Agenda

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

Meeting: Transportation Policy Alternatives Committee (TPAC)
Date: Friday, April 20, 2018
Time: 9:30 a.m. – noon
Place: Metro Regional Center, Council Chamber

9:30 am	**1.**		**Call To Order, Declaration Of A Quorum And Introductions**	**Tom Kloster, Chair**
9:35 am	**2.**		**Comments From The Chair And Committee Members**	**Tom Kloster, Chair**
9:40 am	**3.**		**Public Communications On Agenda Items**	
9:45 am	**4.**	*	**Consideration Of TPAC Minutes For April 6, 2018**	
9:50 am	**5.**	*	**MTIP Formal Amendment Resolution 18-4887** Purpose: For the purpose of adding or amending existing projects to the 2018-21 Metropolitan Transportation Improvement Program involving one project requiring a programming addition for ODOT (AP18-09-APR) • **Recommendation to JPACT**	**Ken Lobeck, Metro**
10:00 am	**6.**	*	**2018 RTP Draft Emerging Technology Strategy** Purpose: Provide an overview of the discussion draft of the Emerging Technology Strategy • Information/Discussion	**Eliot Rose, Metro**
10:30 am	**7.**	*	**MPO-Transit-ODOT Financial Forecast, 2021-2024** Purpose: To provide TPAC an overview on the near-term financial forecast for the 2021-2024 Metropolitan Transportation Improvement Program (MTIP) • Information/Discussion	**Grace Cho, Metro** **Ken Lobeck, Metro**
11:00 am	**8.**	*	**Transit Budget Process and CIPs** Purpose: To provide TPAC an overview on TriMet's near-term capital investments and local service investment recommendations from the annual budget process • Information/Discussion	**TriMet (TBD)**
11:30 am	**9.**	*	**2021-2024 State Transportation Improvement Program (STIP) 150% Fix-It Lists Overview and Leverage Opportunities** Purpose: Discussion with TPAC on (1) Leverage opportunities for the 2021-24 STIP Fix-It projects for safety, active transportation, and state highway enhancements; and (2) Additional factors for consideration by ODOT in scoping and prioritizing potential opportunities for the leverage programs which reflect the Portland metropolitan region's goals. • Information/Discussion	**Grace Cho, Metro**
12:00 pm	**10.**		**Adjourn**	**Tom Kloster, Metro**

Upcoming TPAC Meetings:

- **Wednesday, May 2, 2018**
  TPAC/MTAC Workshop, 10 a.m. – noon
- **Friday, May 4, 2018**
  TPAC Meeting, 9:30 a.m.-noon

* Material will be emailed with meeting notice
\# Material will be distributed at the meeting

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Metro

600 NE Grand Ave.
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2018 TPAC Work Program

As of 4/12/2018

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

April 20, 2018 Comments from the Chair: • **Agenda Items:** • **MTIP Formal Amendment 18-4887** Recommendation to JPACT (Lobeck, 10 min) • 2018 RTP Draft Emerging Technology Strategy Information/Discussion (Rose, 30 min) • MPO-Transit-ODOT Financial Forecast, 2021-2024 Information/Discussion (Lobeck/Cho, 30 min) • Transit Budget Process and CIPs Information/Discussion (TriMet, 30 min) • 2021-2024 State Transportation Improvement Program (STIP) 150% Fix-It Lists Overview and Leverage Opportunities Information/Discussion (Cho, 30 min)	**May 4, 2018** Comments from the Chair: • **Agenda Items:** • **MTIP Formal Amendment 18-****** Recommendation to JPACT (Lobeck, 15 min) • **RFFA Active Transportation Project Development Funds Allocation** Recommendation to JPACT (Leybold/McTighe, 15 min) • **MPO-Transit-ODOT Financial Forecast, 2021-2024** Recommendation to JPACT (Lobeck/Cho, 15 min) • Preliminary Draft RTP (focus on policy chapters) Information/Discussion (Ellis, 45 min) • Transit Budget Process and CIPs Information/Discussion (SMART, 15 min) • 2021-24 State Transportation Improvement Program (STIP) 150% Fix-It Lists Overview and Leverage Opportunities Information/Discussion (Cho, 30 min) • Facility Plan for I-5 Boones Bridge in Wilsonville Information/Discussion (Talia Jacobson, ODOT/Nancy Kraushaar, Wilsonville, 30 min)
June 1, 2018 Comments from the Chair: • **Agenda Items:** • **MTIP Formal Amendment 18-****** Recommendation to JPACT (Lobeck, 15 min) • TransPort Bylaws Draft Review Information/Discussion (Winter, 30 min) • Draft RTP focus on implementation chapters Information/Discussion (Ellis, 45 min) • 2021-2024 State Transportation Improvement Program (STIP) 150% Fix-It Lists Overview Information/Discussion (Cho/Leybold; 45 min) • 2022-2024 Regional Flexible Funds Allocation Kickoff Information/Discussion (Kaempff, 30 min)	**July 13, 2018** Comments from the Chair: • **Agenda Items:** • **TransPort Bylaws Draft Review** Recommendation to JPACT (Winter, 30 min) • **RFFA ETC Project Development Funds Allocation** Recommendation to JPACT (Leybold/Snook, 20 min) • 2021-2024 STIP 150% Fix-It List and Comment Letter Information/Discussion (TBD, 30 min) • Congestion Management Program finding for Transportation Improvement Program (Cho, 45 min)

2018 TPAC Work Program

As of 4/12/2018

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

August 3, 2018 Comments from the Chair: • **Agenda Items:** • Air Quality (AQ) Year in Review Information/Discussion (Cho, 45 min) • Public comments and frame policy issues for JPACT review Information/Discussion (Ellis, 30 min) • 2021-2024 State Transportation Improvement Program (STIP) 150% ARTS List and Leverage Opportunities Information/Discussion (Cho/Leybold/Makler, 45 min)	**September 7, 2018** Comments from the Chair: • **Agenda Items:** • **Public Comments & Policy Issues Identified for JPACT Discussion** Recommendation to JPACT (Ellis, 45 min) • MPO Comments on 2021-2024 STIP 150% ARTS List Information/Discussion (TBD, 30 min)
October 5, 2018 Comments from the Chair: • **Agenda Items:** • **Adoption of 2018 RTP and Topical Strategies** Recommendation to JPACT (Ellis, 45 min)	**November 2, 2018** Comments from the Chair: • **Agenda Items:**
December 7, 2018 Comments from the Chair: • **Agenda Items:**	**January 4, 2019** Comments from the Chair: • **Agenda Items:**
February 1, 2019 Comments from the Chair: • **Agenda Items:**	**March 1, 2019** Comments from the Chair: • **Agenda Items:**
April 5, 2019 Comments from the Chair: • **Agenda Items:**	**May 3, 2019** Comments from the Chair: • **Agenda Items:**

Parking Lot

- FTA Certification Review Report Back (TriMet, Smart)
- Federal Training Group Concept (Lobeck)
- Draft RTP Finance Plan Strategy (Leybold/ Lobeck)
- ADA Transportation Issues (TBD)
- Vehicle Electrification Project Options Information/Discussion (Leybold, Winter)
- Southwest Corridor Updates (Moss-O'Hara)
- Regional Enhanced Transit Concept (Snook/Hesse)
- TransPort Work Program Briefing (Kate Freitag/Winter)

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Meeting minutes

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

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

Date/time: Friday, April 6, 2018 | 9:30 a.m. to 12 p.m.

Place: Metro Regional Center, Council chamber

Members Attending	**Affiliate**
Tom Kloster, Chair	Metro
Karen Buehrig	Clackamas County
Joanna Valencia	Multnomah County
Chris Deffebach	Washington County
Mark Lear	City of Portland
Nancy Kraushaar	City of Wilsonville and Cities of Clackamas County
Todd Juhasz	City of Beaverton and Cities of Washington County
Kelly Betteridge	TriMet
Jon Makler	Oregon Department of Transportation
Carley Francis	Washington State Department of Transportation
Phil Healy	Port of Portland
Tyler Bullen	Community Representative
Glenn Koehrsen	Community Representative
Maria Hernandez	Community Representative
Emily Lai	Community Representative

Alternates Attending	**Affiliate**
Dayna Webb	City of Oregon City and Cities of Clackamas County
Don Odermott	City of Hillsboro and Cities of Washington County
Lidwien Rahman	Oregon Department of Transportation

Members Excused	**Affiliate**
Lynda David	SW Washington Regional Transportation Council
Cory Ann Wind	Oregon Department of Environmental Quality
Rachael Tupica	Federal Highway Administration
Alfred McQuarters	Community Representative
Beverly Drottar	Community Representative

Guests Attending	**Affiliate**
Kari Schlosshauer	Safe Routes to Schools National Partnership
Jeff Pazdalski	Westside Transportation Alliance
Bob Kellett	Portland Bureau of Transportation

Metro Staff Attending

Kim Ellis, Principal Transportation Planner	Tim Collins, Senior Transportation Planner
Lake McTighe, Senior Transportation Planner	Ken Lobeck, Funding Programs Lead
Grace Cho, Associate Transportation Planner	Dan Kaempff, Principal Transportation Planner
Jamie Snook, Principal Transportation Planner	Caleb Winter, Senior Transportation Planner
Cindy Pederson, Research & Modeling Manager	Marie Miller, TPAC Recorder

1. **Call to Order, Declaration of a Quorum and Introductions**
   Chair Tom Kloster called the meeting to order at 9:30 a.m. and declared a quorum was present. Introductions were made by TPAC members, alternates, staff and guests attending the meeting.

2. **Comments From the Chair and Committee Members**

- ***Update on refining RTP project priorities by April 27 (Kim Ellis)*** Ms. Ellis referred to her memo in the meeting packet that provides guidance to jurisdictions for updating their RTP project lists. By April 27, jurisdictions are requested to review and refine their respective draft RTP project list to the extent practicable to make more near-term progress on regional priorities for equity, safety, travel options, Climate Smart Strategy implementation and congestion. Materials in the packet include timeline and direction for refining project lists, staff contacts for support and technical assistance, and Public Engagement and Non-discrimination Certification forms for new projects being submitted.

  Revised financial forecasts are under development and will be provided to jurisdictions. The forecasts will be higher than the initial forecast developed in 2017 due to the new road-related funding from the state legislative package (HB2017) anticipated for each jurisdiction as well as the state level funding for Safe Routes to School funding and bridges. It was asked if changes based on assumptions on preliminary financial forecasts could be presented with expected revenues changes at the jurisdictional and county levels for RTP project planning. Kim Ellis and Ken Lobeck will develop this table of financial data and send out to jurisdictions next week.

- ***New TransPort Chair and Vice Chair (Caleb Winter)*** Mr. Winter provided on overview of TransPort, a subcommittee of TPAC. TransPort meetings monthly, working to implement Transportation System Management Operations (TSMO) with our agencies and regional partners. TransPort held an election March 22 with these results:
  New TransPort Chair: Kate Freitag, Traffic Engineer for ODOT Region 1
  New TransPort Vice Chair: A.J. O'Connor, ITS Manager at TriMet

  TransPort's work plan through June 2019 includes updating the TSMO Program selection process, applying emerging technologies to TSMO implementation based on ETS work for the RTP, preparing for connected and automated vehicles, updating TransPort bylaws, and partnering with federal, state, local agencies and the consultant community to build the skills and transfer knowledge that we need to increase our capabilities. Members and stakeholders of TransPort were acknowledged for their support. TransPort meetings are posted on the TPAC calendar web page.

- ***Safe Routes to School Funding (Jon Makler)*** Mr. Makler reported on the rule making process and announcements from a recent statewide planning meeting. July 23 marks the start of the application process with notice of intent to apply. Applications begin August 23 and are due by October 15, followed by a statewide advisory committee review process in Dec. 2018/Jan. 2019. The Oregon Transportation Commission will decide on application awards in Jan. /Feb. 2019. The first round cycle is for $18.3 million for school year 2019-20, then $30 million for 2021-22, and $30 million for 2023-24. For assistance with application tentative dates were given for a webinar on June 27 and workshop in Portland July 2.

  Mr. Makler provided a handout entitled "2021-24 Statewide Transportation Improvement Program, ODOT Region 1: Scoping Candidates (aka "The 150's)", which have a link to a map where the 150% project list is given. As of April 6, the map includes Pavement projects (Interstates and other highways), Bridge projects and Operations (ITS and Signals). The map does not yet include projects for operations with illumination and slides/rock falls, Culverts, ADA and ARTS projects. ADA projects are expected to have many projects named, with urgency to get scoping underway as soon as possible. The All Roads

Transportation Safety (ARTS) Program project list is expected from Salem in August. TPAC members agreed with Mr. Makler that receiving an estimate on this list before August would be valuable. Mark Lear supported the efforts from ODOT with the policy changes and challenges working through project implementation, such as the 82nd Avenue identity naming, and further partnership with agency support. ODOT will email project lists next week to the agencies and jurisdictions to accompany the maps, with an invitation to help ODOT identify opportunities to leverage these Fix-It Projects.

3. **Public Communications on Agenda Items** - None

4. **Consideration of TPAC Minutes from March 9, 2018**

   MOTION: To approve the minutes from March 9, 2018 as presented.
   Moved: Nancy Kraushaar Seconded: Glenn Koehrsen
   ACTION: Motion passed with one abstention: Katherine Kelly.

5. **MTIP Formal Amendment 18-4883** Ken Lobeck provided an overview of Resolution 18-4883 to add or amend existing projects to the 2018-21 Metropolitan Transportation Improvement Program (MTIP) involving six projects requiring programming additions, corrections, or cancellations impacting Metro, ODOT and TriMet. Mr. Lobeck briefly reviewed each of the six projects, noting the compliance requirements met, the public notification and estimated timeline for approvals.

   Comments from the committee:
   - Nancy Kraushaar commented on TriMet funds to 3 of the projects in the project list, which were described well in the staff report, but not clarified as coming from MTIP as a result of bonds Metro provided to TriMet for assist in project development. It was suggested this clarification of TriMet contribution of funds be more fully described in Exhibit A to the Resolution. It was also suggested this addition be part of the motion to the Resolution.
   - Karen Buehrig referred to Exhibit A to Resolution 18-4883, Project 2. In the table, the project name appeared more as a description rather than the project name. This will be updated to add US30: Sandy River (Troutdale) Bridge as the project name. It was also noted that Project 1 and 3 are missing years for expected completion, as others have years named. Mr. Lobeck will add the years when funding is programmed for these projects to the table in Exhibit A.
   - Maria Hernandez asked if there was a criteria in the hiring and construction phases of projects that addressed minority construction companies with bidding and project implementation phases of projects. Jon Makler provided an overview of some of ODOT's requirements with state law governing DVE goals, noting that Federal and local requirements must be met also. Metro and TriMet are also governed by DEI processes. It was suggested that MPO tracking these requirements with projects with performance measures could be started. ODOT could provide an annual report as well. Nancy Kraushaar suggested that each agency and local jurisdiction name their requirements for meeting DVE, MBE and women owned businesses contracting process goals. The City of Portland also has its goals and requirements and supports these initiatives.
   - Tyler Bullen addressed project 4, the I-5 Rose Quarter Improvement Project that adds $5 million of local funds contributed from TriMet to support the PE phase of the project. Would more funding be given to the project, by TriMet or others, before the project is completed? The $5 million comes per the approved ODOT-TriMet Intergovernmental Agreement Funding Contribution Agreement: 1-205, OR217, and Rose Quarter, approved on Feb. 6, 2018. TriMet, ODOT and Metro are not expected to add more to the PE phase of the project.

MOTION: **To approve recommendation to JPACT for Resolution 18-4883 which includes the Six projects discussed, and the following additions to this motion:**

- **Revisions to presentation materials to include comments and clarification to JPACT on bonding processes for funds to projects**
- **Project 2 be named US30: Sandy River (Troutdale) Bridge in Exhibit A**
- **Add the years when funding is programmed for Projects 1 & 3 in Exhibit A**
- **Recommendation to report back to TPAC and JPACT on contracting results with projects for assurance on DVE and minority business distributions for contract bid awards, with transparency intent on final reports.**

Moved: Nancy Kraushaar Seconded: Karen Buehrig

ACTION: Motion passed unanimously

6. **Regional Travel Options (RTO) Strategy** Dan Kaempff provided an overview of the Regional Travel Options Strategy funding model. Responding to JPACT and Metro Council policy direction as defined through the 2019-21 Regional Flexible Funds Allocation decision, the Strategy aims to increase the number of partners throughout the region doing RTO work, and how the region should establish a regional Safe Routes to School (SRTS) program. The Strategy identifies new program goals and objectives, and includes a framework that guides how funding should be allocated in a manner which enables the region to better support partners' RTO work.

New RTO funding summary:
For grants which begin on July 1, 2019 or later, RTO funding will be allocated through the five following categories (All amounts are estimates):

1. Core Partner grants, for long-standing partners with fully developed RTO programs. This is ongoing funding, in exchange for partner's commitment continuing to meet performance standards. Annual amount: $1,350,000
2. Emerging Partner grants are intended to be allocated to partners committed to expanding their RTO work to the Core Partner level. Annual amount: $200,000
3. Marketing funds for creative work and production of materials needed for RTO partner work. Annual amount: $100,000
4. Sponsorship funding, small grants intended to help with partner event production expenses or for small items to support outreach efforts. Annual amount: $50,000
5. Infrastructure/Innovation grants are aimed at supporting partners' outreach work, installing supportive infrastructure needed to help people use active transportation modes, and to test new technology and other new methods of reaching people. Annual amount: $300,000

The new regional Safe Routes to School (SRTS) program is intended to support existing and new efforts in the region's schools aimed at educating children walk, bike or roll safely to school. New funding ($500,000 annually) was allocated by JPACT and Metro Council for this purpose. The regional SRTS program framework comprised as follows:

- Partner grants, direct funding to school districts, jurisdictions or non-profit partners. Annual amount: $200-300,000.
- Regional program, with 1.0 FTE Metro staff capacity to coordinate, create shared materials and resources used in program delivery, program measurement and grant administration. Annual amount: $150-200,000.
- Technical assistance, planning and technical support for safe routes infrastructure projects and assistance in delivering culturally specific training and materials in different languages. Annual amount: $50-100,000.

Criteria and application materials will be developed during spring 2018 and a call for applications will be in Fall 2018.

Comments from the committee:

- Kelly Betteridge asked how these funds compared to past years. $2.5 million has been the average in the past 2 years for core partner grants. Funds have increased for this due to new ways of streamlining the process to make more funding available.
- Karen Buehrig commented that if the desire to support emerging partners and make them core partners, with only $200,000 for available funding, how would this be created. If we look back on past projects with funding levels, how would they have fallen into these categories now? With past cycles funding SRTS, these appeared to come from within RTO funds. Is this funding still available, or will all of the new SRTS funding come from new funding? Ms. Buehrig asked why the $1.3 million was important for core partner funding if the emphasis was on growing emerging partners. The Core Partner funding amounts are based on historic levels, but more study to identify needs and balancing the amounts with overall program needs was planned before final Core partner amounts are set. Ms. Buehrig suggested that the core partners funding allocation be reduced for more flexibility with emerging partners growth. It was noted that some overlap with support of events is displayed between sponsorship and innovation. It was confirmed that mapping these projects was eligible in the marketing and outreach categories of RTO.
- Mark Lear commented that the City of Portland supported the funding methodology. He also indicated the city's position was that the current program funding level was still not enough for the amount of RTO work needed in the region and that higher levels of funding should be explored. Portland is putting their own funds into RTO and he encouraged local jurisdictions to do likewise. It was suggested that Metro staff look at different funding options to present this to policymakers and report results to TPAC.
- Chris Deffebach asked what the strategy was to encourage more emerging partners while providing stability with the core partners. How was this funding distribution decided? Would increases to funds be possible between the different categories? A discussion was held on marketing overall between categories. Mr. Kaempff explained that some marketing funding was specific to ODOT requirements and programs, with more regional marketing designed to develop materials for our partners. In comparing grant amounts and overall funding from past years, the proposal shows an increase to funding with partners with the purpose to build capacity in the region to deliver outreach programs.
- Joanna Valencia asked for clarification on the programs with the core partners that planned to continue. It was suggested that these programs be listed to show the long-term need. With a historical RTO grant match of 10.27%, there is now a 20% government grant match. Asking what benefit to programs this meant, Mr. Kaempff explained this reflected ongoing commitment to programs. Asked if additional criteria was planned for core and emerging partners with grants, there would be slightly more expected for reflecting the delivery and outcomes of programs. It was noted that governments faced challenges to engage schools with SRTS programs, and if Metro could produce the SRTS program. Were there two different staff roles in the proposal for staff (technical assistance and SRTS program)? Administrative support and program development support were defined. Explaining the need for ground level support with programs, the best decision from alternative choices was a FTE at Metro. This provides a resource for the full region with collaboration of partners.
- Katherine Kelly acknowledged the positive forward movement with the programs. Regarding the proposed FTE staff in schools, Ms. Kelly agreed having government staff in schools was challenging to establish relationships and program continuity. It was suggested more implementation specifics be detailed in the programs with action language. More definition of

the cost benefits with each funding category is requested. It was suggested that annual reviews tied to performance measures, perhaps reported on in the UPWP, would help plan future program allocations.

- Tyler Bullen commented on the access to facilities with the programs, and having data based on needs, matching criteria, funding specific to reach outcomes that met the needs in the application.
- Maria Hernandez recommended increasing the role of youth resources and input with SRTS. Following an example from PBOT, incorporating a multimodal SRTS program that brings in more opportunities of SRTS travel modes is recommended.

7. 2018 RTP Draft Transit Strategy

Jamie Snook provided an overview of the draft Regional Transit Strategy (RTS), a collaborative effort to create a single coordinated transit vision and implementation strategy. The objectives of the RTS are to:

- Implement the 2040 Growth concept and Climate Smart Strategy
- Update RTP transit-related policies and performance measures
- Update the current Regional Transit Network Map and High Capacity Transit Map
- Update the Transit System Expansion Policy
- Recommend a coordinated strategy for future transit investments and identify potential partnerships, strategies and funding sources for implementation.

Staff and the Transit work group are continuing work with regional partners to refine the Regional Transit Strategy and Transit System Expansion Policy. Staff is seeking feedback by April 27, 2018 regarding the following issues:

- Updated transit policies
- Proposed changes to the 2009 High Capacity Transit (HCT) System Map and additions to Regional Transit Network Map
- Draft Regional Transit Strategy report

Comments from the committee:

- Todd Juhasz asked if there would be more information regarding transit benefit with the enhanced transit concept (ETC) projects looked at the workshops to inform RTP. Ms. Snook explained that interest from the local jurisdictions would identify what projects they are interested and we would look at the benefits in the next phase.
- Glenn Koehrsen gave appreciation to Ms. Snook for the inclusion of recognizing people with disabilities throughout the document.
- Karen Buehrig asked for clarification on the performance measures in the RTP project list mentioned in the report. Ms. Snook clarified that the performance measure analysis will be updated with the updates to the 2018 Regional Transportation Plan project list.
- Mark Lear asked if there was an opportunity to see the implementation chapter before the full draft plan comes out. Agencies would appreciate the opportunity to review what might be played out from strategies, rather than as a whole from the Strategy Plan. The Transit work group meets next on April 18, where the Implementation Chapter will be discussed. Following April 27 more will forthcoming.

8. 2018 RTP Draft Freight Strategy Tim Collins provided an overview of the draft 2018 Regional Freight Strategy, including regional freight policies and proposed actions that address each of the policies, a revised Regional Freight Network Map, and Regional Freight Concept. The 2018 Regional Freight Strategy will replace the current Regional Freight Plan from 2010. The 2018 Regional Freight Strategy:

1. Defines updated regional freight vision and policies

2. Incorporates recent research and findings on needs and issues
3. Recommends strategies and actions to support freight
4. Sets the stage for future investment, planning and partnerships
5. Meeting Federal freight planning requirements

The Regional Freight Vision, Regional Freight Concept, updated to include freight intermodal connectors, and updated Regional Freight Network Map were reviewed. The Regional Freight Network Policies were provided, including the additional 7th regional freight safety policy recommended by Metro Council. Action plans are identified in each of the freight policies.

A map showing draft RTP projects supporting freight and goods movement (appendix A) was provided. Nearly $6 billion in investment is proposed that supports freight and goods movement in the greater Portland region. Mr. Collins provided the schedule of next steps with a series of meetings for the draft Freight Strategy, and asked for feedback on the proposed strategies, policies, actions, maps and concepts.

Comments from the committee:

- Chris Deffebach asked for location in the document that recognized the significance in the freight network on I-5 where delay is strongest, and where action steps are planned. It was suggested to strengthen the language in the policies that address the bottleneck areas with prioritizing projects with capital funding targeted for these areas and more strategic improvements. It was suggested to include more technical data in the appendix.
- Jon Makler suggested the concept of freeway travel for long trips, with shorter travel routes on separate roads. This might be included in the freight design strategy. The value pricing study will be drafted by the end of June. This document could possibly be referred to in the development timeline that allows us to introduce the concept of congestion pricing. Referring to pages 82-83 of the Freight Strategy, Policy 2. Provide system management to increase freight network efficiency, we might look at this as a system to facilitate freight demand, and incorporate congestion pricing tied to increasing freight network efficiency. This policy can help lay the groundwork for the next RTP that advances value pricing to reduce congestion on freeways for more transit use, collating with freight congestion reduction with this investment. It was suggested that a near-term action address the findings of the value pricing feasibility study to be referenced and used as a strategy. The report is expected in June, and can be used as a placeholder in the Freight Strategic Plan.
- Mark Lear commented on the Portland Freight Advisory Committee working toward this same idea. It was encouraging that ODOT and Metro were looking at possible dedicated revenue funding for transit, including freight projects. Possible consideration of a constitutional amendment of state funds used for transit might be considered as a policy direction from Metro.
- Karen Buehrig suggested stronger highlighting of the I-5 bottleneck areas with stronger action language. Referring to the Regional Freight Network Map, box 5, it was suggested to extend to 172nd that includes high employment areas in Happy Valley. There is some confusion with portions of Sunrise Highway depicted as partly future roadway route and a roadway connector. It would be better to categorize this as only a roadway route through to 172nd.
- Glenn Koehrsen asked that we acknowledge the technology challenges with future freight plans in these strategies, and put in placeholders for these concepts
- Chris Deffebach asked when the deadline for comments on this strategy plan was; April 27.
- Tyler Bullen asked how the freight projects were organized in the appendix. What percentage of these projects are in the 2040 plan? Mr. Collins referred to the summary page of the appendix that provided the breakdown of freight investments, including roads and bridges that

have multimodal projects listed. These have freight impacts on the region, but multimodal strategies as well.

- Maria Hernandez asked what the health impacts with environmental assessments were planned with the freight projects. There was concern that with future forecasts not known, environmental impacts with carbon and diesel emissions policies in the RTP were not shown with strategies and investments. Ms. Ellis reported that the Oregon Health Authority had evaluated projects in the first round projects for land and air quality, and would again in round two. They will be making recommendations on health impacts with financial investments at the system-wide level for both constrained and non-constrained project lists. Their study emphasizes the benefit of changing vehicle technology rather than focus on investment. It was asked what emission standards are being used for evaluation. Rather than compared to a set of standards, the emissions are being evaluated for estimated levels for different health issues from travel models. It was noted that these evaluations are valuable for current policymaking.

9. Adjourn

There being no further business, meeting was adjourned by Chair Kloster at 12:05 p.m.
Respectfully submitted
Marie Miller
TPAC Recorder

Attachments to the Public Record, TPAC meeting, April 6, 2018

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	4/6/18	4/6/18 TPAC Agenda	040618T-01
2	TPAC Work Program	3/27/2018	2018 TPAC Work Program	040618T-02
3	Memo	3/27/18	To: TPAC and Interested Parties From: Kim Ellis, RTP Project Manager RE: Updating the draft RTP Project List for Evaluation and Public Review	040618T-03
4	Meeting minutes draft from 3/9/2018	3/9/2018	TPAC Draft minutes from March 9, 2018	040618T-04
5	Resolution 18-4883	3/28/18	Resolution 18-4883 for the purpose of adding or amending existing projects to the 2018-21 MTIP involving six projects requiring programming additions, corrections, or cancellations impacting Metro, ODOT and TriMet	040618T-05
6	Exhibit A to Resolution 18-4883	3/28/18	Exhibit A to Resolution 18-4883	040618T-06
7	Memo/Staff Report	3/28/18	To: TPAC and Interested Parties From: Ken Lobeck, Funding Programs Lead RE: April 2018 MTIP Formal Amendment plus Approval Request of Resolution 18-4883	040618T-07
8	Attachment 1 to Resolution 18-4883	3/27/18	Attachment 1 to Resolution 18-4883, Location Maps and OTC Letters	040618T-08
9	Memo	3/30/18	To: TPAC and Interested Parties From: Dan Kaempff, Principal Transportation Planner RE: 2018 Regional Travel Options Strategy Funding Model	040618T-09
10	Memo	3/29/18	To: TPAC and Interested Parties From: Jamie Snook, Principal Planner RE: Draft Regional Transit Strategy, discussion draft	040618T-10
11	Document	4/2/2018	2018 Regional Transportation Plan: Regional Transit Strategy draft	040618T-11
12	Memo	3/30/18	To: TPAC and Interested Parties From: Tim Collins, Senior Transportation Planner RE: Regional Freight Strategy Update	040618T-12
13	Document	3/22/18	2018 Regional Transportation Plan: Regional Freight Strategy draft	040618T-13
14	Handout	N/A	Regional Freight Concept	040618T-14
15	Handout/Map	N/A	Regional Freight Network Map	040618T-15
16	Handout	3/23/18	TransPort Membership List	040618T-16

Item	Document Type	Document Date	Document Description	Document No.
17	Handout	4/6/18	2021-24 Statewide Transportation Improvement Program ODOT Region 1: Scoping Candidates	040618T-17
18	Presentation	4/6/18	MTIP Formal Amendment	040618T-18
19	Presentation	4/6/18	Regional Travel Options Funding Allocation	040618T-19
20	Presentation	4/6/18	Regional Transit Strategy	040618T-20
21	Presentation	4/6/18	Regional Freight Strategy	040618T-21

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADDING OR AMENDING EXISTING PROJECTS TO THE 2018-21 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM INVOLVING ONE PROJECT REQUIRING A PROGRAMMING ADDITION FOR ODOT (AP18-09-APR)	))))))	RESOLUTION NO. 18-4887 Introduced by: "Chief Operating Officer Martha Bennett in concurrence with Council President Tom Hughes"

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 2018-21 MTIP via Resolution 17-4817 on July 27, 2017; 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, the Jobs and Transportation Act (JTA) of 2009 provided a $100 million legislative earmark for the Sunrise Corridor project in Clackamas County; and

WHEREAS, ODOT and Clackamas County built the new Sunrise Corridor, east-west oriented, limited-access highway between Interstate 205 (I-205) and the Rock Creek Junction (where OR 212 and 224 diverge to the east and south) to address serious congestion and safety issues in the OR 212/224 corridor; and

WHEREAS, the approved Final Environmental Impact Statement dated December 10, 2010 for the Sunrise Corridor included a northbound auxiliary lane on I-205 from the Sunrise Expressway north to Sunnybrook Blvd, but was initially removed from the Sunrise Corridor project scope due to budgetary reasons; and

WHEREAS, completion of the Sunrise Corridor was accomplished under budget and additional funds remained to complete the I-205 northbound auxiliary lane project; and

WHEREAS, Preliminary Engineering began on the I-205 northbound auxiliary lane project in 2016; and

WHEREAS, the Oregon Transportation Commission during their March 2018 meeting approved $6 million of remaining JTA Sunrise Corridor funding for the I-205 northbound auxiliary lane construction phase scheduled to begin by the end of federal fiscal year 2018; and

WHEREAS, the I-205 northbound auxiliary lane project from the Sunrise Expressway north to Sunnybrook Blvd key scope elements will include construction of a retaining wall north of the railroad

bridge, installation of a new sign bridge and other signage, plus widening and paving to accommodate the new lane and shoulders; and

WHEREAS the I-205 northbound auxiliary lane project has met RTP consistency requirements including a verification that the project is included in the current Metro Arterials and Throughways modeling network; and

WHEREAS, the I-205 northbound auxiliary lane project completed additional MTIP review factors included project eligibility/proof of funding, consistency with the RTP financially constrained element, goals and strategies, determination of amendment type, determination of Regional Significance, fiscal constraint verification, and compliance with MPO MTIP federal management responsibilities; and

WHEREAS, the MTIP's financial constraint finding is maintained as proof of funding has been verified; and

WHEREAS, no negative impacts to air conformity will exist as a result of the changes completed with the addition of the I-205 northbound auxiliary lane project to the MTIP; and

WHEREAS, the I-205 northbound auxiliary lane project successfully completed a required 30-day public notification/opportunity to comment period without any significant issues raised; and

WHEREAS, TPAC received their notification and recommended approval on April 20, 2018 and approved the amendment recommendation to JPACT; now therefore

BE IT RESOLVED that the Metro Council hereby adopts the recommendation of JPACT on May 17, 2018 to formally amend the 2018-21 MTIP to include the I-205 northbound auxiliary lane project.

ADOPTED by the Metro Council this ____ day of _____ 2018.

_____
Tom Hughes, Council President

Approved as to Form:

_____
Alison R. Kean, Metro Attorney

2018-2021 Metropolitan Transportation Improvement Program
Exhibit A to Resolution 18-4887

Metro

Proposed April 2018 Formal Amendment Bundle
Amendment Type: FORMAL, AP18-09-APR
Total Number of Projects: 1

ODOT Key	Lead Agency	Project Name	Required Changes
Project #1 19721	ODOT	~~I-205NB MP 13.3 - Sunnybrook Exit~~ **I-205: OR224(Sunrise Expressway) - Sunnybrook Blvd**	The purpose of the Sunrise Project is to effectively address the existing congestion and safety problems in the OR 212/224 corridor between its interchange with I-205 and Rock Creek Junction, and to serve the growing demand for regional travel and access to the state highway system. As of 2016, the completed Sunrise Corridor built a new, east-west oriented, limited-access highway between Interstate 205 (I-205) and the Rock Creek Junction (where OR 212 and 224 diverge to the east and south). One segment from the approved FEIS was not completed as a result of budgetary issues. This is the I-205 NB auxiliary lane project from the Sunrise Expressway north to Sunnybrook Blvd which is now identified by ODOT Key 19721. Key 19721 began the Preliminary Engineering phase for the auxiliary lane project in 2016. This amendment now adds the construction phase to the project with $6 million of remaining JTA funding to be obligated by the end of FFY 2018. The proposed I-205 NB auxiliary lane will between the Sunrise Expressway and Sunnybrook Blvd. Key scope components include: - Construction of a retaining wall north of the railroad bridge - Installation of a new sign bridge and other signage - Widening and paving to accommodate the new lane and shoulders.

Exhibit A to Resolution 18-4887

2018-2021 Metropolitan Transportation Improvement Program Chapter 5 Tables Amendment

Action: Amend the MTIP to increase or adjust required funding and scope, or add new projects

Metro

PROJECT #1 EXISTING MTIP PROGRAMMING (from the 2015 MTIP)									
ODOT Key	**MTIP ID**	**Lead Agency**	**Project Name**					**Project Type**	**Project Cost**
19721	70844	**ODOT**	**I-205 NB MP 13.3 - Sunnybrook Exit**					Highway	**$ 1,500,000**
	Project Description:		Add a northbound auxiliary lane from westbound Sunrise entrance ramp to Sunnybrook exit ramp.						
Existing MTIP Project Fund Programming by Phase									
Fund Type Code	Fund Code	Type	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other	Total
JTA	B4A0	State	2016		$ 910,000				$ 910,000
NHPP	Z001	Federal	2016		$ 529,407				$ 529,407
State	Match	State	2016		$ 60,593				$ 60,593
			Total:	**$ -**	**$ 1,500,000**	**$ -**	**$ -**	**$ -**	**$ 1,500,000**

Notes:

1. Red Font = Funding reductions made to the project phase. Blue font = Additions made to the project as part of the amendment.
2. Funding programmed in years before 2018 are considered prior obligated and will be shown in the prior obligated total for the project in the MTIP. They are shown above in their programming years in the shaded fields. The funding is still committed to the project, but is now obligated in a prior year outside of the current 2018 MTIP. The funding in that year is referred to as "prior obligated".
3. JTA = State House Bill 2001 Jobs and Transportation Act Bond Funds
4. State = General state funds committed to the project as the required match to the federal funds
5. NHPP = Federal National Highway Performance Program funds allocated to ODOT

Amendment Summary

Proposed changes are stated on the next page

PROJECT #1 PROPOSED AMENDED CHANGES					
ODOT Key	**MTIP ID**	**Lead Agency**	**Project Name**	**Project Type**	**Project Cost**
19721	70844	ODOT	~~**I-205NB MP 13.3 - Sunnybrook Exit**~~ **I-205: OR224 (Sunrise Expressway) - Sunnybrook Blvd**	Highway	**$ 7,500,000**
Project Description:			~~Add a northbound auxiliary lane from westbound Sunrise entrance ramp to Sunnybrook exit ramp.~~ **Construct a northbound auxiliary lane from westbound Sunrise Expressway entrance ramp to Sunnybrook Blvd exit ramp.**		

Amended MTIP Fund Programming by Phase

Fund Code	Note	Type	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other	Total
NHPP-FAST	Z001	Federal	2016		**$ 442,656**				$ 442,656
State	Match	State	2016		**$ 37,344**				$ 37,344
ADVCON	ACP0	Federal	2016		**$ 922,200**				$ 922,200
State	Match	State	2016		**$ 77,800**				$ 77,800
State	S010	State	2016		**$ 20,000**				$ 20,000
ADVCON	ACP0	Federal	2018				**$ 5,383,800**		$ 5,383,800
State	Match	State	2018				**$ 616,200**		$ 616,200
			Total:	**$ -**	**$ 1,500,000**	**$ -**	**$ 6,000,000**	**$ -**	**$ 7,500,000**

Notes:

1. Red Font = Funding reductions made to the project phase. Blue font = Additions made to the project as part of the amendment.
2. Funding programmed in years before 2018 are considered prior obligated and will be shown in the prior obligated total for the project in the MTIP. They are shown above in their programming years in the shaded fields. The funding is still committed to the project, but is now obligated in a prior year outside of the current 2018 MTIP. The funding in that year is referred to as "prior obligated".
3. NHPP-FAST = Federal National Highway Performance Program funds under the FAST ACT allocated to ODOT
5. ADVCON = Federal Advance Construction fund type code. Used as a federal place holder until the specific federal fund type code is determined and committed to the project.
6. State = General state funds generally used as the required local match requirement against the federal funds.

Amendment Summary

This amendment is adding the construction phase to the project. The fund type code used is federal Advance Construction which is used as a fund code placeholder until the final fund type code (source of final phase funding) will be determined which is anticipated to be JTA for the Construction phase with the source of funding originating from the remaining Sunrise Corridor budget. The amendment also corrects the fund codes that were obligated for the PE phase.

Memo

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

Date: April 12, 2018
To: TPAC and Interested Parties
From: Ken Lobeck, Funding Programs Lead, 503-797-1785
Subject: April 20 2018 MTIP Formal Amendment plus Approval Request of Resolution 18-4887

STAFF REPORT

BACKROUND

What this is:
The April 20 2018 Formal Metropolitan Transportation Improvement Program (MTIP) Amendment is the second formal MTIP amendment submitted during April 2018 and contains one project. The amendment request is to add the construction phase funding to Key 19721, I-205: OR224 (Sunrise Expressway) – Sunnybrook Blvd.

What is the requested action?
Staff is providing TPAC notification of the formal amendment and requesting their approval recommendation to JPACT for resolution 18-4887 and then on to the Metro Council enabling the construction phase for Key 19721 to be amended correctly into the 2018 MTIP with final approval to occur from USDOT.

A detailed summary of the project amendment is provided in the below table:

1. Project:	~~I-205: NB MP13.3 – Sunnybrook Exit~~ **I-205: OR224 (Sunrise Expressway) – Sunnybrook Blvd**		
Lead Agency:	**ODOT**		
ODOT Key Number:	19721	MTIP ID Number:	70844
Project Description:	~~Add a northbound auxiliary lane from westbound Sunrise entrance ramp to Sunnybrook exit ramp.~~ **Construct a northbound auxiliary lane from westbound Sunrise Expressway entrance ramp to Sunnybrook Blvd exit ramp.**		
What is changing?	Through this formal amendment, the construction phase consisting of $6 million dollars is being added to the project in Federal Fiscal Year 2018.		
Additional Details:	As of 2010, the OR 212/224 corridor, which forms the main east-west travel route between I-205 and Rock Creek Junction, was experiencing serious congestion and safety problems. Residential and business traffic was severely delayed during peak periods, with travel speeds as low as four miles per hour at several locations along OR 212/224. Started in 2010 and completed in 2016, ODOT and Clackamas County built the new, east-west oriented, limited-access highway between Interstate 205 (I-205) and the Rock Creek Junction (where OR 212 & 224 diverge to the east and south) now commonly referred to as the Sunrise Corridor. The Jobs and Transportation Act (JTA) of 2009 provided a $100 million legislative earmark for the Sunrise Corridor project in Clackamas County. The Final Environmental Impact Statement included the I-205 northbound auxiliary lane project from the junction of the Sunrise Expressway north to Sunnybrook Blvd. However, due to budgetary constraints at the time, the I-205 NB auxiliary lane project was removed as part of the Sunrise Corridor JTA scope.		

Additional Details continued:	As the Sunrise Corridor neared completion, the feared budgetary issues did not materialize and additional funding was available to support the I-205 NB auxiliary lane project. ODOT initiated Preliminary Engineering for the I-205 NB auxiliary lane project in 2016. Presently, OODT is ready to move forward and add the construction phase funding for the project to be obligated before the end of federal fiscal year 2018. Per the approved OTC action, ODOT estimates the construction phase funding cost at $6 million and is utilizing remaining JTA funding for the project. OTC approval occurred during their March 2018 meeting. The I-205 NB auxiliary lane project will add capacity to I-205 and is labeled as a "capacity enhancing project". As such, the RTP consistency review requires verification that the project is included in the current financially constrained RTP, and is included in the current transportation model. Both conditions must be met to the satisfaction of FHWA. Per Metro's review, the I-205 NB auxiliary lane project has been verified to be included in the current constrained RTP and is included in the current Metro Arterials and Throughways modeling network. FHWA has been notified that no potential litigation or liabilities will exist when the construction phase is added to the 2018 MTIP. OTC's approval satisfies the needed proof of funding requirement as well. All remaining MTIP review conditions to add the construction phase have been satisfactorily met.
Why a Formal amendment is required?	Adding or cancelling a federally funded, and regionally significant project to the STIP and state funded projects which will potentially be federalized requires a formal amendment. Because PE began in 2016, the project status is "prior obligated" in the 2018 MTIP. Through this formal amendment, the project will be "brought forward" into the active 2018 MTIP and 2018 STIP. From a fiscal constraint viewpoint, the amendment is adding a new project to the active MTIP which requires a formal amendment.
Total Programmed Amount:	Preliminary Engineering programming totals $1.5 million. The required construction phase funding estimate is $6 million. As a result of this amendment, the total project programming will increase from $1.5 million to $7.5 million.
Added Notes:	OTC approval was required and approval occurred at their March 2018 meeting

Note: The Amendment Matrix shown on the next page is included as a reference the rules and justification for Formal Amendments and Administrative Modifications 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.
- 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.

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: • 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:
• FHWA project cost increase/decrease:
  • 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.

- Satisfies RTP goals and strategies consistency: Meets one or more goals or strategies identified in the current RTP.
- 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 as well.
  - Programming determined to be reasonable of phase obligation timing and is consistent with project delivery schedule timing.
- 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 April 20, 2018 Formal MTIP amendment will include the following:

Action	Target Date
• Initiate the required 30-day public notification process……	April 17, 2018

- **TPAC notification and approval recommendation…… April 20, 2018**
- Completion of public notification process…… May 16 , 2018
- JPACT approval and recommendation to Council…… May 17, 2018
- Metro Council approval…… June 7, 2018*

*Note: If any significant public comments are received that are deemed necessary for review by JPACT, the impacted projects or complete amendment will be pulled from the Metro Council agenda and returned to JPACT for their review and direction.

USDOT Approval Steps:

Action	Target Date
Metro development of amendment narrative package ……	June 11, 2018
Amendment bundle submission to ODOT for review……	June 12, 2018
Submission of the final amendment package to USDOT……	June 12, 2018
ODOT clarification and approval……	End of June , 2018
USDOT clarification and final amendment approval……	End of June 2018

ANALYSIS/INFORMATION

1. **Known Opposition:** None known at this time.
2. **Legal Antecedents:** Amends the 2018-2021 Metropolitan Transportation Improvement Program adopted by Metro Council Resolution 17-4817 on July 27, 2017 (For The Purpose of Adopting the Metropolitan Transportation Improvement Program for the Portland Metropolitan Area).
3. **Anticipated Effects:** Enables the projects to obligate and expend awarded federal funds.
4. **Metro Budget Impacts:** None to Metro

RECOMMENDED ACTION:

Staff recommends the approval of Resolution 18-4887.

