Agenda

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

Meeting: Transportation Equity Work Group Meeting #7
Date: Thursday April 6, 2017
Time: 1:00 to 4:00 p.m.
Place: Room 401

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1 p.m. Welcome, Introductions, and Staff Updates

1:10 p.m. Partner Updates
Who have you talked to about this work? What feedback have you heard?

1:30 p.m. 2018 RTP Transportation Equity Assessment Recap
A recap of where we are and what got us here.

2:00 p.m. Break

2:10 p.m. 2018-2021 MTIP Transportation Equity Assessment – Draft Results
Discuss draft results and findings from the 2018-2021 MTIP Transportation Equity Assessment beta test. Discuss draft proposed recommendations and refinements.

3:30 p.m. Next Steps

4:00 p.m. Adjourn

Meeting Packet	**Next Meeting**
• Agenda	Thursday, September 15, 2017 2018 RTP Transportation Equity Work Group Meeting # 8 9:00 a.m. – 12:00 p.m., Room 401, Metro
• Memorandum – Transportation Equity Assessment – 2018 – 2021 MTIP Results	
• Attachments – 2018-2021 MTIP Projects and Methodology Sheets	
• 2018 RTP – Building the Investment Strategy	
• Meeting Summary – Transportation Equity Work Group #5	

Date: April 6, 2017
To: Transportation Equity Work Group and Interested Parties
From: Grace Cho, Associate Transportation Planner
Subject: Transportation Equity Assessment – 2018-2021 MTIP Draft Results

Introduction

As part of the 2018-2021 MTIP, a Transportation Equity Assessment is conducted to look at how well the region's planned federal transportation investments will perform relative to equity goals and demonstrate compliance with regional responsibilities toward federal civil rights laws as they relate to transportation planning. The assessment takes a programmatic look at the region's short-term (fiscal years 2018 – 2021) planned investments, to determine whether: 1) progress is being made towards desired equity outcomes expressed by historically marginalized communities; 2) to determine whether the short-term package, in totality, is disproportionately impacting historically marginalized communities and if mitigation measures are necessary; and 3) learn from the assessment to propose technical refinements prior to utilizing the assessment methods for the 2018 RTP investment strategy.

In a literature review across the nation, equity assessments at a program scale are few and far between. Nonetheless, advocacy and think-tank organizations have put forward best practices to guide and formulate the methods for conducting a transportation equity assessment. The 2018-2021 MTIP Transportation Equity Assessment does its best to incorporate and reflect the best practices in the field in measuring equity within the context of the transportation system. Additionally, the 2018-2021 MTIP is also serving as a learning tool to help refine the assessment for the upcoming development of the 2018 Regional Transportation Plan (RTP).

The following memorandum discusses the draft results, findings, lessons learned and recommendations from the 2018-2021 MTIP Transportation Equity Assessment.

Transportation Equity Assessment Methods

The 2018-2021 MTIP Transportation Equity Assessment is an equity-focused scenario planning analysis looking at base-year conditions and comparing the base-year conditions to the anticipated conditions to be seen once a future package of transportation investments are put into place and open for service. In performing a scenario analysis, the core methodological components to the 2018-2021 MTIP Transportation Equity Assessment are:

1. Community definitions
2. System evaluation metrics
3. Evaluation tools identification
4. Evaluation inputs

The following section discusses the definitions, data, and assumptions for each of the core components of the 2018-2021 MTIP Transportation Equity Assessment.

Community Definitions

Communities included as part of the 2018-2021 MTIP Transportation Equity Assessment include:

- People of Color
- People with Lower-Incomes
- People with Limited English Proficiency
- Older Adults
- Young Persons

The identification of the five communities came from stakeholders desire to see communities which have historically experienced challenges with the transportation system. Additionally, certain communities were identified as demographic groups to address in transportation planning as part of federal civil rights and environmental justice regulations. Demographic data is supplied by the U.S. Census Bureau to help identify communities and general spatial distribution. The regional rate for the individual historically marginalized community (with the exception for age) as the threshold for determining the locations of historically marginalized communities. For older adults and younger people, the regional rate must be realized for both communities as the spatial distribution, just based on regional rate, would illustrate patterns where every area in the region would be considered a historically marginalized community

Historically Marginalized Communities

Community	Definition	Geography Threshold	Date Source
People of Color	Persons who identify as non-white.	Census tracts above the regional rate (26.5%) for people of color.	2010 Decennial Census
Low-Income	Households with incomes equal to or less than 200% of the Federal Poverty Level (2016); adjusted for household size	Census tracts above the regional rate (31.1%) for Household with Lower-Income	American Community Survey, 2011-2015
Limited English Proficiency	Persons who identify as unable "to speak English very well."	Census tracts above the regional rate (8.5%) for Limited English Proficiency (all languages combined).	Oregon Education Department School Enrollment Data (LEP only)
Older Adults	Persons 65 years of age and older	Census tracts above the regional rate for Older Adults (11%) AND Young People (22.8%)	2010 Decennial Census
Young People	Persons 17 years of age and younger		

By request of stakeholders, a more focused look at the transportation investments being made in areas in which there are high concentrations of historically marginalized communities, namely those communities identified through civil rights and environmental justice legislation. As a result a population density threshold was applied to define geographic areas with high concentrations of People of Color, Low-Income, and Limited English Proficiency. This request recognizes the wish of stakeholders that with limited amounts of investment, in what areas can the greatest concentration of historically marginalized communities be reached. Additionally, there were request to assess small pockets of concentrated language isolation. Therefore, identified areas of safe harbor communities were also included as part of the focused look.

Focused Historically Marginalized Communities

Community	Geographic Threshold
People of Color	The census tracts which are above the regional rate for people of color AND the census tract has twice (2x) the population density of the regional average (regional average is .48 person per acre).
Low-Income	The census tracts which are above the regional rate for low-income households AND the census tract has twice (2x) the population density of the regional average (regional average is .58 person per acre).
Limited English Proficiency	The census tracts which are above the regional rate for low-income households AND the census tract has twice (2x) the population density of the regional average (regional average is .15 person per acre) OR those census tracts which have been identified as "safe harbor" tracts for language isolation.[1]

The transportation equity analysis will run the assessment using two tiers to address the desire to capture where there are higher rates of historically marginalized communities and where there is a concentration and/or pockets of historically marginalized communities. The tiers are described below.

Tier I Analysis – Historically Marginalized Communities
The transportation equity analysis will use the regional rate as the first assessment to look at how well the 2018-2021 MTIP investments are performing on priority outcomes identified by historically marginalized communities.

Tier II Focused Analysis - Focused Historically Marginalized Communities
The transportation equity analysis will conduct a secondary assessment using a subset of historically marginalized communities, namely people of color, people with lower-incomes, and people with limited English proficiency, and look at how well the 2018-2021 MTIP investments are performing on priority outcomes identified by historically marginalized communities in areas with the greatest concentration.

Transportation Equity System Evaluation Measures
In following a best practice to have historically marginalized communities lead the assessment, the system evaluation measures for the Transportation Equity Assessment reflect the priorities historically marginalized communities identified as desires to see from the region's transportation system. The common themes identified by historically marginalized communities include: increased access, affordability, safety, and public health.[2] These themes translated into the following system evaluation measures:

[1] Safe Harbor is a provision within Title VI of the Civil Rights Act of 1964 which addresses for when and how agencies are to provide language assistance to limited English proficiency persons to ensure access to all public resources. The safe harbor provision mainly addresses translation of documents and language assistance, however for analysis purposes; it may help to identify areas where additional attention is warranted because of a concentration of language isolation. Safe harbor applies when a language isolated group constitutes 5% or 1,000 persons of the total population in the given area.
[2] More information about the process undertaken to gather input from historically marginalized communities to identify the system evaluation measures can be found at: http://www.oregonmetro.gov/public-projects/2018-regional-transportation-plan/equity

- Affordability[3]
- Exposure to crash risk
- Access to travel options – system connectivity & completeness
- Access to jobs
- Access to community places
- Habitat impact
- Share of safety projects

These were identified as the priority transportation issues by historically marginalized communities.[4] As a result, the system evaluation will take a closer look to see how well these transportation investments perform relative to these priority transportation issues in areas where there is a residential presence of historically marginalized communities. The results will be compared to the region and to the base-year conditions to see if there are disproportionate results. Individual methodology sheets, which outline criteria and other factors for each system evaluation measure can be found as Appendix 2.1.

Summary of Tools

Scenario planning requires the use of tools which are able to anticipate what behaviors or effects may occur with investments or policy decisions in the future. As part of Metro's metropolitan planning organization (MPO) function, the Data and Research department has developed a suite of tools which will be used as part of the 2018-2021 MTIP Transportation Equity Assessment to analyze future conditions once a certain suite of transportation investments are put into place. The following are brief descriptions of the scenario planning tools.

Metroscope

Metroscope is a set of decision support tools used to model changes in measures of economic, demographic, land use and transportation activity within the Portland metropolitan area.

- The economic model predicts employment by type of industry and the number of households by demographic category.
- The residential real estate location model predicts the locations of households.
- The non-residential real estate location model predicts the locations of employment. Both real estate models measure the amount of land consumed by development, the amount of built space produced and prices of land and built space by zone in each time period.

The Metroscope tool is being used to look at changes in access to employment areas and
In 2016, an updated land use, population, and employment forecast was adopted for the region. The 2016 adopted forecast will be used as an input into the economic and real estate (residential and non-residential) models to inform the 2018-2021 MTIP Transportation Equity Assessment.

Travel Demand Model

The travel model predicts travel activity levels by mode (bus, rail, car, walk or bike) and road segment, and it estimates travel times between transportation analysis zones (TAZ) by time of day. The travel demand model also produces a measure of the cost perceived by travelers in getting from any one TAZ to any other. For the 2018-2021 MTIP Transportation Equity Analysis, the

[3] The affordability measure, which is looking at combined housing and transportation expenditure, is under development. A method is anticipated to be developed and ready for deployment for the 2018 RTP call for projects.

[4] Reflects the priority issues within the limits the 2018 RTP system evaluation can analyze. Other transportation priorities were raised which included displacement and racial profiling in enforcement, which cannot be addressed through the system evaluation, but acknowledged in the assessment findings.

transportation investments outlined for federal fiscal years 2018 – 2021 will be included in the travel demand model (on top of 2015 base-year conditions) to assess future conditions.[5]

Geographic Information Systems (GIS)

Geographic Information Systems (GIS) uses spatial data to determine relationships between different data elements and map data. For the 2018-2021 MTIP Transportation Equity Analysis, the transportation investments are mapped to assess the spatial relationships between historically marginalized communities. In particular, access to a connected transportation system and safety considerations are being assessed through GIS.

Transportation Equity Assessment Inputs

The Transportation Equity Assessment includes those projects/investments slated for federal fund programming in the 2018-2021 MTIP. The projects/investments are those which were identified as of January 2017 in order to complete the assessment and publish as part of the public comment draft of the 2018-2021 MTIP. Some of the transportation project investments may have changed between January 2017 and the transportation investment programming illustrated in the public comment draft of the 2018-2021 MTIP. The list of 2018-2021 MTIP investments assessed in the Transportation Equity Assessment can be found as Appendix 1.1 and Appendix 1.2.

As part of the assessment, each project/investment was reviewed to determine which transportation equity system evaluation measure would be applicable. For example, with the share of safety projects evaluation measure, each 2018-2021 MTIP investment looks at whether the project meets the criteria of a safety project to determine whether it'll be evaluated as part of this particular measure. The list of 2018-2021 MTIP investments, found in Appendix 1.1, illustrates which investments were applied to the system evaluation measures.

Lastly, there were a suite of transportation investments identified within the 2018-2021 MTIP which were unable to be assessed as part of the Transportation Equity Assessment. For many of these projects, the programmatic nature prevented being able to capture the investment the travel demand model, which is more suited for capital transportation investments rather than maintenance investments, or not enough spatial detail was available. For example, listed within the 2018-2021 MTIP are bus purchase and replacement programs as well as region-wide raised pavement markings. These "maintenance-like" projects are not represented in the travel demand model and spatial detail is unavailable since the deployment of buses travel all over the transit system and pavement markings occur throughout the roadway network. Additionally, the travel demand model does not capture a number of tools used for system management and operations, including variable message signs, rapid flashing beacons, or communications architecture.

Results

The 2018-2021 MTIP Transportation Equity Assessment illustrates how the near-term transportation investments are likely to affect outcomes which historically marginalized communities identified as priority issues to address in the transportation system.

[5] Due to the nature of how the travel demand model operates, certain types of transportation investments cannot be reflected in the travel demand model tool. Some examples include roadway maintenance investments (e.g. repaving) and operations and system management (e.g. variable message signs, variable speed control, signal timing). Transportation investments which have macro-level effects to travel behavior (i.e. widening a roadway, adding a separated or protected bicycling facility, or increasing transit service) are those which the travel demand model can assess. Other "off-model" methods, namely geographic information systems (GIS), are used to assess the transportation investments which are unable to be captured as part of the model assessment.

Table 1. Contextual Population Information for the 2018-2021 MTIP Transportation Equity Assessment

Geography	Population (within the Geography)[6]
Region-wide (Metropolitan Planning Area)[7]	1,559,517
Historically Marginalized Communities	1,058,220
Focused Historically Marginalized Communities	630,388

Table2. Summary of Transportation Equity System Evaluation Measures Results

Evaluation Measure	Region-wide	HMC	FHMC
Access to Community Places	Region-wide access to community places is high.	With the 2018-2021 MTIP investments, access relative to the region is projected to hold steady for auto, bicycling, and walking, and access increases for transit.	With the 2018-2021 MTIP investments access holds steady for auto, bicycling, and walking and access increases for transit. In general, access in base year conditions for focused historically marginalized communities is lower than the region.
Access to Jobs	Region-wide access to low and middle wage jobs can range from 0% by walking to 38% by auto with the 2018-2021 MTIP investments.	With the 2018-2021 MTIP investments, access to low and middle wage jobs from historically marginalized communities is increasing slightly.	With the 2018-2021 MTIP investments, access to low and middle wage jobs from focused historically marginalized communities is increasing slightly.
Access to Travel Options	Full results of performance measure still to-be-determined. Completeness and density of the active transportation network appears to be increasing region-wide. Minimal change is observed with the street network.	Full results of performance measure still to-be-determined. Completeness of the active transportation network appears to be increasing in historically marginalized communities at a level greater than the region. Density of the active transportation network increases. Minimal change is observed with the street network.	Full results of performance measure still to-be-determined. Completeness of the active transportation network appears to be increasing in focused historically marginalized communities at a level greater than the region. Density of the active transportation network increases. Minimal change is observed with the street network.

[6] Represents 2010 decennial census population counts in order for the analysis and the geographies to remain consistent and use consistent datasets. Population numbers represent total population within the census tracts.

[7] Region-wide is defined as the metropolitan planning area (MPA) boundary. An interactive map gallery which includes the MPA can be found at: http://drcmetro.maps.arcgis.com/apps/webappviewer/index.html?id=d83c2455ea10433bb2d6901dd1f4f564

Evaluation Measure	Region-wide	HMC	FHMC
Share of Safety Projects	About 13%, represented by 60 projects, 2018-2021 MTIP investments are transportation safety projects. Per capita spending is approximately $98.	The proportional number of transportation safety projects and per capita spending is higher than the region in areas with historically marginalized communities.	Half of the transportation safety projects are in areas with focused historically marginalized communities. Per capita spending is higher.
Exposure to VMT	Slight increase in VMT projected with 2018-2021 MTIP investments.	Slight decrease in VMT exposure projected with 2018-2021 MITP investments.	Slight decrease in VMT exposure projected with 2018-2021 MITP investments.
Habitat Impact	With 2018-2021 MTIP investments, about 31% of investments potentially impact high value habitat.	Of the 36% of the 2018-2021 MTIP investments with a potential high value habitat impact, 75% are in historically marginalized communities	Of the 36% of the 2018-2021 MTIP investments with a potential high value habitat impact, 55% are in focused historically marginalized communities
Housing + Transportation Expenditure	System evaluation measure still under development		

Access to Community Places

Overall, the 2018-2021 MTIP investments appears to hold steady the access to community places relative to the base year with the exception for transit, where an increase in access is seen in both historically marginalized communities and focused historically marginalized communities (i.e. areas with concentrated density of people of color, people with lower-income, and people with limited English proficiency). The increase in access to community places by transit is projected in both the peak and off-peak travel period and the increases seen range from 1% to 6%. The higher percentage (5 or 6%) increases by transit tend to be observed in focused historically marginalized communities. While the results show the 2018-2021 MTIP investments are generally holding access to community places fairly steady or increasing access, there is a significant observed difference between historically marginalized communities and focused historically marginalized communities and their base conditions access to community places. What is seen is that historically marginalized communities tend to have better access to community places than the region, but focused historically marginalized communities tend to start off with less access, relative to the region, by automobile, bicycling, or walking. The reason for the difference in base conditions is because certain areas of where there are concentrated density of certain communities (i.e. language isolated communities) are on the edges of the region where there is currently less development and residential in nature. Nonetheless, when looking at the base year conditions and the projected change with the 2018-2021 MTIP investments, access to community places in focused historically marginalized communities tend to hold steady.

The one exception is with access to food, where base conditions tend to show better access in either historically marginalized communities or focused historically marginalized communities, regardless of method of travel and time of travel. This may be because of the distributive pattern of grocery stores.

The projected increase in access to community places by transit with the 2018-2021 MTIP may be a reflection of the Division bus rapid transit project opening in 2021 and the projected transit service increases between now and 2021 being reflected.

Table 3. Access to Community Places – Peak Travel Period

Access to Community Places -- All Community Places (+/- % relative to MPA)								
	Base Year (2015) Conditions				**2018-2021 MTIP Investments**			
	Auto	**Transit**	**Bike**	**Walk**	**Auto**	**Transit**	**Bike**	**Walk**
All MPA[8]	--	--	--	--	--	--	--	--
HMC	1%	21%	9%	17%	1%	22%	9%	17%
FHMC	-4%	10%	-9%	-11%	-4%	15%	-9%	-11%
Access to Community Places -- Food (+/- % relative to MPA)								
	Base Year (2015) Conditions				**2018-2021 MTIP Investments**			
	Auto	**Transit**	**Bike**	**Walk**	**Auto**	**Transit**	**Bike**	**Walk**
All MPA	--	--	--	--	--	--	--	--
HMC	4%	25%	13%	19%	4%	25%	12%	19%
FHMC	2%	27%	4%	3%	2%	32%	4%	3%
Access to Community Places -- Medical (+/- % relative to MPA)								
	Base Year (2015) Conditions				**2018-2021 MTIP Investments**			
	Auto	**Transit**	**Bike**	**Walk**	**Auto**	**Transit**	**Bike**	**Walk**
All MPA	--	--	--	--	--	--	--	--
HMC	-1%	21%	7%	14%	-1%	22%	7%	14%
FHMC	-8%	6%	-17%	-23%	-8%	11%	-17%	-23%
Access to Community Places -- All Others (+/- % relative to MPA)								
	Base Year (2015) Conditions				**2018-2021 MTIP Investments**			
	Auto	**Transit**	**Bike**	**Walk**	**Auto**	**Transit**	**Bike**	**Walk**
All MPA	--	--	--	--	--	--	--	--
HMC	2%	21%	10%	19%	2%	22%	10%	19%
FHMC	-2%	11%	-5%	-4%	-2%	16%	-5%	-4%

Table 4. Access to Community Places – Off-Peak Travel Period

Access to Community Places -- All Community Places (+/- % relative to MPA)								
	Base Year (2015) Conditions				**2018-2021 MTIP Investments**			
	Auto	**Transit**	**Bike**	**Walk**	**Auto**	**Transit**	**Bike**	**Walk**
All MPA	--	--	--	--	--	--	--	--
HMC	1%	24%	9%	17%	1%	24%	9%	17%
FHMC	-4%	8%	-9%	-11%	-4%	13%	-9%	-11%

[8] The nature of how access to community places is calculated in the travel demand model results in the weighted average for the region being 100% access to community places regardless of mode. Therefore the MPA, or region-wide, access is not reported and for the two different focused look, the level of change relative to the MPA, or region, is reported.

Access to Community Places -- Food (+/- % relative to MPA)								
	Base Year (2015) Conditions				2018-2021 MTIP Investments			
	Auto	Transit	Bike	Walk	Auto	Transit	Bike	Walk
All MPA	--	--	--	--	--	--	--	--
HMC	3%	27%	13%	19%	3%	27%	12%	19%
FHMC	1%	25%	4%	3%	1%	30%	4%	3%
Access to Community Places -- Medical (+/- % relative to MPA)								
	Base Year (2015) Conditions				2018-2021 MTIP Investments			
	Auto	Transit	Bike	Walk	Auto	Transit	Bike	Walk
All MPA	--	--	--	--	--	--	--	--
HMC	0%	25%	7%	14%	0%	24%	7%	14%
FHMC	-7%	5%	-17%	-23%	-7%	8%	-17%	-23%
Access to Community Places -- All Others (+/- % relative to MPA)								
	Base Year (2015) Conditions				2018-2021 MTIP Investments			
	Auto	Transit	Bike	Walk	Auto	Transit	Bike	Walk
All MPA	--	--	--	--	--	--	--	--
HMC	1%	23%	10%	19%	1%	24%	10%	19%
FHMC	-2%	9%	-5%	-4%	-2%	15%	-5%	-4%

Access to Jobs

Overall, the 2018-2021 MTIP investments appear to be keeping steady or increasing access to low and middle-wage jobs in historically marginalized communities. The increases are being realized in transit access, albeit the increase tends to be small, around one percent. Additionally, what is projected with the 2018-2021 MTIP investments, access in historically marginalized communities and focused historically marginalized communities (i.e. areas with concentrated density of people of color, people with lower-income, and people with limited English proficiency) tends to be better than the region as well as in the areas below the regional rate of historically marginalized communities (i.e. Non- HMC), and in areas where there is not a high concentration of people of color, people with lower-income, and people with limited English proficiency. The steady or increases in jobs access is being realized across all travel modes, but particularly in focused historically marginalized communities. Additionally, in both the peak and off-peak travel period, transit is seeing the slight increase with the 2018-2021 MTIP investments, particularly in focused marginalized communities. The reason for the slight increase projected with the transit mode may be a result of the Division bus rapid transit project opening for service in 2021 and the subsequent incremental transit service increases expected between now and 2021.

Table 5. Access to Low and Middle Wage Jobs – Peak Travel Period

Job Access -- % of All Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	Auto	Transit	Bike	Walk	Auto	Transit	Bike	Walk
All MPA	18%	2%	3%	0%	19%	2%	3%	0%
Non-HMC	16%	1%	2%	0%	16%	1%	2%	0%
Non-FHMC	16%	1%	2%	0%	16%	2%	2%	0%
HMC	19%	3%	3%	0%	20%	3%	3%	0%
FHMC	21%	3%	3%	0%	21%	3%	3%	0%

Job Access -- % of Low-Wage Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	Auto	Transit	Bike	Walk	Auto	Transit	Bike	Walk
All MPA	33%	4%	5%	1%	34%	5%	5%	1%
Non-HMC	29%	2%	4%	1%	29%	2%	4%	1%
Non-FHMC	29%	3%	4%	1%	30%	3%	4%	1%
HMC	35%	5%	6%	1%	35%	6%	6%	1%
FHMC	38%	5%	6%	1%	38%	6%	6%	1%
Job Access -- % of Medium-Wage Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	A	T	B	W	A	T	B	W
All MPA	20%	2%	3%	0%	20%	3%	3%	0%
Non-HMC	18%	1%	2%	0%	18%	1%	2%	0%
Non-FHMC	18%	2%	3%	0%	18%	2%	3%	0%
HMC	21%	3%	3%	1%	21%	3%	3%	1%
FHMC	23%	3%	4%	1%	23%	4%	4%	1%

Table 6. Access to Low and Middle Wage Jobs – Non-Peak Travel Period

Job Access -- % of All Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	A	T	B	W	A	T	B	W
All MPA	21%	2%	3%	0%	21%	2%	3%	0%
Non-HMC	19%	1%	2%	0%	19%	1%	2%	0%
Non-FHMC	19%	1%	2%	0%	19%	1%	2%	0%
HMC	22%	2%	3%	0%	22%	2%	3%	0%
FHMC	23%	2%	3%	0%	23%	3%	3%	0%
Job Access -- % of Low-Wage Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	A	T	B	W	A	T	B	W
All MPA	38%	3%	5%	1%	38%	3%	5%	1%
Non-HMC	35%	1%	4%	1%	35%	2%	4%	1%
Non-FHMC	35%	2%	4%	1%	35%	2%	4%	1%
HMC	39%	4%	6%	1%	39%	4%	6%	1%
FHMC	42%	4%	6%	1%	42%	5%	6%	1%
Job Access -- % of Medium-Wage Jobs in MPA								
	Base Year (2015) Conditions				MTIP Network			
	A	T	B	W	A	T	B	W
All MPA	23%	2%	3%	0%	23%	2%	3%	0%
Non-HMC	21%	1%	2%	0%	21%	1%	2%	0%
Non-FHMC	21%	1%	3%	0%	21%	1%	3%	0%
HMC	24%	2%	3%	1%	24%	3%	3%	1%
FHMC	25%	2%	4%	1%	25%	3%	4%	1%

Additionally, the Access to Jobs system evaluation measure assessed the ratio of jobs which are accessible by transit relative to automobile (i.e. driving). The assessment illustrates for the region, transit access to low and middle wage jobs does not rise above 13% during peak travel period and 9% during off-peak travel. This means about 13% or 9% of these wage jobs are accessible by transit relative to driving. However, in historically marginalized communities and focused historically marginalized communities (i.e. areas of concentration), the ratio of low and middle wage jobs accessible by transit is slightly higher at 16% during peak travel and 11% during off-peak travel. What this demonstrates is that transit investments are being directed in areas with historically marginalized communities and focused historically marginalized communities and providing slight jobs access benefit by transit.

Table 7. Access to Low and Middle Wage Jobs – Transit Access Relative to Automobile Access

Job Access -- Jobs Inaccessible By Transit (Transit Accessible Jobs / Auto Accessible Jobs)								
	Base Network		**MTIP Network**		**Base Network**		**MTIP Network**	
	Peak Travel Period				**Off-Peak Travel Period**			
	Low Wage	**Mid Wage**	**Low Wage**	**Mid Wage**	**Low Wage**	**Mid Wage**	**Low Wage**	**Mid Wage**
All MPA	12%	12%	13%	13%	8%	8%	9%	9%
Non-HMC	7%	7%	7%	7%	4%	4%	5%	5%
Non-FHMC	9%	9%	9%	9%	6%	6%	6%	6%
HMC	14%	14%	16%	16%	10%	9%	11%	11%
FHMC	14%	14%	16%	16%	9%	9%	11%	11%

Access to Travel Options – System Connectivity and Completeness

The Access to Travel Options system performance measure is looking at four different elements of the transportation system: 1) completeness of the identified regional active transportation network; 2) completeness of sidewalks and bikeways to access transit stops; 3) the change in miles and density of streets, sidewalks, bikeways, and trails; and 4) the timing of the investments. For the assessment of the 2018-2021 MTIP, the assessment of the timing of investments is not an applicable analysis because the transportation investments are scheduled to occur (and have secured transportation funding) within federal fiscal years 2018-2021. At the time of mailing of this memorandum, only the change in miles and density component had been completed as part of the analysis. Therefore the results illustrated below are primarily looking at the miles of system completeness and the density streets and the active transportation system.

The 2018-2021 MTIP investments appear to be increasing the miles of completeness and density of the active transportation and street network region-wide as well as in areas with historically marginalized and focused historically marginalized communities. For the historically marginalized and focused historically marginalized communities, the increase in additional miles and density appears to be at a higher rate than the region. The minor exception to this may be the street network density, where not change was seen. This may be in part due to a continuation of Metro's regional flexible fund allocation and to emphasize travel options and social equity as criteria for transportation investments.[9] Additionally, in the previous ODOT Region 1 Enhance cycle, the limited amount of funding available for the Enhance program statewide, shifted the emphasis to non-highway and active transportation investments. The result of the increased miles of sidewalks, bikeways, and trails demonstrates progress in completing the active transportation network in areas with historically marginalized and focused historically marginalized communities and higher

[9] The 2019-2021 Regional Flexible Fund and the 2019-2021 Region 1 Enhance Non-Highway allocations incorporated criteria pertaining to travel options, transportation safety, and equity.

use. The increase in density illustrates more sidewalks, bikeways, and trails available, furthering the completeness, in the areas with historically marginalized and focused historically marginalized communities. However, the increased miles and density does not speak to connectivity of the active transportation network.

