Memo

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

Date: Thursday, February 28, 2019

To: Gabriela Garcia
ODOT Region 1 STIP Coordinator
123 NW Flanders St
Portland, OR 97201

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

Subject: February 2019 Bundle #2 MTIP Administrative Modification, #AB19-09-FEB2 Approval Request

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Dear Gabriela:

In accordance with 23 CFR 450.328, Metro is submitting a Metro approved administrative modification bundle for ODOT review and approval for STIP inclusion. The February 2019 Administrative Modification #2 is under amendment number AB19-09-FEB2 and contains five projects as shown in the below table:

Proposed February 2019 Administrative Modification Bundle #2
Modification Number: AB19-09-FEB2
Total Number of Projects: 5

ODOT Key	Lead Agency	Project Name	Description	Required Changes
Project #1 **Key 18833**	Multnomah County	NE 238th Dr: NE Halsey St - NE Glisan St	Add a 14-foot SB lane, and a SB 12-foot passing lane, add a NB 15- foot lane, add 10-foot bike/pedestrian paths on both sides, plus improve drainage and vegetation to assist truck navigation (2016-18 RFFA REOF Award of $1,000,000)	**COST INCREASE/CORRECTION:** The project PE and ROW phase costs are updated per actual phase obligations. Fund codes updated as well. Cost increase = $497,816 = 5.7% increase and is below The 20% threshold. Admin Mod functions as a technical correction **Administrative Modification occurs to MTIP. No action to STIP should be required.**
Project #2 **Key 20875**	ODOT	OR217 Southbound: OR10 to OR99W	OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **(HB2017 Awarded Project , $44 million)**	**FUNDING TECHNICAL CORRECTION:** The Construction phase authorized HB2017 for the project is reduced to its correct awarded amount of $44 million total. The cost reduction is less than 1% at 0.45%. No scope change.
Project #3 **Key 20414**	ODOT	Road Safety Audit Implementation	Address unanticipated safety improvements as identified**. 2018 RTP approved HSIP Safety and Operations PGB**	**COST DECREASE:** The Admin Mod transfers $30,000 from this PGB to a non-STIP project per Salem's direction and approval.

Project #4 **Key 18416**	Portland	Springwater Trail Gap: SE Umatilla - SE 13th Ave	Construct a trail to close the existing gap in the trail sections	**FUND SWAP/COST DECREASE:** Decreasing HPP due to Limitation and replacing it with approved CMAQ. Local Other funds are also decreased. No change in scope. Cost change = 6.6%
Project #5 **Key 20329**	West Linn	OR43: Arbor Dr - Hidden Springs Rd	Construct a new 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	**FUND EXCHANGE:** Approved CMAQ exchanged for Metro STBG in Construction phase. ODOT ROW and Construction committed fund codes changes to ADVCON. Total project cost remains unchanged.

I certify Metro has completed all required review and approval steps as the MPO and IAW with 23 CFR 450.328 for the 2018 MTIP for this administrative modification bundle. A project narrative and support materials are also included.

Please direct any comments or questions concerning this amendment to Ken Lobeck, Funding Programs Lead at 503-797-1785, or via email at ken.lobeck@oregonmetro.gov.

Thank you for your time to review Metro's February 2019 Bundle #2, 2018 MTIP Administrative Modification approval request to the 2018 MTIP and STIP.

Kenneth F Lobeck

Kenneth F. Lobeck
Funding Programs Lead
Metro
600 NE Grand Avenue
Portland, OR 97232

2018-21 Metropolitan Transportation Improvement Program (MTIP)

Metro February 2019 Administrative Modification Bundle #2

Modification Number: **AB19-09-FEB2** Resolution: N/A

Number of projects within this amendment**: 5 total**

Project Narratives

Proposed February 2019 Administrative Modification Bundle #2 **Modification Number: AB19-09-FEB2** **Total Number of Projects:** 5				
ODOT Key	**Lead Agency**	**Project Name**	**Description**	**Required Changes**
Project #1 **Key 18833**	Multnomah County	NE 238th Dr: NE Halsey St - NE Glisan St	Add a 14-foot SB lane, and a SB 12-foot passing lane, add a NB 15- foot lane, add 10-foot bike/pedestrian paths on both sides, plus improve drainage and vegetation to assist truck navigation (2016-18 RFFA REOF Award of $1,000,000)	**COST INCREASE/CORRECTION:** The project PE and ROW phase costs are updated per actual phase obligations. Fund codes updated as well. Cost increase = $497,816 = 5.7% increase and is below The 20% threshold. Admin Mod functions as a technical correction **Administrative Modification occurs to MTIP. No action to STIP should be required.**
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Project #3 **Key 20414**	ODOT	Road Safety Audit Implementation	Address unanticipated safety improvements as identified**. 2018 RTP approved HSIP Safety and Operations PGB**	**COST DECREASE:** The Admin Mod transfers $30,000 from this PGB to a non-STIP project per Salem's direction and approval.
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2018-21 Metropolitan Transportation Improvement Program (MTIP)
Metro February 2019 Administrative Modification Bundle #2
Modification Number: **AB19-09-FEB2** Resolution: N/A
Number of projects within this amendment**: 5 total**
Project Narratives

Project Summary (#1)		
ODOT Key:	**18833**	MTIP ID: 70775
Project Type:	Existing	
Name:	**NE 238th Dr: NE Halsey St - NE Glisan St**	
Lead Agency:	**Multnomah County**	
Description:	Add a 14-foot SB lane, and a SB 12-foot passing lane, add a NB 15- foot lane, add 10-foot bike/pedestrian paths on both sides, plus improve drainage and vegetation to assist truck navigation (2016-18 RFFA REOF Award of $1,000,000)	
Amending:	COST INCREASE/CORRECTION: PE and ROW phase costs and fund codes are updated per actual obligations. Cost increase is 5.7% and under 20% threshold.	

Project Details

- No changes.

Administrative Amendment
Amendment Matrix
Cost increases for $1 million or greater projects may occur via an Administrative Modification if the net cost change is below 20%

The cost update represents an increase of $497,816 or 5.7% and is below the 20% threshold

Project Funding

Preliminary Engineering (PE) Phase:

- DECREASE federal STP>200K fund type code (M23E) FY 2016 PE phase cost from $1,000,000 to $207,106
- DECREASE Local fund type (match to STP>200K) FY 2016 PE phase cost from $114,454 to $23,704
- ADD federal Equity B – Exempt fund type code (LZ1E) FY 2016 PE phase cost of $116,022
- ADD Local fund type code (match to Equity B-Exempt) FY 2016 PE phase cost of $13,279
- ADD federal Equity B – Special fund type code (LZ2E) FY 2016 PE phase cost of $678,872
- ADD Local fund type (match to Equity B – Special) FY 2016 PE phase cost of $77,471
- ADD local Other fund type code (OTH0 – Overmatch) FY 2016 PE phase cost of $497,735
- Total PE phase cost increases from $1,114,454 to $1,612,189

Right of Way (ROW) Phase:

- DELETE federal STP-FLX fund type code (M240) FY 2018 ROW phase cost of $669,449
- ADD federal Redistribution fund type code (Z030) FY 2018 ROW phase cost of $668,701

Funding Change Details
Amendment submission items:

- ✓ MTIP Worksheet
- ✓ Metro review of project and current obligation data in the STIP FP

A periodic review of the project's current status revealed a need to update the PE and ROW phase programming funding based on actual obligations. Adjustments to fund code also made based on the obligation data in the STIP FP

Administrative Modification occurs to MTIP. No action to STIP should be required.

- INCREASE Local fund type code (match now to federal Redistribution) FY 2018 ROW phase cost from $76,621 to $77,450
- Total ROW programming amount increases from $746,070 to $746,151

Construction phase:

- DELETE federal State STP-FLX fund type code (M240) FY 2019 Construction phase cost of $5,879,738.
- ADD federal ADVCON fund type code (ACP0) FY 2019 Construction phase cost of $5,879,738 (*ADVCON replaces State STP. No change to local match or local Other funds*)
- Total Construction phase programming amount remains unchanged at $6,560,529

- Total project programming increases from $8,421,053 to $8,918,869

MTIP Review & Certification Details

- **Administrative Modification Authorized: Yes.** Technical corrections with cost changes under the 20% threshold can be accomplished via an Administrative Modification
- **Metro Legislation Required: No**
- **MTIP Eligibility Verification: Yes**
  - Includes federal transportation funds: **Yes**
  - Located on the Metro roadway network: **Yes.** Project is located on a Metro defined Major Arterial" in the Arterials and Throughways network.
  - Provides transportation system improvement: **Yes**
- **Considered a Regionally Significant Project: Yes.** The project contains federal funds and address transportation needs within arterials located on Arterials and Throughways modeling network.
- **Fiscal Constraint Review and Verification: Yes.** Project is a RFFA REOF awarded project
- **RTP Consistency Review**: **Yes**
  - **In Current RTP: Yes**. ID# 11373 - NE 238th Drive Freight and Multimodal Improvements
    Construct southbound travel lanes with passing lane and northbound travel lane. Add bike and pedestrian facilities on both northbound and southbound sides; to address safety and reduce crashes the project will use proven safety countermeasures.
  - **Considered Included in ODOT O&M RTP Project Grouping: No – N/A**
  - **RTP and MTIP Costs Consistent: Yes**
- **Capacity Enhancing Project: Yes**: The project is in the approved 2018 RTP and identified in Metro Arterials and Throughways Modeling network.
- **Satisfies 2018 RTP Goals and Strategies: Yes**. Goal #2 – Shared Prosperity, Object 2.2 – Access to Industry and Freight Intermodal Facilities
  Increase access to industry and freight intermodal facilities by a reliable and seamless freight transportation system that includes air cargo, pipeline, trucking, rail, and marine services to facilitate efficient and competitive shipping choices for goods movement in, to and from the region.