Attachment: Project Location Maps and OTC Staff Report copies

Date: Thursday, April 12, 2018

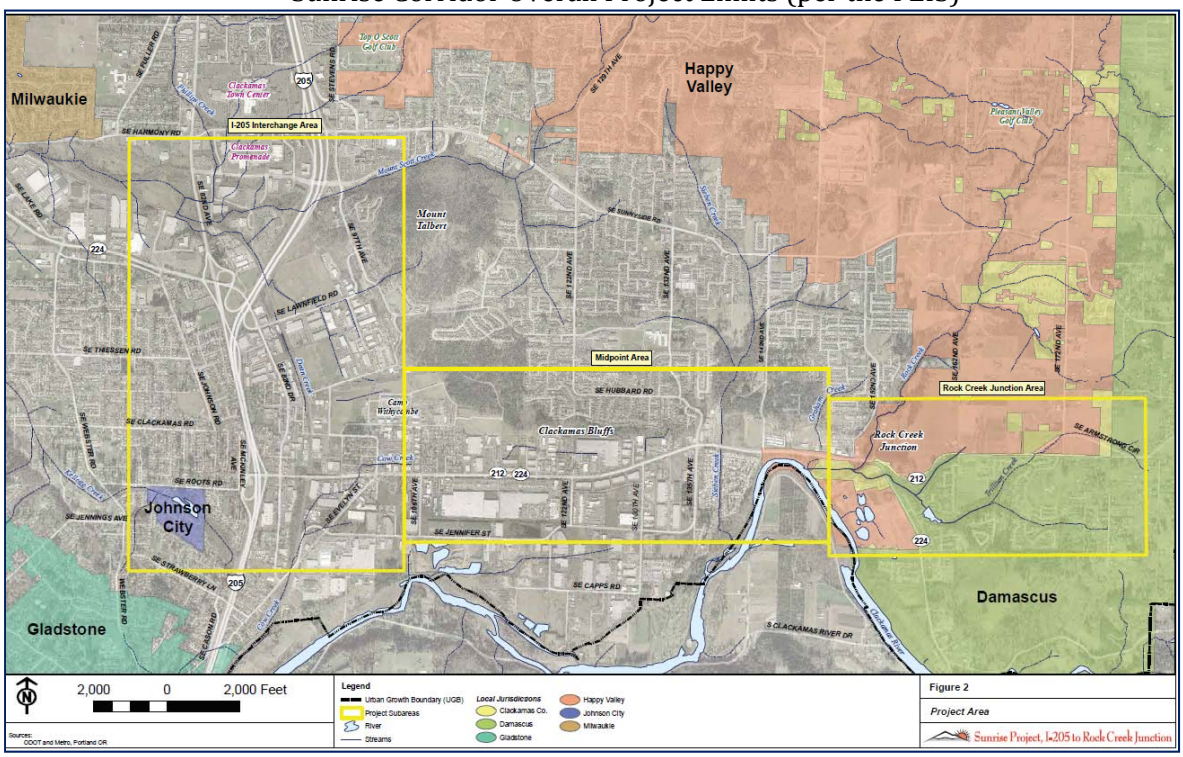
From: Ken Lobeck, Funding Programs Lead, 503-797-1785

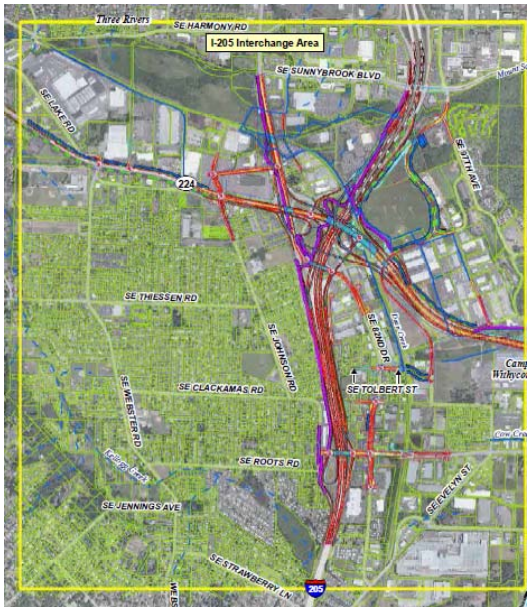
Subject: Attachment 1 to the April 20, 2018 MTIP Formal Amendment Staff Report – Project Location Maps & OTC letters as applicable

BACKROUND

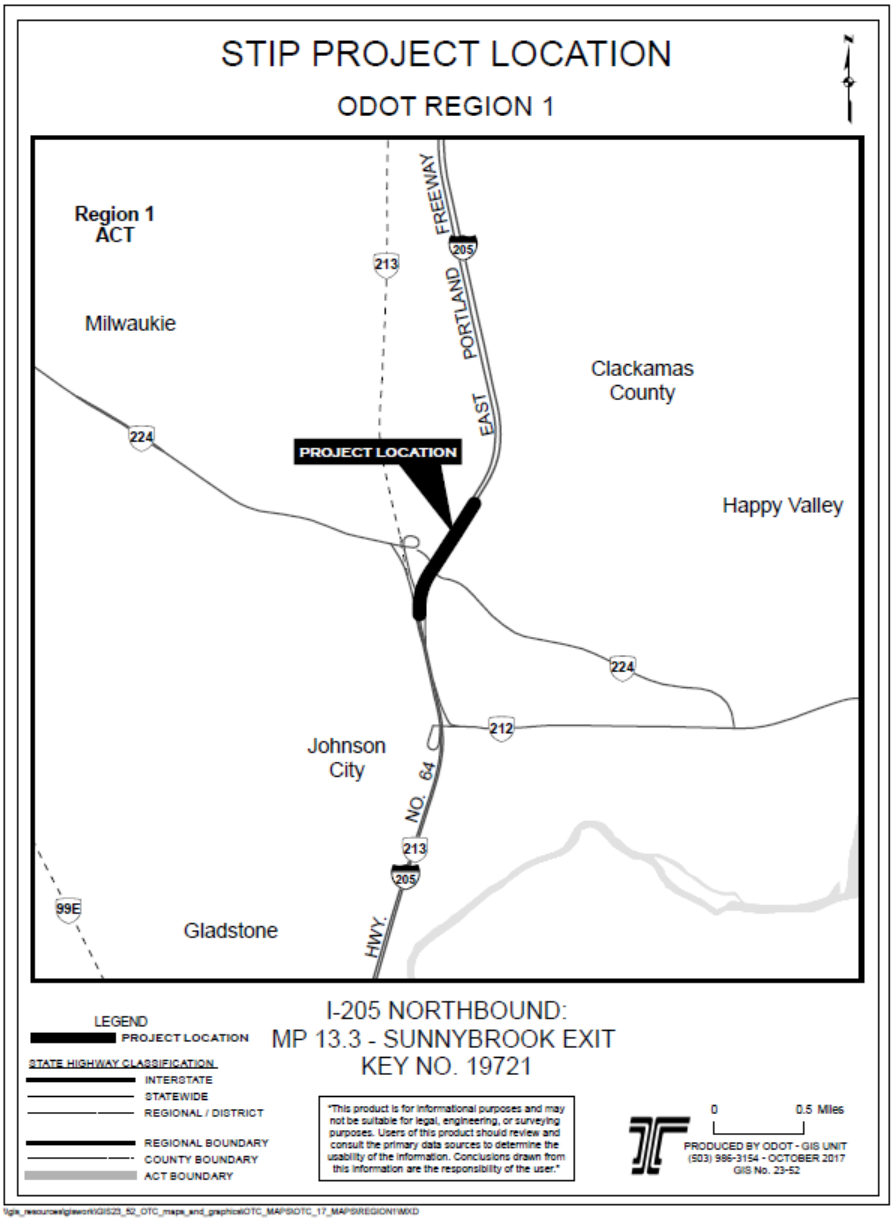
Available project location maps and OTC request letters are included in this attachment to the staff report for reference for Key 19721, I-205: OR224 (Sunrise Expressway) – Sunnybrook Blvd

Sunrise Corridor Overall Project Limits (per the FEIS)





Key 19721


STIP PROJECT LOCATION
ODOT REGION 1
Region 1
ACT
Milwaukie
Clackamas
County
Happy Valley
Johnson
City
Gladstone
PROJECT LOCATION
FREEWAY
PORTLAND
EAST
HWY.
NO. 64
205
213
224
212
99E
LEGEND
PROJECT LOCATION
STATE HIGHWAY CLASSIFICATION
INTERSTATE
STATEWIDE
REGIONAL / DISTRICT
REGIONAL BOUNDARY
COUNTY BOUNDARY
ACT BOUNDARY
I-205 NORTHBOUND:
MP 13.3 - SUNNYBROOK EXIT
KEY NO. 19721
"This product is for informational purposes and may not be suitable for legal, engineering, or surveying purposes. Users of this product should review and consult the primary data sources to determine the usability of the information. Conclusions drawn from this information are the responsibility of the user."
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PRODUCED BY ODOT - GIS UNIT
(503) 986-3154 - OCTOBER 2017
GIS No. 23-52

Oregon
Kate Brown, Governor

Oregon Transportation Commission
Office of the Director, MS 11
355 Capitol St NE
Salem, OR 97301-3871

DATE: March 5, 2018

TO: Oregon Transportation Commission

[Original signature on file]

FROM: Matthew L. Garrett
Director

SUBJECT: **Consent 13 –** Amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to add a construction phase and funding to the Interstate 205: northbound from Sunrise entrance to Sunnybrook exit auxiliary lane project.

Requested Action:
Request approval to amend the 2018-2021 Statewide Transportation Improvement Program (STIP) to add a construction phase in the amount of $6,000,000 to the Interstate 205: northbound from Sunrise entrance to Sunnybrook exit auxiliary lane project. This will be funded from budget remaining in the Sunrise Corridor project. The new total project cost will be $7,500,000.

Project to be increased

Interstate 205: Oregon 224 (Sunrise Expressway) - Sunnybrook Blvd (KN:19721)			
		COST	
PHASE	**YEAR**	**Current**	**Proposed**
Planning	N/A	$0	$0
Preliminary Engineering	2016	$1,500,000	$1,500,000
Right of Way	N/A	$0	$0
Utility Relocation	N/A	$0	$0
Construction	2018	$0	$6,000,000
Other	N/A	$0	$0
	TOTAL	**$1,500,000**	**$7,500,000**

Background:
The Jobs and Transportation Act (JTA) of 2009 provided a $100 million legislative earmark for the Sunrise Corridor project in Clackamas County. The project was intended to address congestion on Oregon 212/224 and Interstate 205 and improve access to industrial jobs in the Clackamas Industrial Area. Using these JTA funds, ODOT built the Sunrise Expressway, a two-mile long, four-lane highway that connects the Milwaukie Expressway to SE 122nd Avenue where it links up with Oregon 212/224. A shared use path for pedestrians and cyclists parallels the highway. The new highway, which opened on July 1, 2016, takes pressure off surrounding roads, reducing congestion and improving travel times for everyone in the area.

Consent_13_Sunrise_to_Sunnybrook_ltr
3/7/2018

This auxiliary lane improvement on northbound Interstate 205 from the new Sunrise entrance ramp to the Sunnybrook exit ramp was identified as an opportunity during development of the Sunrise Environment Impact Statement (EIS) and considered for delivery during the JTA project. However, the I-205 auxiliary lane was removed from the scope of the Sunrise JTA project due to anticipated budget constraints.

As the Sunrise JTA project neared completion the project team realized it would come in significantly under budget. Since the JTA funds are legislatively tied to elements of the Sunrise EIS, the team met with the local governments to consider how to best allocate the remaining funds to priority elements of the larger Sunrise project.

- Some of the remaining funds were spent purchasing right-of-way from willing sellers to protect the corridor for future extensions of Sunrise.
- Two projects were funded for design only to improve traffic operations on Interstate 205 and Oregon 224. The first project will add right turn lanes and signal improvements on Oregon Oregon 244 (Milwaukie Expressway) from Southeast Rusk Road to Interstate 205 and the second project will add an auxiliary lane on Interstate 205 northbound from the Sunrise entrance ramp to the Sunnybrook exit ramp. The Oregon Transportation Commission approved use of JTA funds for final design of these two projects in November 2017.

As completion of final design for these two projects approaches, ODOT requests the Commission to allocate some of the remaining Sunrise Corridor JTA funding to construction of the Interstate 205 northbound auxiliary lane project. ODOT prioritized this project for construction over the Oregon Oregon 224 project because it is most directly connected to the Sunrise corridor and will provide the most significant operational and safety benefits of the two projects. Because it is on the interstate it has the potential to improve operations and safety for a significant number of travelers. ODOT will finish the design of the second priority project and consider opportunities to fund it with a combination of remaining JTA funds and other STIP sources.

The proposed project will add an auxiliary lane on Interstate 205 Northbound between the Sunrise Expressway entrance ramp and the Sunnyside Road/Sunnybrook Boulevard exit ramp. Work includes:

- Construction of a retaining wall north of the railroad bridge;
- Installation of a new sign bridge and other signage;
- Widening and paving to accommodate the new lane and shoulders.

Options

If this amendment is approved, ODOT will construct the proposed auxiliary lane on Interstate 205 between the Sunrise Expressway entrance ramp and the Sunnyside Road/Sunnybrook Boulevard exit ramp.

If the Commission does not approve allocation of remaining JTA funds for construction, ODOT will complete the designs for both of the priority operational and safety projects and shelf them. The remaining JTA funds will remain unallocated for potential use in the future.

Memo

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

Date: April 20, 2018
To: Transportation Policy Alternatives Committee (TPAC) and interested parties
From: Eliot Rose, Senior Technology Strategist
Subject: Emerging Technology Strategy Discussion Draft

Purpose
The purpose of this memorandum and the associated materials and presentation is to provide TPAC with an overview of the discussion draft of the Emerging Technology Strategy (**Attachment 1**).

Action Requested
No formal action is requested. This is an opportunity for TPAC to ask questions and provide input on the discussion draft of the Emerging Technology Strategy, and to understand how the Strategy has developed since the last time that TPAC reviewed this material to help members provide feedback on the strategy moving forward.

Background
The Emerging Technology Strategy is a new component of the RTP. It identifies steps that Metro and our partners can take to harness new developments in transportation technology—including automated, connected and electric vehicles; new mobility services like car share, bike share, and transportation network companies (e.g., Uber and Lyft)—to create a more equitable and livable region.

TPAC members have had three opportunities to provide input on the Emerging Technology Strategy policy language in 2018. TPAC and MTAC members offered feedback on the initial draft of the policy language at the January joint workshop. Then TPAC discussed the revised draft policy language later in January. Finally, at the April joint TPAC-MTAC workshop, members reviewed the Emerging Technology Strategy policies in the broader context of the regional transportation plan (RTP) policy chapter.

Based on the input that we received from members of TPAC, as well as from other Metro committees, Council, and conversations with partners we have made the following changes to the Strategy:

- Added language emphasizing that emerging technologies should be used to supporting transit in the Choices policy
- Removed the Prosperity policy, which partners felt was not tied clearly enough to the work of Metro and our partners
- Clarified the relationship between emerging technology policies and Metro's adopted regional goals
- Added specifics throughout the strategy about how we want to see emerging technologies implemented in our region, and who among Metro and our partners are responsible for implementation.

- Generally edited and clarified policy language.

In addition, the discussion draft contains information and background research on the impacts and projected development of emerging technologies that provides additional context for the policies.

Next Steps

Staff will finalize the Emerging Technology Strategy guided by the Metro Council, Metro's technical and policy advisory committees, and public comment. The Metro Council will consider adoption of the final strategy in December 2018 alongside the other elements of the RTP. Upcoming discussions and actions include:

- **April 18 and 20 – MTAC and TPAC**: Discussion draft of Emerging Technology Strategy – information/discussion
- **May 9 and 17 – MPAC and JPACT**: Discussion draft of Emerging Technology Strategy – information/discussion
- **June 5 – Council**: Consider approving discussion draft of Emerging Technology Strategy for release as part of the public review draft of the RTP
- **June 29 – August 13 – Public comment period**: Public review draft of Emerging Technology Strategy
- **September – MTAC and TPAC**: Adoption draft of Emerging Technology Strategy – recommendation to MPAC and JPACT
- **October – MPAC and JPACT**: Adoption draft of Emerging Technology Strategy – recommendation to Council
- **December – Metro Council**: Adoption draft of Emerging Technology Strategy – final action (by Metro Resolution)

Attachments

1. Emerging Technology Strategy discussion draft
2. Emerging Technology Strategy Technical Appendices discussion draft

DISCUSSION DRAFT

2018 Regional Transportation Plan

Emerging Technology Strategy

A strategy for guiding innovation to support the greater Portland region's goals

April 11, 2018

oregonmetro.gov/rtp

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.

Regional Transportation Plan website: **oregonmetro.gov/rtp**

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

TABLES AND FIGURES

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EMERGING TECHNOLOGY PRINCIPLES, POLICIES, AND NEXT STEPS AT A GLANCE

Principles

Vibrant Communities: Emerging technologies support our regional land use vision and enable communities to devote more space to places for people.

Prosperity: Workers whose jobs are impacted by automation find new opportunities, and emerging technologies create more efficient ways to meet the transportation needs of local businesses and workers.

Choices: Emerging technologies provide new travel options throughout the region while supporting transit, bicycling and walking.

Congestion: Emerging technologies reduce congestion by promoting shared trips, decreasing vehicle miles traveled, minimizing conflicts between modes, and managing demand.

Safety: Emerging technologies reduce the risk of crashes for everyone and protect users from data breaches and cyberattacks.

Environment: New mobility service use vehicles that run on clean or renewable energy.

Equity: New mobility services are accessible, affordable, and available for all and meet the transportation needs of communities of color and historically marginalized communities.

Fiscal Stewardship: Emerging technology companies and users contribute their fair share of the cost of operating, maintaining, and building the transportation system, and new technologies make it possible to collect transportation revenues efficiently and equitably. Public agencies should source new ideas and technologies competitively to get the best return on public investments.

Accountability: Companies and public agencies collaborate and share data to help make the transportation system better for everyone.

Policies

Choices: Use emerging technologies to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking.

Equity: Make emerging technologies accessible, available, and affordable to all, and use these technologies to create more equitable communities.

Information: Use the best data available to empower travelers to make travel choices and to plan and manage the transportation system.

Innovation: Advance the public interest by anticipating, learning from and adapting to new developments in technology.

Next steps

Fund **technology pilot projects** to test new approaches to connecting people to transit, promoting shared and active trips, and providing more equitable transportation options.

Convene partners to establish regionally consistent **new mobility policies** so that new options operate safely, equitably and transparently.

Develop **better data and tools** so that we can account for the impacts of emerging technologies in transportation planning efforts.

Advocate for **state and federal technology policy that supports our regional goals** and preserves local and regional authority to manage the transportation system.

TECHNOLOGY TODAY IN THE PORTLAND REGION

Technology is already transforming our region's transportation system. Transportation network companies (TNCs; for example Uber and Lyft), which began serving the region in 2015, illustrate how quickly new technologies can change people's travel choices. Only two years later, 36 percent of the region's residents say that they have taken a TNC ride. While people mostly use these services for occasional trips, 14 percent use them more than once a month.[1] In the city of Portland, TNCs now carry more people than taxis do,[2] providing over ten million rides within the city in 2017.[3]

Other shared mobility services are also growing rapidly within our region. Car share services now operate over 1,000 vehicles in the Portland area. Some car shareshare companies have been around for a decade, but new models have sprung up, including free-floating car share, which allows people to pick up and drop off a car anywhere within a defined area, and peer-to-peer car share, which makes it easy for neighbors to borrow cars from each other. The City of Portland's bike share system, BIKETOWN, launched in July 2016, and carried over 300,000 trips in its first year, and there are signs that other bike share companies are looking to launch service here soon.[4]

Meanwhile, smartphones have become the most popular way for people to get information on their travel choices, while the number of people who get information from websites, print materials, or other sources declined precipitously. People increasingly rely on the type of real-time, multimodal information that apps provide to make on-the-go decisions when congestion or a change in circumstances means that they can't take the mode or route that they normally do.

The way that our region's residents access, experience, and use the transportation system has changed dramatically in the past five years. Since Metro last asked people about their travel choices in 2014, the percentage who say they would use Uber, Lyft, or a taxi for their commute if they didn't have a car quintupled, rising from 3 to 16 percent. Meanwhile, the percentage of those who say they would ride transit, carpool, bike, walk or take car share fell—particularly for transit, which dropped from 47 to 29 percent. It's not clear why we are seeing such rapid and significant changes in people's travel behavior.[5] The rising cost of living in areas where it is easy to take transit, carpool, bike, walk, or use car share likely plays a large role, and competition from TNCs may be a factor as well. What is clear is that public agencies must respond to these changes in order to make progress on our regional goals and to meet the needs of our residents and businesses.

THE NEXT FIVE YEARS

Autonomous vehicles (AVs) will likely accelerate the already-growing use of new mobility services and smartphone apps when they arrive. Many companies are already testing AVs, [6] and the first generation of street-ready AVs will likely be available within the next five years. These AVs will cost more than regular vehicles, so most people probably won't be rushing out to buy them for personal use, and in the coming decade most of the vehicles on the road will continue to be human-driven. However, TNCs and freight operators will be among the first to deploy AVs, which will help them cut the cost of trips and serve new users.

As a result, TNCs and other new mobility services will become a more popular option for everyday travel and in smaller cities and suburban areas. Right now, these services are mainly used in larger cities and for occasional recreational trips or trips to the airport. TNC use is already growing rapidly in cities outside of Portland, and as the cost of TNC trips fall thanks to AVs communities like Hillsboro, Oregon City, and Gresham could see the same level of TNC activity that Portland currently does. It likely won't just be Uber and Lyft serving these communities; many companies are planning to launch new transportation services when AVs arrive.[7]

These developments will deepen the impacts that technology is already having in our region, which are not only related to how technology is developing, but also how our region is growing and changing. The Portland area is experiencing rapid population growth, rising housing costs, and mounting congestion. Emerging technologies have the potential to help us confront these challenges—or to exacerbate them.

Equity

Our region is undergoing a housing crisis. During the first half of this decade, average home prices in the region climbed by almost 90 percent[8] and average rental prices rose by 34 percent.[9] Communities where it is easy to walk, bike, and take transit saw the greatest price increases, so people of color and low-income households—who are the most likely to rely on these options because they are more affordable than driving—are being displaced to areas that lack good transit service and safe bicycling and walking facilities.

Emerging technologies can help us better serve those who need it the most…

New modes like TNCs, car share, bike share, and microtransit can give people who can't afford to use a car the same flexibility and access to destinations as owning a car provides. Public agencies can use these modes to provide better transportation options to marginalized communities that are further from light rail lines or regional centers, at a lower cost than running new buses or trains. They can also help connect people who work a night shift when transit doesn't run, or in a large industrial area where transit doesn't provide door-to-door service, with their jobs.

…if we remove the barriers to using these services.

Half of low-income households lack a smartphone, and many others cannot afford a data plan or the extra cost of new services. People in wheelchairs cannot rely on finding an accessible vehicle or a helping hand when relying on shared services. Many others lack the knowledge, English fluency, or access to a bank account necessary to use app-based services. And while TNCs or car

share are more affordable than owning a car, they are still expensive compared to transit. As a result, the people who use new mobility services are more likely to be white, wealthy, and young.[10] In order to make sure that everyone benefits from these services, we need to make digital access a universal right, and work with community groups and new transportation services to bring better mobility to everyone, starting with those who need it most. We also need to continue to provide high-quality transit throughout the region, so that people can use new mobility services for short, affordable trips to transit stations rather than paying for longer trips.

Congestion

As our region grows, our transportation system is becoming more crowded. Measuring congestion is challenging, but recent studies have found that our region sees the type of congestion normally found in much larger metropolitan areas.[11] These patterns are largely due to where and how our region is growing; as discussed above people are being priced out of the region's centers and moving to places that are further from jobs and other destinations and harder to serve with transit, leading to more driving.

Emerging technologies can help reduce congestion…

New mobility services making it easier for people to share vehicles and rides, and when people share trips it helps to take cars off the road. Emerging technologies like dynamic routing and automated vehicles can also be used to improve transit service. Increased communication between vehicles and infrastructure makes it possible to manage and price the congestion more efficiently and equitably. And once enough autonomous vehicles are on the road, it should be possible for cars to travel close together at high speeds, moving traffic more efficiently.

…if they support transit, shared trips, and active transportation.

The majority of studies have found that TNCs and car share draw riders away from transit, which remains the most efficient way to move people along crowded streets. TNC studies from multiple cities have found TNCs draw more people away from modes that produce less congestion, like transit, walking, bicycling, and carpooling, than they do from driving alone.[12] TNCs with one passenger likely even increase congestion compared to driving alone, because they travel extra miles to pick people up and because roaming vehicles tend to congregate in congested places while awaiting rides. Meanwhile, vehicles making pickups and drop-offs in inappropriate places can delay transit and create unsafe conditions for bicyclists and other drivers. We need to continue to make transit, walking, and bicycling, which are the modes that produce the least congestion, the most convenient ways to travel, and use emerging technologies to facilitate shared trips and connect people to transit while managing conflicts and competition among modes.

Advancing the public interest

Metro and our public agency partners have a long tradition of working in collaboration with residents, businesses and community groups to create livable communities. This tradition extends to our work on technology; Metro and our partners have led the way in using technology to provide better travel information and manage the transportation system. For example, TriMet

developed the data format that is now used by transit agencies across the country to make schedule information available online, ODOT is one of the first state departments of transportation to test technology-enabled per-mile road pricing, and Metro has supported travel information and management programs across the region through our grant programs.

Public agencies can take an active role in shaping how technology impacts our region… Private companies are now leading the way in deploying new transportation technologies. This gives us a new set of partners who share our interest in a well-maintained, well-functioning transportation system, as well as in testing innovative new ways to move people and goods. It also means that public agencies need to take an active role in ensuring that new developments in technology help meet the needs of all our residents, rather than only those who can access and afford them, and create great communities in our region.

…if we're clear about our goals and we develop the tools that we need to reach them. Most cities in our region haven't set policies or made plans regarding emerging technologies. The differing needs, resources, and cultures of public agencies and private companies can make it hard to find opportunities for collaboration. We need to establish a vision for how technology can meet our regional goals and develop tools to achieve that vision.

Early successes in creating a smarter region

The City of Portland, in collaboration with many other public agencies and private companies, was one of seven finalists selected for the $40 million USDOT Smart City Challenge, with a proposal to collect and share data that would bring better travel choices to residents and help the City make better planning decisions. Though Portland did not win the City and its partners continue to collaborate to implement aspects of the plan. TriMet, long an innovator in providing better transit data to the public, won a grant to integrate information on TNC service to its transit planning app. A group of regional partners won a grant to provide real-time information to travelers along the I-84 corridor. And Portland has drafted a policy on AVs and released a call for projects to test AVs and related technology.

Meanwhile, Hillsboro was a finalist for the Bloomberg Mayors' challenge with a proposal to integrate both existing and emerging modes of transportation at hubs throughout the city, and is currently working on developing a Smart City plan. Organizations such as the Technology Association of Oregon, Forth, University of Oregon's Sustainable Cities Institute, and Portland State University, provide local and national thought leadership on technology-related issues. And partners including the Westside Transportation Alliance, Oregon DOT, and Ride Connection have developed innovative new ways to provide travel information and collect data, often with support from Metro. These early successes lay the foundation for Metro and our partners to collaborate and lead the way in creating a smarter transportation system.

THE NEXT FOUR DECADES

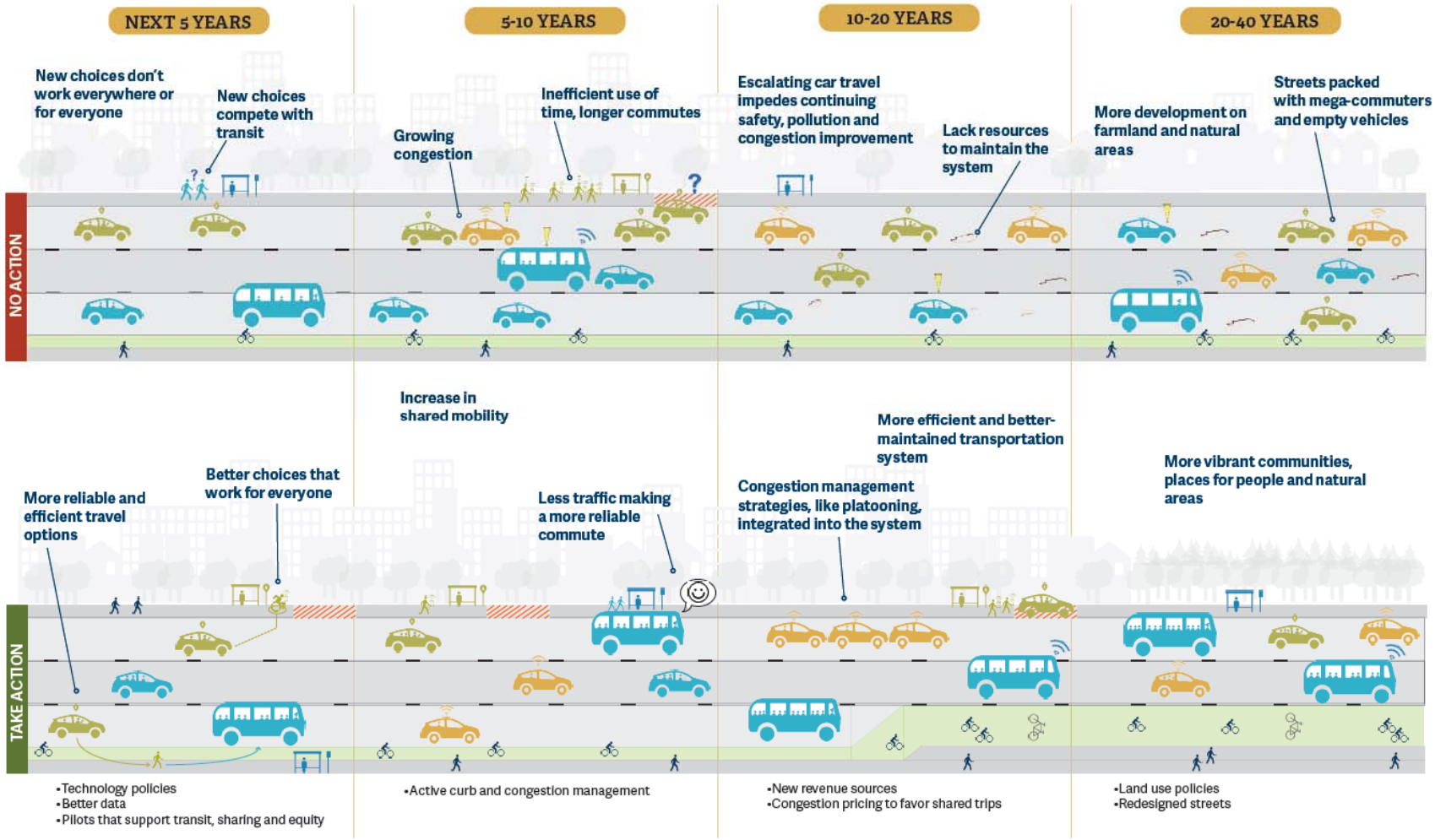
Over the longer term, we expect that technology will have broad and profound impacts on how people travel as vehicle technology continues to advance and more people use TNCs, car and bike share, and other new mobility services to get around. Emerging technologies stand to affect every one of our regional goals, both for better and worse, as summarized in Table 1. Our regional goals are summarized and consolidated below for ease of reading; the full text of the goals can be found in the 2018 Regional Transportation Plan.

Table 1. How emerging technologies could impact our regional goals

Goal	Promise	Peril
Vibrant communities	We have more space for people instead of vehicles, particularly in regional centers.	Our region sprawls as driving becomes more convenient.
Prosperity	New mobility companies bring new jobs to the region, and people are able to spend more time working instead of sitting in traffic.	Automation eliminates thousands of jobs, and productivity only increases for people who can do their work from a vehicle.
Choices	New shared services arise, carpooling becomes easier, and transit becomes more efficient.	Driving alone becomes more convenient and new services compete with transit instead of increasing options overall.
Congestion	Congestion falls as AVs use roadway space more efficiently, carpooling becomes easier, and transit becomes more efficient.	Congestion increases as driving becomes more convenient, vehicles travel greater distances in order to move fewer people, there are more conflicts in high-demand areas and delivery vehicles clog local streets.
Safety	AVs eliminate crashes due to human error.	More pickups and drop-offs create curbside conflicts, and the transportation system is vulnerable to cyberattacks.
Environment	Vehicles become cleaner and more efficient.	Vehicle miles traveled increase, offsetting the benefits of cleaner vehicles, and increased sprawl places pressure on farmland and natural areas.
Health	Cleaner vehicles mean less pollution and better air quality, and bike share provides another active transportation option.	People live more sedentary lifestyles as driving becomes more convenient and new modes compete with transit, bicycling, and walking.
Equity	People who cannot or do not drive have more choices, and these choices become more affordable as technology advances.	New services focus on giving affluent riders better service at a higher cost, while others face barriers to accessing new technologies and services.
Fiscal stewardship	Technology enables more cost-effective pricing, management, and operation of the transportation system.	The gas tax and other key sources of transportation revenue dwindle.
Accountability	Collecting transportation data becomes more efficient.	New mobility companies withhold data from public agencies and resist oversight.
Vibrant communities	We have more space for people instead of vehicles, particularly in regional centers.	Our region sprawls as driving becomes more convenient.

At this point, we cannot predict whether technology will support our goals or make it harder to achieve them. That outcome depends in large part on the actions that Metro and our partners take. What is clear is that we can begin to chart a course toward a positive future by taking action today to address the most pressing issues that technology presents. If we make sure that new mobility services work for everyone and support transit, shared trips, walking, and bicycling, we lay the foundation for reducing congestion, protecting the environment, and creating vibrant communities. By starting with the impacts that are already happening, we can also develop the tools that we will need to influence how technology develops over the long term. Figure 1 illustrates how taking action today can set us up for future success—as well as what might happen if we don't act.

Figure 1. What the region's future could look like if we take action on technology—and if we don't



How we can work with different emerging technologies

The assessment above looks at the impact of emerging technologies as a whole, which is helpful in identifying the general trends that we can expect to face, but masks the distinction between technologies. As we move forward with implementing the strategy, Metro and our partners will be faced with decisions about how to respond to the unique opportunities and challenges presented by different technologies as they reach maturity or as companies launch new services in our region. By looking at the impacts of different technologies, and our influence over them, we can identify more specific next steps for implementing our technology policies.

Table 2 summarizes the impacts of the different technologies covered in this strategy on each of our regional goals. Appendix 2 contains more detailed information on individual technologies.

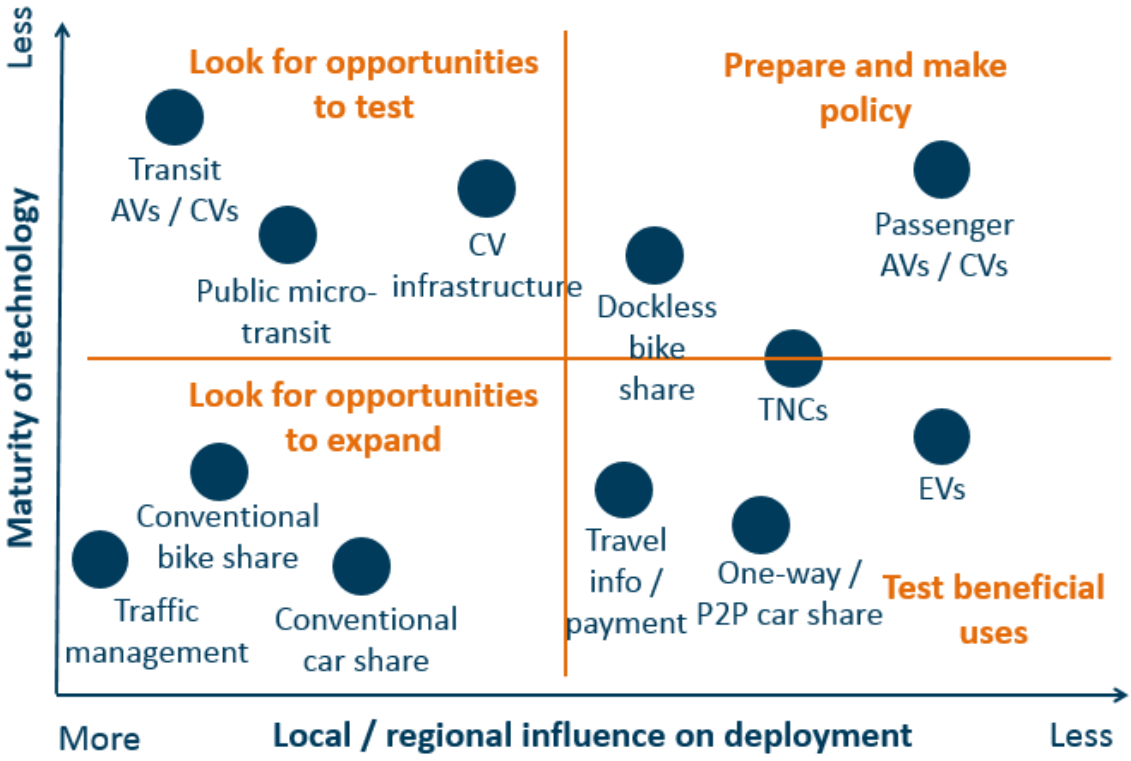
Table 2. How different emerging technologies are likely to impact our regional goals

Goal	AVs/CVs	CV infrastructure	EVs	Transportation network	Public microtransit	Private microtransit	Car share	Bike share	Travel information / payment
Vibrant communities	+/-						+		
Economic prosperity	-			-				+	
Transportation choices	+/-	+		+/-	+	-	+		+/-
Congestion	+/-			+/-	+	+	+		
Safety	+	+		-					
Environment	-		+				+	+	
Health			+					+	
Equity	+/-		+/-	+/-	+	-	+/-	+/-	+/-
Accountability	-	+		+/-	+	-	+	+/-	-
Fiscal stewardship		+	-		+	-			

+: Generally positive impact
+/-: Mixed impact
-: Generally negative impact
(blank): Neutral / not enough information to assess impacts

Some emerging technologies are already mature. Others have arrived but continue to grow and evolve, and many are still on the horizon. Public sector influence on emerging technologies also varies; in some cases the public sector deploys technologies directly or influences where and how technologies operate by issuing permits or allocating space and in other cases technologies operate with very little public oversight. These factors shape how public agencies can best respond to different emerging technologies, as shown in Figure 2.

Figure 2. How public agencies can respond to different technologies based on maturity of and public influence

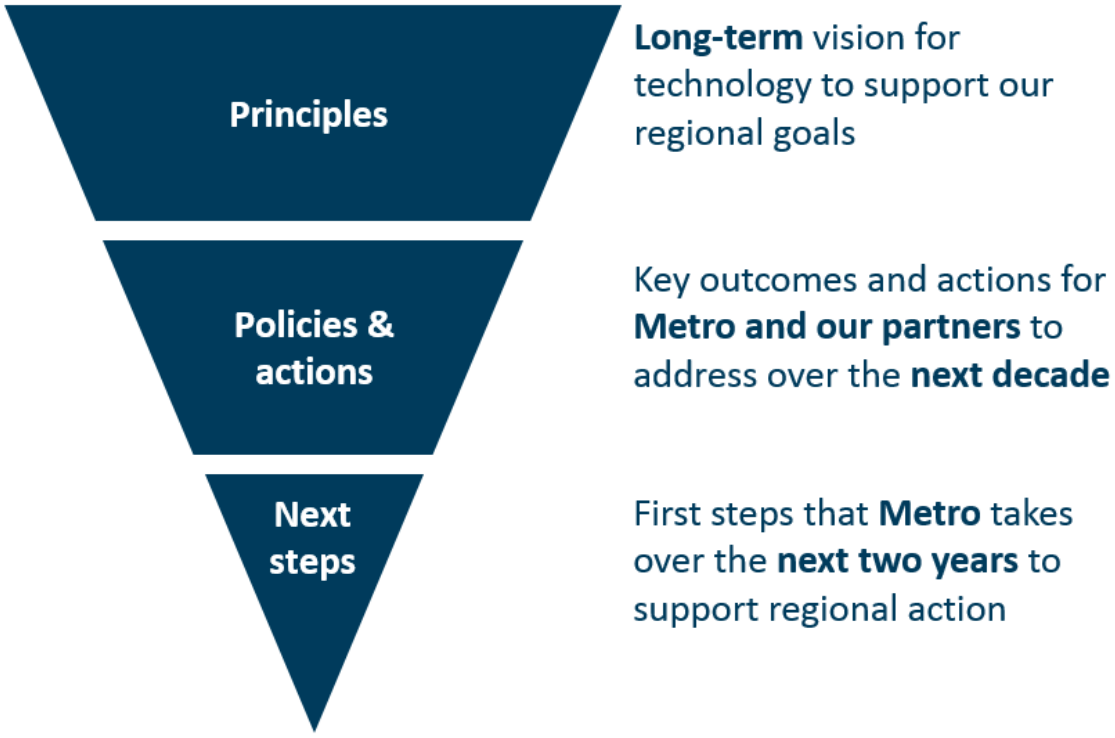


For mature technologies over which local and regional agencies have strong influence (conventional bike and car share, traffic management technologies), we have ample information on how they work, and can look for the right opportunities to expand these technologies to new communities. For those that are operating at scale without much public oversight (TNCs, EVs, third party travel information, and newer car share models) we need to test the ways that we think that these technologies can benefit the region and see how they work. For example, we can try using these technologies to connect people to transit or meet the mobility needs of historically marginalized people. Public agencies should look for initial opportunities to deploy technologies that are still on the horizon and can help us better operate and manage the transportation system. These include new technologies that can benefit transit, and to a lesser extent CV infrastructure, where there is still a fair amount of uncertainty over what information the vehicles of the future will need from the roadside. Lastly, for technologies that are still on the horizon and largely in the hands of the private sector (particularly AVs, but also dockless bike share and TNCs, which continue to grow rapidly and will continue to evolve as companies deploy AVs), public agencies need to prepare by developing forecasts and collecting information to inform policies and guide how these technologies are deployed.

EMERGING TECHNOLOGY VISION, POLICIES AND ACTIONS

The Emerging Technology Strategy begins with principles that outline a broad, long-term vision for how technology can support our regional goals and then focuses in on the critical steps we can take now to implement this vision. Policies and actions describe how Metro and our public agency partners can tackle the most pressing technology-related issues and opportunities that are likely to arise over the next decade in order to set ourselves on a positive long-term course. Next steps highlight what Metro will do in the coming two years to support our partners in moving forward with policies and actions.

Figure 3. Emerging technology policy framework



Principles

Principles articulate a long-term vision for how technology should support our regional goals. They apply both to public agencies and new mobility companies. They guide Metro and our partners in planning for and working with emerging technologies, as well as in identifying companies that share our goals when developing partnerships and pilot projects.

Vibrant communities: Emerging technologies should support our regional land use vision and enable communities to devote more space to places for people.

Prosperity: Workers whose jobs are impacted by automation should be able to find new opportunities, and emerging technologies create should more efficient ways to meet the transportation needs of local businesses and workers.

Choices: Emerging technologies should improve transit service, provide shared travel options throughout the region, and support transit, bicycling and walking.

Congestion: Emerging technologies should reduce congestion by promoting shared trips, decreasing vehicle miles traveled, minimizing conflicts between modes, and managing demand.

Safety: Emerging technologies should reduce the risk of crashes for everyone and protect users from data breaches and cyberattacks.

Environment: New mobility services should use vehicles that run on clean or renewable energy.

Equity: New mobility services should be accessible, affordable, and available for all and meet the transportation needs of communities of color and historically marginalized communities.

Fiscal stewardship: Emerging technology companies and users should contribute their fair share of the cost of operating, maintaining, and building the transportation system, and new technologies should make it possible to collect transportation revenues efficiently and equitably. Public agencies should source new ideas and technologies competitively to get the best return on public investments.

Accountability: Companies and public agencies collaborate and share data to help make the transportation system better for everyone.

Policies and actions

The following four policies cover the issues that Metro and our public agency partners have identified as the most pressing to address over the next decade in order to stay on track to meet our regional goals as technology and mobility continue to evolve.