Table 8. 2018-2021 MTIP Investments – Additional Miles and Density of System

Streets – Additional Miles and Density of the System							
	# of projects	**Existing miles**	**Additional miles**	**% difference**	**Existing density**	**Density difference**	**% density difference**
Total Projects	3	46342	2.8	0.0%	34.45	0.00	0.0%
HMC	2	30027	2.3	0.0%	43.13	0.00	0.0%
FHMC	2	15985	0.5	0.0%	53.44	0.00	0.0%
Sidewalks – Additional Miles and Density of the System							
	# of projects	**Existing miles**	**Additional miles**	**% difference**	**Existing density**	**Density difference**	**% density difference**
Total Projects	24	2878	37.5	1.3%	2.14	0.03	1.3%
HMC	23	1967	29.2	1.5%	2.83	0.04	1.5%
FHMC	16	1070	19.8	1.8%	3.58	0.07	1.8%
Bikeways – Additional Miles and Density of the System							
	# of projects	**Existing miles**	**Additional miles**	**% difference**	**Existing density**	**Density difference**	**% density difference**
Total Projects	28	1700	44.5	2.6%	1.26	0.03	2.6%
HMC	25	1144	36.7	3.2%	1.64	0.05	3.2%
FHMC	18	640	24.7	3.9%	2.14	0.08	3.9%
Trails – Additional Miles and Density of the Syste,							
	# of projects	**Existing miles**	**Additional miles**	**% difference**	**Existing density**	**Density difference**	**% density difference**
Total Projects	11	937	15.1	1.6%	0.70	0.01	1.6%
HMC	8	464	11.3	2.4%	0.67	0.02	2.4%
FHMC	7	244	8.0	3.3%	0.82	0.03	3.3%

Share of Transportation Safety Projects and Per Capita Spending in Transportation Safety

Within the 2018-2021 MTIP, approximately 39% of the transportation projects and 13% of the investment program are identified as transportation safety-related.[10] The number of projects in transportation safety in the 2018-2021 MTIP is not a surprising recognizing for many years safety has been a U.S. DOT priority and there is federal highway administration funding program dedicated towards implementing transportation safety measures. Additionally, transportation safety has also been criteria for the MPO regional flexible funds. However, the investment level is transportation safety only makes up a small component of the overall 2018-2021 MTIP.

[10] Note, the total number of 2018-2021 MTIP projects are from January 2017. The total number of projects are subject to change based on project implementation delay and carrying over from the 2015-2018 MTIP to the 2018-2021 MTIP. Additionally, at the time of request project cost information had not been finalized for all projects therefore cost information was unavailable for four identified transportation safety projects.

Table 9. 2018-2021 MTIP – Summary of Identified Transportation Safety Projects

	Total	Estimated 2018-2021 MTIP cost	Safety projects	Estimated 2018-2021 MTIP safety cost	% Projects	% Investment
Total 2018-2021 MTIP projects[11]	163	--	64	--	39%	--
Total 2018-2021 MTIP cost	157	$ 1,174,264,122	60	$ 152,407,484	38%	13%

While only 13% of the 2018-2021 MTIP represent transportation safety investments, when looking more closely at where the transportation safety investments are being made is between half (50%) to two-thirds (66%) of safety investments are being made in historically marginalized communities and focused historically marginalized communities.[12] Furthermore, the transportation safety investments being made in historically marginalized communities and focused historically marginalized communities represent a total of 76% and 60% of the transportation safety investments respectively. At a per capita basis, region-wide, transportation safety level is at $98 per person, where investment level within historically marginalized and focused historically marginalized communities is at $177 and $156 per person respectively. These results appear to indicate a level of transportation safety investment is being targeted in historically marginalized communities at a per capita level greater than the region. The results show transportation safety investments levels moving in the direction desired by historically marginalized communities and the assumed outcome would be of these investments would be safer streets for all users.

Table 10. Transportation Safety Investment Levels in Communities and Per Capita Expenditure

	Total projects	% of project total	Estimated 2018-2021 MTIP safety cost	% of investment total	Population	Cost per person
Total 2018-2021 MTIP Projects	157 (163)	100%	$ 1,174,264,122	100%	1,559,517	$ 753
Total 2018-2021 MTIP transportation safety projects	60 (64)	38%	$ 152,407,484	13%	1,559,517	$ 98
Within HMC (transportation safety only)	40	66% (of 38%)	$ 115,072,066	76% (of 13%)	650,849	$ 177
Within FHMC (transportation safety only)	30	50% (of 38%)	$ 91,000,398	60% (of 13%)	583,087	$ 156

Exposure to Vehicle Miles Traveled (VMT) and Crash Risk

Overall, the 2018-2021 MTIP investments appear to be slightly increasing vehicle miles traveled (VMT) region-wide, but a minor reduction of VMT is projected in historically marginalized

[11] See footnote 10.

[12] At the time of the 2018-2021 MTIP data request, some transportation safety projects were unable to provide exact locations of where the investments would be made. These investments provided programmatic areas (e.g. City of Gresham or City of Portland), but due to the lack of defined spatial information, they were therefore excluded from the geographic assessment looking at transportation safety investments in historically marginalized and focused historically marginalized communities. The number of projects affected in this way includes 16 projects representing approximately $32 million of investments. These 16 projects were included as part of the region-wide per capita spending on transportation safety investments.

communities and focused historically marginalized communities.[13] Table 11. illustrates the change in VMT with the 2018-2021 MITP investments.

Table 11. Aggregate Vehicle Miles Traveled (VMT)

Base Year Regionwide VMT (2015)	2018-2021 MTIP Regionwide VMT	Difference in VMT (MTIP – Base Year)	Percent Difference
17,607,229	17,617,629	10,401	0.1%
Base Year HMC VMT (2015)	**2018-2021 MTIP HMC VMT**	**Difference in VMT (MTIP – HMC Base Year)**	**Percent Difference**
9,697,260	9,667,200	-30,060	-0.3%
Base Year FHMC VMT (2015)	**2018-2021 MTIP FHMC VMT**	**Difference in VMT (MTIP –FHMC Base Year)**	**Percent Difference**
7,072,110	7,062,050	-10,059	-0.1%

Because VMT is correlated with and one of many factors contributing to crashes on the transportation system, the slight increase in VMT projected means the region must be diligent in implementing countermeasures and the other principles of transportation safety (the six E's – engineering, education, encouragement, enforcement, equity, and evaluation), to reduce the overall exposure and risk of crashes.

However, a positive result seen from the assessment is a minor decrease in VMT is projected in area with historically marginalized communities and focused historically marginalized communities. The decrease is minor at .3% and .1% respectively. Nonetheless, the projected results illustrate the 2018-2021 MTIP investments are performing in the desired direction in that exposure to VMT in these communities is going down, even if it is slightly increasing overall. The decrease in VMT in these communities may be a result of recent funding allocation programs to emphasize travel options, transportation safety considerations, and social equity as criteria for transportation investments.[14] Additionally, ODOT's reorganization of the Highway Safety Improvement Program (HSIP) which was limited to certain facilities, to the All Roads Transportation Safety (ARTS) may have also influenced the minor VMT changed projected. However, the assessment should note, absolute exposure to VMT (i.e. # of VMT) experienced in different parts of the region, including in areas with historically marginalized and focused historically marginalized communities, can vary.

Overall, the 2018-2021 MTIP investments projected only minor changes in VMT for the region and in areas with historically marginalized communities and focused historically marginalized communities. While the projected VMT in historically marginalized communities and focused historically marginalized communities saw a projected decrease, the exposure to VMT will likely be experienced as incremental or unchanged by these communities.

<u>Habitat Impact</u>

Overall, the 2018-2021 MTIP investments potentially have a disproportionate impact on high value habitats in areas where there are historically marginalized and focused historically marginalized communities. The habitat analysis illustrates that more than half of the transportation investments identified within the 2018-2021 MTIP which may have a potential environmental impact in historically marginalized and focused historically marginalized communities.

[13] See footnote 7.

[14] The 2019-2021 Regional Flexible Fund and the 2019-2021 Region 1 Enhance Non-Highway allocations incorporated criteria pertaining to travel options, transportation safety, and equity.

Table 12. 2018-2021 MTIP Investments Intersecting High Value Habitats and Historically Marginalized Communities & Focused Historically Marginalized Communities

	Projects	Percentage
Total Projects 2018-2021 MTIP	163*	--
Total Projects with Potential Impact to High Value Habitat	51*	31%
Projects with Potential Impact to High Value Habitat and Intersect with Historically Marginalized Communities	38	75%
Projects with Potential Impact to High Value Habitat and Intersect with Focused Historically Marginalized Communities	28	55%

** Indicates 2018-2021 MTIP which detailed spatial information was provided.*

As indicated by TPAC and MTAC, there are a number of assessments a transportation project must undergo during project development. This includes an analysis of the environmental impacts and proposed mitigation. Additionally, as some transportation practitioners indicated, during project developed, the mitigation strategies carried out as part of the requirements of the project have the potential to improve the environmental conditions.

Nonetheless, the disproportional percentage of 2018-2021 MTIP transportation investments with a potential impact to high value habitat in areas with historically marginalized and focused historically marginalized communities indicates the information of the potential impact be brought forward so appropriate consideration be incorporated. The following course of actions are recommended to address the potential disproportionate impact:

- Metro staff will further look through the list of projects which overlap high value habitats and historically marginalized and focused historically marginalized communities to better understand the scope and scales of the individual projects and group them into tiers. The tiers will help to prioritize which projects which are more likely higher risk for environmental impacts.
- The tier information and the identified list of transportation investments which have a potential environmental impacts in historically marginalized and focused historically marginalized communities will be provided to sponsoring jurisdictions and the ODOT local liaison program to monitor and track outcomes of the environmental assessment, mitigation strategies, and how historically marginalized communities were part of the development of the environmental considerations.
- Follow up will be requested by Metro to the sponsoring jurisdictions on the higher risk projects to report as part of the next MTIP cycle.

Findings and Recommendations

The results of the 2018-2021 MTIP Transportation Equity Assessment demonstrates the region's transportation investments slated for federal fiscal years 2018-2021 tend to perform in the desired direction on the identified transportation evaluation measures historically marginalized communities expressed as priorities. With the exception of habitat impact, accessibility as represented to getting to jobs, places, and connecting the system, and transportation safety, as represented by exposure to VMT and safety project investments, tend to be making progress and moving in a positive direction in areas where there are historically marginalized communities with the upcoming planned transportation investments. The 2018-2021 MTIP, while only an incremental level of investment in the transportation system seeks to achieve multiple outcomes, including having benefits be realized in and for historically marginalized communities, albeit gradually which may not satisfy communities.

Key findings from the 2018-2021 MTIP Transportation Equity Assessment

Overall Findings

- The 2018-2021 transportation investments being made to the transportation system by MTIP partners (Metro, ODOT, SMART, and TriMet), at an aggregate scale, tend to perform in the desired direction on transportation metrics in which historically marginalized communities have identified as priorities. This rings true for the access and safety measures, and yet to be determined for the affordability measure. As a result, the general positive direction will have realized benefits for historically marginalized communities, albeit the benefits may be incremental or hard to notice in a day-by-day interaction.
- A potential disproportionate impact of high value habitats in historically marginalized and focused historically marginalized communities may be present. In recognizing this potential disproportionate impact, a set of recommendations to monitor the potential habitat impacts are being recommended as the 2018-2021 MTIP investments move forward from project development to construction.
- Further discussion and direction is needed from historically marginalized communities as to whether to evaluate transportation maintenance and operations programs (e.g. paving, signage, illumination, traffic signals, bus replacements and track work) differently and in a more simplified manner compared to capital projects (e.g. new bicycle lanes, high capacity transit lines, auxiliary lanes on freeways).
- There is significant recognition the aggregate scale of the analysis is not illustrating the differences in different parts of the region around safety, accessibility and impact to habitat by historically marginalized communities. Additionally, there is recognition that the aggregate scale analysis is not capturing experienced differences.

Technical Lessons Learned

- The 2018-2021 MTIP investments demonstrated there continues to be a need to test the transportation equity system evaluation measures to work through the different unexpected technical challenges and also better understanding the results.
- Collecting the transportation data, even for projects being programmed in the upcoming four years remains challenging, especially because a number of transportation investments are grouped into programs and spatial data was not available at the time of conducting the analysis.
    - This was experienced for a number of transportation maintenance programs, including updating illumination on roadways, pavement markings, and bus replacements.
- The nature of the transportation equity assessment is better designed for evaluating capital transportation investments which comprises of a much more limited portion of the 2018-2021 MTIP investments.
- Using the travel demand model for transportation equity assessments are limited by the types of projects and investments which can get modeled and when the project is expected to be open for service. For example, certain large-scale capital projects were not assessed in the model because they are currently in project development (e.g. Southwest Corridor);
    - As a result, using the travel demand model on a four-year investment program proved only a limited number of projects are able to be assessed and a limited set of changes projected.
- Base-year conditions for each transportation equity system evaluation measure are not enough context to help ground the results of each measure aside from a high-level directional finding.
- The investment scenarios for the 2018 RTP may prove to provide more information about how well the transportation investments perform relative to transportation priorities

identified by historically marginalized communities. The broader issue for the 2018 RTP will be defining ways to ensure the long-range outlook of investments gets realized.

- The programmatic nature of the transportation equity system evaluation can only really speak to the general direction of how transportation investments perform at an aggregate scale.
    - Therefore the results as they pertain to historically marginalized communities lack any granularity and cannot show extremes of differences experienced by communities.

Based on the results of the 2018-2021 MTIP Transportation Equity Assessment, Metro staff has developed a suite of recommendations and refinements to help improve and calibrate the assessment for the 2018 RTP.

Table 13. Recommendations and Refinements

Recommendations and Refinements Directed Towards the Assessment (for current and future cycles)
Request all system evaluations provide details for the non-historically marginalized communities (non-HMC) and non-focused historically marginalized communities (non-FHMC) to help provide other comparisons and context for the assessment results.
Despite the number of limitations of the transportation equity assessment, continue to conduct the analysis to gather a general sense of how a package of investments perform relative to priorities identified by historically marginalized communities. Additionally, take further time to look into the results and see if there are opportunities for looking at differences for historically marginalized communities in different parts of the region.
Base-year conditions for each transportation equity system evaluation measure are not enough context to help ground the results of each measure aside from a high-level directional finding. Additional existing analysis (for example, the population of each of the historical marginalized communities) are needed to help contextualize the results.
Potentially develop a streamlined and simplified analysis method for transportation maintenance and operations programs which allow the current method of the transportation equity assessment better focus and assess transportation capital investments.
Finalize and test an affordability system evaluation measure to capture how the package of transportation investments performs.
Visualization of the data and results should be included for the next run the transportation equity assessment, which will take place as part of the 2018 RTP.
Recommendations and Refinements Directed Towards the 2018-2021 MTIP Assessment Results
Continue to monitor the 2018-2021 MTIP investments to ensure the positive progress being made in transportation safety, accessibility, and environment become realized.
Follow through with the course of actions regarding the potential disproportionate impact of high value habitats in historically marginalized communities.
Incorporate visualizations (maps, charts, graphs) of the data, if time allows, for the public comment draft of the 2018-2021 MTIP, which the transportation equity assessment will be one component.

Discussion Questions

Based on the analysis of the 2018-2021 MTIP investments and the results of the transportation equity system evaluation measures, the following discussion questions are being asked for discussion with the work group:

1. What are your thoughts on the results and findings from the 2018-2021 MTIP transportation equity assessment? Do the analysis results show any surprises?
2. Are there other actions which should be recommended as part of the further investigation and monitoring of the potential disproportionate impact to high value habitat in historically marginalized communities?
3. Does the work group agree with the technical refinements and recommendations for Metro staff to continue to work through in order to prepare for the 2018 RTP? Are there other technical refinements for suggestion?

Next Steps

Metro staff will look to incorporate comments from the work group into the documentation of the 2018-2021 MTIP transportation equity assessment. Additionally, Metro staff will work to finalize the draft results, findings, and recommendations for the 2018-2021 MTIP transportation equity assessment. In anticipation and preparation of the 2018 RTP call-for-projects, Metro staff will continue to work through the individual system evaluation measures to gather more insight as to the results and making targeted refinements to the evaluation measures in preparation of the 2018 RTP call-for-projects.

A 30-day public comment period for the 2018-2021 MTIP will begin on April 24th, 2017. The public comment period provides the opportunity for work group members and other stakeholders the opportunity to provide formal comment to the 2018-2021 MTIP Transportation Equity Assessment.

The transportation equity work group will next meet in autumn 2017 to discuss the results of the 2018 RTP transportation equity assessment.

Appendix 1.1

2018-2021 MTIP Projects - As of End of January 2017

ID No.	PROJECT NAME	COUNTY	CITY	PROJECT DESCRIPTION	SOURCE	Access to Jobs	Access to Places	Exposure to VMT	Transportation Safety Investments	Access to Travel Options	Resource Habitats	Estimated Project Cost
1	CLACKAMAS COUNTY REGIONAL FREIGHT ITS PROJECT	Clackamas	---	System enhancements to reduce freight delays in congested areas. This project will implement projects identified in the County Freight ITS Plan. Components will be selected from or consistent with the Portland Metro ITS/Transportation System Management and Operations (TSMO) Plan.	STIP	N	N	N	N	N	Y	$ 880,419
2	SE 129TH AVENUE - BIKE LANE AND SIDEWALK PROJECT	Clackamas	Happy Valley	Sidewalk and add bike lanes	STIP	Y	Y	Y	Y	Y	N	$ 3,105,644
3	Kronberg Park Multi-Use Trail	Clackamas	Milwaukie	This project would construct the Multi-Use trail element of the Robert Kronberg Nature Park Master Plan and would connect downtown Milwaukie and the new Main Street Max station with the regional Trolley Trail. This is the final portion of the trail and would connect the crossing at River Road across Highway 99E to improvements already constructed at the new bridge across Kellogg Lake	Connect Oregon	Y	Y	Y	Y	Y	N	$ 1,185,735
4	Molalla Avenue Walking and Biking Improvements	Clackamas	Oregon City	Connect downtown Oregon City to Clackamas Community College by constructing bike lanes, street trees and lighting, wide sidewalks, better bus stops and safer street crossings.	RFFA	Y	Y	Y	Y	Y	N	$ 3,985,379
5	OR43 Multimodal Transportation Project	Clackamas	West Linn	Design and right-of way to be funded by enhance program in support of constructing cycle track and sidewalk along OR-43 from Arbor Dr to Hidden Springs Rd and construct about 7,500 sq ft. of new road extending Hidden Springs Rd to Old River Rd.	STIP	Y	Y	Y	Y	Y	N	$ 1,281,000
6	Highway 43 Walking and Biking Improvements	Clackamas	West Linn	Along Highway 43 construct sidewalks, separated bike lanes, marked crosswalks, improved transit stops and lighting.	RFFA	Y	Y	Y	Y	Y	N	$ 3,400,000
7	I-5 Walking and Biking Bridge	Clackamas	Wilsonville	Construct a walking and biking bridge over Southeast Boones Ferry Road and Southwest Town Center Loop West.	RFFA				N	Y	N	$ 2,976,423
8	Seventies Neighborhood Greenway	Multnomah	Portland	Project includes: traffic calming and way-finding elements on local streets, some paving, crossing improvements, and multi-use path through Rose City Golf Course to address a gap in north-south bicycle and pedestrian facilities near 82nd avenue.	STIP	Y	Y	Y	N	Y	N	$ 5,010,706
9	ST JOHNS TRUCK STRATEGY PHASE II	Multnomah	Portland	Freight mobility, bicycle and pedestrian safety improvements to N Lombard, N Fessenden/St Louis and N Portland Rd/Columbia corridors.	STIP	N	N	N	Y	Y	Y	$ 3,345,990
10	Flanders Crossing Active Transportation Bridge	Multnomah	Portland	The project will construct a new pedestrian/bicycle overcrossing of I-405 at NW Flanders St. NW Flanders is a neighborhood greenway bicycle and pedestrian route that connects NW Portland with the Pearl District, Old Town and Downtown Portland. This project will reconnect Flanders for bicycles and pedestrians with a 24' wide bridge that will also serve as a seismic lifeline route.	Connect Oregon	Y	Y	Y	N	Y	N	$ 2,877,000
11	NE COLUMBIA BLVD: CULLY BLVD & ALDERWOOD RD	Multnomah	Portland	Install or replace a signal and construct a taper on Columbia Blvd's east leg at Alderwood for future side-by-side left-turn lanes between Cully and Alderwood. Construct sidewalks at the Columbia/Alderwood intersection and on N side to Cully.	STIP	Y	Y	Y	N	Y	Y	$ 5,058,349
12	Stark Street Multimodal Connections	Multnomah	Gresham / Troutdale	Project will close an existing east-west gap in bicycle and pedestrian travel by constructing sidewalks and bike lanes on the north side and part of the south side of SE Stark Street between SW 257th Ave and S Troutdale Rd.	STIP	Y	Y	Y	Y	Y	N	$ 4,114,377
13	40 MILE LOOP: BLUE LAKE PARK - SUNDIAL RD	Multnomah	Fairview / Troutdale	Reconstruct 1.7 miles of mixed use trail	STIP	N	N	N	N	Y	N	$ 3,424,073
14	SANDY BLVD: NE 181ST AVE - EAST GRESHAM CITY LIMIT	Multnomah	Gresham	Widen the lane configuation from three to five lanes. Add second left turn lane from Sandy Boulevvard from 181st Avenue for southbound traffic. Rewire existing signal, rewire pedestrian pole, add new westbound turn-head and realign heads on other approaches. Construct 3000 foot extension of multiuse path on north side of Sandy between 185th and 201st Avenues. Construct 1,350 foot of new multiuse path on south side of Sandy boulevard between 181st Avenue and Boeing entrance.	STIP	Y	Y	Y	N	TBD	Y	$ 3,993,202
15	SE 242ND/HOGAN: NE BURNSIDE - E POWELL (GRESHAM)	Multnomah	Gresham	Widen SE Hogan Road to provide increased access for economic development and freight mobility. The project includes signals, bicycle and pedestrian improvements to provide safer and improved access for all road users.	STIP	Y	Y	Y	N	Y	Y	$ 3,500,002
16	CEDAR CREEK/TONQUIN TRAIL: OR99W - MURDOCK RD	Washington	---	Construct a trail to better accommodate pedestrian access.	STIP	N	N	N	N	Y	N	$ 5,230,092
17	Herman Road Walking and Biking Improvements	Washington	Tualatin	Complete project engineering to create separated bike lanes, sidewalks and transit stops along Herman Road.	RFFA	N	N	N	N	Y	N	$ 4,848,952
18	MAIN ST PH 2: RAIL CORRIDOR - SCOFFINS (TIGARD)	Washington	Tigard	Green Street retrofit, pedestrian amenities and street lights.	STIP	N	N	N	N	Y	N	$ 2,225,000
19	Beaverton Creek Trail	Washington	THPRD	Construct 1.5 miles of the Beaverton Creek Trail and provide an off-street link from Hocken Avenue to the Westside Trail.	RFFA	Y	Y	Y	N	Y	N	$ 5,758,078
20	TRANSIT ORIENTED DEVELOPMENT PROGRAM	Various	---	Work directly with developers and local jurisdictions to create vibrant downtowns main streets and station areas by helping to change land use patterns near transit.	RFFA	N	N	N	N	N	N	$ 10,999,666
21	I-5 & I-205 SHARED USE PATHS	Multnomah	Maywood Park	Repave sections, install ADA ramps, drainage and address tree roots with structure. Repave transition to existing structure near I-84WB to I-205 to correct settlement.	STIP	N	N	N	N	N	N	$ 745,001
22	PORTLAND TO MILWAUKIE LIGHT RAIL	Various	TriMet	This project extends light rail from PSU in downtown Portland to Milwaukie and north Clackamas County. It includes a multi-modal bridge carrying light rail, streetcar, buses, bicycles and pedestrians.	Transit	Y	Y	Y	N	Y	N	$ 68,006,708
23	Division Bus Rapid Transit project	Multnomah	TriMet	Hight capacity transit on Division from Portland CBD to Gresham TC.	Transit	Y	Y	Y	N	N	N	$ 164,022,842
24	REGIONAL TRAVEL OPTIONS PROGRAM	Various	---	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility. The RTO program includes the local grant program, marketing and outreach campaigns, the TriMet and SMART employter programs, program evaluation, and newly added Safe Routes to School.	RFFA	N	N	N	N	N	N	$ 10,353,282
25	REGIONAL PLANNING	Various	---	The MPO Planning program contributes to a broad range of activities within Metro that are linked to regional policy making and local planning support	RFFA	N	N	N	N	N	N	$ 4,413,240

2018-2021 MTIP Projects - As of End of January 2017

ID No.	PROJECT NAME	COUNTY	CITY	PROJECT DESCRIPTION	SOURCE	Access to Jobs	Access to Places	Exposure to VMT	Transportation Safety Investments	Access to Travel Options	Resource Habitats	Estimated Project Cost
26	TRANS SYSTEM MGMT & OPERATIONS PROGRAM	Various	---	The Transportation System Management & Operations (TSMO) program coordinates both the planning and implementation of the regions system management and operations strategies to enhance multi-modal mobility for people and goods.	RFFA	N	N	N	N	N	N	$ 5,839,741
27	Brentwood-Darlington Safe Routes to School	Multnomah	Portland	Construct sidewalks to fill critical gaps in the walking network in the Brentwood-Darlington neighborhood.	RFFA	Y	Y	Y	N	Y	N	$ 5,350,000
28	I-205 Undercrossing (Sullivan's Gulch)	Multnomah	Portland	Project will provide safe access across I-205 for bicyclists and pedestrians by improving local street corridors on the west side of I-205 and constructing an east-west bicycle and pedestrian undercrossing.	STIP	N	N	N	Y	Y	N	$ 3,377,000
29	Waterhouse Trail Segment 4	Washington	Tualatin Hills Park & Recreation District	Construct approximately 700 feet and replace 275 feet of boardwalk of the Waterhouse Trail, completing the final gap in the 5.5-mile long off-street multi-use trail. The result will provide improved access and connection to transit, commercial and employment centers, residential neighborhoods, regional and community trails, schools, civic places, parks and recreation facilities, and natural areas	Connect Oregon	N	N	N	N	Y	Y	$ 400,000
30	Portland Passenger-Freight Rail Speed Improvement Project	Multnomah	Union Pacific Corporation & Subsidiaries	Complete track, signal, and elevation improvements at a critical BNSF/UP junction in the Portland rail network. An existing 10mph speed restriction will be eliminated resulting in reduced train delay for the 35 daily Amtrak, UPRR, and BNSF trains using the junction.	Connect Oregon	N	N	N	N	N	Y	$ 8,294,124
31	NE 238TH DR: NE HALSEY ST - NE GLISAN ST	Multnomah	Wood Village / Troutdale	Widen travel lanes and add bicycle and pedestrian facilities.	STIP	Y	Y	Y	N	Y	Y	$ 8,421,943
32	OR8: SW HOCKEN AVE - SW SHORT ST	Washington	Beaverton	Design and construct streetscape, safety, and operational improvements on Canyon Rd in Beaverton between SW Hocken Ave and SW Short St. Upgrade or replace signals, improve access for pedestrians, and provide streetscape enhancements.	STIP	N	N	N	Y	Y	Y	$ 964,500
33	OR8 Corridor Safety & Access to Transit II	Washington	Beaverton / Hillsboro	Project will improve safety and access to transit for pedestrians and cyclists along OR-8. Work includes: bike lane from SW 182nd Ave to SW 153rd Dr., pedestrian crossings, and separated walkway and bike lane across Rock Creek Bridge.	STIP	N	N	N	Y	Y	N	$ 1,614,000
34	Basalt Creek Parkway Extension	Washington	Washington County	Connect SW Grahams Ferry Road and SW Boones Ferry Road by extending SW Basalt Creek Parkway. The new road will be a 5 lane facility, 2 east bound lanes, 2 west bound lanes, center turn lanes at the signals, 6-foot standard bicycle lanes, sidewalks and illumination. The signal at Grahams Ferry Rd will be adjusted and a new signal at Boones Ferry Rd will be installed.	RFFA	Y	Y	Y	N	Y	Y	$ 35,174,017
35	JENNINGS AVE: OR99E TO OATFIELD RD	Clackamas	---	Bike and pedestrian improvements along Jennings Ave from OR 99E (McLoughlin Blvd) to Oatfield Rd. The improvements include constructing a curb tight sidewalk on the north side of the road and constructing bike lanes on both sides of the road.	STIP	Y	Y	Y	Y	Y	N	$ 3,806,673
36	Cully Walking and Biking Parkway	Multnomah	Portland	Create a high-quality walking and biking parkway along Northeast 72nd Avenue through the heart of the Cully neighborhood. Includes lighting and street trees.	RFFA	Y	Y	Y	N	Y	N	$ 5,996,306
37	PORTLAND CENTRAL CITY SAFETY PROJECT - PHASE 2	Multnomah	Portland	Develop a strategy that identifies multimodal safety projects and prioritizes investments	STIP	N	N	N	Y	N	N	$ 6,686,727
38	OR99W: SW 26TH WAY-SW 19TH AVE (PORTLAND)	Multnomah	Portland	This project will build missing gaps in the sidewalks and bike lanes and make enhancements to existing intersections	STIP	Y	Y	Y	Y	Y	N	$ 2,111,445
39	EAST PORTLAND ACCESS TO EMPLOYMENT AND EDUCATION	Multnomah	Portland	Sidewalks crossings bus stops bike facilities and other safety facilities	STIP	N	N	N	Y	Y	N	$ 9,213,195
40	CONNECTED CULLY	Multnomah	Portland	Construct sidewalks and bike connections in the Cully Neighborhood	STIP	N	N	N	N	Y	N	$ 3,337,372
41	WILLAMETTE GREENWAY TRAIL: COLUMBIA BLVD BRIDGE	Multnomah	Portland	Construct a bicycle and pedestrian bridge over Columbia Boulevard and an extension of the Willamette Greenway Trail from the existing termini in Chimney Park to the south end of the landfill bridge over the south Columbia Slough	STIP	Y	Y	Y	Y	Y	N	$ 2,612,381
42	CORRIDOR & SYSTEMS PLANNING	Various	---	Corridors and Systems Planning Program for the integration of land use and transportation. Determines regional system needs, functions, desired outcomes, performance measures and investment strategies.	RFFA	N	N	N	N	N	N	$ 1,849,994
43	OR99W: SW BEEF BEND RD - SW DURHAM RD (KING CITY)	Washington	King City	Install sidewalk on the west side of OR99W	STIP	N	N	N	Y	Y	N	$ 1,036,427
44	Terminal 6 Auto Staging Facility	Multnomah	Port of Portland	The project will construct a 19-acre auto staging facility across the street from the Terminal 6 entrance in the Port of Portland's Rivergate Industrial District. The new staging facility will improve logistical efficiency and increase the capacity to export vehicles from the Port's Berth 601 auto import/export facility. The Port expects to lease the facility to Auto Warehousing Co. (AWC)	Connect Oregon	N	N	N	N	N	Y	$ 2,628,700
45	I-205: Division St - Killingsworth St	Multnomah	Portland / Maywood Park	Construct a NB Auxiliary lane on I-205 from the I-84 EB to I-205 NB off ramp at Killingsworth St and a SB Auxiliary lane on I-205 from I-84 EB to I-205 SB on ramp to the existing Auxiliary lane at Division / Powell St	STIP	Y	Y	Y	N	N	Y	$ 15,000,000
46	OR8: CORRIDOR SAFETY & ACCESS TO TRANSIT	Washington	Beaverton	Sidewalk infill and improvements, Signal priority, bus stop relocations, bus pads, ADA improvements and enhanced pedestrian crossing.	STIP	N	N	N	Y	Y	N	$ 3,743,000
47	Halsey Street Safety and Access to Transit	Multnomah	Portland	Provide improvements on Halsey Street around the 82nd Avenue MAX station. Includes intersection redesigns, better bus stops and crosswalks, bike lanes and a biking and walking path.	RFFA	Y	Y	Y	Y	Y	N	$ 2,992,800
48	OR99W: CORRIDOR SAFETY & ACCESS TO TRANSIT	Multnomah / Washington	Portland / Tigard / King City	Sidewalk infill, enhanced pedestrian crossings, bus shelters and pads, bike and pedestrian facilities, retaining walls and drainage improvements, transit priority signals	STIP	N	N	N	Y	Y	N	$ 3,605,000
49	I-5: INTERSTATE BRIDGE - HASSALO ST	Multnomah	Portland	Pavement rehabilitation 2 - 4 inch grind/inlay, guardrail & sign installation/replacement. Reinforced concrete pavement repair as necessary. Replace asphaltic plug joints on the Eliot School Viaduct. ADA ramps, inlet and manhole adjustments. Traffic loops	STIP	N	N	N	N	N	Y	$ 17,827,000

