

Air Quality Conformity Determination

For Amending the

2017-2042 Regional Transportation Plan

&

2021-2024
Transportation
Improvement
Program

Adopted March XX, 2021



Rogue Valley Metropolitan Planning Organization

The RVMPO is staffed by the Rogue Valley Council of Governments

Rogue Valley Metropolitan Planning Organization

Air Quality Conformity Determination For an Amendment to the 2017-2042 Regional Transportation Plan

2021-2024 Transportation Improvement Program

Adopted March XX, 2021

Published by:



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Synopsis

An Air Quality Conformity Determination (AQCD) for a plan and program is a finding that the plan and program conform to appropriate air quality requirements.

This AQCD shows that with this amendment to the Rogue Valley Metropolitan Planning Organization (RVMPO) 2017-2042 Regional Transportation Plan and 2021-24 Transportation Improvement Program, current federal and state on-road air quality requirements will continue to be met in the Medford carbon monoxide (CO) and Medford-Ashland particulate matter (PM_{10}) Air Quality Maintenance Areas.

The CO and PM₁₀ Air Quality Maintenance Areas (AQMA) are two distinct maintenance areas with different boundaries. The CO AQMA encompasses the City of Medford's Urban Growth Boundary (UGB). The Medford-Ashland PM₁₀ AQMA covers about 228 square miles and approximates the Bear Creek Basin. The area is generally described as the Rogue Valley.

On December 15, 2015, the Oregon Department of Environmental Quality (ODEQ) submitted a Carbon Monoxide Limited Maintenance Plan (LMP) for the Medford area to EPA for approval. ODEQ submitted a supplemental plan to EPA on December 30, 2015. To be eligible for a CO LMP, an area has to have a design value at or below 7.65 ppm. Based on ODEQ's review of the 2008 – 2009 CO emissions data for Medford the area met the requirements for an LMP. The CO LMP went into effect on September 19, 2016.

With the approval of the CO LMP, the area is exempt from performing a regional emissions analysis for CO and there is no "budget" test. The CO Maintenance area, however, must meet project level conformity analyses, and must respond to transportation conformity criteria in 40 CFR 93 Subpart A.

CO Limited Maintenance Plan Conformity Criteria

On September 19, 2016, US-EPA approved a CO maintenance plan, known as a "limited maintenance plan" (LMP) for the Medford area. This limited maintenance plan has a 2025 horizon year. Because of the approved LMP, the Rogue Valley MPO no longer has to complete a regional emissions analysis for the Medford area for CO pursuant to 40 CFR 93.109(e).

However, all other transportation conformity requirements under 40 CFR 93.109(b) continue to apply. This RTP and TIP conformity determination meets all applicable requirements under the conformity rule as described below.

40 CFR 93.104 Frequency of conformity determinations.

Conformity of transportation plans and TIPS must be determined no less frequently than every four years. Conformity of plan and TIP amendments, except for those that add or delete exempt projects, must be demonstrated prior to approval of the action. All FHWA/FTA projects must be found to conform or must be re-conformed following any significant status or scope change, before they are adopted, accepted, approved or funded.

This conformity determination is for an amendment to the RVMPO 2017 - 2042 Regional Transportation Plan (RTP) and the 2021-2024 Transportation Improvement Program (TIP). The next RTP update will occur in four years (March 2021).

40 CFR 93.105 Consultation

Interagency consultation procedures must be carried out in accord with OAR 340-252-0060 and the MPO's public involvement policies developed under 23 CFR Part 450.

Two inter-agency consultations were arranged by the MPO to ODOT, US-EPA, and USDOT (FHWA and FTA) during interagency consultation. The air quality implications of the BUILD project was previously reviewed to determine whether the project had the potential for hot spot requirements.

Public notice was provided on the MPO's web site and through emails to interested parties in the region. A public hearing was held at the policy committee review meeting, and the 30 day public comment period required by the MPO's Public Participation Plan was held.

The RVMPO Technical Advisory Committee (TAC), the standing committee for interagency consultation, reviewed the proposed project and subsequently reviewed the results of the public comment period and the interagency consultation. No comments were provided at the public hearing or were submitted during the public comment period.

The *project sponsor* is responsible for assuring the conformity of FHWA/FTA projects and regionally significant projects in the RTP or TIP for which hot spot analysis is required. The project sponsor is also responsible for distributing draft and final project environmental documents prepared by the project sponsor to other agencies. It is the responsibility of the project sponsor to consult with the affected transportation and air quality agencies prior to making a project level conformity determination. These activities occur during the project design planning phase.

40 CFR 93.108 Transportation plans and TIPs must be fiscally constrained.

Fiscal constraint is described and affirmed in the 2042 RTP and the 2021-2024 TIP.

Analysis of future travel conditions shows that estimates of emissions of particulate matter (PM_{10}) within the Air Quality Maintenance Area are lower than permitted in corresponding state maintenance plans, which set emissions budgets. The table below show emissions budgets and summarizes estimated particulate matter emissions. As shown, RTP/TIP emissions with the proposed amendment in all applicable analysis years under both transit cases are well below the established motor vehicle PM_{10} emission budgets. Across all analysis scenarios, total motor vehicle PM_{10} emissions are less than 54% of the budgets. (As explained later in footnotes to

Tables 11 and 22, estimated PM10 emissions under both transmit scenarios are lower than reflected in the original 2017 AQCD for the RTP.)

Table of Particulate Emissions

Analysis Year	2017	2027	2037	2042
PM ₁₀ Budget	3,754 tons/year	3,754 tons/year	3,754 tons/year	3,754 tons/year
Estimated PM ₁₀ Emissions With Transit Service	1,525 tons/year	1,703 tons/year	1,912 tons/year	2,020 tons/year
Estimated PM ₁₀ Emissions Without Transit Service	1,527 tons/year	1,705 tons/year	1,914 tons/year	2,024 tons/year

The purpose of this document

An AQCD is required whenever the Regional Transportation Plan (RTP) or Transportation Improvement Program (TIP) is amended or updated, or every four years, whichever comes first. The U.S. Department of Transportation (USDOT) conformed the current RTP on June 12, 2017 and again (due to miscommunication between state partners) on September 29, 2017. USDOT must make the conformity determination before the plan and program can go into effect.

In the Rogue Valley Metropolitan Planning Organization area, the conformity document must show that through the horizon of the plan and program air quality requirements for CO and PM_{10} will be met. Specifically:

Carbon Monoxide—The area encompassed by the Medford urban growth boundary (UGB) was re-designated from nonattainment to attainment by the U.S. Environmental Protection Agency (EPA) in 2002. A CO LMP was approved by EPA on September 19, 2017. As summarized above, the RVMPO is no longer required to complete an emissions analysis for CO, but must still comply with other conformity requirements under 40 CFR 93.109(b).

PM₁₀—The area within the Medford-Ashland Air Quality Maintenance Area, which is entirely within the RVMPO planning area, was re-designated from nonattainment to attainment by EPA in 2006, and the emissions budget shown above for PM₁₀ from transportation (mobile) sources was deemed adequate to maintain air quality.

Analysis by the RVMPO found that through the horizon of the RTP (2042) and the TIP (2024), and in intervening years, PM_{10} emissions from transportation will not exceed emission budgets, as shown in the table above.

Actions to be taken

The RVMPO Policy Committee, as the policy board for the federally designated Metropolitan Planning Organization in the urbanized area that includes the cities of Ashland, Talent, Phoenix, Jacksonville, Medford, Central Point, Eagle Point, Jackson County, Rogue Valley Transportation District (RVTD) and the Oregon Department of Transportation (ODOT), must formally adopt the findings described in this report. Then USDOT and the federal Environmental Protection Agency confer on the analysis. Ultimately, USDOT will make a conformity determination based on this document. At that time, the RVMPO's 2017-2042 RTP, and the 2018-2021 TIP will go into effect.

Basis of the analysis

The analysis uses computer models to project the amounts of PM₁₀ anticipated in the respective planning area from on-road transportation. The region's travel demand model, developed jointly by RVMPO and ODOT, estimates the amount of vehicle travel anticipated, expressed as vehicle miles traveled (VMT). Emission factors are generated using an EPA-approved model. From these calculations, future emissions are estimated. The models takes into account several key factors that can change over time including population and employment growth, land-use changes, changes to the transportation system and motor vehicle technology.