Figure 4. Technology strategy focus areas

Choices: Use emerging technologies to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking.

Equity: Make emerging technologies accessible, available, and affordable to all, and use these technologies to create more equitable communities.

Information: Use the best data available to empower travelers to make travel choices and to plan and manage the transportation system.

Innovation: Advance the public interest by anticipating, learning from and adapting to new developments in technology.

These four policies are interrelated. In order to bring new and better transportation choices to the region we need to make sure that these options work for everyone. We need sound information and an innovative approach to identify, implement, and evaluate the projects that work best for our region. These policies are also critical to meeting our longer-term goals. We need to make transit and shared trips the easiest way to travel in a vehicle to make the most of emerging technologies' potential to reduce congestion and pollution, improve safety, and support our regional land use vision, and we need the right data and approach to protect the public interest as new technologies arrive. Table 3 below summarizes how the policies are related to the broader set of principles outlined above.

Table 3. Relationships between policy areas and principles

Policy area	Related principles
Equity	**Prosperity**: the transportation sector provides family-wage jobs for many people of color and lower-income households, and we need to help workers impacted by automation transition to new opportunities. **Choices**: HMCs are more likely to rely on transit and affordable, shared travel options, so these choices will be more widely used if HMCs have good access to them.
Choices	**Vibrant Communities**: transit, shared trips, and active transportation move people efficiently, freeing up space for people instead of cars. A thriving transit network is the backbone of our land use vision. **Prosperity**: Better choices mean less congestion and better access to jobs. **Congestion**: transit, shared trips, and active transportation all move people more efficiently than driving alone, reducing congestion. If AV trips aren't shared, the resulting increase in vehicle travel may outweigh the benefits of vehicles moving more efficiently. **Safety**: Minimizing conflicts between new mobility services and bicyclists and pedestrians protects vulnerable users from crashes. **Environment**: Shared vehicles and trips make electric or clean energy vehicles accessible for all. **Equity**: Improving transit service helps marginalized people, who are more likely to rely on transit, reach their destinations.
Information	**Choices**: Providing better travel information can help people who are used to driving alone find ways to take transit or share trips. **Congestion**: Public agencies need real-time transportation data to effectively manage and price congestion. **Safety**: As agencies collect increasing amounts of data, we need to protect people's confidential information. **Fiscal stewardship**: Data is an increasingly valuable resource, and we need to be as fastidious in managing our data as we are in managing our infrastructure. **Accountability**: We need data on new mobility services to assess how they are impacting our goals.
Innovation	**Prosperity**: Pursuing partnerships with new mobility companies can help attract additional resources. **Congestion**: We will need to anticipate the needs and characteristics of tomorrow's transportation system to effectively manage congestion. **Fiscal stewardship**: Pilot testing emerging technologies can be a more cost-effective way of learning about them than funding research or planning efforts.

Equity

Make emerging technologies accessible, available, and affordable to all, and use these technologies to create more equitable communities.

Metro and our partners are responsible for ensuring that the transportation system serves all people, particularly those in the greatest need. In particular, we know that communities of color often face the most significant barriers to accessing our transportation system; if we can reduce the barriers that these communities face, we improve access to the transportation system for all residents. New mobility services have the potential to bring more flexible transportation options to marginalized communities, but not everyone can access these services. Communities of color face the threat of discrimination from drivers or companies, some older adults and people who speak limited English aren't able to use apps, many low-income people cannot afford costly data plans or lack access to bank accounts, and people in wheelchairs often struggle to find accessible shared vehicles. If we can remove these barriers, we can bring better transportation choices to night shift workers, people with disabilities, people who are displaced to areas that lack frequent transit service, and others. We will use new mobility services to fill these equity gaps while helping transportation workers who see their jobs threatened by automation transition to new roles.

What happens if we act	What happens if we don't
• It is easier for historically marginalized people to get where they need to go, especially when other options aren't available. • Transit, which is the most affordable and accessible way to travel, thrives. • Transportation workers find jobs in the new transportation system.	• There are more choices for those who can afford them. • Transit dwindles, especially in the communities that need it the most. • Historically marginalized communities are left behind as the economy changes.

Implementation actions

Partner with historically marginalized communities to identify barriers to accessing emerging technologies, understand the impact that new mobility services are having on displacement and transportation access, and develop solutions. (Metro, cities and counties, transit agencies)

Enable all people—regardless of race, age, language and culture, immigration status, banking status, and digital access—to access new mobility services. (Metro, cities and counties, transit agencies)

Develop standards for wheelchair accessibility and service equity for new mobility services. (Metro, cities and counties, transit agencies)

Create affordable payment options to help low-income people access new mobility services that meet their transportation needs. (Metro, cities and counties, transit agencies)

Use new mobility services to connect historically marginalized communities to transit stations and to employment centers, community services, and other destinations that are not well-served by transit. (Cities and counties, transit agencies)

Use technology to improve paratransit and human service transportation. (transit agencies)

Develop programs to help transportation workers whose jobs are affected by automation find new opportunities. (Transit agencies)

Choices

Use emerging technologies to improve transit service, provide shared travel options throughout the region and support transit, bicycling and walking.

Emerging technologies have already given people in our region new ways to get around, whether by taking car or bike share, hailing a ride with a TNC, or simply making it easier for people to learn about and pay for transit. However, new mobility services are concentrated in communities where it is already easy to take transit, walk, and bike, which creates more congestion and pollution by attracting people away from more efficient modes and clogging streets with vehicles looking for passengers. In order to make the most of emerging technologies' potential to reduce congestion and pollution, improve safety, and support vibrant communities, we need to use these technologies to help people to connect to transit, share trips with other travelers, or leave their cars at home. We will prioritize and invest in the applications of emerging technologies that move people most efficiently and continue to improve convenience and safety for transit riders, pedestrians, and bicyclists. This is part of a broader effort, reflected throughout the 2018 update to the Regional Transportation Plan, to improve transit service and create safer, better facilities for bicyclists and pedestrians.

What happens if we act	What happens if we don't
• New mobility services thrive side-by-side with transit, bicycling, and walking. • We move more people in fewer vehicles. • Congestion and emissions fall. • The entire region enjoys new ways to travel.	• New mobility services compete and create conflicts with transit, bicycling, and walking. • Vehicles travel more miles to move fewer people. • Congestion and emissions rise. • New options are concentrated in urban areas.

Implementation actions

Price, manage, and design streets to reduce vehicle miles traveled and prioritize transit use and shared travel. (ODOT, Metro, cities and counties, transit agencies)

Design and manage the curbside to minimize conflicts between new mobility services and transit riders, bicyclists, and pedestrians. (ODOT, Metro, cities and counties, transit agencies)

Support and deploy emerging technologies that reduce vehicle miles traveled by connecting people to transit or providing shared trips, particularly in communities that currently lack choices. (Metro, cities and counties, transit agencies)

Explore and pilot test technologies such as automated vehicles and dynamic routing to improve transit service. (Metro, transit agencies)

Work with travel information services to avoid routing drivers along neighborhood streets, through school zones, and in other areas where bicyclists and pedestrians are vulnerable to safety risks from increased traffic. (ODOT, Metro, cities and counties)

Information

Use the best data available to empower people to make travel choices and to plan and manage the transportation system.

In today's transportation system, data is as important as infrastructure. Smartphones enable people to instantly book a transit trip or find a new route when they run into traffic, and new mobility companies use real-time data to balance supply and demand. We will make sure that high-quality data is available on all transportation options in the region and that information is presented in a way that allows travelers to seamlessly plan and book trips. We will also develop the data that Metro and our partners need to plan the transportation system—including better data on transit, bicycling, and walking as well as on new mobility options—and create systems that allow us to share data among public agencies and better manage and price travel. As we work to develop better data, we will also develop new policies around how we manage and use data so that we protect personal and competitive information and safeguard this increasingly valuable public resource.

What happens if we act	What happens if we don't
• People can easily compare travel options and pick the one that best meets their needs. • We know how emerging technologies are changing transportation patterns. • We can manage congestion as it happens. We get the best value out of public agency data.	• People rely only on the options that they know or that offer flashy apps. • We have limited insight into how our transportation system is changing. • We are slower to respond to collisions and incidents. • We waste resources on collecting and sharing data.

Implementation actions

Create or support services that allow people to compare and book travel options and multimodal trips seamlessly and competitively. (ODOT, Metro, cities and counties, transit agencies)

Modernize and share public agency data on transit service and bicycle/pedestrian infrastructure. (ODOT, Metro, cities and counties, transit agencies)

Conduct education and outreach to help travelers understand and use new mobility services that align with our principles. (ODOT, Metro, cities and counties)

Develop data policies that ensure access to and responsible usage of public agency data. (ODOT, Metro, cities and counties, transit agencies)

Collect data, conduct research, and conduct education and outreach on usage and impacts of emerging technologies. (Metro)

Increase capacity to send data to and collect data from the roadside. (ODOT, cities and counties)

Identify data that serves the public interest and share it in a way that protects confidentiality while supporting public decision-making. (Metro)

Develop congestion pricing systems that address the impacts of emerging technologies on travel and transportation revenues and use technology to price travel more effectively and equitably. (ODOT, Metro)

Innovation

Advance the public interest by anticipating, learning from and adapting to new developments in technology.

Planning for a changing transportation system begins with changing how we plan. Our current planning process is designed around infrastructure projects that last for 50 years and an unchanging set of transportation services. It can take decades to plan and build a project, and once built there is little room for change. This time-intensive, risk-averse approach continues to make sense for major transportation investments, but in order to effectively plan for emerging technologies we need to give ourselves opportunities to try new approaches, learn from our experience, and adapt so that we can keep up with the pace of new developments. We will also actively engage new mobility companies, alongside large employers, academics and community groups working in the technology arena, to identify opportunities to collaborate and test new ideas and turn our region into a hub for innovation.

What happens if we act	What happens if we don't
• We adapt to changes in technology. • We work together with all stakeholders to identify mutually beneficial policies and projects. • We try new ideas and learn from the results.	• We commit to processes, plans and projects that are increasingly out of date. • We confront big changes with limited resources and partnerships. • We sit on our hands because we feel like we don't know enough to act.

Implementation actions

Use Metro funds and leverage local dollars to support emerging technology projects that align with our principles, with particular focus on projects that meet the needs of historically marginalized communities, encourage shared trips, with a particular focus on connecting people to high-frequency transit in areas that lack good bicycle, pedestrian, or local bus connections. (Metro, cities and counties)

Partner with new mobility companies, employers, researchers, and community groups when developing and implementing pilot projects. (Metro, cities and counties, transit agencies)

Develop and test new data, tools, systems and models to plan, manage, and price the transportation system. (ODOT, Metro, cities and counties, transit agencies)

Next steps

Below we discuss four steps that Metro will take in the next two years to advance our work on emerging technologies. For each, we describe key six-month and one-year milestones so that we can gauge our progress and change course if necessary. We will revisit and update this section of the strategy on an annual basis so that we can respond to new developments.

Fund technology pilot projects

Pilot projects are a cost-effective way to develop the information and partnerships that we need to make sure that emerging technologies benefit our region. One benefit of these technologies is that they lower the cost of trying new approaches to transportation. For example, instead of developing a new shuttle service that connects people to transit, we can now partner with shared mobility providers that are already operating in our communities to provide a similar service for a limited time, see how it works and decide whether it merits a long-term investment—all for less time and money than it would take us to plan and start up a new service.

Metro will develop a new pilot program, the Technology Grant Innovation Fund (TGIF), focused on testing how emerging technologies can meet the needs of historically marginalized communities, better connect people to transit, and facilitate shared trips, shared transportation choices or, and collect data to inform future decisions. Our goals are to support projects that provide Metro and our partners with information on how technologies can best support these outcomes and develop partnerships that enable longer-term success. Even projects that fall short of their intended outcomes can produce valuable partnerships and information about how emerging technologies can help us create more equitable and livable communities (see the example in the text box).

Community EV and e-Bike Project

One of the first technology pilot projects in the region with an equity focus was the Community Electric Vehicle and e-Bike Project, a collaboration between Hacienda CDC and Forth. Over the course of a year, the project made three electric vehicles, as well as a fleet of electric bikes, available to residents of the Cully neighborhood, which has a large Latinx population and lacks high-frequency transit. Both the EVs and e-bikes were widely used by residents. The project also illuminated some of the challenges with using shared mobility to meet the needs of marginalized communities. For example, usage of the EVs was limited by the peer-to-peer car share platform used to manage them, which only allowed day-long rentals during business hours; more flexible platforms are available in the region, but do not offer service in Cully. We may need new sharing platforms in order to help historically marginalized communities use shared mobility.

The pilot projects that we are interested in exploring include:

- Developing services or conducting outreach and education to remove barriers that historically marginalized communities (HMCs) face to accessing new mobility services.
- Partnering with community groups to develop and implement shared mobility services or projects that meet the transportation needs of HMCs.

- Using new mobility services to connect people to transit stations when walking, bicycling, or taking local transit service isn't an option.
- Providing shared rides for people who would otherwise drive alone.
- Using connected vehicle technology or dynamic routing to improve transit service.
- Testing new technologies or approaches for managing new mobility services, such as curbside management and occupancy-based pricing.
- Providing people with better transportation data and incentivizing shared and active transportation choices.

Metro will also support technology projects through two of our existing programs: the Regional Travel Options (RTO) program, which supports regional partners, including community based organizations, to do outreach and education projects and small-scale infrastructure improvements that increase walking, biking, ride sharing, telecommuting and public transit use; and the Transportation System Management and Operations (TSMO) program, which supports the region's transit service and road operators in deploying new management technologies. Table 4 shows how TGIF, RTO, and TSMO could support some of the pilot projects listed above.

Table 4: Opportunities to implement emerging technology projects through Metro programs

	Travel information, apps, and incentives	New mobility services	AV/CV/EV
TGIF	• Services to remove barriers to access for HMCs • Community partnerships that use new mobility to meet the needs of HMCs	• Services to remove barriers to access for HMCs • Community partnerships that use new mobility to meet the needs of HMCs • Shared mobility pilots that connect people to/from transit stations • Pilot testing technologies for occupancy-based pricing	• Shared EV, AV, or e-bike pilots in HMCs
RTO	• Improved public agency data on transportation options • Commute management and incentive apps • Services to remove barriers to access for HMCs	• Outreach, research and partnerships to help HMCs access services and develop projects • Services to remove barriers to access for HMCs	• Promotion of AV/CV/EV services the reduce single occupant vehicle trips
TSMO	• Systems to manage and share real-time transportation data • Incentives to reduce vehicle trips during peak periods	• Pilot testing technologies for occupancy-based pricing and curbside management	• CV, AV, or dynamically routed transit • Systems and standards for CV transit and passenger vehicles

Within the next six months, Metro will establish the program structure and evaluation criteria for a new innovation grant program, and issue a call for projects that use technology to help advance the four policies identified earlier in this chapter. We will also update the RTO and TSMO program guidelines to better support emerging technology projects.

Within the next year, we will select and fund the first round of TGIF projects, as well as the next round of RTO and TSMO projects.

Convene stakeholders to establish consistent new mobility policies across the region

TNCs, microtransit, and car and bike share are expanding rapidly and bringing exciting new transportation options to cities. That progress has come with some growing pains as new mobility companies grow from small startups into multimillion-dollar semi-public transportation services and public agencies struggle to keep up with new developments. Companies have faced fines and settlements for violating insurance requirements,[13] defrauding customers,[14] failing to accommodate people in wheelchairs,[15] and failing to investigate drivers who received complaints for driving under the influence.[16] Public agencies are also increasingly working with communications companies to collect and house a growing amount of data, and need to do so in a way that protects people's privacy and ensures ongoing access to public data for key stakeholders.

It can be challenging for a community to develop policies that address new technologies that aren't yet operating at scale. However, if we wait to take action until new services mature, we risk disrupting transportation options that people have come to rely on. We need to develop policies to ensure that new mobility services operate safely, equitably, and transparently, while protecting competitive information for the companies that operate these services and allowing them the flexibility to innovate. To the extent possible, these policies should be uniform throughout the region to give companies a consistent operating environment. There are plenty of examples from other communities for us to draw on; for instance, counties and cities of all sizes in Washington have adopted TNC ordinances, often in coordination with each other.[17]

Within the next six months, Metro will share information through the Emerging Technology Working Group on policy issues and approaches from other cities and identify next steps.

Within the next year, we will work with our partners to support the development of new mobility policies, potentially including regulatory, data-sharing, or incentive-based approaches. We will also identify how Metro can best support our partners, for example by developing model policy language, helping to coordinate or administer joint regulations, or collecting and sharing data.

Develop better data and tools to plan for emerging technologies

Based on the information we have today—including Metro's surveys, data from our partners, and a growing body of research—we know that emerging technologies are impacting our region and can identify the first steps we need to take toward our goals. As our work progresses, Metro and our partners will need more detailed information to better understand where and how emerging technologies are impacting our region. Pilot projects are one way for us to get that information, but we also need to explore other tools and data sources that can help us anticipate and plan for the impacts of emerging technologies, including:

- Collecting travel data on new mobility services so that we know how they help meet people's transportation needs throughout the region.
- Modeling the impacts of AVs and increased use of new mobility services so that we can prepare for more sweeping impacts to land use, congestion, and transportation revenues.
- Collecting more up-to-date data on travel behavior so that we can analyze the broader impacts of new services, technologies, and projects on people's transportation choices.
- Sharing real-time data on transportation performance among public agencies so that we can better manage the transportation system and give travelers up-to-date information that they increasingly rely on to plan trips.

Within the next six months, Metro will use our travel and land use models to forecast the impacts of AVs and shared mobility on our region, examining a variety of potential future scenarios. We will also explore new data sources and data-sharing partnerships with new mobility companies.

Within the next year, we will identify strategies to refine our data and models so that Metro and our partners have better information on how new mobility services are being used today and on how they will impact our region tomorrow. These strategies could include revising the surveys that inform our travel model to better capture how people use shared modes, updating these services more frequently so that our model is more responsive to the accelerating pace of technological change, or licensing private data sources that provide more detailed and comprehensive information on how we travel.

Advocate for state and federal technology policy that supports our regional goals

Many of the important policy decisions regarding emerging technologies, particularly automated vehicles, currently rest with the state and federal government. It makes sense to address many policy issues, such as safety testing, licensing and registration, and liability at the state and federal level for consistency's sake or because state and federal agencies already have the capacity to administer regulations. At the same time, cities and regional agencies, both in the Portland area and across the U.S., have a strong interest in getting emerging technology policy right, because new mobility services and their customers—as well as their impacts, both for better and worse—are concentrated in metropolitan areas. Cities and regions also plan and manage the streets on which the majority of AV travel will take place. Metro will advocate alongside and on behalf of our partners for state and federal policy that supports our regional goals and maintains local and regional authority to manage the transportation system.

Over the next two years, Metro will participate in the State of Oregon's Autonomous Vehicle Task Force and work with our partners to weigh in with a unified voice on other state and federal policymaking efforts related to emerging technologies.

GLOSSARY

Emerging technology is a blanket term that we use throughout this plan to refer to new developments in transportation technology. We use it to refer both to technologies like automated vehicles or smart phones and services that operate using these technologies, like car and bike share.

We discuss the following emerging technologies in this strategy:

Automated vehicles (AVs) use sensors and advanced control systems to operate independently of any input from a human driver. Transportation experts have developed a five-level system to distinguish between different levels of automation;[18] in this plan we focus on Level 4 or 5 AVs, which can operate independently under most or all conditions.

Connected vehicles (CVs) communicate with each other or with infrastructure like traffic signals and incident management systems. Since it seems increasingly likely that vehicles in the near future will include both automated and connected elements, we typically use "AVs" to refer to both AVs and CVs.

Connected vehicle (CV) infrastructure, such as traffic signals and roadside sensors, communicates information to CVs in order to help them navigate the transportation system safely and efficiently.

Electric vehicles (EVs) use electric motors for propulsion instead of or in addition to gasoline motors.

Transportation network companies (TNCs) like Uber and Lyft use apps and websites to connect passengers with drivers who provide rides in their personal vehicles.

Microtransit services such as Via, Chariot, and Leap use smart phones to allow riders to book trips and collect data to tailor routes, and typically serve these routes with vehicles that are smaller than conventional buses but larger than private vehicles.

Car share services allow people to rent a nearby vehicle for short trips and pay only for the time that they use. Different car share service types include:

Stationary car share (ZipCar, in some cases ReachNow), under which cars are kept at fixed stations, and users pick up cars from and return them to the same station.

Free-floating car share (Car2Go, ReachNow), which allows people to pick up and drop off cars anywhere within a defined service area.

Peer-to-peer car share (Getaround, Turo), which enables people to rent cars from their neighbors on a short-term basis.

Bike share systems like BIKETOWN in Portland make fleets of bicycles available for short-term rental within a defined service area. Some bike share systems now offer electric bikes.

Traveler information and payment refers to the numerous new ways in which technology enables people to learn about and pay for their travel options online. These services can help people compare different ways of getting around (moovel, Google Maps), get detailed information on their mode of choice (TransitApp, Ride Report, Waze), track and share their trips (Strava, MapMyWalk), and pay for trips (TriMet's Tickets app, Uber/Lyft).

Common ways of grouping some of these technologies together include:

New mobility services refers to transportation services like TNCs, microtransit, car share and bike share, which are powered by smart phones and other emerging technologies. These services are usually privately operated by **new mobility companies**.

Shared mobility describes newer services that allow people to share a vehicle, such as TNCs, car and bike share, and microtransit, as well as traditional shared modes like transit, car- or vanpools, and taxis. These services are usually privately operated, by **shared mobility companies**.

Shared trips are trips taken by multiple passengers in a single vehicle, including carpools, transit trips, and some TNC or car share trips.

Smart cities refers to the ways in which public agencies are using technology to collect better data, provide better service, do business more efficiently, and make better decisions.

ENDNOTES

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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.

Regional Transportation Plan website: **oregonmetro.gov/rtp**

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APPENDIX 1: FORECASTING THE FUTURE

Below we describe in more detail how technology is likely to develop in the coming decades, as well as how it will affect our goals if we don't act and the actions that public agencies need to take in order to prepare for successive waves of change.

The next five years: rise of the robot cars

How we expect technology to develop

In the next five years, the first AVs will likely hit our streets, and will be operated by TNCs, freight companies, and other private fleets. These first-generation AVs will be significantly more expensive than regular vehicles, but Uber and Lyft, as well as other companies that enter the TNC market, will be happy to pay for them because they reduce the cost of driver labor, which can make up 80 percent of the cost of a TNC trip. Initial AV deployments may be billed as "pilots," using vehicles that do not meet safety standards with a human operator ready to take over if something goes wrong. However, several of these "pilot" projects could be large enough in scale to serve entire cities.[1] AV pilots have already resulted in fatalities and other safety issues.[2]

Most of the first AVs will be EVs. Almost all passenger AVs available today are EVs, because it is easier to automate control of an EV than a regular vehicle.[3]

TNCs will also continue to expand and improve service throughout our region as they recruit new drivers and more people have the opportunity to try them. Other shared mobility services will also likely grow. BIKETOWN and car share companies plan to launch service in new communities in the coming years. New shared mobility models, such as dockless electric bike share, which is available in a small number of other U.S. cities, could also come to our region.

Transit agencies and freight companies will have new opportunities to innovate. Transit agencies across the country are already testing new approaches such as microtransit, AV shuttles, and subsidized TNC trips to connect people to transit. In our region, TriMet is developing resources to help people plan transit trips—including connections to and from transit stations. As these trends converge, people in the region are likely to enjoy new ways to seamlessly make and plan connections to transit. Freight companies and retailers will also continue to experiment with new ways to distribute goods, particularly the growing amount of purchases made online. Innovations such as TNC-style delivery services, drone deliveries and package lockers could change how goods travel along our local streets.

Apps will become the dominant way to access travel information. Whether you're a driver, cyclist, transit rider, or pedestrian, apps are already the most widely-used way to get information on how to get around, and their popularity will continue to grow. Public agencies' success in managing the transportation system will come to depend increasingly on how well people can access travel information via smartphone—particularly via third-

party apps like Google Maps, moovel and Transit App, which are drawing a growing share of users while usage of most public agency apps or websites plateaus or dwindles.

How it could impact our goals

Transportation choices: People in the region will have new ways to get around and plan trips. However, it is less clear whether emerging technologies will meaningfully improve our choices. New mobility services could bring better options to areas where driving is the only way to travel and complement transit, walking, and bicycling. Or they could compete with walking, bicycling, transit, and each other by focusing on serving those who already enjoy access to a variety of travel options.

Equity: As more people in the region turn to app-based transportation services and travel information, we risk leaving those who can't use or afford these services behind. Competition between new modes and transit could impact service that low-income people na dcommunities of color disproportionately rely on.

Accountability: The public will have limited insight into how new technologies are affecting our communities. In most areas of the region these companies do not provide data on how people are using their services nor face requirements to provide safe and equitable service. Federal legislation may prohibit state and local governments from requiring that AVs make vehicle data available.

How the region can prepare

- Develop policies to ensure that new mobility services—especially those that pilot test AVs—operate safely and equitably, and provide the information that we need to plan for our changing system.

Emerging technologies and transit

The rise of TNCs and microtransit has some people wondering whether transit will soon become a thing of the past—especially once AVs enable more affordable, flexible and convenient shared service. So why do we focus so much on transit in this strategy?

The first reason is because a future with transit looks so much brighter than a future without it. Even with shared AVs on the road, transit will remain the most efficient way to move people through congested areas. Transit is the mode that historically marginalized people most rely on for everyday trips, and the one that we can all rely on to keep our region moving in the event of a natural disaster. And the transit network is the backbone of our land use vision, anchoring vibrant communities across our region. New mobility services can reach people in places where transit isn't efficient, and they but it's difficult to imagine them providing all these other benefits.

The second reason is because transit provides great opportunities to innovate. TriMet is already a leader in making it easy for riders to plan and pay for trips online. We'll soon have the chance to pilot test new technologies like microtransit and AVs. Using them to connect people to transit gives us better learning opportunities because we know well how people currently use transit, which makes it easier to see how technologies change travel habits.

- Understand the barriers that people face to using emerging technologies, and work with affected communities to overcome these barriers.
- Pilot test new technologies to see whether they support our goals.
- Forecast how changes in technology will shape the future so that we can better plan for it.

5-10 years: AV fleets fan out

How we expect technology to develop

As AV technology matures, **TNCs and freight companies will begin to phase out human drivers.** This will enable TNCs to cut the cost of trips, potentially making TNCs a viable option for trips to work, the grocery store, and other daily destinations—not only in Portland, but also in communities like Hillsboro, Oregon City, and Gresham. And it likely won't just be Uber and Lyft serving these communities; many traditional automakers, AV technology firms, and car share companies are planning to launch TNC service when AVs arrive.[4] Autonomous transit vehicles should also become available, potentially lowering the cost of providing transit, particularly in areas that are challenging to serve with fixed routes.

We'll use the curbside differently. In addition to parking and bike lanes, the curbside will host increasing numbers of TNC drop-offs, and potentially also more EV charging, microtransit boardings, and new models of freight delivery.

How it could impact our goals

Congestion: In the nearer term, more TNC service likely means more congestion for the region. Researchers have found that TNCs increase vehicle miles traveled and focus on serving areas that are already congested. If AVs enable TNCs to more efficiently provide shared trips, it could help with congestion, and eventually, AVs should streamline traffic because they will be able to platoon and travel at higher speeds. However, the benefits of AVs on congestion will be muted as long as they are in mixed traffic with human drivers.

Prosperity: Close to 30,000 people, or 2.5 percent of workers in the region, drive vehicles for a living, and thousands more drive part-time for TNCs to supplement their incomes. These people could see their jobs threatened by automation. The transportation sector has long offered family-wage job opportunities to people who lack advanced educations, and TNCs have become a way for people who do not have full time employment to make ends meet, so these job losses will mainly impact lower-income households. Also, advances in freight delivery are likely to benefit national businesses and online retailers, making it harder for local businesses to compete. New mobility companies will bring some new jobs to the region, but mostly for skilled workers, and there are unlikely to be enough of these new opportunities to compensate for lost transportation jobs.

The impacts on **transportation choices**, **equity**, and **accountability** discussed in the previous section will also continue apace during this time frame, with some additional nuances. Autonomous transit could provide more flexible, efficient and affordable service, but if TNCs have a head start in deploying AVs it may be hard for transit to recapture riders. AVs could improve travel options for youth, older adults, and others who cannot drive. And the reduced cost of automated TNC trips could make TNCs a more viable option for low-income travelers. However, it seems likely that without significant effort to expand physical, financial, linguistic, and digital access many people will continue to be unable to access new mobility services.

Will the future be shared—and is that a good thing?

"Shared mobility" describes new services that allow people to share a vehicle, such as TNCs, car and bike share, and microtransit, as well as traditional shared modes like transit, car- or vanpools, and taxis. Over time, technology-enabled shared travel could become the norm, which could give people more options that cost less and reduce congestion, but we can't take that for granted.

The number of shared mobility start-ups that have gone under or operate at a loss should give pause to anyone placing all bets on a shared future. Even if shared mobility does prevail, it may not help us achieve our goals, because not all shared modes save people money and decrease traffic. If we want to see shared mobility benefit our region, we need to be specific about the type of sharing that we want to see, and take action to encourage it.

How the region can prepare

- Create programs to help affected transportation workers transition to new jobs
- Continue to develop pilot projects and partnerships with new mobility companies.
- Redesign and manage curb space to reduce conflicts and congestion, prioritize shared trips, and maintain safety, especially for bicyclists and pedestrians
- Price vehicle travel to manage congestion and encourage shared trips.

10-20 years: the AV tipping point

How technology could develop

Sometime in the next two decades we will likely reach the point when **the majority of new vehicles sold—and a significant portion of all vehicles on the road—are automated and electric**. If vehicles use common communications protocols, it will open up new possibilities for using connected vehicle infrastructure to manage the transportation system. Groups of AVs traveling side-by-side will be able to platoon, taking up less space on the roadway.

TNCs and freight could be entirely automated. **We could see TNC service peak** as companies fully deploy AVs and prices drop to the point that **significant numbers of people start to buy AVs for personal use**. Driving will become much more convenient, because people will be able to work, shop, or rest in their cars, and it may be possible to

Will AVs be shared or owned?

Experts describe two potential future scenarios for AVs, one in which they are operated in shared fleets and one in which they are individually owned. Shared AVs would likely mean fewer vehicle miles traveled, less congestion, a richer variety of travel options, and more space for people instead of vehicles. The fact that TNCs will start using AVs at scale years ahead of when they become affordable for most people increases the likelihood of the shared scenario, but it may be hard to provide shared service in more suburban or rural areas where homes and destinations are farther apart, as well as reverse 90 years of car ownership culture. The policies that we have in place could make a significant different in setting us on a path toward a shared future that better supports our regional goals.

dispatch an empty vehicle to run errands, pick up family members or someone who wants to rent the vehicle, or circle the streets instead of parking.

EVs will become as affordable as gasoline-powered vehicles as the cost of making the batteries that power EVs falls. We may need more publicly-available EV charging to accommodate this growth, but if the range that EVs can cover on a single charge increases most EV charging needs could be met at home, work, or wherever shared fleets are headquartered.

How it could impact our goals

Communities: In regional centers, which will see the highest use of shared mobility services, we could see much less demand for parking. This could make it possible to redesign streets that have on-street parking, creating more space for people, as well create new opportunities for development on now-vacant parking lots. It could also spur new development by saving developers money on building parking spaces.

Congestion: It is unclear whether congestion will increase or decline during this phase. On one hand, having more AVs on the road will likely mean that traffic moves more efficiently. On the other, by making it more convenient to drive and making it possible for vehicles to travel without passenger, AVs will likely increase vehicle miles traveled by anywhere from 3 to 68 percent,[5] further straining the region's roads, many of which are already at capacity.

Environment: Similar to congestion, transportation-related pollution and GHG emissions could go up or down during this phase. Vehicles will emit much less pollution per mile, but they will travel more. The significant increase in electricity demand due to electric vehicles—which could grow to 300 times what it is today globally[6]—may require the construction of new dams or the use of other, dirtier sources of energy.

Safety: Safety will likely improve once there are significant numbers of AVs on the road. Automation will eliminate human error in driving, which is responsible for the vast majority of crashes,[7] and even while AVs are in the minority we will see significant benefits. However, the growth in new uses of the curb zone may increase crashes in congested areas.

Transportation revenues: Revenues from two major sources of transportation funding—the gas tax and parking fees—will fall dramatically during this period. Drivers of electric vehicles will pay no gas tax, and even those who drive the next generation of more efficient gasoline-powered vehicles will pay less. Meanwhile, if AV drivers are shared or if drivers are allowed to send their private AVs on a cruise instead of parking them, local governments might not collect any parking fees.

Prosperity: Any decrease in congestion would be a boon for productivity, since many workers will be able to spend more time working and less time in traffic. Even if there is more congestion, AVs will turn the commute into working time for people with office jobs. However, those whose jobs require them to be at a specific location, such as construction workers, healthcare professionals, and teachers, may not be able to work in their AVs, and their productivity may even suffer if congestion increases.

How the region can prepare

- Price travel and develop new revenue sources to fund construction and maintenance of the transportation system
- Develop policies, design communities, and price travel to encourage shared travel and discourage vehicle ownership
- Reduce parking requirements and redesign streets in urban areas

20-40 years: the region, reshaped

How technology is likely to develop

Even according to the most conservative projections, the **majority of travel will be in AVs by 2050**, and **the majority of vehicles on the road will be AVs by 2060**. These changes could come much sooner, particularly if AVs are shared. Platooning and high-speed AV travel could become the norm on our streets, which could be transformed, with fewer, narrower lanes and no traffic signals. The need for parking spaces—already disappearing in urban areas—could also diminish in the suburbs.

How it could impact our goals

Communities: Since cars will need less space on the roadway, and may not need to park at all, we will have more space for people throughout the metro that can be converted to housing, parks, and trails, helping us create thriving centers and neighborhoods—assuming we can find new sources of transportation funding to help us retrofit our streets. However, many of the people who are now able to work while commuting could decide to live further out at the edges of the region, or even travel to Portland-area jobs from areas that are now rural. This could create more development pressure on farmland and natural areas and siphon growth away from now-vibrant communities.

Many of the impacts discussed in the above section will gain force during this period. **Safety** will likely improve for all, those who can work while commuting in their AVs will **prosper**, and **transportation revenues** will continue to dwindle. Advancing technology

will help to reduce **congestion** and benefit the **environment**, but it might not be enough to achieve our goals if AVs trigger sprawl on a scale we haven't seen before.

How the region can prepare

- Develop new land use policies to discourage sprawl and maintain vibrant communities in regional centers
- Reduce parking requirements and redesign streets throughout the region

APPENDIX 2: ASSESSING THE IMPACTS OF EMERGING TECHNOLOGIES

Automated and connected vehicles (AVs)

Automated vehicles use sensors and advanced control systems to operate independently of any input from a human driver, and connected vehicles communicate with each other or with infrastructure like traffic signals and incident management systems. Until recently, automated and connected vehicles were developing independently of each other, but it seems increasingly likely that vehicles in the near future will include both automated and connected elements, and here we use "AVs" to describe both technologies. Transportation experts have developed a five-level system to distinguish between different levels of automation;[8] in this plan we focus on Level 4 or 5 AVs, which can operate independently under most or all conditions.

Status: AVs are not available for purchase yet, but they are being pilot tested in a number of cities. The first consumer-ready models are expected to hit the streets within two years,[9] at a cost that is significantly higher than the cost of a conventional vehicle. Both the U.S. legislature and the State of Oregon are developing policies and regulations around the testing and deployment of AVs. The first generation of passenger AVs are likely to be operated in shared fleets, both by Uber and Lyft and by other operators that are poised to enter the market with the introduction of AVs,[10] because the money that these companies will save on driver labor will offset the additional cost of an AV. For similar reasons, freight companies will also likely be early deployers of AVs. The first AVs will mostly be electric vehicles; for engineering, economic, and environmental reasons nearly every model of AV currently runs on electricity.[11] Sales of AVs will likely outpace sales of non-automated vehicles in 15 to 20 years, and the number of miles traveled in AVs will likely outnumber miles traveled in conventional vehicles within 30 to 40 years.[12]

Public sector influence: Federal and state agencies intend to regulate the testing, safety, and deployment of AVs, but it remains to be seen whether local and regional agencies will have enough oversight to ensure that AVs meet their policy goals. Draft federal AV legislation could pre-empt local governments from managing how AVs operate on their streets,[13] and few of the Portland region's local governments have adopted policies regarding TNCs, which are likely to be the first to deploy AVs.

Promise and peril: AVs will likely have sweeping impacts on the region—both for the better and for the worse. It seems likely that they will create a safer transportation system, but also lead to much greater vehicle use and eliminate jobs. The impacts of AVs on land use, equity, and the environment could be either positive or negative, and we need to start planning today to set the region on a positive course.

Goal	Promise	Peril
Vibrant communities	If shared, AVs could free up vehicle lanes and space currently devoted to parking to create space for people.	If AVs make driving more convenient, people are likely to move further from regional centers. If AVs are allowed to operate at higher speeds on local streets, it could create mini-highways bisecting communities.

Goal	Promise	Peril
Prosperity	Local companies are poised to play a role in deploying AVs.[14] Innovative approaches to AV technology could attract new companies and investment.	Many other metro areas are competing with the Portland Region as technology innovators, and automation will likely eliminate jobs in the transportation sector.
Choices	AVs create opportunities to expand the reach of transit and make carpooling convenient.	It seems likely that by making driving more convenient, AVs will reduce transit ridership,[15] which could in turn lead agencies to eliminate service.
Congestion	AVs will be able to safely follow other vehicles more closely and choose lanes more efficiently, cutting congestion and increasing travel speeds.[16] AVs could enable transit service in areas that are currently not cost-effective to serve.	AVs are likely to increase VMT by making driving more convenient, traveling empty miles to run errands or pick people up, and enabling people who don't drive to travel by car,[17] which could offset their operational benefits.
Safety	AVs are likely to eliminate human error in driving, which is responsible for the vast majority of crashes.[18]	
Environment	The majority of AVs will likely be electric.	By increasing VMT, AVs could lead to growth in emissions even as cars become cleaner. AV-induced sprawl could increase development pressure on farmlands and natural areas
Equity	AVs will likely improve transportation access for those who are unable to or choose not to drive.	Shared-fleet AVs will involve many of the same barriers to equitable access as TNCs and other shared mobility services currently do, and by expanding the reach of these services they could exacerbate inequity. Meanwhile, individually-owned AVs will be more expensive than conventional vehicles.
Accountability	AVs will collect rich data that can be used to monitor, manage, and plan the system.	Federal legislation may prevent local and regional agencies from accessing AV data. AVs are likely to be managed by TNCs, which have avoided sharing data with public agencies.

Connected vehicle (CV) infrastructure

Connected vehicle infrastructure communicates information to CVs in order to help them navigate the transportation system safely and efficiently. It can include traffic signals, incident management systems, sensors, and monitoring systems, as well as the communications infrastructure needed to transmit increasing amounts of data to and from the roadside environment.

Status: Some public agencies and automakers are already using or testing CV infrastructure, but most work in this area is still in the conceptual phase. Going back ovFor over a decade, several cities have used transit signal priority, an early form of CV infrastructure where traffic signals sense approaching buses and modify signal timing in order to move them quickly through intersections. One of the early commercially-available applications in passenger vehicles is in certain Audi models, which sense when a traffic light is red and display the number of seconds remaining until it turns green.[19] FHWA has also been piloting CV infrastructure and devices in three different areas of the U.S. to improve safety and reduce congestion.[20] However, it is not clear whether or how the vehicles of the future will communicate with the roadside and with each other. The federal government recently withdrew a rulemaking process that would have required auto manufacturers to outfit all new models with similar communication equipment so that they could talk with each other and with roadside infrastructure.[21]

Public sector influence: Public agencies have authority over most infrastructure decisions, including installations of CV infrastructure, but until there are consistent standards for how vehicles communicate it will be hard to identify worthwhile large-scale CV projects. Between now and then, there are still more limited ways that public agencies can prepare for CVs, such as increasing data connectivity to and from the roadside in preparation for the CV era, developing policies on the use of CV infrastructure data to ensure that this data is used in a way that benefits the public, and piloting CV applications in transit vehicles, agency fleets, or in collaboration with private fleets.

Promise and peril: Public agencies will be able to manage the transportation system more efficiently, effectively, and safely if we can communicate with vehicles and they communicate with each other. However, it can be challenging to make sure that CV infrastructure investments are worthwhile given the uncertainly around how technology is developing. We also need to make sure that these investments benefit everyone, not just CV drivers.

Goal	Promise	Peril
Choices	There are early opportunities to use CV technology to make transit more efficient and reliable.	
Congestion	CV technology could allow public agencies to active manage the transportation system, rerouting traffic on the fly to avoid congestion and crashes.	

Goal	Promise	Peril
Safety	CVs, whether they have a human driver or are automated, are likely to be safer.[22]	
Accountability	CVs capture data that can be used to operate and monitor the performance of the transportation system more efficiently and thoroughly.	Cars might not provide us with the information that we need to know whether CV infrastructure is helping to meet our goals.

Electric vehicles (EVs)

Electric vehicles (EVs) use electric motors for propulsion instead of or in addition to gasoline motors.

Status: Automakers have been offering EVs for over a decade. In Oregon, as in the rest of the country, only a small share—roughly 100,000 of the 3.1 million passenger vehicles—are EVs.[23] However, EV sales are expected to increase dramatically in the coming years due to falling manufacturing costs, rising global demand, and state policies encouraging EV adoption.[24] According to more ambitious projections, EVs could cost the same as conventional vehicles by 2025 and outpace conventional vehicle sales by 2038.[25] If AVs rapidly take over the transportation system it could accelerate the growth in EV usage since almost all AVs available today are EVs.[26]

Public sector influence: State agencies, including in Oregon, have actively worked to increase the number of EVs on the road. Oregon has adopted emission standards that are stricter than the national standards and require manufacturers to offer more efficient vehicles, potentially including EVs, as well as a zero emissions vehicle mandate that effectively requires that a certain percentage of all vehicles sold be EVs.[27] The state also offers a $2,500 rebate on EV purchases, with an additional $2,500 for low- and moderate-income drivers who trade in an older car when making their purchase.[28] However, local and regional agencies have typically focused on providing public charging, amending codes to require new developments to provide chargers or electrical capacity in parking areas, and outreach. Given that these strategies don't address the primary reasons consumers don't buy EVs—their high cost or the lack of an electric model for many types of vehicles[29]—that most charging occurs at home and at work,[30] and that the pace of new development is relatively slow, it is hard to argue that these actions have a significant impact over EV adoption.

Promise and peril: Electric vehicles are better for the environment and for public health, but since EVs consume less gas we will need to find another way to finance the transportation system besides the gas tax.

Goal	Promise	Peril
Environment	EVs produce fewer emissions than gasoline-powered vehicles.	
Health	EVs emit fewer health-damaging criteria air pollutants	
Equity	Long-term savings on gasoline and maintenance mean that many EVs cost less to own overall than comparable gasoline powered cars—especially given federal and state rebates.	The higher up-front costs of an EV make it hard for low-income people to realize these long-term savings. The most affordable cars available are used, and used EVs are usually significantly more expensive than AVs.
Fiscal stewardship		EV owners buy less gas, and the gas tax is our main source of transportation revenue. It will be necessary to rethink how we fund transportation projects as vehicles get more efficient.

Transportation network companies (TNCs)

Transportation network companies (TNCs) use apps and websites to connect passengers with drivers who provide rides in their personal vehicles.

Status: TNCs are already changing the way that we travel in the Portland region. TNCs provided over ten million rides in the city of Portland in 2017,[31] carrying more people than taxis did,[32] and people in other areas of the region regularly use TNCs for weekend trips and trips to the airport. Two companies, Uber and Lyft, dominate the US TNC market and are the only TNCs serving our region today. However, several other companies are poised to begin operating TNC service in the near future.[33]

Public sector influence: TNCs have maintained that they are not transportation companies, but rather technology services, because they provide a platform that connects riders to drivers and do not operate vehicles. According to this line of thinking, TNCs are not subject to the same regulations as taxis and other transportation services, because they are not directly responsible for passengers' safety or mobility. However, several U.S. cities, counties, and states have challenged this argument and adopted TNC ordinances,[34] and courts in the European Union recently rejected it outright. Unlike neighboring states,[35] the State of Oregon does not currently have any laws in place regulating TNCs, and in our region only the City and Port of Portland currently have TNC regulations in place.[36]

Promise and peril: TNCs have significant long-term potential to expand transportation choices in suburban areas, increase carpooling, and reduce VMT and car ownership. However, the evidence to date finds that TNCs are increasing vehicle travel, competing with public transportation, and providing inequitable service.

