scheduled for May 6, 2021

	<p><u>AMENDMENT ACTION: COMBINED FUNDING</u></p> <p>The formal amendment completes combines funding from the SFY 2022 RTO allocation MTIP project in Key 20880 into Key 20879. Key 20879 is the State Fiscal Year (SFY) 2020 estimated allocation. Due to the Covid-19 situation, the RTO program could not move forward and obligate the authorized federal STBG funds in Key 20879 during SFY 2021. As a result, Key 20879 and its funding was carried over to support the program requirements for SFY 2022. RTO funds allocated for SFY 2022 exist in Key 20880. Needed funds to complete the RTO program needs during SFY 2022 are being combined into Key 20879 to be obligated during July 2021. The remaining funds in Key 20880 not required during SFY 2022 will be moved out of the 2021-24 MTIP fiscal year of FY 2025. The remaining funds will be advanced forward to SFY 2023 as part of next year’s UPWP RTO program needs.</p> <table><tr><th colspan="4">STBG-U Adjustments between Key 20879 and 20880</th></tr><tr><td>Key 20879 Existing Federal STBG funds Programmed for SFY 2022</td><td>Additional STBG Funds Required for SFY 2022 RTO Activities</td><td>Amount STBG funds combined from Key 20880</td><td>Revised STBG change to Key 20879 For SFY 2022</td></tr><tr><td>\$ 2,598,451</td><td>\$1,058,418</td><td>\$1,058,418</td><td>\$3,656,869</td></tr></table>	STBG-U Adjustments between Key 20879 and 20880				Key 20879 Existing Federal STBG funds Programmed for SFY 2022	Additional STBG Funds Required for SFY 2022 RTO Activities	Amount STBG funds combined from Key 20880	Revised STBG change to Key 20879 For SFY 2022	\$ 2,598,451	\$1,058,418	\$1,058,418	\$3,656,869
STBG-U Adjustments between Key 20879 and 20880													
Key 20879 Existing Federal STBG funds Programmed for SFY 2022	Additional STBG Funds Required for SFY 2022 RTO Activities	Amount STBG funds combined from Key 20880	Revised STBG change to Key 20879 For SFY 2022										
\$ 2,598,451	\$1,058,418	\$1,058,418	\$3,656,869										
What is changing?													
Additional Details:	<p>The Regional Travel Options (RTO) program guides the region in creating safe, vibrant, and livable communities by supporting programs that increase walking, biking, ride sharing, telecommuting, and public transit use. The RTO program is a critical strategy for getting the most benefit and use from transportation infrastructure investments. Through grants, sponsorships, policy guidance, regional coordination, and technical assistance, the Metro RTO program has been serving the region for over 20 years.</p> <p>The RTO program strives to create healthy, vibrant neighborhoods by:</p> <ul style="list-style-type: none">• Improving the quality of the air we breathe• Reducing car traffic• Creating more opportunities for people of all ages and abilities to walk, bike, take transit, and carpool• Making the most of transportation investments by promoting their use <p>The program works closely with partners such as public agencies and local community-based groups who implement the strategy at a local level.</p> <p>The RTO Strategy Plan is located on Metro’s website at: https://www.oregonmetro.gov/regional-travel-options-strategic-plan</p>												
Why a Formal amendment is required?	<p>Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, the net changes to the SFY 2022 UPWP result in adding prior allocated funds from a prior MTIP impacting multiple project which together then require a formal/full amendment complete.</p>												

Total Programmed Amount:	Key 20879 increases (federal + local match) from a total of \$2,895,855 to \$4,075,414
Added Notes:	

Project 2: Regional Travel Options (2021)	
Lead Agency:	Metro
ODOT Key Number:	20880 MTIP ID Number: 70873
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> Yes • <u>Proposed improvements:</u> The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. Source: Existing project. • <u>Amendment Action:</u> Shift funding to Key 20879 • <u>Funding:</u> The funding is federal Step1 Regional Flexible Funding Allocation (RFFA) supporting the Regional Travel Options (RTO) program. The approved funding originates from the SFY 2022 UPWP Funding Summary. This is an annual UPWP recurring project. The project is a UPWP Stand-alone project in the MTIP because the federal STBG funds will be flex-transferred to FTA for conversion to FTA Section 5307. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: MPO Region wide ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No. ○ Metro approval date: Tentatively scheduled for May 6, 2021

What is changing?	<p><u>AMENDMENT ACTION: COMBINED FUNDING</u></p> <p>The formal amendment completes shifts funding from Key 20880 to the SFY 2022 RTO allocation in Key 20879. Due to the Covid-19 situation, the RTO program could not move forward and obligate the authorized federal STBG funds in Key 20879 during SFY 2021. As a result, Key 20879 and its funding was carried over to support the program requirements for SFY 2022. The remaining funds in Key 20880 not required during SFY 2022 will be moved out of the 2021-24 MTIP fiscal year of FY 2025. The remaining funds will be advanced forward to SFY 2023 as part of next year’s UPWP RTO program needs.</p> <table><tr><th colspan="3">STBG-U Adjustments between Key 20879 and 20880</th></tr><tr><td>Key 20880 Existing Federal STBG funds Available for SFY 2022</td><td>STBG Funds Shifted to Key 20879 Required for SFY 2022 RTO Activities</td><td>Decreased STBG change to Key 20880</td></tr><tr><td>\$2,676,405</td><td>\$1,058,418</td><td>\$1,617,987</td></tr></table>	STBG-U Adjustments between Key 20879 and 20880			Key 20880 Existing Federal STBG funds Available for SFY 2022	STBG Funds Shifted to Key 20879 Required for SFY 2022 RTO Activities	Decreased STBG change to Key 20880	\$2,676,405	\$1,058,418	\$1,617,987
STBG-U Adjustments between Key 20879 and 20880										
Key 20880 Existing Federal STBG funds Available for SFY 2022	STBG Funds Shifted to Key 20879 Required for SFY 2022 RTO Activities	Decreased STBG change to Key 20880								
\$2,676,405	\$1,058,418	\$1,617,987								
Additional Details:	<p>The Regional Travel Options (RTO) program guides the region in creating safe, vibrant, and livable communities by supporting programs that increase walking, biking, ride sharing, telecommuting, and public transit use. The RTO program is a critical strategy for getting the most benefit and use from transportation infrastructure investments. Through grants, sponsorships, policy guidance, regional coordination, and technical assistance, the Metro RTO program has been serving the region for over 20 years.</p> <p>The RTO program strives to create healthy, vibrant neighborhoods by:</p> <ul style="list-style-type: none">• Improving the quality of the air we breathe• Reducing car traffic• Creating more opportunities for people of all ages and abilities to walk, bike, take transit, and carpool• Making the most of transportation investments by promoting their use <p>The program works closely with partners such as public agencies and local community-based groups who implement the strategy at a local level.</p> <p>The RTO Strategy Plan is located on Metro’s website at: https://www.oregonmetro.gov/regional-travel-options-strategic-plan</p>									
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, the net changes to the SFY 2022 UPWP result in adding prior allocated funds from a prior MTIP impacting multiple project which together then require a formal/full amendment complete.									
Total Programmed Amount:	The total programmed amount decreases from \$2,982,732 to \$1,803,173									
Added Notes:	The remaining funds in Key 20880 are also being pushed-out to FY 2025.									

Project 3: Westside Corridor Multimodal Improvements Study	
Lead Agency:	ODOT
ODOT Key Number:	New - TBD MTIP ID Number: New - TBD
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> Yes • <u>Proposed improvements:</u> The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. • <u>Source:</u> New project. • <u>Amendment Action:</u> Add new project • <u>Funding:</u> The funding is federal "State Surface Transportation Block Grant (STBG) funds awarded to the planning project by ODOT. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: US26 western corridor (Sunset Highway), which extends from the Oregon Coast through the Vista Ridge Tunnel where it intersects with the I-405 loop accessing I-5, and I-84 ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a "non-capacity enhancing" project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning and Technical Studies • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No. ○ Metro approval date: Tentatively scheduled for May 6, 2021
What is changing?	<p><u>AMENDMENT ACTION: ADD NEW PROJECT</u></p> <p>The formal amendment adds the new SFY 2022 UPWP stand-alone project to the MTIP. ODOT is the lead agency and is funding the project with their federal appropriated State STBG funds.</p> <p>As a planning with federal, the project falls within the annual Metro UPWP. The project is categorized as a "stand-alone in the MTIP" for programming</p>

	<p>purposes. In addition to being funded by federal funds, the study will utilize a consultant, require a separate Intergovernmental Agreement (IGA), and the lead agency is ODOT. Since the project is not Metro led and is using a consultant, it can't be grouped together with the Metro UPWP projects approved as part of the Master Agreement. Therefore, ODOT's Westside Corridor Multimodal Improvements Study requires independent programming in the MTIP.</p> <p>The Governor's Office approved the funding for the project. A total of \$863,636 of State STBG federal fund are authorized for the study. Including match, the estimated total project cost is \$1,000,000.</p> <table><tr><td></td><td></td><td></td><td></td></tr><tr><td>Federal State STBG Funds Awarded</td><td>Committed Matching Funds</td><td>Total</td><td>Obligation Year</td></tr><tr><td>\$863,636</td><td>\$136,364</td><td>\$1,000,000</td><td>2021</td></tr></table>					Federal State STBG Funds Awarded	Committed Matching Funds	Total	Obligation Year	\$863,636	\$136,364	\$1,000,000	2021
Federal State STBG Funds Awarded	Committed Matching Funds	Total	Obligation Year										
\$863,636	\$136,364	\$1,000,000	2021										
Additional Details:	<p>The This corridor is generally defined by US 26 (Sunset Highway), which extends from the Oregon Coast through the Vista Ridge Tunnel where it intersects with the I-405 loop accessing I-5, and I-84. The 2018 Regional Transportation Plan (RTP) includes this project as 8.2.4.6 Hillsboro to Portland (Mobility Corridors 13, 14 and 16).</p> <p>The study will identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor. Options will be evaluated for their potential to address existing deficiencies and support future growth in freight, commuters, and commercial traffic between Hillsboro's Silicon Forest, Northern Washington County's agricultural freight, and the Portland Central City, the international freight distribution hub of I-5 and I-84, the Port of Portland marine terminals, rail facilities, and the Portland International Airport. Commute trip reduction opportunities and assumptions about remote workforce will be included. The West Side Corridor Study will evaluate multimodal improvements in support of regional and statewide goals, specifically including climate.</p>												
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, adding a new project to the MTIP requires a formal/full amendment complete.												
Total Programmed Amount:	The total programmed amount is \$1,000,000												
Added Notes:													

Project 4: Corridor and Systems Planning (2020)	
Lead Agency:	Metro
ODOT Key Number:	20888 MTIP ID Number: 70871
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> <u>Metro SFY 2022 UPWP Project:</u> Yes <u>Proposed improvements:</u> The Corridors and Systems Planning Program conducts planning level work in corridors. Emphasizes the integration of land use and

	<p>transportation. Through this funding regional system needs, functions, desired outcomes, performance measures, investment strategies are determined in support of the Regional Transportation Plan.</p> <ul style="list-style-type: none">• <u>Source:</u> Existing project.• <u>Amendment Action:</u> Shift funding to Key 20879• <u>Funding:</u> Key 20888 functions as a revenue project grouping bucket maintaining funding for the approved corridor studies to FTA Section 5307. Out of the current STBG-U programming, \$12,175 of STBG-U funds and required match are being shifted to Key 20597.• <u>Location, Limits and Mile Posts:</u><ul style="list-style-type: none">○ Location: Regional○ Cross Street Limits: N/A○ Overall Mile Post Limits: N/A• <u>Current Status Code:</u> 0 = No activity (for these program funds)• <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C.• <u>Regional Significance Status:</u> N/A• <u>Amendment ID and Approval Estimates:</u><ul style="list-style-type: none">○ STIP Amendment Number: TBD○ MTIP Amendment Number: AP21-09-APR○ OTC approval required: No.○ Metro approval date: Tentatively scheduled for May 6, 2021									
What is changing?	<p><u>AMENDMENT ACTION: SPLIT FUNDS:</u></p> <p>The amendment splits off \$12,175 of STBG-U and \$1,393 of matching funds and combines them into Key 20597. The STBG-U funds support the UPWP Corridor Refinement and Project Development (Investment Areas) project that is listed in the UPWP Master Agreement list of projects. One additional approved UPWP corridor study project, Tualatin Valley Highway Transit and Development Project, will draw from the Key 20888 STBG-U bucket. MTIP programming for this project will occur in May 2021.</p> <table><tr><th colspan="3">STBG-U Shift from Key 20888 to 20597</th></tr><tr><th>Key 20888 Existing STBG Funds for SFY 2022</th><th>STBG Funds Shifted to Key 20597 Required for SFY 2022 RTO Activities</th><th>Remaining STBG-U Funds in Key 20888</th></tr><tr><td>\$404,234</td><td>(\$12,175)</td><td>\$392,059</td></tr></table>	STBG-U Shift from Key 20888 to 20597			Key 20888 Existing STBG Funds for SFY 2022	STBG Funds Shifted to Key 20597 Required for SFY 2022 RTO Activities	Remaining STBG-U Funds in Key 20888	\$404,234	(\$12,175)	\$392,059
STBG-U Shift from Key 20888 to 20597										
Key 20888 Existing STBG Funds for SFY 2022	STBG Funds Shifted to Key 20597 Required for SFY 2022 RTO Activities	Remaining STBG-U Funds in Key 20888								
\$404,234	(\$12,175)	\$392,059								

Additional Details:	<p>Summary of the Corridor Refinement and Project Development (Investment Areas) project</p> <p>The Investment Areas program completes system planning and develops multimodal projects in major transportation corridors identified in the Regional Transportation Plan (RTP) as well as developing shared investment strategies to align local, regional and state investments in economic investment areas that support the region's growth economy. It includes ongoing involvement in local and regional transit and roadway project conception, funding, and design. Metro provides assistance to local jurisdictions for the development of specific projects as well as corridor-based programs identified in the RTP.</p>
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, the complexity of changes to multiple projects even though some can occur administratively requires all of them to progress via a formal/full amendment.
Total Programmed Amount:	Key 20888 decreases in total project funding from \$450,000 to \$436,932
Added Notes:	

Project 5: Regional MPO Planning (2021)	
Lead Agency:	Metro
ODOT Key Number:	20877 MTIP ID Number: 70872
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> <u>Metro SFY 2022 UPWP Project:</u> Yes <u>Proposed improvements:</u> The Regional MPO Planning (2021) key functions as a project grouping revenue bucket with STBG-U funds that are estimated will be needed as part of the annual UPWP Master Agreement list of projects. The required STBG-U funds and match are then split from the project and combined into the final annual UPWP Master List of projects key. For the SFY 2022 year, the STBG-U funds are split off from Key 20877 and then combined into Key 20597 with the approved PL and 5303 funds. <u>Source:</u> Existing project. <u>Amendment Action:</u> Shift funding to Key 20597 <u>Funding:</u> Key 20877 functions as a revenue project grouping bucket maintaining funding for the approved UPWP Master Agreement list of projects. A total of \$1,359,877 of STBG-U was programmed and available for the SFY 2022 Master Agreement needs. \$1,205,597 is being shifted to Key 20597 based on the financial needs in the Master Agreement.