2018-21 Metropolitan Transportation Improvement Program (MTIP)

Metro February 2019 Administrative Modification Bundle #2

Modification Number: **AB19-09-FEB2** Resolution: N/A

Number of projects within this amendment**: 5 total**

Project Narratives

- **MPO Responsibilities/Public Notification included: No** Administrative Modifications are not subject to the 30 –day Public Notification/Opportunity to comment process.
- **OTC action required: No**. OTC approval was not required for this Administrative Modification
- **JPACT & Metro Council action required: No**. JPACT and Metro Council approval were not required for this Administrative Modification

Metro

Metro
2018-21 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Administrative Modification
Cost Increase/Correction
5th Amendment to Project

Lead Agency:	**Multnomah County**	Project Type:	Highway	**ODOT Key:**	**18833**
Project Name:	**NE 238th Dr: NE Halsey St - NE Glisan St**	ODOT Type	Modern	**MTIP ID:**	**70775**
		Capacity Enhancing:	Yes	**Status:**	**5**
Project Status: 5 - (ROW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.		Conformity Exempt:	No	RTP ID:	11373
		On State Hwy Sys:	No	RFFA ID:	2016-18
Short Description: Add a 14-foot SB lane, and a SB 12-foot passing lane, add a NB 15- foot lane, add 10-foot bike/pedestrian paths on both sides, plus improve drainage and vegetation to assist truck navigation (2016-18 RFFA REOF Award of $1,000,000)		Mile Post Begin:	N/A	RFFA Cycle:	REOF
		Mile Post End:	N/A	UPWP:	No
		Length:	N/A	UPWP Cycle:	N/A
		1st Year Program'd:	2016	Past Amend:	4
		Years Active:	4	OTC Approval:	No

Detailed Description: In northeast Multnomah County in Wood Village on NE 238th Ave from NE Halsey St to NE Glisan, add a 14-foot SB lane, and a SB 12-foot passing lane, add a NB 15- foot lane, add 10-foot bike/pedestrian paths on both sides, plus improve drainage and vegetation to assist truck navigation (2016-18 RFFA REOF Award of $1,000,000)

STIP Description: Widen travel lanes and add bicycle and pedestrian facilities

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
~~STP>200K~~	~~M23E~~	~~2016~~		~~$ 1,000,000~~				
STP>200K	M23E	2016		$ 207,106				$ 207,106
Equity B-EX	LZ1E	2016		$ 116,022				$ 116,022
Equity B-SP	LZ2E	2016		$ 676,872				$ 676,872
~~State STP-FLX~~	~~M240~~	~~2018~~			~~$ 669,449~~			
Redistribution	Z030	2018			$ 668,701			$ 668,701
~~State STP-FLX~~	~~M240~~	~~2019~~					~~$ 5,879,738~~	
ADVCON	ACP0	2019					$ 5,879,738	$ 5,879,738
								$ -
Total Equity B programmed = $729,894							**Federal Totals:**	**$ 7,548,439**
Federal Fund Obligations:				$ 1,000,000	$ 668,701			
EA Number:				PE002766	R9247000			
Initial Obligation Date:				9/15/2016	9/17/2018			
State Funds								
								$ -
								$ -
							State Total:	**$ -**
State Fund Obligations:								
EA Number:								
Initial Obligation Date:								

Local Funds								
~~Local~~	~~Match~~	~~2016~~	-	~~$ 114,454~~				$ -
Local	Match	2016		$ 23,704				$ 23,704
Local	Match	2016		$ 13,279				$ 13,279
Local	Match	2016		$ 77,471				$ 77,471
Other	OTH0	2016		$ 497,735				$ 497,735
~~Local~~	~~Match~~	~~2018~~			~~$ 76,621~~			
Local	Match	2018			$ 77,450			$ 77,450
Local	Match	2019					$ 672,962	$ 672,962
Other	OTH0	2019					$ 7,829	$ 7,829
								$ -
							Local Total	$ 1,370,430
Phase Totals Before Amend:			$ -	~~$ 1,114,454~~	~~$ 746,070~~	$ -	$ 6,560,529	~~$ 8,421,053~~
Phase Totals After Amend:			$ -	$ 1,612,189	$ 746,151	$ -	$ 6,560,529	$ 8,918,869
							Year Of Expenditure (YOE):	$ 8,918,869

Notes and Changes

> Exempt Status: Capacity enhancing project included in the 2014 RTP and 2018 RTP. Limits and scope match. No consistency issues. Project is modeled in the Arterials and Throughways network. Admin Mod changes have no impact.

Reason for MOdificaiton and Summary of Changes plus Impacts:

Admin Mod updates PE and ROW phases fo actual obligation amounts.

Refrences and Additonal Notes:

> Cost in crease due to updated obligations and phase costs = $497,816 = 5.9% cost change and is below the 20% threshold.
> 2018 RTP ID: 11373, NE 238th Drive Freight and Multimodal Improvements
> ~~RTP Description: Construct southbound travel lanes with passing lane and northbound travel lane. Add bike and pedestrian facilities on both northbound and southbound sides; to address safety and reduce crashes the project will use proven safety countermeasures.~~
> Modeling network: NE 238th Dr is a "Major Arterial" defined in the Arterials and Throughways Network
> ODOT Local Agency Laision: Jonathan Horawitz
> Project Manager: N/A
> Added Remarks: N/A

Name: **NE 238th Dr: NE Halsey St - NE Glisan St** Key: **18833**

Description **Widen travel lanes and add bicycle and pedestrian facilities.** Region: **1**

MPO: **Portland Metro MPO** Work Type: **MODERN**

Applicant: **MULTNOMAH COUNTY** Status: **PROJECT SCHEDULED FOR CONSTRUCTION**

Location(s)

Mileposts	Length	Route	Highway	ACT	County(s)
				REGION 1 ACT	MULTNOMAH

Current Project Estimate

	Planning	Prelim. Engineering		Right of Way		Utility Relocation	Construction		Other	Project Total
Year		2016		2018			2019			
Total		$1,612,189.47		$746,151.00			$6,560,529.00			$8,918,869.47
Fund 1		LZ2E	$676,872.29	Z030	$668,700.53		ACP0	$5,879,737.71		
Match			$77,471.06		$77,450.47			$672,962.29		
Fund 2		OTH0	$497,735.00				OTH0	$7,829.00		
Match										
Fund 3		M23E	$207,105.76							
Match			$23,704.18							
Fund 4		LZ1E	$116,021.95							
Match			$13,279.23							

Footnote: **$1,000,000 Federal STP Urban and $6,549,187 Federal MTEP awarded.**

Most Recent Amendment Approved

Amendment No: **18-21-0540** Approval Date: **2/9/2018**

Requested Action: **Slip the Construction phase to federal fiscal year 2019 for delivery.**

Capital and Implementation Project Status Codes

Status Codes:
0 = No activity.
1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinment, etc).
2 = Pre-design/project development activities (pre-NEPA) (ITS = ConOps.)
3 = (PE) Preliminary Engineering (NEPA) avtivities initated
4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.
6 = Pre-construction activities (pre-bid, construction management oversight, etc.).
7 = Construction activities or project implementation activities (e.g. for transit and ITS type projects) initiated.
8 = Post construction activities occurring (e.g. final rehab work, ITS system test and evaluation actions, etc.)
9 = Construction complete, facility open for use - no further obligations.
10 = Project close-out (final billings, de-obligations, etc.) in progress.
11 = Project completed, reimbursements finished.

Project Summary (#2)		
ODOT Key:	**18841**	MTIP ID: 70782
Project Type:	Existing	
Name:	**OR217 Southbound: OR10 to OR99W**	
Lead Agency:	**ODOT**	
Description:	OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **(HB2017 Awarded Project , $44 million)**	
Amending:	FUNDING TECHNICAL CORRECTION: Construction phase authorized HB2017 for the project is reduced to its correct awarded amount of $44 million total and not construction phase amount. Cost reduction I less than 1% at 0.45%. No scope change.	

Project Details

- ADD to Short Description HB2017 award tag of "**HB2017 Awarded Project, $44 million).** Adjusted MTIP Short description is now: *OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **(HB2017 Awarded Project , $44 million)***

- ADD to MTIP Detailed Description: MP limits and HB2017 funding award tag. Revised description is now: "*OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **from MP 2.05 to MP 5.69, (HB2017 awarded project, $44 million)***"

Formal Amendment
Amendment Matrix
Minor technical corrections to make the printed STIP consistent with prior approvals, such as typos or missing data. $200k cost adjustment is a technical correction and represents less than 1% cost change at 0.45%

Project Funding

Preliminary Engineering (PE) Phase:
- No changes
- Total PE phase programming cost remains unchanged at $3,302,832

Right-of-Way (ROW) Phase:
- No changes
- Total ROW phase programming cost remains unchanged at $200,000

Construction Phase:
- DECREASE federal ADVCON fund type code (ACP0) FY 2020 Construction phase cost from $39,481,200 to $39,301,740
- DECREASE State fund type code (match to federalized ADVCON) FY 2020 Construction phase cost from $4,518,800 to $4,498,260
- Total Construction phase programming cost decreases from $44,000,000 to $43,800,000

Funding Change Details

- ✓ MTIP worksheet
- ✓ Email Request
- ✓ STIP Summary Report
- ✓ STIP Impacts Report
- ✓ Project Construction phase estimate

Project HB217 authorized funding is adjusted to reflect the total award of $44 million.

- Total project programming amount decreases from $47,502,832 to $47,302,832

MTIP Review & Certification Details

- **Administrative Modification Authorized: Yes.** Minor technical corrections such as a cost change less than 1% can be accomplished via an Administrative Modification
- **Metro Legislation Required: No**
- **MTIP Eligibility Verification: Yes**
  - Includes federal transportation funds: **Yes**
  - Located on the Metro roadway network: **Yes.** OR213 is a Principal Arterial in the Metro Arterials and Throughways network
  - Provides transportation system improvement: **Yes.**
- **Considered a Regionally Significant Project: Yes.** The project contains federal funds and address transportation needs within arterials located on Arterials and Throughways modeling network,
- **Fiscal Constraint Review and Verification: Yes.** OTC Approved HB2017 project
- **RTP Consistency Review**: **Yes**
  - **In Current RTP: Yes**. ID# 111987, OR 217 Southbound Auxiliary Lane Beaverton Hillsdale Hwy to 99W (CON)
    Extend Southbound (SB) auxiliary lane from Beaverton-Hillsdale Hwy to OR 99W. Build collector/distributor road from Allen Blvd to Denny Rd. Construction Phase
  - **Considered Included in ODOT O&M RTP Project Grouping: No – N/A**
  - **RTP and MTIP Costs Consistent: Yes**
- **Capacity Enhancing Project: Yes.** The project's capacity improvement is included in the Arterial and Throughways modeling network
- **Satisfies 2018 RTP Goals and Strategies: Yes**. Goal #2 – Shared Prosperity, Objective 2.1 – Connective Region - Build an integrated system of throughways, arterial streets, freight routes and intermodal facilities, transit services and bicycle and pedestrian facilities, with efficient connections between modes that provide access to jobs, markets and community places within and beyond the region.
- **MPO Responsibilities/Public Notification included: No** Administrative Modifications are not subject to the 30 –day Public Notification/Opportunity to comment process.
- **OTC action required: No**. OTC approval was not required for this Administrative Modification
- **JPACT & Metro Council action required: No**. JPACT and Metro Council approval were not required for this Administrative Modification

Capital and Implementation Project Status Codes

Status Codes:
0 = No activity.
1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinment, etc).
2 = Pre-design/project development activities (pre-NEPA) (ITS = ConOps.)
3 = (PE) Preliminary Engineering (NEPA) avtivities initated
4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.
6 = Pre-construction activities (pre-bid, construction management oversight, etc.).
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9 = Construction complete, facility open for use - no further obligations.
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11 = Project completed, reimbursements finished.