Goal	Promise	Peril
Prosperity	TNCs provide flexible opportunities for drivers to earn extra money.	TNC jobs do not offer security or benefits. TNCs have moved to cut drivers' pay,[37] and drivers' jobs will likely be eliminated as AVs are deployed.
Choices	TNCs offer a new way to travel, and have plans to launch carpooling services in the region. Some transit agencies are subsidizing TNC rides to transit stops in order to boost ridership.[38]	TNCs generally focus on serving areas that already enjoy a variety of transportation choices, and attract riders away from transit.[39]
Congestion	Over time, TNCs could help to reduce VMT by facilitating carpooling and allowing people to own fewer cars. In the future, shared management of AVs by TNCs would help to reduce congestion.	TNCs likely increase VMT because they draw people away from transit, travel extra to pick riders up, and enable people to take trips they wouldn't otherwise take[40]—particularly in areas that are already congested.[41] In San Francisco, TNCs accounted for two thirds of congestion-related traffic violations downtown over a three-month period.[42]

Goal	Promise	Peril
Safety		In Portland and other cities, TNCs frequently violate safety requirements and traffic laws.[43] There have been instances of TNCs allowing drivers cited for DUIs to continue driving in spite of zero-tolerance policies.[44]
Equity	In Portland, TNCs face minimum requirements for service equity and disabled access. As AVs lower the cost of service, TNCs could improve transportation choices in HMCs.	TNCs appear to offer worse service to communities of color,[45] and lower-income people are less likely to use TNCs.[46] In spite of efforts to increase access, few TNC vehicles are wheelchair accessible.[47] People who are unbanked, undocumented, limited English proficiency, or lack access to the Internet also face barriers in accessing TNCs.
Accountability		In many cities, TNCs have actively worked to avoid regulators[48] or have failed to enforce regulations.[49]

Microtransit

Microtransit refers to privately-operated transit services that use smart phones to allow riders to book trips and collect data to tailor routes that meet riders' needs, and that typically serve these routes with vehicles that are smaller than conventional buses but larger than passenger vehicles.

Status: There are several microtransit services operating in major cities across the U.S., though none are currently serving our region. Some services, such as Chariot and Leap in San Francisco, essentially offer luxury alternatives to transit, operating along crowded bus lines charging higher fares for guaranteed seats, wi-fi, and other amenities.[50] Others focus on serving areas or high-demand routes that are currently not well-served by transit, such as Via's pilot service in West Sacramento[51] and Bridj's now-defunct service in Cambridge, which may or may not offer luxury service. It remains to be seen whether microtransit is a viable business model, and a number of services have already failed.[52] Riders are satisfied, but microtransit faces competition from both transit and from TNCs, and it is challenging to operate any transit service at a profit, especially when regulations are in place.[53]

Public sector influence: Many cities and states regulate microtransit, licensing services, conducting safety inspections, or requiring disabled access. Some agencies are also funding microtransit pilots in areas that are underserved by transit.[54]

Promise and peril: The benefits of microtransit depend on the service model. Services that offer luxury alternatives to conventional transit would do little to support our goals, but microtransit that provides first- and last-leg connections or serve areas that are hard to serve with conventional transit—which would likely require public collaboration—could be beneficial.

Goal	Promise	Peril
Choices	Because microtransit offers more flexible service, it could bring new choices to areas that are hard to serve with transit, including providing connections to transit stations that boost ridership.	Microtransit services that operate as luxury alternatives to public buses likely attract users away from transit.
Congestion	Microtransit facilitates shared trips among people who would likely otherwise drive.	
Equity	Some microtransit pilots offer phone-based bookings for people that do not have access to apps or the internet.	Most microtransit serves high-income neighborhoods and employment areas at a premium. People who are unbanked, disabled, undocumented, limited English proficiency, or lack access to the Internet also typically face barriers in accessing microtransit.
Fiscal stewardship	Microtransit could provide better service at lower cost in areas with underperforming transit.	Luxury microtransit attracts choice riders away from transit, diminishing revenues

Goal	Promise	Peril
Accountability	There are many models for how to regulate microtransit, and some companies actively share data and collaborate with public agencies.	Many of the jurisdictions where microtransit could provide benefits do not have any regulations in place.

Car share

Car share services allow people to rent a nearby vehicle for short trips and pay only for the time that they use.

Status: Car share has been around for nearly two decades. Today, several different companies are active in the Portland region, operating over 1,000 vehicles and offering different service models.[55] These include:

- Stationary car share (ZipCar, in some cases ReachNow), under which cars are kept at fixed stations, and users typically pick up cars from and return them to the same station. Compared to other models, stationary sharing is better-suited for suburban areas, longer trips, and errands (since a wider variety of vehicle types are available). Stationary car share is currently available throughout Portland's central neighborhoods and Beaverton, Hillsboro, Clackamas Town Center, and the PCC Sylvania campus.[56]
- Free-floating car share (Car2Go, ReachNow), which allows people to pick up and drop off cars anywhere within a defined service area. Free-floating car share allows for more flexible travel than stationary car share, and typically offers only compact cars. It is used mainly for short one-way trips in urban areas, and within the region free-floating carsharing is currently only available in Portland's central neighborhoods.[57]
- Peer-to-peer car share (Getaround, Turo), which enables people to rent cars from their neighbors on a short-term basis through services that provide insurance, enable payment, and manage booking and access. Peer-to-peer services are available in Portland, and used primarily for round trips and daily rentals.

Rapid change makes it hard to anticipate what car share will look like in ten years. Stationary car share, which a decade ago was the only type of car share available, is now facing strong competition from free-floating car share, and both of those models are threatened by the continued growth of TNCs.

Public sector influence: Public agencies have a fair amount of influence over most car share services. Stationary car share often requires space in the right of way or in public parking lots. Free-floating car share typically operates in areas where parking is at a premium, and relies on cities waiving parking fees or restrictions for shared vehicles.

Promise and peril: Research has found that car share users typically drive less and own fewer cars. However, since disadvantaged communities often lack access to car share, not everyone shares in these benefits.

Goal	Promise	Peril
Vibrant communities	Car share members own fewer cars, potentially reducing the space needed for parking in areas where car share is available.[58]	
Choices	Car share provides residents with a new transportation choice.	

Goal	Promise	Peril
Congestion	Stationary car share users, and to a lesser extent, free-floating car share users, drive fewer miles overall.[59]	
Environment	Car share vehicles are more fuel efficient than the average vehicle.[60]	
Equity	Car share can offer an affordable alternative to car ownership.	Car share services are focused on central neighborhoods that tend to be whiter and higher-income.[61] People who are unbanked, disabled, undocumented, limited English proficiency, or lack access to the Internet also face barriers in accessing car share.
Accountability	In many cases, car share services openly collaborate with public agencies in exchange for space or waived parking regulations.	

Bike share

Bike share systems make fleets of bicycles available for short-term rental within a defined service area.

Status: Over the past decade, cities around the world have created bike share systems. The City Portland launched its system, BIKETOWN, in 2016. BIKETOWN serves Portland's central neighborhoods[62] with a fleet of 1,000 bikes, and riders logged over 300,000 trips in its first year.[63] As with car share (see above), early bike share systems required users to pick up and leave bikes at designated stations, while modern systems are more likely to be free-floating or "dockless", which offers users more flexibility. Some systems are also offering or exploring adaptive bikes[64] for disabled riders or electric bikes[65] and scooters[66] that make longer trips easier. BIKETOWN is a hybrid system; bikes are usually kept at stations but users can pay an extra fee to leave a bike at another location in the service area.

Public sector influence: In most cases, a city enters into an exclusive agreement with a private operator to run its bike share system, and maintains oversight to make sure that the system is safe, equitable, and meet community members' needs—particularly in the case of station-based bike share systems, where public agencies play a large role in planning and designating space for stations. However, dockless bike share has the potential to undermine this sole provider model. Companies like Ofo, Limebike, and Spin operate dockless systems in Seattle, Washington D.C., and other U.S. cities, often independently of public oversight, which has led to complaints about illegal parking, safety, and other issues.[67] Seattle has created a pilot program to permit dockless systems in an attempt to address some of these concerns,[68] but cities will likely continue to face a choice between opening the market and making bike share more widely available versus maintaining control over the system.

Promise and peril: Research has found that car share users typically drive less and own fewer cars. However, since disadvantaged communities often lack access to car share, not everyone shares in these benefits.

Goal	Promise	Peril
Choices	Bike share provides people with a new travel option. Even though BIKETOWN does not serve many residential neighborhoods, it provides people who work in central Portland another option for midday trips that they might otherwise need to drive for, and potentially enabling them to commute by transit instead of driving.	
Congestion	Bike share shifts trips away from driving.[69]	

Goal	Promise	Peril
Environment	Bike share provides a low-emissions alternative to driving, particularly electric bikes, which allow people to take longer trips.	
Health	Bike share promotes active transportation.	
Equity	Programs like BIKETOWN For All, which offer discounted memberships, rider training, and easy enrollment for low-income people,[70] can overcome some of the barriers that disadvantaged people face in using bike share.	Bike share system generally focuses on serving central neighborhoods that tend to be whiter and higher-income.[71] People who are unbanked, disabled, undocumented, limited English proficiency, or lack access to the Internet also face barriers in accessing car share.
Accountability	Traditional bike share systems are operated in partnership with public agencies.	A growing number of dockless bike share companies are designed to operate independently of any public oversight.

Traveler information and payment

Technology is enabling a slew of new ways for people to learn about and pay for their travel options online.

Status: Traveler information and payment have been around for as long as maps and coins, but the rise of the Internet and smart phones have created a slew of new ways for people to plan and pay for their trips. A growing and at times bewildering number of applications are available to help people compare different ways of getting around (moovel, Google Maps), get detailed information on their mode of choice (TransitApp, Ride Report, Waze), track and share their trips (Strava, MapMyWalk), and pay for trips (TriMet's Tickets app, Uber/Lyft). Some experts envision a future where all of these information streams are combined into a single app that enables people to seamlessly pick and pay for the best option for any trip, choosing from a variety of convenient shared and active options instead of relying on a personal vehicle. This concept, known as mobility as a service (MaaS), is being tested in Europe,[72] but it faces significant barriers to deployment in our region, including agencies that lack digital data on transit service and the bike/ped network and the two major TNCs' reticence to show comparative information on travel times and costs.

Public sector influence: Initially, the challenge for public agencies was in making their data available online, and many agencies created their own travel information websites and apps. With the growing number of third-party websites and apps, including many that are more widely used than agency-owned options, the challenge now lies in making sure that the information available is presented in a way that supports positive outcomes. For example, some driver information apps direct drivers through school zones to avoid congested routes, and some transit apps display information alongside TNC advertisements, potentially diverting riders away from transit. At the same time, the popularity of third-party apps means that it is seldom worthwhile for public agencies to develop their own platforms for the sake of controlling how information is presented. Public agencies have had limited success influencing how third-party apps present information, and some are considering placing conditions on third-party usage of public data.

Promise and peril: Making more information available on transportation choices supports our regional goals—if that information is presented in the right way and made available to all.

Goal	Promise	Peril
Choices	Better travel information makes people more aware of their choices, and competitive information and payment could help people break the habit of driving alone.	Third-party sites may direct people toward privately-operated services that pay for advertising and away from transit and active transportation.

Goal	Promise	Peril
Equity	A MaaS system would enable public agencies to offer flexible subsidies to low-income and transit-dependent travelers that they could use to pick the mode that works best for them.	Disadvantaged people frequently lack access to apps, data plans, and the Internet. Without additional investment in digital access, these groups will not benefit from enhanced travel information.
Accountability		Third-party apps sometimes use and present public data in ways that don't support our goals.

ENDNOTES

[1] The draft federal legislation governing AVs allows for each manufacturer to deploy 50,000 AVs that are exempt from safety standards in its first year of making AVs, rising to 100,000 AVs in the third year. https://www.congress.gov/bill/115th-congress/senate-bill/1885/text

[2] https://www.nytimes.com/2018/03/23/technology/uber-self-driving-cars-arizona.html

[3] https://www.usatoday.com/story/money/cars/2016/09/19/why-most-self-driving-cars-electric/90614734/

[4] Ibid.

[5] http://www.fehrandpeers.com/autonomous-vehicle-research/

[6] https://www.bloomberg.com/news/articles/2017-07-06/the-electric-car-revolution-is-accelerating

[7] https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety

[8] https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety

[9] https://www.wired.com/story/gm-cruise-self-driving-car-launch-2019/

[10] https://www.redchalk.com/industry/automotive/shifting-gear-future-scenarios-autonomous-vehicle-development/

[11] https://www.usatoday.com/story/money/cars/2016/09/19/why-most-self-driving-cars-electric/90614734/.

[12] http://library.rpa.org/pdf/RPA-New-Mobility-Autonomous-Vehicles-and-the-Region.pdf, p. 16-17; https://www.vtpi.org/avip.pdf, Table 7.

[13] https://nacto.org/2017/10/03/senate-fails-to-address-concerns-of-cities-in-av-bill/

[14] https://newsroom.intel.com/news/intel-mobileye-integration-plans-build-fleet-autonomous-test-cars/

[15] http://www.fehrandpeers.com/fpthink/nextgenerationvehicles/ (Looking for the white paper in which they discuss transit impacts; may need to pester F+P to repost/provide for citation.)

[16] http://www.fehrandpeers.com/av-simulation-research/

[17] http://www.fehrandpeers.com/wp-content/uploads/2017/03/CNU-Article-Autonomous-Rapid-Transit.pdf

[18] https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety

[19] https://www.theverge.com/2016/12/12/13923254/audi-v2i-las-vegas-test-drive-traffic-signals

[20] https://www.its.dot.gov/pilots/index.htm

[21] https://apnews.com/9a605019eeba4ad2934741091105de42

[22] https://www.its.dot.gov/cv_basics/cv_basics_20qs.htm

[23] http://www.oregon.gov/ODOT/DMV/Pages/News/factsstats.aspx; http://blog.caranddriver.com/oregon-adds-rebate-for-electric-vehicles-and-tax-on-bicycles/

[24] https://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf, p. 98

[25] https://www.bloomberg.com/news/articles/2017-07-06/the-electric-car-revolution-is-accelerating

[26] https://www.usatoday.com/story/money/cars/2016/09/19/why-most-self-driving-cars-electric/90614734/

[27] http://www.autonews.com/article/20160627/OEM11/306279987/zev-mandates-get-harder-to-ignore

[28] https://forthmobility.org/news/HB2017

[29] https://www.nrel.gov/docs/fy16osti/65279.pdf

[30] http://www.seattle.gov/Documents/Departments/OSE/FINAL%20REPORT_Removing%20Barriers%20to%20EV%20Adoption_TO%20POST.pdf

[31] Conversations with Portland Bureau of Transportation staff.

[32] http://www.oregonlive.com/commuting/index.ssf/2015/10/uber_lyft_now_dominate_portlan.html

[33] These include carsharing companies such as ReachNow (operated by BMW; https://www.geekwire.com/2016/bmw-launch-uber-lyft-competitor-seattle-launches-reachnow-car-sharing-brooklyn/), autonomous vehicle manufacturers like Waymo (https://www.cnbc.com/2017/10/03/alphabet-waymo-self-driving-car-service-fall.html), and automakers , including General Motors (https://www.theverge.com/2016/1/21/10802240/gm-maven-car-sharing-service-price-launch-date-michigan). The rapid growth of new TNC options that Austin, TX saw when Uber and Lyft stopped service (https://www.bizjournals.com/austin/news/2016/06/07/the-complete-field-guide-to-austins-ridesharing.html) also illustrates how quickly TNC services can multiply.

[34] For examples from Washington State, see http://mrsc.org/Home/Stay-Informed/MRSC-Insight/September-2016/Regulating-Rideshare-Companies-Like-Uber-and-Lyft.aspx.

[35] Washington has insurance requirements for TNCs (http://mrsc.org/Home/Stay-Informed/MRSC-Insight/September-2016/Regulating-Rideshare-Companies-Like-Uber-and-Lyft.aspx), and in California the Public Utilities Commission is responsible for licensing TNCs, and has adopted rules and regulations related to drivers, vehicles, drug policy, insurance, data reporting, fares, and wheelchair accessibility.

[36] See the Portland City Code beginning at §16.40.200 (https://www.portlandoregon.gov/citycode/?c=28593). The City of Portland's regulations cover permit applications and fees, vehicle and driver certification, company and vehicle operations, wheelchair accessibility, and insurance; riders pay a 50 cent per ride fee that supports enforcement and accessible service. The Port's regulations are similar except that there is an additional $2.00 fee.

[37] https://thedriverscollectivepdx.com/tnc-rate-info/

[38] For example, see https://www.psta.net/about-psta/press-releases/2016/psta-expands-transit-partnership-with-uber-lyft-across-pinellas-county/ (there are others we can cite too)

[39] http://usa.streetsblog.org/wp-content/uploads/sites/5/2017/10/2017_UCD-ITS-RR-17-07.pdf

[40] http://usa.streetsblog.org/wp-content/uploads/sites/5/2017/10/2017_UCD-ITS-RR-17-07.pdf, http://www.schallerconsult.com/rideservices/unsustainable.pdf

[41] http://www.sfcta.org/tncstoday

[42] http://www.sfexaminer.com/sfpd-uber-lyft-account-two-thirds-congestion-related-traffic-violations-downtown/

[43] Ibid and https://www.portlandoregon.gov/saltzman/article/637492; according to data from the City of Portland 35% of TNC audits revealed at least one violation, and the majority of violations were for safety-related issues, such as failing to carry adequate insurance or a hands-free device.

[44] http://www.cnbc.com/2017/04/13/uber-may-face-1-million-dollar-fine-over-california-drunken-driving-complaints.html.

[45] https://www.portlandoregon.gov/saltzman/article/637492 https://www.washingtonpost.com/news/wonk/wp/2016/03/10/uber-seems-to-offer-better-service-in-areas-with-more-white-people-that-raises-some-tough-questions/?utm_term=.2d881b8cfe5b

[46] http://www.trb.org/TCRP/Blurbs/174653.aspx.

[47] http://www.oregonlive.com/commuting/index.ssf/2015/10/uber_lyft_now_dominate_portlan.html / Greyball report

[48] https://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html

[49] http://www.cnbc.com/2017/04/13/uber-may-face-1-million-dollar-fine-over-california-drunken-driving-complaints.html

[50] https://www.citylab.com/transportation/2015/04/how-the-microtransit-movement-is-changing-urban-mobility/391565/

[51] http://www.sacbee.com/news/local/article183340381.html

[52] https://www.citylab.com/transportation/2017/11/dont-believe-the-microtransit-hype/545033/

[53] http://www.fehrandpeers.com/microtransit/

[54] http://www.arlington-tx.gov/residents/via/, http://www.sacbee.com/news/local/article183340381.html

[55] For a more detailed summary of car share business models, see https://www2.deloitte.com/content/dam/Deloitte/de/Documents/consumer-industrial-products/CIP-Automotive-Car-Sharing-in-Europe.pdf

[56] Service areas come from the ZipCar website (http://www.zipcar.com/portland) and conversations with ReachNow, and are current as of November 2017.

[57] Service areas come from the car2go (https://www.car2go.com/US/en/portland/where/) and ReachNow (https://reachnow.com/en/portland-or/drive/) websites, and are current as of November 2017.

[58] For an evaluation of the impacts of stationary car share, see http://trrjournalonline.trb.org/doi/pdf/10.3141/1992-09 and http://innovativemobility.org/wp-content/uploads/2015/07/Zipcar_Corporate_Final_v6.pdf. For an evaluation of free-floating car share, see http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go_FiveCities_2016.pdf.

[59] Ibid.

[60] http://trrjournalonline.trb.org/doi/pdf/10.3141/1992-09.

[61] See service area maps for the different car share companies. Even peer-to-peer carsharing services, which do not provide any vehicles or physical infrastructure, sometimes redline disadvantaged communities; see http://www.opb.org/news/article/electric-car-sharing-low-income-housing/.

[62] https://www.biketownpdx.com/map

[63] Portland Bureau of Transportation. (2017, July 17). News Release: News Release: BIKETOWN celebrates first birthday with a week of prizes, Free Ride Day on Wednesday, July 19. Retrieved July 31, 2017, from https://content.govdelivery.com/accounts/ORPORTLAND/bulletins/1aaac54

[64] Both Portland and Detroit are exploring offering adaptive bike share bikes (http://betterbikeshare.org/2017/05/10/two-cities-explore-adaptive-bike-rentals-people-disabilities/).

[65] JUMP Mobility, operated by the same company that supplies BIKETOWN bikes, is now operating in San Francisco and Washington, DC (https://jumpmobility.com/).

[66] Scoot operates in San Francisco (https://scoot.co/).

[67] https://www.washingtonpost.com/news/dr-gridlock/wp/2017/10/05/abandoned-vandalized-and-illegally-parked-bike-share-bikes-now-a-d-c-problem/?utm_term=.90eaf6bf986a; https://nextcity.org/daily/entry/seattle-private-bike-share-experiment-stationless.

[68] https://www.seattle.gov/transportation/projects-and-programs/programs/bike-program/bike-share

[69] Ibid.

[70] https://www.biketownpdx.com/pricing/biketown-for-all.

[71] See service area maps for the different car share companies. Even peer-to-peer carsharing services, which do not provide any vehicles or physical infrastructure, sometimes redline disadvantaged communities; see http://www.opb.org/news/article/electric-car-sharing-low-income-housing/.

[72] http://maas.global/maas-as-a-concept/

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April 11, 2018

Memo

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

Date: Friday, April 20, 2018

To: Transportation Policy Alternatives Committee and Interested Parties

From: Grace Cho, Associate Transportation Planner
Ken Lobeck, Funding Programs Lead
Ted Leybold, Resource Development Manager

Subject: 2021-2024 MTIP – Financial Forecast

Purpose
Provide TPAC an overview on the near-term financial forecast for the 2021-2024 Metropolitan Transportation Improvement Program (MTIP).

Introduction and Background
At the beginning of each MTIP and STIP cycle, a financial forecast is developed to gather a sense of the financial outlook for the next four federal fiscal years. The development, discussions, and agreement on the financial outlook serves multiple purposes. These include:

1) Help demonstrate fiscal constraint over the course of the next four fiscal years and show the region is not over spending beyond what is expected to be available and can deliver the 4-year MTIP;
2) Frame a discussion of the priorities and tradeoffs in the allocation of funds by different fund administrators, including MPOs and State DOTs; and
3) Help to monitor project delivery, including the hiccups and other potential challenges to emerge in implementing the MTIP and expending of planned investments in a given year.

As part of Metro's responsibilities as a metropolitan planning organization, a financial forecast is to be developed as part of the course of development of the MTIP because of the important role the forecast plays in setting the funding stage. In previous MTIP cycles the forecast has centered on only one subset of funds: the regional flexible funds administered by the Metro, as the MPO. But in efforts to provide greater transparency and meet federal requirements as well as provide a fuller picture of the near-term financial outlook, this financial forecast provides a look across federal and relevant state-local funds being administered by ODOT and transit agency partners (TriMet and SMART).

2021-2024 MTIP – Financial Forecast Revenue Sources and Funding Programs
A short term financial forecast facilities the ability to have an understanding of what funding capacity and constraints are present when considering investments into the regional transportation system. However, transportation funding is complex and often involve a multitude of revenue sources and restrictions. To help provide context and insight to the different transportation revenue sources and the associated funding programs by agency type (i.e. federal, state, and local), which often these revenue sources help to seed. Attachment 1 provides a description of common revenue sources and funding programs by agency and type.

2021-2024 MTIP – Financial Forecast Assumptions and Challenges
As with any financial forecast, there are many assumptions which get built into the forecast. There are also a number of challenges in being able to look at revenues into the future across different federal funding programs to develop a near or even long-term financial outlook. Several of these challenges and assumptions are described in the following section.

Key Challenges in Creating the 2021-2024 MTIP Financial Forecast

The most significant challenge in developing a financial outlook for the upcoming four fiscal years is the ability to decipher between revenue streams into restricted funding programs into broad policy driven funding categories which are administered by different agencies. Some of the key challenges are summarized.

- In Oregon, most state and federal fund revenues were developed at the total state level and not the regional or MPO level, making the assignment and development of the near-term forecast challenging to estimate and break down at the regional level
- Funding to the regional level often addressed revenues by funding program, but not specific revenue fund type
- Many state funding categories (e.g. Fix-It) are a mix of funds from federal and state funding programs (e.g. HSIP) making it difficult to trace back historical amounts to build an estimate across different fund programs and broad funding categories.
- Assigning funding by funding program and by revenue fund type becomes difficult because funds get swapped in order to meet federal requirements pertaining to the timeframe to expend funds – and ultimately not lose federal funds.

Federal and State Revenue Assumptions:

For federal sources of funding, fiscal years 2021-2024 currently resides outside the timeframe of the adopted federal transportation reauthorization, Fixing America's Surface Transportation (FAST). Not have an adopted federal transportation reauthorization adds complexity to forecasting and estimating federal transportation revenues across the funding programs. As a result, financial forecast assumptions from the 2018 Regional Transportation Plan were used and where applicable. Additionally, year-by-year forecasted amounts also used present-day information available, such as the recent 2021-2024 STIP statewide funding program policy direction and in the case of transit, historical levels of formula funds. Additionally there were other assumptions applied to help break out the amount anticipated to come the Portland MPO region by fund type. These are listed below.

- Assumed all federal funding programs to date will be continued under the next federal reauthorization.
- Assumed Inflation Rate for the Majority of Federal Funds: 2.2% increase of funds per year, based on historical trends.
- ODOT assumed a 10% overall reduction of federal revenues which the state receives (but not for the MPO or Transit federal revenues).
- For discretionary grants, a separate section is shown with assumed year-by-year amounts of discretionary grants to come to the region based on the region's history within several of these programs to get awarded funds. Nonetheless, for the MTIP, these funds cannot be accounted for in the forecast because these funds have not been secured.
- Because estimates are only provided at the statewide level for several funding programs, Metro applied an allocation logic which assumed 31% of the available statewide funds would be disbursed to Region 1. Of the 31% disbursed to Region 1, a total of 81% would be in the MPO portion.
- For other funding programs which have an agreed upon and specified long range funding assumption (LFRA), the allocation was based on that assumption. These funding programs include:
    - Formula portion of the National Highway Freight Program
    - Planning funds – PL, SPR, and 5303
    - MPO funds – CMAQ, STBG, STBG set-aside

2021-2024 MTIP – Financial Forecast
Attachment 3. 2021 – 2024 Financial Forecast by Funding Program illustrates the forecasted amount available by each within each funding program, administering agency, and by general topic area (e.g. planning restricted funding, etc.).

A key element to the 2021-2024 MTIP financial forecast is the recognition that the near-term forecast is still an estimate of revenues to be available within the different funding programs by year. In practice with any MTIP, the forecast helps to gauge the amount of revenue available – it sets an approximate budget – and as transportation priorities get selected and programmed by phase (e.g. planning, preliminary engineer/design, right-of-way, and construction) and funding type (e.g. STBG, HSIP, etc.), the MTIP is able to track for fiscal constraint and balance spending relative to expected revenue.

Discussion Questions
1. Are there any questions, comments, or concerns regarding the assumptions or overall picture of the near-term forecast?

Next Steps
The following timeline has been provided to illustrate the next steps for the 2021-2024 MTIP financial forecast.

Timeline – 2021-2024 MTIP Financial Forecast

Activity	Timeframe
Approval/Acknowledgement of 2021-2024 MTIP Financial Forecast	
Presentation and overview of 2021-2024 MTIP financial forecast	April 20, 2018
Request TPAC recommendation to JPACT on 2021-2024 MTIP financial forecast	May 4, 2018
Presentation and request for acknowledgement at JPACT	May 17, 2018
Process for Allocation of Federal Funds	
ODOT 2022-2024 leverage program discussion of 150% fix-it lists at TPAC	April 20, 2018
TriMet annual budget process presentations and anticipated near-term capital expending of federal funds at TPAC	April 20, 2018
SMART annual budget process presentations and anticipated near-term capital expending of federal funds at TPAC	May 4, 2018
ODOT 2022-2024 leverage program discussion of 150% fix-it lists at TPAC (continued)	May 4, 2018
Transit annual budget process presentations and anticipated near-term capital expending of federal funds at JPACT	May 17, 2018
2022-2024 regional flexible fund policy discussion at TPAC	June/July 2018

Attachment 1. Federal and State Revenue Funding Programs

Table 1. Federal Revenue Funding Programs – Federal Highways Administration	Federal Revenue Funding Programs (FHWA)	
Fund and Administrator	**Description**	**Funding Related Notes**
Common Federal Revenue Funding Programs		
Surface Transportation Program (STBG) Funds – State allocation (includes STBG-TAP set-aside for state) (Formula)	Description: The Surface Transportation Block Grant (STBG) Program provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.	
Highway Bridge Program (Formula)	Description: Provides funding for replacement, rehabilitation and systematic preventive maintenance of the Nation's highway bridges.	Anticipated to be split among the three counties with approximately 80% to Multnomah County based on past history. Discounted into constant 2016 $s
Highway Safety Improvement Program (HSIP) (Formula)	Description: The program was established under SAFETEA-LU consolidating several safety-based highway programs and creating new safety programs designed to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Will be split between ODOT and local agencies based on a project benefit cost ratio. Discounted into constant 2016 $s
Rail-Highways Crossings	Description: The FAST Act continues the Railway-Highway Crossings program, which provides funds for safety improvements to reduce the number of fatalities, injuries, and crashes at public railway-highway grade crossings.	Intended for grade separation needs or other eligible improvements.
National Highway Freight Program (Formula)	Description: The FAST Act establishes a new National Highway Freight Program to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and support several freight related infrastructure improvement goals	
National Highway Performance Program (Formula)	Description: The FAST Act continues National Highway Performance Program which provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.	
Less Common Federal Revenue Funding Programs		
Emergency Relief	Description: The FAST Act continues the Emergency Relief program, which provides funds for emergency repairs and permanent repairs on Federal-aid highways and roads, tribal transportation facilities, and roads on Federal lands that the Secretary finds have suffered serious damage as a result of natural disasters or catastrophic failure from an external cause.	
Federal Lands Access Program	Description: Provides funds for projects on Federal Lands Access Transportation Facilities that are located on or adjacent to, or that provide access to Federal lands. Funding program is a competitive grant program.	No anticipated FLAP funds in the MPO area for FY 2021-2024. These funds are competitive and depending on a potential opportunity (e.g. Gorge Shuttle), funds may get included as the MTIP gets implemented.

Attachment 1. Federal and State Revenue Funding Programs

State Recreational Trails Program	Description: The FAST Act eliminates the MAP-21 State Recreational Trails Program and replaces it with an optional set-aside of Surface Transportation Block Grant (STBG) program funding for Recreational Trails Program. Set aside amount equal to the State portion of the Transportation Alternatives program. Program is at the discretion of the Governor to decide whether to continue State Recreational Trails Program.	
Competitive Discretionary Program		
Federal Miscellaneous (Discretionary grants e.g. TIGER, NHFP – Discretionary, FAST Lane, INFRA, ITS, etc.)	Description: Competitive discretionary programs with specific criteria for application and project eligibility. Discretionary programs cycles are driven by federal annual budget and transportation reauthorization. Funds from these discretionary programs are not guaranteed/	No secured discretionary funding identified starting in FY21 and beyond. These funds may be updated and included in the MTIP as the MTIP gets implemented.
Rural Area Specific Federal Revenue Funding Programs		
Clackamas County Surface Transportation Block Grant (STBG) Allocation	Description: Rural STBG allocated and administered by ODOT to Clackamas County.	ODOT LRFA funding recommendation for 2018 in YOE and then maintained in constant 2018 $s
Multnomah County Surface Transportation Block Grant (STBG) Allocation	Description: Rural STBG allocated and administered by ODOT to Multnomah County.	ODOT LRFA funding recommendation for 2018 in YOE and then maintained in constant 2018 $s
Washington County Surface Transportation Block Grant (STBG) Allocation	Description: Rural STBG allocated and administered by ODOT to Washington County.	ODOT LRFA funding recommendation for 2018 in YOE and then maintained in constant 2018 $s
Planning Specific Federal Revenue Funding Programs		
Metropolitan Planning (PL)	Description: The FAST Act continues the Metropolitan Planning program. The Program establishes a cooperative, continuous, and comprehensive framework for making transportation investment decisions in metropolitan areas. Program oversight is a joint Federal Highway Administration/Federal Transit Administration responsibility.	FY 2017 & 18 average allocation used for 2017 & 018 and then discounted into constant 2018 $
Statewide and Non Metropolitan Panning (SPR) (FHWA/FTA)	Description: The FAST Act continues the statewide and nonmetropolitan planning process, which establishes a cooperative, continuous, and comprehensive framework for making transportation investment decisions throughout the State. Oversight of this process is a joint responsibility of the Federal Highway Administration and the Federal Transit Administration.	Based on historical averages and then discounted into constant 2016 $s
MPO Specific Federal Revenue Programs		
Congestion Mitigation Air Quality (CMAQ) Improvement Funds – MPO allocation	Description: The FAST Act continued the CMAQ program to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).	ODOT Long Range Funding Assumptions (LRFA) workgroup recommendation at 2.2% annual growth from 2016-2018. Revised state wide formula amount in 2019 and then converted to 2018 constant dollars
Surface Transportation Program (STBG) Funds – MPO allocation	Description: The Surface Transportation Block Grant (STBG) Program provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.	ODOT Long Range Funding Assumptions (LRFA) workgroup recommendation at 2.2% annual growth from 2016-2018.

Attachment 1. Federal and State Revenue Funding Programs

Transportation Alternatives (TA-Metro)	Description: The FAST Act eliminates the MAP-21 Transportation Alternatives Program (TAP) and replaces it with a set-aside of Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). These set-aside funds include all projects and activities that were previously eligible under TAP, encompassing a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity	ODOT Long Range Funding Assumptions (LRFA) workgroup recommendation at 2.2% annual growth from 2016-2018.

Attachment 1. Federal and State Revenue Funding Programs

Table 2. Federal Revenue Funding Programs – Federal Transit Administration	Federal Revenue Funding Programs (FTA)	
Fund and Administrator	**Description**	**Notes**
Planning Specific Federal Revenue Funding Programs		
Section 5303 Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning – 5303 – Formula	Description: Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states. Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs reflecting transportation investment priorities.	Allocated to ODOT and then to Metro for transit UPWP planning purposes
Common Federal Revenue Funding Programs		
Section 5307 Urbanized Area Formula Grants	Description: Provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances.	Formula allocation to the UZA and split among TriMet, CTRAN, and SMART. CTRAN already removed. (Overall formula split among the three used was TriMet = 87%, CTRAN = 12%, and SMART = 1 %.) Funds combined with other formula funds include 5307, 5310, 5337, and 5339. Funds are discounted into 2016 $s. Note: FTA formula funds are sent to the UZA combined together.
Section 5337 State of Good Repair Formula Grants	Description: The State of Good Repair Grants Program (49 U.S.C. 5337) provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems to help transit agencies maintain assets in a state of good repair. Additionally, SGR grants are eligible for developing and implementing Transit Asset Management plans.	
Section 5339 Grants for Buses and Bus Facilities Formula Program - 5339(a).	Description: Provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.	
Section 5310 Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310	Description: This program (49 U.S.C. 5310) provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs	Split between TriMet and SMART via agreed formula Approximate split of 5310 share for TriMet = 79.48%
STBG Flex to 5310	Description: These funds reflect additional STBG State funds that are flex-transferred to FTA in support of 5310 program area needs.	Allocation = 100% to TriMet discounted into 2016 $
Competitive Discretionary Program		
FTA 5309 New Starts/Small Starts/Core Capacity grants	Description: Discretionary grant program for funding major transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit, this discretionary grant program is unlike most others in government. Instead of an annual call for applications and selection of awardees, the law requires that projects seeking CIG funding complete a series of steps over several years to be eligible for funding.	
FTA 5312 Mobility on Demand (MOD) Sandbox Demonstration	Description: Funds projects that promote innovative business models to deliver high quality, seamless and equitable mobility options for all travelers. MOD Sandbox Program is part of a larger research effort at DOT that supports transit agencies and communities as they integrate new mobility tools like smart phone apps, bike- and car-sharing, and demand-responsive bus and van services. MOD projects help make transportation systems more efficient and accessible, particularly for people who lack access to a car.	

Attachment 1. Federal and State Revenue Funding Programs

Table 3. State Revenue Funding Programs – Transit Specific

State Revenue Funding Programs (FTA)		
Fund and Administrator	**Description**	**Notes**
Lottery Funds to Transit Capital	Description: Expected state contribution to high capacity transit expansion. Contribution source may differ, but State Lottery funds identified as one potential funding source to represent the state contribution	The funds represent the expected State support for the new planned Max light rail lines discounted into 2016 $s
Connect Oregon	Description: Provides funding to air, rail, and marine, and off-street bicycle/pedestrian infrastructure.	
Special Transportation Fund (STF)	Description: The STF Program provides a flexible, coordinated, reliable and continuing source of revenue in support of transportation services for people who are senior and people with disabilities of any age.	ODOT LRFA estimates in 2016 $s which include a projected 1% annual real growth rate
HB2017 Statewide Transportation Improvement Fund – Formula Allocation	Description: Provides new dedicated source of funding for expanding public transportation service in Oregon. Ninety percent (90%) allocated based on formula allocation.	
HB2017 Statewide Transportation Improvement Fund – Discretionary	Description: Provides new dedicated source of funding for expanding public transportation service in Oregon. Five percent (5%) allocated based on competitive grant.	
HB2017 Statewide Transportation Improvement Fund – Intercommunity	Description: Provides new dedicated source of funding for expanding public transportation service in Oregon. Four percent (4%) to public transportation service providers to improve public transportation between two or more communities based on a competitive grant process	

Table 4. State Revenue Funding Programs – Roadway/Highway/Active Transportation Specific*

State Revenue Funding Programs		
Fund/Program and Administrator	**Description**	**Notes**
Fix-It Program - Bridge	Description: The Fix-It program includes funding categories that maintain or fix ODOT's portion of the transportation system. This is the non-capacity enhancing operations and maintenance (O&M) component to ODOT's overall system preservation. The bridge program comprises of two programs: 1) state bridges; and 2) local bridges. State bridge program addresses the maintenance and operations of bridges within ODOT control. The local bridge program allocates directly to local jurisdictions to replace or rehabilitate structurally deficient and functionally obsolete local agency bridges as per the Working Agreement between ODOT, the Association of Oregon Counties (AOC), and the League of Oregon Cities (LOC).	
Fix-It Program – Highway Pavement Maintenance	Description: The Fix-It program includes funding categories that maintain or fix ODOT's portion of the transportation system. This is the non-capacity enhancing operations	

Attachment 1. Federal and State Revenue Funding Programs

	and maintenance (O&M) component to ODOT's overall system preservation. The Highway Pavement Maintenance program addresses the maintenance, operations, and asset management needs of the interstate and state-owned network.	
Fix-It Program – Culvert	Description: The Fix-It program includes funding categories that maintain or fix ODOT's portion of the transportation system. This is the non-capacity enhancing operations and maintenance (O&M) component to ODOT's overall system preservation. The Culvert program addresses the rehab and replacements of roadway culverts.	
Fix-It Program – Operations	Description: The Fix-It program includes funding categories that maintain or fix ODOT's portion of the transportation system. This is the non-capacity enhancing operations and maintenance (O&M) component to ODOT's overall system preservation. The Operations program addresses the maintenance, operations, and asset management of operation equipment, such as traffic signals, ramp meters, variable message signs, and other communications equipment.	
All Roads Transportation Safety (ARTS)	Description: A data-driven, jurisdictionally blind safety program to address safety on all public roads.	
Enhance (ODOT from FHWA)	Description: Combination of appropriated federal funds to OODT which are then allocated through discretionary means in the Enhance program to the local agencies for capital needs	
Leverage – Active Transportation	Description: In lieu of a formal enhance program, the Leverage – Active Transportation program provides additional funding to a Fix-It project to add or upgrade/enhance active transportation infrastructure on the same facility or project area. Specifically focused on the state system.	
Leverage – Safety -	Description: In lieu of a formal enhance program, the Leverage – Safety program provides additional funding to a Fix-It project to address a known safety issue and add appropriate/proven safety countermeasures on the same facility or project area. Specifically focused on the state system.	
Leverage – Enhance	Description: In lieu of a formal enhance program, the Leverage – Enhance program provides additional funding to a Fix-It project to add, upgrade/enhance (e.g. add a GP lane, auxiliary lane, etc.) roadway infrastructure on the same facility or project area. Specifically focused on the state system.	
Rail Crossing Safety	Description: Funds highway grade crossing safety improvement projects to reduce the number of fatalities, injuries, and crashes at public railway-highway grade crossings.	
Off-System Bicycle/Pedestrian	Description: Funds bicycle and pedestrian paths or trails outside of the highway right of way.	
Bicycle and Pedestrian	Description: Funds bicycle and pedestrian facilities within the right-of-way of public roads, streets or highways open to motor vehicle traffic to meet the requirement for ODOT to spend 1% of State Highway Fund dollars on biking and walking enhancements.	
ADA Curb Ramps	Description: For building, repairing or replacing ADA-compliant curb ramps apart from projects that trigger them as part of a settlement agreement.	
Safe Routes to School Education	Description: Funds education and outreach efforts that improve, educate, or encourage children safely walking (by foot or mobility device) or biking to school.	

Attachment 1. Federal and State Revenue Funding Programs

Transportation Options	Description: Funds ODOT's Transportation Options program which supports efforts to improve travel choice for Oregonians and improve the efficiency with which people and goods move through the transportation system.	
Immediate Opportunity Fund	Description: Provides funding to construct and improve streets and roads to serve site-specific economic development projects. Managed in cooperation with the Oregon Business Development Department.	
HB2017 Specific State Funding Programs and Earmarks		
HB2017 Section 71a,b, & c Rose Quarter	Description: Provides $30 million per year after 2021 to pay debt service for bonds to finance the I-5 Rose Quarter Project	Off the top in support of the Rose Quarter improvement project
HB2017 Section 71a, b, & c Safe Routes to Schools Program	Description: Provides $10 million per year (2018-2021) and then $15 million per year after 2022 for the Safe Routes to School Program	81% of 31% formula split for Metro MPO region out of the total $125 million to be allocated statewide
HB2017 Section 71d Highway , Road and Street Projects	Description: Requires OTC to use the bond proceeds to finance named transportation projects within each ODOT Region that include: • Columbia Blvd Pedestrian Safety Improvements • Powell Blvd Improvements • I-205 ATMS • I-205 Corridor Bottleneck • OR 217 NB Aux Lane • OR217 SB Aux Lane • Improvements to Graham Rd at I-84 in the city of Troutdale	Region 1 total allocation (including out of MPO areas) of $249,700,000. In MPO area totals $248,200,000
HB2017 **Bridges** Section s 71a, b, & c Designates a portion of HB2017 funding for Highway Safety	Description: Allocates $10 million per year (2018-2021) and then $15 million after 2020 (2022-2027) for a 130 million total. Bridge portion in Metro MPO area includes: • US30 Sandy River (Troutdale Bridge – BR#02019) • OR99W Tualatin River NB bridge • I-5 Over Hassalo St and Holiday St	Safety Purposes: Up to 40% for bridges Identified funding is for Region 1 MPO area for B
HB2017 **Maintenance,** Section s 71a, b, & c Designates a portion of HB2017 funding for Highway Safety	Description: Allocates $10 million per year (2018-2021) and then $15 million after 2020 (2022-2027) for a 130 million total. Maintenance, pavement rehab, and culverts replacement portion in Metro MPO area includes approximately 16 identified projects	Safety Purposes: Up to 24% for maintenance and replacement of payments and culverts
HB2017 **Safety,** Section s 71a, b, & c Designates a portion of HB2017 funding for Highway Safety	Description: Allocates $10 million per year (2018-2021) and then $15 million after 2020 (2022-2027) for a 130 million total. Safety/Maintenance/Preservation improvements: 2 projects identified: • ~~I-84 East Portland Frwy – NE 181st Ave~~ • I-84 Fairview – Marine Drive & Tooth Rock Tunnel	Safety Purposes: Up to 6% for maintenance, preservation and safety improvements Not HB 2017 this is IM

*Note: Some state funding programs are a repeat of the federal revenue funding program. For example, the Rail-Highway Crossings in the federal revenue funding program is the same as the state revenue funding program. Some funding programs, such as many of the Fix-It and Leverage programs, are unspecified combination of federal revenue funding programs and state revenue funding programs. Then there are several state revenue programs which are solely funded with state dollars, such as Connect Oregon.