Details of the Air Quality Conformity Determination

This report shows that with the implementation of this amendment to the 2042 RTP and the 2024 TIP, all current federal and state requirements for on-road transportation emissions within the planning area will be met. For the entire Medford-Ashland Air Quality Maintenance Area, an area within the RVMPO planning area, PM₁₀ emissions from on-road transportation will not exceed the budget set by ODEQ and approved by EPA in 2006. This means that this amendment will not impede the area in continuing to meet air quality requirements.

The report also describes the finding that since the EPA approved a CO LMP for the Medford CO Maintenance Area, the RVMPO is no longer required to complete a regional emissions analysis for CO.

In addition to the analysis itself, this report details how required consultation among appropriate agencies and organizations and the public occurred.

Resolution Number 2021 - 01

Rogue Valley Metropolitan Planning Organization

Policy Committee Adoption of Air Quality Conformity Determination for an amendment to the RVMPO 2017-2042 Regional Transportation Plan and to the 2021-2024 Transportation Improvement Program

Whereas, the Rogue Valley Council of Governments (RVCOG) has been designated by the State of Oregon as the Metropolitan Planning Organization (MPO) for the greater Medford Urban Area; and

Whereas, the RVCOG has delegated responsibility for MPO policy functions to the RVMPO Policy Committee, a committee of elected officials from Ashland, Eagle Point, Central Point, Jacksonville, Medford, Phoenix, Talent, White City, Jackson County, the Rogue Valley Transportation District and the Oregon Department of Transportation; and

Whereas, a public involvement process was developed and implemented consistent with the RVMPO Public Participation Plan throughout the amendment process of the RTP, TIP, and Air Quality Conformity Determination (AQCD); and

Whereas, the MPO, as required by law, held a 30-day public comment period to secure input and comment on the proposed conformity determination and the comments received were explicitly considered; and

Whereas, the 2017-2042 RTP and 2021-2024 TIP have been shown through this document to meet state and federal air quality requirements; and

Whereas, the demonstration of air quality conformity was based on inputs that produced conservative (high) emissions estimates including:

- Using annual average travel estimates rather than permitted lower winter estimates,
- Counting travel beyond air quality area boundaries in emission estimates,
- Using a constant length for unpaved roads through 2042 rather than assuming a continuation of the historic decline in unpaved-road miles,
- Not taking certain allowable emissions credits derived from transportation projects that improve air quality,
- Not assuming a transit mode share increase despite historic trend increases and planned projects and land use assumptions intended and expected to increase transit mode share, and
- Developing emissions estimates without transit service because the continuation of existing services is not fully constrained; and

Whereas, the amendment to the 2017-2042 RTP and the 2021-2024 TIP is financial constrained;

NOW THEREFORE, the Metropolitan Planning Organization Policy Committee approves and adopts the attached Air Quality Conformity Determination for the Regional Transportation Plan and the Transportation Improvement Program.

Adopted by the Rogue Valley Metropolitan Planning Organization Policy Committee on this XX day of March 2021.

Jim Lewis, MPO Policy Committee Chair

(USDOT Conformity Determination to be inserted)



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1.0 OVERVIEW

This document is prepared by the Rogue Valley Metropolitan Planning Organization to demonstrate conformity an amendment to the 2017-2042 Rogue Valley Regional Transportation Plan (RTP) and the 2021-2024 Transportation Improvement Program (TIP) with the Clean Air Act, as required by federal and state requirements as set forth in 40 CFR 93.102(a)(1) and OAR 340-252-0010.

Federal air quality conformity requirements are described in 40 CFR Part 93. Oregon's Conformity State Implementation Plan (SIP), adopted by the Oregon Environmental Quality Commission (EQC) and approved by EPA, establishes rules and standards for determining air quality conformity of transportation plans, programs and projects within Oregon (OAR 340 Division 252). This conformity determination meets all federal and state conformity requirements.

1.1 Document Organizational Structure

This document is organized into three main sections. Section 1 provides a general overview of the document purpose. Section 2 lists the critical legislative requirements that must be met through this conformity determination, and shows how the RVMPO emissions analysis process meets requirements. This section includes details about analysis results. Section 3 summarizes the analysis demonstrating that the amendment to the 2042 RTP and the 2024 TIP are within emission budgets for area pollutants.

1.2 Changes Since Last Conformity Determination

USDOT approved the conformity for the RVMPO 2042 plan on June 12, 2017 and the 2021-24 TIP on October 30, 2020 (notification in Appendix B). A new conformity determination is necessary for this amendment to the 2042 RTP and 2021-24 TIP. This conformity includes updates to the travel demand model network and other travel data and updating inputs to EPA's MOVES2014a emissions model.

1.3 Status of Air Pollutants

The U.S. Environmental Protection Agency (EPA) has established health-based National Ambient Air Quality Standards (NAAQS) for six air pollutants: carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}), ozone (O3), sulfur dioxide (SO2), nitrogen dioxide (NO2) and lead (Pb). Areas that fail to meet the standards are designated "non-attainment" and are required to develop plans to come into compliance with the standards. Once compliance is achieved, a maintenance plan is developed to ensure that air quality will not be compromised in the future. Plans are approved by EPA and then included in the State Implementation Plan (SIP).

The SIPs include measures to regulate emissions from non-mobile, or non-transportation related area sources and point sources. EPA defines an area source as a stationary source that emits less than 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year of all HAPs combined. EPA defines a point source as stack, vent, duct, pipe or other confined air stream from which chemicals may be released to the air. Area and point sources are not addressed in this AQCD; this document demonstrates transportation conformity only.

The Medford Urban Growth Boundary (UGB) is a maintenance area for carbon monoxide (Medford CO maintenance area) and the Medford-Ashland Air Quality Maintenance Area is a maintenance area for particulate matter of less than 10 microns (PM_{10}). See Figure 1 on page 5 for more detail. Air quality for all other criteria pollutants meets the NAAQS and demonstration of conformity for these pollutants is not required. Rogue Valley Council of Governments (RVCOG) is the responsible agency for CO and PM_{10} conformity for state purposes.

Status of CO

EPA approved the Medford CO maintenance plan (State Implementation Plan or SIP), with a daily transportation emissions budget effective Sept. 23, 2002. Formal notice of approval is in Appendix A. The boundary of the Medford CO maintenance area is the Medford Urban Growth Boundary, as shown on Figure 1. The CO SIP also mandates a motor vehicle Inspection and Maintenance (I&M) program covering the entire Medford-Ashland Air Quality Maintenance Area (AQMA). All gasoline-powered motor vehicles registered to owners living within the Medford-Ashland AQMA must have vehicle emissions and on-board diagnostic systems tested biennially. Credits for this program are taken in the emissions factor calculation process described in section 2.3. There has not been a violation of the CO NAAQS in the maintenance area since 1991. While these data show that CO levels are in compliance with the NAAQS, demonstration of conformity relies upon compliance with the federal and state conformity regulations.

In December, 2015, the Oregon Department of Environmental Quality (ODEQ) submitted a Carbon Monoxide Limited Maintenance Plan (LMP) for the Medford area to EPA for approval. To be eligible for a CO LMP, an area has to have a design value at or below 7.65 ppm. Based on ODEQ's review of the 2008 – 2009 CO emissions data for Medford the area met the requirements for an LMP. The CO LMP went into effect on September 19, 2016.

With the approval of the CO LMP, the area is exempt from performing a regional emissions analysis for CO and there is no "budget" test. The CO Maintenance area, however, must meet project level conformity analyses, and must respond to transportation conformity criteria in 40 CFR 93 Subpart A.

The following links are the proposed and direct final rule.

https://www.federalregister.gov/articles/2016/07/20/2016-17060/air-plan-approval-oregonmedford-area-carbon-monoxide-second-10-year-maintenance-plan

https://www.federalregister.gov/articles/2016/07/20/2016-17058/approval-of-medford-oregoncarbon-monoxide-second-10-year-limited-maintenance-plan

Status of PM₁₀

EPA approved the PM_{10} maintenance plan (State Implementation Plan or SIP) for the Medford-Ashland AQMA effective Aug. 18, 2006. Formal notice of approval is in Appendix A. The plan establishes an annual transportation emissions budget. The Medford-Ashland PM_{10} AQMA is shown on Figure 1.