Appendix 1.1

2018-2021 MTIP Projects - As of End of January 2017

ID No.	PROJECT NAME	COUNTY	CITY	PROJECT DESCRIPTION	SOURCE	Access to Jobs	Access to Places	Exposure to VMT	Transportation Safety Investments	Access to Travel Options	Resource Habitats	Estimated Project Cost
50	REGIONAL ITS COMMUNICATIONS INFRASTRUCTURE (ODOT)	Various	---	Complete gaps and deficiencies identified in the Regional ITS Communications Plan	STIP	N	N	N	N	N	N	$ 590,661
51	US26: SE 282ND AVE (BORING RD) OXING	Clackamas	---	Increase the clearance on US26 under the SE 282nd Ave (Boring Rd) Structure (Bridge no. 09381) and perform joint and deck work on the structure.	STIP	N	N	N	N	N	Y	$ 6,351,000
52	OR99E RAILROAD TUNNEL ILLUMINATION AND ITS	Clackamas	Oregon City	Upgrade the illumination systems of the roadway and pedestrian tunnels that pass under the railroad. Install a Variable Message Sign (VMS) south of the tunnel.	STIP	N	N	N	Y	N	Y	$ 1,940,000
53	I-5: N DENVER AVE NB TUNNEL ILLUMINATION	Multnomah	Portland	Upgrade the illumination system by replacing the electrical system including the replacement of the existing obsolete fixtures to current standard.	STIP	N	N	N	N	N	Y	$ 329,907
54	OR99E: ROCKFALL MITIGATION MP12.62 - MP14.06	Clackamas	Oregon City	Inspect and repair mesh. Scale slope behind mesh removing loose rock and vegetation. Rock bolting as needed and clear catchment area / roadside ditch	STIP	N	N	N	N	N	Y	$ 1,889,000
55	OR8 AT OR219 AND SE 44TH – SE 45TH AVE (HILLSBORO)	Washington	Hillsboro	Signal replacement at OR219, add a striped island and candlesticks to the south leg of the intersection. Replace pedestrian flashing beacon with RRFB or pedestrian hybrid beacon at 44th - 45th Ave. Add illumination, signing and ADA ramps.	STIP	N	N	N	Y	N	N	$ 504,000
56	OR8: SW10TH - SW 110TH	Washington	Beaverton / Hillsboro / Cornelius	Safety upgrades to install larger signal heads, reflective backboards, pedestrian countdown signals and left turn phasing where feasible	STIP	N	N	N	Y	N	N	$ 1,875,000
57	US26 (POWELL BLVD): SE 20TH - SE 34TH	Multnomah	Portland	Signal upgrades with left turn phasing, countdown pedestrian signals. Remove trees to improve sight distance. Improve signing and illumination. Install rapid flash beacons and median pedestrian refuges. Improve existing islands and improve ADA access.	STIP	N	N	N	Y	N	N	$ 3,407,655
58	DOWNTOWN I-405 PED SAFETY & OPERATIONAL IMPROVEMTS	Multnomah	Portland	BIKE, PEDESTRIAN AND OPERATIONAL IMPROVEMENTS	STIP	N	N	N	Y	N	N	$ 2,240,000
59	OR141(SW HALL BLVD): SCHOLLS FERRY RD - HEMLOCK ST	Washington	Beaverton / Tigard	Construct ADA ramps	STIP	N	N	N	N	N	N	$ 586,707
60	SMART ASSOCIATED IMPROVEMENTS & PREVENTATIVE MAINT	Clackamas	SMART	5307 Funds for Preventative Maintenance, Associated Improvements and Bus Fleet Replacement FY18	Transit	N	N	N	N	N	N	$ 1,344,414
62	5310 - SENIOR & DISABLED	Clackamas	SMART	Services & Facility Improvements for Elderly & Disabled Customers	Transit				N	N	N	$ 153,750
63	BUS AND BUS FACILITIES (CAPITAL)	Clackamas	SMART	Bus and Bus Facility Upgrades (FY18)	Transit	N	N	N	N	N	N	$ 288,700
64	BUS PURCHASE	Various	TriMet	Bus Purchase	Transit	N	N	N	N	N	N	$ 13,118,147
65	BUS & RAIL PREVENTIVE MAINT (5307)	Various	TriMet	Capital Maintenance For Bus And Rail, such as track and switch rehabilitation and replacement, Blue Line Station redesign and rehabilitation, vahicle and facility matainance.	Transit	N	N	N	N	N	N	$ 147,090,216
66	BUS & RAIL PREVENTIVE MAINT (STP)	Various	TriMet	Capital Maintenance For Bus and Rail	Transit	N	N	N	N	N	N	
67	STATE OF GOOD REPAIR PROGRAM	Various	TriMet	Capital Maintenance For Bus and Rail	Transit	N	N	N	N	N	N	$ 95,569,886
68	TRIMET ENHANCE MOBILITY PROGRAM	Various	TriMet	Paratransit services provided by TriMet LIFT, Wilsonville SMART, and small city transit agencies. Ride Connection-operated services, including door-to-door rides, community and senior center shuttles, and travel training.	Transit	N	N	N	N	N	N	$ 7,341,608
69	HIGH CAPACITY TRANSIT BOND	Various	---	Funding for development and construction of the region's high capacity transit system.	RFFA	N	N	N	N	N	N	$ 15,430,000
70	SUNRISE SYSTEM: INDUSTRIAL AREA FREIGHT ACCESS	Clackamas	Happy Valley	Funding for a new two-lane state highway to provide freight access to the Clackamas Industrial Area and a multiuse path connecting to the I-205 multiuse path	STIP	N	N	N	N	Y	Y	$ 9,213,195
71	OR212: Rock Creek - Richey Rd	Clackamas	Milwaukie / Happy Valley/ Johnson City	Repave roadway and upgrade ADA to current standards. Project adds necessary funds to design and construction of existing design-only project in 2015-2018 STIP.	STIP	N	N	N	N	N	Y	$ 500,000
72	OR212: UPRR Structure - Rock Creek	Clackamas	Happy Valley	Repave roadway (1R) and upgrade ADA to current standards. Three inch inlay between fog lines (six inches beyond). Project adds necessary funds to design and construction.	STIP	N	N	N	N	N	Y	$ 750,000
73	I-84/I-5: BANFIELD INTERCHANGE	Multnomah	Portland	Concrete deck overlay & bridge rail retrofit; bridges #08588A & 08588C	STIP	N	N	N	N	N	Y	$ 6,570,000
74	I-405: FREMONT BRIDGE	Multnomah	Portland	Replace modular joints; bridges 09268B,09268N,09268S,08958B,08958D,08958I	STIP	N	N	N	N	N	Y	$ 5,750,000
75	I-5: INTERSTATE BR (NB) TRUNNION SHAFT REPLACEMENT	Multnomah	Portland	Replace trunnion shaft; bridge #01377A. ODOT is lead on project with WSDOT paying 50% of total.	STIP	N	N	N	N	N	Y	$ 1,368,000
76	I-5: MARQUAM BR ELECTRIC & LIGHTING SYSTEM REPLACE	Multnomah	Portland	Replace electrical & lighting system; bridge #08328	STIP	N	N	N	N	N	Y	$ 1,848,076
77	US26 (POWELL BLVD): SE 122ND AVE - SE 136TH AVE	Multnomah	Portland	Construct sidewalks, storm water facility, buffered or separated bike lane, center turn lane/median and 2x11-foot travel lanes. Mid-block pedestrian crossings and lighting improvements are included.	STIP	N	N	N	Y	Y	Y	$ 20,000,000
78	NORTH HILLSBORO JOB CONNECTOR SHUTTLE	Washington	TriMet	Implement a new job connector shuttle service north and south of Hwy 26 supporting low and middle wage workers transit needs within the North Hillsboro Industrial District	Transit	Y	Y	Y	N	N	N	$ 6,971,798
79	I-84: GRAHAM ROAD BRIDGE REPLACEMENTS	Multnomah	Troutdale	Replace bridges #07046 & 07046A at existing capacity	STIP	N	N	N	N	N	Y	$ 15,394,714
80	NE KANE DRIVE AT KELLY CREEK CULVERT	Multnomah	Gresham	Remove existing temporary culvert. Install new culvert storm water system and repair roadway. Work includes upstream restoration and downstream pond mitigation.	STIP	N	N	N	N	N	Y	$ 5,775,001
81	SE 122ND AVE: JOHNSON CREEK BRIDGE REPLACEMENT	Multnomah	Portland	Emergency replacement of bridge #51C20 at existing capacity	STIP	N	N	N	N	N	Y	$ 2,800,000

2018-2021 MTIP Projects - As of End of January 2017

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82	OR217/OR224: BRIDGE RAIL RETROFIT	Washington / Clackamas	Beaverton / Milwaukie	Bridge rail retrofit bridges 16134, 16143, 09623	STIP	N	N	N	N	N	Y	$ 1,952,001
83	OR212: N DEEP CREEK CULVERT	Clackamas	---	Culvert replacement	STIP	N	N	N	N	N	Y	
84	US30: Kittridge - St. Johns	Multnomah	Portland	Repave roadway, upgrade ADA ramps to current standards, improve access management, and address drainage as needed. Pave Bridge Avenue.	STIP	N	N	N	N	N	Y	$ 8,449,000
85	Region 1 Misc Hardware and Software	Various	VAR	Miscellaneous hardware and software improvements region-wide. This project will provide minor upgrades to ITS software and add minor hardware. Example projects are upgrades to Ramp Meter and ATM software, add CCTV cameras indentified by TMOC, and connect signalized intersections to existing fiber communication backbone.	STIP	N	N	N	N	N	N	$ 497,545
86	Interstate Operations Improvements	Various	VAR	Bucket for regionwide Interstate Operations improvements	STIP	N	N	N	N	N	Y	$ 1,990,000
87	Region 1 LEDs	Various	VAR	Bucket for region-wide Light Emitting Diodes (LEDs) upgrades	STIP	N	N	N	N	N	N	$ 99,509
88	Region 1 Raised Pavement Markings	Various	VAR	Bucket for regionwide Raised Pavement Markings	STIP	N	N	N	Y	N	N	$ 99,509
89	I-84: Fairview - Marine Dr & Tooth Rock Tunnel	Multnomah	Wood Village / Unincorporated	This project repaves a section of I-84 between Fairview and Marine Dr, repaves the Tooth Rock tunnel and installs a full signal upgrade (including ADA) at NE 238th Ave.	STIP	N	N	N	N	N	Y	$ 4,275,000
90	US26: Sylvan - OR217	Washington	Beaverton / Portland	Repave mainline (1R).	STIP	N	N	N	N	N	Y	$ 3,162,000
91	US26: OR217 - Cornell Rd	Washington	Beaverton	Repave mainline (1R).	STIP	N	N	N	N	N	Y	$ 5,070,000
92	US26 Ramp Improvements	Washington	Beaverton / Portland	Leverage 2018-2021 STIP projects on US-26, including paving and ADA upgrades.	STIP	N	N	N	N	N	Y	$ 1,000,000
93	City of Gresham Safety Project	Multnomah	Gresham	Projects to be delivered by the City of Gresham to improve safety. Work may include illumination, intersection improvements, bike and pedestrian improvements, upgrade to ADA, utility relocation, signal work, medians, traffic separators, striping, signing, and warnings.	STIP	N	N	N	Y	N	Y	$ 1,846,200
94	City of Portland Safety Project	Multnomah	Portland	Projects to be delivered by the City of Portland to improve safety. Work may include intersection improvements, utility relocation, signal work (including coordination or adaptive signal timing), medians, traffic separators, striping, signing, and warnings. Install new signal at Burnside/NW 20th	STIP	N	N	N	Y	N	Y	$ 2,599,400
95	Systemic Signal and Illumination (Portland)	Multnomah	Portland	Projects at various locations in the City of Portland. Work may include illumination, intersection work, bike and pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 2,840,454
96	Central Systemic Signal and Illumination (ODOT)	Multnomah	Portland	Projects at various locations in the City of Portland. Work may include illumination, intersection work, bike and pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 3,440,800
97	East Systemic Signals & Illumination (Clackamas)	Clackamas	VAR	Safety projects at various locations in Clackamas Co. Work may include illumination, intersection work, bike and pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 1,098,900
98	East Systemic Signals and Illumination (Multnomah)	Multnomah / Washington	Portland	Install illumination, advance intersection warning signs with street names, transverse rumble strips on approaches, and increase triangle sight distances at the intersections of OR-213 at Toliver and OR-211 at Ona Way.	STIP	N	N	N	Y	N	Y	$ 336,000
99	East Systemic Signals and Illumination (ODOT)	Clackamas	VAR	Projects at locations in east jurisdictions of Portland. Work may include illumination, intersection work, bike/pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 3,176,000
100	Rumble Strips and Conflict Markings (COP/WASHCO)	Multnomah / Washington	VAR	Install centerline rumble strips, green conflict markings and/or profile edge line pavement markings at various locations in Portland.	STIP	N	N	N	Y	N	Y	$ 694,600
101	Rumble Strips (ODOT)	Clackamas / Hood / Multnomah / Washington	VAR	Install centerline rumble strips and install shoulder rumble strips on I-5, I-84, OR-43, US-26, OR-8, I-205, I-405, OR-99E, US-30, US-30BY, OR-217, OR-213, OR-211, OR-224, HWY-173 (Timberline), OR-212, OR-281, and OR-282.	STIP	N	N	N	Y	N	Y	$ 1,101,454
102	US26: Middle Fork Salmon River Culvert	Clackamas	NA	Culvert replacement. This project will fund additional design and construction.	STIP	N	N	N	N	N	Y	$ 300,000
104	Systemic Signals and Illumination (Beaverton)	Washington	Beaverton	Safety projects at various locations in Beaverton. Work may include illumination, intersection work, bike and pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 2,071,600
105	West Systemic Signals & Illumination (Washington)	Washington	Beaverton / Hillsboro	Safety projects at various locations. Work includes illumination, intersection work, bike/pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 631,500
106	West Systemic Signals and Illumination (ODOT)	Washington	VAR	Safety projects at various locations throughout Region 1. Work includes illumination, intersection work, bike/pedestrian improvements, ADA upgrades, signal work, signs, warnings, striping, medians, and utility relocation.	STIP	N	N	N	Y	N	Y	$ 3,643,200
107	MORRISON STREET: WILLAMETTE RIVER (MORRISON) BR	Multnomah	Portland	Remove existing lead-based paint and apply new protective paint. Remove current debris from bridge bearings, paint. Add a maintenance access catwalk for the fixed river spans.	STIP	N	N	N	N	N	Y	
108	LATOURELL ROAD: LATOURELL CREEK BRIDGE	Multnomah	---	Replace existing timber bridge at existing capacity	STIP	N	N	N	N	N	Y	
109	NW THURMAN ST OVER MACLEAY PARK	Multnomah	Portland	Design shelf ready plans to paint the bridge trusses and bents	STIP	N	N	N	N	N	Y	
110	SW Farmington Rd at 170th Ave	Washington	Aloha	Full signal rebuild with reflective backplates and illumination. Other work includes dilemma zone protection for east-west approaches, raised corner islands in NE and SW corners, channelized right turn lanes, ADA upgrades, and restripe crosswalks.	STIP	N	N	N	Y	N	N	$ 1,527,500

2018-2021 MTIP Projects - As of End of January 2017

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111	Full Signal Upgrade (Portland)	Multnomah	Portland	Signals rebuild and upgrades at various locations in Portland. Work includes rebuild and installation of signals, warning systems, striping, lane adjustments, ADA upgrades, traffic separators, and other safety improvements as needed.	STIP	N	N	N	Y	N	N	$ 3,768,500
112	US30 at NW Nicolai St	Multnomah	Portland	Full signal rebuild. Work includes queue warning system, dilemma zone protection, and additional through head on northbound approach; new signal heads; reflective back plates; and replace existing southbound signs with 45 degree right signs	STIP	N	N	N	Y	N	N	$ 926,500
113	Rural Intersection and Curve Warning (Clackamas)	Clackamas	VAR	Install and or update advance warning signs, intersection signs, and other street signs and safety treatments at various rural intersections, roadway departures and curves throughout Clackamas County.	STIP	N	N	N	Y	N	N	$ 1,770,169
114	Rural Intersection & Curve Warning (Washington)	Washington	VAR	Install and or update advance warning signs, intersection signs, and other street signs and safety treatments at various rural intersections, roadway departures and curves throughout Washington County.	STIP	N	N	N	Y	N	N	$ 156,647
115	Rural Intersection and Curve Warning (ODOT)	Clackamas / Multnomah / Washington	Various	Install and or update advance warning signs, intersection signs, and other street signs and safety treatments at various rural intersections, roadway departures and curves throughout Region 1.	STIP	N	N	N	Y	N	N	$ 634,885
116	I-84: East Portland Fwy - NE 181st Ave	Multnomah	Gresham / Portland / Maywood Park	Remove and replace asphalt surface to repair rutted pavement.	STIP	N	N	N	N	N	Y	$ 500,000
117	I-5: I-205 Interchange - Willamette River	Various	Tualatin / Wilsonville	Remove and replace asphalt surface to repair rutted pavement.	STIP	N	N	N	N	N	Y	$ 7,193,000
118	Lombard Safety Extension	Multnomah	Portland	Road diet between MP 3.50 and N Wilbur. Signal upgrades at Fiske, Woolsey, Chautauqua, Wabash, Peninsular, and Greeley. Remove half signal at Drummond. Install RRFB with pedestrian island near Drummond. Address ADA improvements and access management as needed.	STIP	Y	Y	Y	Y	N	Y	$ 2,000,000
119	Road Safety Audit Implementation	Clackamas / Hood / Multnomah / Washington	VAR	Project to provide additional support to ARTS projects for further investigation (will not result in physical modifications) and evaluation of safety improvements as needed.	STIP	N	N	N	Y	N	Y	$ 596,100
120	US30BY (Lombard) at Fenwick	Multnomah	Portland	Full signal upgrade, ADA improvements, and triggered access management.	STIP	N	N	N	Y	N	N	$ 1,217,896
121	I-5: MP 303.27 - MP 308.63	Multnomah	Portland	Install variable speed advisory signs on I-5 northbound and southbound from the Fremont Bridge to Marine Drive	STIP	N	N	N	Y	N	N	$ 7,799,500
122	NE Halsey St at NE 47th Ave	Multnomah	Portland	Design partial signal rebuild to add left turn phasing, lenses, signal heads, reflectorized backplates, and ADA ramp upgrades	STIP	N	N	N	Y	N	N	$ 117,000
123	OR99W (Pacific Hwy West) at SW 72nd	Washington	Tigard	Design partial signal rebuild, channelize 72nd right turn lane, illumination, ADA, and new crosswalk on SW leg of intersection	STIP	N	N	N	Y	N	N	$ 136,500
124	SE Washington St at 10th AVE (Hillsboro)	Washington	Hillsboro	Design partial signal rebuild, striping, signing, ADA, and pedestrian improvements	STIP	N	N	N	Y	N	N	$ 97,500
125	OR99W: I-5 - McDonald St	Multnomah / Washington	Portland / Tigard	Repave roadway, upgrade ADA ramps to current standards, improve access management, and address drainage as needed. Includes full signal upgrade at Johnson/Main.	STIP	N	N	N	N	N	Y	$ 9,419,000
126	OR99W at Durham Rd	Washington	King City / Tigard	Signal Upgrade with ADA improvements	STIP	N	N	N	N	N	N	$ 968,750
127	OR99W: I-5 - McDonald Bike Ped Infill	Multnomah / Washington	Portland / Tigard	Fill in sidewalk and bike lane gaps along OR99W in conjunction with the pavement preservation project planned in the area.	STIP	N	N	N	Y	Y	N	$ 986,000
128	OR99W (Barbur Blvd) at SW Capitol Hwy	Multnomah	Portland	Prohibit NB left turns from OR99W onto I-5 ramp and redirect traffic flow through jug handle; Install EB right turn lane and new signal at Taylors Ferry; Address median gaps and striping; Add/improve signage; Install reflectorized backplates	STIP	Y	Y	Y	Y	N	Y	$ 2,975,700
129	OR99W (Barbur Blvd): MP 8.01 to MP 11.50	Washington	Tigard / King City	Install Illumination at 72nd Ave, Main & Johnson, McKenzie, School, Walnut, Frewing, Garrett, Park, Royalty Parkway, and Durham Rd.	STIP	N	N	N	Y	N	N	$ 1,177,000
130	OR99W (Barbur Blvd): MP 7.58 to MP 15.00	Multnomah / Washington	Portland / Sherwood / Tigard / Tualatin	Install illumination, reflectorized backplates, and supplemental signal heads at specific locations within the project limits and replace urban permissive or protected/permissive left turns to protected left only at 68th and 69th Avenues	STIP	N	N	N	Y	N	N	$ 1,450,000
131	OR99W (Barbur Blvd): MP 4.08 to MP 7.55	Multnomah	Portland	Install illumination at 60th Ave, 64th Ave, and I-5 southbound ramp; Install reflectorized backplates and supplemental signal head at Terwilliger Blvd, Bertha Blvd, Capitol Hill Rd, 19th Ave, 24th Ave, I-5 southbound ramp, 60th Ave, and 64th Ave	STIP	N	N	N	Y	N	N	$ 429,400
132	I-5 at I-205 Interchange	Washington	Tualatin	Upgrade illumination towers up to amount of available budget and coordinate work with pavement preservation project in area.	STIP	N	N	N	N	N	N	$ 500,000
133	OR8 at River Road	Washington	Hillsboro	Full signal upgrade with illumination and ADA improvements.	STIP	N	N	N	Y	N	N	$ 1,182,642
134	OR224 at Lake/Harmony	Clackamas	Unincorporated	Replace overhead flasher with ground mounted advance flashers.	STIP	N	N	N	N	N	N	$ 109,078
135	I-5: Barbur Blvd NB Connection Bridge	Washington	Portland	Paint structure; remove pack rust. Replace rivets and bolts.	STIP	N	N	N	N	N	Y	$ 1,662,000
136	OR99W: Tualatin River Bridge	Washington	Tualatin	Design shelf ready plans to replace the current structural overlay	STIP	N	N	N	N	N	N	$ 188,500
137	OR99E: Clackamas River (McLoughlin) Bridge	Clackamas	Gladstone	Design shelf ready plans to paint the structure	STIP	N	N	N	N	N	Y	$ 249,000
138	OR210 over OR217	Washington	Beaverton	Deck overlay; replace joints; patch column spalls	STIP	N	N	N	N	N	Y	$ 1,884,000
139	Regionwide ITS Improvements and Upgrades	Clackamas / Multnomah / Washington	VAR	Project provides for new or upgraded variable message signs (VMS), travel-time signs, network/communication technology, and other intelligent transportation system (ITS) functionality at various locations in Region 1	STIP	N	N	N	N	N	N	$ 1,746,000
140	I-205 at OR43	Clackamas	West Linn	Full Illumination Rebuild	STIP	N	N	N	N	N	N	$ 143,044