Attachment 1. Federal and State Revenue Funding Programs

Table 5. Common Transportation Revenue Sources
Not Comprehensive

Federal	State	Local
• Federal gas tax • General fund	• State gas tax • Vehicle registration fees • Truck weight/mile tax • Privilege tax • Lottery funds • Legislative initiations	• Local gas tax • Local vehicle registration fees • System development charge fee • Parking fees • Property tax • General funds • Employer tax • Employee tax

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
Federal - To Metro MPO							
CMAQ Congestion Mitigation Air Quality	$ 12,660,151	$ 14,137,018	$ 14,448,032	$ 14,765,889	$ 56,011,090	Regional Flexible Fund Allocation (RFFA)	
STBG Surface Transportation Block Grant	$ 29,900,000	$ 30,600,000	$ 31,300,000	$ 32,000,000	$ 123,800,000		
TA (STBG set-aside) Transportation Alternatives	$ 1,533,000	$ 1,566,726	$ 1,601,194	$ 1,636,420	$ 6,337,340		
Totals:	**$ 44,093,151**	**$ 46,303,744**	**$ 47,349,226**	**$ 48,402,309**	**$ 186,148,430**		
Note: Metro appropriations of CMAQ, STBG, and TA are stated in Year of Expenditure (YOE) dollars, are consistent with the LRFA funding tables, and reflect an annual inflationary growth rate of 2.2%							

Federal - Planning Fund Allocations							
PL Metro federal MPO Planning	$ 1,962,000	$ 2,005,600	$ 2,049,200	$ 2,092,800	$ 8,109,600	FHWA to ODOT then to Metro	FHWA planning funds to MPOs
SPR State Planning & Research (ODOT federal planning)	$ 2,632,891	$ 2,659,220	$ 2,685,812	$ 2,712,670	$ 10,690,593	FHWA to ODOT	FHWA planning funds to State DOTs
5303 FTA Section 5303 (Federal transit planning to Metro)	$ 619,800	$ 671,450	$ 671,450	$ 671,450	$ 2,634,150	FTA to ODOT, then to Metro	FTA contribution to planning funds to MPOs
Totals:	**$ 5,214,691**	**$ 5,336,270**	**$ 5,406,462**	**$ 5,476,920**	**$ 21,434,343**		

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
Note: PL based on LRFA and inflationary annual growth. SPR amounts are based on 81% of 31% allocation methodology for ODOT Region 1. 5303 is based on LRFA tables but with limited growth.							
Federal - To State (ODOT)							
State STBG FLX* State allocated Surface Trans Block Grant					$ -	Annual State Appropriation	These revenues are reflected as part of ODOT Fix-It STIP program estimates below.
HSIP* Highway Safety Improvement	$ -	$ -	$ -	$ -	$ -	Annual State Appropriation	Committed to ODOT Safety ARTS progrm below
NHPP* National Highway Performance Program					$ -	Annual State Appropriation	These revenues are reflected as part of ODOT Fix-It STIP program estimates below.
HBRR-S* State Bridge Program					$ -	Annual State Appropriation	These revenues are reflected as part of ODOT Fix-It STIP program estimates below.
NHFP National Highway Freight Program (Formula portion)	$ 3,741,390	$ 3,841,830	$ 3,917,160	$ 3,992,490	$ 15,492,870	Annual State Appropriation	Amounts based on LRFA table estimates and then split back to the region using 81% if 31% logic
					$ -		
Totals:	**$ 3,741,390**	**$ 3,841,830**	**$ 3,917,160**	**$ 3,992,490**	**$ 15,492,870**		
Notes: 1. Since the above funds are not allocated to the ODOT region on an annual basis, Metro used a formula distribution methodology "81% of 31%							
2. The formula methodlogy is based on the logic that on average, approximately 31% of the total state allocation will wnd up committed to Region 1 projects.							

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
3. Out of the 31% allocated to Region 1, on average 81% of those funds will be committed to projects in the MPO boundary area.							
* Metro requested this information from ODOT staff, but did not receive estimates by federal revenue fund program; only by ODOT consolidated program indiscriminant of revenue source.							

Federal & State Combined for ODOT Fix-It & Safety ARTS							
Revenue Program	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Total**		
ODOT Fix-It STIP Program	$ 69,576,954	$ 69,576,954	$ 69,576,064	$ 69,576,954	$ 278,306,926		This is another way to show the combination of State STBG Flex, HSIP, NHPP, HBRR-S, and other applicable federal revenue funding programs, which are formula allocations from FHWA directly to State DOTs.
Safety ARTS - HSIP	$ 1,858,140	$ 1,895,805	$ 1,933,470	$ 1,983,690	$ 7,671,105		
Total:	$ 71,435,094	$ 71,472,759	$ 71,509,534	$ 71,560,644	**$ 285,978,031**		

Federal - to State (ODOT) to Local Agencies - Competitive Awards OR Pass Through Funds							
HSIP - Local Highway Safety Improvement Program	$ 1,858,140	$ 1,895,805	$ 1,933,470	$ 1,983,690	$ 7,671,105	50% blind allocation to locals , then 81% of 31% formula	
HBRR-L Local Bridge Program awards	$ 7,281,900	$ 7,432,560	$ 7,608,330	$ 7,758,990	$ 30,081,780	81% of 31% to MPO	

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
Enhance/Leverage - Local Comprised of NHPP, STBG, or orther eligible federal funds	$ 2,812,320	$ 2,887,650	$ 2,937,870	$ 3,013,200	$ 11,651,040	81% of 31% fromula methodology	
Rail/Highways Crossings (Grade seps/safety improvements)	$ 803,520	$ 828,630	$ 853,740	$ 878,850	$ 3,364,740	81% of 31% formula methodology	
Totals:	**$ 12,755,880**	**$ 13,044,645**	**$ 13,333,410**	**$ 13,634,730**	**$ 52,768,665**		

Transit - Federal

Revenue Program	FY 2021	FY 2022	FY 2023	FY 2024	Total	Notes	
5307/5337/5339 Urban Formula							
TriMet 5307/5337 Formula Allocation	$ 69,476,400	$ 70,865,928	$ 72,283,247	$ 73,725,912	$ 286,351,487	Formula to UZA at approximately 87% to TriMet, 1% to SMART, and 12% to CTRAN	TriMet provided federal revenue funding estimates directly. SMART federal revenue funding estimates derived by Metro assumptions. 5307 - Urbanized Area Formula 5337 - State of Good Repair Formula 5339 - Bus and Bus Facilities Formula
TriMet 5339 Formula Allocation	$ 2,512,578	$ 2,537,704	$ 2,563,081	$ 2,588,712			
SMART 5307/5337/5339 Formula Allocation	$ 639,000	$ 654,000	$ 668,000	$ 683,000	$ 2,644,000		
5307/5337/5339 MPO Total	**$ 72,627,978**	**$ 74,057,632**	**$ 75,514,328**	**$ 76,997,624**	**$ 299,197,562**		

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
5310 Seniors and People with Disabilities							
TriMet 5310	$ 1,294,052	$ 1,319,933	$ 1,346,332	$ 1,373,258	$ 5,333,575	Formula to UZA at approximately 87% to TriMet, 1% to SMART, and 12% to CTRAN	5310 - Enahnced Mobility of Seniors and Individuals with Disabilities
SMART 5310	$ 17,000	$ 17,000	$ 17,000	$ 18,000	$ 69,000		
5310 MPO Totals:	**$ 1,311,052**	**$ 1,336,933**	**$ 1,363,332**	**$ 1,391,258**	**$ 5,402,575**		
Discretionary Intercity FTA Section 5311 Funds							
ODOT 5311	$ 800,000	$ 800,000	$ 8,000	$ 900,000	**$ 2,508,000**	Generally outside MPO and UZA	Formula grants for rural areas
FLEX funds (STBG) Shift to FTA 5310							
STBG Flex Transfer to 5310 - ODOT to TriMet	$ 4,700,000	$ 4,700,000	$ 4,700,000	$ 5,200,000	**$ 19,300,000**	Supports 5310 program needs	
Transit Totals:	**$ 79,439,030**	**$ 80,894,565**	**$ 81,585,660**	**$ 84,488,882**	**$ 326,408,137**		

State Program Revenues for Transit							
Revenue Program	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Total**	**Notes**	
State Lottey Revenues Supporting Transit Capital							
State Lottery - TriMet	$ 6,410,000	$ 7,450,000	$ 8,560,000	$ 9,720,000	**$ 32,140,000**	For TriMet capital projects	Potential source for state contribution to transit capital; serving as a proxy/placeholder
Special Transportation Fund (STF)							

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
STF - TriMet	$ 5,014,265	$ 4,891,447	$ 4,891,447	$ 6,633,285	**$ 21,430,444**	Supporting 5310 areas	State contribution adding to 5310; TriMet provided estimates for FY 21-23, Metro developed estimate for FY 24
In-Leiu of Payroll Tax Payments							
In-Leiu of Payroll Tax - TriMet	$ 2,081,984	$ 2,113,213	$ 2,144,911	$ 2,177,085	**$ 8,517,193**	All to TriMet	ODOT's employer contribution to TriMet
Totals:	$ 13,506,249	$ 14,454,660	$ 15,596,358	$ 18,530,370	**$ 62,087,637**		

State Revenues - HB2017 Specific							
Revenue Program	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Total**	**Notes**	

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
HB2017 **Rose Quarter**	$ -	$ 30,000,000	$ 30,000,000	$ 30,000,000	$ 90,000,000	Section 71a-c	Legislative panel must approve final allocation to Rose Quarter project and new HB2017 revenues will be used at rate of $30 million per year to be bonded until final allocation is financed. Bonding authority will allow up to $420M. Amount of bond proceeds that will be programmed to the project in each year of the STIP once total project funding is approved and applied to project schedule is TBD. Project is scheduled to be completed by 2027
HB2017 **Highway Named Projects**					$ 91,800,000	Section 71d	Must be allocated by January 1, 2024. Specific programming from this revenue source of $249.7M to each of named projects within Metro area of Region 1 to be identified for programming by ODOT.
HB2017 **SE Powell Jurisdictional Transfer**	$ 3,000,000	$ 66,000,000			$ 69,000,000		

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
HB2017 **OR217 NB**			$ 45,100,000		$ 45,100,000		
HB2017 **OR217 SB**	$ 43,800,000				$ 43,800,000		
HB2017 - **Safe Routes to Schools** (SR2S)	$ 2,511,000	$ 2,511,000	$ 3,766,500	$ 3,766,500	$ 12,555,000	Safe Routes to School funding Section 71a-c	
HB2017 - **Safey Bridges**	$ 1,004,400	$ 1,004,400	$ 1,506,600	$ 3,766,500	$ 7,281,900	Section 71a-c @40% of annual	
HB2017 - **Seismic Improvements to Highways & Bridges**	$ 9,037,730	$ 753,300	$ 1,129,950	$ 1,129,950	$ 12,050,930	Section 71a-c @30% of annual	FY21 estimate was provided directly by ODOT. FY22-24 estimates are based on Metro applying funding assumptions
HB2017 - **Maintenance and Replacement of Pavement and Culverts**	$ 602,640	$ 602,640	$ 903,960	$ 903,960	$ 3,013,200	Section 71a-c @26% of annual	
HB2017 - **Safety, Maintenance, Preservation**	$ 11,873,925	$ 150,660	$ 225,990	$ 225,990	$ 12,476,565	Section 71a-c @6% of annual	FY21 estimate was provided directly by ODOT. FY22-24 estimates are based on Metro applying funding assumptions
HB2017 **Statewide Transportation Improvement Fund (STIF) (TriMet ETAX)**	$ 51,066,174	$ 51,066,174	$ 51,066,174	$ 51,066,174	$ 204,264,696		
HB2017 Totals:	**$ 122,895,869**	**$ 152,088,174**	**$ 133,699,174**	**$ 90,859,074**	**$ 591,342,291**		

Federal Discretionary Programs - Possible Future Revenues

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			
Note: Future funding possible for the region, but not yeat realized or secured and therefore can't be counted as "hard" revenues under MTIP fiscal constraint rules							
Miscellaneous Discretionary and Competitive Grant Awards to ODOT	$ 6,521,739	$ 6,521,739	$ 6,521,739	$ 6,521,739	**$ 26,086,956**	Discretionary (TIGER, FAST Lane, INFRA, etc.)	Revenue amounts are not included in the final totals
Federal Discretionary (Competitive awards) to Local Agencies	$ 4,347,826	$ 4,347,826	$ 4,347,826	$ 4,347,826	**$ 17,391,304**	Discretionary (TIGER FAST Lane INFRA, etc.)	
5309 Capital Investment Grants - New/Small Starts/Core Capacity							
5309 New/Small Starts Grants	$ 200,000,000	$ 150,000,000	$ 150,000,000	$ 150,000,000	$ 650,000,000	Assumes funding awarded for Redline, Division, and SW Corridor	Revenue amounts are not included in the final totals
Totals:	$ 210,869,565	$ 160,869,565	$ 160,869,565	$ 160,869,565	**$ 693,478,260**		

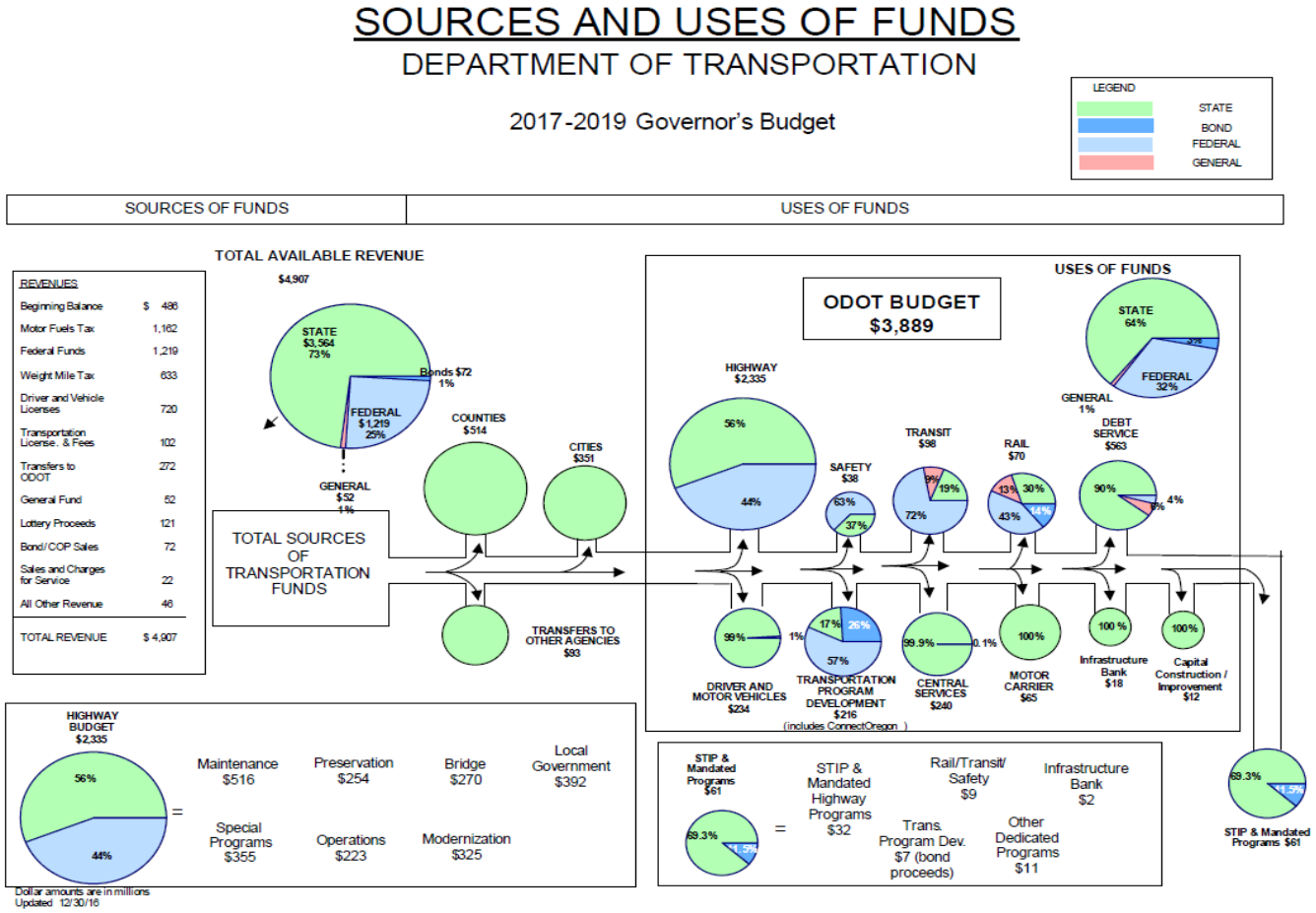
MTIP Revenue Summary 2021-2024

Federal - To Metro MPO	$ 186,148,430
Federal - Planning Fund Allocations	$ 21,434,343
Federal - To State (ODOT)	$ 15,492,870
Federal & State Combined for ODOT Fix-It & Safety ARTS	$ 285,978,031
Federal - to State (ODOT) to Local Agencies - Competitive Awards OR Pass Through Funds	$ 52,768,665
Transit Federal	$ 326,408,137
State Program Revenues for Transit	$ 62,087,637
State Revenues - HB2017 Specific	$ 591,342,291
Total:	**$ 1,541,660,404**

Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			

Potential future Discretionary Revenues -unsecured: **$ 693,478,260**



Metropolitan Transportation Improvement Program (MTIP)
FY 2021-24 Revenue Estimates

Fund Type or Funding Program	Federal Fiscal Year				Total (YOE)	Funding Notes	Other Notes
	FY 2021 (YOE)	**FY 2022** (YOE)	**FY 2023** (YOE)	**FY 2024** (YOE)			

SOURCES AND USES OF FUNDS

OREGON DEPARTMENT OF TRANSPORTATION - 2017-2019 Governor's Budget

SOURCES OF FUNDS (Revenue)

- Total Transportation Revenue: $4,907 million.
- Beginning Balance: $486 million.
- Motor Fuels Tax: $1,162 million. Includes motor fuel and aviation fuel taxes.
- Federal Funds: $1,219 million. Primarily for Highway Division, with lesser amounts for Transportation Safety, Transportation Program Development, Public Transit and other programs.
- Weight Mile Taxes: $633 million. Graduated tax based on vehicle's weight and miles traveled on public roads.
- Driver and Vehicle Licenses and Fees: $720 million. Includes driver license fees, vehicle registrations, title fees for passenger vehicles, buses, trailers, motorcycles, etc. This category contains a large number of fees for various areas from snowmobile titles to specialty license plates.
- Transportation Licenses and Fees: $102 million. Includes truck registrations, vehicle and Sno-Park permits.
- Transfers to ODOT: $272 million. These funds come from dedicated revenues: cigarette tax ($9M), local match on construction projects ($239M), Parks & Rec fee collection ($0.5), and others.
- General Fund: $52 million. Allocation for Transit E & I Program, Passenger Rail and GF backed bond Debt Service.
- Lottery Funds: $121M Legislatively directed pass-through bond payments for Rail Short Line, Rail Industiral Spur Projects, South Metro Commuter Rail, Connect Oregon I, II, III, IV, V and VI, Street Car Project, Southeast Metro Milwaukie Extention, Port of Coos Bay Rail Link, Salem-Keizer Transit Center, Harney - Junta Rd.
- Bond Proceeds for Connect Oregon VII $72 million
- Sales & Charges for Service: $22 million. Includes sale of DMV records, Highway Division miscellaneous services, and sale of property, timber and equipment.
- All Other Revenue: $46 million. Items in this category include railroad gross revenue receipts ($4 million), interest income ($17 million), Infrastructure Bank - loan repayment ($8 million), rent and fines ($4 million), and other miscellaneous or Policy Option Package revenue.

USES OF FUNDS (Transfers / Expenditures)

- Mandated Distributions and Transfers
  - Mandated distributions to Counties - $514 million. From Fuels Tax, Weight Mile, and Licensing.
  - Mandated distribution to Cities - $351 million. From Fuels Tax, Weight Mile, and Licensing.
  - Mandated distributions to other Oregon State Agencies - $93 million. Parks, Marine Board, Aviation and other agencies.
- Highway Division consists of the following programs
  - Highway Maintenance Program - $516 million. Maintenance and repair of existing highways to keep them safe and usable for the traveling public.
  - Preservation Program - $254 million. Paving and reconstruction to add useful life and safety improvements to existing highways.
  - Bridge Program - $270 million. Work to preserve and ensure safety on over 2,600 bridges, tunnels, and culverts on the state highway system.
  - Modernization Program - $325 million. Building capacity improvements to highways, such as new or widened lanes, and to improve highway safety.
  - Operations/Safety Program - $223 million. Slide & rockfall repairs, traffic signaling systems, ramp metering, access management, information for drivers, and other improvements to facilitate traffic operation on the system.
  - Local Government Program - $392 million. Non-Mandated partnerships with Cities, Counties, and regional governments on transportation projects.
  - Special Programs - $355 million. Includes Salmon and Watersheds, Scenic Byways, Pedestrian and Bicycle, Winter Recreation Parking, Snowmobile Facilities, etc.
- Driver and Motor Vehicles Services Division - $234 million. Licenses and regulates users of the transportation system to promote transportation safety, protects consumer interest, and facilitates other government programs.
- Motor Carrier Transportation Division - $65 million. Registers and inspects trucks and enforces weight, dimension and federal safety regulations.
- Public Transit Division - $98 million. Provides grant assistance and technical help to communities and local transportation providers for elderly and disabled and public transportation services. Other programs include transportation services for the general public in rural and small cities, Intercity Passenger Transportation, Transportation Demand Management and Transit Planning.
- Transportation Program Development - $216 million. Provides funding for local governments to integrate transportation planning; conducts short/long term transportation planning, research, and data collection in support of the transportation management systems. This includes $79 million for Connect Oregon payout.
- Rail Division - $70 million. Regulates rail and crossing safety for freight and passenger rail. Manages and markets inter-city rail and associated bus operations.
- Transportation Safety Division - $38 million. Coordinates statewide safety programs such as intoxicated driving, youthful drivers, safety belts and restraints.
- Central Services Limitation - $240 million. Central support includes: finance, gas tax collection, information systems, human resources, support services, internal audit, director's office, communications, safety and government relations.
- Debt Service - $563 million. Includes $121 million for Lottery backed bonds. Highway backed bonds include JTA ($113m), OTIA Local Bridge ($11 million), OTIA ($265 million), Local Streets Netowork ($9 million), DMV HQ Building ($1.7 million), Transportation Building ($7.3 million), and SRP ($35 million Other Funds).
- Infrastructure Bank - $18 million. A revolving loan program for transportation projects. Local Governments, Transit providers and Ports are eligible borrowers.
- Capital Construction - $6.3 million. ODOT Capital Imporvement - $5.6 million.
- Committed STIP Reserves & Dedicated Funds - $61 million - includes the following: State Highway Fund ($32 million), Transportation Operating Fund ($2 million), Infrastructure Bank ($1.5 million), Rail ($4 million), Transportation Safety ($2 million), Winter Recreation Fund ($0.9 million), and Special City Allotment ($1 million). Transportation Program Development ($7 million in bond proceeds), Emerging Small Business ($5 million). Public Transit ($3 million), Snowmobile Fund ($2 million), Debt Service ($0.5 million)

1/9/17 Updated (TMG)

Memo

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

Date: Friday, April 20, 2018

To: Transportation Policy Alternatives Committee and Interested Parties

From: Grace Cho, Metro
Kerry Ayres-Palanuk, TriMet

Subject: 2021-2024 MTIP – TriMet Annual Budget Process and Near Term Capital Investments

Purpose

Provide TPAC an overview on TriMet's near-term capital investments and local service investment recommendations from the annual budget process. The annual presentation by the transit agencies is part of the MTIP implementation process in providing an overview of where federal and relevant state-local funds are planned for investment in the near-term.

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), which is the process for how federal transportation funding gets invested in and across transportation projects at the state, regional, and local levels and documents how all federal and relevant state or local transportation money is to be spent in the greater Portland region over the next four years. The current MTIP represents fiscal years 2018 -2021. As part of coordination efforts and recognizing the MPO's role to ensure the MTIP reflects the federal and relevant state and local funds being invested in the regional system, partners who administer federal funds (i.e. ODOT, TriMet and SMART) provide a periodic update and discuss where federal and relevant state-local funds are planned for investment in the near-term. TriMet will provide a brief overview of its planned investemnts for fiscal year 2019.

Next Steps

The following table has been provided to illustrate the upcoming conversations around funding allocations and planned investments for the regional transportation system.

Activity	Timeframe
ODOT 2022-2024 leverage program discussion of 150% fix-it lists at TPAC	April 20, 2018
TriMet annual budget process presentations and anticipated near-term capital expending of federal funds at TPAC	April 20, 2018
SMART annual budget process presentations and anticipated near-term capital expending of federal funds at TPAC	May 4, 2018
ODOT 2022-2024 leverage program discussion of 150% fix-it lists at TPAC (continued)	May 4, 2018
Transit annual budget process presentations and anticipated near-term capital expending of federal funds at JPACT	May 17, 2018
2022-2024 regional flexible fund policy discussion at TPAC	June/July 2018

Memo

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

Date: Friday, April 20, 2010

To: Transportation Policy Alternatives Committee and Interested Parties

From: Grace Cho, Associate Transportation Planner
Ted Leybold, Resource Development Manager

Subject: 2021-2024 State Transportation Improvement Program (STIP) – Portland Metropolitan Planning Organization (MPO) Input on Leverage Programs

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Purpose

To facilitate a discussion with TPAC on:

1) Leverage opportunities for the 2021-2024 STIP Fix-It projects for safety, active transportation, and state highway enhancements; and
2) Additional factors for consideration by the Oregon Department of Transportation (ODOT) in scoping and prioritizing potential opportunities for the leverage programs which reflect the Portland metropolitan region's goals.

Introduction and Background

As part of Metro's duties as the metropolitan planning organization (MPO) for the Portland region, Metro, in partnership with ODOT, TriMet, SMART and local partners, is responsible for developing the federally mandated Metropolitan Transportation Improvement Program (MTIP).

The MTIP represents the spending schedule of federal transportation funds as well as significant state and local funds in the greater Portland region. The MTIP describes the process for how the funded projects were identified, prioritized, and selected to demonstrate how the transportation projects comply with federal regulations. The MTIP also monitors the region's progress towards achieving the vision and goals set forth in the region's long-range transportation plan.

The Metro Council and Joint Policy Advisory Committee on Transportation (JPACT) have oversight responsibility of the MTIP. Any transportation project using federal funds or seeking a federal action or that is on a regional facility located in the metropolitan area must be included in the MTIP for eligibility purposes. The MPO's role is to ensure these transportation projects meet federal eligibility requirements, such as fiscal constraint, air quality impacts, and public involvement, and make progress towards implementing the adopted vision and goals of the Regional Transportation Plan (RTP). This includes federal transportation revenues administered by partner agencies (e.g. ODOT, TriMet, SMART)

The Fix-It leverage opportunities identified to receive funding in the 2021-2024 STIP will ultimately be reflected in the 2021-2024 MTIP, which JPACT and Metro Council will be asked to approve in 2020.

The following information is provided to support a cooperative and coordinated process to identify Fix-It leverage opportunities for safety, active transportation and State enhance leverage funds that help achieve regional goals.

2021-2024 STIP Funding Categories and Individual Funding Programs

The 2021-2024 STIP is comprised of the following six funding categories:

- Enhance
- Fix-It

- Safety
- Non-Highway
- Local Programs
- Other Functions

Each of these funding categories has several individual funding programs which comprise of the funding category. Table 1 shows the funding programs for each funding category. Those funding categories identified as "leverage" for Fix-It projects are italicized.

Table 1. Funding Programs in Funding Categories for 2021-2024 STIP

Enhance	Fix-It	Safety	Non-Highway	Local Programs
Highway Leverage	Bridge	All Roads Transportation Safety	Non-Highway/*AT Leverage*	Congestion Mitigation and Air Quality
HB2017 Projects	Seismic	Hwy-Rail Crossings	Off-Road Bike and Pedestrian	MPOs**
	Pavement Preservation	Guardrail	Safe Routes to School Education	Non-TMA Cities, Counties, and MPOs
	Operations	*Safety Leverage*	Transportation Options	Local Bridge
	Culvert		ADA Curb Ramps	Cities & Counties***
			Transit Elderly & Disabled*	Transportation & Growth Management
			Mass Transit*	Immediate Opportunity Fund
			Transportation Alternatives – Recreational Trails	Local Technical Assistance Program
			Safe Routes to School Infrastructure	
			Bicycle-Pedestrian 1%	

Note: Other Functions was not listed because information regarding the funding programs within that category are unknown.
**Includes FHWA funding flexed to support transit programs statewide, such as Special Needs Transportation.*
***Includes both planning funding which comes to MPOs to administer the MPO functions as well as federal funds which are allocated to projects and programs*
****Includes the funding from the gas tax which goes directly to cities and counties for roadway maintenance purposes (20% cities, 30% counties)*

2021-2024 STIP Leverage Programs – Active Transportation, Safety, and Enhance
In-lieu of separate competitive application processes to allocate state funds directed towards active transportation, safety, and state highway enhancements, the Oregon Transportation Commission (OTC) directed ODOT staff to identify leverage opportunities for these three areas on Fix-It projects (e.g. bridge, pavement, operations, and culverts). This approach is meant to take advantage of the efficiencies in undertaking two different projects in the same area at the same time which are serving different needs, such as filling an active transportation gap when there is a repaving repair.

Recognizing that there will not be a competitive program for jurisdictions to nominate priority projects, the OTC directed ODOT staff to engage and gather input from the Area Commissions on Transportation (ACTs) in order to gather input and identify leverage opportunities. ODOT developed a set of draft guidelines for the three leverage programs – active transportation, safety, and state highway enhance (See Attachment). The draft guidelines provide the framework for identifying leverage opportunities and eligibility among the three categories – Enhance, Safety and Active Transportation, but do not preclude additional criteria tailored for each of the ODOT Regions.

In early April 2018, ODOT Region 1 released a draft of 150% Fix-It lists for operations and pavement projects, and a 200% Fix-It list for bridge projects. ODOT Region 1 is now seeking input from transportation agencies on potential active transportation, safety, or state highway enhancement opportunities that could be added to/leverage by the Fix-It projects. The Region 1 ACT, which encompasses the greater Portland region, is expected to have a discussion of potential leverage projects and prioritization criteria on May 7th.

TPAC Discussion: 2021-2024 STIP Leverage Opportunities

In efforts to support ODOT Region 1 in this process, Metro, in representing the Portland metropolitan region is proactively engaging in the 2021-2024 STIP discussions to support a transparent process as projects in the region are identified because these projects will ultimately be included in the 2021-24 MTIP.

Potential Leverage Opportunities

To identify potential leverage projects ODOT has shared the Fix-It lists and is attending County Coordinating Committee TAC meetings and holding one-on-one conversations with jurisdictions. To support these conversations, Metro conducted analysis looking at how the ODOT Region 1 150% and 200% Fix-It lists overlap with key regional priorities and the investment priorities identified in the 2018 RTP. The key regional priorities assessed were:

- High Injury Corridors (by type – composite, bicycle, and pedestrian)
- Equity Focus Areas
- 2040 Growth Centers
- Transit Congested Segments

The more of these key regional priorities which overlap with the Fix-It project poses a greater opportunity to identify a leverage project which could achieve multiple state and regional goals and objectives.

In addition, Metro staff looked at the Fix-It project lists to see how they overlap with projects identified in the financially constrained 2018 RTP. At this time, the 76 potential Fix-It projects overlap with 63 projects identified in the financially constrained 2018 RTP.

Further review of the 2018 RTP projects and more detailed results of the assessment will be provided at the April 20th TPAC meeting to facilitate the discussion.

Additional Factors for Considerations for the Region 1 2021-2024 STIP Leverage Discussion

Consistent with past JPACT and Metro Council policy direction, Metro staff has developed a set of proposed factors for consideration in the identification and prioritization of what leverage opportunities move forward into scoping. These are a starting point of discussion.

Portland metropolitan region RTP factors for consideration:

- As Fix-It leverage opportunities get identified and prioritized for scoping, focus on those Fix-It leverage opportunities which are on the state-owned urban arterials in Region 1.
- Focus leverage opportunities which overlap and would serve equity focus areas.
- Focus leverage opportunities to support the 2040 growth concept and implementation of the Climate Smart Strategy.
- Focus safety leverage opportunities on the region's high injury corridors.
- Focus active transportation leverage opportunities on the regional active transportation network.
- Focus state highway enhance leverage opportunities which achieve multiple objectives and facilitates multimodal travel. For example, focusing state highway enhance leverage on reducing traffic congestion on major transit routes, which supports the movement of buses as well as freight trucks and passenger vehicles.

Discussion Questions:

1. Based on the mapping assessment, are there other regional priorities which these 150% and 200% Fix-It lists should be mapped against and information shared with ODOT Region 1 staff?
2. Based on the mapping assessment, are there any leverage opportunities partners are considering for the Fix-It projects which are not reflected in the financially constrained 2018 RTP?
    a. If so, what are the potential leverage projects and are partners considering submitting these as part of the 2018 RTP refinement period?
3. Based on the mapping assessment, are there any projects identified in the financially constrained 2018 RTP which would need additional project description clarification to reflect the potential leverage opportunity?
4. Does TPAC agree with these proposed factors for consideration to communicate to ODOT staff?
5. Are there additional considerations the region should communicate to ODOT staff?

Next Steps

Metro staff will gather and synthesize the feedback into memorandum to communicate message and opportunities between MPO staff and ODOT Region 1 staff working in the 2021-2024 STIP. This memorandum will be brought forward to TPAC on May 4th for approval.
The following timeline has been provided to illustrate the next steps for the 2021-2024 STIP development.

Timeline – 2021-2024 STIP Policy Discussion

Activity	Timeframe
2021-2024 STIP leverage opportunities discussion at Region 1 ACT	May 7,2018
Region 1 ACT recommends to ODOT staff leverage opportunities to scope	July 2, 2018
ODOT enters into scoping 150% leverage opportunities lists	July 2018 – February 2019
ODOT recommendation of 100% leveraging lists	July 2019
OTC releases Draft 2021-2024 STIP for public review	February 2020
OTC review of public comments	May 2020
Approval of 2021-2024 STIP	June 2020

FROM: Jon Makler, ODOT Region 1 Planning Manager

TO: TPAC/MTAC

DATE: March 7, 2018

RE: 2021-2024 STIP – Draft Leverage Program Guidelines

The following are highlights from draft guidelines provided to ODOT staff regarding the 2021-24 STIP Leverage Programs, to which the Oregon Transportation Commission allocated funds at their meeting in December 2017.

Leverage Programs

- State Highway Leverage.
- Safety Leverage HB 2017.
- Active Transportation Leverage.

Principles of Leverage Programs

- Improve the State Highway System.
- ACT engagement.
- Meet community needs not addressed by Fix-It projects.
- Maximize resources by leveraging priority improvements.
- Allow for flexibility while maintaining transparency.
- Projects should be consistent with plans and on a list of identified needs.
- Document investments to inform outcome-based Performance Based Planning and Programming.

Eligible Activities for All Leverage Programs

- Add features to ODOT Fix-It projects on the State Highway System.
- Add features not already included in state earmarked projects in HB 2017, but only with prior approval by the Highway Division Administrator. NOTE: There is no guarantee of state cash availability, so you must assume that this would federalize the project. Leverage funds are not to be used to fill a funding gap in an earmarked project – they must be scope additions / enhancements.
- In coordination with an ODOT Fix-It project, partner with local jurisdictions to improve the State Highway System. It is anticipated that ACTs would provide feedback on such partnering opportunities.
- Leverage funds can be exchanged between Regions with clear and explicit documentation of the reasons / outcomes and tracking of funds.

Ineligible Activities for All Leverage Programs

- No exchanging of dollars between leverage programs within a region.
- No bucketing of leverage funds. They must be allocated to specific projects.
- Cannot be used for stand-alone projects.
- Not for ADA curb ramp improvements or Bike Bill (ORS 366.514) required features triggered by the Fix-It project. Those improvements are to be covered by the project budget.

In addition to the eligible and ineligible activities described above, additional guidance for the specific leverage programs is provided below:

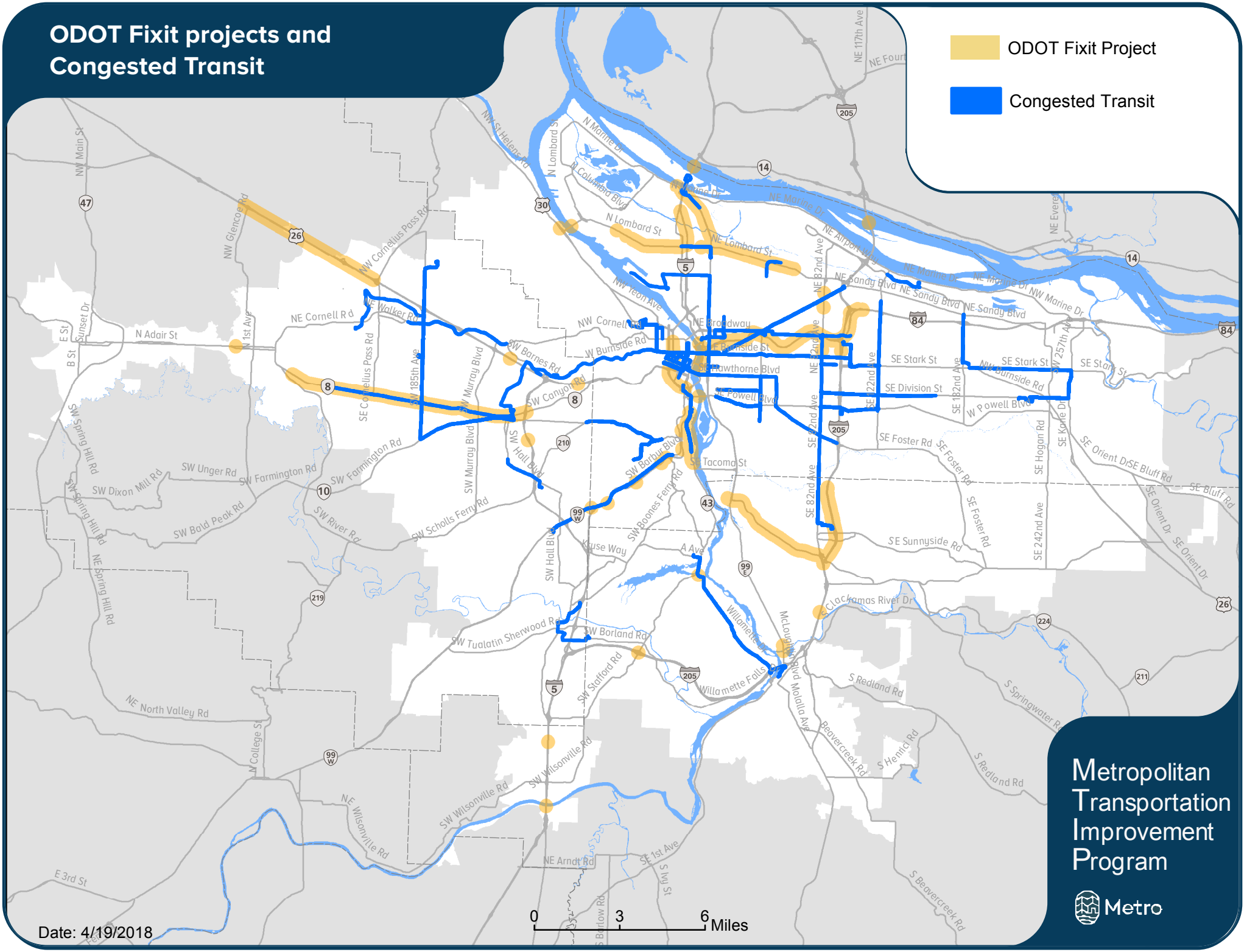
<table>
<tr><td rowspan="2">Active Transportation Leverage</td><td>Funds building, repairing, or replacing bikeways or walkways on the state highway system not triggered by the Bike Bill or ADA requirement and therefore not otherwise funded by the project being leveraged. Suggestions include, but are not limited to: extending the project boundaries to address a nearby biking or walking need, adding or improving a crossing, installing safety equipment or features, or making better connections to public transportation (e.g. bus pullout):
• Must align with policy framework established by the Oregon Transportation Plan and statewide mode and topic plans:
a) Oregon Bicycle and Pedestrian Plan
b) Oregon Public Transportation Plan
c) Oregon Transportation Options Plan
d) Oregon Transportation Safety Action Plan
• Must align with ADA Program guidelines.</td></tr>
<tr><td>Region Funding Allocation
Region 1 $7,476,000
Region 2 6,491,100
Region 3 3,101,700
Region 4 2,175,600
Region 5 1,755,600</td></tr>
<tr><td>Safety Leverage HB 2017</td><td>The Safety Leverage Funds are meant to help improve the safety of the state highway system where the Agency is planning to make a separate Fix-It program investment. The intent is to improve the most important safety issues that are in the general area of a planned Fix-It project. Investment decisions from this leverage fund will follow the general priorities outlined in the 2016 Transportation Safety Action Plan (TSAP). The funds should be used for engineering countermeasures that can demonstrate a measurable cost-effective benefit and should generally follow the prioritization guidelines below:
• Tier 1 - Infrastructure improvements that will reduce serious / fatal crashes within the Emphasis Areas of the 2016 TSAP, such as Intersection, Roadway Departure, Pedestrian, and Bicycle crashes.
• Tier 2 - Regional safety priority areas, such as top 10% Safety Priority Index System (SPIS) sites, region-wide systemic safety features, or other documented crash locations.

Safety leverage opportunities are identified by the following process:
• Regions review the Fix-It programs 150% lists for Tier 1 and 2 Safety Leverage qualification.
• Scoping teams review the Fix-It programs 150% lists for project details, including: status of each project, location, noting whether it qualifies as Safety Leverage (identifying safety mitigation as appropriate), or explaining why the project does not qualify in the “Leverage Opportunities” section of the Business Case.
• The Safety Leverage portion of all projects is prioritized by Regions and</td></tr>
</table>

	ACTS within Tier 1 and 2. • Funding limitations are applied: Tier 1 in priority order first, then Tier 2 if funding allows. The outcome of Safety Leverage prioritization will be documented for each eligible project in the "Leverage Opportunities" section of the Business Case.
	Region Funding Allocation Region 1 $10,680,000 Region 2 9,273,000 Region 3 4,431,000 Region 4 3,108,000 Region 5 2,508,000
State Highway Leverage	• Add enhance highway features to Fix-It projects to increase efficiency / address bottlenecks. • Not for active transportation / public transportation features.
	Region Funding Allocation Region 1 $8,483,573 Region 2 7,365,934 Region 3 3,519,730 Region 4 2,468,815 Region 5 1,992,210

Materials after this page were distributed at the meeting.