	<ul style="list-style-type: none"> • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: Regional ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No. ○ Metro approval date: Tentatively scheduled for May 6, 2021 									
What is changing?	<p><u>AMENDMENT ACTION: SPLIT FUNDS:</u></p> <p>The amendment splits off \$1,205,597 of STBG-U and \$137,986 of matching funds and combines them into Key 20597. The STBG-U funds support the UPWP Master Agreement list of projects. The remaining funds in Key 20877 are being pushed out to FFY 2025. They will be advanced to FY 2022 as needed for ne</p> <table border="1"> <tr> <th colspan="3">STBG-U Shift from Key 20877 to 20597</th></tr> <tr> <td>Key 20877 Existing Federal STBG Funds Available for SFY 2022 UPWP Master Agreement Planning Projects</td><td>STBG Funds Shifted to Key 20597 Required for SFY 2022 Master Agreement Activities</td><td>Remaining STBG-U Funds in Key 20877</td></tr> <tr> <td>\$1,359,857</td><td>\$1,205,597</td><td>\$154,280</td></tr> </table>	STBG-U Shift from Key 20877 to 20597			Key 20877 Existing Federal STBG Funds Available for SFY 2022 UPWP Master Agreement Planning Projects	STBG Funds Shifted to Key 20597 Required for SFY 2022 Master Agreement Activities	Remaining STBG-U Funds in Key 20877	\$1,359,857	\$1,205,597	\$154,280
STBG-U Shift from Key 20877 to 20597										
Key 20877 Existing Federal STBG Funds Available for SFY 2022 UPWP Master Agreement Planning Projects	STBG Funds Shifted to Key 20597 Required for SFY 2022 Master Agreement Activities	Remaining STBG-U Funds in Key 20877								
\$1,359,857	\$1,205,597	\$154,280								
Additional Details:	<p>The STBG programmed in Key 20877 normally one of three federal funds supporting the annual UPWP Master Agreement list of projects. Initial STBG programming is only an estimate based on prior year needs. Once the current year UPWP Master Agreement of project is developed the STBG is combined into the single UPWP Master Agreement Key that will be used to obligate the UPWP Master Agreement projects.</p>									
Why a Formal amendment is required?	<p>Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, the complexity of changes to multiple projects even though some can occur administratively requires all of them to progress via a formal/full amendment.</p>									
Total Programmed Amount:	<p>Key 20877 decreases in total project funding from \$1,515,521 to \$171,938</p>									
Added Notes:										

Project 6: Portland Metro Planning SFY22	
Lead Agency:	Metro
ODOT Key Number:	20597 MTIP ID Number: 70986
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> Yes • <u>Proposed improvements:</u> The Unified Planning Work Program (UPWP) is a federally required document which defines Metro's annual list of transportation planning activities along with the committed federal funding to be accomplished during the state fiscal year (July 1 to June 30th). The UPWP documents the metropolitan planning requirements, and planning priorities facing the Portland metropolitan area. • <u>Source:</u> Existing project. • <u>Amendment Action:</u> Update Key 20597 funding levels per the SFY 2022 UPWP and Funding Summary • <u>Funding:</u> Key 20597 is comprised of federal, state, and local funds. Federal Planning funds (PL) through FHWA are awarded to Metro annually in support of the UPWP. Federal Section 5303 planning funds are awarded from the Federal Transit Agency (FTA) to Metro that support UPWP transit planning actions. Federal Surface Transportation Block Grant (STBG) funds make up the third federal fund component. These funds are awarded to the annual UPWP by Metro as part of the Regional Flexible Fund Allocation (RFFA) Step 1 process. Local funds and other special discretionary federal or state planning grants may also contribute to funding the annual UPWP. However, the majority of committed funding is federal PL, 5303, and STBG. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: Regional ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a "non-capacity enhancing" project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR

- OTC approval required: No.
- Metro approval date: Tentatively scheduled for May 6, 2021

AMENDMENT ACTION: COMBINE FUNDS

Development of the UPWP and the Required Updates to MTIP Projects:

Key 20597 initially was initially programmed as the SFY 2022 UPWP revenue placeholder. It contained estimated PL and 5303 funds. The estimated STBG-U funds committed to the SFY 2022 UPWP were programmed in the MTIP in Key 20877. Once the final draft UPWP is completed, Key 20597 will become the primary project for programming the majority of the UPWP. This is done to allow one key number to be the source for project obligation, expenditure, monitoring, and accounting purposes. The MTIP relies on the UPWP's Funding Summary page as the basis to then update Key 20597 as required.

However, translating the final draft UPWP into MTIP programming logic is not as easy as envisioned. The process first requires a detailed financial review of prior-year obligated projects that will not expend their total awarded PL, 5303, or STBG-U funds. By agreement among FHWA, and ODOT, Metro is allowed to carry-over into the current new draft UPWP the unexpended amount and treat the funds now as new unobligated federal funds. As an example: If a prior year project study was awarded a total \$500,000 of PL funds and only expended \$400,000, then the remaining \$100,000 is authorized to be carried over into the new UPWP as unobligated funds.

Once the prior-year carry over funds are identified and agreed upon, Metro will receive a PL and 5303 funding allocation update for the upcoming fiscal year the new annual UPWP is being developed. Along with this, local revenues that will contribute as well as other federal and state discretionary funds are identified. The entire process to identify the total revenues that will support the new UPWP is an ongoing process. The below table provides a summary of the total available revenues identified for the SFY 2022 UPWP.

SFY 2022 UPWP Available Funding				
Category	Prior-Year Carryover	New SFY 2022 Allocation	Total	Note
PL	\$647,556	\$1,889,070	\$2,536,626	Federal portion only
5303	\$1,273,176	\$630,217	\$1,903,393	Federal portion only
STBG	\$1,205,597		\$1,205,597	Prior year STBG are merged into the total needs for SFY 2022
Other Federal or State Discretionary	\$0	\$225,000	\$225,000	State Support funds
Local Match Required	\$646,166		\$646,166	State and local required matching funds
Local Overmatch Contributions	\$2,128,326		\$2,128,326	Additional local overmatching funds
	Total:		\$8,645,108	

What is changing?

Additional Details:	
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, the cost increase exceeds the 20% threshold due to the added prior-year carryover funds and requires a formal/full amendment
Total Programmed Amount:	The total programming increases from \$2,815,941 to \$8,645,108
Added Notes:	

Project 7:	Metro Transportation Options (FFY 18-21) (New Project)		
Lead Agency:	Metro		
ODOT Key Number:	21312	MTIP ID Number:	71055
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> Yes • <u>Proposed improvements:</u> The Regional Travel Options (RTO) program implements strategies to help diversify trip choices, reduce pollution and improve mobility. Source: Existing project. • <u>Amendment Action:</u> Add ODOT supplemental funding • <u>Funding:</u> The funding for FY 2021 originates from ODOT is being programmed using the federal fund placeholder code of Advance Construction. The actual obligation code is expected to be State STBG. The project is a UPWP Stand-alone project in the MTIP because the project reflects a multi-year program which now is adding FY 2021 to the program The federal STBG funds will be flex-transferred to FTA. • FTA Conversion Code: Section 5307. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: MPO Region wide ○ Cross Street Limits: N/A ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 – Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. • <u>Regional Significance Status:</u> N/A • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD 		

	<ul style="list-style-type: none">○ MTIP Amendment Number: AP21-09-APR○ OTC approval required: No.○ Metro approval date: Tentatively scheduled for May 6, 2021												
What is changing?	<p><u>AMENDMENT ACTION: ADD NEW PROJECT</u></p> <p>The formal amendment re-adds Key 21312 to the 2021-24 MTIP. Key 21312 was part of the 2018-21 MTIP. Funding also originated from ODOT supporting the RTO program, but covered only the 2018-2020 fiscal years. Through agreement between Metro and ODOT, funding for the FY 2021 is being added to the program. The total amount of new funds for FY 2021 is \$160,000 which will support RTO activities.</p> <p>For accounting purposes, the prior obligated funding is also being carried over as part of the amendment to ensure the funding in the STIP and MTIP match.</p> <table><tr><th colspan="4">Key 21312 Funding Adjustments</th></tr><tr><th>Fund Code</th><th>Total Prior Obligated Funds</th><th>New Funds Added for FY 2021 (AC-STBGS + match)</th><th>New Total</th></tr><tr><td>State STBG</td><td>\$622,695</td><td>\$160,000</td><td>\$782,695</td></tr></table> <p>The prior obligated federal funds were State STBG funds totaling \$574,732 with a local match of \$47,963 equaling \$622,695. The new total of \$160,000 being added for FY 2021 is comprised of \$147,676 of federal funds plus \$12,324 local matching funds. The new funding will be flex transferred to FTA and obligated through the FTA process.</p>	Key 21312 Funding Adjustments				Fund Code	Total Prior Obligated Funds	New Funds Added for FY 2021 (AC-STBGS + match)	New Total	State STBG	\$622,695	\$160,000	\$782,695
Key 21312 Funding Adjustments													
Fund Code	Total Prior Obligated Funds	New Funds Added for FY 2021 (AC-STBGS + match)	New Total										
State STBG	\$622,695	\$160,000	\$782,695										
Additional Details:	<p>As previously stated, the funding provides supplemental funding supporting the Metro Regional Travel Options Program (RTO). The Regional Travel Options (RTO) program guides the region in creating safe, vibrant, and livable communities by supporting programs that increase walking, biking, ride sharing, telecommuting, and public transit use. The RTO program is a critical strategy for getting the most benefit and use from transportation infrastructure investments. Through grants, sponsorships, policy guidance, regional coordination, and technical assistance, the Metro RTO program has been serving the region for over 20 years.</p> <p>The RTO program strives to create healthy, vibrant neighborhoods by:</p> <ul style="list-style-type: none">● Improving the quality of the air we breathe● Reducing car traffic● Creating more opportunities for people of all ages and abilities to walk, bike, take transit, and carpool● Making the most of transportation investments by promoting their use <p>The program works closely with partners such as public agencies and local community-based groups who implement the strategy at a local level.</p>												

	The RTO Strategy Plan is located on Metro's website at: https://www.oregonmetro.gov/regional-travel-options-strategic-plan
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, adding the new FY 2021 funds represents new funding a new project to the MTIP which must be added through a formal/full amendment.
Total Programmed Amount:	The prior obligated plus the new RTO funds results in a total project cost of \$782,695
Added Notes:	

Project 8:	OR141 (Hall Blvd): Scholls Ferry Rd - Locust St		
Lead Agency:	ODOT		
ODOT Key Number:	19267	MTIP ID Number:	70806
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> No • <u>Proposed improvements:</u> In Beaverton on OR141 from Scholls Ferry Rd to Locust St (MP 2.82 to 4.10), construct and complete ADA curb and ramp improvements to include pedestrian push button poles, relocate signal junction boxes, and radar detection upgrades to improve access. • <u>Source:</u> Existing project. • <u>Amendment Action:</u> Add Construction phase funding • <u>Funding:</u> The funding for the project consists primarily of federal funds. They include: State Surface Transportation Block Grant (STBG) funds and Redistribution funds. Advance Construction is being used for the Construction phase as a funding placeholder. The anticipated federal funds for the construction phase are identified as State STBG. • FTA Conversion Code: N/A • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: In Beaverton on OR 141 (Hall Blvd) ○ Cross Street Limits: Scholls Ferry Rd - Locust St ○ Overall Mile Post Limits: Multiple locations from MP 2.82 to 4.10 • <u>Current Status Code:</u> 5 = (ROW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation. • <u>Air Conformity/Capacity Status:</u> The project is considered a "non-capacity enhancing" project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 - Other - Planning activities conducted pursuant to titles 23 and 49 U.S.C. 		

- Regional Significance Status: Regionally Significant project (federal funds + located on system, Metro Motor Vehicle modeling network)
- Amendment ID and Approval Estimates:
 - STIP Amendment Number: 21-24-0609
 - MTIP Amendment Number: AP21-09-APR
 - OTC approval required: Yes, - January 2021
 - Metro approval date: Tentatively scheduled for May 6, 2021

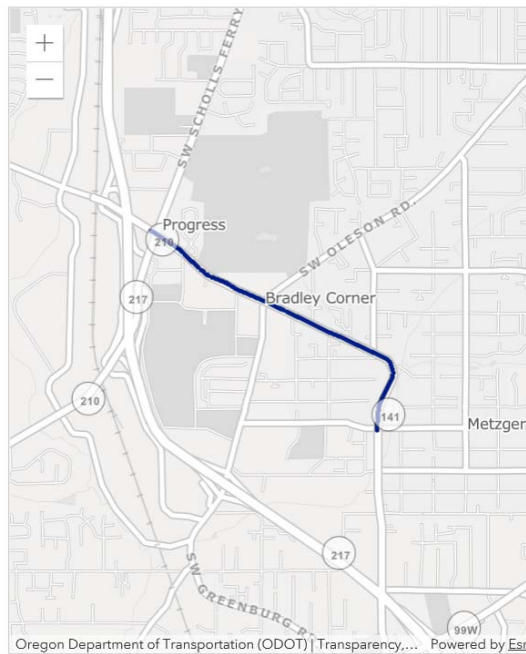
What is changing?

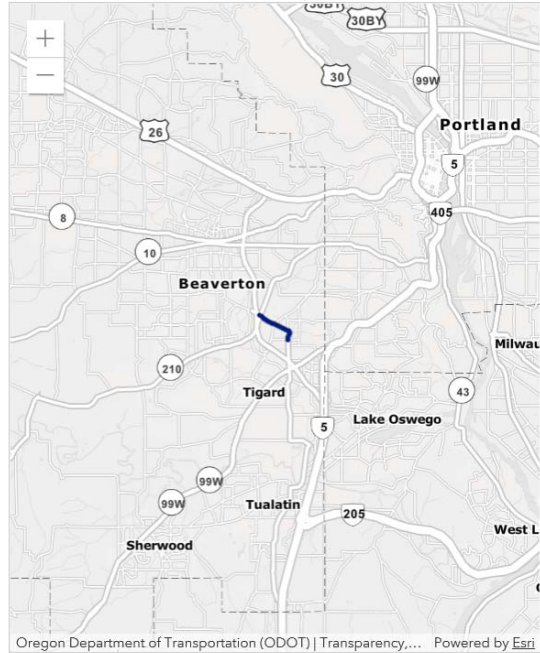
AMENDMENT ACTION: ADD CONSTRUCTION PHASE

The formal amendment adds the Construction phase funding to the project. \$3,525,000 is being added to the construction phase to fully fund the phase. As a result the project can complete Project Specifications, and Estimates (PS&E) and move forward into the Construction phase. Phase obligation will be during FY 2022. An update to the ROW phase to reflect actual phase obligations is also occurring

Key 19267 Funding Adjustments			
Phase	Total Current Programming	New Funds Added to the Phase	New Total
Preliminary Engineering (PE)	\$1,299,797	\$0	\$1,299,702
Right-of-Way (ROW)	\$1,070,000	\$0	\$1,070,000
Utility Relocation (UR)	\$0	\$0	\$0
Construction	\$0	\$3,525,000	\$3,525,000
Totals	\$2,369,707	\$3,525,000	\$5,894,707

Additional Details:





OTC January 2021 Action, Item I to approve additional funding for DA compliance that provides the fiscal constraint validation for the Construction phase funding. See below OTC minutes reference.

ADVANCE COPY – SUBJECT TO REVISION

2021-2024 Statewide Transportation Improvement Program Funding for ADA Curb Ramps
Item I

The commission was requested to approve additional funding for ADA curb ramps in the 2021-2024 Statewide Transportation Improvement Program (STIP).

Background:

In December ODOT presented the commission with a proposal to amend the 2021-2024 STIP to fund the following critical projects and programs that are mandated based on direction from the Legislature, Governor, or a legal requirement.

Project/Program	Description	Amount
Tolling Development and Implementation	Fund NEPA and system development through 2022	\$60 million
Interstate Bridge Replacement Program	Fund program development through 2024	\$30 million
ADA 2020-2022 Projects	Complete ADA projects through first milestone	\$147 million
ADA 2022-2024 Projects	Complete ADA projects through remainder of 2021-2024 STIP	\$90 million
Total		\$327 million

Resources to meet these needs would come from federal funding that has come in over and above the

Why a Formal amendment is required?

Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, adding the Construction phase to a project usually requires a formal/full amendment to the MTIP

Total Programmed Amount:

The total project cost increases from \$2,429,707 to \$5,894,707

Added Notes:

Project 9:

**OR99W : Rock Creek NB Bridge
(Cancel Project)**

Lead Agency:

ODOT

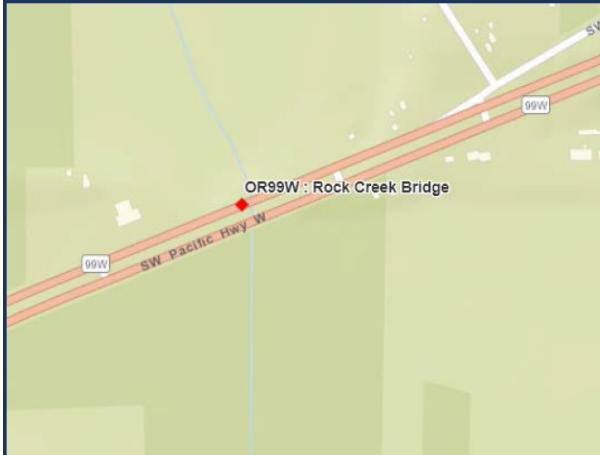

ODOT Key Number:

21712

MTIP ID Number:

71197

<p>Projects Description:</p>	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> No • <u>Proposed improvements:</u> Install new bridge rail to meet current safety standards • <u>Source:</u> Existing project. • <u>Amendment Action:</u> Cancel project from the MTIP • <u>Funding:</u> The funding for the project is currently federal National Highway Performance Program (NHPP) • <u>FTA Conversion Code:</u> N/A. • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: OR99W ○ Cross Street Limits: Southwest of SW Pacific Dr and SW Kummrow Ave ○ Overall Mile Post Limits: 13.82 to 13.94 • <u>Current Status Code:</u> 0 = No activity (for these program funds) • <u>Air Conformity/Capacity Status:</u> The project is considered a “non-capacity enhancing” project from a roadway/motor vehicle improvement perspective and is exempt from air quality conformity analysis per 40 CFR 93.126, Table 2 –Safety - Guardrails, median barriers, crash cushions.. • <u>Regional Significance Status:</u> Regionally significant/non capacity enhancing • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: 21-24-0607 ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No. ○ Metro approval date: Tentatively scheduled for May 6, 2021
<p>What is changing?</p>	<p><u>AMENDMENT ACTION: CANCEL PROJECT</u></p> <p>The formal amendment cancels Key 21712 from the 2021-24 MTIP. The ODOT Bridge program decided to cancel project and move funds to Indian Creek Bridge Project in Region 2, in Key 21118. All project funding to Key 21217 is now zero.</p>

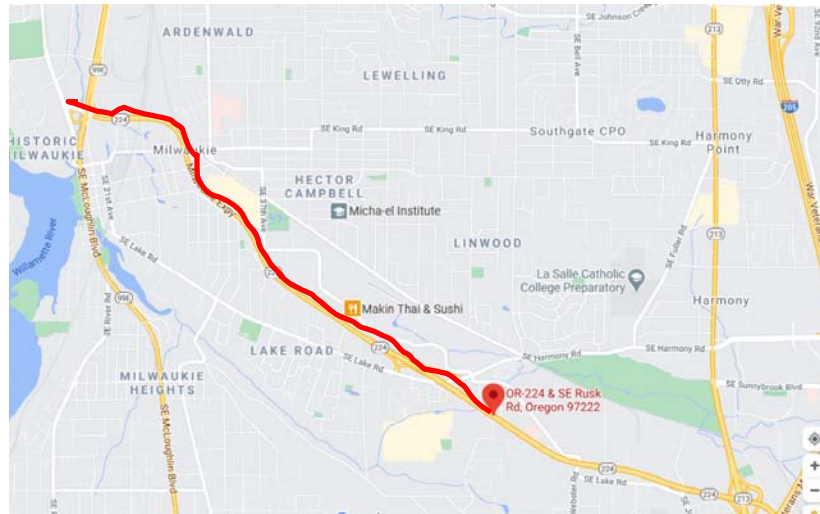
	<table><tr><th colspan="4">Key 21712 Funding Adjustments</th></tr><tr><th>Fund Code</th><th>Current Federal Funds Programmed</th><th>Federal Funds to Be Reprogrammed</th><th>Key 21712 Remaining Federal Funds</th></tr><tr><td>National Highway Performance Program (NHPP)</td><td>\$618,334</td><td>\$618,334</td><td>\$0</td></tr></table>	Key 21712 Funding Adjustments				Fund Code	Current Federal Funds Programmed	Federal Funds to Be Reprogrammed	Key 21712 Remaining Federal Funds	National Highway Performance Program (NHPP)	\$618,334	\$618,334	\$0
Key 21712 Funding Adjustments													
Fund Code	Current Federal Funds Programmed	Federal Funds to Be Reprogrammed	Key 21712 Remaining Federal Funds										
National Highway Performance Program (NHPP)	\$618,334	\$618,334	\$0										
Additional Details:	<div><div><div>LOCATION DETAILS</div><div><div>COUNTY: Washington</div><div>BRIDGE #: 1578A</div></div><div><div>HIGHWAY: OR-99W Pacific Highway West</div></div><div><div>ODOT MAP LINK</div><div>GOOGLE MAP LINK</div></div><div></div><div>2021-2024 OREGON STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)</div></div></div> <div><div>OR99W: Rock Creek Bridge</div><div>ODOT - Washington County</div><div>21712</div><div></div></div>												
Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, canceling a project from the MTIP requires a formal/full amendment.												
Total Programmed Amount:	The existing programmed amount of \$763,184 to \$0												
Added Notes:													

Project 10:	OR224: SE 17th Ave - OR213 OR224: SE 17th Ave - SE Rusk Road		
Lead Agency:	ODOT		
ODOT Key Number:	21598	MTIP ID Number:	71153
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> No • <u>Proposed improvements:</u> Design for a future pavement resurfacing project to repair cracking, rutting and wear to keep this section safe for travel. • <u>Source:</u> Existing project. • <u>Amendment Action:</u> Adjust (shorten) project limits and add Right-of-Way phase funding. • <u>Funding:</u> The funding for the project is utilizing federal National Highway Performance Program (NHPP) funds. The project also is utilizing the programmatic Advance Construction fund type code as a federal fund place older for the Right-of-Way phase. • <u>FTA Conversion Code:</u> N/A • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: On OR224 southeast of Milwaukie ○ Cross Street Limits: SE 17th Ave to SE Rusk Rd ○ Overall Mile Post Limits: Multiple locations stretching from MP -0.01 to 2.72 • <u>Current Status Code:</u> 4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%, 90% design activities initiated). • <u>Air Conformity/Capacity Status:</u> Key 21598 is a rehabilitation/resurfacing project non capacity enhancing project and is considered exempt per 40 CFR 93.126 Table 2 – Safety. • <u>Regional Significance Status:</u> Regionally Significant project (federal funds + located on system, Metro Motor Vehicle modeling network) • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: 21-24-0586 ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No ○ Metro approval date: Tentatively scheduled for May 6, 2021 		
What is changing?	<u>AMENDMENT ACTION: LIMITS ADJUSTMENT</u>		

The current project limits overlap with a separate project to add a third lane on OR 224 from Rusk Rd to OR 213. The third lane capacity project is programmed under Key 19720. The limits adjustment allow the rehabilitation/resurfacing project to proceed separately from the capacity enhancing project which is on a different delivery schedule. Only PE has been programmed in the past. Key 19720 is not active yet in the 2021-24 MTIP.

Key 21598 Phase Funding Adjustments			
Phase	Total Current Programming	Phase Adjustment	New Total
Preliminary Engineering (PE)	2,617,734	(\$95,000)	\$2,522,734
Right-of-Way (ROW)	\$0	\$95,000	\$95,000
Utility Relocation (UR)	\$0	\$0	\$0
Construction	\$0	\$0	\$0
Revised Totals	\$2,522,734	\$95,000	\$2,617,734

Additional Details:



Locations													
Route	Highway	MP Begin	MP End	Length	Street	City	County	ACT	Bridge	Reg	State Repr Dist	State Sen Dist	US Cngr Dist
						MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	3
						MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	3
							CLACKAMAS	R1ACT		1	41	21	3
	171 CLACKAMAS	-0.01	0.26	0.27	Clackamas Highway	MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
	171 CLACKAMAS	-0.01	0.08	0.09	Clackamas Highway	MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	-0.01	3.95	3.96		MILWAUKIE	CLACKAMAS	R1ACT		1	41, 48	21, 24	5
OR-224	171 CLACKAMAS	2.00	2.59	0.59		MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	0.27	0.50	0.23		MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	2.59	2.71	0.12		MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	2.72	2.72	0.00			CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	2.64	2.64	0.00		MILWAUKIE	CLACKAMAS	R1ACT	09831	1	41	21	5
OR-224	171 CLACKAMAS	0.09	2.59	2.50		MILWAUKIE	CLACKAMAS	R1ACT		1	41	21	5
OR-224	171 CLACKAMAS	0.27	0.27	0.00		MILWAUKIE	CLACKAMAS	R1ACT	19531	1	41	21	5
OR-224	171 CLACKAMAS	0.11	0.11	0.00		MILWAUKIE	CLACKAMAS	R1ACT	09668	1	41	21	5
OR-224	171 CLACKAMAS	0.38	0.38	0.00		MILWAUKIE	CLACKAMAS	R1ACT	09554	1	41	21	5

Why a Formal amendment is required?

Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, limits changes beyond 0.25 miles require a formal/full amendment.

Total Programmed Amount:	The total project cost does not change and remains at \$2,617,734
Added Notes:	

Project 11:	Local Traffic Signal Controller Replacement (New Project)		
Lead Agency:	Portland		
ODOT Key Number:	New - TBD	MTIP ID Number:	New - TBD
Projects Description:	<p>Project Snapshot:</p> <ul style="list-style-type: none"> • <u>Metro SFY 2022 UPWP Project:</u> No • <u>Proposed improvements:</u> Purchase Advanced Transportation Controllers (ATCs, hardware and software) and converting the existing traffic signal timing at 141 traffic signals throughout Portland. • <u>Source:</u> New project. • <u>Amendment Action:</u> Add the new project to the 2021-24 MTIP. • <u>Funding:</u> The funding for the project is Metro 2019 Transportation System Management and Operations (TSMO) awarded federal Surface Transportation Block Grant (STBG-U) funds. • <u>FTA Conversion Code:</u> N/A • <u>Location, Limits and Mile Posts:</u> <ul style="list-style-type: none"> ○ Location: Various locations throughout Portland ○ Cross Street Limits: Various locations ○ Overall Mile Post Limits: N/A • <u>Current Status Code:</u> 1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinement, etc.) • <u>Air Conformity/Capacity Status:</u> Portland's new Advance Traffic Controller upgrade project is a non capacity enhancing project and is considered exempt per 40 CFR 93.126 Table 2 – Safety. • <u>Regional Significance Status:</u> Regionally Significant project (federal funds along various locations which are in the Metro modeling network) • <u>Amendment ID and Approval Estimates:</u> <ul style="list-style-type: none"> ○ STIP Amendment Number: TBD ○ MTIP Amendment Number: AP21-09-APR ○ OTC approval required: No ○ Metro approval date: Tentatively scheduled for May 6, 2021 		

AMENDMENT ACTION: ADD NEW PROJECT

What is changing?

Portland's new Local Traffic Signal Controller Replacement is a Metro 2019 TSMO awarded project supporting TSMO and Intelligent Transportation System (ITS) improvements. The project was awarded \$840,935 of Metro STBG funds. The project will purchase Advanced Transportation Controllers (ATCs, hardware and software) and converting the existing traffic signal timing at 141 traffic signals throughout Portland.

The goals and benefits of the ATC upgrades will make it easier to train staff consistently for better maintenance of the system and provide the following:

- Reduce the requirements of the central management system to be backwards compatible.
- Build a foundation for advanced applications including:
 - Automated traffic signal performance measures (ATSPMs) that can help us identify and address operational and safety concerns.
 - Next-Generation Transit Signal Priority (NextGen TSP) that can help us meet our climate goals.
 - Other connected vehicle applications such as central emergency preemption.

Additional Details:

Portland Proposed ATC Upgrade Locations

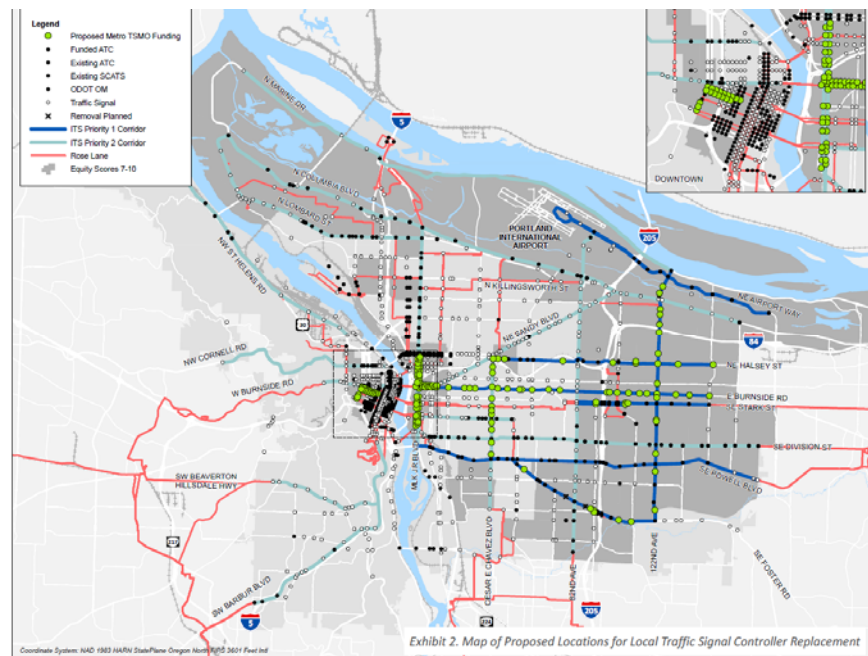


Exhibit 1. List of Proposed Locations for Local Traffic Signal Controller Replacement

1	2024	NE Grand & Couch	72	4167	E Burnside @ 108th
2	2025	NE Grand @ Lloyd Blvd	73	4168	E Burnside @ 113th
3	2027	NE Grand @ Oregon 2070	74	4169	E Burnside @ 117th
4	2028	NE Grand @ Holladay	75	4170	E Burnside @ 122nd
5	2029	NE Grand @ Multnomah	76	4183	SE 122nd Av & Springwater Trail
6	2032	NE Halsey @ 42nd	77	4185	SE 122nd Av & Ash St
7	2070	NE MLK @ Couch	78	4194	E Burnside @ 131st Pl
8	2071	NE MLK @ Lloyd	79	4195	E Burnside @ 139th
9	2072	NE MLK @ Oregon	80	4196	E Burnside @ 148th
10	2073	NE MLK @ Holladay	81	4227	SE Stark St & 106th Av
11	2074	NE MLK @ Multnomah	82	4228	SE Washington St & 106th Av
12	2128	NE 39th @ Hassalo	83	4250	SE MLK @ Morrison
13	2134	NE Halsey @ 74th	84	4251	SE MLK @ Belmont
14	2147	NE MLK @ Clackamas	85	4252	SE MLK @ Hawthorne
15	2148	NE 122nd & Fremont	86	4253	SE MLK @ Mill
16	2149	NE 122nd & Skidmore	87	4254	SE MLK @ Stephens
17	2150	NE Grand @ Clackamas	88	4255	SE Grand @ Stephens
18	2151	Halsey & 148th	89	4256	SE Grand @ Mill
19	2157	NE Halsey and NE 100th	90	4602	SE 39th @ Taylor - Half
20	2167	NE 122nd & San Rafael	91	4603	SE 39th @ Franklin - Half
21	2168	NE 122nd @ Halsey	92	4612	SE 122nd @ Bush - HAWK
22	2169	NE Halsey St at NE 111th Ave	93	4616	SE Foster @ 56th - Half
23	2172	NE 39th @ Halsey	94	4628	SE 122nd - N of Madison ped x-ing
24	2174	NE Halsey @ 132nd	95	4629	SE 108th @ Washington - Beacon
25	2177	NE Weisler and NE 111th Ave	96	4631	SE Foster @ 69th - Half
26	2178	Grand and Everett	97	4633	SE 122nd & Woodward Pl
27	2204	NE 122nd @ Gilson	98	4701	SE 39th and Market Fire Station
28	2217	NE 122nd @ Shaver	99	4702	SE 122nd - S of Madison - Fire
29	2219	122nd & Marx	100	5050	SW 18th @ Jefferson
30	2222	NE 122nd & I-84 ramp	101	5170	SW 10th @ Morrison
31	2224	NE Grand @ Halsey	102	5179	SW 11th @ Morrison
32	2241	NE 122nd @ Whitaker Wy	103	5185	SW 12th @ Morrison
33	2249	NE MLK @ Hoyt St 2070	104	5190	SW 13th @ Morrison
34	2250	NE MLK @ Davis	105	5192	SW 14th @ Morrison
35	2251	NE Grand @ Hoyt	106	5195	SW 18th @ Morrison
36	2253	NE Halsey @ 45th	107	5210	SW 12th @ Yamhill
37	2255	NE Grand @ Davis	108	5211	SW 13th @ Yamhill
38	2256	NE Couch @ 6th	109	5212	SW 14th @ Yamhill
39	2257	NE Couch @ 7th	110	5220	SW 15th @ Morrison
40	2258	NE Couch @ 8th	111	5257	SW 16th @ Morrison
41	2259	NE Couch @ 9th	112	5258	SW 17th @ Yamhill
42	2260	NE Couch @ 10th	113	5259	SW 15th @ Yamhill
43	2261	NE Couch @ 11th	114	5260	SW 16th @ Yamhill
44	2262	NE Couch @ 12th	115	5261	SW 17th @ Morrison
45	2263	Sandy @ Couch /14th	116	5262	SW 18th @ Yamhill
46	2609	NE 39th @ Royal Ct	117	5263	SW 18th @ Main
47	4026	SE Foster @ 92nd	118	5264	SW 18th @ Madison
48	4027	SE Foster @ 110th - 111th	119	6002	E Burnside @ Grand
49	4028	SE Grand @ Ankeny	120	6003	E Burnside @ 9th
50	4029	SE Grand @ Stark	121	6004	E Burnside @ Sandy - 12th
51	4030	SE Grand @ Morrison	122	6005	E Burnside @ 20th
52	4031	SE Grand @ Belmont	123	6006	E Burnside @ 28th
53	4032	SE Grand @ Madison	124	6007	E Burnside @ 32nd
54	4033	SE Grand @ Hawthorne	125	6008	E Burnside @ 39th
55	4034	SE Grand @ Clay	126	6009	E Burnside @ 47th
56	4035	SE Grand @ Taylor	127	6010	E Burnside @ 60th
57	4089	SE MLK @ Stark	128	6011	E Burnside @ Gilham
58	4090	SE MLK @ Taylor	129	6035	E Burnside @ 55th
59	4091	SE MLK @ Clay	130	6036	E Burnside @ 6th
60	4092	SE 39th @ Main	131	6037	E Burnside @ 7th
61	4095	SE 39th @ Clinton	132	6038	E Burnside @ 8th
62	4096	SE 39th @ Stark	133	6039	E Burnside @ 10th
63	4097	SE 39th @ Belmont	134	6040	E Burnside @ 11th
64	4098	SE 39th @ Lincoln	135	6042	E Burnside @ 13th
65	4121	SE Washington @ 92nd	136	6043	E Burnside @ 14th
66	4122	SE Stark & 92nd	137	6044	E Burnside @ Couch Ped signal
67	4123	SE Woodstock & 92nd	138	6601	Ped/Bike Crossing - Burnside at 41st
68	4157	SE Foster @ Springwater Tr/103rd Pl	139	6602	E Burnside @ 53rd
69	4164	E Burnside @ 97th	140	6603	E Burnside @ 30th
70	4165	E Burnside @ 99th	141	6702	Station 19 onto Burnside at 73rd
71	4166	E Burnside @ 102nd			