There have been no violations of the NAAQS for PM_{10} since 1993. As with CO conformity, demonstration of PM_{10} conformity relies on compliance with federal and state conformity regulations.

1.4 Purpose of this Determination

The RVMPO 2017-2042 RTP serves as the federally-required long range transportation plan, and the 2021-2024 TIP as the short-range implementing program for projects in the Medford Urbanized Area. Federal and state regulations require these plans to demonstrate conformity to the State Implementation Plan. These regulations provide the basis for the RVMPO's issuance of a determination that the amendment of the 2042 RTP and 2024 TIP comply with the SIP as required by the Clean Air Act Amendments of 1990, codified in federal statute under 40 CFR Part 93, as amended January 2008, and state statute under OAR 340 Division 252.

1.5 Structure and Authority of the RVMPO and RVCOG

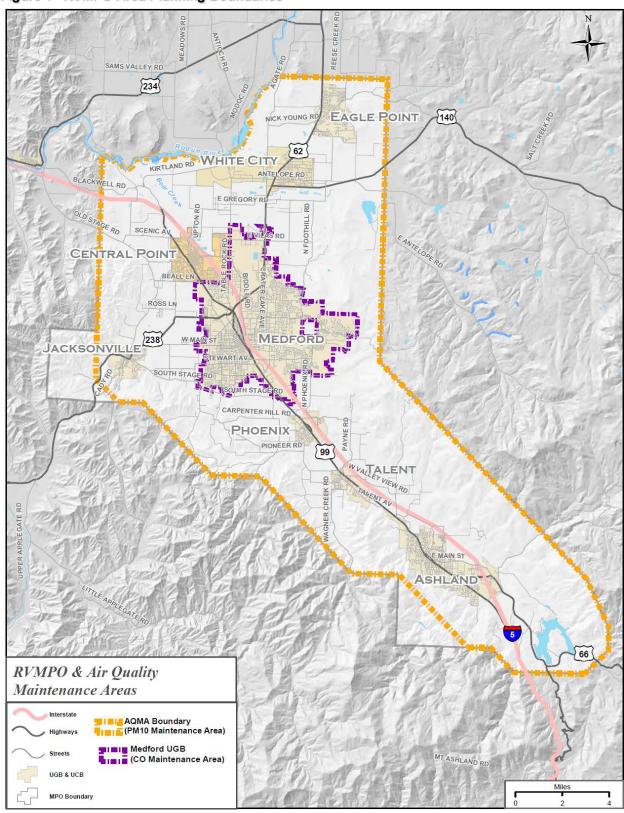
The Governor of Oregon designated the Rogue Valley Council of Governments (RVCOG) as the Rogue Valley Metropolitan Planning Organization (RVMPO) on July 27, 1982. The RVCOG Board of Directors delegated responsibility for RVMPO policy functions to the RVMPO Policy Committee, a committee of elected and appointed officials from Ashland, Talent, Jacksonville, Central Point, Medford, Phoenix, Eagle Point, Jackson County, the Oregon Department of Transportation (ODOT), and the Rogue Valley Transportation District (RVTD). As such, the RVMPO Policy Committee is responsible for ensuring that the region's transportation planning process is conducted in accordance with federal transportation planning regulations (23 CFR 450). In addition, transportation planning must be consistent with the Oregon Transportation Planning Rule (OAR 660, Division 12), the Oregon Transportation Plan and local plans. The RVMPO is responsible for preparing the regional long range transportation plan, the RTP, (23 CFR 450-322) and the short-range improvement program, the TIP, (23 CFR 450-322), and for making conformity determinations for those documents. RVCOG provides staffing to the RVMPO to fulfill RVMPO obligations. RVCOG provides opportunities for public participation in all RVMPO functions, prepares plans and programs, air quality conformity analysis and documents and partners with ODOT's Transportation Planning and Analysis Unit (TPAU) to develop and maintain the region's travel demand model, which is used to estimate vehicle miles traveled (VMT) for air quality conformity.

In addition to the Policy Committee, which is the decision making body for the RVMPO, there are two RVMPO advisory committees: the Technical Advisory Committee (TAC), made up of planning and public work staff of all RVMPO members, U.S. Department of Transportation

(USDOT), Oregon Department of Land Conservation and Development (DLCD), Oregon Department of Environmental Quality (ODEQ) and the Oregon Department of Transportation (ODOT); and the Public Advisory Council (PAC) made up of citizens from all of the RVMPO geographic areas and interest areas (transit, and minority and low-income communities). Committees meet monthly and bimonthly respectively to review and make recommendations on matters going before the Policy Committee. The TAC is specifically designated under OAR 340-252-0060(2)(b)(A)(iv) as the standing committee for purposes of consultation for air quality planning.



Figure 1 RVMPO Area Planning Boundaries



2.0 DEMONSTRATION OF CONFORMITY FOR CO & PM₁₀

This section addresses state and federal requirements for both the Medford CO conformity determination and the Medford-Ashland AQMA PM₁₀ conformity determination, and describes how those requirements have been fulfilled. The analysis for determining conformity is described in this section.

State rules on transportation conformity are contained in Oregon Administrative Rules (OAR), section 340-252; Federal rules are contained in section 40 Code of Federal Regulations (CFR) section 93.

2.1 General Requirements

Frequency of Conformity Determinations 40 CFR 93.104

The most recent conformity determination on the Rogue Valley RVMPO's RTP and TIP was April 26, 2013 (see Appendix B). Conformity of the RTP and TIP must be determined no less frequently than every four years or when there is an amendment (40 CFR 93.104). Because there is an updated RTP and new TIP, they must be shown to conform with the SIP before they can be adopted by the RVMPO. On March 28, 2017, the RVMPO Policy Committee adopted the 2017-42 RTP and the 2021-2024 TIP was adopted on June 23, 2020. To take these actions the RVMPO Policy Committee also must adopt this conformity determination.

The amended 2042 RTP fulfills the requirement under 23 CFR 450.322(c) to update the RTP at least every four years and 23 CFR 450.324 (a) to update the TIP at least every four years.

Consultation

OAR 340-252-0060 40 CFR 93.105

Federal, state and local interagency consultation is required before making a conformity determination. Additionally, activities described in the RVMPO Public Participation Plan must be followed, as specified in 40 CFR 93.105, 40 CFR 93.112 and 23 CFR Part 450.

The RVMPO is the lead agency responsible for making the conformity determination for the RTP and TIP. The RVMPO Technical Advisory Committee (TAC), described in section 1.5, is the standing committee for the purposes of consultation on air quality under OAR 340-252-0060(2)(b)(A)(iv). TAC meetings are open to the public and are advertised by both e-mails to interested parties and web postings.

The RVMPO initiated interagency consultation in September of 2020 by scheduling a zoom meeting involving all of the required agencies and interested parties. A subsequent zoom meeting was held on December 16 with all involved parties Consistent with Part 93.110, which requires that conformity determinations be based on the most recent planning assumptions in force at the time conformity analysis begins, and EPA guidance on latest planning assumption (December 2008) directing that "The time analysis begins is to be defined through interagency

consultation," RVMPO confirmed formally beginning analysis on December 17, 2020, by taking the following actions:

1. Coordinated with ODOT (Transportation Planning Analysis Unit) to begin running updated travel demand model to generate VMT estimates. Model updates are based on changes to the network.

A new regional emissions analysis has been conducted for the Medford-Ashland PM_{10} maintenance area because proposed amendment contains regionally significant projects and additional lane capacity. The RVMPO will use the MOVES2014b emissions model for the PM_{10} emissions analysis.

The formal public comment period, from February 23, 2021 to March 23, 2021, and a RVMPO Policy Committee public hearing on March 23, 2021, were advertised at committee meetings, newspaper ads, and public presentations. All meetings and hearings were held online due to COVID-19 restrictions. Notices of these meetings were posted in advance and the public was provided with the online meeting information so that they could attend if desired.