ODOT Fixit projects and Congested Transit

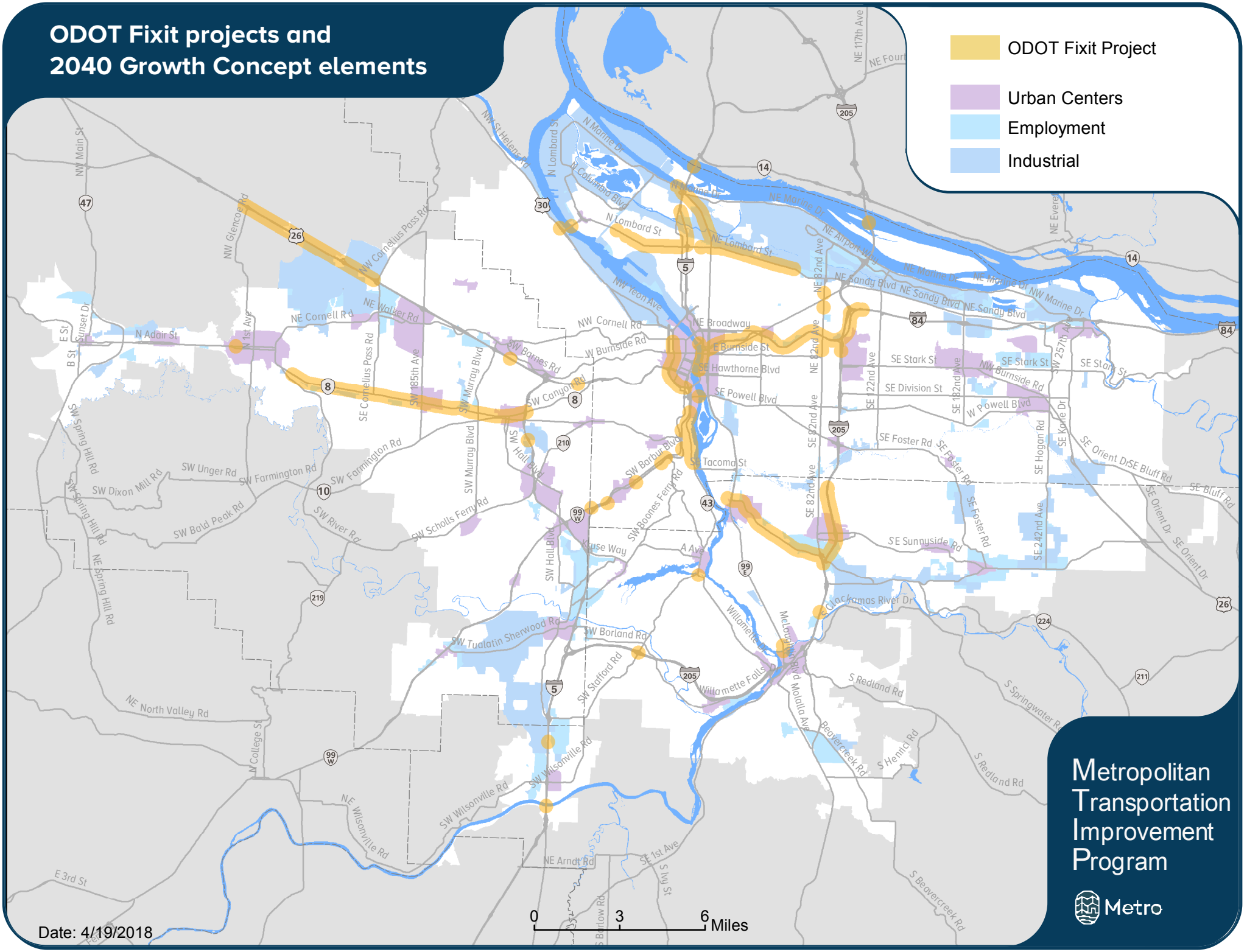


Date: 4/19/2018

Metropolitan Transportation Improvement Program

Metro

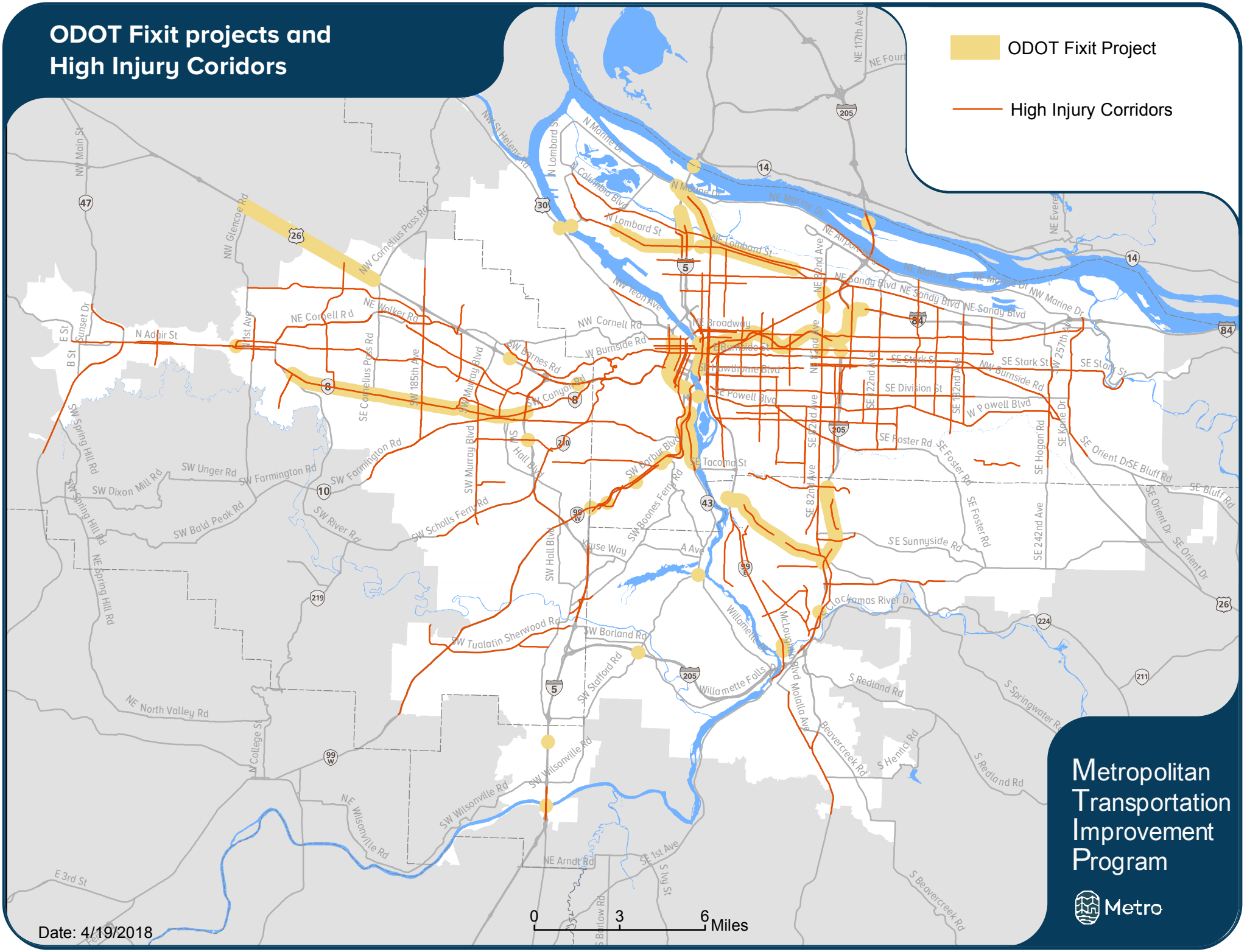
ODOT Fixit projects and 2040 Growth Concept elements



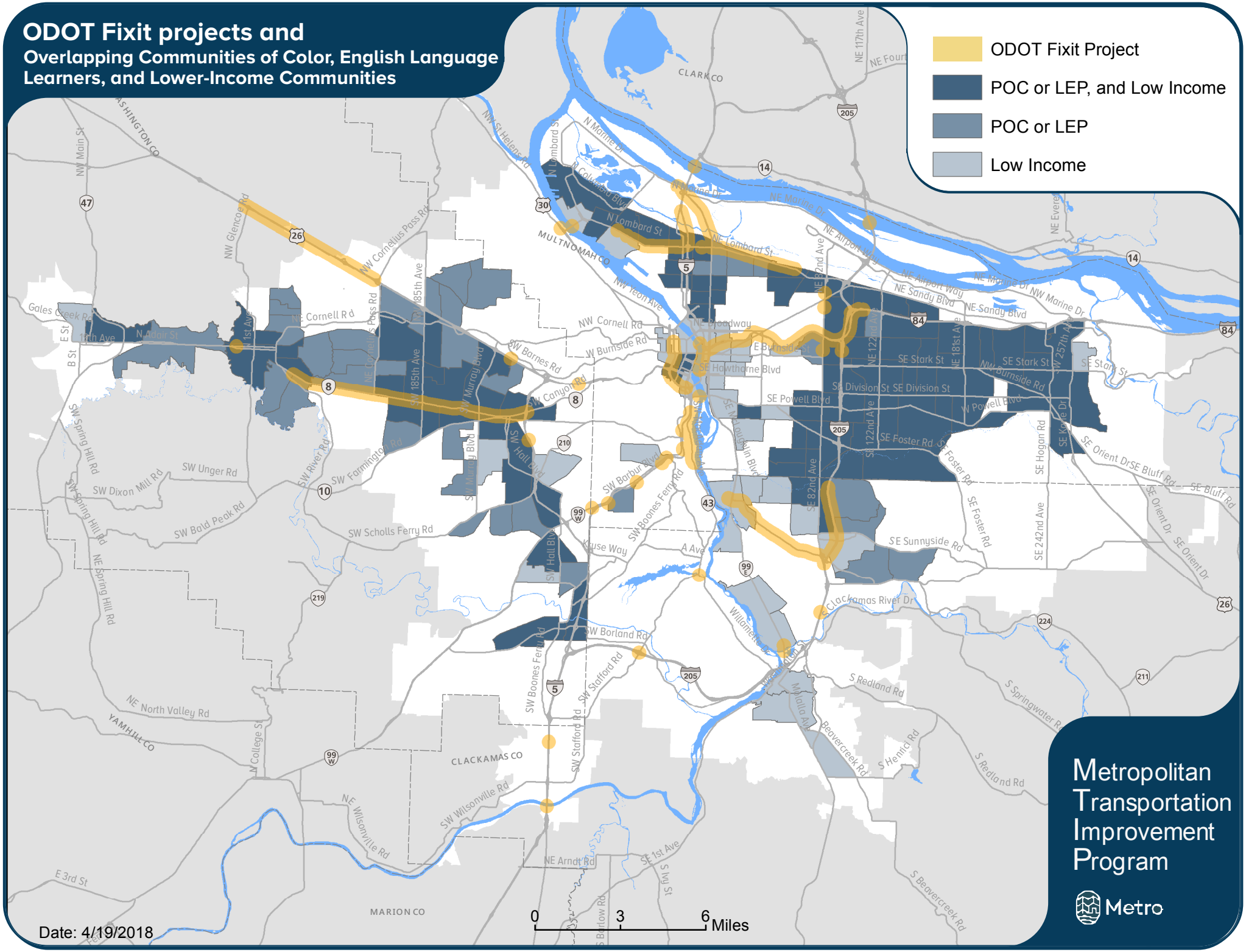
Metropolitan Transportation Improvement Program

Metro

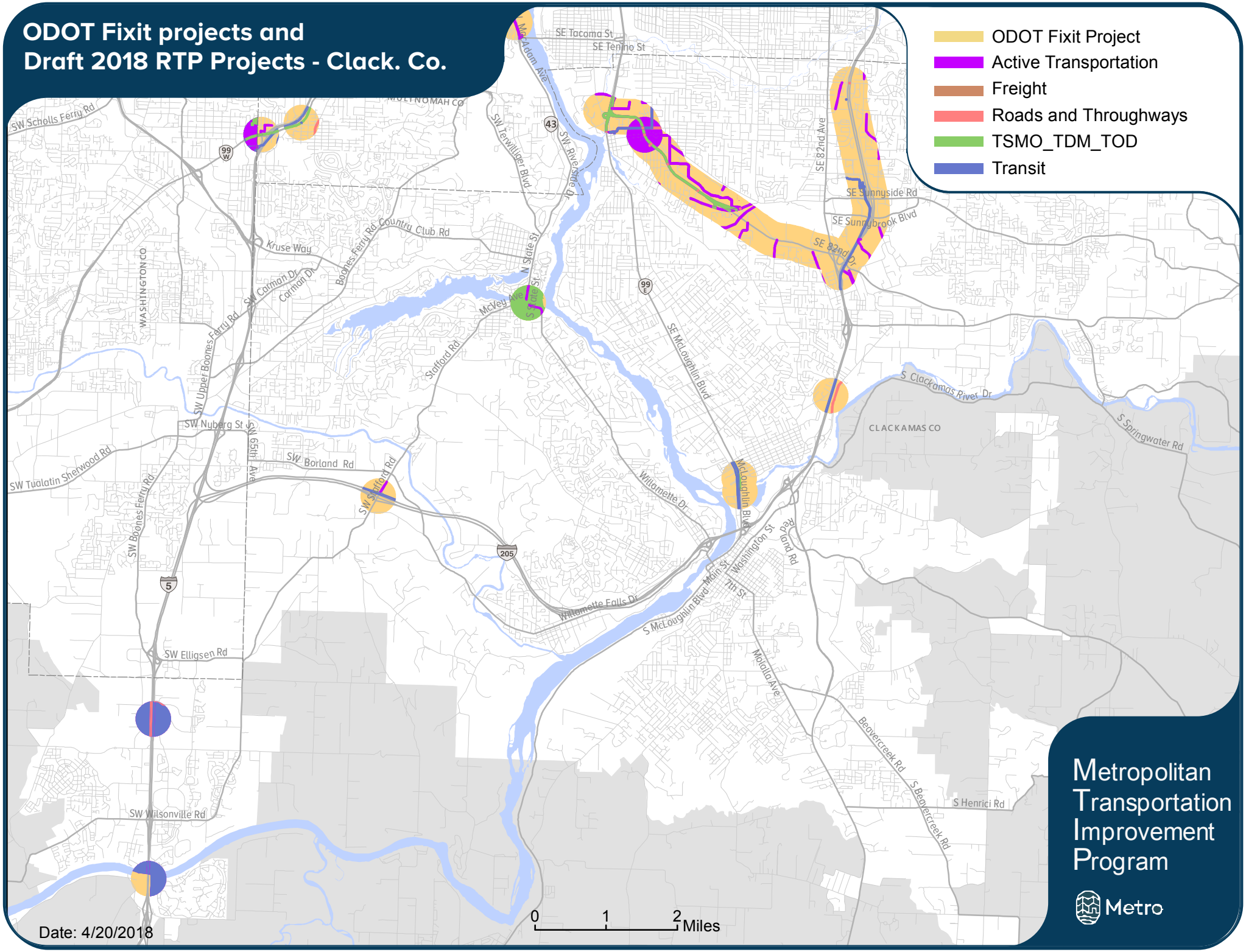
ODOT Fixit projects and High Injury Coridors



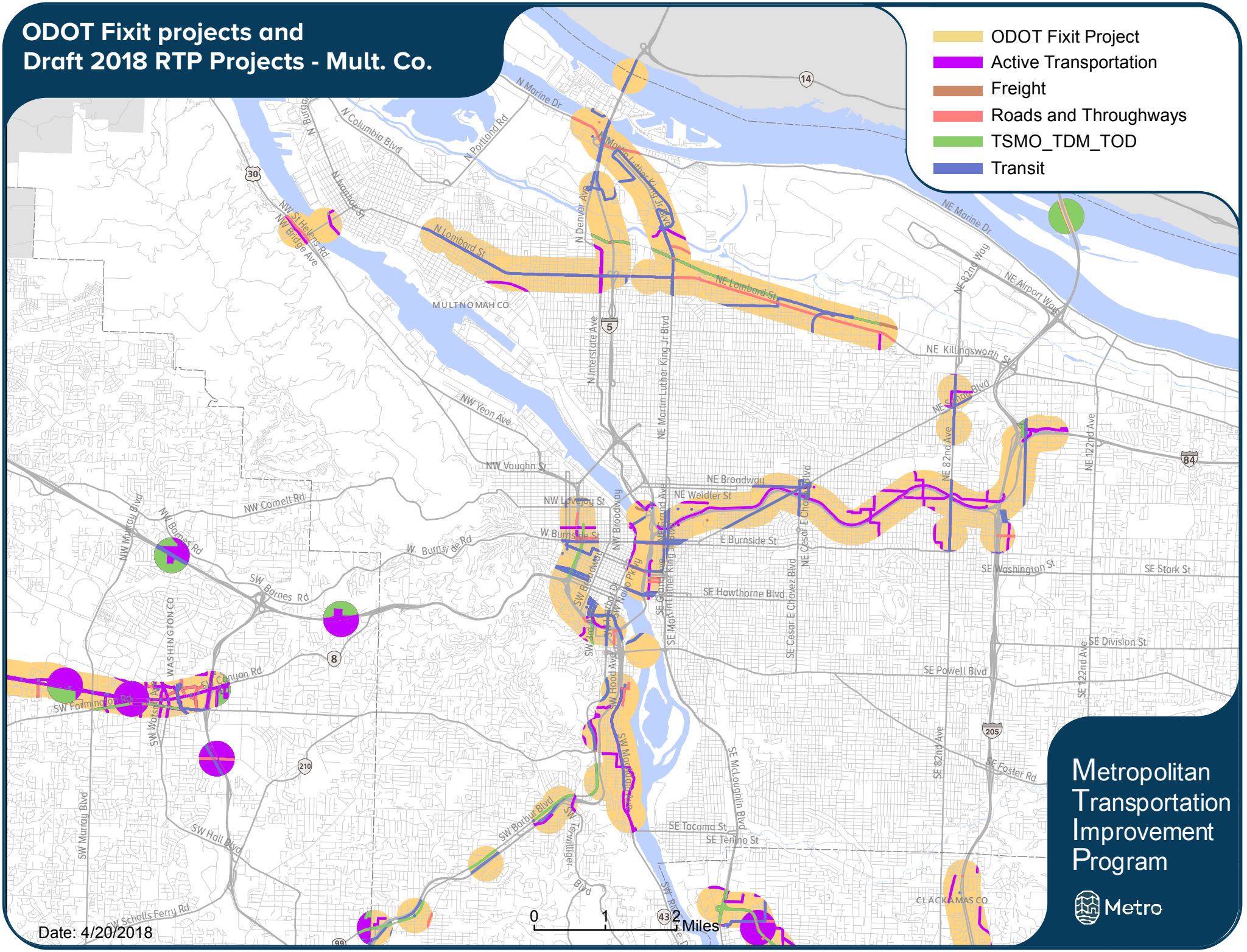
ODOT Fixit projects and
Overlapping Communities of Color, English Language Learners, and Lower-Income Communities



ODOT Fixit projects and Draft 2018 RTP Projects - Clack. Co.



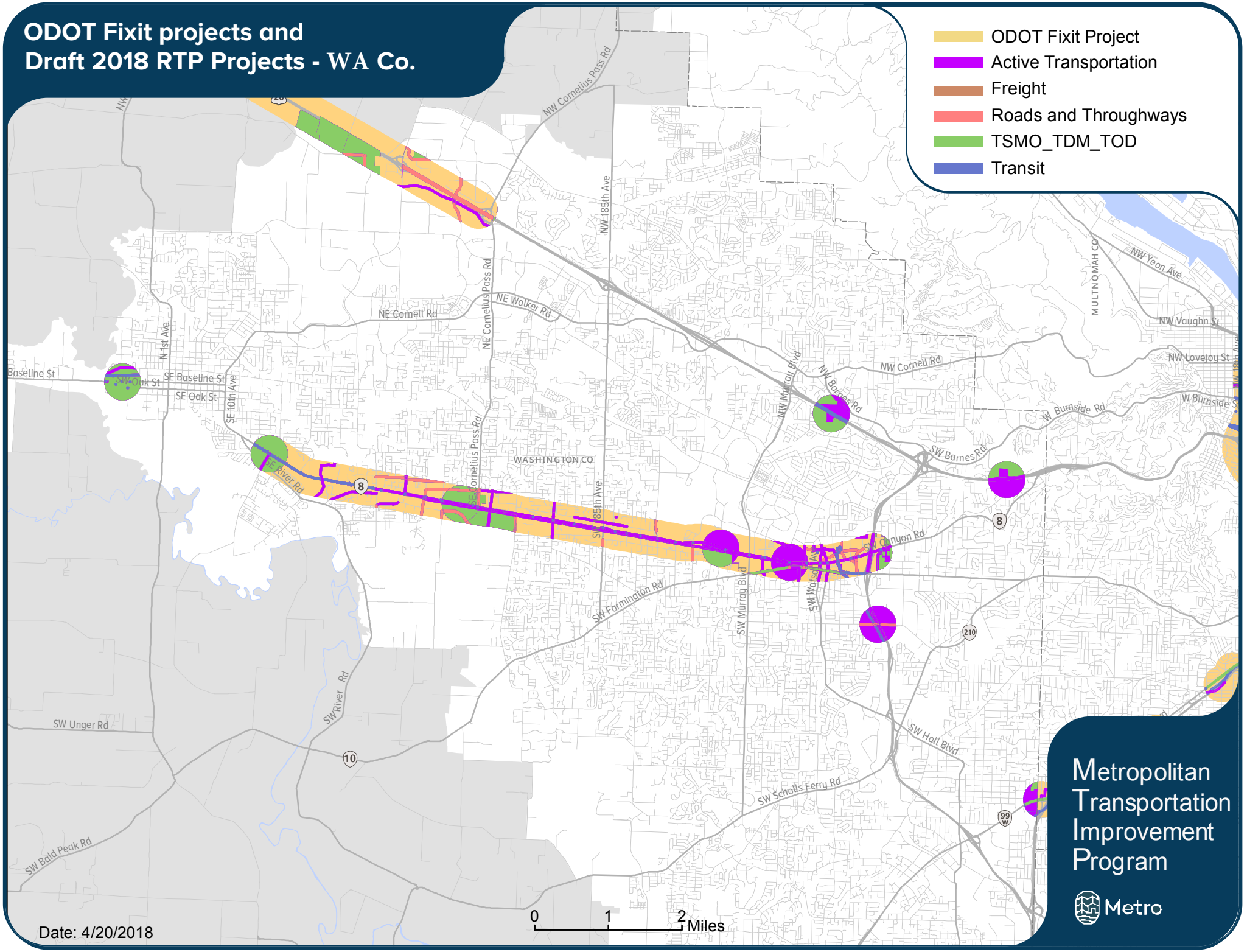
ODOT Fixit projects and Draft 2018 RTP Projects - Mult. Co.



Metropolitan Transportation Improvement Program

Metro

ODOT Fixit projects and Draft 2018 RTP Projects - WA Co.



Metropolitan Transportation Improvement Program

Metro

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
82nd Ave @ Fremont	10180	Portland	Sandy Blvd Corridor Safety Improvements	Roads and Bridges
	10301	Portland	Sandy Blvd ITS	TSMO_TDM_TOD
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit
82nd Ave @ Glisan	10220	Portland	Seventies Greenstreet and Bikeway	Active Transportation
	11816	Portland	Inner E Burnside Ped_Bike Improvements	Active Transportation
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	11858	Portland	E Burnside Safety and Access to Transit	Active Transportation
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
82nd Ave @ Prescott	10180	Portland	Sandy Blvd Corridor Safety Improvements	Roads and Bridges
	10311	Portland	Mason Neighborhood Greenway	Active Transportation
	11847	Portland	Outer Alberta Neighborhood Greenway	Active Transportation
	10301	Portland	Sandy Blvd ITS	TSMO_TDM_TOD
	10311	Portland	Mason Neighborhood Greenway	Active Transportation
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
Clackamas River, Hwy 1E (McLoughlin Br)	10024	Clackamas County	McLoughlin Blvd Improvement	TSMO_TDM_TOD
Columbia R & N Hayden Isl Dr, Hwy1 NB (Interstate)	10902	TriMet	HCT: Portland to Vancouver Light Rail	Transit
Columbia River N Channel, Hwy 64 (Glenn Jackson)	11975	Multnomah County	Bike_Ped Improvements	Active Transportation
Columbia Slough, Hwy 1E	10234	Portland	Columbia Slough Trail Gaps	Active Transportation
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
Hwy 123 over NW Mill St	11814	Portland	NW Bridge Ave Multi-use Path	Active Transportation
	11815	Portland	NW St Helens Rd Corridor Safety Improvements	Roads and Bridges
Hwy 1W NB Conn #1 (Steel Br E Approach)	10232	Portland	Flanders Neighborhood Greenway	Active Transportation
	11636	Portland	NE Multnomah Protected Bikeway	Active Transportation
	11644	Portland	North Portland Greenway Segment 5	Active Transportation
	11785	Portland	Naito Parkway Corridor Improvements	Active Transportation
	11833	Portland	Inner North Portland Enhanced Transit Corridor	Transit
	10232	Portland	Flanders Neighborhood Greenway	Active Transportation
	10921	TriMet	Steel Bridge Transit Bottleneck	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
Hwy 2 EB Conn to Hwy 64 NB over Hwy 64 NB Conn	11975	Multnomah County	Bike_Ped Improvements	Active Transportation
	11850	Portland	I-84 Path Extension	Active Transportation
Hwy 2 WB over Hwy 2 WB Conns to Hwy 64	11975	Multnomah County	Bike_Ped Improvements	Active Transportation
	11850	Portland	I-84 Path Extension	Active Transportation
Hwy 47 EB Conn to SW Market St over Hwy 61	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
Hwy 61 NB Conn to SW 14th Ave over Hwy 61 & Conns	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
I-205: SE Foster Rd - SE 82nd Dr	10009	Clackamas County	Fuller Rd Improvements	Active Transportation
	10022	Clackamas County	82nd Dr	Active Transportation
	10050	Clackamas County	Johnson Rd Clackamas Rd McKinley Rd	Active Transportation
	11767	Clackamas County	I-205 Multiuse Path from OR 224 to OR 212	Active Transportation
	10271	Portland	SE 92nd Ave Safety Improvements	Active Transportation
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
I-405: Fremont Bridge - Marquam Bridge Sec.	11567	Portland	Downtown I-405 Pedestrian Safety and Operational Improvements	Active Transportation
	10232	Portland	Flanders Neighborhood Greenway	Active Transportation
	10250	Portland	W Burnside Corridor Improvements	Roads and Bridges
	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	11781	Portland	I-405 _ Glisan Traffic Improvements	Roads and Bridges
	11782	Portland	North Portal Street Improvements	Roads and Bridges
	11791	Portland	NW Northrup Traffic Signals	Transit
	11792	Portland	Upper I-405 Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11862	Portland	Terwilliger Bikeway Gaps	Active Transportation
	10171	Portland	W Burnside_Couch Corridor Improvements Phase 2	Roads and Bridges
	11959	Portland	W Burnside_Couch Corridor Improvements Phase 1	Roads and Bridges
	11788	Portland	SW Broadway Traffic Improvements	Roads and Bridges
	11787	Portland	I-405 South Portland Crossing Improvements	Active Transportation
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11319	TriMet	Streetcar Extension: Montgomery Park	Transit
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	11590	TriMet	HCT: Division Transit Project: Capital Construction	Transit
	10412	Multnomah County	Morrison Bridge Rehabilitation - Phase 1	Roads and Bridges
	11128	Multnomah County	Morrison Bridge Rehabilitation - Phase 2	Roads and Bridges
	11129	Multnomah County	Earthquake Ready Burnside Bridge Phase 1	Roads and Bridges
	11972	Multnomah County	Hawthorne Burnside and Broadway Control Systems Rehabilitation	Roads and Bridges
	10412	Multnomah County	Morrison Bridge Rehabilitation - Phase 1	Roads and Bridges
	10413	Multnomah County	Hawthorne Bridge Rehabilitation	Roads and Bridges

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
I-5: Burnside Street - Marquam Bridge	11958	Multnomah County	Morrison Bridge Rehabilitation - Phase 3	Roads and Bridges
	10237	Portland	Southern Triangle Access Improvements	Roads and Bridges
	11785	Portland	Naito Parkway Corridor Improvements	Active Transportation
	11786	Portland	Water Ave Corridor Improvements	Active Transportation
	11793	Portland	SE Yamhill _Taylor Couplet	Roads and Bridges
	11841	Portland	Central Eastside Access and Circulation Improvements	Freight
	10171	Portland	W Burnside_Couch Corridor Improvements Phase 2	Roads and Bridges
	10237	Portland	Southern Triangle Access Improvements	Roads and Bridges
	10264	Portland	Central City Traffic Transportation System Management	TSMO_TDM_TOD
	11839	Portland	Water_Yamhill Traffic Signal	TSMO_TDM_TOD
	11761	Portland	Central City Portals Transit Enhancements	Transit
	11832	Portland	Central City Multimodal Safety Improvements Phase 2	Active Transportation
	11783	Portland	Portland Streetcar Operational Improvements	Transit
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
	12031	TriMet	ETC: SE Hawthorne_Foster Enhanced Transit Project	Transit
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
I-5: Capitol Hwy - I-405 (Fremont)	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11862	Portland	Terwilliger Bikeway Gaps	Active Transportation
	11830	Portland	Multnomah Viaduct Safety Improvements	Active Transportation
	10309	Portland	SW Macadam Ped_Bike Improvements	Active Transportation
	11829	Portland	Slavin Rd Ped_Bike Improvements	Active Transportation
	11869	Portland	Moody Ave Extension	Roads and Bridges
	11564	Portland	Barbur Demonstration Project 19th Ave to 26th Ave	Active Transportation
	10164	Portland	South Portal Intersection Improvements	Roads and Bridges
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11587	TriMet	HCT: Southwest Corridor: Capital Construction	Transit
I-5: Victory Blvd. to Lombard St. Section	11833	Portland	Inner North Portland Enhanced Transit Corridor	Transit
	11843	Portland	N Interstate Ave Bikeway Improvements	Active Transportation
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	10341	Portland	Columbia Blvd Pedestrian Improvements	Active Transportation
	10342	Portland	Columbia Blvd Corridor ITS Improvements	TSMO_TDM_TOD
	10299	Portland	N Lombard Corridor Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11801	Portland	Columbia Blvd Railroad Undercrossing Improvement	Freight
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
I-84: MLK Blvd to East Portland Fwy	11975	Multnomah County	Bike_Ped Improvements	Active Transportation
	11129	Multnomah County	Earthquake Ready Burnside Bridge Phase 1	Roads and Bridges
	11972	Multnomah County	Hawthorne Burnside and Broadway Control Systems Rehabilitation	Roads and Bridges
	10220	Portland	Seventies Greenstreet and Bikeway	Active Transportation
	10320	Portland	NE Halsey Safety and Access to Transit	Active Transportation
	11636	Portland	NE Multnomah Protected Bikeway	Active Transportation
	11647	Portland	I-205 Undercrossing	Active Transportation
	11794	Portland	Grand_MLK Lloyd District Traffic Signals	Roads and Bridges
	11808	Portland	Jonesmore Walkway_Bikeway	Active Transportation
	11821	Portland	Sixties Neighborhood Greenway	Active Transportation
	11850	Portland	I-84 Path Extension	Active Transportation
	11943	Portland	NE Broadway Corridor Improvements Phase 2	Active Transportation
	11841	Portland	Central Eastside Access and Circulation Improvements	Freight
	10268	Portland	Hollywood Town Center Safety Improvements	Active Transportation
	10180	Portland	Sandy Blvd Corridor Safety Improvements	Roads and Bridges
	10301	Portland	Sandy Blvd ITS	TSMO_TDM_TOD
	10204	Portland	Gateway Pacific St Streetscape Improvements	Active Transportation
	10315	Portland	Cesar Chavez Corridor Improvements	Roads and Bridges
	11835	Portland	Cesar Chavez Blvd Enhanced Transit Corridor	Transit
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	10243	Portland	NE 12th Ave Bridge Replacement	Roads and Bridges
	11645	Portland	Sullivan's Crossing Pedestrian_Bicycle Bridge	Active Transportation
	11857	Portland	82nd Ave MAX Station Area Improvements	Active Transportation
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11320	Portland	60th MAX Station Area Improvements	Active Transportation
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
	11102	TriMet	Streetcar Extension: Broadway-Weidler to Hollywood	Transit
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	10905	TriMet	Renew the Blue Station Rehabilitation	Transit
	10922	TriMet	HCT: MAX Red Line Extension	Transit
Johnson Creek, Hwy 29 (Twin Pipes)	10642	Beaverton	Adaptive Traffic Signal Systems	TSMO_TDM_TOD
	11888	Beaverton	Access to Transit Sidewalk Infill	Active Transportation
	11589	TriMet	ETC: TV Hwy Enhanced Transit Project	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD
	11440	Washington County	TV Hwy and Canyon Rd Corridor Safety and Access to Transit	Active Transportation

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
Lombard @ Delaware	10299	Portland	N Lombard Corridor Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	11843	Portland	N Interstate Ave Bikeway Improvements	Active Transportation
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	11411	TriMet	Access: Bike & Ride Facilities	Transit
Lombard @ Stanford	10299	Portland	N Lombard Corridor Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
Lombard @ Vancouver	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
Lombard @ Wall	10299	Portland	N Lombard Corridor Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
NE 102nd Ave over Hwy 2	11975	Multnomah County	Bike_Ped Improvements	Active Transportation
	11850	Portland	I-84 Path Extension	Active Transportation
NE Glisan Street over Hwy 64	10204	Portland	Gateway Pacific St Streetscape Improvements	Active Transportation
	10318	Portland	Outer Glisan Corridor Improvements Segment 1	Roads and Bridges
	11858	Portland	E Burnside Safety and Access to Transit	Active Transportation
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
OR224 @ Monroe	11621	Milwaukie	Intersection Curb Ramp Improvements	Active Transportation
	10099	Milwaukie	Group 1-Monroe St Neighborhood Greenway	Active Transportation
	11542	Milwaukie	Harrison St Capacity Improvements	Roads and Bridges
	11620	Milwaukie	OR 224 & OR 99E Refinement Plan	TSMO_TDM_TOD
	11537	Milwaukie	Group 4--Pedestrian Improvements at Hwy 224	Roads and Bridges
	11542	Milwaukie	Harrison St Capacity Improvements	Roads and Bridges
OR224: SE 17th - SE 82nd Ave	10050	Clackamas County	Johnson Rd Clackamas Rd McKinley Rd	Active Transportation
	11616	Clackamas County	North Clackamas Regional Park Trail	Active Transportation
	11621	Milwaukie	Intersection Curb Ramp Improvements	Active Transportation
	10094	Milwaukie	Lake Road Sidewalks	Active Transportation
	11620	Milwaukie	OR 224 & OR 99E Refinement Plan	TSMO_TDM_TOD
	11533	Milwaukie	Bicycle and Pedestrian Overpass over Railroad Ave	Active Transportation
	10095	Milwaukie	Railroad Ave Capacity Improvements	Active Transportation
	10096	Milwaukie	37th Ave Sidewalks	Active Transportation
	10099	Milwaukie	Group 1-Monroe St Neighborhood Greenway	Active Transportation
	11534	Milwaukie	Lake Rd Bike Lanes	Active Transportation
	11535	Milwaukie	Group 6--Sidewalk & Pedestrian Safety Projects part 1	Active Transportation
	11541	Milwaukie	Group 7--Bicycle Infrastructure Improvements	Active Transportation
	11542	Milwaukie	Harrison St Capacity Improvements	Roads and Bridges
	11537	Milwaukie	Group 4--Pedestrian Improvements at Hwy 224	Roads and Bridges
	11625	Milwaukie	43rd Ave Bike Lanes & Pedestrian Improvements	Active Transportation
	10000	Milwaukie	Linwood_Harmony Rd_ Lake Rd Intersection	Roads and Bridges
OR43: Bancroft St - Sellwood Br.	10087	Lake Oswego	Lake Oswego to Portland Trail	Active Transportation
	10309	Portland	SW Macadam Ped_Bike Improvements	Active Transportation
	10354	Portland	Red Electric Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11829	Portland	Slavin Rd Ped_Bike Improvements	Active Transportation
	11869	Portland	Moody Ave Extension	Roads and Bridges
	10164	Portland	South Portal Intersection Improvements	Roads and Bridges
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
OR8 @ Baseline/Main	11931	Hillsboro	Communications ITS Projects	TSMO_TDM_TOD
	11932	Hillsboro	Safety Action Projects	Other
	11933	Hillsboro	Safe Routes to School Projects	Active Transportation
	11381	Hillsboro	Transit Stop Enhancements	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11440	Washington County	TV Hwy and Canyon Rd Corridor Safety and Access to Transit	Active Transportation
OR8 @ Minter Bridge	11931	Hillsboro	Communications ITS Projects	TSMO_TDM_TOD
	11932	Hillsboro	Safety Action Projects	Other
	11933	Hillsboro	Safe Routes to School Projects	Active Transportation
	10846	Hillsboro	TV Hwy Multimodal Improvements	Transit
	11381	Hillsboro	Transit Stop Enhancements	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
OR8: OR217 - Hocken	10642	Beaverton	Adaptive Traffic Signal Systems	TSMO_TDM_TOD
	11888	Beaverton	Access to Transit Sidewalk Infill	Active Transportation
	10625	Beaverton	Rose Biggi Avenue Street Extension	Roads and Bridges
	10619	Beaverton	Crescent Street Extension	Roads and Bridges
	10620	Beaverton	Millikan Way Extension	Roads and Bridges
	10621	Beaverton	Broadway Street Extension	Roads and Bridges
	10624	Beaverton	120th Avenue Extension	Roads and Bridges
	10626	Beaverton	115th Avenue Extension	Roads and Bridges
	10628	Beaverton	Center Street Multimodal Improvements	Active Transportation
	10634	Beaverton	Cedar Hills Boulevard Multimodal Improvements Walker Road to Farmington Road	Active Transportation
	10646	Beaverton	Hall Boulevard and Watson Avenue Intersection Improvements	Active Transportation
	10668	Beaverton	Farmington Road Bike Lanes	Active Transportation
	11379	Beaverton	Canyon Road Multimodal Improvement	Roads and Bridges
	11894	Beaverton	Farmington Road_Beaverton-Hillsdale Highway Transportation System Management	TSMO_TDM_TOD
	10636	Beaverton	Millikan Way Multimodal Improvements	Active Transportation
	10663	Beaverton	Hall Boulevard Bike Lanes Phase 1	Active Transportation
	10664	Beaverton	Watson Avenue Bike Lanes	Active Transportation
	10668	Beaverton	Farmington Road Bike Lanes	Active Transportation
	10811	THPRD	Beaverton Creek Trail Regional Seg #1 & #2	Active Transportation
	11589	TriMet	ETC: TV Hwy Enhanced Transit Project	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
	11440	Washington County	TV Hwy and Canyon Rd Corridor Safety and Access to Transit	Active Transportation
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
OR8: Hocken - SE 73rd	10642	Beaverton	Adaptive Traffic Signal Systems	TSMO_TDM_TOD
	10631	Beaverton	141st Avenue_142nd Avenue Realignment	Active Transportation
	10636	Beaverton	Millikan Way Multimodal Improvements	Active Transportation
	11894	Beaverton	Farmington Road_Beaverton-Hillsdale Highway Transportation System Management	TSMO_TDM_TOD
	10634	Beaverton	Cedar Hills Boulevard Multimodal Improvements Walker Road to Farmington Road	Active Transportation
	11888	Beaverton	Access to Transit Sidewalk Infill	Active Transportation
	11379	Beaverton	Canyon Road Multimodal Improvement	Roads and Bridges
	10668	Beaverton	Farmington Road Bike Lanes	Active Transportation
	11895	Beaverton	Farmington Road_Cedar Hills Boulevard Intersection Improvements	Roads and Bridges
	11898	Beaverton	Farmington Road_Hocken Avenue Intersection Improvements	Roads and Bridges
	10553	Hillsboro	209th Ave Widening and Improvements Phase 1	Roads and Bridges
	11483	Hillsboro	Tualatin Valley Trail Turf-to-Surf Trail	Active Transportation
	11931	Hillsboro	Communications ITS Projects	TSMO_TDM_TOD
	11932	Hillsboro	Safety Action Projects	Other
	11933	Hillsboro	Safe Routes to School Projects	Active Transportation
	11461	Hillsboro	Reedville Trail North Segment	Active Transportation
	11386	Hillsboro	198th Ave Widening and Bike_Ped Improvements	Roads and Bridges
	11273	Hillsboro	Blanton Street Extension	Roads and Bridges
	11462	Hillsboro	Reedville Trail South Segment	Active Transportation
	10846	Hillsboro	TV Hwy Multimodal Improvements	Transit
	11381	Hillsboro	Transit Stop Enhancements	Transit
	11385	Hillsboro	67th Ave Railroad Crossing Closure Turn Lanes and Bike_Ped Improvements	Roads and Bridges
	11390	Hillsboro	TV Hwy & 198th Ave Intersection Improvements	Roads and Bridges
	11589	TriMet	ETC: TV Hwy Enhanced Transit Project	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	10546	Washington County	170th Ave Improvements	Roads and Bridges
	10587	Washington County	Cornelius Pass Rd Improvements	Roads and Bridges
	11239	Washington County	Washington County Neighborhood Bikeways	Active Transportation
	11441	Washington County	TV Highway Safe Access and Enhanced Transit Corridor	Active Transportation
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD
	11440	Washington County	TV Hwy and Canyon Rd Corridor Safety and Access to Transit	Active Transportation
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
	10585	Washington County	Johnson St Improvements	Active Transportation
	10587	Washington County	Cornelius Pass Rd Improvements	Roads and Bridges
	10582	Washington County	185th Ave Improvements	Roads and Bridges
	10584	Washington County	Alexander St Improvements	Active Transportation
	11448	Washington County	198th Ave Improvements - South	Active Transportation
OR8: SE 73rd - Minter Bridge	11931	Hillsboro	Communications ITS Projects	TSMO_TDM_TOD
	11932	Hillsboro	Safety Action Projects	Other
	11933	Hillsboro	Safe Routes to School Projects	Active Transportation
	10820	Hillsboro	Brookwood Ave Improvements	Roads and Bridges
	10839	Hillsboro	Century Blvd Turn Lanes and Bike Lanes Witch Hazel	Roads and Bridges
	11137	Hillsboro	TV Hwy & Century Blvd Intersection Improvements	Roads and Bridges
	10846	Hillsboro	TV Hwy Multimodal Improvements	Transit
	10851	Hillsboro	Rock Creek Trail Extension	Active Transportation
	11273	Hillsboro	Blanton Street Extension	Roads and Bridges
	11385	Hillsboro	67th Ave Railroad Crossing Closure Turn Lanes and Bike_Ped Improvements	Roads and Bridges
	11483	Hillsboro	Tualatin Valley Trail Turf-to-Surf Trail	Active Transportation
	11381	Hillsboro	Transit Stop Enhancements	Transit
	10846	Hillsboro	TV Hwy Multimodal Improvements	Transit
	10839	Hillsboro	Century Blvd Turn Lanes and Bike Lanes Witch Hazel	Roads and Bridges
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
	11239	Washington County	Washington County Neighborhood Bikeways	Active Transportation
	10587	Washington County	Cornelius Pass Rd Improvements	Roads and Bridges
OR99E @ Arlington/River	10024	Clackamas County	McLoughlin Blvd Improvement	TSMO_TDM_TOD
OR99E: Expo Center - Columbia Blvd	10234	Portland	Columbia Slough Trail Gaps	Active Transportation
	10302	Portland	NE MLK Jr Blvd Corridor Improvements	TSMO_TDM_TOD
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	10341	Portland	Columbia Blvd Pedestrian Improvements	Active Transportation
	10342	Portland	Columbia Blvd Corridor ITS Improvements	TSMO_TDM_TOD
	10346	Portland	Marine Dr ITS	TSMO_TDM_TOD
	11864	Portland	Marine_Lombard Corridor Safety Improvements	Roads and Bridges
	10234	Portland	Columbia Slough Trail Gaps	Active Transportation
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	10208	Portland	Columbia_MLK Intersection Improvements Phase 1	Roads and Bridges
	11877	Portland	Columbia_MLK Intersection Improvements Phase 2	Roads and Bridges
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
OR99W @ 53rd Ave	10303	Portland	Outer Capitol Hwy Corridor Improvements	Roads and Bridges
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	11825	Portland	SW Pomona_64th Ped_Bike Improvements	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	12008	Tigard	Red Rock Creek Greenway	Active Transportation