Metro January 2, 2020 TSMO Awards

Lead agency	Project name	Project type	TSMO Federal Portion
City of Portland	Traffic Signal Communications	Data communications through fiber optics	\$227,196
City of Portland	Local Traffic Signal Controller Replacement	ATCs	\$840,435
City of Portland	Regional Traffic Signal System Performance Measures	Traffic Signal Performance Measures for Active Transportation	\$619,137
Clackamas County	Clackamas County Regional ATC controller & Signal Optimization Project	ATCs in Clackamas County, Gladstone, Lake Oswego, Milwaukie, Oregon City, West Linn, Wilsonville	\$735,878
Metro	Regional TSMO Program Plus	Advancements in planning, training, research and communications	\$285,880

Why a Formal amendment is required?	Per the FHWA/FTA/ODOT/MPO approved Amendment Matrix, adding a new project to the MTIP requires a formal/full amendment
Total Programmed Amount:	The total programmed amount is \$936,627
Added Notes:	

Note: The Amendment Matrix located below is included as a reference for the rules and justifications governing Formal Amendments and Administrative Modifications to the MTIP that the MPOs and ODOT must follow.

METRO REQUIRED PROJECT AMENDMENT REVIEWS

In accordance with 23 CFR 450.316-328, Metro is responsible for reviewing and ensuring MTIP amendments comply with all federal programming requirements. Each project and their requested changes are evaluated against multiple MTIP programming review factors that originate from 23 CFR 450.316-328. The programming factors include:

- Verification as required to programmed in the MTIP:
 - Awarded federal funds and is considered a transportation project
 - Identified as a regionally significant project.
 - Identified on and impacts Metro transportation modeling networks.
 - Requires any sort of federal approvals which the MTIP is involved.

ODOT-FTA-FHWA Amendment Matrix	
Type of Change	
FULL AMENDMENTS	
1. Adding or cancelling a federally funded, and regionally significant project to the STIP and state funded projects which will potentially be federalized	
2. Major change in project scope. Major scope change includes: <ul style="list-style-type: none"> • Change in project termini - greater than .25 mile in any direction • Changes to the approved environmental footprint • Impacts to AQ conformity • Adding capacity per FHWA Standards • Adding or deleting worktype 	
3. Changes in Fiscal Constraint by the following criteria: <ul style="list-style-type: none"> • FHWA project cost increase/decrease: <ul style="list-style-type: none"> • Projects under \$500K – increase/decrease over 50% • Projects \$500K to \$1M – increase/decrease over 30% • Projects \$1M and over – increase/decrease over 20% • All FTA project changes – increase/decrease over 30% 	
4. Adding an emergency relief permanent repair project that involves substantial change in function and location.	
ADMINISTRATIVE/TECHNICAL ADJUSTMENTS	
1. Advancing or Slipping an approved project/phase within the current STIP (If slipping outside current STIP, see Full Amendments #2)	
2. Adding or deleting any phase (except CN) of an approved project below Full Amendment #3	
3. Combining two or more approved projects into one or splitting an approved project into two or more, or splitting part of an approved project to a new one.	
4. Splitting a new project out of an approved program-specific pool of funds (but not reserves for future projects) or adding funds to an existing project from a bucket or reserve if the project was selected through a specific process (i.e. ARTS, Local Bridge...)	
5. Minor technical corrections to make the printed STIP consistent with prior approvals, such as typos or missing data.	
6. Changing name of project due to change in scope, combining or splitting of projects, or to better conform to naming convention. (For major change in scope, see Full Amendments #2)	
7. Adding a temporary emergency repair and relief project that does not involve substantial change in function and location.	

- Passes fiscal constraint verification:
 - Project eligibility for the use of the funds
 - Proof and verification of funding commitment
 - Requires the MPO to establish a documented process proving MTIP programming does not exceed the allocated funding for each year of the four year MTIP and for all funds identified in the MTIP.
 - Passes the RTP consistency review: Identified in the current approved constrained RTP either as a stand- alone project or in an approved project grouping bucket
 - RTP project cost consistent with requested programming amount in the MTIP
 - If a capacity enhancing project – is identified in the approved Metro modeling network

- Satisfies RTP goals and strategies consistency: Meets one or more goals or strategies identified in the current RTP.
- If not directly identified in the RTP's constrained project list, the project is verified to be part of the MPO's annual Unified Planning Work Program (UPWP) if federally funded and a regionally significant planning study that addresses RTP goals and strategies and/or will contribute or impact RTP performance measure targets.
- Determined the project is eligible to be added to the MTIP, or can be legally amended as required without violating provisions of 23 CFR450.300-338 either as a formal Amendment or administrative modification:
 - Does not violate supplemental directive guidance from FHWA/FTA's approved Amendment Matrix.
 - Adheres to conditions and limitation for completing technical corrections, administrative modifications, or formal amendments in the MTIP.
 - Is eligible for special programming exceptions periodically negotiated with USDOT.
 - Programming determined to be reasonable of phase obligation timing and is consistent with project delivery schedule timing.
- Reviewed and initially assessed for Performance Measurement impacts.
- MPO responsibilities completion:
 - Completion of the required 30 day Public Notification period:
 - Project monitoring, fund obligations, and expenditure of allocated funds in a timely fashion.
 - Acting on behalf of USDOT to provide the required forum and complete necessary discussions of proposed transportation improvements/strategies throughout the MPO.

APPROVAL STEPS AND TIMING

Metro's approval process for formal amendment includes multiple steps. The required approvals for the March 2021 Formal MTIP amendment (MR21-08-MAR) will include the following:

<u>Action</u>	<u>Target Date</u>
• Initiate the required 30-day public notification process.....	March 30, 2021
• TPAC notification and approval recommendation.....	April 2, 2021
• JPACT approval and recommendation to Council.....	April 15, 2021
• Completion of public notification process.....	April 28, 2021
• Metro Council approval.....	May 6, 2021

Notes:

- * If any notable comments are received during the public comment period requiring follow-on discussions, they will be addressed by JPACT.

USDOT Approval Steps (The below time line is an estimation only):

<u>Action</u>	<u>Target Date</u>
• Amendment bundle submission to ODOT for review.....	May 11, 2021
• Submission of the final amendment package to USDOT.....	May 11, 2021
• ODOT clarification and approval.....	Early June, 2021
• USDOT clarification and final amendment approval.....	Late June, 2021

ANALYSIS/INFORMATION

1. **Known Opposition:** None known at this time.

2. Legal Antecedents:

- a. Amends the 2021-24 Metropolitan Transportation Improvement Program adopted by Metro Council Resolution 20-5110 on July 23, 2020 (FOR THE PURPOSE OF ADOPTING THE 2021-2024 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM FOR THE PORTLAND METROPOLITAN AREA).
 - b. Oregon Governor approval of the 2021-24 MTIP: July 23, 2020
 - c. 2021-2024 Statewide Transportation Improvement Program (STIP) Approval and 2021 Federal Planning Finding: September 30, 2020
3. **Anticipated Effects:** Enables the projects to obligate and expend awarded federal funds, or obtain the next required federal approval step as part of the federal transportation delivery process.
4. **Metro Budget Impacts:** None to Metro

RECOMMENDED ACTION:

Staff is providing TPAC their official notification and requests they provide JPACT an approval recommendation of Resolution 21-5169 consisting of eleven projects which include required updates to the SFY 2022 UPWP and impacts Metro, ODOT, and Portland.

Attachments:

1. Metro SFY 2022 UPWP Key 20597 Summary
2. Metro SFY 2022 UPWP Funding Summary

# Ref	Name	Point of Contact	In Master Agreement Key 20597	PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal Funds Type	Federal Amount	Match to Federal	Total Federal Amount	Minimum Local Match Total	Local Overmatch Total	Total Project Cost	Federal Percent	Local Minimum Match Percent	Total Local Match Percent
Regional Transportation Planning																			
1	Transportation Planning	Tom Kloster	Key 20597	\$ 890,692	\$ 101,943.68	\$ 105,239	\$ 12,045	\$ -	\$ -	N/A	\$ -	\$ -	\$ 995,931	\$ 113,989	\$ -	\$ 1,109,920	89.73%	10.27%	10.27%
2	Climate Smart Implementation	Kim Ellis	Key 20597	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ -	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ 13,568	89.73%	10.27%	10.27%
3	Regional Transportation Plan Update (2023)	Kim Ellis	Key 20597	\$ 65,028	\$ 7,443	\$ 478,464	\$ 54,762	\$ -	\$ -	N/A	\$ -	\$ -	\$ 543,492	\$ 62,205	\$ -	\$ 605,697	89.73%	10.27%	10.27%
4	Metropolitan Transportation Improvement Program (MTIP)	Ted Leybold	Key 20597	\$ -	\$ -	\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480	N/A			\$ 866,341	\$ 99,157	\$ 134,576	\$ 1,100,074	78.75%	10.27%	21.25%
5	Regional Transit Program	Eliot Rose	Key 20597	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ -	N/A	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ 54,274	89.73%	10.27%	10.27%
6	Required Mobility Policy Update	Kim Ellis	Key 20597	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ -	N/A	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ 306,778	89.73%	10.27%	10.27%
7	Regional Freight Program	Tim Collins	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 142,980	\$ 16,365	N/A	\$ -	\$ -	\$ 142,980	\$ 16,365	\$ -	\$ 159,345	89.73%	10.27%	10.27%
8	Complete Streets Program	Lake McTighe	Key 20597	\$ -	\$ -	\$ 86,213	\$ 9,867		\$ -	N/A	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ 96,080	89.73%	10.27%	10.27%
10	Transportation System Management and Operations (TSMO) - Regional Mobility Program	Caleb Winter	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 221,312	\$ 25,330	N/A	\$ -	\$ -	\$ 221,312	\$ 25,330	\$ -	\$ 246,642	89.73%	10.27%	10.27%
Corridor/Area Planning				PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal	Federal Amount	Match to Federal							
1	Corridor Refinement and Project Development (Investment Areas)	Malu Wilkinson	Shift from Key 20888 into 20597	\$ -	\$ -	\$ -	\$ -	\$ 12,175	\$ 1,393	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ 327,420	\$ 340,988	3.57%	10.27%	96.43%
3	Columbia Connects	Jeff Raker	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 232,273	\$ 26,585	N/A	\$ -	\$ -	\$ 232,273	\$ 26,585	\$ 327,420	\$ 586,278	39.62%	10.27%	60.38%
Regional Administration & Support				PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal Funds	Federal Amount	Match to Federal							
1	MPO Management and Services	Tom Kloster	Key 20597	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ -	N/A	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ 470,145	89.73%	10.27%	10.27%
2	Civil Rights and Environmental Justice	Eryn Kehe	Key 20597	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ -	N/A	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ 98,235	89.73%	10.27%	10.27%
3	Data Management and Visualization	Steve Erickson	Key 20597	\$ 720,939	\$ 82,515	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 720,939	\$ 82,515	\$ 543,528	\$ 1,346,982	53.52%	10.27%	46.48%
4	Economic, Demographic and Land Use Forecasting Program	Chris Johnson	Key 20597	\$ 163,434	\$ 18,706	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 163,434	\$ 18,706	\$ 195,476	\$ 377,616	43.28%	10.27%	56.72%
5	Travel Forecast Maintenance, Development and Application	Chris Johnson	Key 20597	\$ 786,277	\$ 89,993	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 786,277	\$ 89,993	\$ 599,906	\$ 1,476,176	53.26%	10.27%	46.74%
6	Oregon Household Travel Survey	Chris Johnson	Key 20597	\$ 82,616	\$ 9,456	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 82,616	\$ 9,456	\$ -	\$ 92,072	89.73%	10.27%	10.27%
7	Technical Assistance Program	Chris Johnson	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 94,646	\$ 10,833	N/A	\$ -	\$ -	\$ 94,646	\$ 10,833	\$ -	\$ 105,479	89.73%	10.27%	10.27%
8	Air Quality Program	Grace Cho	Key 20597	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ -	N/A	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ 25,848	89.73%	10.27%	10.27%
UPWP Project Funding Total Requirements				\$ 2,708,986	\$ 310,056	\$ 1,903,393	\$ 217,852	\$ 1,205,597	\$ 137,986	N/A	\$ -	\$ -	\$ 5,817,976	\$ 665,894	\$ 2,128,326				
					10.27%		10.27%		10.27%						\$ 225,000	\$ 8,612,196			
	PL+State =	\$ 3,019,042														\$ 8,837,196			