Metro

Metro
2018-21 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Administrative Modification
Cost Decrease
7th Amendment to Project

Lead Agency:	**ODOT**
Project Name:	**OR217 Southbound: OR10 to OR99W**
Project Status: 4	- (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
Short Description:	OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **(HB2017 Awarded Project , $44 million)**

Project Type:	Highway	**ODOT Key:**	**18841**
ODOT Type	Modern	**MTIP ID:**	**70782**
Capacity Enhancing:	Yes	**Status:**	**4**
Conformity Exempt:	No	RTP ID:	11987
On State Hwy Sys:	No	RFFA ID:	N/A
Mile Post Begin:	2.05	RFFA Cycle:	N/A
Mile Post End:	5.69	UPWP:	No
Length:	3.64	UPWP Cycle:	N/A
1st Year Program'd:	2014	Past Amend:	6
Years Active:	5	OTC Approval:	No

Detailed Description: OR217 from OR10 to OR99W, construct lane segments between existing aux lanes to provide a 3rd SB through lane **from MP 2.05 to MP 5.69, (HB2017 awarded project, $44 million)**

STIP Description: Add a southbound Auxillary Lane from the intersection of OR10 to 99W.

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
HSIP (100%)	ZS30	2014		$ 1,934,451				$ 1,934,451
HSIP	MS30	2014		$ 758,254				$ 758,254
ADVCON	ACP0	2019			$ 179,460			$ 179,460
~~ADVCON~~	~~ACP0~~	~~2020~~					~~$ 39,481,200~~	
ADVCON	**ACP0**	**2020**					**$ 39,301,740**	$ 39,301,740
								$ -
								$ -
								$ -
								$ -
Federal Phase Totals:				$ 2,692,705	$ 179,460		**Federal Totals:**	**$ 42,173,905**
Federal Fund Obligations:				$ 2,692,705	$ -	$ -	$ -	
EA Number:				PE002386				
Initial Obligation Date:				5/15/2014				
State Funds								
State	Match	2019			$ 20,540			$ 20,540
~~State~~	~~Match~~	~~2020~~					~~$ 4,518,800~~	
State	**MAtch**	**2020**					**$ 4,498,260**	$ 4,498,260
								$ -
							State Total:	**$ 4,518,800**
State Fund Obligations:					$ -		$ -	
EA Number:								
Initial Obligation Date:								
Local Funds								
Local	Match	2014		$ 63,969				$ 63,969
Other	OTH0	2014		$ 546,158				$ 546,158
								$ -
							Local Total	**$ 610,127**
Phase Totals Before Amend:			$ -	$ 3,302,832	$ 200,000	$ -	~~$ 44,000,000~~	~~$ 47,502,832~~
Phase Totals After Amend:			$ -	$ 3,302,832	$ 200,000	$ -	**$ 43,800,000**	**$ 47,302,832**
							Year Of Expenditure (YOE):	$ 47,302,832

Notes and Changes
> Exempt Status: Capacity enhancing project included in the 2014 RTP and 2018 RTP. Limits and scope match. No consistency issues. Project is modeled in the Arterials and Throughways network. Admin Mod changes have no impact.

Reason for MOdificaiton and Summary of Changes plus Impacts:
Admin Mod updates PE and ROW phases fo actual obligation amounts.

Refrences and Additonal Notes:
> Cost increase due to award correction of $44 million and not $44.2 million = a 0.45% cost decrease whic is well below the 20% threshold.
> 2018 RTP ID: 111987, OR 217 Southbound Auxiliary Lane Beaverton Hillsdale Hwy to 99W (CON)
> RTP Description: Extend Southbound (SB) auxiliary lane from Beaverton-Hillsdale Hwy to OR 99W. Build collector/distributor road from Allen Blvd to Denny Rd. Construction Phase
> Modeling network: OR217 is a"Principal Arterial" defined in the Arterials and Throughways Network
> ODOT Local Agency Laision: N/A
> Project Manager: N/A
> Added Remarks: N/A

Project Summary (#3)		
ODOT Key:	**20414**	MTIP ID: 70970
Project Type:	Existing	
Name:	**Road Safety Audit Implementation**	
Lead Agency:	**ODOT**	
Description:	Address unanticipated safety improvements as identified**. 2018 RTP approved HSIP Safety and Operations PGB**	
Amending:	COST DECREASE: The Admin Mod transfers $30,000 from this PGB to a non-STIP project per Salem's direction and approval.	

Project Details

- ADD RTP reference tag to Short Description at end of current description. Revised Short Description is now: "Address unanticipated safety improvements as identified**. 2018 RTP approved HSIP Safety and Operations PGB"**

- ADD MTIP Detailed Description as follows for this approved HSIP Project Grouping Bucket: **Approved Project Grouping Bucket per 40 CFR 93.126 - Safety. HSIP fund bucket supporting and addressing unanticipated safety improvements as identified. 2018 RTP approved in revenue and project grouping bucket "Safety and Operations" supporting improvements in the following areas: Highway crossings improvements, Roadway safety (non-capacity repairs/rehabilitation), Landslides/rock falls mitigation, and Illumination/Signals, ITS.**

Formal Amendment
Amendment Matrix
Minor cost changes below the 20% cost threshold for projects costing $1 million or greater may be accomplished via an Administrative Modification

The reduction of $30,000 of HSIP funds represent a net cost change of 1.7% to the project and is well below the 20% threshold.

Project Funding

Other Phase:
- DECREASE federal HSIP fund type code (ZS30) FY 2019 Other phase cost from $1,719,244 to $1,689,244
- Total Other phase programming cost decreases from $1,719,244 to $1,689,244

- Total project programming amount decreases from $1,719,244 to $1,689,244

Funding Change Details

✓ MTIP worksheet
✓ Email Request
✓ STIP Summary Report
✓ STIP Impacts Report

$30,000 of HSIP is being deducted from this funding bucket for use on a speed zone study (will not be a STIP project, funds will be converted to state).

MTIP Review & Certification Details

- **Administrative Modification Authorized: Yes.** Minor technical corrections such as a cost change less than 1% can be accomplished via an Administrative Modification
- **Metro Legislation Required: No**
- **MTIP Eligibility Verification: Yes**
  - Includes federal transportation funds: **Yes**

- Located on the Metro roadway network: **Yes.** The PGB supports safety improvements on various arterials throughout the Metro Arterial and Throughways network
- Provides transportation system improvement: **Yes.**

- **Considered a Regionally Significant Project: Yes.** The project contains federal funds and supports O&M Safety improvements within arterials located on Arterials and Throughways modeling network,
- **Fiscal Constraint Review and Verification: Yes.** ODOT Salem authorized reduction to the PGB
- **RTP Consistency Review**: **Yes**
  - **In Current RTP: Yes**.
  - **Considered Included in ODOT O&M RTP Project Grouping: Yes**
    - Bridge Rehabilitate & Repair
    - Culvert Replacement & Repair
    - Highway Pavement Maintenance
    - **Safety and Operations Project**
  - **RTP and MTIP Costs Consistent: Yes**
- **Capacity Enhancing Project: No.** The PGB supports non-capacity O&M safety improvements that are exempt per 40 CFR 126.Table 2, Safety
- **Satisfies 2018 RTP Goals and Strategies: Yes**. Goal #5 – Enhance Safety and Security
  - Objective 5.1 – Operational Public Safety
  - Description: Reduce fatal and severe injuries and crashes for all modes of travel.
- **MPO Responsibilities/Public Notification included: No** Administrative Modifications are not subject to the 30 –day Public Notification/Opportunity to comment process.
- **OTC action required: No**. OTC approval was not required for this Administrative Modification
- **JPACT & Metro Council action required: No**. JPACT and Metro Council approval were not required for this Administrative Modification

Metro

Metro
2018-21 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Administrative Modification
Cost Decrease
1st Amendment to Project

Lead Agency:	**ODOT**	Project Type:	O&M	**ODOT Key:**	**20414**
Project Name:	**Road safety audit implementation**	ODOT Type	Safety	**MTIP ID:**	**70970**
		Capacity Enhancing:	No	**Status:**	**N/A**
Project Status: N/A = The PGB functions as HSIP financial depository supporting later approved exempt HSIP program projects.		Conformity Exempt:	Yes	RTP ID:	O&M
		On State Hwy Sys:	Var	RFFA ID:	N/A
		Mile Post Begin:	Var	RFFA Cycle:	N/A
Short Description: Address unanticipated safety improvements as identified. **2018 RTP approved HSIP Safety and Operations PGB**		Mile Post End:	Var	UPWP:	No
		Length:	Var	UPWP Cycle:	N/A
		1st Year Program'd:	2019	Past Amend:	0
		Years Active:	1	OTC Approval:	No

Detailed Description: ADD --> **Approved Project Grouping Bucket per 40 CFR 93.126 - Safety. HSIP fund bucket supporting and addressing unanticipated safety improvements as identified. 2018 RTP approved in revenue and project grouping bucket "Safety and Operations" supporting improvements in the following areas: Highway crossings improvements, Roadway safety (non-capacity repairs/rehabilitation), Landslides/rock falls mitigation, and Illumination/Signals, ITS.**

STIP Description: Address unanticipated safety improvements as identified

PROJECT FUNDING DETAILS								
Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Construction	Other (PGB Depository)	Total
Federal Funds								
~~HSIP (100%)~~	~~ZS30~~	~~2019~~					~~$ 1,719,244~~	
HSIP (100%)	ZS30						$ 1,689,244	$ 1,689,244
								$ -
Total Equity B programmed = $729,894							**Federal Totals:**	**$ 1,689,244**
Federal Fund Obligations:							N/A	
EA Number:							N/A	
Initial Obligation Date:							N/A	
State Funds								
								$ -
								$ -
							State Total:	**$ -**
State Fund Obligations:								
EA Number:								
Initial Obligation Date:								
Local Funds								
								$ -
								$ -
							Local Total	**$ -**
Phase Totals Before Amend:			$ -	$ -	$ -	$ -	~~$ 1,719,244~~	~~$ 1,719,244~~
Phase Totals After Amend:			$ -	$ -	$ -	$ -	$ 1,689,244	**$ 1,689,244**
							Year Of Expenditure (YOE):	$ 1,689,244

Notes and Changes
> Exempt Status: HSIP PGB is exempt per 40 CFR 93.126, Table 2 Safety. Authorized and funded projects are noncapcity safety improvement type.