2018-2021 MTIP Projects - As of End of January 2017

ID No.	PROJECT NAME	COUNTY	CITY	PROJECT DESCRIPTION	SOURCE	Access to Jobs	Access to Places	Exposure to VMT	Transportation Safety Investments	Access to Travel Options	Resource Habitats	Estimated Project Cost
141	Clackamas and Portland Traffic Separators	Multnomah / Clackamas	Portland / Unincorporated	Install traffic separators in various locations in Portland with associated striping, illumination, and signal coordination work	STIP	N	N	N	Y	N	N	$ 869,500
142	OR217 (Beaverton-Tigard Hwy) at Kruse Way	Washington	Tigard	Advance actuated beacons, partial signal rebuild to add needed additional heads at 217 off ramp and I-5 SB on ramp, ped island improvements	STIP	N	N	N	Y	N	N	$ 136,500
143	Region 1 Bike Ped Crossings	Clackamas / Multnomah / Washington	Portland	Bike and pedestrian crossing improvements at 82nd Ave (OR-213) at Mitchell, McLoughlin (OR-99E) at Boardman, and on Powell (US-26) at 125th. Includes RRFBs, medians, illumination, crosswalks, tree trimming/removal, and ADA upgrades.	STIP	N	N	N	Y	N	Y	$ 1,149,000
144	I-205 Exit Ramp at SE Division St	Multnomah	Portland	Safety improvements on NB and SB I-205 exit ramps at SE Division street. Work includes lane adjustments, ramp widening, safety islands, signal work, illumination, signing, and ADA improvements as necessary.	STIP	Y	Y	Y	Y	N	Y	$ 3,305,000
145	I-405: Willamette River (Fremont) Bridge	Multnomah	Portland	Paint bridge approaches; other section as funding allows	STIP	N	N	N	N	N	Y	$ 34,657,000
146	I-405 NB to US26 WB over I-405 Connection Bridge	Multnomah	Portland	Deck overlay to seal the cracks and provide additional cover for the reinforcement. Rail retrofit. Address leaking joints.	STIP	N	N	N	N	N	Y	$ 1,540,000
147	SW Multnomah Blvd over I-5	Multnomah	Portland	Place a structural overlay on the deck, replace or repair the leaking joints, and retrofit the bridge rails to meet safety standards	STIP	N	N	N	N	N	Y	$ 1,563,000
148	I-5 over 26th Avenue Bridge	Multnomah	Portland	Replace bridge	STIP	N	N	N	N	N	Y	$ 34,183,000
149	OR99E over UPRR at Baldwin Strreet Bridge	Multnomah	Portland	Address the structural and safety issues. Replace rail and expansion joints, patch and seal spalls and cracks, and other measures for seismic retrofitting	STIP	N	N	N	N	N	Y	$ 3,383,000
150	NORTH DAKOTA STREET: FANNO CREEK BRIDGE	Washington	Tigard	Construct a new single span bridge on the same alignment. Raise the vertical grade line to improve site distance approaching the railroad crossing.	STIP	N	N	N	N	Y	Y	
151	I-5: Tigard Interchange - I-205 Interchange	Multnomah / Washington	Tigard / Tualatin / Lake Oswego / Portland	Remove and replace asphalt surface to repair rutted pavement.	STIP	N	N	N	N	N	Y	$ 8,000,000
152	OR213 (82nd Ave) at Madison High School	Multnomah	Portland	Replace signal, rebuild and restripe existing crosswalk, add crosswalks and close a driveway.	STIP	N	N	N	Y	N	N	$ 1,120,500
153	I-205: Abernathy Bridge - SE 82nd Dr	Clackamas	Gladstone / Oregon City	Remove and replace asphalt surface to repair rutted pavement.	STIP	N	N	N	N	N	Y	$ 5,698,000
154	OR99E: Park Ave to Clackamas River Bridge	Clackamas	Gladstone	Enhance pedestrian crossing at OR-99E at Hull. Other work includes grinding and striping of buffered bike lanes north of Roethe Rd and filling sidewalk gaps along the corridor as feasible	STIP	N	N	N	Y	Y	N	$ 1,000,000
155	Cornelius Rapid Flashing Beacon (RRFB) Project	Washington	Cornelius	This project will investigate two possible locations for one RRFB intersecting 12th Ave at either Adair or Baseline Streets in Cornelius. Work includes an engineering study and funds toward the construction of the RRFB at the determined location.	STIP	N	N	N	Y	N	N	$ 150,000
156	US30 at Bridge Ave Ramps	Multnomah	Portland	Remove hazard trees, install pinned mesh.	STIP	N	N	N	N	N	Y	$ 660,000
157	Jade and Montavilla Connected Centers	Multnomah	Portland	Construct improvements for biking and walking. Includes street and sidewalk lighting, new sidewalks, bike lanes and paths, and crosswalks.	RFFA	Y	Y	Y	N	Y	N	$ 7,883,000
158	Complete Cleveland Street	Multnomah	Gresham	Reconstruct Cleveland Avenue between Stark and Burnside by adding sidewalks, curbs and bike lanes.	RFFA	N	N	N	N	Y	N	$ 4,188,181
159	Hunziker Road Industrial Area	Washington	Tigard	Add a road connection for freight and commercial vehicles to avoid congestion near Hwy 217 and I-5 interchange. Improves access to undeveloped industrial and commercial property in the Hunziker Industrial Core.	RFFA	Y	Y	Y	N	Y	Y	$ 2,324,909
160	Central Eastside Access & Circulation Improvements	Multnomah	Portland	Reconstruct freight access and movement through key intersections around the Central Eastside Industrial District. The project: 1) adds four new traffic signals along the MLK/Grand corridor and at the NE 16th Avenue and Irving Street intersection, 2) modifies three existing traffic signals to include protected left turns at SE Stark, Clay and Mill Streets, and 3) improves two key east-west bike routes by adding new signals	RFFA	N	N	N	N	Y	Y	$ 5,402,433
161	Regional Freight Studies	N/A	Metro	Conduct planning studies to identify transportation investments to support greater freight movement	RFFA	N	N	N	N	N	N	$ 621,004
162	Tigard Street Trail: A Path to Employment	Washington	Tigard	The project completes work begun in 2015 to convert an unused rail spur into a multi-use path directly connected to regional bus and fixed route transit	Connect Oregon	N	N	N	N	Y	N	$ 700,000
163	Clackamas Community College Transit Center	Washington	Clackamas Community College	The updated Clackamas Community College Transit Center will increase transit access to high school and college education; career and veterans counseling; and to future employment opportunities at adjacent industrial lands. Additionally, a shared use path will provide a "last mile" connection to the Oregon City High School and future industrial properties on Beavercreek and Meyers Roads	Connect Oregon	N	N	N	N	Y	N	$ 1,762,950
167	Low - No Zero Emission Bus Project	Various	TriMet	Fund procurement and deployment of 5 battery electric buses and asociated charging infrastructure to be deployed from Merlo garage on a Westside route to be determined.	Transit	N	N	N	N	N	N	$ 4,624,152
168	Max Redline Extension & Gateway Double Track Project	Multnomah / Washington	TriMet	Constructing pocket track at Fair Complex MAX station to enable extended Red Line service to Fair Complex and turnaround, combined with new track work and a new station at Gateway and new track work at PDX to imporve system operations.	Transit	N	N	N	N	N	N	$ 91,841,570
											TOTAL	$ 1,174,264,122

2018-2021 MTIP Projects - Projects Not Assessed

ID No.	PROJECT NAME	COUNTY	CITY	PROJECT DESCRIPTION	SOURCE	Access to Jobs	Access to Places	Exposure to VMT	Transportation Safety Investments	Access to Travel Options	Resource Habitats	Estimated Project Cost
20	TRANSIT ORIENTED DEVELOPMENT PROGRAM	Various	---	Work directly with developers and local jurisdictions to create vibrant downtowns main streets and station areas by helping to change land use patterns near transit.	RFFA	N	N	N	N	N	N	$ 10,999,666
21	I-5 & I-205 SHARED USE PATHS	Multnomah	Maywood Park	Repave sections, install ADA ramps, drainage and address tree roots with structure. Repave transition to existing structure near I-84WB to I-205 to correct settlement.	STIP	N	N	N	N	N	N	$ 745,001
24	REGIONAL TRAVEL OPTIONS PROGRAM	Various	---	The Regional Travel Options (RTO) program implements strategies to help diversify trip choices reduce pollution and improve mobility. The RTO program includes the local grant program, marketing and outreach campaigns, the TriMet and SMART employter programs, program evaluation, and newly added Safe Routes to School.	RFFA	N	N	N	N	N	N	$ 10,353,282
25	REGIONAL PLANNING	Various	---	The MPO Planning program contributes to a broad range of activities within Metro that are linked to regional policy making and local planning support	RFFA	N	N	N	N	N	N	$ 4,413,240
26	TRANS SYSTEM MGMT & OPERATIONS PROGRAM	Various	---	The Transportation System Management & Operations (TSMO) program coordinates both the planning and implementation of the regions system management and operations strategies to enhance multi-modal mobility for people and goods.	RFFA	N	N	N	N	N	N	$ 5,839,741
42	CORRIDOR & SYSTEMS PLANNING	Various	---	Corridors and Systems Planning Program for the integration of land use and transportation. Determines regional system needs, functions, desired outcomes, performance measures and investment strategies.	RFFA	N	N	N	N	N	N	$ 1,849,994
50	REGIONAL ITS COMMUNICATIONS INFRASTRUCTURE (ODOT)	Various	---	Complete gaps and deficiencies identified in the Regional ITS Communications Plan	STIP	N	N	N	N	N	N	$ 590,661
59	OR141(SW HALL BLVD): SCHOLLS FERRY RD - HEMLOCK ST	Washington	Beaverton / Tigard	Construct ADA ramps	STIP	N	N	N	N	N	N	$ 586,707
60	SMART ASSOCIATED IMPROVEMENTS & PREVENTATIVE MAINT	Clackamas	SMART	5307 Funds for Preventative Maintenance, Associated Improvements and Bus Fleet Replacement FY18	Transit	N	N	N	N	N	N	$ 1,344,414
62	5310 - SENIOR & DISABLED	Clackamas	SMART	Services & Facility Improvements for Elderly & Disabled Customers	Transit	N	N	N	N	N	N	$ 153,750
63	BUS AND BUS FACILITIES (CAPITAL)	Clackamas	SMART	Bus and Bus Facility Upgrades (FY18)	Transit	N	N	N	N	N	N	$ 288,700
64	BUS PURCHASE	Various	TriMet	Bus Purchase	Transit	N	N	N	N	N	N	$ 13,118,147
65	BUS & RAIL PREVENTIVE MAINT (5307)	Various	TriMet	Capital Maintenance For Bus And Rail, such as track and switch rehabilitation and replacement, Blue Line Station redesign and rehabilitation, vahicle and facility matainance.	Transit	N	N	N	N	N	N	$ 147,090,216
66	BUS & RAIL PREVENTIVE MAINT (STP)	Various	TriMet	Capital Maintenance For Bus and Rail	Transit	N	N	N	N	N	N	
67	STATE OF GOOD REPAIR PROGRAM	Various	TriMet	Capital Maintenance For Bus and Rail	Transit	N	N	N	N	N	N	$ 95,569,886
68	TRIMET ENHANCE MOBILITY PROGRAM	Various	TriMet	Paratransit services provided by TriMet LIFT, Wilsonville SMART, and small city transit agencies. Ride Connection-operated services, including door-to-door rides, community and senior center shuttles, and travel training.	Transit	N	N	N	N	N	N	$ 7,341,608
69	HIGH CAPACITY TRANSIT BOND	Various	---	Funding for development and construction of the region's high capacity transit system.	RFFA	N	N	N	N	N	N	$ 15,430,000
85	Region 1 Misc Hardware and Software	Various	VAR	Miscellaneous hardware and software improvements region-wide. This project will provide minor upgrades to ITS software and add minor hardware. Example projects are upgrades to Ramp Meter and ATM software, add CCTV cameras indentified by TMOC, and connect signalized intersections to existing fiber communication backbone.	STIP	N	N	N	N	N	N	$ 497,545
87	Region 1 LEDs	Various	VAR	Bucket for region-wide Light Emitting Diodes (LEDs) upgrades	STIP	N	N	N	N	N	N	$ 99,509
126	OR99W at Durham Rd	Washington	King City / Tigard	Signal Upgrade with ADA improvements	STIP	N	N	N	N	N	N	$ 968,750
132	I-5 at I-205 Interchange	Washington	Tualatin	Upgrade illumination towers up to amount of available budget and coordinate work with pavement preservation project in area.	STIP	N	N	N	N	N	N	$ 500,000
134	OR224 at Lake/Harmony	Clackamas	Unincorporated	Replace overhead flasher with ground mounted advance flashers.	STIP	N	N	N	N	N	N	$ 109,078
136	OR99W: Tualatin River Bridge	Washington	Tualatin	Design shelf ready plans to replace the current structural overlay	STIP	N	N	N	N	N	N	$ 188,500
139	Regionwide ITS Improvements and Upgrades	Clackamas / Multnomah / Washington	VAR	Project provides for new or upgraded variable message signs (VMS), travel-time signs, network/communication technology, and other intelligent transportation system (ITS) functionality at various locations in Region 1	STIP	N	N	N	N	N	N	$ 1,746,000
140	I-205 at OR43	Clackamas	West Linn	Full Illumination Rebuild	STIP	N	N	N	N	N	N	$ 143,044
161	Regional Freight Studies	N/A	Metro	Conduct planning studies to identify transportation investments to support greater freight movement	RFFA	N	N	N	N	N	N	$ 621,004
167	Low - No Zero Emission Bus Project	Various	TriMet	Fund procurement and deployment of 5 battery electric buses and asociated charging infrastructure to be deployed from Merlo garage on a Westside route to be determined.	Transit	N	N	N	N	N	N	$ 4,624,152
168	Max Redline Extension & Gateway Double Track Project	Multnomah / Washington	TriMet	Constructing pocket track at Fair Complex MAX station to enable extended Red Line service to Fair Complex and turnaround, combined with new track work and a new station at Gateway and new track work at PDX to imporve system operations.	Transit	N	N	N	N	N	N	$ 91,841,570
											TOTAL	$ 417,054,165

2018 RTP System Evaluation Measures Methodologies

Background information for the equity measures

The Transportation Equity Assessment is an equity-focused scenario planning analysis looking at base-year conditions and comparing the base-year conditions to the anticipated conditions to be seen once a future package of transportation investments are put into place and open for service. In performing a scenario analysis, the core methodological components to the 2018 RTP Transportation Equity Assessment are:

1. Community definitions
2. System evaluation metrics
3. Key assessment assumptions

Transportation Equity System Evaluation Metrics

As part of assessing the 2018 RTP, a system evaluation will take place to look at how the proposed package of transportation investments will perform relative to adopted goals and targets adopted by the region. As part of the 2018 RTP system evaluation, a subset of evaluation measures will take a focused look at how the transportation investment package performs in areas where there are historically marginalized communities. The subset of evaluation measures to take this approach reflects the transportation priorities identified by historically marginalized communities. The analysis also serves as the basis for the federally-required Title VI Benefits and Burdens analysis. The following are the system evaluation measures which will apply an in-depth look at how well the proposed transportation investment package performs in historically marginalized communities:

- #3 Affordability
- #4 Share of Safety projects
- #5 Exposure to crash risk
- #6 Access to travel options – system connectivity & completeness
- #7 Access to jobs
- #8 Access to community places
- #17 Habitat impact

Community Definitions and Geography

Communities included as part of the 2018 RTP Transportation Equity Assessment include:

- People of Color
- People with Lower-Incomes
- People with Limited English Proficiency
- Older Adults
- Young Persons

The following are the definitions of these five communities.

Table 1. Definition of Historically Marginalized Communities & Geography Thresholds

Community	Definition	Geography Threshold*	Date Source
People of Color	Persons who identify as non-white.	Census tracts above the regional rate (26.5%) for people of color.	2010 Decennial Census
Low-Income	Households with incomes equal to or less than 200% of the Federal Poverty Level (2016); adjusted for	Census tracts above the regional rate (31.8%) for Household with Lower-Income	American Community Survey, 2011-2015

	household size		
Limited English Proficiency	Persons who identify as unable "to speak English very well."	Census tracts above the regional rate (8.5%) for Limited English Proficiency (all languages combined).	
Older Adults	Persons 65 years of age and older	Census tracts above the regional rate for Older Adults (11%) AND Young People (22.8%)	2010 Decennial Census
Young People	Persons 17 years of age and younger		

*See attached map of communities.

Secondary/Focused Screening Analysis

By request of the work group, the transportation equity analysis will conduct a secondary assessment of the transportation equity system evaluation measures, but primarily focus on a subset of historically marginalized communities. The subset is defined as:

Table 2. Secondary Assessment of Focused Historically Underrepresented Communities

Historically Marginalized Community	Geographic Threshold
People of Color	The census tracts which are above the regional rate for people of color AND the census tract has twice (2x) the population density of the regional average (.48 person per acre).
Low-Income	The census tracts which are above the regional rate for low-income households AND the census tract has twice (2x) the population density of the regional average (.58 person per acre).
Limited English Proficiency	The census tracts which are above the regional rate for low-income households AND those census tracts which have been identified as "safe harbor" tracts for language isolation AND the census tract has twice (2x) the population density of the regional average (.15 person per acre).[1]

This secondary assessment is to take a more focused look at the transportation investments being made in areas in which there are highly concentrated populations of the communities required for evaluation by federal law. As a result a population density threshold was applied to define geographic areas with high concentrations of the following three populations. Additionally, there were request to assess small pockets of concentrated language isolation. Therefore, identified areas of safe harbor communities were also included as part of the focused look. Ultimately, the secondary assessment will be able to address how well the 2018 RTP investments are performing and moving towards the priority outcomes identified by historically marginalized communities in areas with the greatest concentration.

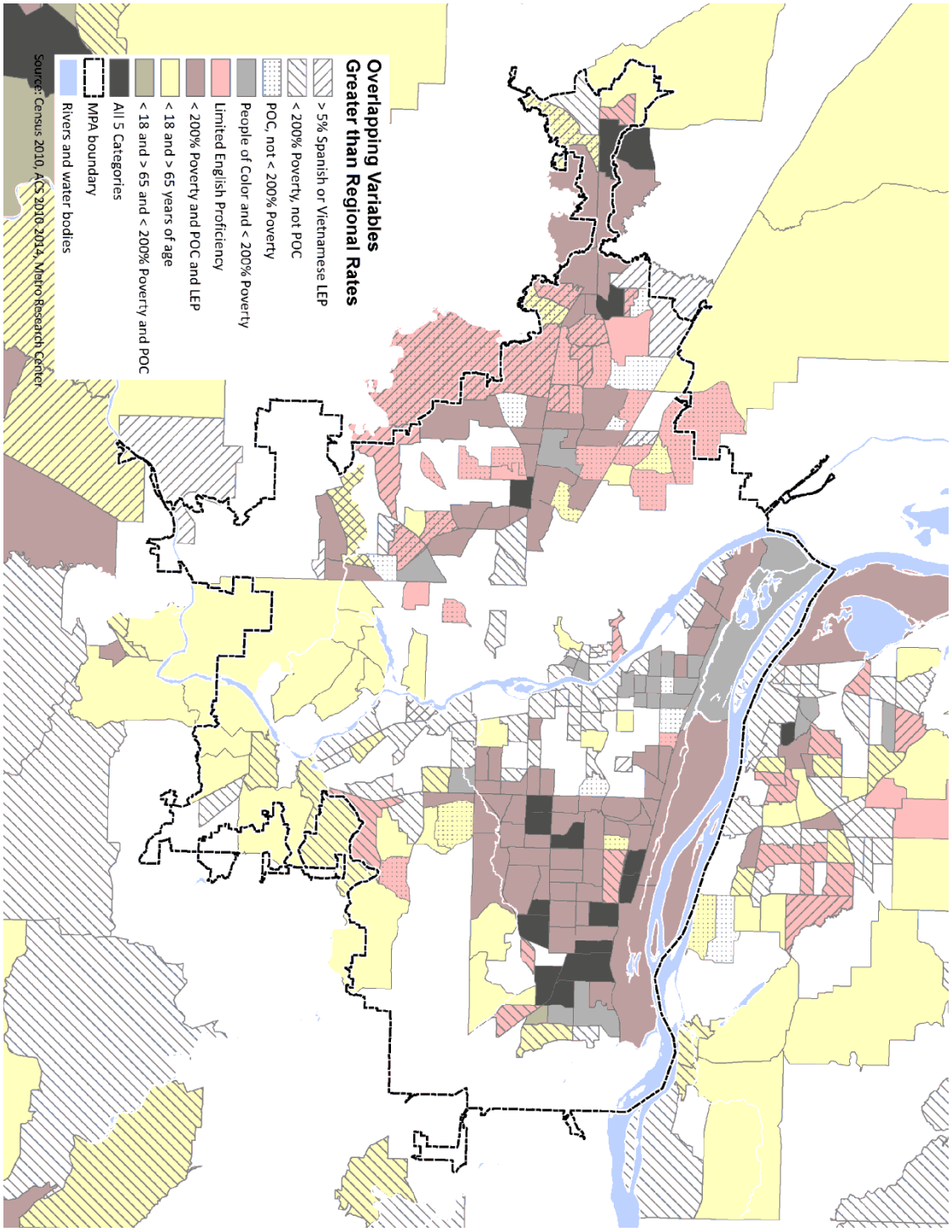
[1] Safe Harbor is a provision within Title VI of the Civil Rights Act of 1964 which addresses for when and how agencies are to provide language assistance to limited English proficiency persons to ensure access to all public resources. The safe harbor provision mainly addresses translation of documents and language assistance, however for analysis purposes, it may help to identify areas where additional attention is warranted because of a concentration of language isolation. Safe harbor applies when a language isolated group constitutes 5% or 1,000 persons of the total population in the given area.

The transportation equity analysis will run the assessment using two tiers to address the desire to capture where there are higher rates of historically marginalized communities and where there is a concentration and/or pockets of historically marginalized communities. The tiers are described below.

Tier I Analysis – Historically Marginalized Communities
The transportation equity analysis will use the regional rate as the first assessment to look at how well the 2018-2021 MTIP investments are performing on priority outcomes identified by historically marginalized communities.

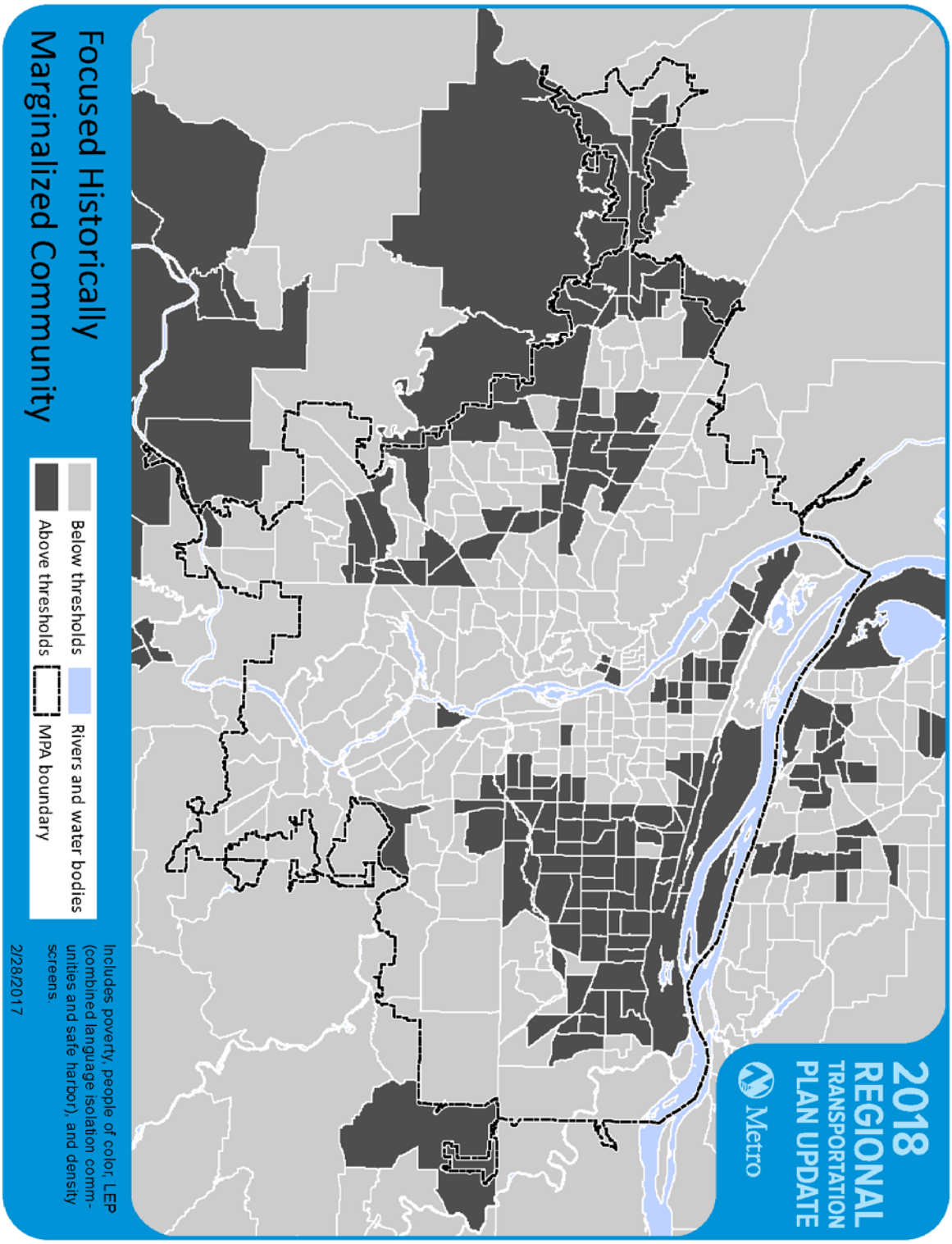
Tier II Focused Analysis - Focused Historically Marginalized Communities
The transportation equity analysis will conduct a secondary assessment using a subset of historically marginalized communities, namely people of color, people with lower-incomes, and people with limited English proficiency, and look at how well the 2018-2021 MTIP investments are performing on priority outcomes identified by historically marginalized communities in areas with the greatest concentration.

Historically Marginalized Communities – Census Tracts Above the Regional Rate and Limited English Proficiency Safe Harbor Tracts



Historically Marginalized Communities – Binary Map (YES/NO) for Transportation Equity Analysis Purpose

Focused Historically Marginalized Communities – Binary Map (YES/NO) – People of Color, Limited English Proficiency Populations, and People with Lower-Incomes with Population Density



Key Assessment Assumptions and Inputs
The following identifies a number of the key assessment assumptions, inputs, and analysis approach.

Table 3. Analysis Years and Transportation Inputs

Analysis Year	Transportation Inputs	Land use Inputs
Base Year (2015)	All transportation projects completed by 2015	Adopted growth distribution (2016) from MetroScope[2][3]
Interim Year (2027)	Proposed transportation projects to be completed by 2027 (financially constrained only)	
Future Year (2040)	All proposed transportation to be completed by 2040 (financially constrained and strategic project lists)	

Table 4. Forecasted Methods Approach for Communities

Community	Interim Year (2027)	Horizon Year (2040)
People of Color	Assuming base-year demographic conditions for the interim year. These areas are identifying the correlating transportation analysis zones (TAZ) to census tracts which have greater than the regional rate of people of color and areas with 2x the population density of people of color.	Will not produce results for the horizon year.
Low-Income	Forecasted spatial distribution of (households or persons) with incomes under 200% of the Federal Poverty Level (2016) and nearest 5-year increment of the forecast (2025). Identifying the correlating transportation analysis zones (TAZ) to census tracts which have greater than the regional rate for lower-income households.	Forecasted spatial distribution of (households or persons) with incomes under 200% of the Federal Poverty Level (2016).
Limited English Proficiency	Assuming base-year demographic conditions for the interim year. Identifying the correlating transportation analysis zones (TAZ) to census tracts which have greater than the regional rate of limited English proficiency, areas with 2x the population density of people of color, and safe harbor communities.	Will not produce results for the horizon year.
Older Adults[4]	Assuming base-year demographic conditions for the interim year. Identifying the correlating transportation analysis zones (TAZ) to census	Will not produce results for the horizon year.

[2] Adopted Growth and Distribution Forecast, Metro Ordinance No. 16-1371. More information regarding the 2016 forecast can be found at: oregonmetro.gov
[3] Metroscope geographically allocates population and employment projections in five year increments. Therefore, the nearest land use forecast input to be used for the interim analysis year analysis will be 2025. This is out of respect for the decision that certain communities are not being forecasted and spatially distributed and therefore assumed static for the interim analysis.
[4] The Metroscope forecasts projects the age grouping of the head-of-household, but does not spatially distribute aging populations.

Community	Interim Year (2027)	Horizon Year (2040)
	tracts which have greater than the regional rate for older adults.	
Young People[5]	Assuming base-year demographic conditions for the interim year. Identifying the correlating transportation analysis zones (TAZ) to census tracts which have greater than the regional rate for young people.	Will not produce results for the horizon year.

Note: As a result of the limitations of the growth forecast, only the lower-income population will be assessed for the scenarios pertaining to 2040 horizon year. Scenarios include the financially constrained RTP and the additional priorities.

[5] The Metroscope forecasts projects the age grouping of the head-of-household, but does not spatially distribute populations by age groups.

Measure #3 – Affordability

Evaluation Measure Title: **Affordability (Combined Housing + Transportation Expenditure and Cost Burden)**

This methodology for this measure is under development.

Evaluation Measure Title: **Share of safety projects**
(New System Evaluation Measure)

Purpose:
To identify where and at what level of investment the package of future transportation projects addresses transportation safety and fatal and severe crashes through the development of transportation infrastructure projects with proven safety countermeasures, region-wide, in areas with high concentrations of historically marginalized communities, and in areas with high concentrations of focused historically marginalized communities.[1]

The **share of safety projects** performance measure will assess the following questions for the region's transportation system region-wide and in historically marginalized communities:

1) How many and what percentage of the region's proposed transportation projects are identified as safety projects?
2) What percentage of the total transportation investment package (cost) is attributed to safety projects?
3) What percentage of the total number of transportation safety investments are located in historically marginalized communities/ focused historically marginalized communities?
4) Is there a difference of transportation safety investment levels (cost) in areas with historically marginalized communities/ focused historically marginalized communities?
5) What is the per-person expenditure of transportation safety investments region-wide and for historically marginalized communities/ focused historically marginalized communities?

2014 RTP Goals:

	Foster vibrant communities and compact urban form		Promote environmental stewardship
●	Sustain economic competitiveness and prosperity	●	Enhance human health
	Expand transportation choices		Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
●	Enhance safety and security		

Associated 2014 RTP Performance Target:
By 2035, reduce the number of fatal and severe injury crashes for pedestrians, bicyclists and motor vehicle occupants each by 50% compared to 2007-2011 average. (*Target proposed to be updated in 2018 to: By 2035 eliminate transportation related fatalities and serious injuries for all users of the region's transportation system, with a 16% reduction by 2020 (as compared to the 2015 five year rolling average), and a 50% reduction by 2025.*)

Methodology Description:
The method for calculating the **share of safety projects** performance measure will entail:

1. Identifying safety projects in the RTP investment packages.

[1] Historically marginalized communities are areas with a (compared to the regional average) of people of color, people with low-incomes, people with limited English proficiency, older adults and/or young people. Focused historically marginalized communities are areas with high concentrations (compared to the regional average) of people of color, people with low-incomes, and people with limited English proficiency.