# Ref	Name	Point of Contact	In Master Agreement Key 20597	PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal Funds Type	Federal Amount	Match to Federal	Total Federal Amount	Minimum Local Match Total	Local Overmatch Total	Total Project Cost	Federal Percent	Local Minimum Match Percent	Total Local Match Percent
Regional Transportation Planning																			
1	Transportation Planning	Tom Kloster	Key 20597	\$ 890,692	\$ 101,943.68	\$ 105,239	\$ 12,045	\$ -	\$ -	N/A	\$ -	\$ -	\$ 995,931	\$ 113,989	\$ -	\$ 1,109,920	89.73%	10.27%	10.27%
2	Climate Smart Implementation	Kim Ellis	Key 20597	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ -	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ 13,568	89.73%	10.27%	10.27%
3	Regional Transportation Plan Update (2023)	Kim Ellis	Key 20597	\$ 65,028	\$ 7,443	\$ 478,464	\$ 54,762	\$ -	\$ -	N/A	\$ -	\$ -	\$ 543,492	\$ 62,205	\$ -	\$ 605,697	89.73%	10.27%	10.27%
4	Metropolitan Transportation Improvement Program (MTIP)	Ted Leybold	Key 20597	\$ -	\$ -	\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480	N/A			\$ 866,341	\$ 99,157	\$ 134,576	\$ 1,100,074	78.75%	10.27%	21.25%
5	Regional Transit Program	Eliot Rose	Key 20597	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ -	N/A	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ 54,274	89.73%	10.27%	10.27%
6	Required Mobility Policy Update	Kim Ellis	Key 20597	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ -	N/A	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ 306,778	89.73%	10.27%	10.27%
7	Regional Freight Program	Tim Collins	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 142,980	\$ 16,365	N/A	\$ -	\$ -	\$ 142,980	\$ 16,365	\$ -	\$ 159,345	89.73%	10.27%	10.27%
8	Complete Streets Program	Lake McTighe	Key 20597	\$ -	\$ -	\$ 86,213	\$ 9,867		\$ -	N/A	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ 96,080	89.73%	10.27%	10.27%
10	Transportation System Management and Operations (TSMO) - Regional Mobility Program	Caleb Winter	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 221,312	\$ 25,330	N/A	\$ -	\$ -	\$ 221,312	\$ 25,330	\$ -	\$ 246,642	89.73%	10.27%	10.27%
Corridor/Area Planning				PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal	Federal Amount	Match to Federal							
1	Corridor Refinement and Project Development (Investment Areas)	Malu Wilkinson	Shift from Key 20888 into 20597	\$ -	\$ -	\$ -	\$ -	\$ 12,175	\$ 1,393	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ 327,420	\$ 340,988	3.57%	10.27%	96.43%
3	Columbia Connects	Jeff Raker	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 232,273	\$ 26,585	N/A	\$ -	\$ -	\$ 232,273	\$ 26,585	\$ 327,420	\$ 586,278	39.62%	10.27%	60.38%
Regional Administration & Support				PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal Funds	Federal Amount	Match to Federal							
1	MPO Management and Services	Tom Kloster	Key 20597	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ -	N/A	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ 470,145	89.73%	10.27%	10.27%
2	Civil Rights and Environmental Justice	Eryn Kehe	Key 20597	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ -	N/A	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ 98,235	89.73%	10.27%	10.27%
3	Data Management and Visualization	Steve Erickson	Key 20597	\$ 720,939	\$ 82,515	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 720,939	\$ 82,515	\$ 543,528	\$ 1,346,982	53.52%	10.27%	46.48%
4	Economic, Demographic and Land Use Forecasting Program	Chris Johnson	Key 20597	\$ 163,434	\$ 18,706	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 163,434	\$ 18,706	\$ 195,476	\$ 377,616	43.28%	10.27%	56.72%
5	Travel Forecast Maintenance, Development and Application	Chris Johnson	Key 20597	\$ 786,277	\$ 89,993	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 786,277	\$ 89,993	\$ 599,906	\$ 1,476,176	53.26%	10.27%	46.74%
6	Oregon Household Travel Survey	Chris Johnson	Key 20597	\$ 82,616	\$ 9,456	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 82,616	\$ 9,456	\$ -	\$ 92,072	89.73%	10.27%	10.27%
7	Technical Assistance Program	Chris Johnson	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 94,646	\$ 10,833	N/A	\$ -	\$ -	\$ 94,646	\$ 10,833	\$ -	\$ 105,479	89.73%	10.27%	10.27%
8	Air Quality Program	Grace Cho	Key 20597	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ -	N/A	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ 25,848	89.73%	10.27%	10.27%
UPWP Project Funding Total Requirements				\$ 2,708,986	\$ 310,056	\$ 1,903,393	\$ 217,852	\$ 1,205,597	\$ 137,986	N/A	\$ -	\$ -	\$ 5,817,976	\$ 665,894	\$ 2,128,326				
					10.27%		10.27%		10.27%						\$ 225,000	\$ 8,612,196			
	PL+State =	\$ 3,019,042														\$ 8,837,196			

Separate UPWP Stand Alone Projects																			
#	Name	POC	Key Number	PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Fed	Fed \$	Match	Total	Min Match	Overmatch	TPC	Fed %	Min Local %	Tot Loc %
7	Regional Freight Studies	Tim Collins	Key 20897	\$ -	\$ -	\$ -	\$ -	\$ 200,000	\$ 22,891	N/A	\$ -	\$ -	\$ 200,000	\$ 22,891	\$ -	\$ 222,891	89.73%	10.27%	10.27%
2	Southwest Corridor Transit Project	Brian Harper	TBD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	?	\$ 343,048	\$ 39,263	\$ 343,048	\$ 39,263	\$ 14,384	\$ 396,695	86.48%	10.27%	13.52%
9	Regional Travel Options (RTO) and Safe Routes to School Program	Dan Kaempff	Key 20879 + 20880	\$ -	\$ -	\$ -	\$ -	\$ 3,656,869	\$ 418,545	N/A	\$ -	\$ -	\$ 3,656,869	\$ 418,545	\$ -	\$ 4,075,414	89.73%	10.27%	10.27%
5	City of Portland Transit and Equitable Development Assessment	Brian Harper	TBD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	?	\$ 182,776	\$ 20,920	\$ 182,776	\$ 20,920	\$ -	\$ 203,696	89.73%	10.27%	10.27%
6	Tualatin Valley Highway Transit and Development Project	Elizabeth Mros-O'Hara	Shift from Key 20888 to new Key	\$ -	\$ -	\$ -	\$ -	\$ 326,622	\$ 37,383	?	\$ 434,727	\$ 49,756	\$ 761,349	\$ 87,140	\$ -	\$ 848,489	89.73%	10.27%	10.27%
Totals:				\$ -	\$ -	\$ -	\$ -	\$ 3,983,491	\$ 455,928	\$ -	\$ 960,551	\$ 109,939	\$ 4,944,042	\$ 565,868	\$ 14,384	\$ 5,524,294			

FY 2022 UPWP Approved Projects Locally Funded - not included in Key 20597 (and not programmed)																			
#	Name	POC	In Key 20597	PL	Match	5303	Match	STBG	Match	Other Fed	Fed \$	Match	Total Fed \$	Min Loc	Overmatch	TPC	Fed %	Loc Min %	Tot Local %
11	Enhanced Transit Concepts Pilot Program	Matt Bihn	N/A Local Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ -	\$ -	\$ 115,759	\$ 115,759	0.0%	N/A	N/A
12	Economic Value Atlas (EVA) Implementation	Jeff Raker	N/A Local Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ -	\$ -	\$ 287,222	\$ 287,222	0.0%	N/A	N/A
4	MAX Tunnel Study	Matt Bihn	N/A Local Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ 40,000	0.0%	N/A	N/A
9	Intergovernmental Agreement Fund Program	Grace Cho	N/A Local Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ -	\$ -	\$ 51,696	\$ 51,696	0.0%	N/A	N/A

UPWP Revenues versus Project Cost Requirements															
Keys	Fund Type	Federal Authorized	Match	Total with Match		UPWP Needed	Match Needed	Total with Match		Federal Exceess or Shortfall	Match Excess or Shortfall	Total Excess or Shortfall		Notes	
Carryover Savings PL	PL	\$ 647,556	\$ 74,116	\$ 721,672										All PL funds to be programmed in Key 20597	
All Key 20597	PL	\$ 2,061,430	\$ 235,940	\$ 2,297,370		\$ 2,708,986	\$ 310,056	\$ 3,019,042		\$ -	\$ -	\$ -			
	Total PL	\$ 2,708,986	\$ 310,056	\$ 3,019,042											
Carryover Savings 5303	5303	\$ 1,273,176	\$ 145,721	\$ 1,418,897										\$142,980 of the total \$1,906,732 of 5303 to be programmed in Key 20897. The remaining amount of \$1,763, 752 is in Key 20597	
Keys 20597 + 20897	5303	\$ 630,217	\$ 72,131	\$ 702,348		\$ 1,903,393	\$ 217,852	\$ 2,121,245		\$ -	\$ -	\$ -			
	Total 5303:	\$ 1,903,393	\$ 217,852	\$ 2,121,245											
Key 20877 for 20597	STBG	\$ 1,359,877	\$ 155,644	\$ 1,515,521		\$ 1,205,597	\$ 137,986	\$ 1,343,583		\$ 154,280	\$ 17,658	\$ 171,938			
Key 20879 RTO/SRTS 2020	STBG	\$ 2,598,451	\$ 297,404	\$ 2,895,855		\$ 3,656,869	\$ 418,545	\$ 4,075,414		\$ 1,617,987	\$ 185,186	\$ 1,803,173	Key 20880 was slipped to FY 2022 during the December Obligation Targets amendment. However, the STBG is available as needed for the RTO program in FY 2021. \$1,058,418 will be advanced to FY 2021 from Key 20879 to Key 20880		
Key 20880 RTP/SRTS 2021	STBG	\$ 2,676,405	\$ 306,327	\$ 2,982,732											
Total Availabale for RTO	Total	\$ 5,274,856	\$ 603,731	\$ 5,878,587											

Attachment A
FEDERAL AND STATE FUNDING FOR TRANSPORTATION PLANNING PROGRAMS FOR OREGON'S
URBANIZED AREA

FEDERAL FISCAL YEAR 2021 (State Fiscal Year 2022)

FUND TYPE	FEDERAL SHARE	STATE MATCH	LOCAL MATCH	TOTAL
Portland Metro Agreement No.				
FY 2022 PL (#20597)	1,889,070.00	216,212.51	0	2,105,282.51
FY 2020 PL Savings (#20597)	647,556.00	74,115.68	0	721,671.68
FY 2022 Portland STBG (#20597)			0.00	0.00
FY 2022 ODOT Support Funds (#20597)		225,000.00		225,000.00
FY 2022 5303 Funding (#20597)	633,314.00		72,485.62	705,799.62
FY 2020 5303 Saving (#20597)	1,273,176.00		145,720.69	1,418,896.69
Metro Total	4,443,116.00	515,328.20	218,206.31	5,176,650.51

FEDERAL FISCAL YEAR 2021 (State Fiscal Year 2022)

FUND TYPE	FEDERAL SHARE	STATE MATCH	LOCAL MATCH	TOTAL
Portland Metro Agreement No.				
FY 2022 PL (#20597)	2,061,430.39	235,939.93	0	2,297,370.32
FY 2022 Regional MPO STBG (#20877)	739,837.11		84,677.67	824,514.78
FY 2022 Corridor System Planning (#20889)	571,070.43		65,361.57	636,432.00
FY 2022 ODOT Support Funds (#20597)		225,000.00		225,000.00
FY 2022 5303 Funding (#20597)	630,217.47		72,131.21	702,348.68
Metro Total	4,002,555.40	460,939.93	222,170.44	4,685,665.78

2021-2026 Metropolitan Transportation Improvement Program (MTIP)
Current Approved Project List with Approved Amendments



LEAD AGENCY		Metro					
PROJECT NAME		Regional Travel Options (2020)					
Project IDs		Project Description				Project Type	
ODOT KEY	20879	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility.				Regional travel options	
MTIP ID	70873						
RTP ID	11054						
Phase		Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Other		2021	STBG-URBAN	\$2,598,451	\$297,404	\$0	\$2,895,855
FY 21-26 Totals				\$2,598,451	\$297,404	\$0	\$2,895,855
Estimated Project Cost (YOE\$)				\$2,598,451	\$297,404	\$0	\$2,895,855

2021-2026 Metropolitan Transportation Improvement Program (MTIP)
Current Approved Project List with Approved Amendments



LEAD AGENCY		Metro					
PROJECT NAME		Portland Metro Planning SFY22					
Project IDs		Project Description				Project Type	
ODOT KEY	20597	Portland Metro MPO planning funds for Federal fiscal year 2021. Projects will be selected in the future through the MPO process.				Other	
MTIP ID	70986						
RTP ID							
Phase		Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning		2021	Metro PL (5303)	\$618,917	\$70,838	\$0	\$689,755
Planning		2021	Metro Planning (Z450)	\$1,907,827	\$218,359	\$0	\$2,126,186
FY 21-26 Totals				\$2,526,744	\$289,197	\$0	\$2,815,941
Estimated Project Cost (YOE\$)				\$2,526,744	\$289,197	\$0	\$2,815,941

LEAD AGENCY		Metro					
PROJECT NAME		Regional MPO Planning (2021)					
Project IDs		Project Description				Project Type	
ODOT KEY	20877	Funding for Metro to meet Metropolitan Planning Organization mandates established through the federal regulations.				Other	
MTIP ID	70872						
RTP ID							
Phase		Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning		2021	STBG-URBAN	\$1,359,877	\$155,644	\$0	\$1,515,521
FY 21-26 Totals				\$1,359,877	\$155,644	\$0	\$1,515,521
Estimated Project Cost (YOE\$)				\$1,359,877	\$155,644	\$0	\$1,515,521

LEAD AGENCY		Metro					
PROJECT NAME		Regional Travel Options (2021)					
Project IDs		Project Description				Project Type	
ODOT KEY	20880	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility.				Regional travel options	
MTIP ID	70873						
RTP ID							
Phase		Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Other		2022	STBG-URBAN	\$2,676,405	\$306,327	\$0	\$2,982,732
FY 21-26 Totals				\$2,676,405	\$306,327	\$0	\$2,982,732

LEAD AGENCY		Metro					
PROJECT NAME		Corridor and Systems Planning (2020)					
Project IDs		Project Description				Project Type	
ODOT KEY	20888	Corridors and Systems Planning Program conducts planning level work in corridors. Emphasizes the integration of land use and transportation. Determines regional system needs functions desired outcomes performance measures investment strategies.				System/corridor planning	
MTIP ID	70871						
RTP ID	11103						
Phase		Year	Fund Type	Federal Amount	Minimum Local Match	Other Amount	Total Amount
Planning		2022	STBG-URBAN	\$404,234	\$46,266	\$0	\$450,500
FY 21-26 Totals				\$404,234	\$46,266	\$0	\$450,500
Estimated Project Cost (YOE\$)				\$404,234	\$46,266	\$0	\$450,500

Metro FY 2022 UPWP Project Descriptions

Regional Transportation Planning		
1	Transportation Planning	Metro is responsible for meeting all federal planning requirements for MPOs. These include major Metro is responsible for all federal planning requirements . These include mandates described elsewhere in this Unified Planning Work Program (UPWP), such as the Regional Transportation Plan (RTP) and Metropolitan Transportation Improvement Plan (MTIP) that follow this section. In addition to these major mandates, Metro also provides a series of ongoing transportation planning services that complement federal requirements and support other transportation planning in the region. Our core transportation planning activities include: Periodic amendments to the RTP, periodic updates to the regional growth forecast, periodic updates to the regional revenue forecasts, policy direction and support for regional corridor and investment area planning, ongoing transportation model updates and enhancements, policy support for regional mobility and Congestion Management Process (CMP) programs, plus compliance with federal performance measures.
2	Climate Smart Implementation	The Climate Smart implementation program is an ongoing activity to monitor and report on the region's progress in achieving the policies and actions set forth in the adopted 2014 Climate Smart Strategy and the Oregon Metropolitan Greenhouse Gas Emissions Reduction Target Rule. The program also includes technical and policy support and collaboration with other regional and statewide climate initiatives to ensure MPO activities, including implementation of the Regional Transportation Plan, support regional and state greenhouse gas (GHG) emissions eduction goals.
3	Regional Transportation Plan Update (2023)	The RTP is maintained and updated regularly to ensure continued compliance with state and federal requirements and to address growth and changes in land use, demographics, financial, travel, technology and economic trends.
4	Metropolitan Transportation Improvement Program (MTIP)	The MTIP represents the first four-year program of projects from the approved long range Regional Transportation Plan (RTP) identified to receive funding for implementation. It ensures that program of projects meet federal program requirements and informs the region on the expected performance of the package of projects relative to adopted performance goals.
5	Regional Transit Program	The Regional Transit Strategy provides the roadmap for making these investments over time, and the Regional Transit program focuses on implementing the strategy in collaboration with our transit providers and local government partners in the region. An integral part of implementing the Regional Transit Strategy is to support the pursuit of transit funding for the region
6	Required Mobility Policy Update	Metro and the Oregon Department of Transportation (ODOT) are working together to update the Regional Mobility Policy which defines and measures mobility for people and goods traveling in and through the Portland area.
7	Regional Freight Studies	The Regional Freight Program manages updates to and implementation of multimodal freight elements in the Regional Transportation Plan (RTP) and supporting Regional Freight Strategy. The program provides guidance to jurisdictions in planning for freight movement on the regional transportation system. The program supports coordination with local, regional, state, and federal plans to ensure consistency in approach to freight-related needs and issues across the region.
8	Complete Streets Program	Metro’s Complete Streets program includes activities related to street design, safety and active transportation. Program activities include sharing best practices and resources, providing technical assistance, developing policies and plans, and monitoring progress towards goals and targets.
9	Regional Travel Options (RTO) and Safe Routes to School Program	The Regional Travel Options (RTO) Program implements Regional Transportation Plan (RTP) policies and the Regional Travel Options Strategy to reduce drive-alone auto trips and personal vehicle miles of travel and to increase use of travel options. Creating a Regional Safe Routes to School (SRTS) program was an additional focus area of the 2018 RTO Strategy. In 2019, seven SRTS grants were awarded to local jurisdictions, school districts, and community based organizations to deliver walking and rolling education and encouragement programs for kids and youth.
10	Transportation System Management and Operations (TSMO) - Regional Mobility Program	The Regional Transportation System Management and Operations Regional Mobility (TSMO) Program (salary portion) provides a demand and system management response to issues of congestion, reliability, safety and more. The program works to optimize infrastructure investments, promote travel options in real-time, reduce greenhouse gas emissions and increase safety.
11	Enhanced Transit Concepts Pilot Program	The Enhanced Transit Concepts (ETC) program identifies transit priority and access treatments to improve the speed, reliability, and capacity of TriMet frequent service bus lines or streetcar lines. ETC treatments are relatively low-cost to construct, context-sensitive, and are able to be implemented quickly to improve transit service in congested corridors. The program develops partnerships with local jurisdictions and transit agencies to design and implement ETC capital and operational investments.
12	Economic Value Atlas (EVA) Implementation	Metro’s Economic Value Atlas (EVA) establishes tools and analysis that align planning, infrastructure, and economic development to build agreement on investments to strengthen our economy. The EVA entered an implementation phase in FY 2019-20 that included test applications among partner organizations and jurisdictions, refinements to the tool, and integration into agency-wide activities. This is an ongoing program
Corridor/Area Planning		
1	Corridor Refinement and Project Development (Investment Areas)	The Investment Areas program completes system planning and develops multimodal projects in major transportation corridors identified in the Regional Transportation Plan (RTP) as well as developing shared investment strategies to align local, regional and state investments in economic investment areas that support the region’s growth economy.
2	Southwest Corridor Transit Project	The Southwest Corridor Transit Project extends the MAX light rail system to connect downtown Portland with southwest Portland, Tigard and Tualatin. The project is 11 miles long and includes 13 stations, new connections to regional destinations, and major enhancements to public roadway, sidewalk, bike, transit and stormwater infrastructure. Program activities include environmental review, collaborative project design, coordination on land use planning, and development of an equitable development strategy to protect and enhance housing options and jobs for all households. In FY 2020-21, the project released a final draft conceptual design report and completed a Final Environmental Impact Statement, and acquired a Record of Decision from the Federal Transit Administration. The project paused further engineering and funding efforts.