Reason for Modification and Summary of Changes plus Impacts:
Admin Mod transfers $30,000 form the PGB to a speed zone study (Not a STIP project as the funds will be converted to State funds. The HSIP PGB is reduced by $30k.) .

References and Additional Notes:
> Cost decrease due to updated obligations and phase costs = $497,816 = 5.9% cost change and is below the 20% threshold.

> 2018 RTP ID: Approved O&M revenues and project grouping buckets as stated in the Metro November 27, 2018 O&M PGB guidance letter to ODOT.
> RTP Name: Safety & Operations Projects
> RTP Description: Eligible safety and operational improvements for this project grouping may include the following: Highway crossings improvements, Roadway safety (non-capacity repairs/rehabilitation, Landslides/rock falls mitigation, and Illumination/Signals, ITS

> Modeling network: N/A - exempt projects
> ODOT Local Agency Liaison: N/A
> Project Manager: N/A
> Added Remarks: N/A

Capital and Implementation Project Status Codes

Status Codes:
0 = No activity.
1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinment, etc).
2 = Pre-design/project development activities (pre-NEPA) (ITS = ConOps.)
3 = (PE) Preliminary Engineering (NEPA) avtivities initated
4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.
6 = Pre-construction activities (pre-bid, construction management oversight, etc.).
7 = Construction activities or project implementation activities (e.g. for transit and ITS type projects) initiated.
8 = Post construction activities occurring (e.g. final rehab work, ITS system test and evaluation actions, etc.)
9 = Construction complete, facility open for use - no further obligations.
10 = Project close-out (final billings, de-obligations, etc.) in progress.
11 = Project completed, reimbursements finished.

Project Summary (#4)		
ODOT Key:	**18416**	MTIP ID: 70639
Project Type:	Existing	
Name:	**Springwater Trail Gap: SE Umatilla - SE 13th Ave**	
Lead Agency:	**Portland**	
Description:	Construct a trail to close the existing gap in the trail sections	
Amending:	FUND SWAP/COST DECREASE: Decreasing HPP due to Limitation and replacing it with approved CMAQ. Local Other funds are also decreased. No change in scope. Cost change = 6.6%	

Project Details

- No changes

Formal Amendment
Amendment Matrix
Minor cost changes below the 20% cost threshold for projects costing $1 million or greater may be accomplished via an Administrative Modification. The cost change = a 6.6% reduction and is below the 20% threshold.

Project Funding

Construction Phase:

- INCREASE federal CMAQ fund type code (Z400 + L40E) FY 2018 Construction phase cost from $847,571 to $924,336
- INCREASE Local fund type code (match to CMAQ) FY 2018 Construction phase cost from $97,008 to $105,794
- DECREAS federal HPP fund type code (LY10) FY 2018 Construction phase cost from $256,364 to $179,601
- DECREASE Local fund type code (match to HPP) Construction phase cost from $29,342 to $20,556
- DECREASE local Other fund type code (local overmatch) FY 2018 Construction phase cost from $164,296 to $42,826
- Total Construction phase programming cost decreases from $1,394,581 to $1,273,113

- Total project programming amount decreases from $1,838,581 to $1,717,113

Funding Change Details

✓ MTIP worksheet
✓ Email Request

HPP limitation reduced. HPP difference replaced by CMAQ authorized by Metro. Local overmatching funds in in Construction phase reduced as well. Construction phase now matches final obligations.

MTIP Review & Certification Details

- **Administrative Modification Authorized: Yes.** Cost changes for project with a total project cost in excess of $1 million may occur as an Administrative Modification if the net change is less than 20%
- **Metro Legislation Required: No**
- **MTIP Eligibility Verification: Yes**
  - Includes federal transportation funds: **Yes**

- Located on the Metro roadway network: **Yes.** (Pedestrian modeling network)
- Provides transportation system improvement: **Yes.**

- **Considered a Regionally Significant Project: Yes.** The project contains federal funds and supports improvements to the Pedestrian modeling network,
- **Fiscal Constraint Review and Verification: Yes.** ODOT Salem confirmed change in HPP limitation and updated Construction phase obligations
- **RTP Consistency Review**: **Yes**
  - **In Current RTP: Yes**. ID# 10159, Springwater Gap Trail
  - **Description**: Construct trail-with-rail multi-use path between Linn and 19th to fill in the "Springwater Gap."
  - **Considered Included in ODOT O&M RTP Project Grouping: No**
    - Bridge Rehabilitate & Repair
    - Culvert Replacement & Repair
    - Highway Pavement Maintenance
    - Safety and Operations Project
  - **RTP and MTIP Costs Consistent: Yes**
- **Capacity Enhancing Project: No.** The project is exempt per 40 CFR 126.Table 2, Air Quality – Bicycle and Pedestrian Trails
- **Satisfies 2018 RTP Goals and Strategies: Yes**. Goal #3 – Transportation Choices
  - Objective 3.1 – Travel Choices: Plan communities and design and manage the transportation system to increase the proportion of trips made by walking, bicycling, shared rides and use of transit.
  - Objective 3.2: - Active Transportation System Completion: Complete all gaps in regional bicycle and pedestrian networks
- **MPO Responsibilities/Public Notification included: No** Administrative Modifications are not subject to the 30 –day Public Notification/Opportunity to comment process.
- **OTC action required: No**. OTC approval was not required for this Administrative Modification
- **JPACT & Metro Council action required: No**. JPACT and Metro Council approval were not required for this Administrative Modification

Fund Codes

Phase	Fund Code	Description	ICAP	Percent of Phase	Total Amount	Federal Percent	Federal Amount	State Percent	State Amount	Local Percent	Local Amount
CN	ACP0	ADVANCE CONSTRUCT PR		8.83%	112,438.90	89.73%	100,891.42	0.00%	0.00	10.27%	11,547.48
	LY10	HPP-W/LIMITATION(#1 -		15.72%	200,156.83	89.73%	179,600.72	0.00%	0.00	10.27%	20,556.11
	M40E	CONGESTION MITIGATION MAP-21 EXTENSION		0.66%	8,355.38	89.73%	7,497.28	0.00%	0.00	10.27%	858.10
	OTH0	OTHER THAN STATE OR		3.36%	42,826.22	0.00%	0.00	0.00%	0.00	100.00%	42,826.22
	Z400	CONGESTION MITIGATION FAST		71.43%	909,335.29	89.73%	815,946.55	0.00%	0.00	10.27%	93,388.74
	CN Totals			**100.00%**	**1,273,112.62**		**1,103,935.97**		**0.00**		**169,176.65**

I will stand by for official approval to replace the $76,763 unavailable HPP funds with CMAQ.

Metro

Metro
2018-21 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Administrative Modification
Cost Decrease
5th Amendment to Project

Lead Agency:	**Portland**	Project Type:	Trail	**ODOT Key:**	**18416**
Project Name:	**Springwater Trail Gap: SE Umatilla - SE 13th Ave**	ODOT Type	Bike/Ped	**MTIP ID:**	**70639**
		Capacity Enhancing:	No	**Status:**	**7**
Project Status = 7: = Construction activities or project implementation activities (e.g. for transit and ITS type projects) initiated		Conformity Exempt:	Yes	RTP ID:	10159
		On State Hwy Sys:	No	RFFA ID:	N/A
Short Description: Construct a trail to close the existing gap in the trail sections		Mile Post Begin:	N/A	RFFA Cycle:	2010-14
		Mile Post End:	N/A	UPWP:	No
		Length:	N/A	UPWP Cycle:	N/A
		1st Year Program'd:	2014	Past Amend:	5
		Years Active:	6	OTC Approval:	No

Detailed Description:

STIP Description: Construct a 12ft trail following the mainline of the railroad tracks to close the approximately one half mile gap in the existing multiuse trail.

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
CMAQ	L40E	2014		$ 205,482				$ 205,482
HPP	LY10	2014		$ 88,000				$ 88,000
CMAQ	Z400 L40E	2017				$ 94,216		$ 94,216
~~CMAQ~~	~~Z400 L40E~~	~~2018~~					~~$ 847,571~~	
CMAQ	**Z400 L40E**	**2018**					**$ 924,336**	$ 924,336
~~HPP~~	~~LY10~~	~~2018~~					~~$ 256,364~~	
HPP	**LY10**	**2018**					**$ 179,601**	$ 179,601
								$ -
Total Equity B programmed = $729,894							**Federal Totals:**	**$ 1,491,635**
Federal Fund Obligations:			CMAQ+HPP -->	$ 293,482		$ 94,216	$ 1,103,937	
EA Number:				PE002313		U0000117	CON04118	
Initial Obligation Date:				10/10/2013		9/12/2017	9/21/2018	
State Funds								
								$ -
								$ -
							State Total:	**$ -**
State Fund Obligations:								
EA Number:								
Initial Obligation Date:								
Local Funds								
Local	Match	2014		$ 23,518				$ 23,518
Local	Match	2014		$ 10,072				$ 10,072
Other	OTH0	2014		$ 11,928				$ 11,928
Local	Match	2017				$ 10,784		$ 10,784
~~Local~~	~~Match~~	~~2018~~					~~$ 97,008~~	
Local	**Match**	**2018**					**$ 105,794**	$ 105,794
~~Local~~	~~Match~~	~~2018~~					~~$ 29,342~~	
Local	**Match**	**2018**					**$ 20,556**	$ 20,556
~~Other~~	~~OTH0~~	~~2018~~					~~$ 164,296~~	
Other	**OTH0**	**2018**					**$ 42,826**	$ 42,826
								$ -
							Local Total	**$ 225,478**
Phase Totals Before Amend:			$ -	$ 339,000	$ -	$ 105,000	~~$ 1,394,581~~	~~$ 1,838,581~~
Phase Totals After Amend:			$ -	$ 339,000	$ -	$ 105,000	**$ 1,273,113**	**$ 1,717,113**
							Year Of Expenditure (YOE):	$ 1,717,113

Notes and Changes
> Exempt Status: Exempt un 40 CFR 126.93 Table 2, Air Quality - Bicycle and pedestrian facilties

Reason for Modificaiton and Summary of Changes plus Impacts:
Admin Mod replaces HPP with CMAQ due to HPP limitation issue. Other funds also reduced based on Construction phase obligation. Construction phase is reduced from $1,394,581 to $1,273m113. Total project cost decreases from $1,838,581, to $1,717,113 = ($121,468) = 6,6% cost change to the project which is below the 20% threshold. All phases should now match final phase obligation amounts.