2. Calculating the number of safety projects in the regional transportation investment packages region-wide, in historically marginalized communities and in focused historically marginalized communities;
3. Calculating the cost of safety projects in the regional transportation investment packages region-wide, in historically marginalized communities and in focused historically marginalized communities;
4. Calculating the per-person expenditure of transportation safety projects for the number of people region-wide and for the number of people identified within in historically marginalized communities and focused historically marginalized communities.
5. Identify which safety projects are on Regional High Injury Corridors.

Output Units: Number and percentage (%) of transportation safety projects compared to total RTP investment packages; percentage of total cost of RTP investment packages; percentage of transportation safety investments per capita region-wide, in historically marginalized communities, in focused historically marginalized communities.

Percentage of safety projects on regional high injury corridors. Map of transportation investments.

Potential Output of Assessment:

Within Area	Base Year (2015)	Interim Year (2018-2027)	2018-2040 Constrained Priorities	2018-2040 Additional Priorities
Region (Metropolitan Planning Area)	N/A	Number and % Safety Projects, % cost allocated to Safety Projects, % Per person		
Historically marginalized communities	N/A	Number and % Safety Projects, % cost allocated to Safety Projects, % Per person		
Focused historically marginalized communities	N/A	Number and % Safety Projects, % cost allocated to Safety Projects, % Per person		

Key Assumptions to Method

Dataset Used:

Dataset	Type of Data
Geospatial and cost information for transportation safety projects proposed for the RTP investment packages	Project information provided by jurisdictions

Tools Used for Analysis: ArcGIS

Definitions:

Safety Projects in the RTP are capital infrastructure projects with the primary purpose of reducing the occurrence of traffic related fatalities and serious injuries, allocating a majority of the project cost to a documented safety countermeasure(s) to address a specific documented safety problem (as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can, with confidence, produce a measurable and significant reduction in such fatalities or serious injuries), or addresses systemic safety for vulnerable users, including people walking and bicycling, people with disabilities, older adults and youth.

Safety countermeasures are actions taken to decrease the number of traffic injuries and fatalities, either through systemic or hot spot safety projects. Safety countermeasures may include geometric design, engineering solutions, systemic safety projects, signalization, signs, markings and operational upgrades and intelligent transportation systems. Countermeasures should be selected based on analytical techniques that prove effectiveness. Examples of proven safety countermeasures include, but are not limited to, FHWA's nine proven safety countermeasures: road diets, medians and pedestrian crossing islands, pedestrian hybrid beacons, roundabouts, access management, retroreflective backplates, safety edge, enhanced curve delineation, and rumble strips. Systemic safety projects are applied over an entire road/corridor to reduce crashes and risks along the entire roadway/corridor.

Criteria to identify specific documented safety problem

- On high risk bike/ped corridor identified in ODOT Pedestrian and Bicycle Safety Implementation Plan[2]
- On Metro High Injury Corridor
- High crash corridor identified in state, city or county safety plan
- Area with one fatal or severe crash in the last five years
- High injury intersection

Identifying safety countermeasure projects

- Countermeasures identified in ODOT's HSIP Countermeasures and Crash Reduction Factors[3]
- Bike/ped projects identified by the FHWA as eligible for HSIP funding, if correcting or improving a hazardous road location or feature and consistent with Oregon Transportation Safety Action Plan[4]
- Paths/trails and bridges/undercrossing if directly adjacent to the high injury location (e.g. path alongside high injury corridor

Projects not identified as safety projects

- Pavement/preservation/replacement projects
- Trail/multi-use path/ bike-ped bridge projects – unless directly adjacent to a roadway/bridge with a safety issue
- ADA transition plans, stand alone ADA projects
- Transit project, e.g. bus replacement, (not including bike/ped access to transit projects)
- Majority of project cost going to capacity/mobility

[2] https://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/13452_report_final_partsA+B.pdf
[3] https://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/CRF_Appendix.pdf
[4] Types of bike/ped projects eligible for HSIP funding:
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.pdf

Measure #5 – Exposure to crash risk

Evaluation Measure Title: **Exposure to Crash Risk**
(New System Evaluation Measure)

Purpose: To approximate risk of exposure to crashes for all modes by identifying whether the package of future transportation investments increases or decreases non-freeway vehicle miles traveled (VMT) within each transportation area zone (TAZ) above a certain threshold[1], region-wide (within the Metropolitan Planning Area boundary), and in historically marginalized communities and focused historically marginalized communities.[2]

The **Exposure to Crash Risk** performance measure will assess the following questions for the region's transportation system region-wide and in areas with high concentrations of historically marginalized communities:

1) What is the region's vehicle miles traveled in each TAZ and how does it change above a certain threshold with the proposed package of transportation investments?
2) Is there a difference in exposure to vehicle miles traveled in TAZ's with high concentrations of historically marginalized communities?

2014 RTP Goals

	Foster vibrant communities and compact urban form		Promote environmental stewardship
●	Sustain economic competitiveness and prosperity	●	Enhance human health
	Expand transportation choices		Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
●	Enhance safety and security		

Associated 2014 RTP Performance Target:
By 2035, reduce the number of fatal and severe injury crashes for pedestrians, bicyclists and motor vehicle occupants each by 50% compared to 2007-2011 average. (*Target proposed to be updated in 2018 to: By 2035 eliminate transportation related fatalities and serious injuries for all users of the region's transportation system, with a 16% reduction by 2020 (as compared to the 2015 five year rolling average), and a 50% reduction by 2025.*)

Methodology Description:
Research has found a correlation between VMT and traffic crashes; the more auto traffic a person is exposed to (inside or outside of the vehicle) the higher the risk of a crash. This analysis does not forecast actual crashes. The measure relies on the correlation between vehicular travel to the occurrence of crashes and relies on the travel-demand model to output the amount of VMT. VMT on freeways are excluded from the analysis; the crash characteristics of limited access freeways are different enough to be excluded. Freeways have the lowest serious crashes per VMT by roadway

[1] The threshold will be determined through an assessment of model dry runs conducted in May 2017.
[2] Historically marginalized communities are areas with high concentrations (compared to the regional average) of people of color, people with low-incomes, people with limited English proficiency, older adults and/or young people. Focused historically marginalized communities are areas with high concentrations (compared to the regional average) of people of color, people with low-incomes, and people with limited English proficiency.

class. Non-freeway VMT includes 2015 auto and truck vehicle miles traveled on all non-freeway roadway links as defined in Metro's travel demand model.

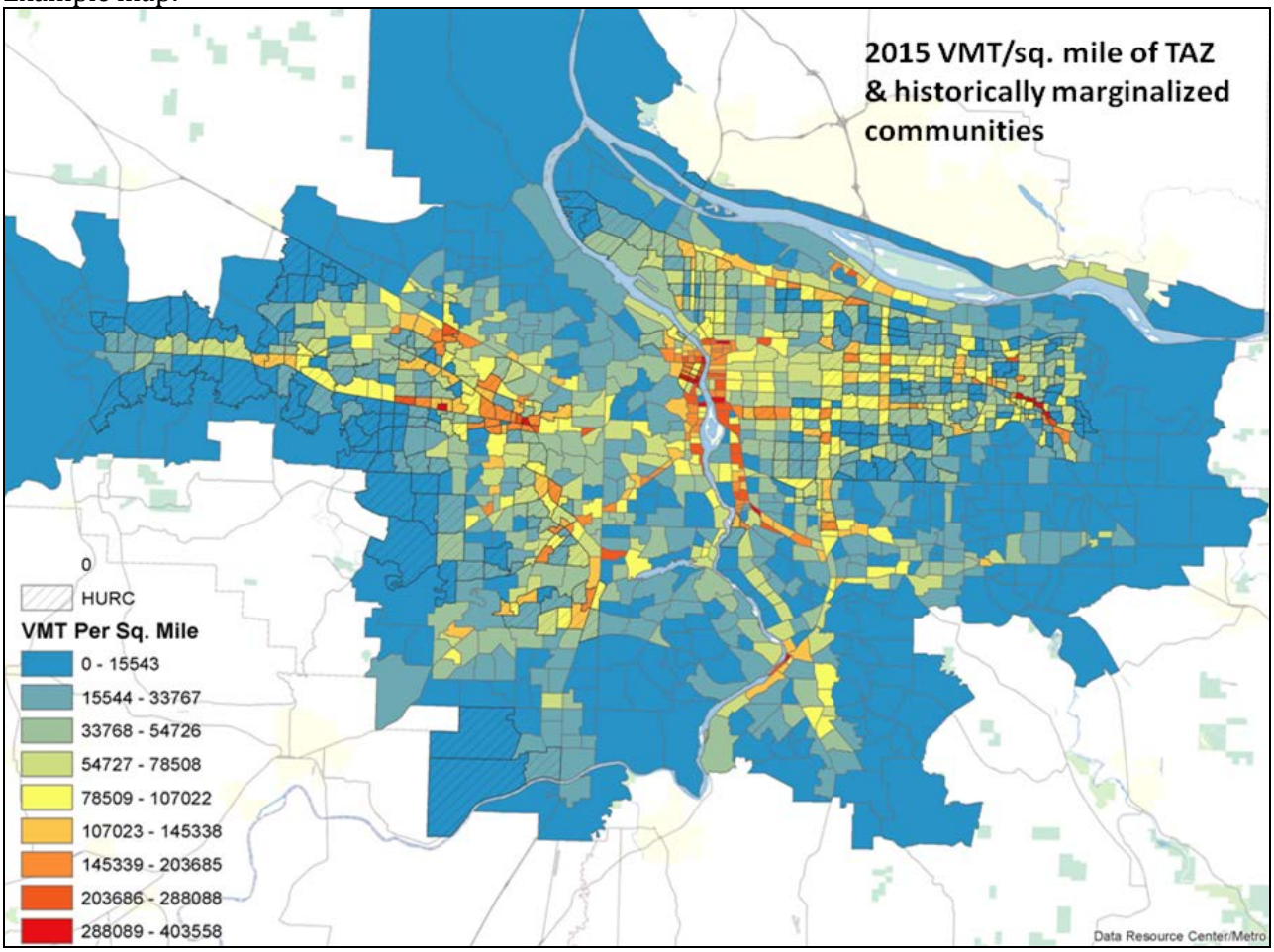
To calculate the **Exposure to Crash Risk** system evaluation performance measure:

1. Aggregate non-freeway average weekday VMT vehicle miles traveled (VMT) within each transportation analysis zone (TAZ) wholly or partially within the MPA boundary. Normalize by dividing the VMT by the area of the TAZ.

2. Conduct the above analysis for the 2015 base year, and each of the investment packages in the 2018 RTP (Interim, future Constrained and future Additional Priorities). Identify TAZs where VMT increases above a certain threshold in the 2018 RTP investment packages. Illustrate results in a series of Maps that also identify historically marginalized communities and focused historically marginalized communities.

Output Units: Map of vehicle miles traveled per TAZ area (VMT/sq. foot TAZ); identify TAZs with VMT above a certain threshold.

Example map:



Measure #5 – Exposure to crash risk

Potential Output of Assessment:

	2018 RTP Investment Packages			
	Base Year (2015)	**Interim Year (2018-2027)**	**2018-2040 Constrained Priorities**	**2018-2040 Additional Priorities**
Map of region showing MPA boundary & Historically Marginalized Communities	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold
Map of region showing MPA boundary & Focused Historically Marginalized Communities	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold	VMT/TAZ area TAZs with VMT above threshold

Key Assumptions to Method

Dataset Used:

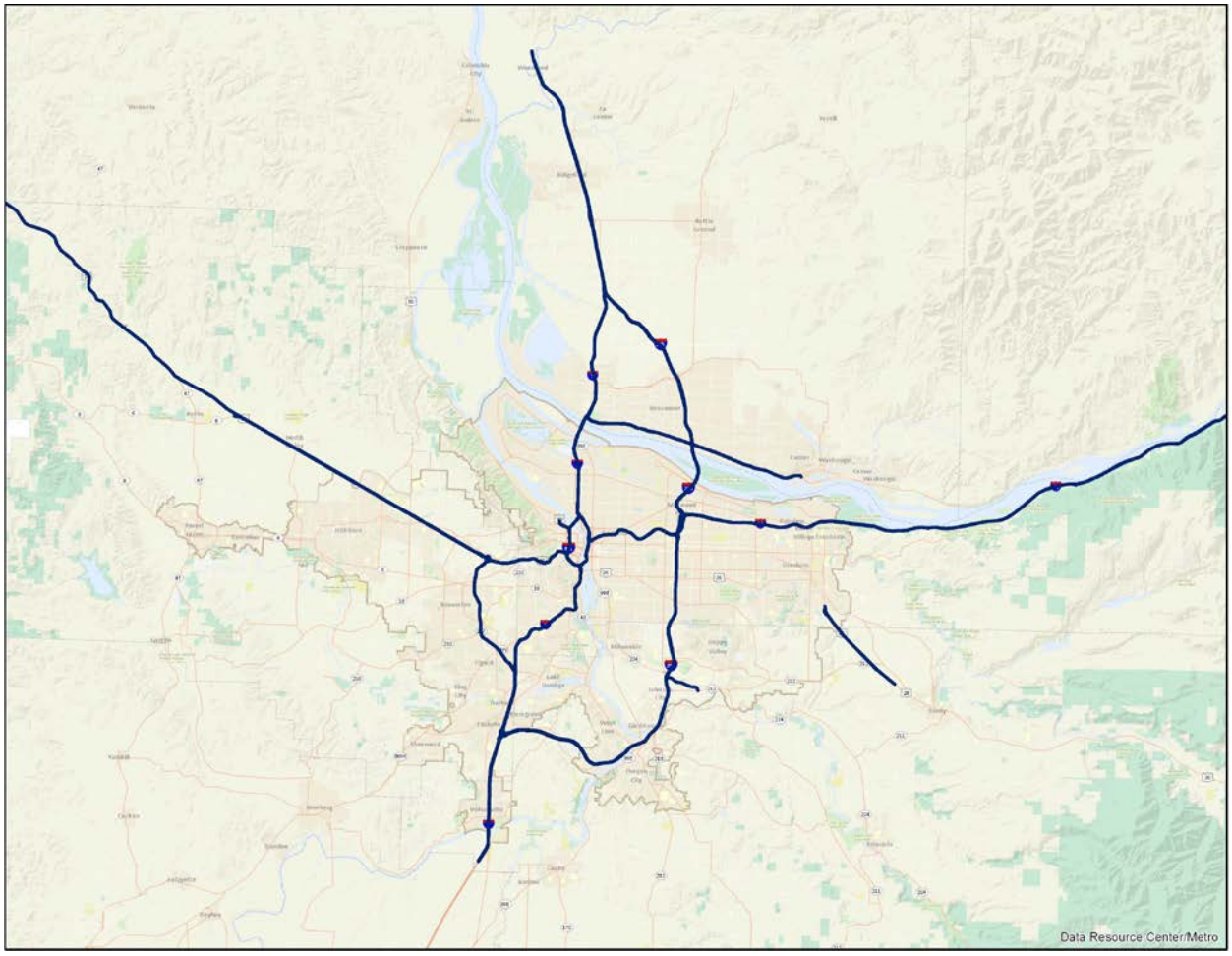
Dataset	Type of Data
Geospatial project information for proposed transportation projects	Observed
Vehicle miles traveled by TAZ	Forecasted

Tools Used for Analysis:
Metro's travel demand model and ArcGIS

Considerations:
Analysis conducted showed correlation between VMT and crashes in the region; the R2 was just over 0.25, so ¼ of the crash relationship can be explained by exposed VMT at the TAZ level.
Limited access freeways excluded from analysis (see map):

- Hwy 26 W
- Hwy 217
- Hwy 224 the sunrise corridor
- Hwy 26 E from Burnside intersection in Gresham
- I-5
- I-205
- I-84
- I-405

Measure #5 – Exposure to crash risk



Measure #6 – Access to travel options

Evaluation Measure Title: **Access to Travel Options – System Connectivity and Completeness**
(Replacing the 2014 RTP System Evaluation Measure– Miles of sidewalk, bikeways, and trails)

Purpose: To identify how the package of future transportation investments will increase the connectivity and completeness of the pedestrian, bicycle, trail and roadway network and increase access to transit through the development of sidewalks, bikeways, trails and new street connections, region wide, and in areas where there are high concentrations of historically marginalized communities and focused historically marginalized communities.[1]

The **Access to Travel Options – System Completeness and Connectivity** performance measures will assess the following questions for the region's transportation system, region-wide and in areas with historically marginalized communities and focused historically marginalized communities:

1) How many miles of the regional pedestrian, bicycle, trail and street networks are completed? How many miles are left to complete?
2) What percentage of bicycle and pedestrian gaps within ½ mile of transit stops and stations are completed?
3) Has connectivity and density of the regional walking, bicycling and roadway networks increased?
4) What time-frame are the pedestrian, bicycle, trail and new street investments being proposed for, compared to other investments in the RTP?

2014 RTP Goals

●	Foster vibrant communities and compact urban form	●	Promote environmental stewardship
	Sustain economic competitiveness and prosperity	●	Enhance human health
●	Expand transportation choices	●	Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
	Enhance safety and security		

Associated 2014 RTP Performance Target:
Basic Infrastructure: Increase by 50% the miles of sidewalk, bikeways, and trails compared to the regional network in 2010. *(This target will be updated in the 2018 RTP.)*

Methodology Description:

1) Sidewalk, bikeway, trail and street completeness: Use a geospatial analysis to compare miles of existing facilities in 2015 and miles of projects proposed for the 2018 RTP to miles in the planned regional pedestrian, bike, trail and street networks.

    a) Calculate the **miles** of existing sidewalks, bikeways, trails and streets for the base year (2015) within the MPA; and in historically marginalized communities and focused historically marginalized communities.

[1] Historically marginalized communities are areas with high concentrations (compared to the regional average) of people of color, people with low-incomes, people with limited English proficiency, older adults and/or young people. Focused historically marginalized communities are areas with high concentrations (compared to the regional average) of people of color, people with low-incomes, and people with limited English proficiency.

Measure #6 – Access to travel options

b) Calculate **miles** of proposed projects for the 2018 RTP investment packages (Interim 10 year, Future Year Constrained and Additional) within the MPA boundary and in historically marginalized communities and focused historically marginalized communities.
c) Calculate **percent** of the planned regional pedestrian, bicycle and streets **completed** in the base year and 2018 RTP investment packages (Interim 10 year, Future Year Constrained and Additional), within the MPA boundary and in historically marginalized communities and focused historically marginalized communities.

2) Access to transit: Use geospatial analysis to calculate the linear **miles and percentage** of sidewalks and bikeways completed within ½ mile buffer of all transit stops and stations region-wide within the MPA boundary and in historically marginalized communities and focused historically marginalized communities.

3) Network connectivity and density: Use a geospatial analysis to measure the **spacing and intersection** of sidewalks, bikeways, trails and streets and compare the existing networks and miles of proposed facilities in the investment packages to planned networks to produce connectivity ratios and density levels.

a) *Street connectivity*: calculate the ratio of three-way or more intersections per Census tract for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities.

b) *Street density*: calculate the linear miles of streets per Census Tract for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities.

c) *Sidewalk connectivity*: first calculate the linear miles of streets per Census Tract for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities. Next, remove street segments with less than fifty percent of sidewalk complete. Re-calculate the linear miles of streets per Census Tract area. The ratio of the first two calculations is the sidewalk connectivity measure. A high ratio indicates better sidewalk connectivity.

d) *Sidewalk density*: calculate the miles of street segments with more than 50 percent of sidewalks completed per Census Tract area for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities. A higher number would indicate higher density.

e) *Bikeway connectivity*: first calculate the linear miles of streets per Census Tract for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities. Next, remove street segments with no bikeway. Re-calculate the

linear miles of streets per Census Tract area. The ratio of the first two calculations is the sidewalk connectivity measure. A high ratio indicates better sidewalk connectivity.

f) *Bikeway density*: calculate the miles of street segments with bikeways completed per Census Tract area for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities. A higher number would indicate higher density.

g) *Trail density*: calculate the miles of trails completed per Census Tract area for the base year and future year investment packages, within the MPA boundary and in historically marginalized communities and focused historically marginalized communities. A higher number would indicate higher density.

4) Timing of investments: Calculate the percentage of sidewalk, bikeway, trail and new street connections proposed for the first ten-years of the RTP (from 2017-2027) within the MPA and in areas with historically underrepresented communities and focused historically marginalized communities.

Output Units: Miles and percentage (%) of bikeways, sidewalks, trails and new street connections, region-wide within MPA and in historically underrepresented communities and focused historically underrepresented communities.

Potential Output of Assessment: Maps and tables

Within areas:	**Base Year (2015)**				**Interim Year (2027)**				**Future Year – Constrained**				**Future Year – Additional**			
	B	S	T	NS	B	S	T	NS	B	S	T	NS	B	S	T	NS
Region-wide (MPA boundary)	Number of miles, % planned regional network complete, connectivity ratio, density level															
Historically Underrepresented Communities	Number of miles, % planned regional network complete, connectivity ratio, density level															
Focused Historically Underrepresented Communities	Number of miles, % planned regional network complete, connectivity ratio, density level															

B – Bikeways; P –Sidewalks; T –Trails; NS – New Street Connections

Measure #6 – Access to travel options

Key Assumptions to Method

Dataset Used:

Dataset	Type of Data
Line features in a GIS for projects proposed for the 2018 RTP - sidewalk, bikeway, trail and new street connection projects	GIS data provided by jurisdictions and agencies
Line features in a GIS for existing (constructed) sidewalks, bikeways, trails, and streets	RLIS GIS data
Line features in a GIS for planned regional bicycle, pedestrian and roadway networks	GIS RTP

Tools Used for Analysis: ArcGIS

Definitions

Connectivity is defined as the directness of links and the density of connections in path or road network. A well connected road or path network has many short links, numerous intersections, and minimal dead-ends (cul-de-sacs). As connectivity increases, travel distances decrease and route options increase, allowing more direct travel between destinations, creating a more accessible and resilient system.[2]

Completeness is defined as the percentage of miles of the planned pedestrian, bicycle or roadway network that has been completed.

New Street Connection Project is a project that creates a new street where none existed before; street widening projects are not new street connections.

Bikeway Project is a project that fills a gap in the regional bikeway network. Bikeways included in larger street projects will be included in this analysis.

Sidewalk Project is a project that fills a gap in the regional pedestrian network. Sidewalks included in larger street projects will be included in this analysis.

Trail Project is a project that fills a gap in the regional trail network.

[2] Victoria Transport Policy Institute

Measure #7 - Access to Jobs

Evaluation Measure Title: **Access to Jobs**
(New System Evaluation measure)

Purpose and Goals

Overall Purpose: To identify whether the package of future transportation investments will increase the ability of region's residents to get to jobs (by wage profile) in the region.

Transportation Equity Purpose: Furthermore, to look at how the region's future transportation investments increase access jobs, but more specifically to low and middle-wage jobs, particularly for those areas where there are high concentrations of communities of color, lower-income communities, and limited English proficiency populations relative to the region.

The **Access to Jobs** performance measure looks to assess the following questions for the region's transportation system:

1) How many jobs can be reached in a given time window by different travel modes?
2) How many more jobs can be reached with the future package of transportation investments? Is the increase in jobs accessible in proportion or providing greater access to jobs in light of anticipated future employment and population growth?
3) Are different transportation modes outpacing its ability to get the region's residents to jobs?

More specifically, from the transportation equity perspective, the **Access to Jobs** performance measure looks to assess the following questions:

1) How many low and middle-wage jobs can be reached in a given time window by different travel modes?
2) What are differences in low and middle-wage job access for the region and specifically for communities of color, lower-income communities, limited English proficiency populations, older adults, and youth?
3) Is the difference in low and middle-wage job access between automobile and transit? Is there a difference which extends beyond a reasonable threshold and creating a "transit access disadvantage" to low and middle-wage jobs in certain areas? If so, do those "transit access disadvantage" areas overlap with areas with high concentrations of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth?
4) Is the access to low and middle-wage jobs also in proportion or providing greater access to jobs in light of anticipated future population and employment growth?

2014 RTP Goals

●	Foster vibrant communities and compact urban form	●	Promote environmental stewardship
●	Sustain economic competitiveness and prosperity	●	Enhance human health
●	Expand transportation choices		Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
	Enhance safety and security		

Measure #7 - Access to Jobs

Function of Performance Measure

●	System Evaluation		Project Evaluation		System Monitoring		Performance Target

Associated 2014 RTP Performance Target: None to date

Methodology Description:

The **Access to Jobs** performance measure is calculated by using forecasted data from Metroscope to identify and geographically distribute jobs throughout the region, including categorized low-wage and middle-wage jobs (defined in assumptions). The analysis will determine the weighted average number of jobs, with emphasis on low and middle-wage jobs, reached using the existing transportation system. The analysis will look at the differences in jobs, including low and middle-wage jobs, accessed by travel mode (automobile, transit, bicycle, and walking) in a given travel time window for the entire region and in areas with above the regional rate of communities of color, lower-income communities, and limited English proficiency populations to determine base year conditions. The next step is to conduct the same assessment, but use the proposed package of transportation investments in the long-range regional transportation plan as the input to determine the future year accessibility to forecasted jobs, including more focused look at low and middle-wage jobs, by mode for the entire region and in areas with high concentrations of communities of color, lower-income communities, and limited English proficiency populations. Lastly, the measure will look at the change in the accessibility to jobs between the base year and future year with the added transportation investments, but with a particularly emphasis on the change in access to low and middle-wage jobs in areas with high concentrations of communities of color, lower-income communities, and limited English proficiency populations. In considering transportation equity further, the **Access to Jobs** measure will also look at the number of low and middle-wage jobs accessible by transit and by automobile and compared the access. A threshold will be applied to determine whether there is a "transit access disadvantage" to low and middle-wage jobs. (Meaning there is significantly less access to low and middle-wage jobs by transit compared to automobile access.) These areas which are identified as "transit access disadvantaged" will be compared to areas where there are higher concentrations of historically underrepresented communities.

Output Units: Weighted average of jobs, by wage profile, accessed by mode (Auto; Transit; Bike; Walk)

Potential Output of Assessment: Percentage jobs reached within different travel time sheds by different modes.[1]

[1] Weighted average is the average accessibility from each Transportation Analysis Zone (TAZ) weighted by the number of households in that TAZ. TAZs with many households will influence the weighted average more than TAZs with fewer households, which results in the average accessibility to jobs for households in the region.

Measure #7 - Access to Jobs

Job Access – All Jobs:

	Base Year				**Interim Year**				**Future Year – Financially Constrained**				**Future Year – Strategic**			
	A	T	B	W	A	T	B	W	A	T	B	W	A	T	B	W
Region-wide																
Historically Marginalized Communities																
Focused Historically Marginalized Communities																

A – Automobile; T – Transit; B – Bicycle; W - Walk

Job Access – Low-Wage Jobs:

	Base Year				**Interim Year**				**Future Year – Financially Constrained**				**Future Year – Strategic**			
	A	T	B	W	A	T	B	W	A	T	B	W	A	T	B	W
Region-wide																
Historically Marginalized Communities																
Focused Historically Marginalized Communities																

A – Automobile; T – Transit; B – Bicycle; W - Walk

Job Access – Middle-Wage Jobs:

	Base Year				**Interim Year**				**Future Year – Financially Constrained**				**Future Year – Strategic**			
	A	T	B	W	A	T	B	W	A	T	B	W	A	T	B	W
Region-wide																
Historically Marginalized Communities																
Focused Historically																

Measure #7 - Access to Jobs

Marginalized Communities																

A – Automobile; T – Transit; B – Bicycle; W - Walk

Job Access – Transit Access Disadvantage

	Base Year		**Interim Year**		**Future Year – Financially Constrained**		**Future Year – Strategic**	
	Jobs Inaccessible By Transit		Jobs Inaccessible By Transit		Jobs Inaccessible By Transit		Jobs Inaccessible By Transit	
	LW	MW	LW	MW	LW	MW	LW	MW
Region-wide								
Historically Marginalized Communities								
Focused Historically Marginalized Communities								

LW – Lower-wage; MW – Middle-wage

Key Assumptions to Method:

Dataset Used:

Dataset	Type of Data
Geospatial project information for proposed transportation projects	GIS
Employment/jobs outputs from Metroscope[2]	Forecasted

Tools Used for Analysis: Metro's Travel Demand Model, Metro's Metroscope Model

Specifically for the transportation equity assessment, populations to apply in this measure include:

- People of Color
- Persons with Limited English Proficiency
- Low-Income Households

Young people and older adults are not being proposed for assessment in this system evaluation as it considered that traveling to and from employment is less likely a priority. See attached map for specific areas assessed for the Access to Jobs measure in light of abbreviated communities.