3	Columbia Connects	Columbia Connects is a regional collaboration between Oregon and Washington planning partners working together to unlock the potential for equitable development and programs that are made more difficult by infrastructure barriers, and state and jurisdictional separation. Columbia Connects’ purpose is to improve the economic and community development of a subdistrict of the region near the Columbia River, by developing a clear understanding of the economic and community interactions and conditions within this sub-district; the shared economic and community values of the region; the desired outcomes; and by creating strategies, projects, and programs, as well as an action plan to achieve these outcomes.
4	MAX Tunnel Study	Metro’s MAX Tunnel Study (formerly the Central City Transit Capacity Analysis) is a preliminary study that expands upon previous TriMet work to identify a long-term solution to current reliability problems and future capacity constraints caused by the Steel Bridge. The purpose of the MAX Tunnel study is to lay the groundwork for a much larger study under the National Environmental Policy Act (NEPA).
5	City of Portland Transit and Equitable Development Assessment	The project seeks to create an equitable development plan for two future transit-oriented districts –one in NW Portland and one in Inner East Portland. This project is intended to complement potential transit improvements to better connect Montgomery Park with the Hollywood District. The project will identify the land use and urban design opportunities, economic development and community benefit desires and opportunities leveraged under a transit-oriented development scenario.
6	Tualatin Valley Highway Transit and Development Project	The Tualatin Valley (TV) Highway transit and development project creates a collaborative process with the surrounding communities and relevant jurisdictions to prioritize transportation projects, building on recent work undertaken by Washington County
Regional Administration & Support		
1	MPO Management and Services	The Metropolitan Planning Organization (MPO) Management and Services program is responsible for the overall management and administration of the region's responsibilities as a federally-designated MPO. These planning responsibilities include: Creation and administration of the annual Unified Planning Work Program (UPWP), Periodic amendments to the UPWP, Procurement of services, Contract administration, Federal grants administration, Federal reporting, Annual self-certification for meeting federal MPO planning requirements, Periodic on-site certification reviews with federal agencies, Public participation in support of MPO activities. Convening and ongoing support for MPO advisory committees, and Public engagement
2	Civil Rights and Environmental Justice	The Civil Rights and Environmental Justice program works to continuously improve practices to identify, engage and improve equitable outcomes for historically marginalized communities, particularly communities of color and people with low income, and develops and maintains processes to ensure 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, national origin, sex, age or disability
3	Data Management and Visualization	Metro’s Data Research Center provides Metro, regional partners and the public with technical services including data management, visualization, analysis, application development, and systems administration. The Research Center collaborates with Metro programs to support planning, modeling, forecasting, policy-making, resiliency, and performance measurement activities.
4	Economic, Demographic and Land Use Forecasting Program	The Economic, Demographic, and Land Use Forecasting, Development and Application Program assembles historical data and develops future forecasts of population, land use, and economic activity that support Metro’s regional planning and policy decision-making processes. The forecasts are developed for various geographies, ranging from regional (MSA) to Transportation Analysis Zone (TAZ) level, and across time horizons ranging from 20 to 50 years into the future.
5	Travel Forecast Maintenance, Development and Application	The Travel Forecast Maintenance, Development, and Application Program is a coordinated portfolio of projects and tasks devoted to the development, application, and maintenance of the core analytical toolkit used to inform and support regional transportation policy and investment decisionmaking. Individual elements of the toolkit include: Travel Demand Models (Trip-based, Activity-based), Freight Travel Demand Model, Bicycle Route Choice Assignment Model, Multi-Criterion Evaluation Tool (Benefit/Cost Calculator), Housing and Transportation Cost Calculator, Dynamic Traffic Assignment Model, and the VisionEval Scenario Planning Tool
6	Oregon Household Travel Survey	Transportation analysts, planners and decision-makers rely on periodic travel surveys to provide a “snapshot” of current household travel behavior. The data collected through household travel survey efforts are also critical for updating and improving travel demand models, the foundational analytical tool used to support transportation planning, as they provide a comprehensive picture of personal travel behavior that is lacking in other data sources
7	Technical Assistance Program	The Technical Assistance program provides transportation data and travel modeling services for projects that are of interest to local partner jurisdictions. Clients of this program include regional cities and counties, TriMet, the Oregon Department of Transportation, the Port of Portland, private sector businesses and the general public.
8	Air Quality Program	Metro’s Air Quality Monitoring program ensures activities undertaken as part of the Metropolitan Planning Organization (MPO), such as the Regional Transportation Plan (RTP) and the Metropolitan Transportation Improvement Program (MTIP), carry out the commitments and rules set forth as part of the Portland Area State Implementation Plan (SIP) and state and federal regulations pertaining to air quality and air pollution.

Agenda Item 6:

April 2021 Formal Amendment Summary

Resolution 21-5169

Amendment # AP21-09-APR

Applies to the new 2021-24 MTIP

Agenda Support Materials:

- Draft Resolution 21-5169
- Exhibit A to Resolution 21-5169 (amendment tables)
- Staff Report & 2 Attachments

April 2, 2021

Ken Lobeck

Metro Funding Programs Lead

April 2021 Formal MTIP Amendment

Overview

- Summary overview of the April Formal MTIP Amendment bundle contains 11 projects:
 - Seven related to the new State Fiscal Year (SFY) 2022 Unified Work Planning Program (UPWP)
 - Four regular projects requiring a formal amendment
- Open to questions or project discussions
- Staff motion: Request approval recommendation to JPACT for Resolution 21-5169

April 2021 Formal MTIP Amendment

SFY 2022 UPWP Portion (Projects 1-7)

- UPWP Funding Summary must be translated into MTIP programming logic
- UPWP projects are programmed in the MTIP for obligation needs, accounting, and monitoring
- UPWP Funding Summary projects separated into three MTIP programming groups:
 - **Projects requiring stand-alone programming**
 - **Projects that can reside in the UPWP project grouping bucket (Key 20597) and be approved under the Master Agreement**
 - **Projects that don't require programming**

April 2021 Formal MTIP Amendment

SFY 2022 UPWP Funding Summary

METRO	Total Direct and Indirect Costs	PL	PL Match (ODOT)	5303	5303 Match (Metro)	STBG	STBG Match (Metro)	FTA, FHWA, ODOT Discretionary Grants	FTA, FHWA, ODOT Grants Match (Metro)	Metro Direct Contribution	Local Support	Total
Regional Transportation Planning												
1 Transportation Planning	\$ 1,109,920	\$ 890,692	\$ 101,944	\$ 105,239	\$ 12,045							\$ 1,109,920
2 Climate Smart Implementation	\$ 13,569			\$ 12,175	\$ 1,393							\$ 13,569
3 Regional Transportation Plan Update (2023)	\$ 605,697	\$ 65,028	\$ 7,443	\$ 478,464	\$ 54,762							\$ 605,697
4 Metropolitan Transportation Improvement Plan	\$ 1,100,073			\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480			\$ 134,576		\$ 1,100,073
5 Air Quality Program	\$ 25,848			\$ 23,193	\$ 2,655							\$ 25,848
6 Regional Transit Program	\$ 54,274			\$ 48,700	\$ 5,574							\$ 54,274
7 Regional Mobility Policy Update	\$ 306,778			\$ 275,272	\$ 31,506							\$ 306,778
8 Regional Freight Program	\$ 159,345					\$ 142,980	\$ 16,365					\$ 159,345
9 Regional Freight Delay and Commodities Movement	\$ 222,891					\$ 200,000	\$ 22,891					\$ 222,891
10 Complete Streets Program	\$ 96,081			\$ 86,213	\$ 9,867							\$ 96,081
11 Regional Travel Options (RTO) and Safe Routes to School Program	\$ 3,852,228							\$ 3,656,869	\$ 195,359			\$ 3,852,228
12 Transportation System Management and Operations (TSMO)- Regional Mobility Program	\$ 246,642					\$ 221,312	\$ 25,330					\$ 246,642
13 Enhanced Transit Concepts Pilot Program	\$ 115,759									\$ 115,759		\$ 115,759
14 Economic Value Atlas (EVA) Implementation	\$ 287,222									\$ 287,222		\$ 287,222
Regional Transportation Planning Total:	\$ 8,196,326	\$ 955,720	\$ 109,387	\$ 1,393,386	\$ 159,479	\$ 1,066,503	\$ 122,066	\$ 3,656,869	\$ 195,359	\$ 537,557	\$ -	\$ 8,196,326
Regional Corridor/Area Planning												
1 Corridor Refinement and Project Development (Investment Areas)	\$ 340,988					\$ 12,175	\$ 1,393			\$ 327,420		\$ 340,988
2 Southwest Corridor Transit Project	\$ 396,695							\$ 343,048	\$ 39,263		\$ 14,384	\$ 396,695
3 Columbia Connects	\$ 258,857					\$ 232,273	\$ 26,585					\$ 258,857
4 MAX tunnel study	\$ 40,000									\$ 40,000		\$ 40,000
5 City of Portland Transit and equitable development	\$ 203,696							\$ 182,776	\$ 20,920			\$ 203,696
6 Tualatin Valley Highway Transit and Development Project	\$ 848,488					\$ 326,622	\$ 37,383	\$ 434,727	\$ 49,756			\$ 848,488
Regional Corridor/Area Planning Total:	\$ 2,088,725	\$ -	\$ -	\$ -	\$ -	\$ 571,070	\$ 65,361	\$ 960,551	\$ 109,939	\$ 367,420	\$ 14,384	\$ 2,088,725
Administration & Support												
1 MPO Management and Services	\$ 470,145			\$ 421,861	\$ 48,284							\$ 470,145
2 Civil Rights and Environmental Justice	\$ 98,235			\$ 88,146	\$ 10,089							\$ 98,235
3 Data Management and Visualization	\$ 1,346,982	\$ 720,939	\$ 82,515							\$ 543,528		\$ 1,346,982
4 Economic, Demographic and Land Use Forecasting Program	\$ 377,616	\$ 163,434	\$ 18,706							\$ 118,591	\$ 76,885	\$ 377,616
5 Travel Forecast Maintenance, Development and Application	\$ 1,476,176	\$ 786,277	\$ 89,993							\$ 206,791	\$ 393,115	\$ 1,476,176
6 Oregon Household Travel Survey	\$ 92,072	\$ 82,616	\$ 9,456									\$ 92,072
7 Technical Assistance Program	\$ 105,479					\$ 94,646	\$ 10,833					\$ 105,479
8 Intergovernmental Agreement Fund Program	\$ 51,696									\$ 51,696		\$ 51,696
Administration & Support Total:	\$ 4,018,401	\$ 1,753,267	\$ 200,669	\$ 510,007	\$ 58,373	\$ 94,646	\$ 10,833	\$ -	\$ -	\$ 920,606	\$ 470,000	\$ 4,018,401
GRAND TOTAL	\$ 14,303,452	\$ 2,708,987	\$ 310,056	\$ 1,903,393	\$ 217,852	\$ 1,732,219	\$ 198,261	\$ 4,617,420	\$ 305,298	*****	\$ 484,384	\$ 14,303,452

April 2021 Formal MTIP Amendment

SFY UPWP Project Pre-Positioning in the MTIP

- Established several annual UPWP projects and funding categories in the MTIP:
 - Regional Travel Options
 - Planning project grouping bucket for the final Master Agreement list of projects (PL and 5303)
 - Corridor and Systems Planning
 - STBG commitment for UPWP projects
- Programming estimates 95% accurate or higher
- Allows final allocation updates and MTIP changes to occur administratively
- Obligation Targets program added complications that now require program changes

April 2021 Formal MTIP Amendment

SFY UPWP Projects and MTIP Programming Changes

- Using the UPWP Funding Summary, determine
 - Stand-alone UPWP projects
 - Eligible Master Agreement projects in Key 20597
 - Identify projects that don't require MTIP programming
- Verify prior-year unexpended UPWP funds eligible for carryover into the new UPWP (add to revenues)
- Determine required changes to the pre-positioned MTIP UPWP projects and complete the changes
- Complete MTIP changes in order for Master Agreement approval allowing the UPWP PL, 5303, and STBG funds to be obligated

April 2021 Formal Amendment UWP Contents

Keys 20879 and 20880 – Regional Travel Options

#	Key	Lead Agency	Project Name	Change Reason	Note
1	20879	Metro	Regional Travel Options (2020) Metro UPWP Regional Travel Options (SFY 2022)	Combine Funds	Combine \$1,179,559 from Key 20880 to fund the SFY 2022 RTO .
2	20880	Metro	Regional Travel Options (2021)	Split Funds	Shift funds to Key 20879

The formal amendment:

- Key 20879 (FY 202 RTO program) did not obligate funds during FY 2020.
- Key 20879 was carried over into FY 2021 as the primary key for RTO 2021 obligations
- Key 20880 was originally programmed in FY 2021 for RTO needs as well.
- A total of \$1,179,559 of RTO funds from Key 20880 will be split off and combined into Key 20879.
- Key 20879: \$4,075,414 full funding and will flex transfer the STBG to FTA to obligate the funds by July 1st. Key 20888 is push-out to FY 2025 for future re-allocation.

April 2021 Formal Amendment UWP Contents

Keys New Westside Corridor Multimodal Improvements

#	Key	Lead Agency	Project Name	Change Reason	Note
3	New	ODOT	Westside Corridor Multimodal Improvements Study	Add New UPWP Project	ODOT funded

The formal amendment:

- Adds the new UPWP study to the 2021-24 MTIP as a stand-alone project.
- The project will be funded by State STBG funds
- The total project funding with matching funds is \$1,000,000
- The project involves the US 26 (Sunset Highway) corridor and will conduct a study to identify the multimodal (aviation, transit, freight, auto, etc.) needs, challenges and opportunities in the corridor

April 2021 Formal Amendment UWP Contents

Key 21312 – Metro Transportation Options

#	Key	Lead Agency	Project Name	Change Reason	Note
7	21312 New	Metro	Metro Transportation Options (FFY 18-21)	Re-add New UPWP Project	RTO program supplemental funding from ODOT for the FFY 2021 year

The formal amendment:

- Re-adds the new RTO supplemental funding project to the 2021-24 MTIP as a stand-alone project.
- The project is being programmed using the federal Advance Construction fund type code placeholder.
- The anticipated federal fund type conversion code is State STBG funds.
- The new funding is comprised of \$147,676, if federal funds plus \$12,324 of local matching funds for a total of \$160,000 for Federal Fiscal Year 2021
- The ODOT funding adds FFY 2021 to the prior year allocations which support the Metro RTO program.