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
OR99W @ 64th	10766	Tigard	Regional Trail Gap Closure	Active Transportation
	11226	Tigard	Pedestrian Improvements	Active Transportation
	11227	Tigard	Neighborhood Trails & Regional Trail Connections	TSMO_TDM_TOD
	12012	Tigard	Tigard Transit Improvements	Transit
	12000	Tigard	Tigard SRTS Projects	Active Transportation
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	11587	TriMet	HCT: Southwest Corridor: Capital Construction	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
Oswego Creek, Hwy 3 SB (Sucker Creek)	11934	Lake Oswego	City-wide Traffic Signal_ITS Improvements	TSMO_TDM_TOD
SE Sunnyside Rd over Hwy 64	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
Stafford Rd over Hwy 64	10029	Clackamas County	Stafford Rd Improvements	Active Transportation
	11792	Portland	Upper I-405 Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11788	Portland	SW Broadway Traffic Improvements	Roads and Bridges
	11862	Portland	Terwilliger Bikeway Gaps	Active Transportation
	11787	Portland	I-405 South Portland Crossing Improvements	Active Transportation
SW 5th Ave over Hwy 61	11792	Portland	Upper I-405 Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11787	Portland	I-405 South Portland Crossing Improvements	Active Transportation
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11590	TriMet	HCT: Division Transit Project: Capital Construction	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
SW Allen Blvd over Hwy 144	10642	Beaverton	Adaptive Traffic Signal Systems	TSMO_TDM_TOD
	11888	Beaverton	Access to Transit Sidewalk Infill	Active Transportation
	10633	Beaverton	Allen Boulevard Multimodal Improvements OR Highway 217 to Western Avenue	Roads and Bridges
	10811	THPRD	Beaverton Creek Trail Regional Seg #1 & #2	Active Transportation
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
SW Broadway Conn #4 over Hwy 61	11788	Portland	SW Broadway Traffic Improvements	Roads and Bridges
	11792	Portland	Upper I-405 Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11862	Portland	Terwilliger Bikeway Gaps	Active Transportation
	11787	Portland	I-405 South Portland Crossing Improvements	Active Transportation
	11590	TriMet	HCT: Division Transit Project: Capital Construction	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
SW Clay St Conn to Hwy 47 WB over Hwy 61	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
SW Columbia St over Hwy 61	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
SW Montgomery St Cpnn #7 over Hwy 61	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
SW Morrison St over Hwy 61	11567	Portland	Downtown I-405 Pedestrian Safety and Operational Improvements	Active Transportation
	10250	Portland	W Burnside Corridor Improvements	Roads and Bridges
	10266	Portland	I-405 Corridor ITS Improvements	TSMO_TDM_TOD
	10171	Portland	W Burnside_Couch Corridor Improvements Phase 2	Roads and Bridges
	11959	Portland	W Burnside_Couch Corridor Improvements Phase 1	Roads and Bridges
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
US26: Glencoe Rd - Cornelius Pass Rd	11393	Hillsboro	US 26 Widening - Brookwood to Cornelius Pass	Throughways
	11931	Hillsboro	Communications ITS Projects	TSMO_TDM_TOD
	11932	Hillsboro	Safety Action Projects	Other
	11933	Hillsboro	Safe Routes to School Projects	Active Transportation
	11387	Hillsboro	Meek Rd Improvements Phase 1	Roads and Bridges
	11364	Hillsboro	Starr Blvd Reconstruction and Improvements Phase 2	Roads and Bridges
	10831	Hillsboro	Century Blvd Extension and Over-Crossing North Hillsboro	Roads and Bridges
	11485	Hillsboro	Crescent Park Greenway	Active Transportation
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11454	Washington County	Jackson School Road	TSMO_TDM_TOD
US30B: N Fiske Ave - N Greenwich Ave	11842	Portland	N Willamette Blvd Bikeway	Active Transportation
	11843	Portland	N Interstate Ave Bikeway Improvements	Active Transportation
	10299	Portland	N Lombard Corridor Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	11411	TriMet	Access: Bike & Ride Facilities	Transit
US30B: MLK - 60th	10335	Portland	NE 42nd_47th Ave Bridge & Corridor Improvements	Roads and Bridges
	11566	Portland	Connected Cully	Active Transportation
	11865	Portland	NE Lombard Corridor Safety Improvements	Roads and Bridges
	12004	Portland	Columbia Blvd Freight Improvements: Project Development	Freight
	11807	Portland	NE 33rd Ave Bridge Replacement	Roads and Bridges
	10302	Portland	NE MLK Jr Blvd Corridor Improvements	TSMO_TDM_TOD
	10341	Portland	Columbia Blvd Pedestrian Improvements	Active Transportation
	10342	Portland	Columbia Blvd Corridor ITS Improvements	TSMO_TDM_TOD
	11836	Portland	N_NE Lombard St Enhanced Transit Corridor	Transit
	10335	Portland	NE 42nd_47th Ave Bridge & Corridor Improvements	Roads and Bridges
	12004	Portland	Columbia Blvd Freight Improvements: Project Development	Freight
	10208	Portland	Columbia_MLK Intersection Improvements Phase 1	Roads and Bridges

2018 RTP Projects within a Half-Mile of ODOT 150%/200% Fix-It Projects

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
	11877	Portland	Columbia_MLK Intersection Improvements Phase 2	Roads and Bridges
	12027	TriMet	ETC: NE MLK Jr Blvd Enhanced Transit Project	Transit
VMS and camera replacement*	10642	Beaverton	Adaptive Traffic Signal Systems	TSMO_TDM_TOD
	11888	Beaverton	Access to Transit Sidewalk Infill	Active Transportation
	10354	Portland	Red Electric Trail	Active Transportation
	11826	Portland	Barbur Blvd ITS	TSMO_TDM_TOD
	11829	Portland	Slavin Rd Ped_Bike Improvements	Active Transportation
	11862	Portland	Terwilliger Bikeway Gaps	Active Transportation
	10309	Portland	SW Macadam Ped_Bike Improvements	Active Transportation
	11828	Portland	Capitol Hwy Bridge Seismic Retrofit	Roads and Bridges
	11343	SMART	Bus stop access improvements	Active Transportation
	11994	Tigard	Hunziker Core Industrial Street	Transit
	10907	TriMet	HCT: Southwest Corridor: Project Development	Transit
	12032	TriMet	ETC: SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Transit
	10605	Washington County	Washington County ITS Phase 1	TSMO_TDM_TOD
	11475	Washington County	Washington County ITS Phase 2	TSMO_TDM_TOD
	11928	Washington County	Transportation Demand Management Phase 1	TSMO_TDM_TOD
	11922	Washington County	School Access Improvement Projects	TSMO_TDM_TOD
	11929	Washington County	Transportation Demand Management Phase 2	TSMO_TDM_TOD
	10579	Washington County	Barnes Rd Improvements	Active Transportation
	11765	Wilsonville	Boones Ferry Road Urban Upgrade Phase 1	Roads and Bridges
Willamette R & Hwy 1 & OPR, Hwy 26 (Ross Island)	11590	TriMet	HCT: Division Transit Project: Capital Construction	Transit
	11411	TriMet	Access: Bike & Ride Facilities	Transit
	11641	Portland	North Portland Greenway Segment 2	Active Transportation
	11642	Portland	North Portland Greenway Segment 3	Active Transportation
	10375	Portland	Cathedral Park Quiet Zone	TSMO_TDM_TOD
Willamette River, Hwy 1 (Boone Bridge)	11343	SMART	Bus stop access improvements	Active Transportation
	11994	Tigard	Hunziker Core Industrial Street	Transit
*Note: Merges all five VMS and camera replacement projects together				

ODOT Region 1 150%/200% Fix-It Projects and Overlap with Regional Priorites

Project Name	ODOT Program	Program Priority Level (1 = high; 99 = shelf)	Short Description of Work	High Injury Corridor - Composite	Pedestrian High Injury Corridor	Bicycle High Injury Corridor	2040 Growth Center	Employment & Industrial Centers	Equity Focus Area - Race/Ethnicity, English Language Learners & Lower Income	Equity Focused Area - Race/Ethnicity & English Language Learners	Transit Congested Segment	Sum of Priorities	2018 RTP Constrained List Project (2018-2027)	2018 RTP Constrained List Project (2018-2040)
OR8: Hocken - SE 73rd	Preservation 150%	2	Pavement resurfacing to repair cracking, rutting and wear, and curb ramp improvements.	1	1	1	1	1	1	1	1	8	Yes	Yes
OR99E: Expo Center - Columbia Blvd	Preservation 150%	2	Pavement rehabilitation of very poor pavement.	1	1	1	0	1	1	1	1	7	Yes	Yes
OR8: OR217 - Hocken	Preservation 150%	2	Pavement resurfacing to repair cracking, rutting and wear, and curb ramp improvements.	1	1	1	1	0	1	1	1	7	Yes	Yes
US30B: N Fiske Ave - N Greenwich Ave	Preservation 150%	3	Pavement rehabilitation of very poor pavement, and curb ramp improvements.	1	1	1	0	1	1	1	1	7	Yes	Yes
OR8: SE 73rd - Minter Bridge	Preservation 150%	99	Pavement resurfacing to repair cracking, reduce maintenance costs, and curb ramp improvements.	1	1	1	0	1	1	1	1	7	Yes	Yes
US30B: MLK - 60th	Preservation 150%	2	Pavement resurfacing to repair cracking, rutting and wear, and curb ramp improvements.	1	1	1	0	1	1	1	1	7	Yes	Yes
OR8 @ Baseline/Main	Operations 150%	1	Full signal upgrade	1	1	1	1	1	1	1	0	7	Yes	Yes
Lombard @ Vancouver	Operations 150%	3	Full signal upgrade	1	1	1	0	1	1	1	1	7	Yes	Yes
Hwy 47 EB Conn to SW Market St over Hwy 61	Bridge 200%	2	Deck rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
SW 5th Ave over Hwy 61	Bridge 200%	2	Deck Rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
Johnson Creek, Hwy 29 (Twin Pipes)	Bridge 200%	2	Scour	1	1	1	0	1	1	1	1	7	Yes	Yes
SW Montgomery St Cpnn #7 over Hwy 61	Bridge 200%	2	Deck rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
SW Broadway Conn #4 over Hwy 61	Bridge 200%	2	Deck Rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
SW Clay St Conn to Hwy 47 WB over Hwy 61	Bridge 200%	2	Deck rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
Hwy 61 NB Conn to SW 14th Ave over Hwy 61 & Conns	Bridge 200%	2	Deck Rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
SW Morrison St over Hwy 61	Bridge 200%	2	Paint	1	1	1	1	0	1	1	1	7	Yes	Yes
SW Columbia St over Hwy 61	Bridge 200%	2	Deck rehab	1	1	1	1	0	1	1	1	7	Yes	Yes
Hwy 1W NB Conn #1 (Steel Br E Approach)	Bridge 200%	2	Paint	1	1	1	1	1	1	0	1	7	Yes	Yes
OR224: SE 17th - SE 82nd Ave	Preservation 150%	1	Pavement resurfacing to repair cracking, rutting and wear.	1	1	1	1	1	1	0	0	6	Yes	Yes
82nd Ave @ Fremont	Operations 150%	2	Full signal upgrade	1	1	1	0	0	1	1	1	6	Yes	Yes
82nd Ave @ Glisan	Operations 150%	2	Full signal upgrade	1	1	1	0	0	1	1	1	6	Yes	Yes
OR99W @ 53rd Ave	Operations 150%	3	Full signal upgrade	1	0	1	1	0	1	1	1	6	Yes	Yes
Lombard @ Denver	Operations 150%	2	Full signal upgrade	1	1	1	0	0	1	1	1	6	Yes	Yes
82nd Ave @ Prescott	Operations 150%	3	Full signal upgrade	1	1	1	0	0	1	1	1	6	Yes	Yes
NE Glisan Street over Hwy 64	Bridge 200%	2	Joint repair	1	0	1	1	0	1	1	1	6	Yes	Yes
OR8 @ Minter Bridge	Operations 150%	3	Full signal upgrade	1	1	1	0	0	1	1	0	5	No	Yes
OR99W @ 64th	Operations 150%	3	Full signal upgrade	1	0	1	1	1	0	0	1	5	Yes	Yes
OR224 @ Monroe	Operations 150%	1	Full signal upgrade	1	0	1	1	1	1	0	0	5	Yes	Yes
SE Sunnyside Rd over Hwy 64	Bridge 200%	3	Deck rehab	1	0	0	1	0	1	1	1	5	Yes	Yes
SW Allen Blvd over Hwy 144	Bridge 200%	2	Deck Rehab	1	0	1	0	1	1	1	0	5	Yes	Yes
OR43: Bancroft St - Sellwood Br.	Preservation 150%	2	Pavement resurfacing to repair cracking, reduce maintenance costs, and curb ramp improvements.	1	0	1	1	0	0	0	1	4	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	0	0	1	0	1	1	0	4	No	Yes
Lombard @ Wall	Operations 150%	3	Full signal upgrade	1	1	0	0	0	1	1	0	4	Yes	Yes
OR99E @ Arlington/River	Operations 150%	2	Full Signal Upgrade	1	1	0	1	0	1	0	0	4	Yes	Yes
Lombard @ Delaware	Operations 150%	3	Full signal upgrade	1	1	0	0	0	1	1	0	4	Yes	Yes

ODOT Region 1 150%/200% Fix-It Projects and Overlap with Regional Priorites

Project Name	ODOT Program	Program Priority Level (1 = high; 99 = shelf)	Short Description of Work	High Injury Corridor - Composite	Pedestrian High Injury Corridor	Bicycle High Injury Corridor	2040 Growth Center	Employment & Industrial Centers	Equity Focus Area - Race/Ethnicity, English Language Learners & Lower Income	Equity Focused Area - Race/Ethnicity & English Language Learners	Transit Congested Segment	Sum of Priorities	2018 RTP Constrained List Project (2018-2027)	2018 RTP Constrained List Project (2018-2040)
Lombard @ Stanford	Operations 150%	3	Full signal upgrade	1	1	0	0	0	1	1	0	4	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	1	1	0	1	0	0	0	4	Yes	Yes
Clackamas River, Hwy 1E (McLoughlin Br)	Bridge 200%	99	Paint	1	1	0	1	0	1	0	0	4	Yes	Yes
Willamette R & Hwy 1 & OPR, Hwy 26 (Ross Island)	Bridge 200%	2	Strengthening	0	0	0	1	1	1	0	1	4	Yes	Yes
NE 102nd Ave over Hwy 2	Bridge 200%	2	Deck Rehab	1	1	0	0	0	1	1	0	4	Yes	Yes
Columbia Slough, Hwy 1E	Bridge 200%	2	Replacement	1	1	1	0	1	0	0	0	4	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	0	1	0	0	0	0	1	3	Yes	Yes
US26: Glencoe Rd - Cornelius Pass Rd	Preservation 150%	1	Pavement resurfacing to repair ruts and keep safe for travel.	1	0	0	0	1	0	0	0	2	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	1	0	0	0	0	0	0	2	No	No
VMS and camera replacement (I-5 S; south of I-5 and I-205 connection)	Operations 150%	2	VMS	0	1	0	0	1	0	0	0	2	Yes	Yes
Oswego Creek, Hwy 3 SB (Sucker Creek)	Bridge 200%	1	Concrete repair	0	0	0	1	0	0	0	1	2	No	No
Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)	Bridge 200%	1	Concrete repair	0	0	0	0	1	1	0	0	2	Yes	Yes
Hwy 123 over NW Mill St	Bridge 200%	2	Concrete repair	0	0	0	0	1	0	0	0	1	No	Yes
Stafford Rd over Hwy 64	Bridge 200%	2	Deck Rehab	0	0	0	0	0	0	0	0	0	Yes	Yes

ODOT Region 1 150%/200% Fix-It Lists Projects on the Interstate System

Project Name	ODOT Program	Program Priority Level (1 = high; 99 = shelf)	Short Description of Work	High Injury Corridor - Composite	Pedestrian High Injury Corridor	Bicycle High Injury Corridor	2040 Growth Center	Employment & Industrial Centers	Equity Focus Area - Race/Ethnicity, English Language Learners & Lower Income	Equity Focused Area - Race/Ethnicity & English Language Learners	Transit Congested Segment	Sum of Priorities	2018 RTP Constrained List Project (2018-2027)	2018 RTP Constrained List Project (2018-2040)
I-205: SE Foster Rd - SE 82nd Dr	Preservation 150%	2	Pavement resurfacing to repair ruts and keep safe for travel.	1	1	1	1	1	1	1	1	8	Yes	Yes
I-405: Fremont Bridge - Marquam Bridge Sec.	Preservation 150%	2	Pavement resurfacing to repair ruts and keep safe for travel.	1	1	1	1	1	1	1	1	8	Yes	Yes
I-84: MLK Blvd to East Portland Fwy	Preservation 150%	1	Pavement resurfacing to repair ruts and keep safe for travel.	1	1	1	1	1	1	1	1	8	Yes	Yes
I-5: Burnside Street - Marquam Bridge	Preservation 150%	2	Pavement patching and rut repair to extend concrete pavement life and keep safe for travel.	1	1	1	1	1	1	1	1	8	Yes	Yes
I-5: Victory Blvd. to Lombard St. Section	Preservation 150%	2	Pavement resurfacing to repair ruts and keep safe for travel.	1	1	1	0	1	1	1	1	7	Yes	Yes
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	3 VAS signs	1	0	1	1	0	1	1	1	6	Yes	Yes
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	3 VAS signs	1	0	1	1	0	0	0	1	4	Yes	Yes

ODOT Region 1 150%/200% Fix-It Projects and Overlap with Regional Priorites

Project Name	ODOT Program	Program Priority Level (1 = high; 99 = shelf)	Short Description of Work	High Injury Corridor - Composite	Pedestrian High Injury Corridor	Bicycle High Injury Corridor	2040 Growth Center	Employment & Industrial Centers	Equity Focus Area - Race/Ethnicity, English Language Learners & Lower Income	Equity Focused Area - Race/Ethnicity & English Language Learners	Transit Congested Segment	Sum of Priorities	2018 RTP Constrained List Project (2018-2027)	2018 RTP Constrained List Project (2018-2040)
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	Truck Warning sign	1	0	1	0	0	1	0	1	4	Yes	Yes
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	3 VAS signs	1	0	1	0	0	1	0	1	4	Yes	Yes
Hwy 2 EB Conn to Hwy 64 NB over Hwy 64 NB Conn	Bridge 200%	2	Deck rehab	1	1	0	0	0	1	1	0	4	Yes	Yes
Hwy 2 WB over Hwy 2 WB Conns to Hwy 64	Bridge 200%	2	Deck rehab	1	1	0	0	0	1	1	0	4	Yes	Yes
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	3 VAS signs	1	0	1	0	0	0	0	0	2	Yes	Yes
I-5: Capitol Hwy - I-405 (Fremont)	Operations 150%	1	3 VAS signs	1	0	1	0	0	0	0	0	2	Yes	Yes
Columbia R & N Hayden Isl Dr, Hwy1 NB (Interstate)	Bridge 200%	2	Deck rehab	0	0	0	0	0	1	0	0	1	No	Yes
Columbia River N Channel, Hwy 64 (Glenn Jackson)	Bridge 200%	3	Deck Rehab	1	0	0	0	0	0	0	0	1	Yes	Yes
Willamette River, Hwy 1 (Boone Bridge)	Bridge 200%	99	Deck rehab	1	0	0	0	0	0	0	0	1	Yes	Yes

2018-2021 Metropolitan Transportation Improvement Program (MTIP)

Per 23 CFR 450.300.

As the delegated management arm to USDOT:

The MPO is designated for each UZA is to carry out a continuing, cooperative, and comprehensive performance-based multimodal transportation planning process for its MPA, including the development of a metropolitan transportation plan **and a TIP…**

Additional MTIP management responsibilities for the MPO are also detailed in 23 CFR 450.326

Ken Lobeck, Funding Programs Lead

Agenda Item 5:

2018-21 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) AMENDMENT – RESOLUTION **18-4887**

April 20th , 2018 Formal MTIP Amendment & Approval Request of Resolution 18-4887

April 20, 2018

Ken Lobeck, Funding Programs Lead

TPAC MTIP Formal Amendment

Approval Request

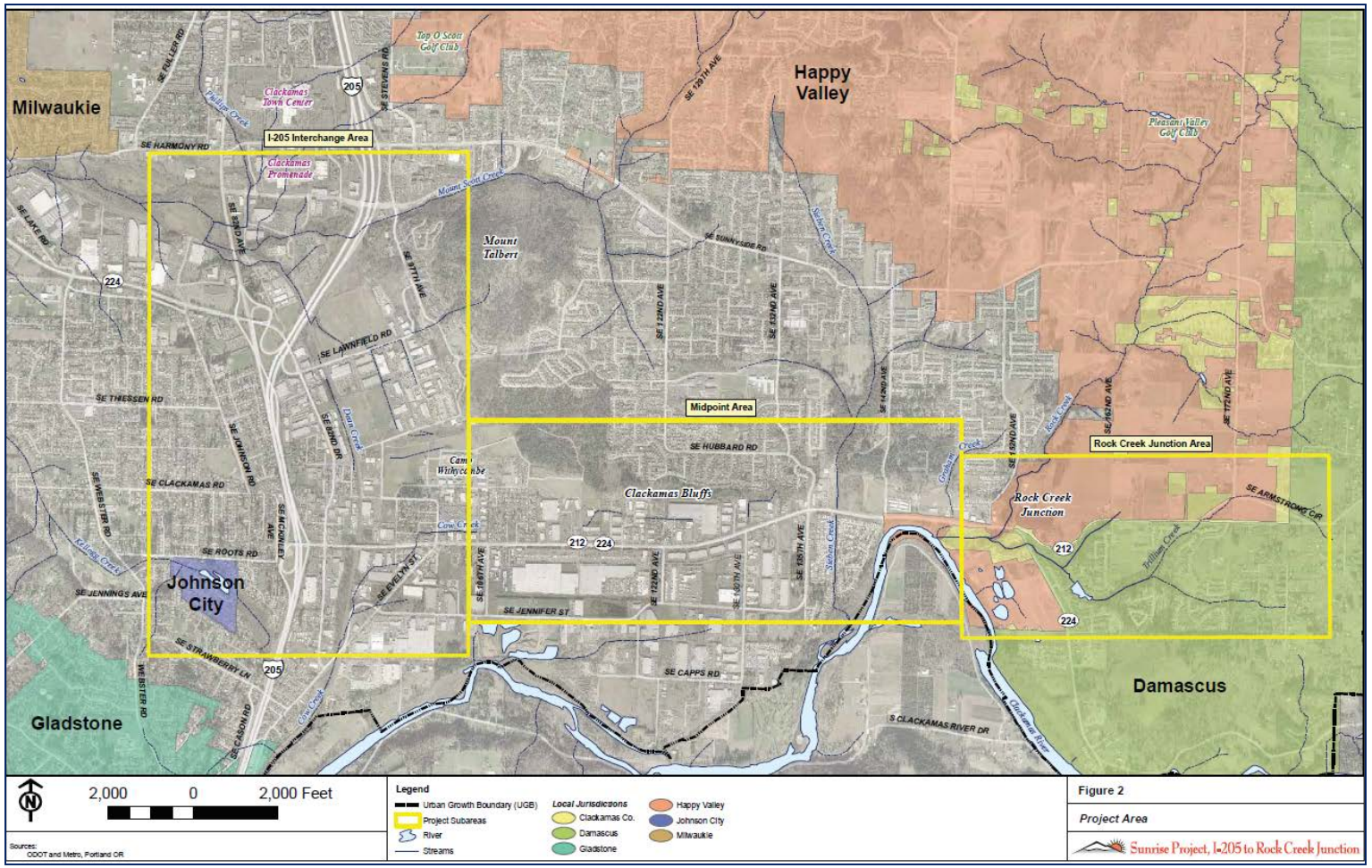
Seeking a single motion approval from TPAC to send to JPACT for:

- Approval of Resolution 18-4887

  FOR THE PURPOSE OF ADDING OR AMENDING EXISTING PROJECTS TO THE 2018-21 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM INVOLVING ONE PROJECT REQUIRING A PROGRAMMING ADDITION FOR ODOT (AP18-09-APR)
- Authorize a formal amendment to the 2018 MTIP
- Consisting of 1 project:
  - Key 19721: Adding the Construction phase
  - I-205: OR224 (Sunrise Expressway) – Sunnybrook Blvd
  - Construct a northbound auxiliary lane from westbound Sunrise Expressway entrance ramp to Sunnybrook Blvd exit ramp.

Key 19721

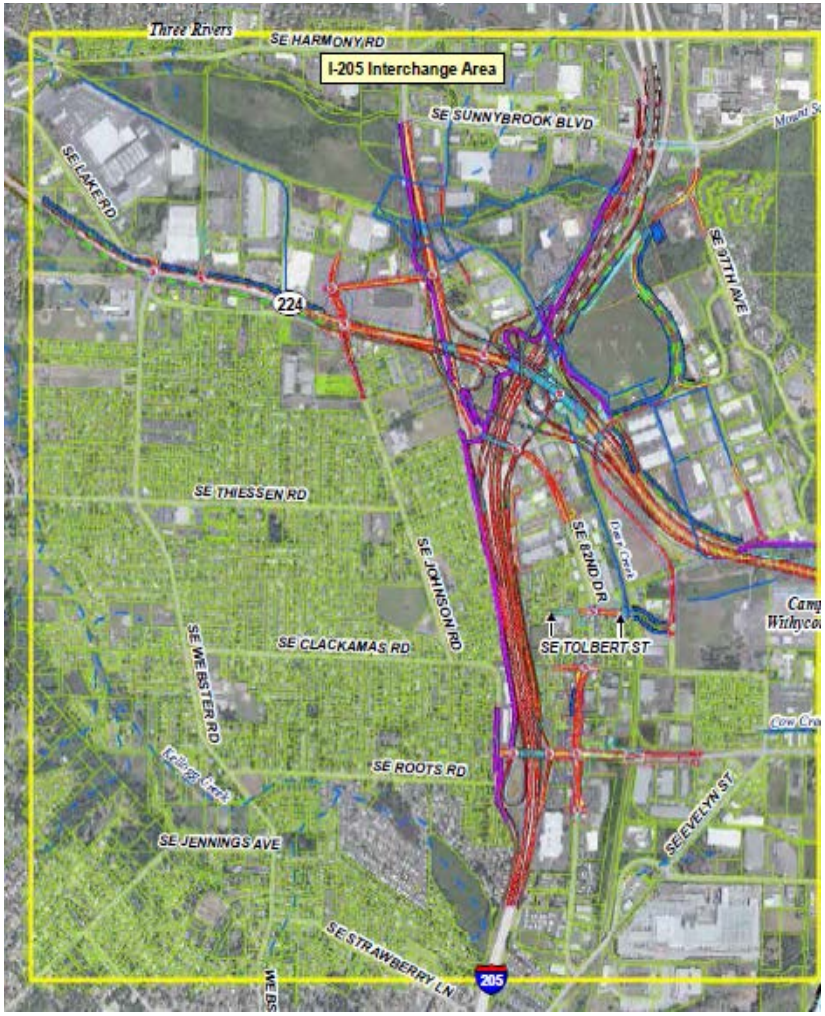
Sunrise Corridor Project Location



Key 19721

I-205 NB Aux Lane Project Location

Sunrise Expressway North to Sunnybrook Blvd



MPO CFR Compliance Requirements

6+ Review Factors

1. MTIP required programming verification
2. MTIP funding eligibility verification
3. Passes fiscal constraint review and verification
4. Passes RTP consistency review:
   - Identified in current constrained RTP **(also includes verification that a capacity enhancing project is properly coded into the current transportation model)**
   - Regionally significant project
   - **Correct location, limits & scope elements in the modeling network**
   - RTP and MTIP project costs consistent
   - Capacity enhancing: Included on modeling network as the same project
5. Satisfies RTP goals and strategies
6. MPO responsibilities verification:
   - Public notification successful completion
   - OTC approval required

MPO CFR Compliance Requirements

Public Notification Period

MPO responsibilities:

- April 20th 2018 Formal Amendment: Public notification period is 4/17/2018 to 5/16/2018

- http://www.oregonmetro.gov/metropolitan-transportation-improvement-program

MPO CFR Compliance Requirements

Public Notification Tables – Before & After

PROJECT #1 PROPOSED AMENDED CHANGES					
ODOT Key	MTIP ID	Lead Agency	Project Name	Project Type	Project Cost
19721	70844	ODOT	~~I-205NB MP 13.3 - Sunnybrook Exit~~ I-205: OR224 (Sunrise Expressway) - Sunnybrook Blvd	Highway	$ 7,500,000
Project Description:			~~Add a northbound auxiliary lane from westbound Sunrise entrance ramp to Sunnybrook exit ramp.~~ Construct a northbound auxiliary lane from westbound Sunrise Expressway entrance ramp to Sunnybrook Blvd exit ramp.		

Amended MTIP Fund Programming by Phase									
Fund Code	Note	Type	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other	Total
NHPP-FAST	Z001	Federal	2016		$ 442,656				$ 442,656
State	Match	State	2016		$ 37,344				$ 37,344
ADVCON	ACP0	Federal	2016		$ 922,200				$ 922,200
State	Match	State	2016		$ 77,800				$ 77,800
State	S010	State	2016		$ 20,000				$ 20,000
ADVCON	ACP0	Federal	2018				$ 5,383,800		$ 5,383,800
State	Match	State	2018				$ 616,200		$ 616,200
			Total:	$ -	$ 1,500,000	$ -	$ 6,000,000	$ -	$ 7,500,000

2018 April 20th Formal Amendment

Estimated Approval Timing & Steps

Action	Target Date
30 Day Public Notification Period Begins	April 17, 2018
TPAC Notification and Approval Recommendation	April 20, 2018
30 Day Public Notification Period Ends	May 16, 2018
JPACT Approval and Recommendation to Council	May 17, 2018
Metro Council Approval of Resolution 18-4887*	June 7, 2018
Amendment Bundle Submission to ODOT & USDOT	June 11, 2018
ODOT & USDOT Final Approvals	End of June 2018

* Assumes no major comments received. Otherwise, project(s) or amendment will return to JPACT for additional reviews and discussions as required.

Approval Recommendation to JPACT

Summary

Staff Recommendation for TPAC:

Provide approval recommendation of Resolution 18-4887 to JPACT which includes 1 total project for ODOT

April 20th 2018 Formal MTIP Amendment

Questions

Emerging technology strategy: technical draft

Transportation Policy Alternatives Committee

April 20, 2018

Our purpose today:

Provide an overview of the discussion draft of the Emerging Technology Strategy (ETS).

Pending approval by JPACT and Council, the ETS will be included as part of the public review draft of the RTP.

Emerging technologies

Automated vehicles (AVs)

Connected vehicles (CVs) and CV infrastructure

Electric vehicles (EVs)

Transportation network companies (TNCs)

AV/EV transit vehicles

Microtransit

Car share

Bike share

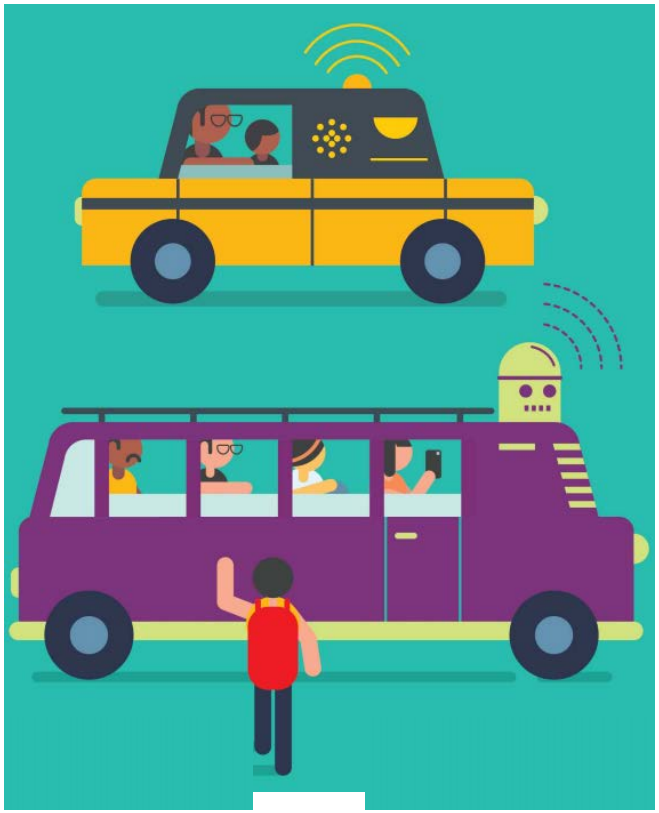
Travel information and payment

New data sources

We need this strategy so that we can guide innovation in transportation technology toward creating a more equitable and livable region.

Even people who don't use these technologies are affected by them, and we want the whole region to benefit.

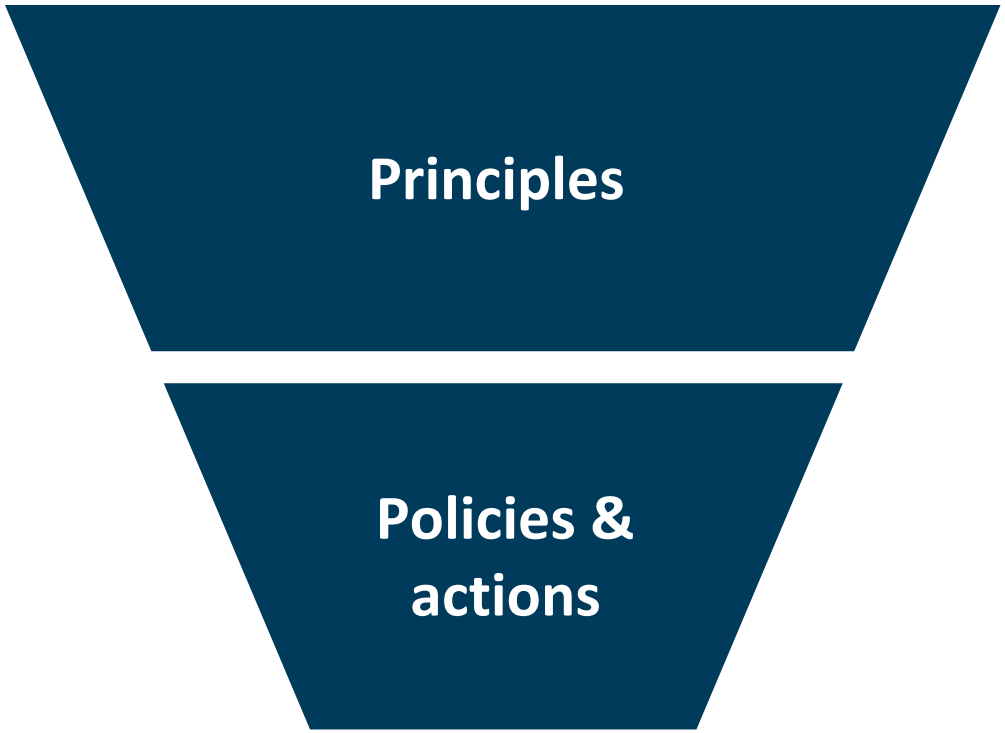
The ETS will be part of the RTP



Single document for readers focused on technology

- As an appendix to the RTP
- Integrated throughout RTP strategies and policies

We've collected feedback on policies



Long-term vision for technology to support our regional goals

Key outcomes and actions for **Metro and our partners** to address over the **next decade**

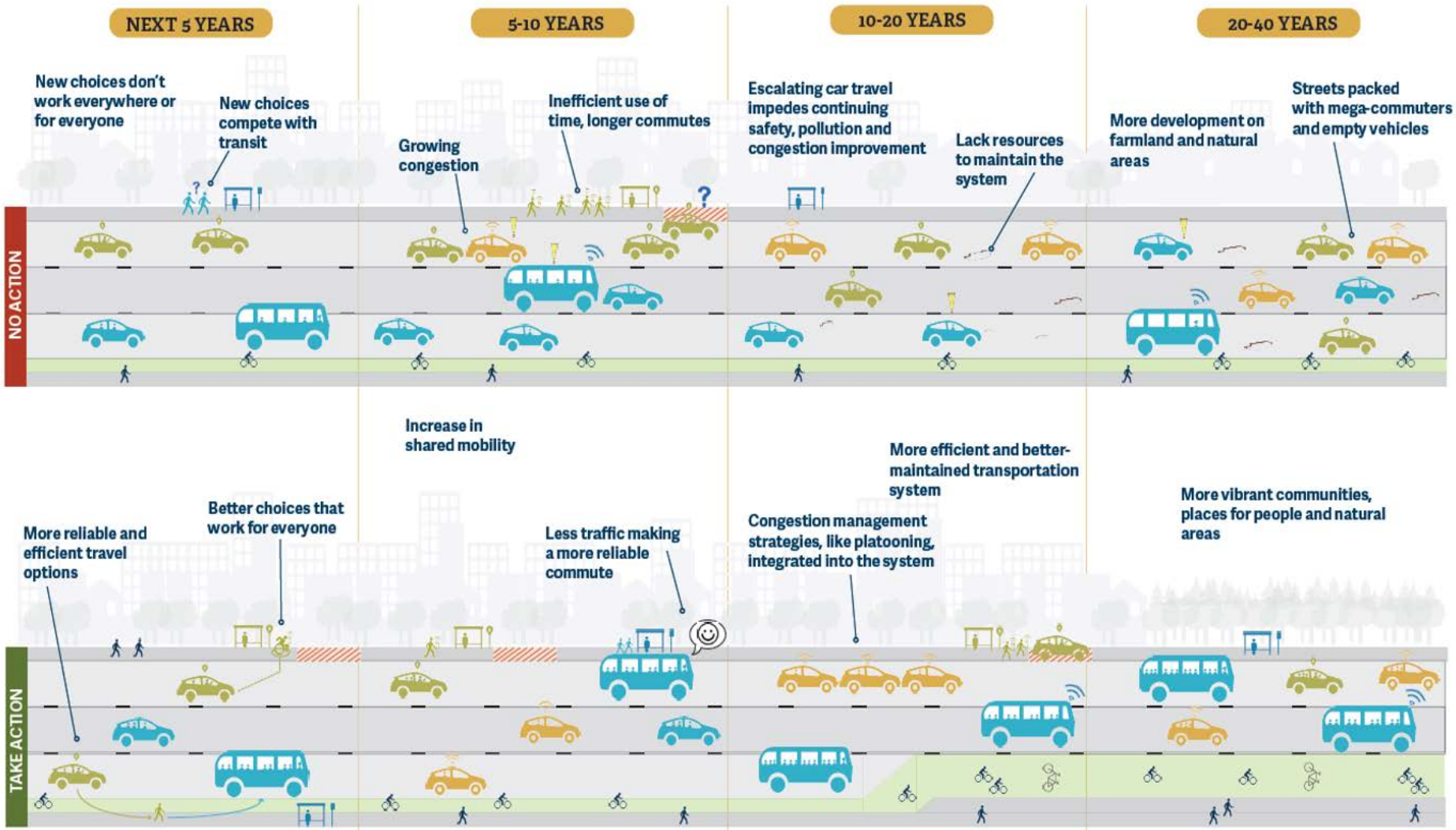
- **Jan**: MTAC-TPAC workshop on ETS policies
- **Feb-Mar**: Metro tech & policy committee discussions
- **Mar**: Emerging tech working group review
- **Apr**: MTAC-TPAC workshop on RTP policies

Changes to policies in this version

Choices **Equity** **Information** **Innovation**

- Wordsmithed policies and actions
- Increased focus on supporting transit in Choices policy
- Removed Prosperity policy focus
- Crosswalked policies and regional goals
- Detailed the applications of technology we want to see
- Added info on who would lead implementation

New: outlining a path to long-term success



New: assessing the impacts of technologies on our regional goals

	AVs/CVs	CV infrastructure	EVs	TNCs	Public microtransit	Private microtransit	Car share	Bike share	Travel info / payment
Vibrant communities	+/-						+		
Economic prosperity	-			-				+	
Transportation choices	+/-	+		+/-	+	-	+		+/-
Congestion	+/-			+/-	+	+	+		
Safety	+	+		-					
Environment	-		+				+	+	
Health			+					+	
Equity	+/-		+/-	+/-	+	-	+/-	+/-	+/-
Accountability	-	+		+/-	+	-	+	+/-	-
Fiscal stewardship		+	-		+	-			

New: Two-year next steps for Metro

- Fund **technology pilot projects** (through new and existing grant programs)
- Convene stakeholders to establish consistent **new mobility policies** across the region
- Develop **better data and tools** to plan for emerging technologies
- Advocate for **state and federal technology policy** that supports our regional goals

What's next?

Apr-May 2018

- **Staff present technical draft** to Metro technical / policy committees

Jun 2018

- Council considers approving ETS release as part of the **RTP public comment draft**
- Staff request Council approval to begin selected **implementation actions**

Jun-Aug 2018

- **Public comment** period

Sep-Dec 2018

- Technical / policy committee **adoption process** for final draft RTP (including ETS)
- Council **considers approving** adoption draft of RTP

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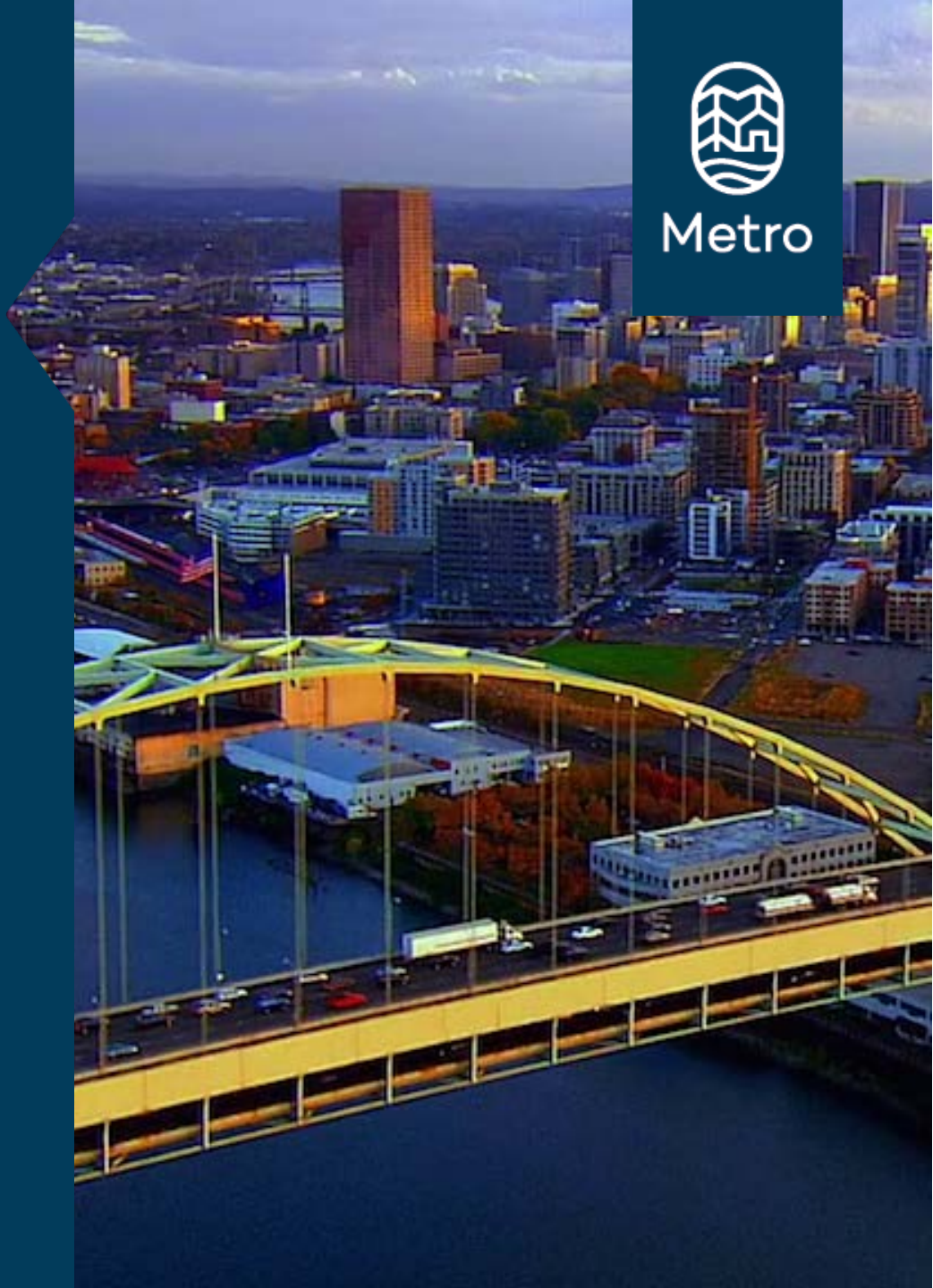
2021-2024 Metropolitan Transportation Improvement Program (MTIP) Financial Forecast

April 20, 2018



Why a MTIP Financial Forecast?

Big picture estimate of revenue ($) in the MPO area in a given year

- MTIP represents the first four-year investment strategy of the Regional Transportation Plan (RTP)
- Covering federal fiscal years 2021 - 2024

Federal mandate – Fiscal Constraint (CFR 450.326(j))

How does the MTIP financial forecast get used?

- Sets the revenue capacity of allocation programs
- Helps to know at any given time how much is available and how much is being spent
- Helps implement the MTIP – amendments, etc.

How were revenue estimates developed?

- Projections for federal revenue streams (if available)
- State long-range funding assumptions (LFRA) work group methodology applied for other federal and certain state funds
- “Fair share” allocation applied
- Consultation with administering agencies

What are the key revenue assumptions?

- For most federal revenue fund programs, 2.2% inflation rate applied
  - FTA 5310 did not follow this assumption
- For federal funds administered by ODOT, a 10% reduction assumed
  - Due to timeframe being outside of federal reauthorization
- Applied “fair share” logic to certain federal and state revenue fund programs

What are some common federal and state revenue fund programs?

Federal examples

- Surface Transportation Block Grant (STBG)
- Highway Safety Improvement Program (HSIP)
- Highway Bridge Program (HBR)
- Urbanized Area Formula (5307)
- Discretionary (e.g. TIGER, INFRA, New Starts)

- State examples
  - Special Transportation
  - Lottery
  - HB2017

2021-2024 MTIP Financial Forecast - Total

See attachment 1 for more detail.