Definition of Low-Wage Jobs: Jobs which pay an annual salary between $0 - $39,999.[3]

Definitions of Middle-Wage Jobs: Jobs which pay an annual salary between $40,000 – $65,000. [4]

[2] Forecasted estimates are based on MetroScope assumptions on employment industries and based off U.S. Bureau of Labor Statistics data. Documentation can be found at: http://www.oregonmetro.gov/forecasting-models-and-model-documentation

[3] Wages are set as static for the purposes of the analysis and are not indexed to inflation. Therefore, the wage bands for low-wage and middle wage will not adjust between the based-year and future year.

[4] See Footnote 4.

Measure #7 - Access to Jobs

Methods for Defining and Identifying All Jobs:
The projections (total jobs) and geographic distribution of employment is based on underlying U.S. Bureau of Labor Statistics data and assumptions regarding growth for the employment industries in MetroScope. (See MetroScope documentation regarding employment forecast.)

Methods for Defining and Identifying Low and Middle-Wage Jobs:
The annual salary band was based on the average household size of three (3) and a combination of different income, program eligibility, and self-sufficiency definitions (HUD median income, UW self-sufficiency index, federal poverty level, and uniform relocation assistance and real property acquisition act) The definition of low and middle-wage jobs is not taking into consideration employer benefits provided as part of the identification of wages.

Distribution of Low and Middle-Wage Jobs Assumptions:
The distribution of low and middle-wage jobs is based on underlying U.S. Bureau of Labor Statistics data and assumptions regarding growth for the employment industries in MetroScope. (See MetroScope documentation regarding employment industry forecast assumptions.) The low and middle-wage band will not change according to inflation. Low and middle-wage jobs were determined by the wage profile of each MetroScope industry, looking at the percentage of jobs, which paid within the annual salary range. This range was applied to the employment forecast for the future year to determine the distribution.

Definition of Transit Access Disadvantage: TBD through initial baseline and beta testing work to take place prior to the conducting the transportation equity system evaluation.

Travel Time Windows by Mode[5]:

- Automobile – 30 minutes*
- Transit – 45 minutes*
- Bicycle – 30 minutes
- Walk – 20 minutes

*Includes access and egress times.

Travel Time Assumptions:
Travel time windows by mode were developed with information from the Oregon Household Activity Survey (OHAS) and research from around the country on travel time by different modes for different types of trips. Additionally, internal Metro staff consultation was conducted and work groups were provided the opportunity to give input.

Transit Service Networks Used:[6]

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[5] The travel time windows represents the average number of places which can be reached within a +/- 5 minutes of the stated travel time window. For example, for automobile, the number of jobs accessed will be an average of places reached between 25 minutes – 35 minutes. This is to address in the travel demand model the potential for a "cliff effect" when a hard cut off time is used and a number of jobs may not be reached because the travel time to reach the jobs in the travel model is one (1) second beyond the cut off time.

[6] Metro is currently transitioning how it will be developing its transit service networks in the demand model to better reflect transit service within the model. This transition is looking at service typology. If this method

- Peak – Represented as transit service running from 4pm – 6pm
- Off-Peak – Represented as transit service running from 12pm – 1pm

is used for the system evaluation, information will be updated in the assumptions and available to the work group.

Measure #8 - Access to Community Places

Evaluation Measure Title: **Access to Community Places**
(Replacing the 2014 RTP System Evaluation Measure– Access to daily needs - # of essential destinations accessible within 30 minutes by bicycling and public transit for low-income minority, senior and disabled populations)

Purpose and Goals
Overall Purpose: To identify whether the package of future transportation investments will increase the ability of region's residents to get to existing community places that provide/serve daily or weekly needs.

Transportation Equity Purpose: Furthermore, to look at how the region's future transportation investments increase access to existing community places that provide/serve daily or weekly needs, but with a particular emphasis in areas where there are high concentrations of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth relative to the region.

Questions to Be Addressed:
The **Access to Community Places** performance measure looks to assess the following questions for the region's transportation system:

1) What are the number of existing community places (i.e. places which provide services or items) that can be reached on the existing transportation system by travel mode (e.g. driving, transit, biking, and walking) in a given travel time?
2) How does accessibility, measured by the number of existing community places reached, change (across travel modes) with the proposed set of transportation investments?

More specifically from a transportation equity perspective, the **Access to Community Places** performance measures looks to further assess the additional question:

1) What are the differences between the number of community places accessible by communities of color, lower-income communities, limited English proficiency populations, older adults, and youth relative to the entire region? Are there large differences in access seen between travel modes?
2) Are there significant differences (or lack of differences) seen between communities of color, lower-income communities, limited English proficiency populations, older adults, and youth and the region once the proposed transportation investments are added?

2014 RTP Goals

●	Foster vibrant communities and compact urban form	●	Promote environmental stewardship
●	Sustain economic competitiveness and prosperity	●	Enhance human health
●	Expand transportation choices		Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
	Enhance safety and security		

Measure #8 - Access to Community Places

Function of Performance Measure

●	System Evaluation		Project Evaluation		System Monitoring	●	Performance Target

Associated 2014 RTP Performance Target – By 2040, increase by 50% the number of essential destinations accessible within 30 minutes by bicycling & public transit for low-income, minority, senior and disabled populations compared to 2010.

Methodology Description:

The **Access to Community Places** performance measure is calculated by using existing data from the U.S. Bureau of Labor Statistics to identify the existing community places which provide key services and/or daily needs (defined in assumptions) for people in the region. The analysis will determine the weighted average of community places reached using existing transportation system and looking at the differences in places accessed by travel mode (automobile, transit, bicycle, and walking) in a given travel time window for the entire region and for areas with a high concentration of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth to determine base year conditions.[1] The same assessment will be conducted, but use the proposed package of transportation investments in the long-range regional transportation plan as the input to determine the future year accessibility to community places by mode for the entire region and in areas with high concentrations of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth. Lastly, the measure will look at the change in the accessibility to these existing community places between the base year and future year with added transportation investments, with an emphasis in looking at the change in communities of color, lower-income communities, limited English proficiency populations, older adults, and youth. The report out for this measure will show the percent change in access to community places by mode for each package.[2]

Output Units: Number of community places accessed by mode (# - Auto; # - Transit; # - Bike; # - Walk)

Potential Output of Assessment:

	Base Year				**Interim Year**				**Future Year – Financially Constrained**				**Future Year – Strategic**			
	A	T	B	W	A	T	B	W	A	T	B	W	A	T	B	W
Region-wide																
Historically Marginalized																

[1] Weighted average is the average accessibility from each Transportation Analysis Zone (TAZ) weighted by the number of households in that TAZ. TAZs with many households will influence the weighted average more than TAZs with fewer households, which results in the average accessibility to community places for households in the region.

[2] Due to the nature where community places are located and that each TAZ can access these community places (therefore the weighted average for community places for the region is 100%), the percent difference from the region is used to depict how the

Measure #8 - Access to Community Places

Communities																
Focused Historically Marginalized Communities																

A – Automobile; T – Transit; B – Bicycle; W - Walk

Key Assumptions to Method:

Dataset Used:

Dataset	Type of Data
Geospatial project information for proposed transportation projects	GIS
U.S. Bureau of Labor Statistics – Quarterly Census of Employment and Wages (2013)	Observed

Tools Used for Analysis: Metro Travel Demand Model and ArcGIS

Definitions of Places:

Select North American Industry Classification System (NAICS) codes. Codes include those used as part of TriMet's Transit Equity Index with select additions based on consultation with 2018 RTP work groups, TPAC, and Metro Planning and Development Department and Diversity, Equity, and Inclusion staff.

Category	NAICS	Description
Civic/Health	491110	Postal Service
	519120	Libraries and Archives
	611110	Elementary and Secondary Schools
	611210	Junior/Community Colleges
	611310	Colleges, Universities, and Professional Schools
	624110	Child and Youth Services
	624120	Services for the Elderly and Persons with Disabilities
	624190	Other Individual and Family Services
	624210	Community Food Services
	624229	Other Community Housing Services
	624230	Emergency and Other Relief Services
	624310	Vocational Rehabilitation Services
	624410	Child Day Care Services
	624221	Temporary Shelters
	813110	Religious Organizations
Essential Retail	444130	Hardware Stores
	446110	Pharmacies and Drug Stores
	452111	Department Stores
	452990	All Other General Merchandise Stores
	812111	Barber Shops
	812112	Beauty Salons
	812310	Coin-Op Laundry
	812320	Dry Cleaning and Laundry Service

Measure #8 - Access to Community Places

Category	NAICS	Description
Financial/Retail	522110	Commercial Banking
	522120	Savings Institutions
	522130	Credit Unions
Food	445110	Supermarkets and Other Grocery (except convenience) Stores
Medical	621111	Offices of Physicians (except Mental Health Specialists)
	621112	Office of Physicians, Mental Health Specialists
	621210	Offices of Dentists
	621310	Offices of Chiropractors
	621320	Offices of Optometrists
	621330	Offices of Mental Health Practitioners (except Physicians)
	621340	Offices of Physical, Occupational, and Speech Therapists and
	621391	Audiologists
	621399	Offices of Podiatrists
	621410	Offices of All Other Miscellaneous Health Practitioners
	621420	Family Planning Centers
	621491	Outpatient Mental Health and Substance Abuse Centers
	621492	HMO Medical Centers
	621498	Kidney Dialysis Centers
	621512	All Other Outpatient Care Centers
	622110	Diagnostic Imaging Centers
	622210	General Medical and Surgical Hospitals
	622310	Psychiatric and Substance Abuse Hospitals
		Specialty (except Psychiatric and Substance Abuse) Hospitals

For the purpose of the analysis, the existing places which currently provide/serve daily needs are being used to determine access to community places in both the base year conditions and the future year. This approach is being taken because Metro's land use forecast model, Metroscope, currently does not project to the level of detail the locations of these types of businesses (i.e. food, commercial, retail, civic, and health-related services). In assessing the access to existing places which provide/serve daily needs, the rational is that greater access to existing community places will further increase as new places to provide services open as a result of population and employment growth.

Travel Time Windows by Mode[3]:

- Automobile – 20 minutes*
- Transit – 30 minutes*
- Bicycle – 15 minutes

[3] The travel time windows represents the average number of places which can be reached within a +/- 5 minutes of the stated travel time window. For example, for automobile, the number of daily needs accessed will be an average of places reached between 15 minutes – 25 minutes. This is to address in the travel demand model the potential for a "cliff effect" when a hard cut off time is used and a destination may not be reached because the travel time to reach the destination in the travel model is one (1) second beyond the cut off time.

- Walk – 20 minutes

*Includes access and egress times.

Travel Time Assumptions:
Travel time windows by mode were developed with information from the Oregon Household Activity Survey (OHAS) and research from around the country on travel time by different modes for different types of trips. Additionally, work groups provided input and suggested manual adjustments to travel time windows as reflected in the final.

Transit Service Networks Used:[4]

- Peak – Represented as transit service running from 4pm – 6pm
- Off-Peak – Represented as transit service running from 12pm – 1pm

[4] Metro is currently transitioning how it will be developing its transit service networks in the travel demand model to better reflect transit service within the model. This transition is looking at a transit service typology. If this method is used for the system evaluation, information will be updated in the assumptions and available to the work group.

Measure #17 Habitat impact

Evaluation Measure Title: **Habitat impact**

Purpose and Goals

Overall Purpose: To identify and flag those proposed future transportation investments within the 2018 RTP investment package which intersect with the region's identified high value habitat areas and note additional environmental consideration and potential mitigation may be needed in implementing the investment.

Transportation Equity Purpose: Furthermore, to look at those proposed future transportation investments within the 2018 RTP investment package which overlap with high value habitat and in areas of high concentrations with communities of color, lower-income communities, limited English proficiency populations, older adults, and youth relative to the region. These projects would be flagged and noted that in addition to further environmental considerations, other environmental justice considerations mitigation and/or strategies may be needed in implementing the investment.

Questions to Be Addressed:

The **Habitat impact** performance measure looks to assess the following questions for the region's transportation system:

1) What percentage of the region's proposed roadway transportation investments intersect and have may have a potential conflict with the region's resource habitats and needs further assessment of environmental considerations through project development?

More specifically, from the transportation equity perspective, the **Habitat impact** performance measure looks to assess the following questions:

1) What percentage of resource habitats overlap with areas with high concentrations of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth? Are these resource habitats seeing a greater percentage of proposed roadway transportation investments which may have a potential conflict with the region's resource habitats? Is the percentage in historically underrepresented communities greater than the region?

2014 RTP Goals

●	Foster vibrant communities and compact urban form	●	Promote environmental stewardship
	Sustain economic competitiveness and prosperity	●	Enhance human health
	Expand transportation choices		Demonstrate leadership at reducing greenhouse gas emissions
	Effective and efficient management of system	●	Ensure equity
	Enhance safety and security		

Function of Performance Measure

●	System Evaluation		Project Evaluation		System Monitoring		Performance Target

Measure #17 Habitat impact

Associated 2014 RTP Performance Measure: Percent of projects which intersect high value habitats

Methodology Description:

The method for calculating the **Habitat impact** performance measure will entail a geospatial analysis the region's proposed transportation investments which intersect the region's resource habitats. The percentage of projects which intersect resource habitats will be looked at region-wide and in areas where there is a concentration of communities of color, lower-income communities, limited English proficiency populations, older adults, and youth.

Output Units: Percentage (%) of transportation projects intersecting identified resource habitats

Potential Output of Assessment:

	Base Year	Interim Year	Future Year – Financially Constrained	Future Year – Strategic
Region-wide				
Historically Marginalized Communities				
Focused Historically Marginalized Communities				

Key Assumptions to Method:

Dataset Used:

Dataset	Type of Data
Geospatial project information for proposed transportation projects	GIS
Geospatial resource conservation information from Metro identified resource and conservation habitat areas	Assessed GIS data

Tools Used for Analysis: ArcGIS

Definition of Resource Habitats:

Resource habitats are those areas with the top 25% modeled score of high value habitat or riparian quality. Habitat quality took into account factors such as habitat interior, influence of roads, total patch area, relative patch area, habitat friction, wetlands, and hydric soils. The riparian areas took into account criteria of floodplains, distance from streams, and distance from wetlands. The analysis and modeled scoring was conducted for the entire Portland-Vancouver region and conducted through a collaborative effort with partners across the region and topic area experts through the development in the Resource Conservation Strategy process. More detail about the high value habitats can be found at www.regionalconservationstrategy.org.

Access to Travel Options – System Completeness and Connectivity

The Access to Travel Options system evaluation measure is composed of four parts:

1) completeness of the identified regional active transportation network;
2) completeness of sidewalks and bikeways to access transit stops;
3) the change in miles and density of streets, sidewalks, bikeways, and trails; and
4) the timing of the investments.

For the assessment of the 2018-2021 MTIP, parts 2 and 3 were completed to look at how the transportation investments in the MTIP would enhance the completeness and connectivity of the transportation network. Part 1ended up being deferred as working with the data began to show additional methodological considerations are needed to move forward. Metro staff recommends working through the method in order to prepare to conduct part 1 as part of the 2018 RTP evaluation. At the time of the work group packet mailing, part 2 had yet to be completed. The following shows the results of the part 2 analysis. Part 3 is included as part of the packet and part 4 was deferred as it is specific to the 2018 RTP.

Access to Transit – Sidewalk Completeness within ½ mile of Transit Stops

	Base Year (2015)			**2018-2021 MTIP**			**Difference**		
	Street Length	Sidewalk Length	% Sidewalk	Street Length	New Total Sidewalk Length	% Total	Street Length	Added Length	% Change
ALL	26,611,522	13,120,628	49%	26,611,522	13,300,745	50 %	26,611,522	180,117	0.7%
HMC	22,288,464	11,739,357	53%	22,288,464	11,912,493	53 %	22,288,464	173,136	0.8%
FHMC	14,129,484	7,646,763	54%	14,129,484	7,780,688	55 %	14,129,484	133,925	0.9%

Access to Transit – Bicycle Completeness within ½ mile of Transit Stops

	Base Year (2015)	**2018-2021 MTIP**	**% increase**
all stops	669	39	5.9%
HMC	596	38	6.5%
FHMC	402	31	7.8%

The 2018-2021 MTIP investments appear to be increasing the miles of sidewalk and bicycle facilities within a ½ mile of transit stops region-wide as well as in historically marginalized and focused historically marginalized communities. For the sidewalks completeness within a ½ mile of transit, the focused historically marginalized appear to see a larger increase, albeit, the overall sidewalk feet within a ½ mile of transit is the least in the focused historically marginalized communities. Similar results is seen for bicycle facilities within a ½ miles of transit.

Memo

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

Date: March 24, 2017

To: TPAC and interested parties

From: Kim Ellis, RTP Project Manager

Subject: Update on 2018 Regional Transportation Plan Call for Projects and draft Vision Statement

PURPOSE

This memo provides an update on the process and timeline for building the 2018 Regional Transportation Plan (RTP) Investment Strategy and seeks feedback on the process and an updated draft vision statement for the future of transportation in the Portland metropolitan region.

Pending direction from the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council, on June 1, 2017 Metro will issue a "call for projects" to update the region's near- and long-term transportation investment priorities to support regional policies and goals for safety, congestion relief, community livability, the economy, equity, and the environment. More detailed instructions for submissions, supporting forms, and on-line resources are in development for agencies to use. The deadline for submission of projects will be July 21, 2017.

ACTION REQUESTED

No action is requested at this meeting. At the March 31 meeting, TPAC is requested to discuss the following questions to help staff prepare guidance and other materials to support the Call for Projects and building the 2018 RTP Investment Strategy:

1. Do you have comments for staff on the draft vision statement?
2. Do you have comments for staff about the timeline and process for updating and evaluating the region's near- and long-term investment priorities?
3. What additional information do you need to make your recommendation to JPACT?

The discussion will help shape recommendations for the Metro Council, the Metro Policy Advisory Committee (MPAC), and the Joint Policy Advisory Committee on Transportation (JPACT) to consider in April and May as part of their broader direction on building the 2018 RTP Investment Strategy.

At the April 28 meeting, TPAC will be requested to make a recommendation to JPACT on moving forward with building the draft RTP Investment Strategy. The recommendation will include two parts:

1. Updated vision and 2018 RTP policy framework to guide building the draft RTP Investment Strategy for further review and refinement; and
2. Updated RTP evaluation framework that includes updated system performance and transportation equity measures and project criteria identified for testing through the analysis. The evaluation framework will be subject to further refinement based on the analysis.

THE OPPORTUNITY

Regional context

Past actions and policy direction

Much has changed in the region since the adoption of the Regional Transportation Plan (RTP) and Regional Active Transportation Plan (ATP) in 2014. Since the adoption of the 2014 RTP and ATP, several projects have been completed (e.g., Sellwood Bridge, Portland-Milwaukie Light Rail, Sunrise Project (Phase 1, Unit 1). In addition, TriMet completed plans for expanding local and regional transit service, and the Metro Council and JPACT adopted an ambitious strategy – called the Climate Smart Strategy – for reducing greenhouse gas emissions that necessitates a significant expansion of transit service.

The upcoming RTP Call for Projects (which will result in updates to the projects and programs in the RTP) is an opportunity to follow through on those plans and actions and more recent regional policy commitments adopted by JPACT and the Metro Council. These commitments include the more recent Regional Flexible Funds allocation decision to advance three priority bottleneck projects (I-5/Rose Quarter, OR 217, and I-205 widening – Ph. 1: I-205/Abernethy Bridge and Ph. 2: I-205 mainline), two priority transit projects (the Southwest Corridor and Division Transit projects), and active transportation project development work to accelerate construction of active transportation projects in the region. These priorities were reaffirmed by JPACT and the Metro Council through adoption of the region's 2017 Regional Policy and Funding Priorities for State Transportation Legislation on February 16 and March 2, respectively.

2018 RTP Policy Framework

In addition, staff have compiled a 2018 RTP Policy Framework in **Attachment 1** that will further guide the Call for Projects and building the 2018 RTP Investment Strategy. Key elements of the policy framework are:

- An updated vision for the region's transportation system that reflects community values, regional challenges, and desired land use, economic, equity and environmental outcomes;
- eleven supporting goals and objectives; and
- a network vision and supporting policies that, along with the regional mobility corridor policy framework, guide planning and investment in each part of the regional transportation system to provide a seamless and fully interconnected system.[1]

The draft vision statement reviewed at Regional Leadership Forum 3 has been updated to guide the call for projects. On December 2, Regional Leadership Forum 3 participants reviewed and provided feedback on a draft vision statement for the region's transportation future. The draft statement was developed reflecting values expressed during Regional Leadership Forums 1 and 2 discussions and additional engagement activities in 2015. The goals, objectives, network visions

[1] Reflecting the network vision for each part of the system, the RTP System Maps designates facilities that are part of the regional transportation system based on the function they serve and where they are located. The 2014 RTP regional system maps are included in Attachment 2 for reference and can be viewed on-line at: gis.oregonmetro.gov/rtp/.

and supporting policies, and regional mobility corridor policy framework are from the adopted 2014 Regional Transportation Plan.

Together this policy framework defines the outcomes the 2018 RTP (and RTP Investment Strategy) is trying to achieve by 2040.

Our shared vision for the future of transportation
The statement below reflects an updated vision for the region's transportation system, incorporating refinements recommended by the Metro Technical Advisory Committee (MTAC) on March 15 in ~~strikethrough~~ and underscore:

In the 21st century, all residents and businesses of the Portland metropolitan region share in a prosperous and equitable economy and exceptional quality of life built on a foundation of safe, reliable, healthy, and affordable travel options.

Together our investments support local and regional land use plans and build a transportation system that is well-maintained, designed to be accessible for all ages, abilities and modes of travel, employs the best technologies, and manages both demand and capacity to safeguard our climate and the environment, efficiently move our products to market, and connect everyone to the education, services and work opportunities of today and the future. The system is fiscally sustainable, prepared for natural disasters, and joins rail, aviation, marine, highway, major streets, bus, ~~air, water~~, biking, and walking facilities and services into a seamless and fully interconnected system.

Graphic recording of Dec. 2 Regional Leadership Forum 3 feedback.

Collectively, the JPACT and Metro Council actions and the 2018 RTP policy framework (including this updated vision statement and existing RTP goals and policies) and public input on near-term investment priorities will serve as a starting point for identifying investment priorities to be included in the draft 2018 RTP Investment Strategy.

Federal and State context
Additionally, the federal government completed rulemaking to implement two federal transportation bills with a new emphasis on outcomes, system performance, and transparency and accountability in the transportation decision-making process. In 2016, a Governor-appointed task force work conducted a series of forums to identify statewide transportation priorities. In 2017, the State of Oregon is likely to unveil a new transportation funding bill that would set state investment priorities for the next several years.

Nonetheless, federal and state funding is on the decline while the need for transportation investments in the Portland region continues to grow. The adopted 2014 RTP includes more than 1,250 projects, with a total estimated cost of $36 billion, including maintenance and operations of

the transportation system. That cost is significantly more than our region's current spending on transportation investments, the majority of which is being spent on maintenance and operations.

In the past, a generous federal match, significant state funding, and more flexibility at the local level meant that the financing for previous projects was more straightforward. Conditions have changed and future investments will likely require voter approval. This requires the region to take a different approach to identifying investment priorities, communicating about them, and bringing them forward in a transparent manner focused on explaining to stakeholders and the public the benefits they can expect from a project as well as the overall 2018 RTP Investment Strategy, whether it will individually benefit from them or not.

BUILDING THE 2018 RTP INVESTMENT STRATEGY

Call for Projects to build a draft investment strategy

The changing landscape of transportation funding and policy highlights the need for the region to review its priorities, be strategic, and make refinements to near and long-term investments identified to address regional transportation challenges. To this end, the 2018 RTP Call for Projects provides an opportunity to develop an updated strategy for how the region will leverage local, regional, state, federal funds to advance local, regional and state priorities as part of an existing public process. In effect, the region will work together to define a pipeline of regional transportation projects to fund and construct to address regional challenges, reflect public priorities and maximize progress toward the region's shared vision and goals for the further of transportation.

Consistent with the adopted work plan, two levels of investment will be assumed for the 2018 RTP Investment Strategy. The first level, the *Constrained Priorities* (also known as the Financially Constrained project list under federal law), will represent the highest priority transportation investments for the plan period (2018-2040). In order for projects to be eligible to receive federal and state funding, they must be on the *Constrained Priorities* project list. The second level, the *Additional Priorities*, will represent other priority investments that the region agrees to work together to fund and construct.

The 2018 RTP Investment Strategy will be comprised of the *Constrained Priorities* project list and the *Additional Priorities* project list.

The purpose of the upcoming "call for projects" is three-fold:

1. **Develop a pipeline of priority projects on the regional transportation system** that are needed to support the 2040 Growth Concept vision, and regional transportation goals, and will need some combination of local, regional, state, and/or federal funding to be constructed.
2. Provide an opportunity for regional partners to identify priorities for the regional transportation system and refinements needed to **update current Constrained priorities (adopted as the 2014 RTP Financially Constrained System in 2014)** to respond to local, regional and state needs on the regional system as well as planning efforts completed since July 2014 and more recent JPACT and Council policy direction.

3. Provide an opportunity for regional partners to **identify additional priorities to include in the 2018 RTP Investment Strategy** that the region agrees to work together to fund and construct to address to local, regional and state needs on the regional system.

Updated draft information on the 2018 Call for Projects is provided in **Attachment 3.** The information will continue to be refined and is provided to assist project sponsors as they prepare for the 2018 RTP Call For Projects. Pending direction from JPACT and the Metro Council, the Call for Projects will occur from June 1 to July 21, 2017.

Evaluating the draft RTP Investment Strategy

The RTP investment strategy analysis is intended to provide policymakers with better information about the region's investment priorities and the implications of our near-term and long-term transportation investment choices. The evaluation process will test proposed system performance and transportation equity measures and project criteria to determine which measures can best evaluate whether the transportation system is successful in meeting regional goals and policies. Two rounds of evaluation are planned, allowing for refinement of the draft system performance and transportation equity analysis measures and draft project evaluation criteria to address any shortcomings identified during the Round 1 evaluation.

The Round 1 analysis will be conducted on:

	RTP Investment Strategy Packages
2015 Base Year 2040 No Build	**Package 1** - 10-year Constrained RTP investment Strategy *Region's highest priority projects given our current funding outlook (2018-2027 in Constrained project list)* **Package 2** - Full Constrained RTP Investment Strategy *Package 1 + high priority projects given our current funding outlook (2028-2040 in Constrained project list)* **Package 3** - Full RTP Investment Strategy *Full Constrained RTP + additional priority projects the region agrees to work together to pursue funding to plan and build (2028-2040 in Strategic project list)*

The results of the first round of analysis and public input will inform Council, JPACT and MPAC recommendations to guide further refinement and evaluation of the RTP Investment Strategy in 2018.

NEXT STEPS

Metro staff will complete technical work to support the solicitation process and continue working with TPAC and MTAC on policy-related elements of the update that will inform the project solicitation process. Remaining technical work to support building the RTP Investment Strategy include:

1. **Update financially constrained revenue forecast** to reflect a realistic outlook of the amount of local, state and federal transportation funding that is expected to be available

from 2018 to 2040. The forecast will help illustrate the region's transportation current funding outlook and support regional discussions to identify potential funding tools and build broad support for more funding and the region's investment priorities. Staff will present the draft constrained revenue forecast at the March 31 TPAC meeting.

2. **Development of on-line application system** that includes resources and tools to support project sponsors.
3. **Update the 2014 RTP project and program database** to remove projects completed or constructed since 2014.

Policy-related elements being developed for review and discussion by the Metro Council, MPAC and JPACT in April and May to support the Call for Projects:

1. **Update Vision**. An updated vision statement for the RTP that reflects feedback from the Dec. 2 Regional Leadership Forum is presented in this memo for review and feedback on March 31.
2. **Updated Outcomes-based Evaluation Framework**. New and updated system performance and transportation equity analysis measures have been identified for testing during modeling and analysis of the draft 2018 RTP Investment Strategy. The measures will evaluate performance of the strategy as a whole. In response to Council direction, staff have proposed piloting project evaluation during the Call for Projects to complement the planned system performance evaluation and transportation equity analysis recommended for testing.

   TPAC has already reviewed the draft system performance and transportation equity measures and expressed general support for testing the measures during the evaluation, with the understanding further refinements would be possible. In addition TPAC, provided initial feedback on the project evaluation approach and draft criteria at the February meeting and during the joint TPAC/MTAC workshop held on March 17. Staff will present several project evaluation approach options at the March 31 TPAC meeting, as requested at the workshop.
3. **Updates on the Regional Transit Strategy** and **the Regional Safety Strategy and Regional Freight Strategy**. The strategies will continue to be developed through 2017.
4. **2018 RTP Investment Strategy Funding Level**. Possible approaches for setting the overall funding level for 2018 RTP Investment Strategy and identifying regional priorities to be recommended in the draft "Additional Priorities" list. Staff will present an overview of these approaches at the March 31 TPAC meeting and seek direction from the JPACT subcommittee, JPACT and the Metro Council in April and May, prior to issuing the Call for Projects.

The schedule of next steps follows.