April 2021 Formal MTIP Amendment

SFY UPWP Projects and MTIP Programming Changes

- Update Key 20597 - Master Agreement list of recurring UPWP projects
 - Update Key 20597: Carryover, PL, 5303, and STBG
 - Key 20887: STBG shift to Key 20597
 - Key 20888: STBG shift to Key 20597

April 2021 Formal MTIP Amendment

SFY 2022 UPWP Projects for Key 20597 & Master Agreement (Attachment 1 to the Staff Report)

Metro FY 2022 UPWP MTIP Programming for Key 20597 and Others

Version 3/9/2021

# Ref	Name	Point of Contact	In Master Agreement Key 20597	PL	PL Match	5303	5303 Match	STBG	STBG Match	Other Federal Funds Type	Federal Amount	Match to Federal	Total Federal Amount	Minimum Local Match Total	Local Overmatch Total	Total Project Cost	Federal Percent	Local Minimum Match Percent	Total Local Match Percent
Regional Transportation Planning																			
1	Transportation Planning	Tom Kloster	Key 20597	\$ 890,692	\$ 101,943.68	\$ 105,239	\$ 12,045	\$ -	\$ -	N/A	\$ -	\$ -	\$ 995,931	\$ 113,989	\$ -	\$ 1,109,920	89.73%	10.27%	10.27%
2	Climate Smart Implementation	Kim Ellis	Key 20597	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ -	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ -	\$ 13,568	89.73%	10.27%	10.27%
3	Regional Transportation Plan Update (2023)	Kim Ellis	Key 20597	\$ 65,028	\$ 7,443	\$ 478,464	\$ 54,762	\$ -	\$ -	N/A	\$ -	\$ -	\$ 543,492	\$ 62,205	\$ -	\$ 605,697	89.73%	10.27%	10.27%
4	Metropolitan Transportation Improvement Program (MTIP)	Ted Leybold	Key 20597	\$ -	\$ -	\$ 364,130	\$ 41,676	\$ 502,211	\$ 57,480	N/A			\$ 866,341	\$ 99,157	\$ 134,576	\$ 1,100,074	78.75%	10.27%	21.25%
5	Regional Transit Program	Elliot Rose	Key 20597	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ -	N/A	\$ -	\$ -	\$ 48,700	\$ 5,574	\$ -	\$ 54,274	89.73%	10.27%	10.27%
6	Required Mobility Policy Update	Kim Ellis	Key 20597	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ -	N/A	\$ -	\$ -	\$ 275,272	\$ 31,506	\$ -	\$ 306,778	89.73%	10.27%	10.27%
7	Regional Freight Program	Tim Collins	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 142,980	\$ 16,365	N/A	\$ -	\$ -	\$ 142,980	\$ 16,365	\$ -	\$ 159,345	89.73%	10.27%	10.27%
8	Complete Streets Program	Lake McGhee	Key 20597	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ -	N/A	\$ -	\$ -	\$ 86,213	\$ 9,867	\$ -	\$ 96,080	89.73%	10.27%	10.27%
10	Transportation System Management and Operations (TSMO) - Regional Mobility Program	Caleb Winter	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 221,312	\$ 25,330	N/A	\$ -	\$ -	\$ 221,312	\$ 25,330	\$ -	\$ 246,642	89.73%	10.27%	10.27%
Corridor/Area Planning																			
1	Corridor Refinement and Project Development (Investment Areas)	Malu Wilkinson	Shift from Key 20088 into 20597	\$ -	\$ -	\$ -	\$ -	\$ 12,175	\$ 1,393	N/A	\$ -	\$ -	\$ 12,175	\$ 1,393	\$ 327,420	\$ 340,988	3.57%	10.27%	96.43%
3	Columbia Connects	Jeff Raker	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 232,273	\$ 26,585	N/A	\$ -	\$ -	\$ 232,273	\$ 26,585	\$ 327,420	\$ 586,278	39.62%	10.27%	60.38%
Regional Administration & Support																			
1	MPO Management and Services	Tom Kloster	Key 20597	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ -	N/A	\$ -	\$ -	\$ 421,861	\$ 48,284	\$ -	\$ 470,145	89.73%	10.27%	10.27%
2	Civil Rights and Environmental Justice	Eryn Kehe	Key 20597	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ -	N/A	\$ -	\$ -	\$ 88,146	\$ 10,089	\$ -	\$ 98,235	89.73%	10.27%	10.27%
3	Data Management and Visualization	Steve Erickson	Key 20597	\$ 720,939	\$ 82,515	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 720,939	\$ 82,515	\$ 543,528	\$ 1,346,982	53.52%	10.27%	46.48%
4	Economic, Demographic and Land Use Forecasting Program	Chris Johnson	Key 20597	\$ 163,434	\$ 18,706	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 163,434	\$ 18,706	\$ 195,476	\$ 377,616	43.28%	10.27%	56.72%
5	Travel Forecast Maintenance, Development and Application	Chris Johnson	Key 20597	\$ 786,277	\$ 89,993	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 786,277	\$ 89,993	\$ 599,906	\$ 1,476,176	53.26%	10.27%	46.74%
6	Oregon Household Travel Survey	Chris Johnson	Key 20597	\$ 82,616	\$ 9,456	\$ -	\$ -	\$ -	\$ -	N/A	\$ -	\$ -	\$ 82,616	\$ 9,456	\$ -	\$ 92,072	89.73%	10.27%	10.27%
7	Technical Assistance Program	Chris Johnson	Key 20597	\$ -	\$ -	\$ -	\$ -	\$ 94,646	\$ 10,833	N/A	\$ -	\$ -	\$ 94,646	\$ 10,833	\$ -	\$ 105,479	89.73%	10.27%	10.27%
8	Air Quality Program	Grace Cho	Key 20597	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ -	N/A	\$ -	\$ -	\$ 23,193	\$ 2,655	\$ -	\$ 25,848	89.73%	10.27%	10.27%
UPWP Project Funding Total Requirements				\$ 2,708,986	\$ 310,056	\$ 1,903,393	\$ 217,852	\$ 1,205,597	\$ 137,986	N/A	\$ -	\$ -	\$ 5,817,976	\$ 665,894	\$ 2,128,326				
					10.27%		10.27%		10.27%							\$ 225,000	\$ 8,612,196		
PL+State =				\$ 3,019,042												\$ 8,837,196			

April 2021 Formal Amendment UWP Contents

Key 20888 – Metro Transportation Options

#	Key	Lead Agency	Project Name	Change Reason	Note
4	20888	Metro	Corridor and Systems Planning (2020)	Split funds to Key 20597	Supports the Corridor Refinement and Project Development (Investment Areas) in Key 20597

The formal amendment:

- Splits \$12,175 of federal STBG funds from the project grouping bucket and commits them to the STBG needs in Key 20597
- Directly supports the Corridor Refinement and Project Development (Investment Areas) project in the UPWP Master Agreement list of projects

April 2021 Formal Amendment UWP Contents

Key 20877 – Regional MPO Planning (2021)

#	Key	Lead Agency	Project Name	Change Reason	Note
5	20877	Metro	Regional MPO Planning (2021)	Split funds and combine into Key 20597	Supports the STBG requirements in Master Agreement list of projects

The formal amendment:

- Key 20877 is project grouping bucket maintaining the anticipated federal STBG needs to be included in the final UPWP Master Agreement of list of projects
- Splits \$1,205,597 of STBG and \$137,986 of local match (total of \$1,343,583) from the project grouping bucket and commits them to the STBG needs in Key 20597
- Directly supports the SFY 2022 UPWP STBG needs for Master Agreement list of projects
- Remaining funds in Key 20877 are pushed out to FY 2025

April 2021 Formal Amendment UWP Contents

Key 20597 – Portland Metro Planning SFY 2022

#	Key	Lead Agency	Project Name	Change Reason	Note
4	20597	Metro	Portland Metro Planning SFY 2022	Combine Funds	Complete and support the SFY 2022 UPWP Master Agreement list of projects

The formal amendment:

- Acts as Project grouping bucket consisting of 19 UPWP projects.
- Allows the Master Agreement for these projects to be completed and executed. This allows the programmed funds to be obligated around July 1st.
- Updates multiple federal funds that include Planning (PL), FTA Section 5303 (5303), and Surface Transportation Block Grant (STBG) funds
- Also updates required state and local funds contributing to the Master Agreement.
- Reflects a total SFY UPWP Master Agreement programming amount of \$8,645,108.

April 2021 Formal MTIP Amendment

Remaining Project Programming Changes

- End of UPWP MTIP Amendments portion
- Remaining Projects and Required Changes:
 - Key 19267: **OR141 (Hall Blvd): Scholls Ferry Rd - Locust St**
Add Construction phase and funding
 - **Key 21712: OR99W: Rock Creek Bridge**
Cancel Project
 - Key 21598: ~~OR224: SE 17th Ave - OR213~~ **OR224: SE 17th Ave - SE Rusk Road**
Limits change
 - **Key New: Local Traffic Signal Controller Replacement**
Add New Portland TSMO Project

April 2021 Formal Amendment

Key 19267 - OR141 (Hall Blvd): Scholls Ferry Rd - Locust St

#	Key	Lead Agency	Project Name	Change Reason	Note
8	19267	ODOT	OR141 (Hall Blvd): Scholls Ferry Rd - Locust St	Add Cons phase	Adding the Construction phase to the project

The formal amendment:

- Adds the Construction phase
- The Construction phase totals \$3,525,000
- The action will allow Construction phase to move forward and be obligated during FY 2022

April 2021 Formal Amendment

Key 21712 – OR99W: Rock Creek Bridge

#	Key	Lead Agency	Project Name	Change Reason	Note
9	21712	ODOT	OR99W : Rock Creek Bridge	Cancel Project	Funds to be shifted to the Indian Creek Bridge in Region 2

The formal amendment:

- Cancels the project from the 2021-24 MTIP and STIP
- Built in 1955, Rock Creek Bridge is in currently satisfactory condition
- Bridge safety rails do not meet safety standards, so an upgrade was programmed as part of the 2021-24 STIP.
- However, a subsequent review determined the entire bridge deck will require a concrete overlay.
- Since the bridge is in satisfactory condition, but the project needs re-scoping, the current version is being cancelled until the revised version is ready.

April 2021 Formal Amendment

Key 21598 – OR224: SE 17th Ave - SE Rusk Road

#	Key	Lead Agency	Project Name	Change Reason	Note
10	21598	ODOT	OR224: SE 17th Ave - OR213 OR224: SE 17th Ave - SE Rusk Road	Limits Change	Eliminates overlap with the OR224 capacity project

The formal amendment:

- Reduces the project limits to avoid overlap between the pavement rehabilitation project and the third lane capacity improvement project
- Third lane capacity improvement = OR2214 to SE Rusk Rd
- Pavement rehabilitation project = SE 17th SE Ave to Rusk Rd

April 2021 Formal Amendment

Key New – Local Traffic Signal Controller Replacement

#	Key	Lead Agency	Project Name	Change Reason	Note
11	NEW TBD	Portland	Local Traffic Signal Controller Replacement	Add New Project	2019 Metro TSMO program award

The formal amendment:

- Adds Portland's new Transportation Systems Management and Operations (TSMO) project to the 2021-24 MTIP
- Project is a Metro 2019 TSMO program awarded project with \$840,435 of STBG funds.
- The project will purchase Advanced Transportation Controllers (ATCs,) hardware and software) and converting the existing traffic signal timing at 141 traffic signals throughout Portland

MPO CFR Compliance Requirements

MTIP 8 Review Factors

1. MTIP required programming verification is completed
2. MTIP funding eligibility verification is completed
3. Passes fiscal constraint review and verification
4. Passes RTP consistency review:
 - Identified in current constrained RTP
 - Reviewed for possible air quality impacts
 - Verified as a Regionally Significant project and impacts to the region
 - Verified correct location & scope elements in the modeling network
 - Verified RTP and MTIP project costs consistent
 - Satisfies RTP goals and strategies
5. MTIP & STIP programming consistency is maintained against obligations
6. Verified as consistent with UPWP requirements as applicable
7. MPO responsibilities verification: Public notification completion plus OTC approval required completed for applicable ODOT funded projects
8. Performance Measurements initial impact assessments completed

April 2021 Formal Amendment

Public Notification Period

30 Day Public Notification/Opportunity to Comment period is
March 30, 2021 to April 28, 2021

<https://www.oregonmetro.gov/metropolitan-transportation-improvement-program>

AMENDMENTS

The MTIP and STIP are “living” documents, subject to updates through an amendment process. Metro releases all amendments for public review before the Metro Council takes action.

To comment, contact Summer Blackhorse at summer.blackhorse@oregonmetro.gov.

FFY 2020 formal amendments

 [April 2021 formal MTIP amendment, Resolution 21-5169](#)

Comment by Wednesday, April 28

296.79 KB Adobe Acrobat PDF | Published Mar 30, 2021

April 2021 Formal Amendment

Estimated Approval Timing & Steps

Action	Target Date
30 Day Public Notification Period Begins	March 30 2021
TPAC Notification and Approval Recommendation	April 2, 2021
JPACT Approval and Recommendation to Council	April 15, 2021
30 Day Public Notification Period Ends	April 28, 2021
Metro Council Approval of Resolutions 20-5169	May 6, 2021
Amendment Bundle Submission to ODOT	May 11, 2021
ODOT & USDOT Final Approvals	Mid-June 2021

April 2021 Formal Amendment

Approval Recommendation & Questions

TPAC Approval Recommendation:

- Provide an approval recommendation for Resolution 21-5169 and the 11 projects under MTIP Amendment AP21-09-APR
- Correct typos, etc. in support materials as needed
- Questions, Comments, and/or Project Discussions as Needed?