Table 1: Interagency Consultation Group Roster

Agency	Contact	<u>Phone</u>	<u>Email</u>
<u>FHWA</u>	Jasmine Harris	503.316.2561	jasmine.harris@dot.gov
	Rachael Tupica	503.316.2549	rachael.tupica@dot.gov
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	Benjamin Haines	503.316.2555	benjamin.haines@dot.gov
<u>FTA</u>	Jeremy Borego	206.220.7956	jeremy.borego@dot.gov
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	Robert Schiavoni		
	Doug Sharp		
	Justin Shoemaker	(541) 774-6376	justin.d.shoemaker@odot.state.or.us
City of Medford	Karl MacNair	(541) 774-2115	Karl.MacNair@cityofmedford.org
	Christina Charvat		

Table 2: Summary Schedule of Public Outreach and Consultation

NOTE: THIS TABLE WILL BE INCLUDED IN FINAL DRAFT

Content of Transportation Plans 40 CFR 93.106

The 2017-2042 RTP, adopted by the RVMPO Policy Committee in March 2017, contains updated forecasts for employment, population and land use projections. All assumptions are based on the acknowledged comprehensive plans of RVMPO member jurisdictions, including the region's very-long-range (50+ years) Regional Problem Solving Plan, which identifies areas of urban expansion beyond existing Comprehensive Plans. Land use designations in these plans were assumed to be in place through the forecast period. (However, under OAR 660-012-0016(1), adoption of a regional transportation plan by an MPO is not a land use decision under Oregon law. Additionally, an air quality determination does not trigger a need for a finding that the RTP is consistent with comprehensive plans.)

The specific project list for the amendment to both the 2042 RTP and the 2021-2024 TIP is identified in Appendix E.

Fiscal Constraint for Transportation Plans and TIPs 40 CFR 93.108

Transportation plans and TIPs must be fiscally constrained consistent with metropolitan planning regulations at 23 CFR Part 450 in order to be found in conformity. The projects identified in this proposed amendment are the result of the City of Medford receiving a BUILD grant in the previous fiscal year. The influx of new funds allowed the city and Jackson County to modify projects already existing in the previous 2 TIPs along with the addition of a new roadway segment. With the new federal funding and matching dollars from both the County and the city

of Medford this amendment has shown fiscal constraint in accordance with 23 CFR Part 450. Appendix E contains the specific projects (or project segments) involved in this amendment, and a map illustrating project locations. Consistent with 28 CFR Part 450, all cost and revenue estimates in the plan and program are based on year of expenditure dollars, reflecting estimated inflation rates developed by RVMPO and ODOT.

Statement of Financial Constraint: The project segments included in the proposed amendment for the RVMPO 2017-42 RTP and the adopted FFY 2021-2024 TIP has an identified funding source or combination of sources reasonably expected to be available over the planning period.

Table 3 Financial Constraint Assessment

2.2 Criteria and Procedures for Determining Conformity

General

OAR 340-252-0010 40 CFR 93.109

To demonstrate conformity of a transportation plan and TIP, specific criteria listed in OAR 340 Division 252 and 40 CFR 93.110 through 93.118 must be addressed. These criteria include using the latest planning assumptions and the latest emissions model, and undertaking interagency consultation and public involvement. Responses to these specific criteria are in the following sections.

The RVMPO area includes two maintenance areas. The CO and PM₁₀ Air Quality Maintenance Areas (AQMA) are two distinct maintenance areas with different boundaries. The CO AQMA encompasses the City of Medford's Urban Growth Boundary (UGB). The Medford-Ashland PM₁₀ AQMA covers about 228 square miles and approximates the Bear Creek Basin. The area is generally described as the Rogue Valley. CO and PM₁₀ maintenance plans (State Implementation Plans, SIPs) were approved by EPA on Sept. 23, 2002, and Aug. 18, 2006, respectively. EPA approved a CO LMP for the Medford area that went into effect on September 19, 2016. With the approval of the CO LMP, the area is exempt from performing a regional emissions analysis for CO and there is no "budget" test. The CO Maintenance area, however, must meet project level conformity analyses, and must respond to transportation conformity criteria in 40 CFR 93 Subpart A. The conformity test for PM₁₀ is the motor vehicle budget test as specified in 40 CFR 93.118.

The RVMPO travel demand model v4.2 was used to determine traffic volumes for the required analysis years. The transportation network modeled in each of the analysis years was based on project implementation in the TIP, and the RTP constrained projects list (Appendix E).

Latest Planning Assumptions 40 CFR 93.110

The conformity determination must be based on the most recent planning assumptions in force at the time the conformity analysis begins under EPA Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, issued December 2008. For plans

and TIPs, analysis begins at the point at which the MPO begins to model the impact of the proposed plan or program on travel and emissions. Further, the guidance directs: "The time analysis begins is to be defined through interagency consultation." RVMPO confirmed through interagency consultation that consistent with Part 93.110 analysis for this conformity began September 11, 2020 with an initial discussion of the format and required steps for this conformity determination.

Key assumptions are based on population and employment forecasts for the modeled area's 852 transportation analysis zones (TAZs) over which the transportation network is defined. TAZs are a matrix of small areas with the planning area that allow close examination of the transportation system. The transportation network of the 2042 RTP is defined as shown in Appendix E. The TAZs cover the entire RVMPO planning area, which contains both the Medford-Ashland PM₁₀ maintenance area and the Medford CO maintenance area. Therefore, all travel estimates are based on modeled forecasts.

For this Amended 2042 RTP, latest planning assumption requirements were revisited under the interagency consultation process. Generally speaking, the same data sources and planning assumptions used for the original conformity analysis were employed under this Amended 2042 RTP analysis with two necessary exceptions:

- Updated Travel Model The version of the EMME travel demand model used was changed from 4.2 to 4.3. Version 4.2 is no longer available and Version 4.3 is similar in its formulation. As explained in Table 6: Comparison of Amended and Original 2042 RTP Daily VMT, VMT outputs for the 2017 Baseline network were found to be identical under both versions.
- 2. MOVES Age Distribution Projection Tool Since the original RTP conformity work began in 2016, EPA released a spreadsheet tool to forecast future year vehicle age distributions based on national fleet forecasts in the MOVES database. The original conformity work used slightly different assumptions to project future age distributions (as the tool was not then available). For this amended RTP conformity analysis, the EPA tool was used, consistent with "latest planning assumption" requirements.

Population and employment assumptions used in the travel demand model are described in detail below. Generally, the forecast estimates were refined to the TAZ level by RVMPO through consultation with each jurisdiction individually and jointly through the RVMPO TAC and Policy Committee. Population and employment forecasts used for this conformity determination are shown in Table 4 below.

Population

The population projections are based on Portland State University Population Research Center (PRC) forecasts. The RVMPO travel demand model is consistent with the PRC population estimates.

Employment

¹ https://www.epa.gov/moves/tools-develop-or-convert-moves-inputs

The forecast of employment growth rate in the RVMPO for 2017 to 2042 is based on the Oregon Employment Department's most recent forecast for growth for the Rogue Valley Region (which includes Jackson and Josephine Counties) for the 2012-2022 period. This forecast showed the Region growing at an average annual growth rate of about 1.24%. Future employment was distributed to the TAZ level based on current land use and employment data, in consultation with each jurisdiction.

Table 4: RVMPO Population, Employment

Analysis Year -	2017	2027	2037	2042
Population	180,568	200,929	220,167	228,925
Employment	78,105	88,349	99,938	106,288

Land Use

Both future year employment and population were allocated to TAZs based on existing local land uses, with consideration to available vacant and buildable land, projects currently in the planning process, redevelopment and infill potential. Allocations are consistent with all existing comprehensive land use plans, and made in consultation with each jurisdiction. All urban area growth was assigned to TAZs within Urban Growth Boundaries.