2021 – 2024 MTIP Revenue Summary	Totals
Federal – to MPO (Metro)	$ 186,148,430
Federal – Planning Fund Allocations	$ 21,434,343
Federal – to State DOT (ODOT)	$ 15,492,870
Federal and State Combined for ODOT Fix-It and ARTS	$ 285,978,031
Federal - to State DOT (ODOT) to Local Agencies - Competitive Awards OR Pass Through Funds	$ 52,768,665
Federal – to Transit (TriMet and SMART)	$ 326,408,137
State Program Revenues – to Transit (TriMet and SMART)	$ 62,087,637
HB2017 Revenues – to Transit (TriMet and SMART)	$ 591,342,291
	$ 1,541,660,404

2021-2024 MTIP Financial Forecast – MPO (Metro)

See attachment 1 for more detail

	2021	2022	2023	2024	Total
CMAQ	$ 12,660,151	$ 14,137,018	$ 14,448,032	$ 14,765,889	$ 56,011,090
STBG	$ 29,900,000	$ 30,600,000	$ 31,300,000	$ 32,000,000	$ 123,800,000
TAP-set aside	$ 1,533,000	$ 1,566,726	$ 1,601,194	$ 1,636,420	$ 6,337,340
Totals:	**$ 44,093,151**	**$ 46,303,744**	**$ 47,349,226**	**$ 48,402,309**	**$ 186,148,430**

2021-2024 MTIP Financial Forecast – Transit (TriMet & SMART)

See attachment 1 for more detail.

	2021	2022	2023	2024	Total
Federal to Transit*	$ 79,439,030	$ 80,894,565	$ 81,585,660	$ 84,488,882	$ 326,408,137
State Revenues	$ 13,506,249	$ 14,454,660	$ 15,596,358	$ 18,530,370	$ 62,087,637
HB2017	$ 51,066,174	$ 51,066,174	$ 51,066,174	$ 51,066,174	$ 204,264,696
Totals:	**$ 144,011,453**	**$ 146,415,399**	**$ 148,248,192**	**$ 154,085,426**	**$ 592,760,470**

** Includes federal to ODOT flex transferred funds to transit*

2021-2024 MTIP Financial Forecast – State DOT (ODOT)

See attachment 1 for more detail

	2021	2022	2023	2024	Total
Federal to ODOT	$ 3,741,390	$ 3,841,830	$ 3,917,160	$ 3,992,490	$ 15,492,870
Federal and State Combined	$ 71,435,094	$ 71,472,759	$ 71,509,534	$ 71,560,644	$ 285,978,031
Federal to ODOT to Local Agencies	$ 12,755,880	$ 13,044,645	$ 13,333,410	$ 13,634,730	$ 52,768,665
Totals:	**$ 87,932364**	**$ 88,359,234**	**$ 88,760,104**	**$ 89,187,864**	**$ 354,239,566**

** NHFP formula portion only*

2021-2024 MTIP Financial Forecast – Discretionary

	2021	2022	2023	2024	Total
Federal - Competitive to ODOT	$ 6,521,739	$ 6,521,739	$ 6,521,739	$ 6,521,739	$ 26,086,956
Federal - Competitive to Locals	$ 4,347,826	$ 4,347,826	$ 4,347,826	$ 4,347,826	$ 17,391,304
FTA CIG	$ 200,000,000	$ 150,000,000	$ 150,000,000	$ 150,000,000	$ 650,000,000
Totals:	**$ 201,869,565**	**$ 160,869,565**	**$ 160,869,565**	**$ 160,869,565**	**$ 693,478,260**

Includes grant programs like TIGER, INFRA, etc.

Still to Come/Issues to Resolve

- Federal to ODOT by Federal Revenue Funding Program
- New (obligation appropriations)
- Inclusion of other missing state funding programs
  - E.g. 1% for bike/ped

Discussion/Questions

What questions, comments, or concerns do you have about the draft 2021-2024 MTIP financial forecast?

Next Steps

Return to TPAC at May 4th meeting

- Request recommendation to JPACT

Request JPACT approval at May 17th meeting

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Transit Coordination with the Metropolitan Transportation Improvement Program (MTIP)

TPAC

April 20, 2018

Outline

1. FY2019 Budget Overview
2. Service Enhancements
3. Program of Projects and MTIP Coordination

Fiscal Year 2019 Budget

Our Vision: ***To do our part in making our community the best place to live in the country.***
Our Mission: ***To provide valued transit service that is safe, dependable and easy to use.***

FY2018 Accomplishments

- Major MAX Improvements at Providence Park scheduled for May 6-11th, 2018
- Rail Reliability increased from 85% to 88% (FY18 to date)
- Bus Reliability increased from 81.9% to 86.5% (FY18 to date)
- Expanded service on several bus lines
- Hop Fastpass implemented in July 2017
  - 937,000 “taps” and over 81,000 active cards as of Feb.

FY2019 Financial Forecast – Resources

- Employer Payroll Tax – Local Revenue
  - Total: $418M
  - 2017 Tax Increment Increase results in an additional $5.2M/year – all to new service
- Employee Payroll Tax – Local Revenue
  - HB2017, FY19 best guess $19-26M
- Passenger Revenue – Local Revenue
  - No fare increase
  - Revenues estimated to slightly decrease $3M due to fare capping with HOP usage in FY19

FY2019 Financial Forecast

- Federal Funding: Base year/year increase of 2% (in years other than noted below)
  - Projected increases in FY2020 (Streetcar East) & FY2024 (Orange Line) due to lines being in service 8 years, triggering additional funding under formula

Budget Overview—Requirements

- Total Budget of $1.295 billion
- Total Operating Requirements 710.1M
  - Day-to-Day Operating Budget: $507.6 million
  - OPEB 49.6M
  - Fund Exchanges 4.8M
  - Debt Service 148.1M
- Capital and Operating Projects: $274.2 million
- Pass Through: $ 5.2 million
- Fund Balances & Contingency: $305.4 million

FY2019 Budget Themes

1. Safety
2. Maintain and Preserve the System
3. Improve System Reliability
4. Build Ridership through Quality Service and Innovation
5. Advance Regional Corridor Projects
6. Implement Service Enhancement Plans

1. Safety (Cont.)

- Rail Operator Rules Compliance
- Continued SMS Training/Recertification Training
- CCTV upgrade from analog to IP – networked
- Other investments
  - Continuous Improvement Teams
  - MAX intrusion detection
  - Roadway worker protection
  - Environmental & Sustainability Management System (ESMS)
  - Ergonomic Improvements to Bus Operator Cabs
  - Rail Pedestrian Safety Enhancement Program

2. Maintain & Preserve the System

- Blue Line Station Rehabilitation
- Bus Replacement – 39 replacement; 25 expansion
- Facility Improvements
- Bus & Light Rail Vehicle Mid-Life and Overhaul Programs
- Light Rail Track & Structure Rehabilitation
- Steel Bridge Improvements
- Network Redesign/IT Servers/Equipment

3. Improve System Reliability

- Improvements in Control Center staffing
- Added 6 FTE for Maintenance Training and Quality Assurance
- Added 34 FTE to Maintenance workforce

4. Build Ridership through Quality Service & Innovation

- Additional bus service
- Hop Fastpass
- Rail Reliability
- Rail Operations Optimization Technology (ROOT)
- Next Generation Transit Signal Priority

5. Advance Regional Projects

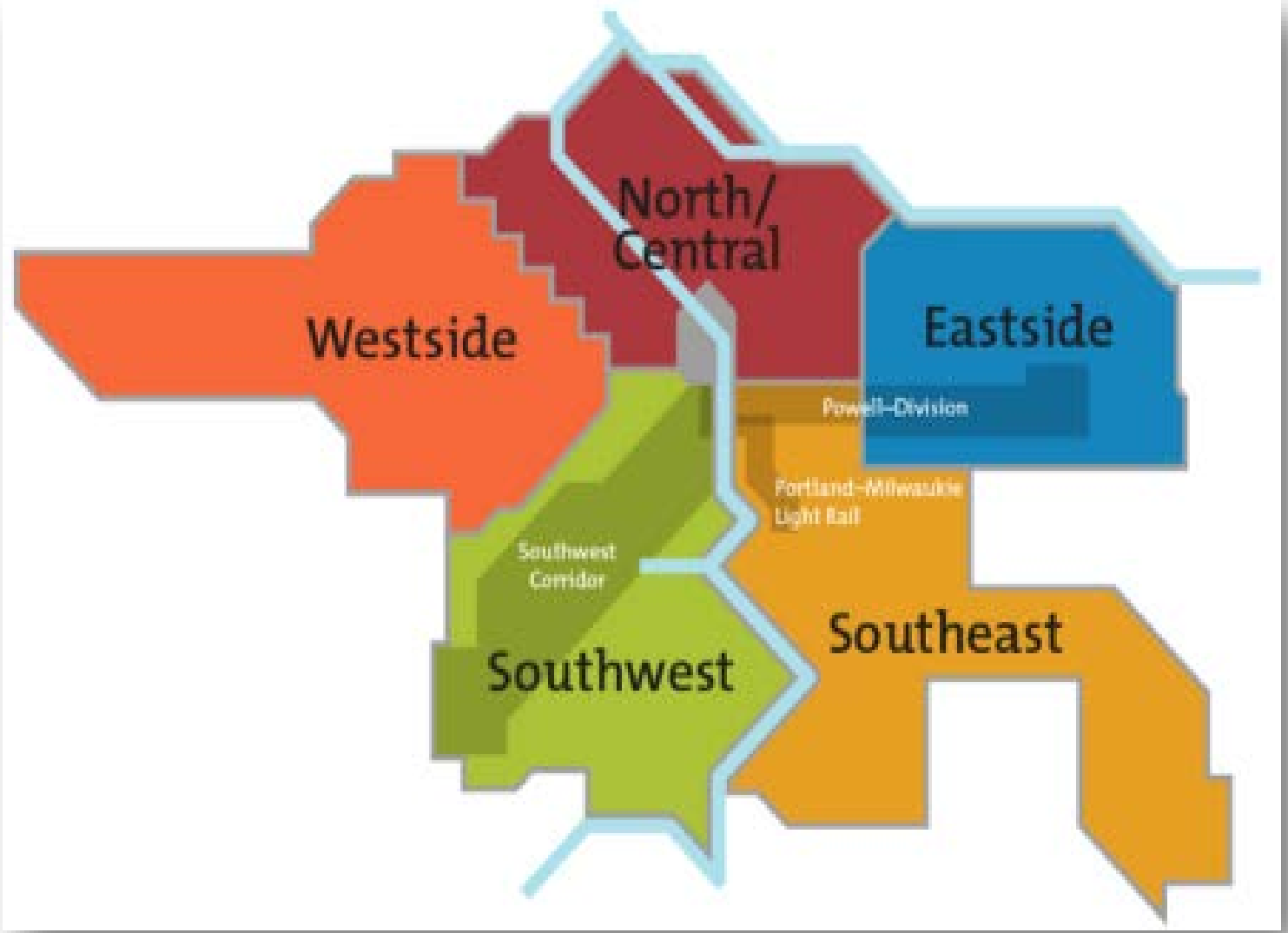
- Division Transit Project – received Medium-High Small Starts rating in February 2018
- SW Corridor – Preliminary Engineering and Federal environmental impact work will continue in FY2019
- Red Line Extension to Fair Complex in Hillsboro

6. Service Enhancement Plans

Bus Service

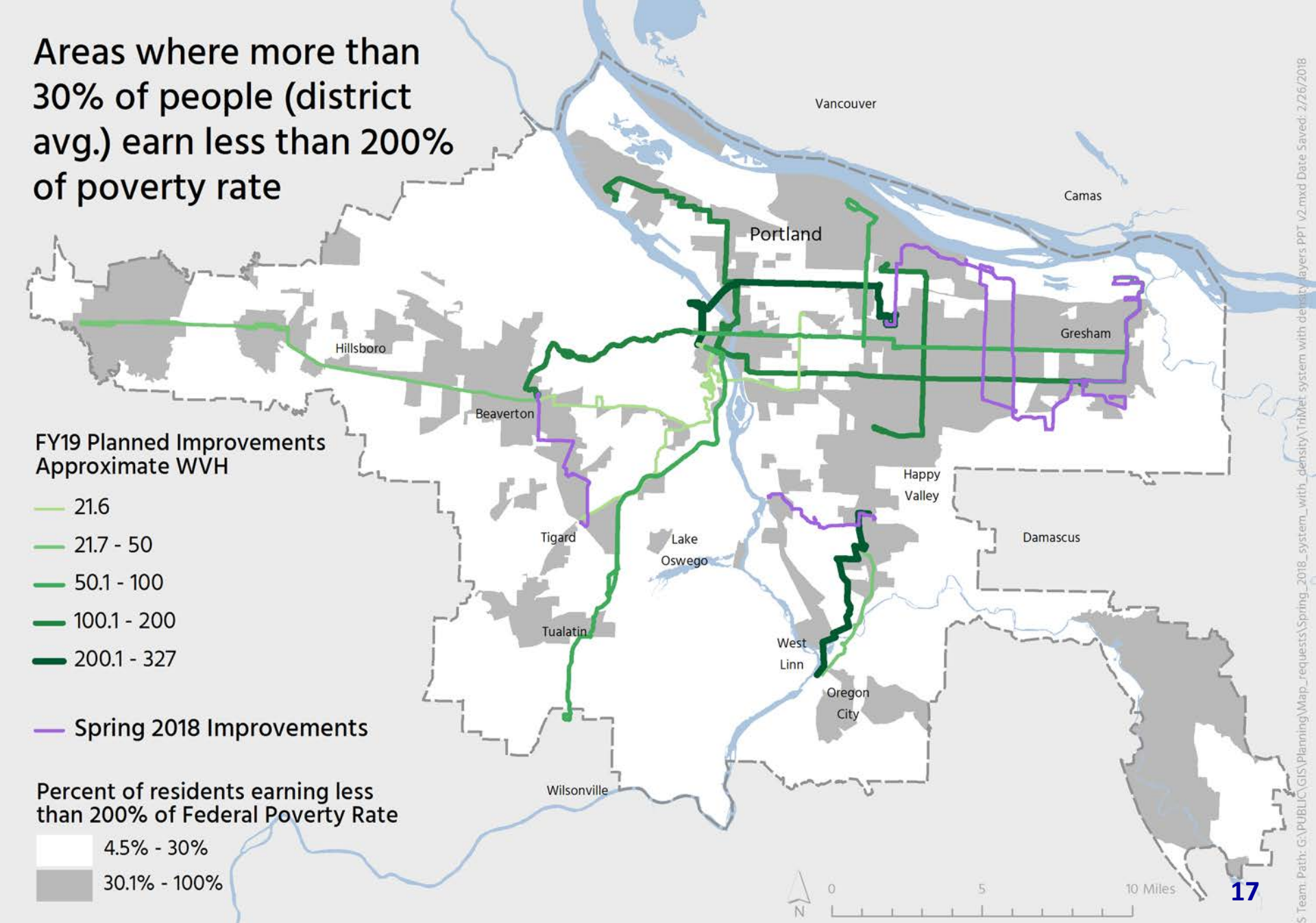
- ~4.7%↑ in bus service hours overall
  - Includes 2 new bus lines, more frequent service on 7 bus lines and new weekend service on 2 bus lines
- Of that increase:
  - ~18% in reliability (i.e. congestion relief)
  - ~82% to expanded service

Service Enhancement Plans



Service Planning Considerations

Areas where more than 30% of people (district avg.) earn less than 200% of poverty rate



Data provided in Census Block Groups, which are masked outside of the TriMet District. Low Income persons are defined as those making 200% or less than the 2016 Federal Poverty Rate. Data sources: 2012-2016 5-Year ACS, TriMet

Budget Timeline

Key Dates

- ✓ Public Rollout of Budget – March 14th
- ✓ Board approved budget for TSCC – March 28th
- • TSCC Hearing – April 25th
- • Adopt FY2019 Budget – May 23rd
- • FY2019 Budget Begins – July 1, 2018

FY2019 Federal Funding

- MTIP Regional Flexible Funds
- Portland-Milwaukie LRT final payment
- Program of Projects with other Federal Funding
  - Urbanized Area Formula [5307]
  - State of Good Repair [5337]
  - Enhanced Mobility for Seniors and Individuals with Disabilities [5310]
  - Low-No Electric Bus Pilot [5339(a)]
  - Bus & Bus Facilities [5339(c)]

MTIP – Regional Flexible Funds & ODOT Region 1 Enhance

For FY2019, TriMet is receiving funds for:

- Regional Rail debt service ($20.4M, from STBG and CMAQ via Regional Flexible Funds)
- Employer Outreach Program ($512K via RTO)
- Powell-Division Corridor Safety & Access to Transit ($1.005M from STBG)

FY2018 Program of Proposed Projects using other Federal Funding

- Bus and Rail Preventive Maintenance
  - 5307 Urban Formula: $38.1M
  - 5337 State of Good Repair Formula: $26.7
- Bus Replacement and Expansion
  - 5339(a) Bus and Bus Facilities Formula: $2.9M
  - 5339(c) Low and No Emission Vehicle Competitive: $1.2M
- Transportation for Seniors and Individuals with Disabilities
  - 5310 Enhanced Mobility: $989k
- Community & Job Connector Shuttle Services
  - 5307 Urban Formula: $639k (pass through)

5339 Funds: Bus & Bus Facilities

- To replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.
- FY2019: $2.9M contributing to purchase of 39 40-foot replacement buses (approx. $500 thousand each)
- Fleet all low-floor, low emission buses
- 8 year average fleet age (industry standard)

5307 Funds: Job Access

- 5307 pass through federal funding for Community & Jobs Connectors that improve access to jobs for the low-income workforce and transport residents in urban and non-urban areas to suburban employment opportunities (formerly came from JARC funding)
  - N. Hillsboro Link
  - Swan Island Shuttle
  - Tualatin Shuttle
  - GroveLink
- Considering new long-term funding mechanisms for Community & Jobs Connectors envisioned in Service Enhancement Plans

5310 Funds: Enhanced Mobility

- Assist private nonprofit community transportation providers in meeting the transportation needs of the elderly and persons with disabilities
- FY2019: $989k for contracted services for seniors & persons with disabilities
- Investments guided by Coordinated Transportation Plan
- Special Transportation Fund Advisory Committee (STFAC)
- Also receive 5310 distributed via state and Special Transportation Funds (state source) through STFAC

Summary

- Federal transit funding continues to support focus on capital maintenance
- Investments guided by TIP policies, asset management, planning activities and budget process
- Public engagement opportunities provided in programming of projects and budget processes
- Coordinating with MPO staff on proposed programming for 2019-21 and 21-24 MTIP

Fiscal Year 2019 Budget

Questions?

Our Vision: ***To do our part in making our community the best place to live in the country.***

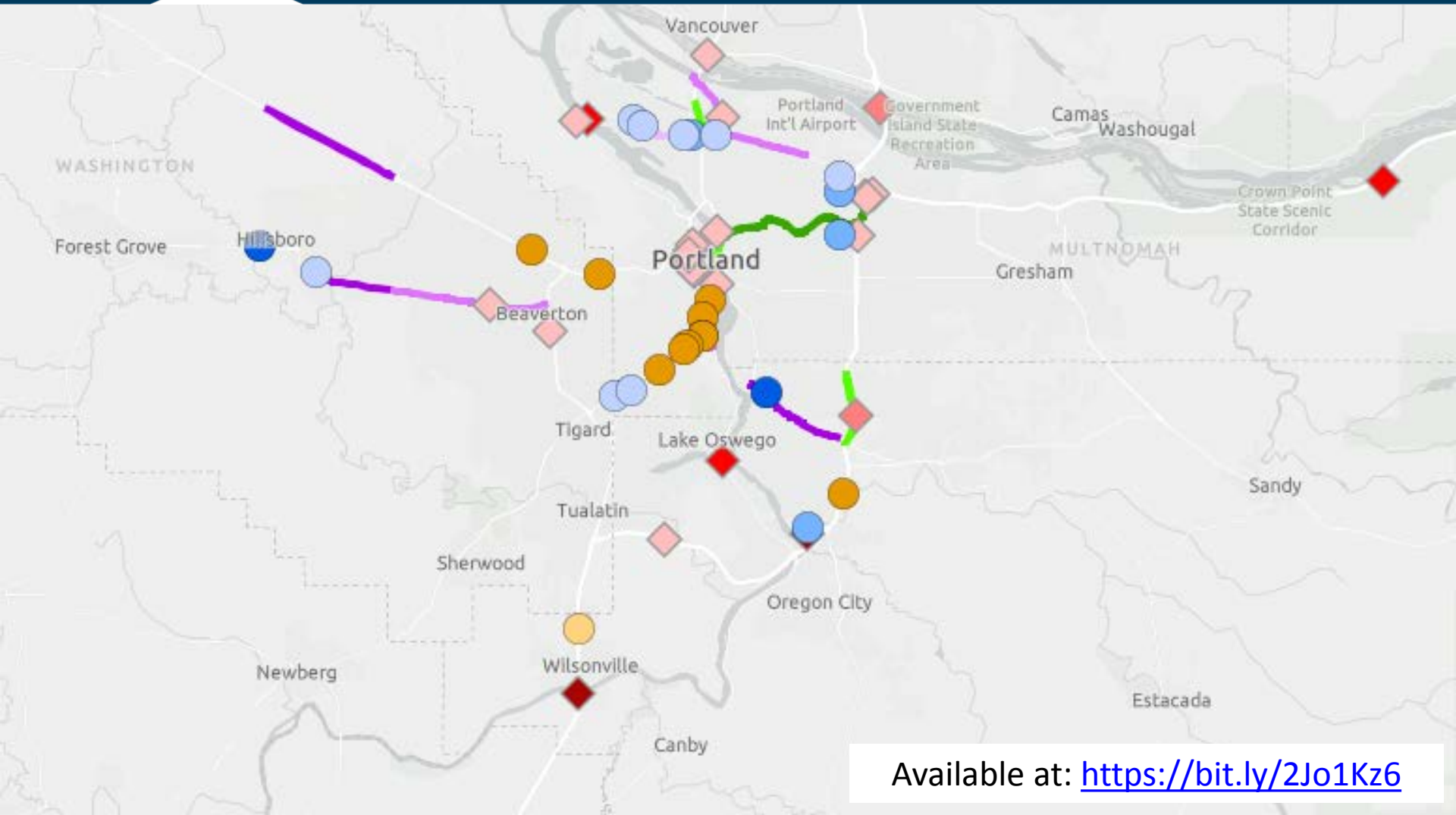
ODOT Fix-It Leverage - Regional Priorities & Input

April 20, 2018

ODOT Fix-It Leverage

- Must pair a fix-it (maintenance/ops) opportunity
- Limited to the state-owned highway system
  - Includes urban arterials
- Three Leverage Categories w/individual requirements
  - Active Transportation
  - Safety
  - State Highway Enhancements
- Region 1 funds available: $ 26.6 million (FY 22-24)

Proposed ODOT Region 1 Fix-It Projects



Available at: https://bit.ly/2Jo1Kz6

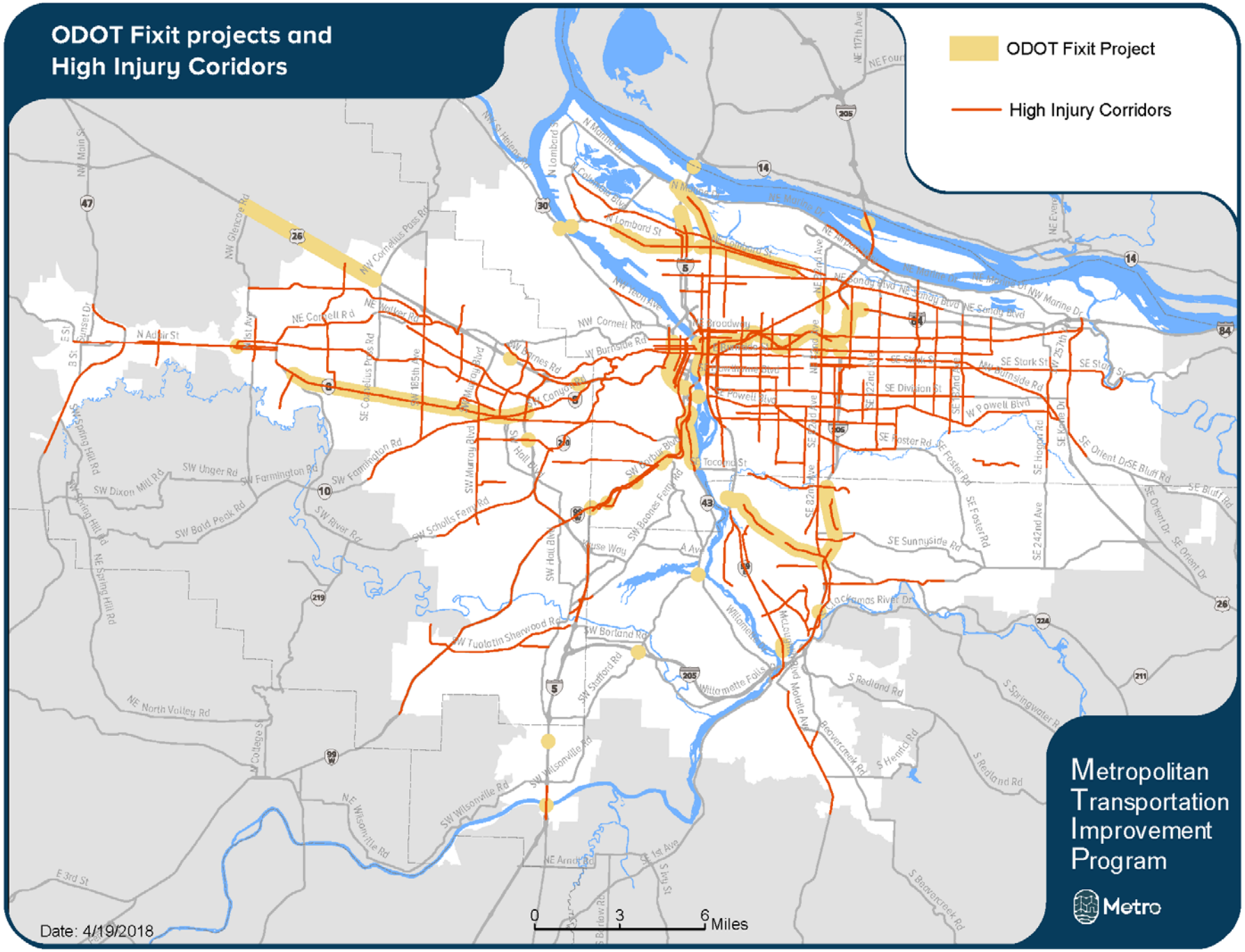
Regional Priorities Analysis

- See how Fix-It projects align with key regional priorities:
  - High injury corridors (ped, bike, and composite)
  - Equity areas (race + income, race)
  - Land use (centers, employment-industrial)
  - Transit congestion
- Identify 2018 RTP constrained projects in proximity

Regional Priorities Analysis Results

Project Name	ODOT Program	Program Priority Level (1 = high; 99 = shelf)	Short Description of Work	High Injury Corridor - Composite	Pedestrian High Injury Corridor	Bicycle High Injury Corridor	2040 Growth Center	Employment & Industrial Centers	Equity Focus Area - Race/Ethnicity, English Language Learners & Lower Income	Equity Focused Area - Race/Ethnicity & English Language Learners	Transit Congested Segment	Sum of Priorities	2018 RTP Constrained List Project (2018-2027)	2018 RTP Constrained List Project (2018-2040)
Lombard @ Delaware	Operations 150%	3	Full signal upgrade	1	1	0	0	0	1	1	0	4	Yes	Yes
Lombard @ Stanford	Operations 150%	3	Full signal upgrade	1	1	0	0	0	1	1	0	4	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	1	1	0	1	0	0	0	4	Yes	Yes
Clackamas River, Hwy 1E (McLoughlin Br)	Bridge 200%	99	Paint	1	1	0	1	0	1	0	0	4	Yes	Yes
Willamette R & Hwy 1 & OPR, Hwy 26 (Ross Island)	Bridge 200%	2	Strengthening	0	0	0	1	1	1	0	1	4	Yes	Yes
NE 102nd Ave over Hwy 2	Bridge 200%	2	Deck Rehab	1	1	0	0	0	1	1	0	4	Yes	Yes
Columbia Slough, Hwy 1E	Bridge 200%	2	Replacement	1	1	1	0	1	0	0	0	4	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	0	1	0	0	0	0	1	3	Yes	Yes
US26: Glencoe Rd - Cornelius Pass Rd	Preservation 150%	1	Pavement resurfacing to repair ruts and keep safe for travel.	1	0	0	0	1	0	0	0	2	Yes	Yes
VMS and camera replacement	Operations 150%	1	VMS	1	1	0	0	0	0	0	0	2	No	No
VMS and camera replacement (I-5 S; south of I-5 and I-205 connection)	Operations 150%	2	VMS	0	1	0	0	1	0	0	0	2	Yes	Yes
Oswego Creek, Hwy 3 SB (Sucker Creek)	Bridge 200%	1	Concrete repair	0	0	0	1	0	0	0	1	2	No	No
Willamette R & Hwy 2W NB & UPRR, Hwy123 (St Johns)	Bridge 200%	1	Concrete repair	0	0	0	0	1	1	0	0	2	Yes	Yes
Hwy 123 over NW Mill St	Bridge 200%	2	Concrete repair	0	0	0	0	1	0	0	0	1	No	Yes
Stafford Rd over Hwy 64	Bridge 200%	2	Deck Rehab	0	0	0	0	0	0	0	0	0	Yes	Yes

See handout: ODOT Region 1 150%/200% Fix-It Projects and Overlap with Regional Priorities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Regional Priorities Analysis Results

Project Name	RTP ID	Nominating Agency	2018 RTP Projects within a Half-Mile Buffer	Primary Investment Type
82nd Ave @ Fremont	10180	Portland	Sandy Blvd Corridor Safety Improvements	Roads and Bridges
	10301	Portland	Sandy Blvd ITS	TSMO_TDM_TOD
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit
82nd Ave @ Glisan	10220	Portland	Seventies Greenstreet and Bikeway	Active Transportation
	11816	Portland	Inner E Burnside Ped_Bike Improvements	Active Transportation
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	11858	Portland	E Burnside Safety and Access to Transit	Active Transportation
	12029	TriMet	ETC: 82nd Ave_Killingsworth Enhanced Transit Project	Transit
	12030	TriMet	ETC: East Burnside_SE Stark Enhanced Transit Project	Transit
82nd Ave @ Prescott	10180	Portland	Sandy Blvd Corridor Safety Improvements	Roads and Bridges
	10311	Portland	Mason Neighborhood Greenway	Active Transportation
	11847	Portland	Outer Alberta Neighborhood Greenway	Active Transportation
	10301	Portland	Sandy Blvd ITS	TSMO_TDM_TOD
	10311	Portland	Mason Neighborhood Greenway	Active Transportation
	11844	Portland	82nd Ave Corridor Safety Improvements: Local Contribution to State-owned Arterial	Roads and Bridges
	11863	Portland	82nd Ave Enhanced Transit Corridor	Transit
	12028	TriMet	ETC: NE Sandy Blvd Enhanced Transit Project	Transit

See handout: ODOT Region 1 150%/200% Fix-It Projects and Overlap with Regional Priorities

Regional Priorities Analysis

Some caveats:

- Half-mile buffer on fix-it projects
  - Captures priorities which are not right on the facility
    - E.g. I-205: SE Foster Road to SE 82nd Drive
  - Captures 2018 RTP projects on parallel facilities
- Applied conservative approach
  - Intersection of Fix-it and regional priorities
  - Result in some opportunities which may not be after further digging

Additional Factors for Consideration

Previous MPO communication on 2021-2024 STIP

- focus on state-owned urban arterials
- focus on equity
- In Region 1 – 2040 growth concept & Climate Smart
- focus on high injury corridors
- look at achieve multimodal objectives

Discussion Questions

1. Other regional priorities to map and share?
2. Leverage opportunities in consideration not on the 2018 RTP constrained list?
    a. New project for refinement period
    b. Project description clarifications
3. Portland MPO additional factors for consideration
    a. Thoughts on staff proposed factors
    b. Others

Next Steps

Timeline

- *2021-2024 STIP leverage discussion at Region 1 ACT – May 2018*
- *Region 1 ACT recommends leverage opportunities for scoping – July 2019*
- *Recommendation of leverage awards – July 2019*

Learn more

http://www.oregon.gov/ODOT/STIP/Pages/2021-2024-STIP.aspx

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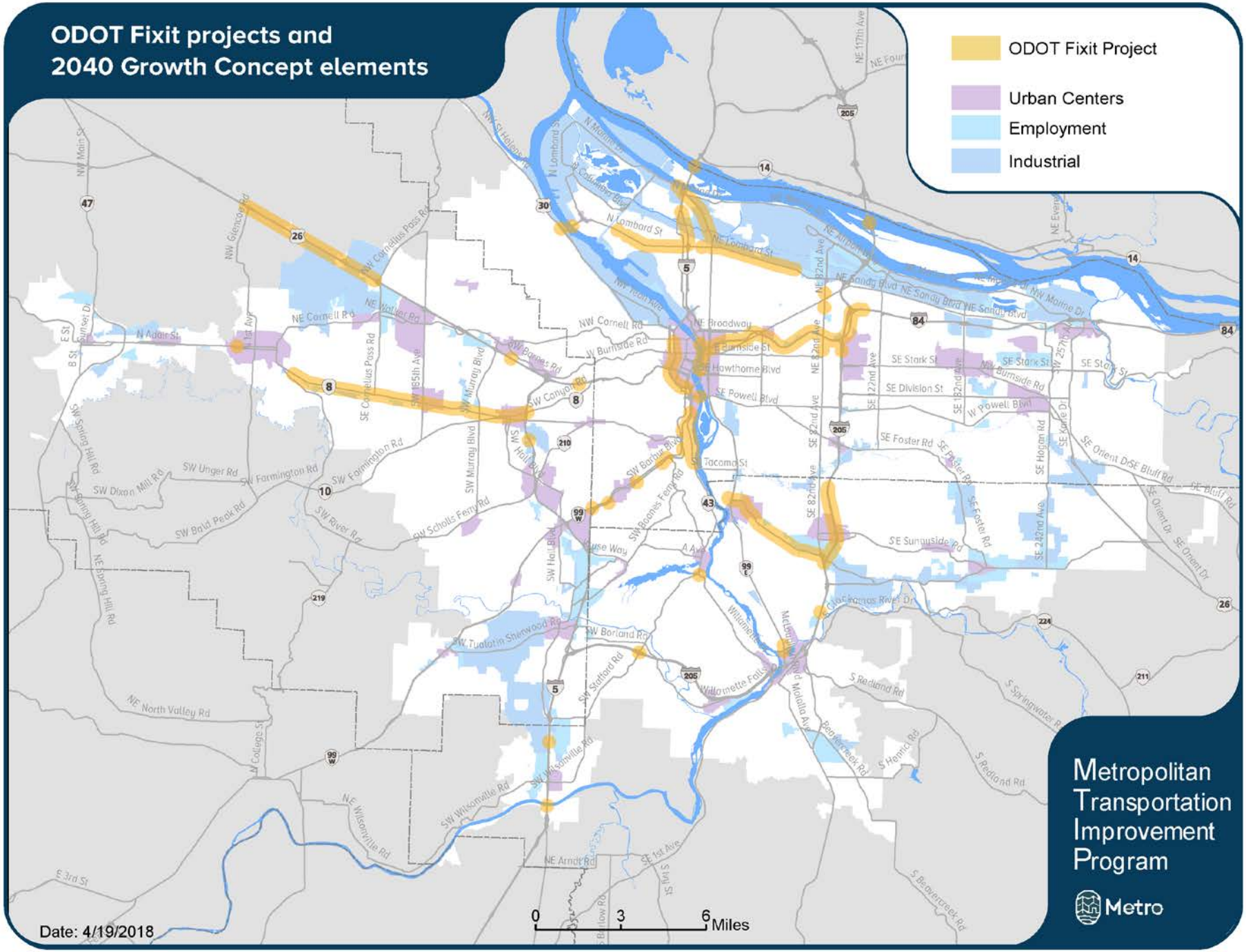
ODOT Fixit projects and
2040 Growth Concept elements
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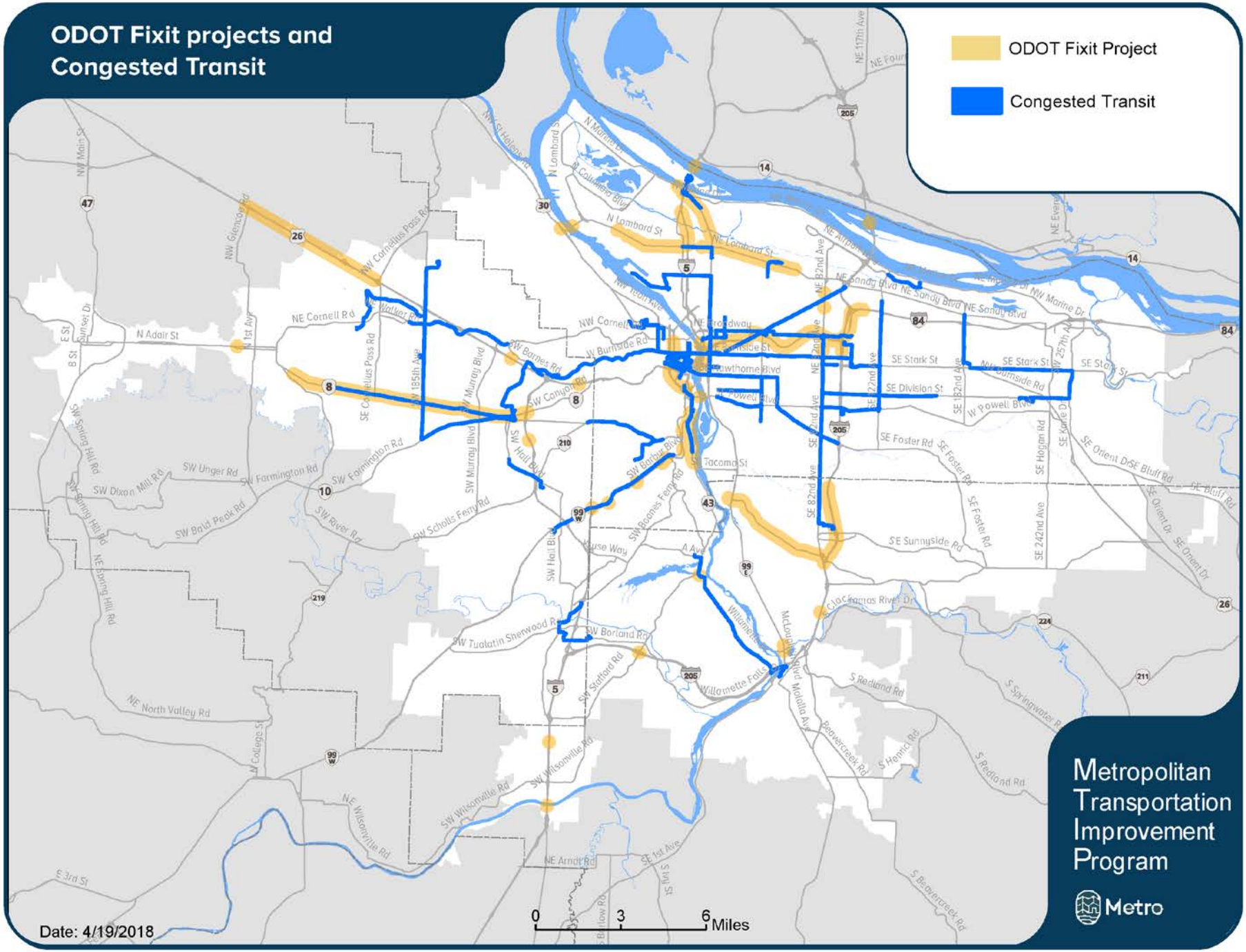
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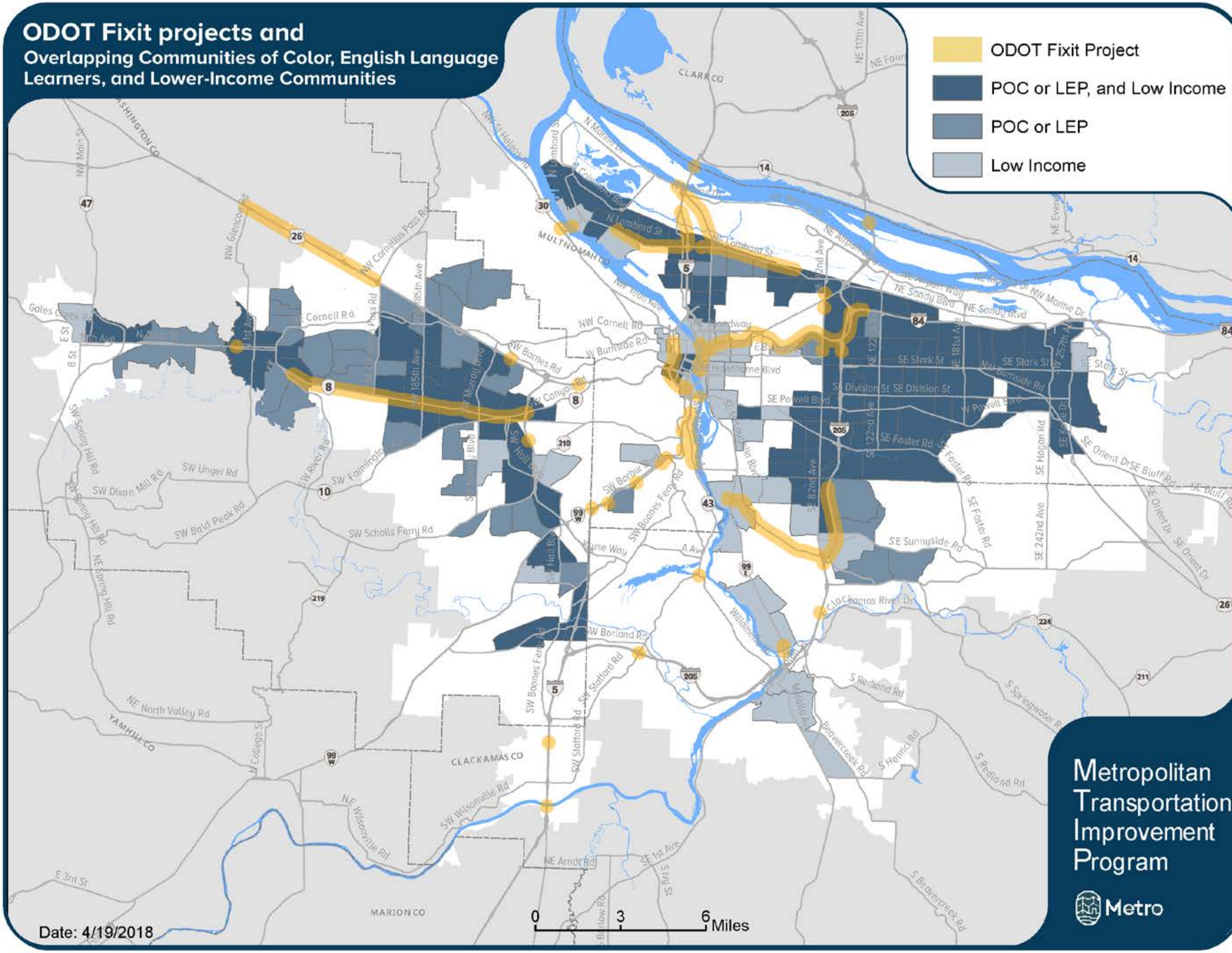
6
Miles


ODOT Fixit projects and
Overlapping Communities of Color, English Language Learners, and Lower-Income Communities
ODOT Fixit Project
POC or LEP, and Low Income
POC or LEP
Low Income
CLARK CO
MULTNOMAH CO
WASHINGTON CO
CLACKAMAS CO
YAMHILL CO
MARION CO
N Lombard St
NE Sandy Blvd
NE Airport Way
NW Marine Dr
NW Cornell Rd
W Burnside Rd
SE Stark St
SE Division St
SE Powell Blvd
SE Foster Rd
SE Sunnyside Rd
SW Barbur Blvd
SW Boones Ferry Rd
SW Scholls Ferry Rd
SW Farmington Rd
SW Canyon Rd
SW Barnes Rd
NW Cornelius Pass Rd
SW Murray Blvd
SW Hall Blvd
SW Borland Rd
SW Stafford Rd
SW Wilsonville Rd
Clackamas River Dr
S Redland Rd
S Beavercreek Rd
NE 82nd Ave
NE 122nd Ave
NE 181st Ave
SE 242nd Ave
SE Hogan Rd
SE Orient Dr
SE Bluff Rd
NE North Valley Rd
SW Dixon Mill Rd
SW Unger Rd
SW Bald Peak Rd
Metropolitan Transportation Improvement Program
Metro
Date: 4/19/2018
0
3
6
Miles