Refrences and Additonal Notes:
> 2018 RTP ID: 10159, Springwater Gap Trai;
> RTP Description: Construct trail-with-rail multi-use path between Linn and 19th to fill in the "Springwater Gap."
> Project Manager: N/A
> Added Remarks: N/A

Capital and Implementation Project Status Codes

Status Codes:
0 = No activity.
1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinment, etc).
2 = Pre-design/project development activities (pre-NEPA) (ITS = ConOps.)
3 = (PE) Preliminary Engineering (NEPA) avtivities initated
4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.
6 = Pre-construction activities (pre-bid, construction management oversight, etc.).
7 = Construction activities or project implementation activities (e.g. for transit and ITS type projects) initiated.
8 = Post construction activities occurring (e.g. final rehab work, ITS system test and evaluation actions, etc.)
9 = Construction complete, facility open for use - no further obligations.
10 = Project close-out (final billings, de-obligations, etc.) in progress.
11 = Project completed, reimbursements finished.

Project Summary (#5)		
ODOT Key:	**20329**	MTIP ID: 70882
Project Type:	Existing	
Name:	**OR43: Arbor Dr - Hidden Springs Rd**	
Lead Agency:	**West Linn**	
Description:	Construct a new 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	
Amending:	FUND EXCHANGE: CMAQ replaces STBG in Construction phase while ODOT ROW and Construction phase committed unobligated funds converted to ADVCON. No change in project cost or scope.	

Project Details

- MODIFY Detailed MTIP Description by adding geographic reference at beginning of description and RFFA award tag at end of description. Updated detailed description is now:
  "In West Linn on OR43 between MP 8.04 to 9.22, construct a new 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 **(2019-21 RFFA awarded project)"**

Administrative Amendment
Amendment Matrix
Fund swaps/exchanges where the no cost adjustments occur are considered a technical correction and are allowable as an Administrative Modification

Project Funding

Preliminary Engineering (PE) Phase:
- DELETE federal State STP-FLX fund type code (M240) FY 2018 PE phase cost of $563,721
- ADD federal TAP-U fund type code (Z301) FY 2018 PE phase cost of $563,721
  (TAP replaces STP and was obligated during 2018)
- No changes to local matches or overmatching funds.
- Total PE phase cost remains unchanged at $841,248

Right of Way (ROW) Phase:
- DELETE federal NHPP-FAST fund type code (Z001) FY 2020 ROW phase cost of $294,696
- ADD federal ADVCON fund type code (ACP0) FY 2020 ROW phase cost of $294,696
- No changes to local match or local overmatch
- Total ROW programming amount remains unchanged at $439,779

Construction phase:
- DELETE federal NHPP-FAST fund type code (Z001) FY 2021 Construction phase cost of $241,584
- ADD federal ADVCON fund type code (ACP0) FY 2021 Construction phase cost of $241,584

Funding Change Details
Amendment submission items:
- ✓ MTIP Worksheet
- ✓ Metro review of project and current obligation data in the STIP FP
- ✓ Metro CMAQ January 2018 CMAQ Adjustments Request

PE phase updated for correct fund type obligation. ADVCON replaces ODOT fund codes for ROW and Construction phases. Approved CMAQ replaces Metro STBG in Construction phase. No change to total project cost. No scope change involved.

Added Note:
STIP converted both NHPP and Metro STBG to ADVCON in Construction phase. Metro will change NHPP to ADVCOM but replacement CMAQ needs to be shown programmed as CMAQ and not ADVCON for obligation targets tracking purposes.

- DELETE federal STBG-U fund type code (Z230) FY 2021 Construction phase cost of $3,000,000 - ADD federal CMAQ fund type code (Z400) FY 2021 FY 2021 Construction phase cost of $3,000,000 - No change to local match or local overmatching funds in 2021. Total Construction phase programming amount remains unchanged at $4,837,176 - Total project programming remains unchanged at $6,118,203	

MTIP Review & Certification Details

- **Administrative Modification Authorized: Yes.** Fund swaps/exchanges where the net cost does not change are considered to be a technical correction can be accomplished via an Administrative Modification
- **Metro Legislation Required: No**
- **MTIP Eligibility Verification: Yes**
  - Includes federal transportation funds: **Yes**
  - Located on the Metro roadway network: **Yes.** Project is located on a Metro defined Major Arterial" in the Arterials and Throughways network and as a Bicycle Parkway on the Bike network, and Pedestrian Parkway in the Pedestrian model.
  - Provides transportation system improvement: **Yes**
- **Considered a Regionally Significant Project: Yes.** The project contains federal funds and address transportation needs within arterials located on Arterials and Throughways modeling network.
- **Fiscal Constraint Review and Verification: Yes.** Project is a RFFA awarded project
- **RTP Consistency Review**: **Yes**
  - **In Current RTP: Yes**. ID# 10127 - OR 43 Multimodal Improvements - Holly St. to Mary S. Young State Park (Key 2029 is segment of larger RTP project)
    Description: Improve roadway with widening, turn lanes, street trees, signal interconnections, cycle tracks, and sidewalks..
  - **Considered Included in ODOT O&M RTP Project Grouping: No – N/A**
  - **RTP and MTIP Costs Consistent: Yes**
- **Capacity Enhancing Project: No**: The project is not capacity enhancing and is exempt per 40 CRF93/126, Table 2 Air Quality – Bicycle and Pedestrian Facilities
- **Satisfies 2018 RTP Goals and Strategies: Yes**. Goal #3 – Transportation Choices, Objectives 3.1 + 3.2:
  - Objective 3.1 Travel Choices: Plan communities and design and manage the transportation system to increase the proportion of trips made by walking, bicycling, shared rides and use of transit.
  - Objective 3.2: Active transportation System, Completion - Complete all gaps in regional bicycle and pedestrian networks
- **MPO Responsibilities/Public Notification included: No** Administrative Modifications are not subject to the 30 –day Public Notification/Opportunity to comment process.

- **OTC action required: No.** OTC approval was required for the award of the ODOT funds, but not for the Administrative Modification
- **JPACT & Metro Council action required: No**. JPACT and Metro Council approval were not required for this Administrative Modification

Capital and Implementation Project Status Codes

Status Codes:
0 = No activity.
1 = Pre-first phase obligation activities (IGA development, project scoping, scoping refinment, etc).
2 = Pre-design/project development activities (pre-NEPA) (ITS = ConOps.)
3 = (PE) Preliminary Engineering (NEPA) avtivities initated
4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initated).
5 = (RW) Right-of Way activities initiated including R/W acquisition and/or utilities relocation.
6 = Pre-construction activities (pre-bid, construction management oversight, etc.).
7 = Construction activities or project implementation activities (e.g. for transit and ITS type projects) initiated.
8 = Post construction activities occurring (e.g. final rehab work, ITS system test and evaluation actions, etc.)
9 = Construction complete, facility open for use - no further obligations.
10 = Project close-out (final billings, de-obligations, etc.) in progress.
11 = Project completed, reimbursements finished.

Note: The Complete January 19, 2018 CMAQ Letter is attached after the MTIP Worksheet

Memo

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

Date: January 19, 2018
To: Cole Grisham, Investment Programs Manager - ODOT
Amanda Pietz, Program Implementation and Analysis Manager - ODOT
From: Grace Cho, Associate Transportation Planner - Metro
Ted Leybold, Resource Development Manager - Metro
Subject: CMAQ Eligibility for FFY 2018-21 Projects Funded with Regional Flexible Funds - DRAFT

Metro

Metro
2018-21 Metropolitan Transportation Improvement Program (MTIP)
PROJECT AMENDMENT DETAIL WORKSHEET

Administrative Modification
FUND EXCHANGE
2nd Amendment to Project

Lead Agency:	**West Linn**
Project Name:	**OR43: Arbor Dr - Hidden Springs Rd**

Project Status: 4 = (PS&E) Planning Specifications, & Estimates (final design 30%, 60%,90% design activities initiated).

Short Description: Construct a new 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

Project Type:	Active Trn	**ODOT Key:**	**20329**
ODOT Type	BikePed	**MTIP ID:**	**70882**
Capacity Enhancing:	No	**Status:**	**4**
Conformity Exempt:	Yes	RTP ID:	10127
On State Hwy Sys:	OR43	RFFA ID:	50285
Mile Post Begin:	8.04	RFFA Cycle:	2019-21
Mile Post End:	9.22	UPWP:	No
Length:	1.09	UPWP Cycle:	N/A
1st Year Program'd:	2018	Past Amend:	1
Years Active:	2	OTC Approval:	Yes

Detailed Description: **In West Linn on OR43 between MP 8.04 to 9.22,** construct a new 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 **(2019-21 RFFA awarded project)**

STIP Description: Construct a new 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.