For the last 10 years of the RTP (the 2037 and 2042 conformity analysis years), which extend beyond Comprehensive Plan horizons, RVMPO allocated a portion of future growth to Urban Reserve areas as identified in the Regional Problem Solving Plan. These urban growth allocations were made at the direction of each city, consistent with the city's forecast for full build-out of the UGB area. The RPS Plan has been adopted by each participating city and approved by the state (Land Conservation and Development Commission). Staff to the Commission as well as interagency consultation partners agreed that the RPS-based allocations of population and employment were appropriate as they best represented each jurisdiction's expectation for future growth. Further, in past interagency consultations it was established these allocations are more protective of the airshed. Distributing population and employment over a wider geographical area (beyond UGBs) can be expected to produce greater VMT estimates, and thereby yield higher emissions estimates.

Transit

Non-auto travel was estimated through a mode choice model, which takes into account current transit route and headway information. Transit policies and funding are assumed to be unchanged through the analysis period. In consultation with RVTD it was determined that no change in transit service is planned through the RTP planning horizon.

Further, the RTP financial analysis finds a deficit of about \$94 million through 2042 for maintaining current service. This indicates that additional revenue needs to be identified or service will have to be reduced.

In 2014, RVTD pursued a local property tax to sustain and add a modest service increase. After the failure of the levy RVTD was forced to cut headways and sections of routes in 2015. RVTD pursued the same property tax levy of 13 cents per thousand in May of 2016 and was successful with a 61% vote in favor. The levy maintains current service levels and also helps meet increasing demand on public transportation. It restored Saturday bus service and increased frequency on bus routes that are experiencing overcrowding, including Route 10 which serves

Medford, Phoenix, Talent and Ashland and Route 24 which serves Barnett Rd. in east Medford. Service in Southwest Medford is being expanded to provide a route to South Medford High School and surrounding neighborhoods. It also provides a limited commuter service from downtown Medford to Rogue Community College's Table Rock Campus.

The special levy is available for a 5 year period and RVTD will need to ask the local voters again for continued funding in 2021 to continue providing the additional services and to maintain service over the course of the next 10 years. RVTD is also working with other transit providers in the state to secure state funding, either through general fund or taxes to improve public transportation in the state. It is unclear whether a funding stream from the legislature would be for a biennium or provide permanent support for operations.

If RVTD is unable to secure funds locally for another 5 year period or through the Oregon legislature service cuts would need to be made beginning in 2022 to maintain a base level of service. Based on the uncertainty of funding for transit, the RVMPO developed two sets of emission estimates for both pollutants and all four analysis years, using VMT estimates with and without transit running in the travel demand model. Through interagency consultation it will be determined which analysis is most appropriate for conformity.

Latest Emissions Model 40 CFR 93.111

PM10

The PM₁₀ emissions calculations for this conformity determination were performed using factors derived from the U.S. Environmental Protection Agency's (EPA's) approved model, MOVES2014b² (December 2018 Technical Update version) for PM₁₀ regional conformity. The interagency consultation (IAC) group consisting of ODEQ, ODOT, FHWA, FTA and EPA reviewed and agreed to all critical assumptions used in running MOVES2014b. RVMPO began this analysis September 18, 2020 and at the time, MOVES2014b was the latest version of EPA's MOVES model. Inputs for running MOVES2014b are summarized in Table 5 below.

Table 5: : RVMPO inputs to MOVES2014b

Summary of 2017-2042 RTP Conformity Modeling Elements					
Parameter	Value	Consistent with SIP?	Source/Notes		
Vehicle Emission Model	MOVES2014b	n/a	Latest version of MOVES		
PM ₁₀ Fugitive Dust, Paved Roads	EPA AP-42, Latest Paved Road Dust Methodology (Jan. 2011)	Yes, with updated factors	Link-level travel activity combined with area- specific silt loadings from SIP/MP		
PM ₁₀ Fugitive Dust, Unpaved Roads	EPA AP-42, Latest Unpaved Road Dust Methodology (Nov. 2006)	Yes, with updated factors	Unpaved road travel activity estimates from ODEQ combined with emission factors from SIP/MP		
Pollutants Reported	PM_{10}	n/a	Budgets from ODEQ/EPA Medford- Ashland SIP/MP		

² The original RTP conformity analysis used MOVES2014a. For on-road mobile sources, MOVES2014a and 2014b produce the same emissions.

Summary of 2017-2042 RTP Conformity Modeling Elements				
Parameter	Value	Consistent with SIP?	Source/Notes	
Analysis Years	2017, 2027, 2037, 2042	n/a	Confirmed under IAC	
Nonattainment Season	Annual, based on SIP conformity budget for PM_{10}	Yes	Per SIP/MP, as confirmed under IAC	
Analysis/Planning Areas	PM ₁₀ : Medford/Ashland Air Quality Maintenance Area	Yes	Will need to spatially apportion countywide data to the smaller planning area	
MOVES Input, California LEV Emission Rates	Alternative emission rate data table prepared by EPA/OTAQ to replace selected MOVES default emission rates to reflect Oregon's adoption of California light-duty vehicle emission standards	Yes, with updated factors	MOVES LEV program data tables published by EPA/OTAQ ^a	
MOVES Input - Fleet VMT by HPMSVType	Developed from TPAU modeling network vehicle VMT, apportioned by current statewide HPMS travel splits to be provided by ODOT	Consistent approach, updated values	Will use PM ₁₀ Maintenance Area shapefile to extract VMT within planning area	
MOVES Input - Vehicle Populations by Source Type	Based on 2016 DMV data from ODEQ for passenger car, light truck, motorcycle and motorhome counts, with use of MOVES default splits for other SourceType categories	Consistent approach, different values	Satisfies "latest planning assumption" requirements as confirmed under IAC	
MOVES Input - Fleet Age Distributions	Based on 2016 DMV data from ODEQ for passenger car, light truck, motorcycle and motorhome counts, with MOVES defaults for other SourceType categories. Age distributions for 2017, 2027, 2037 and 2042 project using EPA spreadsheet tool. ^a	Consistent approach, updated values	Satisfies "latest planning assumption" requirements as confirmed under IAC	
MOVES Input - Road Type VMT Distributions	Develop from link-level travel model vehicle VMT outputs from TPAU (model version 4.3) with road type identified	Consistent approach, updated values	Confirmed under IAC	
MOVES Input - Vehicle Speed Distributions	Develop from link-level travel model vehicle VHT and speed outputs from TPAU (model version 4.3) by time of day	Consistent approach, updated values	MOVES speed distributions are VHT, not VMT based	
MOVES Input - Temporal VMT Allocations (Monthly, Daily, Hourly)	MOVES defaults	n/a	Confirmed under IAC	
MOVES Input - Fuels/Properties	Latest Jackson County MOVES fuel properties data used by ODEQ	Consistent approach, updated values	Confirmed under IAC	
MOVES Input - Meteorology	MOVES default meteorology values by month and hour for Jackson County as used by ODEQ	Uncertain ^b	Confirmed under IAC	
MOVES Input - I/M	Not applicable	Yes	Although I/M Program in Medford, MOVES assumes no I/M benefits for PM	
MOVES Input - Ramp Fractions	Develop from link-level travel model outputs from TPAU (model version 4.3)	n/a	Confirmed under IAC	

^a https://www.epa.gov/moves/tools-develop-or-convert-moves-inputs#moves inputs b Hourly meteorology inputs for PM₁₀ emissions in SIP not fully documented.

With respect to the use alternative vehicle emission rates listed in Table 5, the conformity analysis reflected credits for adopted controls based on 40 CFR 93.122(a)(3)(i-iv). The state has adopted the California light-duty vehicle emission certification standards (beginning in model year 2009). Although not specifically listed in the SIP, 93.122 allows RVMPO to take credit for these measures due to state adoption. Thus, the conformity modeling used alternative emission rate tables developed by EPA/OTAQ to account for Oregon's adoption of California light-duty vehicle standards.

<u>Differences Between Original and Amended 2042 RTP Inputs</u> – For completeness, a short summary of the differences in modeling inputs and travel activity between the original and amended 2042 RTP conformity analyses is presented below.

Highlighted rows in Table 5 identify those inputs (or model versions) that are different in this Amended 2042 RTP vs. the original RTP analysis prepared in 2017. This consists of the MOVES model version (MOVES2014b) and vehicle age distribution projection inputs as noted earlier, along with revised VMT by vehicle type (HPMSVType) and VMT by road type, vehicle speed distribution and ramp fraction inputs to MOVES to reflect the inclusion of the Foothills Road Corridor project within the regional travel modeling analysis.