Schedule for regional discussion of Building the RTP Investment Strategy	
March 2017	• Technical Workshop #1 with RTP work groups, TPAC and MTAC on system evaluation and project evaluation criteria *(3/17/17; 1 to 4 PM at Metro in the council chamber)* • TPAC and MTAC discussions on vision, project evaluation criteria and

Schedule for regional discussion of Building the RTP Investment Strategy	
	process for building the 2018 RTP Investment Strategy • Coordinating Committee briefings (TACs)
April 2017	• Technical Workshop #2 with RTP work groups, TPAC and MTAC on Call for Projects (*4/14/17; 10 AM to Noon at Metro in the council chamber)* • Coordinating Committee briefings (TACs) • JPACT, MPAC and Metro Council discussions • TPAC recommendation to JPACT (April 28)
May 2017	• MTAC recommendations to MPAC (May 5) • Coordinating Committee briefings (Policy and TACs) • MPAC and JPACT recommendations to Council • Metro Council action
June 1, 2017	• RTP Call for Projects issued • On-line resources will be available at: www.oregonmetro.gov/2018PROJECTS
June-July 2017	• Cities and counties work with Metro, ODOT, Port, TriMet, and SMART through technical and policy coordinating committees to identify projects to submit • All submitting agencies pilot using draft project criteria for top 5 projects to test criteria and provide information to sponsoring agencies, regional decision-makers, and the public to communicate the potential return-on-investment of individual projects • Agencies seek endorsement of projects from governing bodies
July 21, 2017	• Project submittals due to Metro
Aug. 25, 2017	• Endorsement of projects from governing bodies due to Metro
August 2017	• Metro reviews submittals for completeness and compiles draft project lists and criteria with TPAC and MTAC
July to Oct. 2017	• RTP technical evaluation process (Round 1)
Summer-Fall 2017	• Metro evaluates draft strategy and prepares draft regional-level findings on system performance and transportation equity analysis and identifies any shortcomings of measures and project criteria
Nov. – Dec. 2017	• Draft RTP Findings & Recommendations Report is released for technical review and discussion by TPAC, MTAC, RTP work groups and technical coordinating committees to discuss findings and deficiencies, and recommend changes, if any, that are needed. The technical discussions will inform materials being prepared for discussion by the Metro Council and regional policy advisory committees, and at the Regional Leadership Forum 4 (moved to February 2018). • Metro provides corridor-level and other technical evaluation information to agencies and coordinating committees to use to inform potential refinements to projects in Spring 2018 • Coordinating committees prepare to refine project lists in Spring 2018 in response to the system evaluation, transportation equity analysis, project evaluation and public input

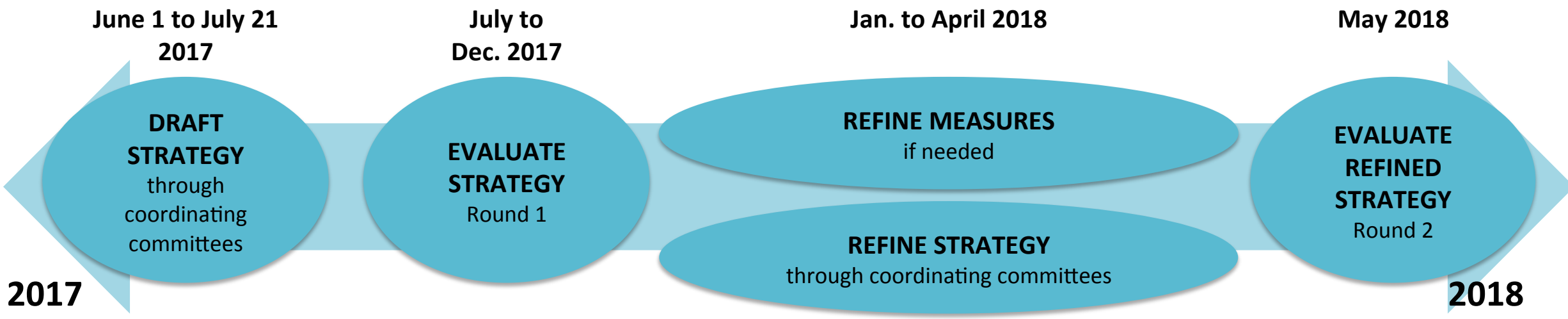
Schedule for regional discussion of Building the RTP Investment Strategy	
	• Metro releases technical review drafts of Safety, Freight and Transit plans for TPAC and MTAC review
Jan. to Feb. 2018	• On-line public comment opportunity on draft projects and key findings • Metro convenes RTP work groups to recommend refinements to system performance and transportation equity measures and project evaluation criteria for future use • Regional Leadership Forum 4 *(Feb.)* a. Discuss regional findings and deficiencies, project information and public input on draft projects lists b. Discuss updated funding information c. Provide direction on refining investment priorities (e.g., timing and/or constrained/strategic list) and updated evaluation measures and project criteria
Feb. – April 2018	• Cities and counties work with Metro, ODOT, Port, TriMet and SMART through technical and policy coordinating committees to identify investment strategy refinements, if needed or desired
April 29, 2018	• Agencies submit updated projects on-line to Metro by April 29; all project submittals include responses to updated project criteria
May – June 2018	• RTP technical evaluation process (Round 2) • Metro compiles refined draft project lists and reviews project submittals with TPAC and MTAC • Metro evaluates refined draft project lists and updates regional-level findings on system performance and transportation equity analysis • Metro reviews updated findings with TPAC and MTAC to frame tradeoffs and choices to highlight to the Metro Council, JPACT and MPAC
June 2018	• Metro Council and JPACT recommend which draft project list (Round 1 or Round 2 or Hybrid) to be released during 45-day public comment period
June 29 to Aug. 13, 2018	• Release public review draft RTP, Regional Framework Plan and Functional Plan amendments (if needed), and public review draft modal/topic plans for 45-day comment period & hearing
Sept. 2018	• MTAC and TPAC consider public comment and make recommendations to MPAC and JPACT on 2018 RTP and modal/topical plans
Oct. 2018	• MPAC and JPACT consider public comment and make recommendations to Council on 2018 RTP and modal/topical plans
Dec. 2018	• Council action on 2018 RTP and Regional Transit Strategy, updated Regional Freight Plan, and updated Regional Safety Plan
Early 2019	• Submit 2018 RTP to US DOT and LCDC for federal and state review

/Attachments

1. 2018 RTP Policy Framework (3/24/17)
2. Draft Information on 2018 Call for Projects and Programs (3/20/17)

DRAFT Building the RTP Investment Strategy

Summary of coordination, evaluation and refinement activities | June 1, 2017 to June 1, 2018



Metro issues Call for Projects

Cities and counties work with Metro, ODOT, Port, TriMet, and SMART through technical and policy coordinating committees to identify projects to submit

Agencies submit project information on-line to Metro by July 21

Agencies seek endorsement of projects from governing bodies by Aug. 25

All agencies pilot using project criteria for top 5 projects to test criteria and provide information to sponsoring agencies, regional decision-makers, and the public to communicate the potential return-on-investment of individual projects

Metro compiles draft project to review project submittals and project criteria with TPAC and MTAC

Metro evaluates draft strategy and identifies any shortcomings of measures and project criteria

Metro prepares draft regional-level findings on system performance and transportation equity analysis

Metro convenes RTP work groups, TPAC and MTAC and works with coordinating committees to review draft regional findings and deficiencies, and recommend changes, if any, that are needed

Metro packages corridor-level and other technical information for agencies to use to refine projects with coordinating committees

Coordinating committees prepare to refine project lists in response to the system evaluation, transportation equity analysis, project evaluation and public input

On-line comment opportunity on draft project lists and regional findings

Convene Regional Leadership Forum 4 to:

- Discuss regional findings and deficiencies, project information and public input on draft projects lists
- Discuss updated funding information
- Receive direction on refining investment priorities (e.g., timing and/or constrained/strategic list) and updated evaluation measures and project criteria

Metro convenes RTP work groups to recommend refinements to system performance and transportation equity measures and project evaluation criteria for future use (Round 2)

Cities and counties work with Metro, ODOT, Port, TriMet and SMART through technical and policy coordinating committees to identify investment strategy refinements, if needed or desired

Agencies submit updated projects on-line to Metro by April 29; all project submittals include use of updated project criteria

Metro compiles refined draft project lists to review with TPAC and MTAC

Metro evaluates refined draft project lists and updates regional-level findings on system performance and transportation equity analysis

Metro reviews updated findings with TPAC and MTAC to frame tradeoffs and choices for Metro Council, JPACT and MPAC direction

Metro Council and JPACT recommend which draft project list (Round 1 or Round 2 or Hybrid) to be released during 45-day public comment period

Metro

Timeline | 2018 Regional Transportation Plan

Key
- Materials to support decision-making
- Public engagement incorporated and addressed
- Metro Council direction incorporated

Key Steps in Process
1. Confirm vision and goals
2. Determine regional priorities funding level
3. Conduct call for projects
4. Assess performance
5. Recommend plan and investment strategy

2018 RTP Chapters
1. Regional challenges
2. Vision and policies
3. Funding
4. Investments
5. Performance
6. Implementation

Metro

2016: APR SEP OCT NOV DEC | 2017: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC | 2018: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC | 2019: JAN FEB

Public engagement

Public information and targeted engagement opportunities

- Online poll (APR 2016)
- Leadership forum 1 (APR 2016)
- Leadership forum 2 (SEP 2016)
- Leadership forum 3 (DEC 2016)
- Online poll (FEB 2017)
- Online poll (MAY 2017)
- Snapshot (MAY 2017)
- Online poll (JAN 2018)
- Leadership forum 4 (FEB 2018)
- Snapshot (MAY 2018)
- **45-day public review and comment** (JUN–JUL 2018)
- Comment report and staff recommended refinements, September (SEP 2018)
- Leadership forum 5 (proposed) (2019)

Policy and technical updates

- **Document regional challenges** (APR 2016 – FEB 2017)
- **Update vision and goals** (DEC 2016 – MAR 2017)
- **Update financial assumptions and revenue forecast** (APR 2016 – MAR 2017)
- Draft forecast and recommended regional priorities funding level (MAR 2017)
- **Update performance targets and monitoring measures** (MAY 2017 – JAN 2018)
- Regional targets recommendation (JAN 2018)
- **Develop policy proposal on digital mobility** (MAY 2017 – JAN 2018)
- Policy recommendations (JAN 2018)
- **Modal and topical plans** (APR 2016 – AUG 2018)
  - Update Regional Transportation Safety Plan
  - Develop Regional Transit Strategy
  - Update Regional Freight Plan
  - TPAC/MTAC review drafts, October (OCT 2017)
  - Discussion drafts, June (JUN 2018)
  - Updated drafts, October (OCT 2018)
  - Adoption drafts, November (NOV 2018)
- **Update plan chapters** (MAY 2017 – AUG 2018)
  - TPAC/MTAC review drafts, October (OCT 2017)
  - Discussion draft, June (JUN 2018)
  - Updated draft, October (OCT 2018)
  - Adoption draft, November (NOV 2018)

RTP investment strategy

- **Update outcomes-based evaluation framework** (DEC 2016 – MAR 2017)
  - System performance measures
  - Transportation equity measures
  - Project performance measures
  - *To be tested during modeling and analysis*
- **Call for projects** (MAR 2017 – JAN 2018)
  - Draft constrained list
  - Draft regional priorities list
- **Test evaluation framework** (MAR 2017 – JAN 2018)
- **Perform modeling and analysis of projects and programs** (MAR 2017 – JAN 2018)
- **Compile capital, operations and maintenance costs and potential funding tools** (MAR 2017 – JAN 2018)
- Draft findings and recommendations, November (NOV 2017)
- Findings and recommendations report, January (JAN 2018)
- **Review modeling, analysis and costs; refine projects, programs and funding tools** (JAN 2018 – JUN 2018)
- **Refine evaluation framework** (JAN 2018 – JUN 2018)
  - Refined evaluation framework measures
- **Refine modeling and analysis** (JUN 2018 – AUG 2018)
- **Refine capital, operations and maintenance costs** (JUN 2018 – AUG 2018)
- Discussion draft analysis and costs (JUN 2018)
- Discussion draft constrained list (JUN 2018)
- Discussion draft regional priorities list (JUN 2018)
- Updated draft lists (OCT 2018)
- Recommended constrained list (NOV 2018)
- Recommended regional priorities list (NOV 2018)
- **Adopted 2018 RTP** Submitted for state and federal review (DEC 2018)

Decision milestones

Metro Policy Advisory Committee action
Joint Policy Advisory Committee on Transportation action
Metro Council action

- Recommendation for building RTP investment strategy, May (MAY 2017)
- Direction for building RTP investment strategy, May (MAY 2017)
- Recommendation for discussion draft RTP and modal/topical plans, May/June (MAY–JUN 2018)
- Direction for discussion draft RTP and modal/topical plans, June (JUN 2018)
- Recommendation for adoption of 2018 RTP and modal/topical plans, October (OCT 2018)
- Adopt 2018 RTP and modal/topical plans, December (DEC 2018)

Regional funding discussion

- **Identify 2017 legislative priorities** (APR 2016 – DEC 2016)
- **Identify 2018 legislative priorities** (JAN 2018 – DEC 2018)
- **Identify 2019 legislative priorities** (JAN 2019 – FEB 2019)

600 NE Grand Ave.
Portland, OR 97232-2736
503-797-1700
503-797-1804 TDD
503-797-1797 fax
www.oregonmetro.gov

Metro | *Meeting Summary*

2018 RTP Transportation Equity Work Group – Meeting #6
November 17, 2016
1 - 3 p.m.
Metro Regional Center, Room 401

Committee Members	**Affiliation**	**Attendance**
Dan Rutzick	City of Hillsboro	Present
April Bertelsen	City of Portland – Transportation	Present
Aaron Golub	Portland State University	Present
Jake Warr	TriMet	Present
Steve Williams	Clackamas County	Present
Andrea Hamberg	Multnomah County Public Health	Present
Terra Lingley	ODOT	Present
Radcliff Dacanay	City of Portland - Planning	Present
Jessica Berry	Multnomah County	Present
Jay Higgins	City of Gresham	Present
Interested Parties		
Katie Selin	Portland State University	Present
Eric Hesse	TriMet	Present
Metro Staff		
Grace Cho	Metro	Present
Lake McTighe	Metro	Present
Cliff Higgins	Metro	Present
Jamie Snook	Metro	Present
Cindy Pederson	Metro	Present
Ted Leybold	Metro	Present

I. WELCOME, INTRODUCTIONS, AND PARTNER UPDATES

Cliff Higgins welcomed meeting attendees and walked through the agenda for the work group meeting. Following the notification about the agenda changes, he asked for a quick round of introductions and partner updates.

Mr. Higgins gave an update on a staff discussion regarding the use of the term, "historically underrepresented communities" as shorthand for noting collectively communities of color, lower-income communities, and limited English proficiency populations. He discussed how there has been comments from community members about the negative connotation of the term. Mr. Higgins outlined that Metro staff has proposed to transition from using the term "historically

underrepresented communities" to "historically marginalized communities" or to list the individual communities to address the community concerns. He asked the work group for feedback and thoughts on the proposal. The work group supported the terminology change and the identification of individual communities.

II. 2018 RTP TRANSPORTATION EQUITY SYSTEM EVALUATION MEASURES – METHOD DEVELOPMENT UPDATE

Ms. Cho provided a brief recap of where the work group had left off at its last meeting from September 29th. She discussed how the work group had given Metro staff input on key areas of the individual transportation equity system evaluation measures. She also reminded the work group they collectively gave Metro staff the green light to move forward with sharing the transportation equity system evaluation measures to other 2018 RTP work groups and technical committees (e.g. TPAC and MTAC). Ms. Cho mentioned since the September work group meeting, a lot of technical feedback had been received and Metro staff has been working on incorporating and trying to balance the feedback received. She told the work group the feedback from the transportation equity work group was prioritized when trying to balance the other feedback considerations.

In recognizing the transportation equity evaluation measures had been adjusted to reflect the feedback received. Ms. Cho provided a recap of the different adjustments. She started with the adjustments based on the feedback of the work group on the key assumption areas for the transportation equity analysis. Ms. Cho noted at the previous work group meeting the work group were interested in revisiting: 1) the geography and definition of lower-income communities; and 2) taking a more focused look at places in which there are higher concentrations of communities of color, lower-income populations, limited English proficiency populations, older adults, and youth. Ms. Cho displayed some maps which illustrated the Metro staff proposals taking into consideration both a new definition of lower-income communities and also a proposal for taking a more focused look at concentrations of communities of color, lower-income populations, limited English proficiency populations, older adults, and youth.

For further detail, she pointed to the work group to the attachments in the work group packet which outlines the feedback and the adjustments accordingly.

At the end of the assumptions presentation, Ms. Cho paused to take any questions.

Questions and Discussion Regarding Key Assumptions for the Transportation Equity Analysis

Mr. Williams opened the discussion as to why certain limited English proficiency populations were not showing up in Clackamas County on the population maps. He noted there are language isolated populations in Clackamas County. Ms. Cho responded that in using the regional average (using a mean rather than a median as defining the average) the population numbers the relative concentration of a certain population may be high for that jurisdiction, but does not rise above the regional average. And in those cases, some places may not show up in the map. Ms. Cho noted those places are important for local jurisdictions to identify so the jurisdiction can look more closely at how its transportation investments are supporting the mobility needs of its underserved communities.

Additionally, Mr. Williams asked why people with disabilities are not being evaluated as part of the transportation equity analysis.

Ms. Cho and Mr. Higgins both responded that there have been issues with locating reliable population data for people with disabilities. However, Ms. Cho noted there had been some interesting planning work done through TriMet's Coordinated Transportation Plan (CTP) and as part of the policy recommendations and refinements for the 2018 RTP, the CTP recommendations can come forward through the development of the policies. The work group can voice support and provide input to staff as to how members would like to see the CTP work integrated into the 2018 RTP.

Mr. Rutzik commented that the first assessment is still too broad as to how it is defining communities. He asked staff to look at increasing the threshold being used to define the geography of concentrated communities of older adults and youth. He mentioned mapping at 150% or 200% of the regional average to see where the breakpoints are for looking at areas with very high concentrations of older adults and youth.

Mr. Warr further commented that instead of using an arbitrary threshold such as 150% or 200% of the regional average for older adults and youth, potentially looking at a standard deviation above or those census tracts in the top 25 percentile of older adults or young persons. Mr. Warr advocated that older adults and youth be uncoupled in defining communities. Mr. Warr also suggested Metro staff conduct a third screening specifically looking at how the transportation investment program is addressing the mobility needs of older adults and young people. He felt that not including older adults and youth in the secondary screening proposal warranted looking more closely are areas with high concentrations of older adults and youth as a third screening assessment. Mr. Hesse supported Mr. Warr's points and elaborated that the wave of older populations in the future will have a significant impact to the transportation system.

Mr. Dacanay suggested that as part of the mapping work of communities, potentially showing where there are greater concentrations of different populations, to help illustrate that there are places which have above the regional average of older adults and youth, but also to recognize the places with a greater concentration of older adults and youth.

Due to needing to move on to other items on the agenda and in recognizing that several work group members were not in agreement with the staff approach to identifying areas within the region with a higher concentration of older adults and young people, Ms. Cho said staff will relook at the demographic work and the thresholds for determining areas with concentrated numbers of older adults and youth prior to the April work group meeting and will communicate to the work group the staff recommendation. Ms. Cho alluded the communication will likely take place through email.

<u>Questions and Discussion of Transportation Equity System Evaluation Measures</u>
Following the discussion of the key assumptions, Mr. Higgins reminded the work group that an action was needed by the work group members at the meeting. The action being requested by is to allow Metro staff to finalize the draft transportation equity system evaluation measures and enter into a beta testing phase. Following the note from Mr. Higgins, he turned over the conversation to Ms. Cho.

Ms. Cho provided an overview of the adjustments and the status of the methodology development of the transportation equity system evaluation measures. Referring to the attachments, Ms. Cho noted how the individual system measures had changed according to the feedback. She also gave an update on two individual system evaluation measures which are receiving a greater overhaul based on the work group(s) and technical committee feedback received. She noted Metro staff has developed an approach for these measures, but they look different from what had been presented at the September meeting and the methodology has not been finalized. Lastly, Ms. Cho provided an update on the two transportation equity system evaluation measures in which Metro staff is determining whether or not they will move forward as part of the system evaluation of the 2018 RTP due to larger than expected technical methodology barriers to address and the resource capacity to undertake those issues as part of the 2018 RTP. Ms. Cho noted Metro staff is looking at different options for incorporating the two measures. Ms. Cho then reiterated the action she had been seeking from the work group and explained further the intention of wrapping up the technical discussion of the transportation equity system evaluation measures to allow staff to get to work and test how well the measures will work. She noted that in being able to test, Metro staff will be able to bring to the work group potential refinements and lessons learned.

Mr. Higgins asked Ms. Cho to clarify what "beta testing" means and what it would look like for the next four months. Ms. Cho explained that Metro staff will be utilizing a smaller batch of projects encompassed in the 2018-2021 MTIP to look at how well the transportation equity system evaluation measures work and how well it will be able to handle the scale of projects in the 2018 RTP.

Following her presentation, Ms. Cho opened up the transportation equity system evaluation measures for discussion. Work group comments focused on small technical details regarding the two measures unknown to-date to move forward in the system evaluation. A question emerged about the status of project evaluation as part of the 2018 RTP. Ms. Cho responded that policymaker direction has not been received as to whether that will be happening, but a decision is expected at some time in early 2017.

In general, the work group members were supportive in Metro staff moving forward in order to begin testing and learn from the results. The work group gave approval for Metro staff to finalize the methodology for the transportation equity system evaluation and to enter the beta testing phase throughout the winter and early spring 2017.

IV. 2018 RTP PERFORMANCE MANAGEMENT PROGRAM – OVERVIEW AND BRAINSTORM DISCUSSION

As the final item of the agenda item, Ms. Cho provided a brief presentation of the 2018 RTP performance management program. She described the three parts of the performance management program: 1) system performance evaluation, 2) performance targets, and 3) performance monitoring. Following, Ms. Cho discussed how for the past year, the work group had been focused on defining and refining the system performance evaluation with an equity focus. She explained in 2017, the work will shift as the work group will provide input to Metro staff on policy refinements. A key area of focus will be the performance targets and performance monitoring as both will be critical in setting policy direction for regional transportation planning activities and being accountable in making progress towards achieving policy outcomes (e.g. performance targets).

After…Ms. Cho asked the work group to look at an attachment within the work group packet which outlines the existing and any proposed refinements proposed to-date to the 2018 RTP performance management program. She noted the transportation equity work group's the….

In the limited amount of time available, brainstormed ideas to emerge included:

- Including enhanced transit corridor as part of the assessment and policy discussion in the 2018 RTP system evaluation in the accessibility measures.
    - Consider reporting the enhanced transit corridors separately
- Consider the balance of realistic/achievable vs. aspirational performance targets.
    - Use baseline performance data to help inform and set performance targets.
    - Encourage policymakers to have an open dialogue of about the challenges and benefits of different types of targets (aspiration and realistic) and to have them provide the direction and balance.
        - An example discussed was the Vision Zero target being proposed by the 2018 RTP Safety work group.
    - Consider adding an equity lens across all the 2018 RTP performance targets in addition to those targets which speak to the priority outcomes of communities of color, lower-income populations, limited English proficiency populations, older adults, and youth.

Because of time, the brainstorming discussion was wrapped up early. Ms. Cho noted even in the short amount of time available, the outcomes of the discussion were helpful to staff and would help springboard the discussion of policy refinements in 2017. She also noted that she will incorporate and return to the work group with some policy refinements pertaining to supporting the mobility of people with disabilities, despite the transportation equity analysis not taking an explicit focus on people with disabilities.

V. QUESTIONS AND ANSWERS

Due to time constraints, Ms. Cho skipped the question and answer session and mentioned to the work group members that she would be available after the meeting for any further questions.

VI. NEXT STEPS

Ms. Cho noted that the next work group meeting will not be until April 6, 2017. Following, she walked through a preview of the material to be covered at the April work group meeting. She walked through the homework assignments for the work group. She asked between the work group meetings, for members to complete the following "homework" assignments:

- Report back to others in your agency working, constituents, and leadership working on the 2018 RTP on what was discussed at the work group meeting and bring any feedback.
- Continue to stay connected to the events and activities happening with the 2018 RTP. She encouraged attendance to the December 2nd regional leadership forum.
- Her final homework assignment to her work group was to get excited and get ready for the 2018 RTP policy discussions to begin taking place at the 2017 work group meetings.

Lastly, Ms. Cho thanked the work group members for all their hard work over the course of 2016. She reminded the work group how much they had accomplished to date and appreciated their commitment to supporting the transportation equity work.

VIII. ADJOURN

There being no further business or questions, Ms. Cho and Mr. Higgins adjourned the meeting at 3:00 p.m.

Meeting summary prepared by: Grace Cho, Transportation Equity Project Manager

Getting there

equitably

Transportation Equity Work Group Meeting #7 – 2018-2021 MTIP Draft Results

Transportation Equity Work Group

April 6, 2017

Grace Cho, Transportation Equity Project Manager

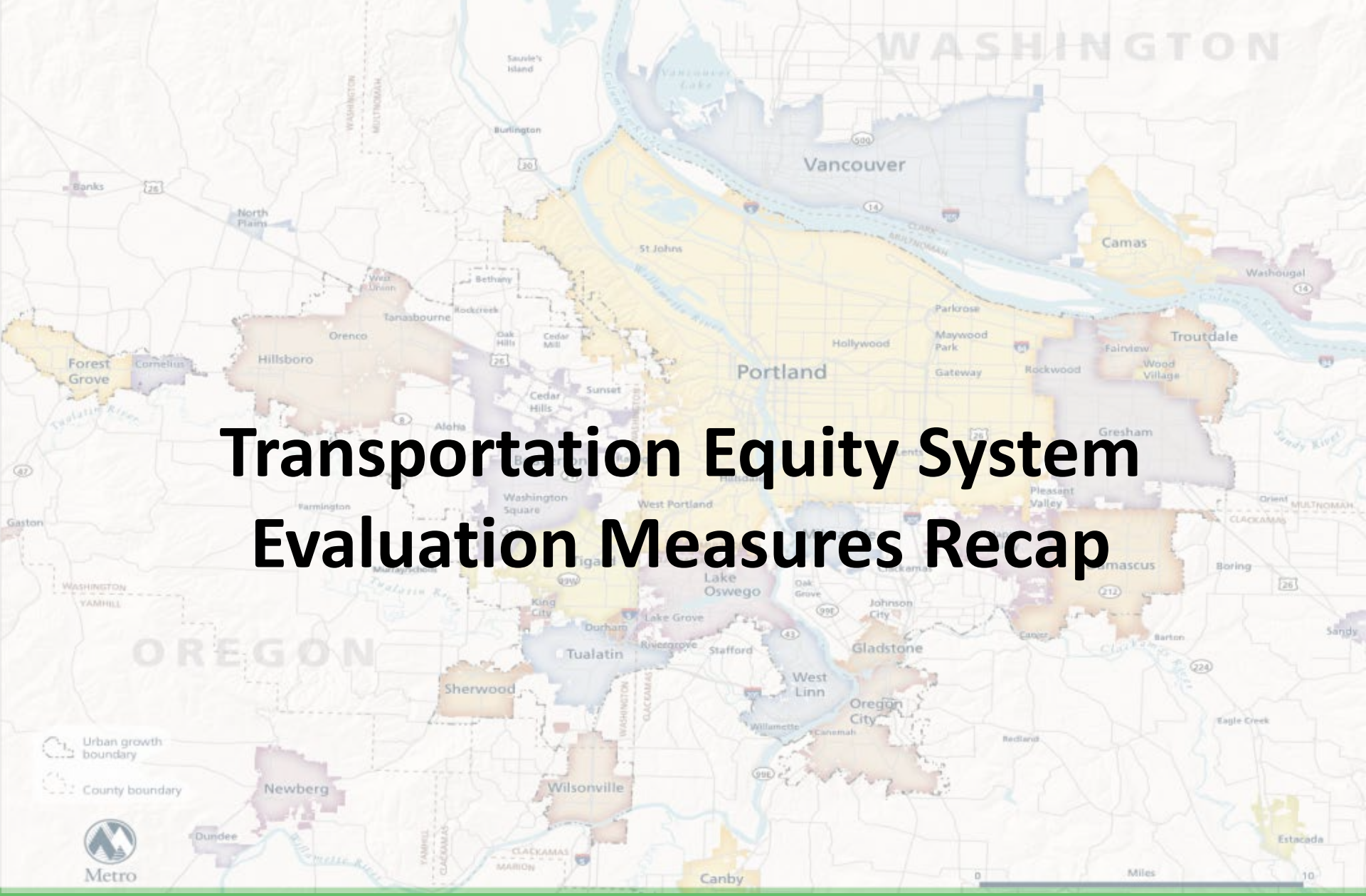
Agenda Review

- ❑ Welcome, Introductions, Staff Updates
- ❑ Partner Updates
- ❑ Recap Transportation Equity System Evaluation Methods
- ❑ 2018-2021 MTIP TEA Draft Results
- ❑ Next Steps and Q&A

Introductions, Partner Updates, and Staff Updates

Tell us…

- Name and organization or community represented
- Who have you talked to and what feedback have you received?
- Interesting transportation equity related activity to note?