PROJECT FUNDING DETAILS

Fund Type	Fund Code	Year	Planning	Preliminary Engineering	Right of Way	Other (Utility Relocation)	Construction	Total
Federal Funds								
~~State STP-FLX~~	~~M240~~	~~2018~~		~~$ 563,721~~				$ -
TAP-U	Z301	2018		$ 563,721				$ 563,721
~~NHPP-FAST~~	~~Z001~~	~~2020~~			~~$ 294,696~~			$ -
ADVCON	ACP0	2020			$ 294,696			$ 294,696
~~NHPP-FAST~~	~~Z001~~	~~2021~~					~~$ 241,584~~	$ -
ADVCON	ACP0	2021					$ 241,584	$ 241,584
~~STBG-U~~	~~Z230~~	~~2021~~					~~$ 3,000,000~~	
CMAQ	Z400	2021					$ 3,000,000	$ 3,000,000
								$ -
Total Equity B programmed = $729,894							**Federal Totals:**	**$ 4,100,001**
Federal Fund Obligations:				$ 563,721				
EA Number:				PE002950				
Initial Obligation Date:				4/9/2018				

State Funds								
								$ -
								$ -
							State Total:	**$ -**
State Fund Obligations:								
EA Number:								
Initial Obligation Date:								
Local Funds								
Local	Match	2018		$ 64,520				$ 64,520
Other	OTH0	2018		$ 213,007				$ 213,007
Local	Match	2020			$ 33,729			$ 33,729
Local	OTH0	2020			$ 111,354			$ 111,354
Local	Match	2021					$ 27,650	$ 27,650
Local	Match	2021					$ 343,363	$ 343,363
Other	OTH0	2021					$ 1,224,579	$ 1,224,579
								$ -
							Local Total	**$ 2,018,202**
Phase Totals Before Amend:			$ -	$ 841,248	$ 439,779	$ -	$ 4,837,176	$ 6,118,203
Phase Totals After Amend:			$ -	$ 841,248	$ 439,779	$ -	$ 4,837,176	$ 6,118,203
							Year Of Expenditure (YOE):	$ 6,118,203

Notes and Changes

> TAP replaces STBG as TAP was actually obligated for PE
> CMAQ approved for project is swapped out for awarded STBG. ADVCON replaces ODOT planned fund awards of State STP and NHPP
> Exempt Status: Project is exempt per 40 CFR 93.126, Table 2 Air Quality - Bicycle and Pedestrian facilities

Reason for Modification and Summary of Changes plus Impacts:

PE phase fund codes updated base don actual obligations. ROW and Construction phase ODOT funds changed to ADVCON per current programming policy. Construction phase Metro STBG replaced by CMAQ. CMAQ has been approved for the project. Overall project cost remains unchanged.

References and Additional Notes:

> Project is jointly funded by Metro RFFA program and ODOT.
> 2018 RTP ID: 10127 - OR 43 Multimodal Improvements - Holly St. to Mary S. Young State Park (Key 2029 is segment of larger RTP project)
> RTP Description: Improve roadway with widening, turn lanes, street trees, signal interconnections, cycle tracks, and sidewalks.
> Modeling network: OR43 is a defined Major Arterial in the Arterials and Throughways network, Regional bikeway in the Bicycle network, and Pedestrian Parkway in the Pedestrian network.
> ODOT Local Agency Liaison: N/A
> Project Manager: N/A
> Added Remarks: N/A

Memo

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

Date: January 19, 2018
To: Cole Grisham, Investment Programs Manager - ODOT
Amanda Pietz, Program Implementation and Analysis Manager - ODOT
From: Grace Cho, Associate Transportation Planner - Metro
Ted Leybold, Resource Development Manager - Metro
Subject: CMAQ Eligibility for FFY 2018-21 Projects Funded with Regional Flexible Funds - DRAFT

Introduction

The allocation of CMAQ funding in the Portland metropolitan region is performed by Metro, the Portland area MPO. Leadership of the MPO is represented by the Joint Policy Advisory Committee on Transportation (JPACT) and approved by the Metro Council. Decisions made by the MPO are done in consultation with local, state and federal transportation and air quality agencies, consistent with the federally approved public involvement procedures and Title VI of the Civil Rights Act and Executive Order on Environmental Justice requirements. Certification of meeting these requirements is provided annually to FHWA and FTA and formally reviewed in detail by FHWA and FTA staff every four years.

The process for allocating discretionary transportation funding in the Portland region begins with consideration and adoption of the policy objectives for allocation of all federal funds, consistent with federal and state rules. This includes detailed policy objectives for the allocation of MPO discretionary funding known as the regional flexible funds, which includes CMAQ. The policy objectives are driven by the federal planning factors, federal and state rules, and the region's adopted long-range transportation plan. The process to consider and adopt the policy objectives for the allocation of federal funds began in spring 2015 and a final proposal was adopted in spring 2016.

A project nomination process for regional flexible funds began with the region's transportation agencies and transportation service providers in early summer 2016. Completed project nominations were due to Metro by August 26, 2016. Project nominations were to respond against a set of criteria, aligning to the adopted policy objectives for the 2019-21 allocation. Metro organized a technical review committee to assessing each application's responsiveness to the criteria and local policy objectives. In addition, Metro staff undertook a separate review process working with ODOT's local liaison program to assess the project readiness of each application and assess state and federal rules relevant to CMAQ.

Following Metro staff review of the projects, the public was invited to provide comments to help improve candidate projects. A public comment process was undertaken for the 2019-2021 project nominations from October 7 – November 7, 2016. A total of 3,673 comments and 18 in-person testimony were provided across 32 nominated projects. The Transportation Policy Advisory Committee reviewed the projects as well and provided a recommendation to decision makers to adopt the list of projects. Comments received were considered as part of the Metro Council action on the entire 2018-2021 MTIP program on July 31, 2017.

The following documents the air quality benefits of the projects funded with CMAQ funds through the 2019-21 Regional Flexible Fund Allocation process.

Tools and Methods for Determining Emissions Reductions & Air Quality Benefits
The following is a summary of tools used to help estimate the reduction of air pollutants.

MetroScope
Metroscope is a suite of decision support tools used to model changes in measures of economic, demographic, land use and transportation activity within the Portland metropolitan area. Three of the tools relevant to the 2018 RTP transportation equity evaluation are:

- 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.

In 2016, the region adopted a new land use, population, and employment forecast (William). The 2016 adopted forecast serves as an input into the economic and real estate (residential and non-residential) models to inform the CMAQ emissions benefits and reduction analysis.

Metro's Travel Demand Model (Kate)
The travel demand model predicts travel activity (e.g. trips, miles traveled) levels by mode (e.g. 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. The current iteration of Metro's travel demand model is Kate, which includes additional travel activity and behavioral features.

EPA MOVES2014a Emission Model
The MOtor Vehicle Emission Simulator (MOVES) is a state-of-the-science emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. The MOVES emissions model was developed by the U.S. Environmental Protection Agency (EPA) and is the approved emissions model for conducting federally required air quality analysis and assessments. The current iteration of EPA's MOVES emissions model is 2014a, which incorporates significant improvements in calculating on-road and non-road equipment emissions. The MOVES model produces emissions rates by air pollutant which can be applied to vehicle miles traveled and trip to determine the amount of emissions produced or reduced.

Benefit-Cost Analysis of Bicycle Facilities
The Benefit-Cost Analysis of Bicycle Facilities is an online tool which calculates the number of cyclists that will use a facility based on inputs including geographic location, length, population density near the facility, bicycle commute share near the facility, opening year, and what type of bicycle facility it is. The tool was developed collaboratively with the University of Minnesota, Planners Collaborative, University of North Carolina Highway Safety Research Center and Active Living by Design. Sponsors include the National Cooperative Highway Research Program, the Minnesota Dept. of Transportation and the Midwest Regional University Transportation Center. The tool and a full methodology for its development and assumptions can be found at: http://www.bicyclinginfo.org/bikecost/index.cfm.

Goldsmith Methodology

The Goldsmith methodology refers to researcher Stuart Goldsmith work to develop sketch planning methods to estimate the impact of a new bicycle facility on reducing vehicle miles traveled in Seattle, Washington (Goldsmith, 1997). Through Goldsmith's research, the boundaries of the travel shed accessible by bike surrounding the new facility and the percent of people already commuting by bike (based on Census Journey to Work data) within those boundaries were determined. Goldsmith then estimated the impact of the new facility on generating new bicycle commuters, based on average trip lengths and potential diversion from single-occupancy vehicle (SOV) trips. Using these factors, Goldsmith determined new bicycle commute and non-work trips per day, the number of SOV trips eliminated and the reduction in vehicle miles traveled.

Evaluation of Emissions Reduction-Benefit for High Capacity Transit Projects with the Travel Demand Model (Kate), MetroScope, and MOVES2014a

The Metro travel demand model, Kate, was used in the analysis of emissions benefits for the Regional HCT Bond Repayment projects. The demand model provided forecast travel volumes for base-year and opening year conditions for the high capacity transit to open still currently in bond repayment. These include: 1) Green Line - Downtown Portland with Clackamas Town Center; 2) Washington County Commuter Rail; and 3) Portland-Milwaukie Light Rail. For travel forecasting purposes, land use assumptions are broken down into geographical areas called transportation analysis zones (TAZs). These TAZ areas form the basis for estimating travel for each household and/or employee.

Population and employment information is assigned to each TAZ based on the Portland metropolitan region's adopted land use forecast which was derived through MetroScope. To help inform travel activity, MetroScope model's mapback procedure was used to translate land use characteristics in a different geography into the TAZ. The mapback procedure is commonly used for translating land use and economic characteristics into the travel demand model and is reviewed by local jurisdictions. The cost of various forms of transportation, including parking and transit fare costs, and levels of street connectivity are also assigned to each TAZ based on regional transportation and land use policies.

After establishing land use, population, and employment trends, the following travel characteristics are determined:

- Trip generation: An estimate of the number of person trips generated at a particular location, and attracted to a particular location, based on the assumed relationship among socio-economic factors, land use characteristics, and the number of trips. Trip generation then leads to:
- Trip distribution: An estimate of the number of person trips that originate in every zone in the study area, with destinations to every other zone. The result is a trip table that is used to determine:
- Mode split: An estimate of the number of trips predicted between each origin and destination, expressed by type of mode that is available for that trip. Mode split leads to:
- Network assignment: An estimate of the number of trips via a particular mode that will take specific paths through a road or transit network. The end result, when all trips are assigned to a network, is an estimate of the total number of trips that will use each roadway in the network.

These characteristics are then applied to emissions rates produced from the MOVES2014a emissions model. MOVES2014a is used to generate emissions rates corresponding to each of the fleets whose vehicles are present in the Portland region: the Oregon-inspected vehicles, the Washington-inspected vehicles, and non-inspected vehicles. The regional travel demand model produces a series of roadway network assignments from which daily vehicle miles traveled (VMT), by average segment speed and facility type, are extracted. The MOVES emissions rates are then applied to the model VMT outputs to calculate emissions factors which are produced in outputs of pollutant emissions per mile.