To show the magnitude of regional VMT changes associated with inclusion of the Foothills Road project, Table 6 compares daily VMT from the original 2042 RTP outputs (using EMME 4.2) to those based on the current EMME 4.3 modeling runs that include the Foothills Road project.

Table 6: Comparison of Amended and Original 2042 RTP Daily VMT

Amended 2042 RTP vs. Original 2042 RTP VMT (PM10 AQMA, With Transit)						
	Vehicle Miles Traveled (VM		Traveled (VM	IT)		
Metric	RTP Scenario		2017	2027	2037	2042
Deiler VMT	Original (EMME 4.2)	3,	575,571	4,304,700	5,026,599	5,359,698
Daily VMT	Amended (EMME 4.3)	3,	575,571	4,304,878	5,026,824	5,346,485
% Change from	Original (EMME 4.2)		n/a	n/a	n/a	n/a
Original	Amended (EMME 4.3)	+	-0.000%	+0.004%	+0.004%	-0.247%

As shown in Table 6, the model outputs match exactly in the baseline calendar year 2017. Since this baseline year reflect the same network and project mix (i.e., it predates the Foothills Road project), it confirms that the two version of the EMME regional travel model produce the same results (for the same inputs).

In addition, Table 6 shows that the magnitude of VMT changes from inclusion of the Foothills Road project is very small on a regional basis.³

CO

On September 19, 2016, US-EPA approved a CO maintenance plan, known as a "limited maintenance plan" (LMP) for the Medford area. This limited maintenance plan has a 2025

³ The decrease in VMT from the Foothills Road project in the Amended RTP for calendar year 2042 likely reflects how the travel model accounts for trip re-routing in the horizon year associated with improvements to the Foothills Road corridor that produces shorter trips (on average) and thus, lower VMT.

horizon year. Because of the approved LMP, the Rogue Valley MPO no longer has to complete a regional emissions analysis for the Medford area for CO pursuant to 40 CFR 93.109(e).

However, all other transportation conformity requirements under 40 CFR 93.109(b) continue to apply. This RTP and TIP conformity determination meets all applicable requirements under the conformity rule as described below.

40 CFR 93.104 Frequency of conformity determinations.

Conformity of transportation plans and TIPS must be determined no less frequently than every four years. Conformity of plan and TIP amendments, except for those that add or delete exempt projects, must be demonstrated prior to approval of the action. All FHWA/FTA projects must be found to conform or must be re-conformed following any significant status or scope change, before they are adopted, accepted, approved or funded.

This conformity determination is for the RVMPO 2017 - 2042 Regional Transportation Plan (RTP) and the 2021-2024 Transportation Improvement Program (TIP). The next RTP update will occur in four years (March 2021).

40 CFR 93.105 Consultation

Interagency consultation procedures must be carried out in accord with OAR 340-252-0060 and the MPO's public involvement policies developed under 23 CFR Part 450.

A Pre-Analysis Consensus Plan and a draft of this document along with the project list (Appendix B) was circulated by the MPO to ODOT, US-EPA, and USDOT (FHWA and FTA) during interagency consultation. The air quality implications of each project were reviewed to determine which projects had the potential for hot spot requirements.

Public notice was provided on the MPO's web site and through emails to interested parties in the region. A public hearing was held at the policy committee review meeting, and the 30 day public comment period required by the MPO's Public Participation Plan was held.

The RVMPO Technical Advisory Committee (TAC), the standing committee for interagency consultation, reviewed the project list and subsequently reviewed the results of the public comment period and the interagency consultation. No comments were provided at the public hearing or were submitted during the public comment period.

The *project sponsor* is responsible for assuring the conformity of FHWA/FTA projects and regionally significant projects in the RTP or TIP for which hot spot analysis is required. The project sponsor is also responsible for distributing draft and final project environmental documents prepared by the project sponsor to other agencies. It is the responsibility of the project sponsor to consult with the affected transportation and air quality agencies prior to making a project level conformity determination. These activities occur during the project design planning phase.

40 CFR 93.108 Transportation plans and TIPs must be fiscally constrained.

Fiscal constraint is described and affirmed in the 2042 RTP and the 2018-2021 TIP.

Consultation

OAR 340-252-0060 40 CFR 93.112

See responses to OAR 340-252-0060 and 40 CFR 93.105 above.

Timely Implementation of Transportation Control Measures (TCMs) 40 CFR 93.113

The PM₁₀ maintenance plan list street cleaning programs for the City of Medford, White City and the connecting transportation corridor (Hwy. 62). This street cleaning program is considered by ODEQ to be a Transportation Control Measure (TCM) for reducing particulate pollution. At a minimum, the cleaning program must use high-efficiency, vacuum street sweeper(s) or the equivalent over a geographic area that includes Medford, White City and the section of Hwy. 62, at a frequency of at least two times a month. Jackson County and Medford have fulfilled this obligation. Those jurisdictions and others in the RVMPO have used Congestion Mitigation and Air Quality (CMAQ) funds to purchase street-cleaning equipment.

Currently Conforming Transportation Plan and TIP 40 CFR 93.114

The current 2017-42 RTP was adopted on March 28, 2017 and again on June 27, 2017 and conformed on June 12, 2017 and September 29, 2017 respectively. The current 2021-24 TIP was conformed on October 30, 2020 (see Appendix B).

Motor Vehicle Emissions Budget 40 CFR 93.118

The motor vehicle budgets established in the PM_{10} maintenance plan was used to demonstrate conformity. (As explained earlier, regional emissions analysis for CO is not required due to LMP status).

Analysis Years

Consistency with the respective budget must be demonstrated for the last year of the transportation plan's forecast period (2042), for every year for which the respective maintenance plan has established a budget, and for any intermediate years as necessary so that the demonstrations of consistency are no more than 10 years apart. Four analysis years -- 2017, 2027, 2037 and 2042 -- were identified through interagency consultation as being required for the PM₁₀ conformity determinations. The analysis years and their purpose are shown on the Table 7 below.

Table 7: Conformity Analysis Years

Pollutant	2017	2027	2037	2042
PM ₁₀	Budget Year	Intermediate Year	Intermediate Year	RTP Horizon

In each of these years, population, employment and travel network conditions were identified and used to create a travel demand model for purposes of estimating VMT in each of these years. All regionally significant projects contained in the RTP (financially constrained list) and TIP that can be represented in the travel demand model were included in the analysis.

Details regarding conformity analysis for PM₁₀ are described below.

Particulates (PM₁₀)

EPA approved the PM_{10} maintenance plan for the Medford-Ashland AQMA effective August 18, 2006. Formal notice of approval is in Appendix A. The plan establishes an annual transportation emissions budget. The AQMA is shown on Figure 1. The budget is shown in the Table 8 below.

Table 8: Particulates Budget for Medford Air Quality Maintenance Area

Year	2015 and after
Budget	3,754 tons/year

There has not been a violation of the PM_{10} NAAQS in the maintenance area since 1993. While data show that PM_{10} levels are in compliance with the NAAQS, demonstration of conformity relies upon compliance with the federal and state conformity regulations. Annual emissions of PM_{10} across the entire AQMA must be shown to be less than the budget amounts shown above.

Procedures for Determining Regional Transportation-Related Emissions OAR 340-252-0060 40 CFR 93.122

As required under 40 CFR 93.122(a)(1), the regional emissions analysis for a transportation plan or TIP must include all regionally significant projects expected in the nonattainment or maintenance area. In accordance with 40 CFR 93.105(c)(1)(ii), any new non-exempt projects in the 2017-2042 RTP and 2021-2024 TIP were reviewed by the Interagency Consultation Group.

2.3 Regional Emissions Analysis & Methodology

This section provides details about how state and federally required procedures for conducting a conformity determination were carried out in this analysis.

Procedures for determining regional transportation-related emissions 40 CFR 93.122

VMT Estimates

Nearly all estimates of travel volume in this analysis, expressed as vehicle miles traveled (VMT), were produced by the RVMPO travel demand model produced jointly by RVMPO and ODOT's Transportation Planning and Analysis Unit (TPAU). The only exceptions were the adjustments made for local street travel, which were estimated consistent with ODEQ guidance and the PM₁₀ SIP and added to the outputs of the regional travel demand model. Also, unpaved road travel is estimated separately, as described below and consistent with the SIP. The model was updated in

late 2016 with land use and demographic data described in this document, and calibrated and validated to 2010.