Regional Emergency Transportation Routes Update

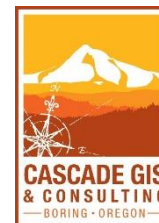
Transportation Policy Alternatives Committee

Recommendation to JPACT Requested
on Resolution No. 21-5160

April 2, 2021



Kim Ellis, Metro Project Manager
Laura Hanson, RDPO Project Manager



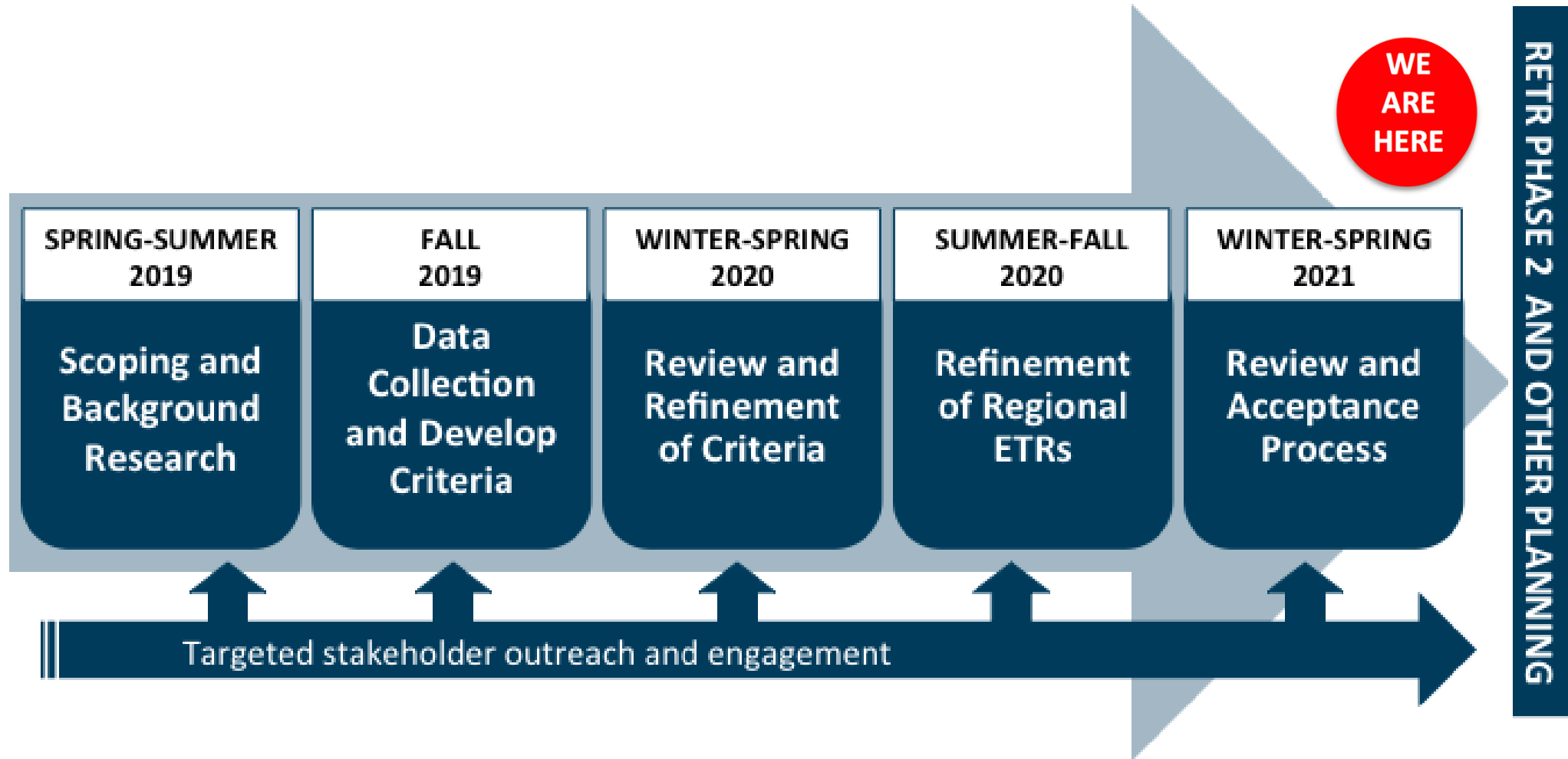
Project purpose



To update designated Regional Emergency Transportation Routes (RETRs) for the five-county region.

- Update 1996 and 2005/2006 ETRs
- Improve understanding of resilience of ETRs
- Raise visibility of ETRs
- Facilitate regional dialogue regarding resilience and recovery
- Set the stage for Phase 2 and future planning and investment

Project timeline



Stakeholder engagement | 2019 to 2021

- 9 Regional ETR work group meetings
- 3 TPAC/MTAC workshops
- 1 community leaders' forum
- 17 county-level coordinating committee briefings (staff and policy)
- 8 jurisdictional specific meetings to review draft maps
- 5 REMTEC briefings
- 3 RDPO Public Works work group briefings
- 4 RDPO Steering Committee briefings
- 1 Metro Policy Advisory Committee briefing
- 3 Joint Policy Advisory Committee on Transportation briefings
- 2 Metro Council briefing
- 2 Southwest Washington Regional Transportation Council briefing
- 3 RDPO Policy Committee briefings



**More than
60
touch points
from 2019 to
2021**



zoom

What We Heard During Final Review Process

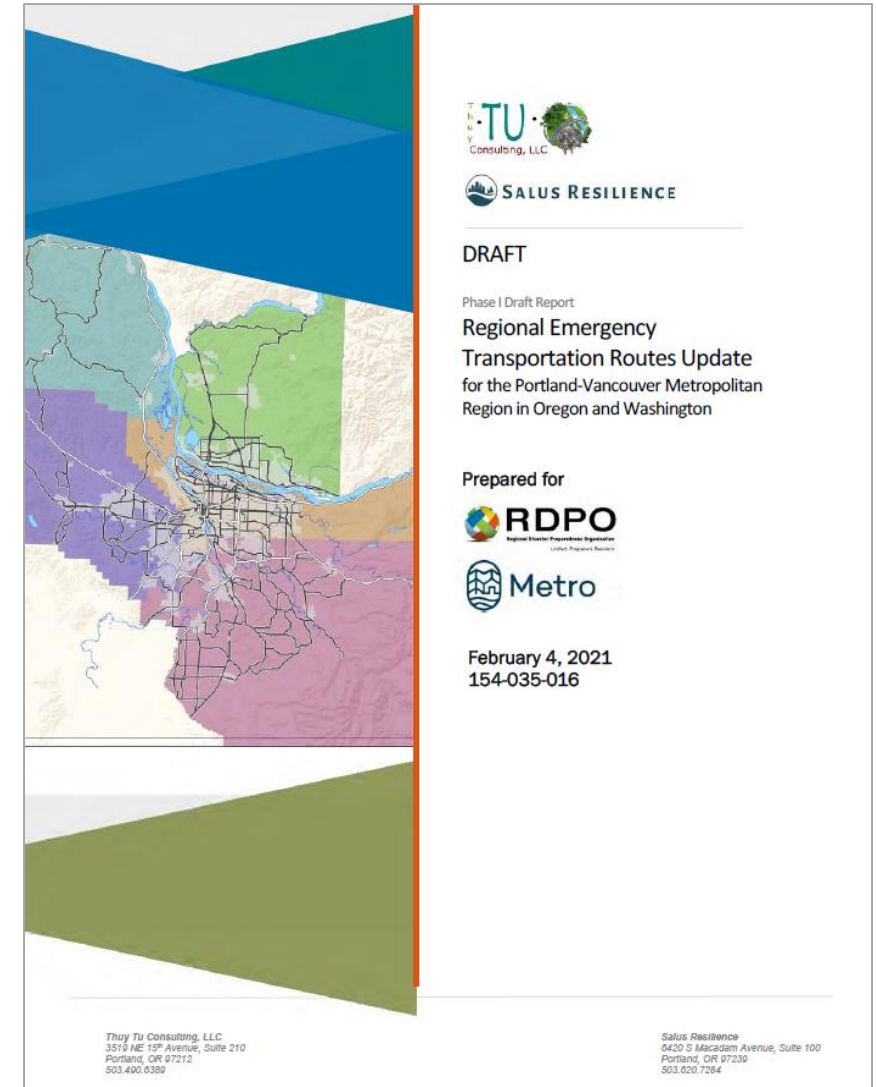
Broad appreciation for this work and recognition of its importance to planning and investment in the region

Acknowledgement that significant gaps in data and planning remain to be addressed (Phase 2 and other efforts)

Request for more jurisdictional and policymaker engagement in Phase 2 RETR effort

Look for opportunities to connect and advance future work to address likely CEI Hub failure, needs of vulnerable populations, evacuation needs as well as roles of river routes and transit

Technical corrections to data, maps and report



BE IT RESOLVED #1

- The Metro Council hereby accepts:
 - the updated Regional ETRs for the metropolitan planning area (MPA) boundary, as shown in the attached Exhibit A;
 - the updated Regional ETRs for the five-county Portland-Vancouver region, as shown in the attached Exhibit B; and
 - the findings and recommendations in the Regional Emergency Transportation Routes Update Phase 1 Report, as shown in the attached Exhibit C.

NOTE: Changes recommended in Attachment 1 will be incorporated in Exhibit A, Exhibit B and Exhibit C for JPACT packet.

BE IT RESOLVED #2

- That the Metro Council hereby directs staff to use the updated Regional ETR maps and report to:
 - inform planning, policy and investment priorities in the 2023 Regional Transportation Plan update and ongoing efforts to improve the region's resilience, and
 - to develop funding strategies to make these routes more resilient.

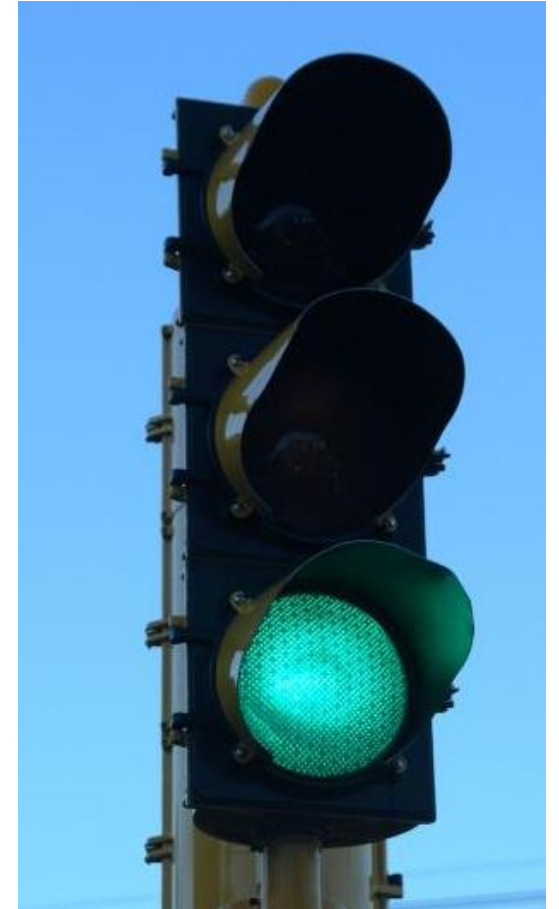
Final steps (for Phase 1)

Week of April 5	Finalize Ph. 1 report and maps to incorporate recommended changes in Attachment 1
April 15 and 29	JPACT and Metro Council consider action (by consent)
May 4 and 21	SW RTC and RDPO Policy Committee consider action
Early June	Dissemination webinar
2022-23	Phase 2 RETR

Action requested

Request motion to recommend JPACT approval of Resolution No. 21-5160 by consent, with the changes recommended in Attachment 1.

NOTE: Changes recommended in Attachment 1 will be incorporated in Exhibit A, Exhibit B and Exhibit C for JPACT packet.



Thank you!

Laura Hanson, RDPO

Laura.hanson@portlandoregon.gov

Kim Ellis, Metro

kim.ellis@oregonmetro.gov



rdpo.net/emergency-transportation-routes

2025-2027 Regional Flexible Funds Allocation (RFFA)

Presentation to TPAC
April 2, 2021



Metro



Today's purpose

Update TPAC on
RFFA input gathered
to date

Discussion
questions on
program direction
development



2025-27 RFFA process timeline

2021: Program Direction

Council work session: Mar. 9

Public workshops:
Mar. 10, Apr. 8, Apr. 28

TPAC:
Feb. 5, Apr. 2, May 7
June 4: recommendation

JPACT:
Mar. 18, May 20
July 15: action

Council:
July/Aug.: action

2021-22: Step 2 Project Solicitation & Evaluation

Project call:
November 2021

Proposals due:
February 2022

Technical Analysis,
Risk Assessment:
March, April

2022: Deliberation & Adoption

Public comment,
CCC priorities:
May, June

TPAC/JPACT discussion:
June-Sept.

JPACT
recommendation,
Council action: Oct.

Engagement to date

- Discussions with Metro Council, JPACT
- Input from Workshop #1



Emerging themes

- Understanding Step 1 investments
- Adjusting Step 2 project categories, funding targets, criteria
- Consider evaluation of other benefits beyond RTP investment priorities
 - Equity, Safety, Climate, Congestion

Step 1 reporting

- Update on purpose, outcomes, direction
- Informs discussion
- Included in May TPAC materials



Workshop #2 discussion topics

- Review input received after Workshop #1
- Discuss ideas for potential changes

Building towards discussion of draft Program Direction concepts in Workshop #3

Existing RFFA Program Direction

- Statement of intent to target regional funds to achieve regional priorities
- Sets objectives and outcomes for allocation process
- Defines funding categories, amounts (Steps 1 & 2)



2022 – 2024 Regional
Flexible Funds Allocation
(RFFA) policy report

(Resolution 19-4959, adopted by Metro Council April 4, 2019)

April 2019

oregonmetro.gov/rffa

Existing RFFA framework

Step 1 (ongoing investments)

- Transit capital construction bonds
- Active Transportation project development bonds
- Regionwide transportation investments
- MPO, Corridor & System planning

Step 2 (capital projects)

- Active Transportation (75%)
 - ⑩ Complete streets
 - ⑩ Trails
- Freight (25%)

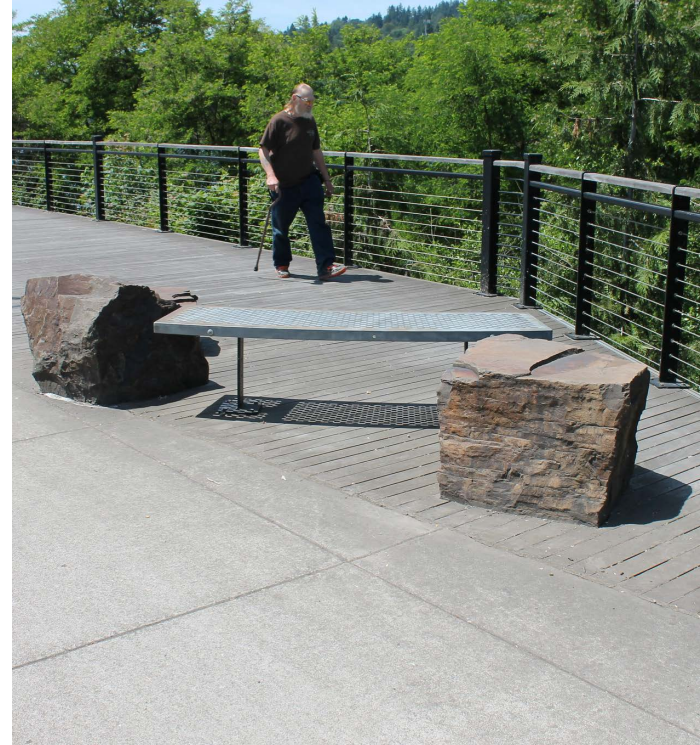
2025-2027 Program Direction

- May: Initial draft, discussion
- June: Final draft, recommendation to JPACT



Discussion questions

- Discussion on emerging themes
- Is there additional input TPAC wishes to provide?



Metropolitan Transportation Improvement Program Coordination

TPAC Presentation

April 2, 2021



About SMART



- ▶ Over 21,000 people employed in Wilsonville
- ▶ 25,915 people live in Wilsonville
- ▶ SMART gave 228,000 rides in FY21
- ▶ Nine regional and local routes
- ▶ Dial-A-Ride & SMART Options

Ride Free!!



FY20 Accomplishments & Recognition

- ▶ SMART ranked **5th** for quality of bus & transit services and **10th** for ease of travel
- ▶ SMART received **4.5** stars out of **5** in a 2019 customer satisfaction survey
- ▶ SMART received the **2019 System Innovation Award** for successfully deploying battery-electric buses



Transit Fund Forecast FY 21-22

Source	Proposed Revenue
Employer Payroll Tax	\$5,000,000
Intergovernmental	\$3,934,104
Passenger Fare	\$0
Investment Income	\$80,000
TriMet (upkeep at Wilsonville TC)	\$16,000
TOTAL	\$9,060,104
Beginning fund balance	\$7,520,002

FY 2021/22 Budget Timeline

May 5: Draft Budget open for public comment

May 19: Budget Committee, first hearing

May 20: Budget Committee, second hearing

June 21: City Council to adopt budget

July 1: New fiscal year begins



Proposed Program of Projects FY 21/22

To be finalized June 21, 2021

5307 Urbanized Area Formula: \$477,213

- ▶ Preventative Maintenance

Surface Transportation Program RFFA: \$167,168

- ▶ SMART Options Program

5310 Urban Formula: \$35,912

- ▶ Demand Response Operations
- ▶ Travel Training



Fleet Replacement *(POP Continued)*

5339 (a) Bus and Bus Facilities: \$57,464

- ▶ Wilsonville Transit Center Design Upgrade
- ▶ Bus Shelters and Amenities

5339 (b) ODOT: \$282,353

- ▶ Bus and Support Vehicle Replacements



Questions/Comments?

Eric Loomis
Operations Manager
loomis@ridesmart.com
503.570.1577

Anne MacCracken
Management Analyst
amaccracken@ridesmart.com
503.685.9095



The publically-available online interactive FY22 TriMet budget document shared at TPAC, April 2, 2021.

Online interactive FY22 Approved Budget:

<https://trimet.org/budget/pdf/2022-approved-budget.pdf>

While it is a large document in total size, the menu on the top left of the browser and the table of contents is interactive, so one can click on the areas of interest in order to jump directly to the appropriate section.