Transportation Equity System Evaluation Measures Recap

Transportation Equity Evaluation Measures

- Access to Jobs
- Access to Community Places
- Access to Travel Options – System Completeness and Connectivity
- Transportation Safety Investments
- Exposure to Non-Freeway Vehicle Miles Traveled
- Resource Habitats and Transportation Investments
- Combined Housing and Transportation Expenditure and Cost Burden (under development)

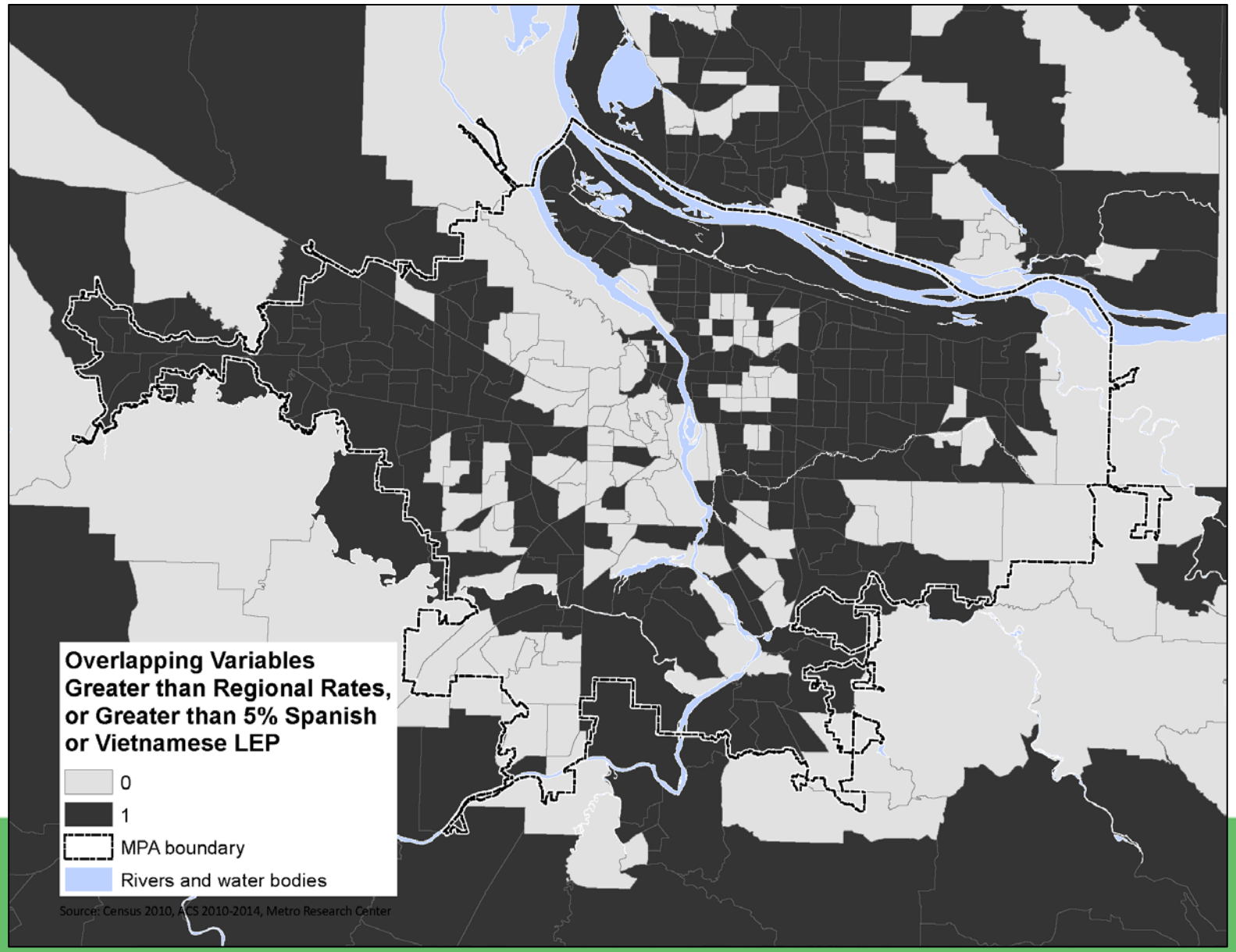
See Attachments of work group packet for more detail.

Key Assumptions – 2018-2021 MTIP

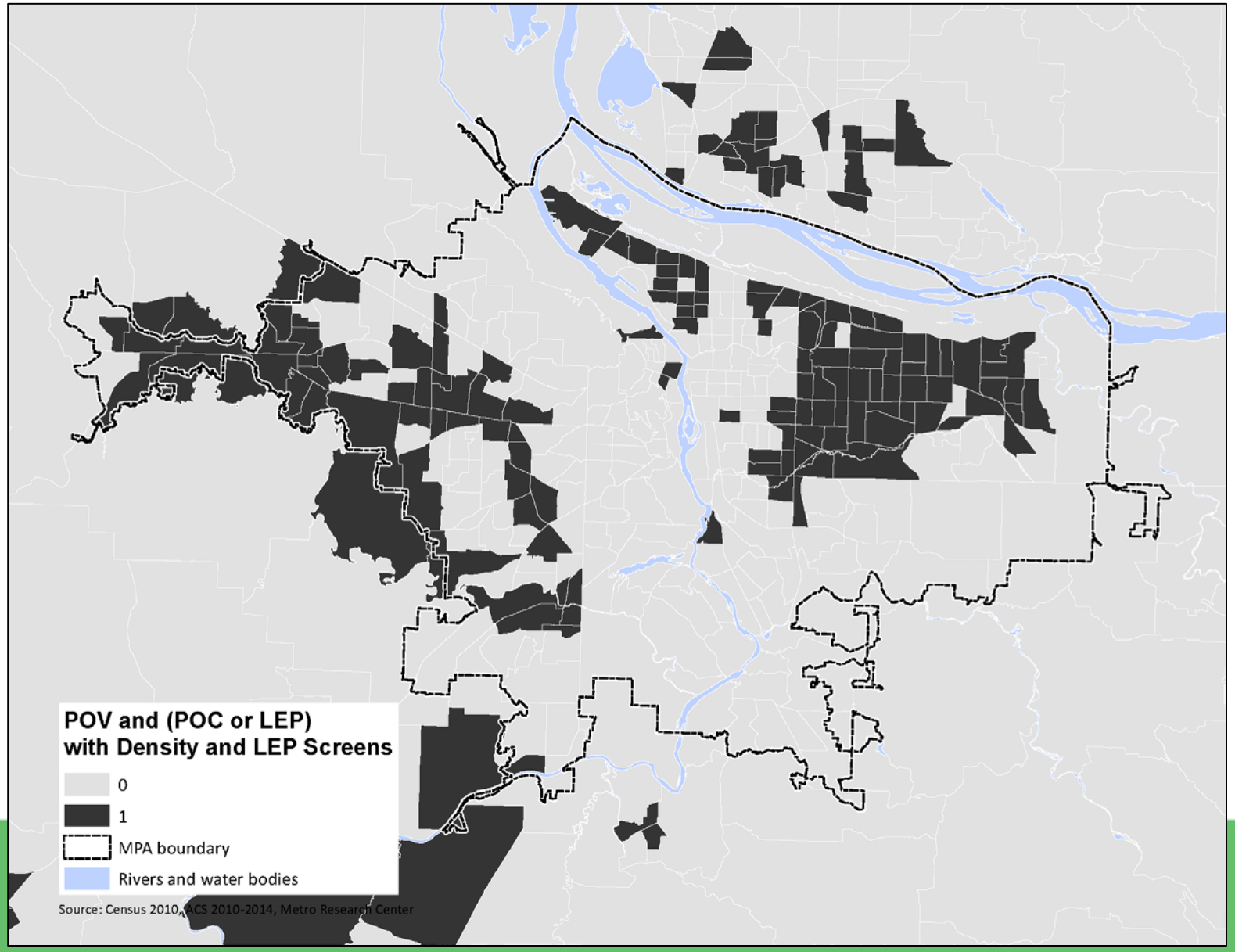
Assumption Area	Brief Description
System Evaluation	All evaluation measures compare the base year conditions to proposed future year projected conditions.
Analysis Years	2015 (base year); 2021 (future year)
Land Use	2015 Base year land use (from adopted 2016 forecast)
Projects	MTIP projects to be completed by 2021
Community Geography	Analysis completed for both – historically marginalized communities & focused historically marginalized communities
Region-wide	Metropolitan Planning Area boundary

See Attachment of work group packet for more detail.

Analysis Geography – Tier 1



Analysis Geography – Tier II



Access to Jobs

How well can the region, historically marginalized communities, and focused historically marginalized communities reach low and middle-wage jobs with transportation investments

- Inputs: employment/wage information from adopted land use forecast, transportation projects
- Tools: travel demand model
- Results: report out of weighted average jobs reached by mode

Access to Community Places

How well can the region, historically marginalized communities, and focused historically marginalized communities reach community places with transportation investments

- Inputs: QCEW data, transportation projects
- Tools: travel demand model
- Results: report out of change in places reached by mode

Access to TO – Complete and Connected

How much more of the region's active transportation network is completed and connected region-wide, in historically marginalized communities, and in focused historically marginalized communities with transportation investments

- Four parts: gap completeness, transit station access, new miles & density, and timing of investments
- Inputs: regional AT network, transportation projects
- Tools: GIS

Transportation Safety Investments

What is the region's level of investment (total and per capita) in transportation safety region-wide, in historically marginalized communities, and in focused historically marginalized communities

- Inputs: identified transportation safety projects, total of 2018-2021 MTIP
- Tools: GIS

Exposure to Non-Freeway Vehicle Miles Traveled

How much non-freeway vehicle miles traveled is the region exposed (total & per square mile) region-wide, in historically marginalized communities, and in focused historically marginalized communities with transportation investments

- Inputs: transportation projects (modelable)
- Tools: travel demand model

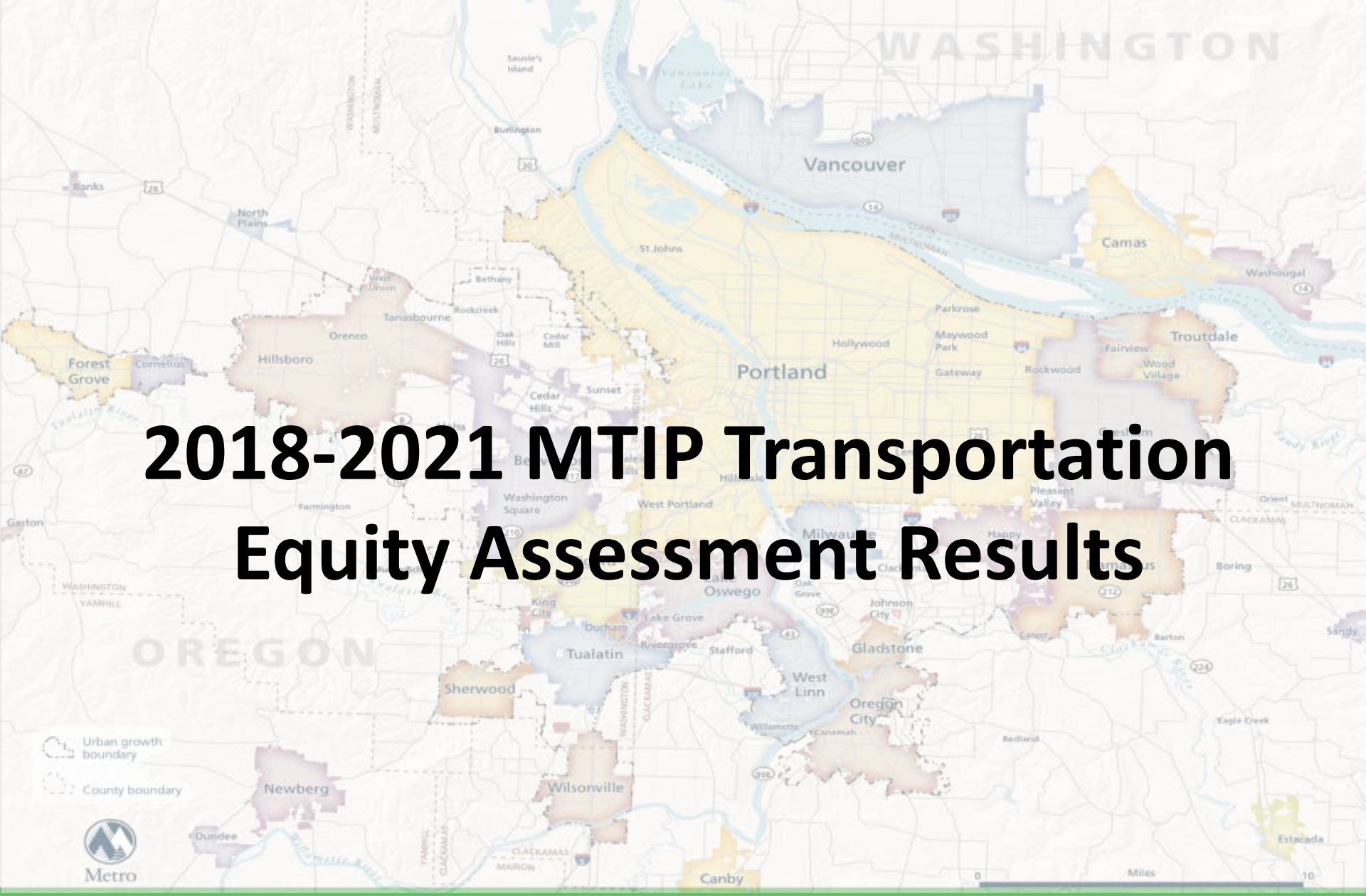
Resource Habitats and Transportation Investments

How many and what is the proportion of transportation investments have a potential impact to high value habitats which are within historically marginalized communities, and in focused historically marginalized communities

- Inputs: roadway-related transportation projects, high value habitats data
- Tools: GIS

2018-2021 MTIP Transportation Equity Assessment

- Testing system evaluation measures
- Identifying refinements, limitations, etc.
- Making findings determination for federal compliance purposes



2018-2021 MTIP Transportation Equity Assessment Results

Access to Jobs

- Holding steady or seeing (very) small increases
  - 2018-2021 MTIP only represents four years of federal transportation investment
- Increased access to jobs tends to be gained in transit
- Automobile: Transit ratio – .04 to .16 (off-peak and peak)

Access to Jobs

All Jobs				
	Difference (A)	**Difference (T)**	**Difference (B)**	**Difference (W)**
All MPA	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
HMC	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	0% (P), 1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
Low-Wage Jobs				
	Difference (A)	**Difference (T)**	**Difference (B)**	**Difference (W)**
All MPA	1% (P), 0% (OP)	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
HMC	0% (P), 0% (OP)	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	1% (P), 1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
Middle-Wage Jobs				
	Difference (A)	**Difference (T)**	**Difference (B)**	**Difference (W)**
All MPA	0% (P), 0% (OP)	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
HMC	0% (P), 0% (OP)	0% (P), 1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	0% (P), 1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)

Access to Community Places

- Holding steady or small incremental increase and/or decrease
  - Increase seen within transit; decrease saw within bike (for one instance)
  - Access to food is above the region in base and future
- Starting conditions for FHMC to community places less than the region
  - FHMC starting conditions possibly due to areas at the edges

Access to Community Places

Differences in Access to Community Places (includes Peak and Off-Peak Travel)

	All Community Places			
	Difference - A	**Difference - T**	**Difference - B**	**Difference - W**
HMC	0% (P), 0% (OP)	1% (P), 0% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	5% (P), 5% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
	Food			
	Difference - A	**Difference - T**	**Difference - B**	**Difference - W**
HMC	0% (P), 0% (OP)	0% (P), 0% (OP)	-1% (P), -1% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	5% (P), 5% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
	Medical			
	Difference - A	**Difference - T**	**Difference - B**	**Difference - W**
HMC	0% (P), 0% (OP)	1% (P), -1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	5% (P), 3% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
	Other			
	Difference - A	**Difference - T**	**Difference - B**	**Difference – W**
HMC	0% (P), 0% (OP)	1% (P), 1% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)
FHMC	0% (P), 0% (OP)	5% (P), 6% (OP)	0% (P), 0% (OP)	0% (P), 0% (OP)

Access to Travel Options

Part I

- Deferred due to methodological rework (need to reconsider as the data was examined)

Part II – Access to Transit

- Incremental increase in sidewalks near transit
- Increases seen in bike access near transit

Part III – Mileage and Density

- Incremental increases in sidewalk, bike, and trail mileage and density in HMC and FHMC

Access to Travel Options

Part II – Access to Transit

Bicycle facilities (miles) within ½ mile of frequent transit

	baseline	new	% increase
all stops	669	39	5.9%
HMC	596	38	6.5%
FHMC	402	31	7.8%

Sidewalks (feet) within ½ mile of frequent transit

	Base Year (2015)	2018-2021 MTIP	Difference
	Percent Sidewalk	Percent Total Sidewalk	Percent Sidewalk Change
ALL	49%	50%	0.7%
HMC	53%	53%	0.8%
FHMC	54%	55%	0.9%

Access to Travel Options

Part III – Miles and Density

Streets – Additional Miles and Density of the System							
	# of projects	Existing miles	Additional miles	% difference	Existing density	Density difference	% density difference
Total Projects	3	46342	2.8	0.0%	34.45	0.00	0.0%
HMC	2	30027	2.3	0.0%	43.13	0.00	0.0%
FHMC	2	15985	0.5	0.0%	53.44	0.00	0.0%
Sidewalks – Additional Miles and Density of the System							
	# of projects	Existing miles	Additional miles	% difference	Existing density	Density difference	% density difference
Total Projects	24	2878	37.5	1.3%	2.14	0.03	1.3%
HMC	23	1967	29.2	1.5%	2.83	0.04	1.5%
FHMC	16	1070	19.8	1.8%	3.58	0.07	1.8%
Bikeways – Additional Miles and Density of the System							
	# of projects	Existing miles	Additional miles	% difference	Existing density	Density difference	% density difference
Total Projects	28	1700	44.5	2.6%	1.26	0.03	2.6%
HMC	25	1144	36.7	3.2%	1.64	0.05	3.2%
FHMC	18	640	24.7	3.9%	2.14	0.08	3.9%
Trails – Additional Miles and Density of the Syste,							
	# of projects	Existing miles	Additional miles	% difference	Existing density	Density difference	% density difference
Total Projects	11	937	15.1	1.6%	0.70	0.01	1.6%
HMC	8	464	11.3	2.4%	0.67	0.02	2.4%
FHMC	7	244	8.0	3.3%	0.82	0.03	3.3%

Transportation Safety Investments

- Only 13% of 2018-2021 MTIP are transportation safety investments
- Of the 13%
  - 76% in historically marginalized communities
  - 60% in focused historically marginalized communities
- Per capita spending is higher in focused and historically marginalized communities

Exposure to Vehicle Miles Traveled

- Absolute VMT is increasing region-wide with 2018-2021 MTIP investments
- Projected VMT is decreasing in historically marginalized and focused historically marginalized communities
- Still need to complete and assess VMT exposure per square miles to look into changes at TAZ level

Exposure to Vehicle Miles Traveled

Projected Non-Freeway Vehicle Miles Traveled Exposure and Difference

Base Year Regionwide VMT (2015)	2018-2021 MTIP Regionwide VMT	Difference in VMT (MTIP – Base Year)	Percent Difference
17,607,229	17,617,629	10,401	0.1%
Base Year HMC VMT (2015)	**2018-2021 MTIP HMC VMT**	**Difference in VMT (MTIP – HMC Base Year)**	**Percent Difference**
9,697,260	9,667,200	-30,060	-0.3%
Base Year FHMC VMT (2015)	**2018-2021 MTIP FHMC VMT**	**Difference in VMT (MTIP –FHMC Base Year)**	**Percent Difference**
7,072,110	7,062,050	-10,059	-0.1%

Resource Habitats and Transportation Investments

- Of the 163 transportation projects within the 2018-2021 MTIP, 51 have potential high value habitat impacts
- 38 and 28 of the 51 projects with potential high value habitat impacts are in historically marginalized or focused historically marginalized communities
- The result shows a potential disproportionate impact

Resource Habitats and Transportation Investments

	Projects	Percentage
Total Projects 2018-2021 MTIP	163*	--
Total Projects with Potential Impact to High Value Habitat	51*	31%
Projects with Potential Impact to High Value Habitat and Intersect with Historically Marginalized Communities	38	75%
Projects with Potential Impact to High Value Habitat and Intersect with Focused Historically Marginalized Communities	28	55%

2018-2021 MTIP Findings

- For five of the six transportation equity system evaluation measures, 2018-2021 MTIP performs in the desired direction in historically marginalized or focused historically marginalized communities
- A potential disproportionate impact is present with transportation investments impacting high value habitats and historically marginalized or focused historically marginalized communities
  - Recommendations to address the issue

Lessons Learned

- Too many to count…
- More time to work through the methodological challenges
- Additional contextual and comparison information needed (e.g. performance in non-HMC and non-FHMC areas)
- Visualizations!

Recommendations

- Adopt and follow through on resource habitat recommendations
- Keep testing!
- Conduct additional contextual and comparison assessment work
- Monitor MTIP implementation
- Finish affordability system evaluation measure
- Different evaluation strategy for maintenance projects vs. capital projects (future work program)

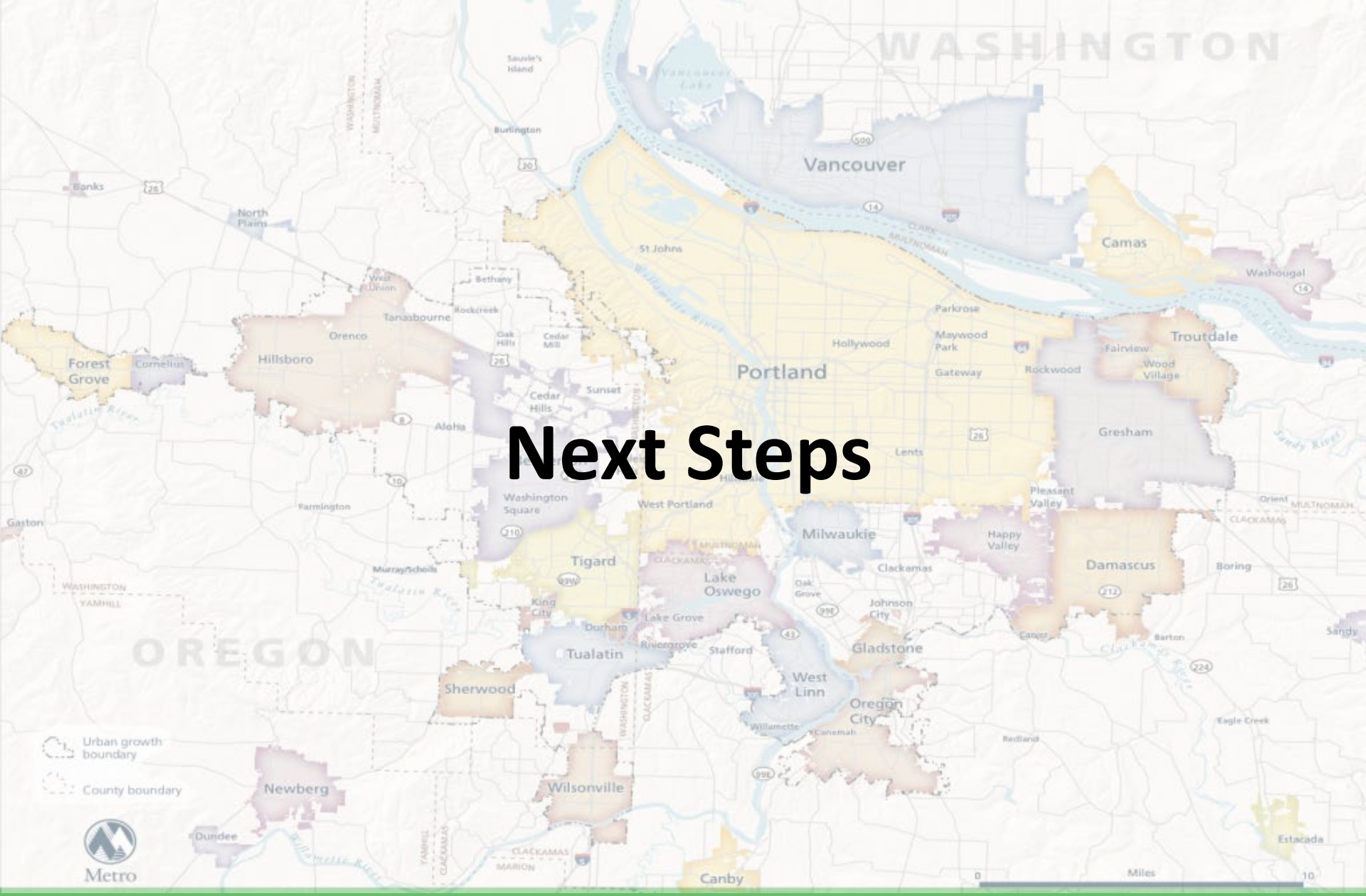
Recommendations

Specific recommendations to address habitat impact:

- Investigate and categorize transportation investments into tiers based on potential impacts
- Inform sponsors and ODOT local liaisons for monitoring as projects go through environmental and project development
  - Track mitigation strategies and engagement with HMC
- Metro staff follow up

Discussion Questions

1. Thoughts on the results and findings from the 2018-2021 MTIP transportation equity assessment?
2. Are there other actions which should be recommended re: the potential disproportionate impact finding?
3. Does the work group agree with the technical refinements and recommendations for Metro staff?
4. Are there other technical refinements for suggestion?


WASHINGTON
OREGON
Vancouver
Camas
Washougal
Portland
Troutdale
Gresham
Hillsboro
Forest Grove
Tigard
Lake Oswego
Milwaukie
Damascus
Tualatin
Sherwood
West Linn
Oregon City
Gladstone
Wilsonville
Newberg
Canby
Urban growth boundary
County boundary
Metro
Miles

Next Steps

Next Steps – 2018 RTP

- Technical and policy committees take action to release the 2018 RTP call-for-projects (Spring 2017)
- Jurisdictions to work through coordinating committees to nominate call-for-projects submissions (June – July 2017)
- 2018 RTP transportation equity assessment (Fall 2017)
- Results and refinement period (Winter 2017/2018)

Next Steps

- **April 2017** – 2018-2021 MTIP public comment (April 24th – May 23rd) and 2018-2021 MTIP adoption (July – August 2017)

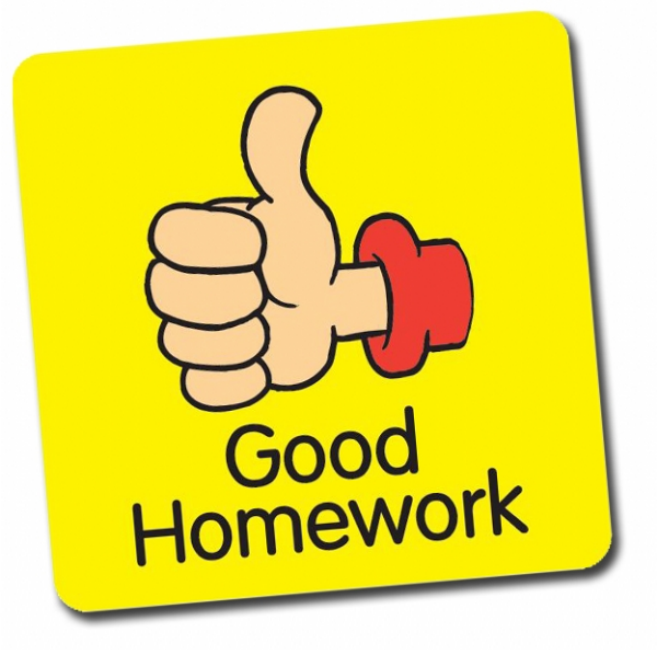
- **September 2017** – Roll out early results of the 2018 RTP transportation equity system evaluation
  - Discussion of preliminary findings

  Discuss draft preliminary recommendations for the refinement period

Questions and Answers

1. Are there any additional questions, comments, or clarifications around the materials discussed today?

Homework



1. Report back to your people!
   - How can I help?
2. Stay connected to the 2018 RTP update
   - Participate in the call-for-projects from June 1 – July 21.
3. Get excited for autumn 2017!


THANK
YOU
GRACIAS
ARIGATO
SHUKURIA
DANKSCHEEN
JUSPAXAR
GOZAIMASHITA
EFCHARISTO
KOMAPSUMNIDA
GRAZIE
MEHRBANI
MALAKE
PALDIES
TASHAKKUR ATU
YAQHANYELAY
SUKSAMA
EKHMET
TINGKI
BİYAN
ŞUKRIA
BOLZİN
MERCI