The general structure of the model follows a five-step process of pre-generation (organizing household characteristics matching demographic data), trip generation (calculating person trips by purpose and household), trip distribution (estimating trips between transportation analysis zones [TAZs], matching trip origins and destinations), mode choice (auto, transit, walking or bicycling) and traffic assignment (identifying specific routes taken). It is implemented entirely through a series of script files written in the R language, with the exception of traffic assignment, which was carried out in EMME/4.3.

Specific data obtained from the model for this analysis included volumes and Vehicle Miles Traveled by area and facility type. A link-by-link analysis was carried out. Since roadway capacity and speed are included in the model, the effects of congestion are also included.

Roads included in the model are those of regional significance, generally arterials and collectors in addition to Interstate 5. Because all travel must be accounted for in the conformity analysis, off-network or off-model travel – the local street travel – had to be estimated separately and added to model VMT. To be consistent with the PM₁₀ maintenance plan and previous RVMPO air quality conformity determinations, modeled travel was increased by 10 percent to account for off-network travel. The local travel adjustment is a standard used in Oregon based on modeling by Metro (the Portland area MPO) and used by RVMPO in previous conformity determinations, and agreed upon in interagency consultation. In addition, unpaved road travel was estimated for PM10 emissions only; and that estimation is explained in the PM₁₀ Fugitive Dust Calculations section beginning on page 24.

Transportation Network

All regionally significant and non-regionally-significant projects expected in the PM_{10} maintenance area were included in the regional analysis, as required by the conformity test. Projects include all FHWA and FTA-funded transportation projects proposed in the fiscally constrained RTP and TIP. State and locally funded projects of regional significance also are included. The project lists and map are in Appendix E. All of these projects have identified funding and costs adjusted for inflation.

All projects in Appendix E were considered in this analysis in accordance with 40 CFR 93.126, and 40 CFR 93.127. Air quality exempt status is shown for each project. As a usual and continuing practice, all roadway projects that affect capacity or speed of existing facilities, and any new facilities, are included in the project list according to implementation schedule. For each analysis year, the 2010 base year travel network was augmented by projects expected to be completed by the analysis year. So the 2017 network consists of the base network and projects completed between 2010 and 2016.

No expansion of the transit network or transit service has been assumed. Transit route and scheduling information was provided by transit provider Rogue Valley Transportation District.

Emissions Factors

Total On-Road Emissions - Carbon Monoxide

(Not applicable due to LMP status)

Total On-Road Emissions – PM₁₀

As required by 40 CFR 93.111, the EPA-approved MOVES2014b model was used to produce local PM₁₀ tailpipe, tire and break wear emission factors for each analysis year. Additionally for PM₁₀, the January 2011 revised AP-42 method was used to determine emission factors for paved road dust. The method's silt loading factors (sL) were obtained from the Medford-Ashland PM₁₀ maintenance plan, for each area identified in the maintenance plan as shown on Table 10 on page 18. The factor for dust from unpaved roads was set in the maintenance plan, and was used in this analysis. Environmental and program parameter values for MOVES were provided to RVMPO by ODEQ. These factors were used to compute emissions per vehicle mile traveled (VMT) by facility type.

In producing emission factors for PM_{10} , locally representative data were used where they were available. For example, local (Jackson County) vehicle registration data was used to generate the most accurate emissions estimates possible. RVMPO consulted with ODEQ, and developed and used the most recent available county level vehicle registration data in 2017 (2016 calendar year). Where local data was not available, MOVES national defaults were used. Details about the development of MOVES inputs, MOVES modeling workflow and fugitive dust calculations (for PM_{10}) are described in the following sub-sections.

Summary of Input Data Sources

Local data was used where available for the MOVES modeling inputs and the fugitive dust calculations. The primary sources of data were provided by ODEQ, the Oregon Department of Motor Vehicles (DMV) and the Oregon Department of Transportation (ODOT) Transportation Planning and Analysis Unit (TPAU). Key inputs and sources are listed in Table 9. Where applicable the use of model default values is stated.

Table 9: Over	Table 9: Overview of MOVES Inputs and Fugitive Dust Parameters				
Model Parameter	Data Source and Description				
PM ₁₀ Fugitive Dust, Paved Roads	ODOT & ODEQ: - Link-level travel activity used Silt loadings provided by ODEQ Calculation formula EPA AP-42, Latest Paved Road Dust Methodology (Jan. 2011)				
PM ₁₀ Fugitive Dust, Unpaved Roads	ODEQ: - Activity data provided by ODEQ Emission factors from ODEQ 2013 AQCP Calculation formula EPA AP-42, Latest Unpaved Road Dust Methodology (Nov. 2006)				
Analysis/Planning Area	ODEQ: - PM ₁₀ : Medford/Ashland Air Quality Maintenance Area - ArcGIS shape files provided by ODEQ to apportion link-level outputs to PM ₁₀ planning areas.				
MOVES Input, California LEV Emission Rates ^a	EPA: - Utilize alternative emission rate data table prepared by EPA/OTAQ to replace selected MOVES default emission rates to reflect Oregon's adoption of California LEV vehicle emission certification standards				

	 Utilize model's "Manage Input Dataset" function to overlay alternative California LEV emission rates for model year 2009 and later light-duty vehicles
MOVES Input - Fleet VMT by HPMSVType	ODOT: - Annual VMT calculated from link-level travel activity separately for each analysis year and transit scenario - Shapefiles provided by ODEQ to extract PM ₁₀ planning area data - Source-specific VMT calculated from state-wide fractions provided by ODOT.
MOVES Input - Vehicle Populations by Source Type	ODEQ/DMV: - Passenger vehicle populations were developed from DMV registrations, circa 2016, provided by ODEQ - All other vehicle source types were generated using MOVES default splits - Vehicle populations scaled from Jackson County to PM ₁₀ area
MOVES Input - Fleet Age Distributions	ODEQ: - Vehicle age distributions were developed for passenger vehicle source types from DMV registrations, circa 2016, provided by ODEQ - MOVES defaults were used for other vehicle source types - EPA MOVES spreadsheet tool used to project 2016 age distributions to 2017, 2027, 2037 and 2042 analysis years
MOVES Input - Road Type VMT Distributions	ODOT: - Link-level vehicle VMT was used to develop year-specific and transit scenario-specific road type distributions for PM ₁₀ area
MOVES Input - Vehicle Speed Distributions	ODOT: - Link-level hourly average vehicle speeds and vehicle hours traveled (VHT) were used to develop road type specific speed distributions by analysis year and transit scenario - Link-level peak hour distributions for 5:00 to 6:00 PM were used.
MOVES Input - Temporal VMT Allocations (Monthly, Daily, Hourly)	MOVES Defaults: - MOVES default monthly, daily and hourly VMT temporal allocations used
MOVES Input - Fuels/Properties	MOVES Defaults: - MOVES default fuel supply and formulation confirmed to match data from ODEQ and used
MOVES Input - Meteorology	MOVES Defaults: - MOVES default meteorology values for Jackson County
MOVES Input - I/M	ODEQ: - MOVES I/M inputs provided by ODEQ for 2012 and adapted for 2017, 2027, 2037, 2042 years based on Oregon I/M program description
MOVES Input - Ramp Fractions	ODOT: - Developed from link-level travel model outputs

Preparation of MOVES Inputs

The local data received from ODEQ and ODOT was processed to conform to MOVES model input requirements. These data and their processing are described in this sub-section.

<u>Transportation Model Data</u> – Travel model link-level activity was provided by ODOT for 2017, 2027, 2037, and 2042 for one scenario with existing transit services and a second scenario without existing transit services. Average daily activity and peak hour activity outputs were included. Separate activity totals were extracted for links within the PM_{10} planning area. ArcGIS boundary files supplied by ODEQ were used to determine the links within each of the planning areas. Activity data for the PM_{10} area was used in both the fugitive dust calculations and creation of MOVES inputs.