See the section **Emissions Factors** for the emissions rates used to determine the emissions reductions by pollutant and overall air quality benefit.

Lastly, the emissions inventories are then applied to the characteristics of the high capacity transit project, such as overall ridership, and regional travel survey trends to understand the number of single occupancy vehicle miles have been offset as a result of the project. These miles are then applied to the emissions factors to estimate the amount of emissions reductions (in kilograms per day) are a result of the project.

Evaluation of Emissions Benefit for Bicycle and Trail Projects with the Benefit-Cost Tool, Goldsmith Methodology, and MOVES2014a

Because of the course nature of Metro's travel demand model, well studied off-model assessments are used to estimate emissions benefits and reductions from bicycle and pedestrian investments. Two main tools which have been used are the Benefit-Cost Analysis of Bicycle Facilities and the Goldsmith methodology. Both of these methods were employed in previous CMAQ emissions reduction benefits analysis and included as part of the Portland metropolitan area State Implementation Plans (SIP) for carbon monoxide and ozone for demonstrating emissions reductions of the region's bicycle and pedestrian transportation control measures.

The Benefit-Cost Analysis tool helps to estimate new bicycle riders to utilize a new facility. The tool was used to estimate the new bicycle commuters that will use the facility in opening year. With an understanding of the new bicycle commuters to use a newly opened facility, the Goldsmith methodology helped to estimate the number of the new bicycle commuters that made the switch from single occupancy vehicles and thus reduce emissions in doing so. The Goldsmith methodology indicates that 1 in 2 new cycling commuters using a new bicycle facility were formerly single occupancy vehicle drivers. The methodology uses survey and population data to estimate induced demand of constructing bicycle facilities.

Having an understanding of the estimated trips diverted from single occupancy vehicle driving to bicycling on the newly opened facility, information from the 2011 Oregon Household Activity Survey for the Portland-metro region informed the average bike trip distance which could then be applied to emissions factors produced by MOVES2014a to determine the estimated emissions reductions and benefit.

Emission Factors
Emission factors for CMAQ projects evaluated below are matched appropriately to the year the project opened or as close as possible as to when the project will be in service. Projects will use one of the following rates that were developed. Each set of emissions factors were produced by the approved U.S. EPA emissions model and iteration of the travel demand model at the time of the opening of the facility OR for projects projected to open in the near future (i.e. within the upcoming four-year period of the MTIP-STIP cycle) the most recent emissions model (MOVES2014a) and travel demand model (Kate) was used..

Emissions Factors[1]
2011 rates (for projects implemented 2009-2013; source: MOBILE6 & EMME/2 model)
-winter CO: 13.457 grams/VMT
-summer VOC: .704 grams/VMT
-summer NOx: 1.123 grams/VMT

2015 rates (for Portland - Milwaukie LRT implemented in 2015; source: MOVES2010b & EMME/2 model)
-winter CO: 11.692 grams/VMT
-summer VOC: .586 grams/VMT
-summer NOx: .719 grams/VMT

2017 rates (for projects implemented after 2017; source: MOVES2014a & Kate).
-winter CO: 3.54 grams/VMT
-summer VOC: .179 grams/VMT
-summer NOx: .924 grams/VMT

These rates were converted to kilograms to perform the calculations for each project to get emissions in kilograms/day and are reflected in the calculations for each project.

Methodology for Emission Factors – 2011 and 2015 Rates
The following outlines the steps taken to develop the emissions factors used to get emission reductions for the regional bonded high capacity projects. Because the regional bonded high capacity projects were opened for service between 2009 through 2015, the emissions factors for 2011 and 2015 were then applied to the appropriate mode shift and VMT travel activity produced by the travel demand model to represent emissions reductions as a result of the high capacity transit project opening for service. The 2017 emissions factors were used for projects which expect to get implemented between 2019 through 2021 based on the recent allocation of Metro's regional flexible funds, which includes CMAQ funding. The full methodology outlined for estimating emissions reductions are shown for each individual project.

From the nearest available travel demand model AQ EMME/2 runs (2005 MTIP 2010 run for 2011), the following were calculated:
- Each assignment period's percent of total weekday VMT (PctVMT)
- Each assignment period's, the percent of total VMT on each MOBILE6 link type (PctOfPer)

[1] In developing each set of emissions factors, there was an applied assumption that most trips replaced are those on arterials with an average speed close to a common posted speed of 25 miles per hour.

- Each assignment period's, average speed on freeways and arterials (AvgSp)

MOBILE6 for 2015 with the latest inputs run for:
- 2015: Portland inspection-maintenance protocol
- The winter CO, summer VOC, and summer NOx emission rates for each average speed (AvgSp) value were extracted. This only applies to freeways and arterials; local roadway and freeway ramp emission rates do not vary by speed. These were brought into the spreadsheet as WCO, SVOC, and SNOx.
- Average emission rates were calculated by summing across all link types and assignment periods: PctVMT * PctOfPer * the emission rate (WCO, SVOC, or SNOX).

Methodology for Emission Factors – 2017 Rates
The following outlines the steps taken to develop the emissions factors used to get emission reductions for projects where 2017 emission factors are applied. The 2017 emissions factors were used for projects which expect to get implemented between 2019 through 2021 based on the recent allocation of Metro's regional flexible funds, which includes CMAQ funding.

Metro's travel demand model (Kate) uses system-wide transportation network improvements and capacities, transit service levels and fares, jobs, housing and demographic characteristics, the miles traveled and the speeds at which the miles are traveled. Based on these inputs, daily vehicle miles traveled are estimated. Once the travel demand model has been run for a particular year, the application of emission rates generated by MOVES2014a, the air quality model is used to estimate air pollutant emissions.

Emissions Calculations by Project Funded with CMAQ

Project: Regional Bond Repayment for High Capacity Transit
TriMet's use of MTIP funds for GARVEE debt service on I-205 LRT, Washington County Commuter Rail, and Milwaukie Light Rail.
CMAQ Funding Applied: $33 million for FY 2019-21 ($11 million annually).

Project description: Funds bonded towards the implementation of the Regional High Capacity Transit (HCT) System. Individual lines described below:

I-205/Mall Light Rail (Green Line)
This line connects downtown Portland with Clackamas Town Center and points in between. The line serves the Central City, Gateway and Clackamas regional centers as well as Lents and Hollywood town centers. This project adds 8.3 miles of new double-track to the existing light rail network, 15 new stations and approximately 2,000 park and ride spaces.

Washington County Commuter Rail (WES)
The Washington County Commuter Rail line offers a transportation route within the heavily used Interstate 5 and Highway 217 corridor. The approximately 14.7-mile project connects with TriMet MAX light rail in Beaverton with Washington Square, Tigard, Tualatin and Wilsonville.

Portland - Milwaukie Light Rail (Orange Line)
This light rail line will travel 7.3 miles from Portland State University to downtown Milwaukie with a multi-modal river crossing and serving the South Waterfront, OMSI, Southeast Portland, Brooklyn, West Moreland and Sellwood neighborhoods.

Project costs: As shown as part of Table 1.

Table 1. Project Costs and CMAQ Funding Application

Total Project Cost	**CMAQ Funding Requested**	**Obligation/Year**		
		2019	2020	2021
$1,136,700,000	$33,000,000	Non-Hwy Cap $11,000,000	Non-Hwy Cap $11,000,000	Non-Hwy Cap $11,000,000

Opening year:
- I-205/Mall Light Rail (Green Line): **2009**
- Washington County Commuter Rail (WES): **2009**
- Portland - Milwaukie Light Rail (Orange Line): **2015**

Estimating Regional Bond Project Emissions Benefits

Methodology for operational projects
Four steps are used to derive project emission reduction benefits for the three regionally bonded high capacity transit projects: I-205/Mall Light Rail, Washington County Commuter Rail, and Portland – Milwaukie Light Rail projects. The steps are determined by

Determine opening year average weekday (AWD) riders

To determine the opening year average weekday riders, TriMet ridership data was procured for average weekday riders in year of project opening.

Determine former single occupancy vehicle (SOV) riders

To determine the number of former single occupancy vehicles that shifted modes as a result of the project, a calculation took place to determine percentage of new trips that were formerly SOV drivers. New transit riders are assumed to come equally from the automobile, bicycle, and walk modes. Recognizing this split for new transit riders, the 2025 average of region-wide motor vehicle and transit mode split is multiplied by 92% to account for new transit trips converted from other modes.

Identify automobile vehicle miles traveled (VMT) reduction:

To identify the number of vehicle miles reduced as a result of single occupancy vehicle to new transit trips, the former SOV driver numbers were multiplied by average regional transit trip length.

For I-205/Mall Light Rail & Washington County Commuter Rail – average regional transit trip length of 5.47 miles[2]

For Portland – Milwaukie Light Rail – average regional transit trip length of 5.6 miles[3]

Determine emission reductions:
To determine the overall emissions reduction convert the VMT reduction into emissions reductions (kilograms per mile) using the following emission factors These rates were converted to kilograms to perform the calculations for each project to get emissions in kilograms/day and are reflected in the calculations for each project:

<u>2011 rates (for projects implemented 2009-2013) – used for I-205/Mall LRT & Washington County Commuter Rail</u>

-winter CO: 13.457 grams/VMT
-summer VOC: .704 grams/VMT
-summer NOx: 1.123 grams/VMT

<u>2015 rates – used for Portland - Milwaukie LRT</u>

-winter CO: 11.692 grams/VMT
-summer VOC: .586 grams/VMT
-summer NOx: .719 grams/VMT

[2] Based on 1994 Oregon Household Activity Survey
[3] Based on 2011 Oregon Household Activity Survey

D. Emission calculations

I-205/MALL LIGHT RAIL TRANSIT (LRT)

Summary Table

One year AWD riders – 2009[1]	Former SOV new riders	Auto VMT reduction	CO (kg/day)	VOC (kg/day)	NOx (kg/day)
18,775	17,273	94,483	1275.52	66.14	103.93

1. Source: TriMet Performance Reports September 2009 through August 2010.

Calculations

1. One year AWD Riders – Opening Year – 18,775

2. Former SOV New Riders

2009 opening year riders **x** auto and transit mode share **x** estimated new trips

18775
X 0.9200
17,273

3. Automobile VMT Reduction

Former SOV new riders **x** average regional transit trip length

17,273
X 5.47
94,483.31

4. Emission Reductions

VMT reduced **x** 2011 emissions factors for CO, VOC, NOx

CO	VOC	NOx
94,483	94,483	94,483
x .0135	x .0007	x .0011
1,275.52	66.14	103.93

I-205/Mall Light Rail Transit – Alignment Diagram

WASHINGTON COUNTY COMMUTER RAIL (WES)

Summary Table

One year AWD riders – 2008[1]	Former SOV new riders	Auto VMT reduction	CO (kg/day)	VOC (kg/day)	NOx (kg/day)
1,175	1,081	5,913	79.82	4.14	6.50

1. One year AWD Riders – Opening Year – 1,175

2. Former SOV New Riders

2008 opening year riders **x** auto and transit mode share **x** estimated new trips

1,175
X 0.9200
1,081

3. Automobile VMT Reduction

Former SOV new riders **x** average regional transit trip length

1,081
X 5.47
5,913

4. Emission Reductions

VMT reduced **x** 2011 emissions factors for CO, VOC, NOx

CO	VOC	NOx
5,913	5,913	5,913
x .0135	x .0007	x .0011
79.82	4.14	6.50

Washington County Commuter Rail – Alignment Diagram

PORTLAND-MILWAUKIE LIGHT RAIL (PMLR)

Summary Table

One year AWD riders – 2015[1]	Former SOV new riders	Auto VMT reduction	CO (kg/day)	VOC (kg/day)	NOx (kg/day)
11,875	10,925	61,180	715.3	35.9	44.0

Calculations

1. One year AWD Riders – Opening Year – 11,875

2. Former SOV New Riders

2015 opening year riders **x** auto and transit mode share **x** estimated new trips

11,875
X 0.9200
10,925

3. Automobile VMT Reduction

Former SOV new riders **x** average regional transit trip length

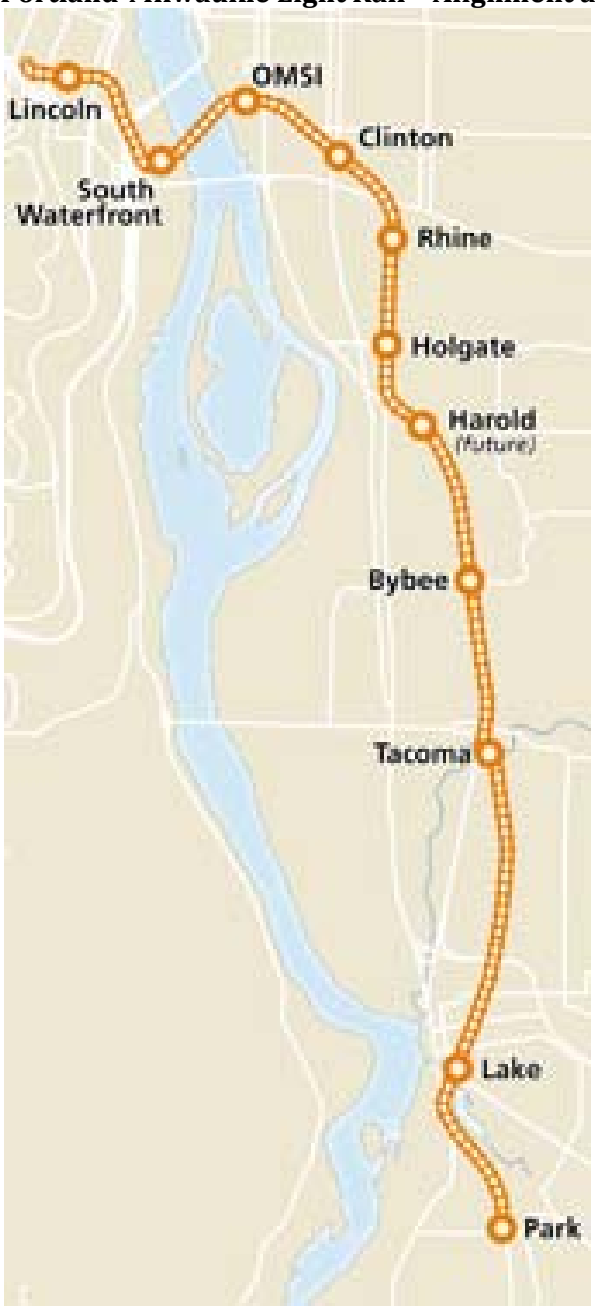
10,925
X 5.60
61,180

4. Emission Reductions

VMT reduced **x** 2015 emissions factors for CO, VOC, NOx

CO	VOC	NOx
61,180	61,180	61,180
x .011692	x .000586	x .000719
715.3	35.9	44.0

Portland-Milwaukie Light Rail – Alignment and Diagram



Highway 43 Multimodal Transportation Project

A. Project Description

This project will enhance bike and pedestrian mobility and transit access along State Highway 43 (OR 43) from the southern city limits of the City of Lake Oswego through the City of West Linn south to Mary S. Young State Park. The result will be uninterrupted protected bicycle paths (cycle tracks) and sidewalks in this corridor with a consistent three lane vehicle cross section connecting Mary's Woods retirement community and Marylhurst University to Mary S. Young State Park through the Robinwood commercial area. Included in the project is the removal of the existing traffic signal at Cedaroak Dr./Hwy 43 and installation of innovative protected intersections at Marylhurst Dr./Hwy 43 and Hidden Springs Rd./Hwy 43, including signal improvements such as countdown pedestrian signals and transit prioritization to improve safety and traffic efficiency. Protected intersections will incorporate raised corner bike refuge islands, multiuse marked crossings, and other bicyclist and pedestrian safeguards. The project will infill key missing sidewalk sections between residential, commercial, park, and transit areas, add ADA accessibility, improve transit stops, and improve lighting.

B. Project costs

Total Project Cost	CMAQ Funding Requested	Obligation/Year		Opening Year
		2019	2020	2020
$6,118,203	$3,400,000	$377,638	$3,000,000	

C. Methodology

1. **New bicycle riders = 1,839**: calculation of new bicycle riders in opening year is derived from the "Benefit-Cost Analysis of Bicycle Facilities" tool. More about the methodology used in the tool and who developed it can be found in the Introduction in the "off-model" methodology section. The tool is located at: http://www.pedbikeinfo.org/bikecost/step1.cfm.

2. **Former SOV = 919.5:** the assumption for the percentage of new bicycle commuters who shift from single occupancy vehicle usage for commuting trips to bicycle usage is based on the Goldsmith Methodology developed for estimating induced demand resulting from construction of bicycle facilities. The Goldsmith Methodology assumes that 1 in 2 or 50% of new bicycle commuters are former SOV drivers.

3. **Auto vehicle miles traveled (VMT) reduction:** Convert to VMT (Multiply former drivers by average (mean) bicycle trip length of 2.7 miles)

4. **Emission reductions:** Convert VMT reduction into emissions reductions (kilograms per mile) using the following 2017 emission factors:

- Emission factor for CO: .00354
- Emission factor for VOC: .000179
- Emission factor for NOx: .000924

D. Emissions Calculations

Summary Table

2020 new bicycle riders	Former SOV	Auto VMT reduction	CO (kg/day)	VOC (kg/day)	NOx (kg/day)
1,839	919.5	2,482.65	8.79	.444	2.29

Calculations

1. 2020 New Bicycle Riders –

2. Former SOV

2020 new bicycle riders x .5 former SOV

1,839
x .5
919.5

3. Auto VMT Reduction

Former SOV **x** 2.7 average (mean) bicycle trip length

919.5
x 2.7
2,482.65

4. Emissions reductions

VMT miles reduced **x** emissions factors for CO, VOC, NOx

CO	VOC	NOx
2,482.65	2,482.65	2,482.65
x .00354	x .000179	x .000924
8.79	.444	2.29

Complete Cleveland Street: NE Stark to NE Burnside

A. Project Description

This project will bring Cleveland Avenue, a minor arterial in Gresham's center, to urban standards by constructing continuous bike lanes, sidewalks, curbs and gutters between SE Stark Street and NE Burnside Road. This project will fill in a gap in the active transportation network and provide a direct and safer multimodal link between Gresham's Regional Center and the Gresham Vista Business Park.

B. Project costs

Total Project Cost	CMAQ Funding Requested	Obligation/Year			Opening Year
		2019	2020	2021	2021
$4,188,203	$1,139,670	$503,166	$419,669	$3,265,368	

C. Methodology

5. **New bicycle riders = 3,037**: calculation of new bicycle riders in opening year is derived from the "Benefit-Cost Analysis of Bicycle Facilities" tool. More about the methodology used in the tool and who developed it can be found in the Introduction in the "off-model" methodology section. The tool is located at: http://www.pedbikeinfo.org/bikecost/step1.cfm.

6. **Former SOV = 1,536.5:** the assumption for the percentage of new bicycle commuters who shift from single occupancy vehicle usage for commuting trips to bicycle usage is based on the Goldsmith Methodology developed for estimating induced demand resulting from construction of bicycle facilities. The Goldsmith Methodology assumes that 1 in 2 or 50% of new bicycle commuters are former SOV drivers.

7. **Auto vehicle miles traveled (VMT) reduction:** Convert to VMT (Multiply former drivers by average (mean) bicycle trip length of 2.7 miles)

8. **Emission reductions:** Convert VMT reduction into emissions reductions (kilograms per mile) using the following 2017 emission factors:
    - Emission factor for CO: .00354
    - Emission factor for VOC: .000179
    - Emission factor for NOx: .000924

D. Emissions Calculations

Summary Table

2021 new bicycle riders	Former SOV	Auto VMT reduction	CO (kg/day)	VOC (kg/day)	NOx (kg/day)
3,073	1,536.5	4,148.55	14.68	.7426	3.833

Calculations

5. 2021 New Bicycle Riders –

6. Former SOV

2020 new bicycle riders x .5 former SOV

3,073
x .5
1,536.5

7. Auto VMT reduction

Former SOV **x** 2.7 average (mean) bicycle trip length

1,536.5
x 2.7
4,148.55

8. Emissions reductions

VMT miles reduced **x** emissions factors for CO, VOC, NOx

CO	VOC	NOx
4,148.55	4,148.55	4,148.55
x .00354	x .000179	x .000924
14.68	.7426	3.833