MOVES Local Inputs Processing – The local data received from sources in Table 9 were translated into MOVES model compatible inputs over all modeling years, scenarios and planning areas. The transportation model outputs were processed into annual vehicle type VMT, road type VMT distributions, ramp fractions, and average speed distributions. DMV registration data formed the basis for the vehicle source type populations and age distribution inputs for five different vehicle classes: motorcycle, passenger car, passenger truck, school bus, and motor home. MOVES default vehicle source type splits were used to calculate the source type population of all other vehicle types and to scale vehicle types to future years. The population totals in Table 10 were used to scale vehicle populations from the county level to the PM₁₀ planning area. MOVES defaults were used for the age distributions except for the passenger vehicle fleet where DMV data was used.

Table 10: Population Scaling Factors for						
Planning Areas						
Location	Population	Population Scaling				
Jackson County	204,654	1.000				
PM ₁₀ Area	171,114	0.836				

Alternative base emission rates reflecting Oregon's adoption of the California light-duty vehicle emission standards were supplied to MOVES during execution via the model's "Manage Input Datasets" feature and developed using published EPA guidance⁴ and emission rate tables.

Inspection maintenance program inputs were adapted from data received from ODEQ. Fuel supply and formulation defaults were comparable to data provided by ODEQ. All other MOVES inputs were set to default values.

MOVES Modeling Run Configuration

Across the PM₁₀ modeling area, the MOVES model "RunSpec" options were configured following EPA's guidance⁵ for the use of MOVES in modeling of emissions inventories for Statewide Implementation Plan or Conformity Modeling. This included selection of the County-Scale inventory calculation option.

MOVES2014b was executed in the "Inventory" calculation mode to develop estimates of on-road vehicle fleet exhaust (and brake/tire wear) emissions (in tons/year) within the Medford AQMA PM10 planning area. A total of eight model runs were generated (4 calendar years \times 2 transit scenarios).

Time aggregation was set to "Hour" with all months selected for PM₁₀ runs. Both weekend and weekdays were simulated for all hours of the day. In the Geographic Bounds panel, "Oregon - Jackson County" was selected. (The Medford/Ashland Air Quality Maintenance Area planning

RVMPO Air Quality Conformity Determination for BUILD Grant February 9, 2021

⁴ "Instructions for Using LEV and NLEV Inputs for MOVES2014, U.S. Environmental Protection Agency, Report No. EPA-420-B-14-060a, October 2014.

⁵ "MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation and Transportation Conformity," U.S. Environmental Protection Agency, Report No. EPA-420-B-15-093, November 2015.

area is a subset of Jackson County). Customized input databases were created for each modeled year for PM_{10} for both the "transit" and "no transit" scenarios. All gasoline and diesel vehicle categories were selected as well as all road types. For the PM_{10} RunSpecs, the following pollutants were selected for all processes listed below:

- Primary Exhaust PM_{2.5} Total;
- Primary Exhaust PM_{2.5} Species;
 - o Aluminum:
 - o Ammonium (NH₄);
 - o Calcium:
 - o Chloride;
 - o CMAQ5.0 Unspeciated (PMOTHR);
 - o Composite NonECPM;
 - o Elemental Carbon;
 - o H20 (aerosol);
 - o Iron;
 - o Magnesium;
 - o Nitrate (NO₃);
 - o Non-carbon Organic Matter (NCOM);
 - o Organic Carbon;
 - o Potassium;
 - o Silicon:
 - o Sodium;
 - o Sulfate Particulate; and
 - o Titanium
- Primary PM_{2.5} Brakewear Particulate;
- Primary PM_{2.5} Tirewear Particulate; and
- Primary Exhaust PM₁₀ Total;
- Primary PM₁₀ Brakewear Particulate;
- Primary PM₁₀ Tirewear Particulate;
- Total Energy Consumption.

(MOVES2014b requires the modeling of $PM_{2.5}$ emissions from various processes when PM_{10} is modeled because of the way it performs internal calculations. However, the $PM_{2.5}$ outputs were not used for this analysis.)

MOVES output units were set to grams, joules, and miles for mass, energy, and distance, respectively. Distance traveled, source hours, population, and starts were chosen for activity outputs. Emissions were aggregated by "Year" at the county level and split into road type, source use type, fuel type, and emission process. All other model options were left at default values.

MOVES Emissions Outputs

The MOVES calculations were executed in the county-scale inventory mode as described in the "Modeling Run Configuration" subsection. Model outputs were exported to spreadsheets, processed, and reviewed. On-road vehicle exhaust emissions are summarized for PM₁₀ in Table 11. They represent on-network activity and starting emissions for both the "With Transit" and "Without Transit" scenarios in analysis years 2017, 2027, 2037, and 2042.

Table 11: MOVES Model PM10 Emissions Totals for Transit and No Transit Scenarios for 2017, 2027, 2037, and 2042							
2017 2027 2037 2042							
Total PM ₁₀ w/ Transit (tons/year)*	153.1	106.6	108.5	116.2			
Running Exhaust, Tire & Brake On-Network (tons/year)		97.7	103.1	111.1			
Exhaust Idling and Starts (tons/year)	23.5	8.9	5.4	5.1			
Total PM ₁₀ w/o Transit (tons/year)*		106.9	108.8	116.4			
Running Exhaust, Tire & Brake On-Network (tons/year)	98.1	98.1	103.5	111.3			
Exhaust Idling and Starts (tons/year)	23.5	8.9	5.4	5.1			

^{*}In conducting the MOVES modeling for this amended 2042 RTP conformity analysis, it was discovered that MOVES modeling runs for the original conformity analysis contained errors in the compiled speed distribution inputs that resulted in exhaust emissions that were roughly 30 tons per year higher than those shown above in Table 11. The exhaust emissions in Table 11 reflect properly processed speed distribution inputs to MOVES.

Detailed MOVES input and output files are available via CD upon request.

PM₁₀ Fugitive Road Dust Calculations

The most current AP-42-based methods were used to calculate fugitive dust emissions on unpaved and paved roads within the PM_{10} planning area and are described separately below.

<u>Unpaved Road Dust</u> - Details on unpaved dust mileage, ADT and emission factors were provided by ODEQ. The emission factors were calculated from the November 2006 version of AP-42 unpaved road dust methodology⁶. The aggregate length of unpaved roads within the planning area estimated at a constant 85 miles over the entire analysis horizon. The average daily traffic was from the traffic estimated on unpaved roads developed by RVMPO. Unpaved road dust emission calculations are shown in Table 12.

Table 12: Unpaved Fugitive Dust Emissions									
	2017	2027	2037	2042					
Miles	85	85	85	85					
ADT	26.0	29.5	33.0	34.8					
VMT	2213.9	2510.8	2807.6	2956.0					
Emission Factor (g/mi)	521.6	521.6	521.6	521.6					
Days in Year	365	365	365	365					
Emissions (tons/year)	464.7	526.9	589.2	620.4					

<u>Paved Road Dust</u> - Fugitive dust calculations used the January, 2011 publication of AP-42's paved road dust methodology:

$$EF = k * (sL)^{(0.91)} * (W)^{1.02};$$

⁶ "Rogue Valley Metropolitan Planning Organization Rogue Valley Metropolitan Planning Organization Air Quality Conformity Determination for 2013-2038 Regional Transportation Plan 2012-2015 Metropolitan Transportation Improvement Program, 2012-2015 Metropolitan Transportation Improvement Program, as Amended," Rogue Valley Council of Governments, March 26, 2013.

where

EF is the emission factor (g/mi), k is the particle size multiplier (g/mi) sL is the road surface silt loading (g/m²), and W is the average vehicle weight (tons).

The size multiplier k was set to 1.00 g/mi for PM₁₀ per Table 13.2.1-1 of AP-42⁷. RVCOG supplied average vehicle weight information for Interstate 5, White City, and remaining roads at 3.18 tons, 2.26 tons and 2.02 tons respectively. Silt loading values were applied from the 2013 RVCOG AQCD⁸ as listed below in Table 13.

Table 13: Paved Roadway Silt Loading Factors					
Location	Silt Loading (g/m²)				
Interstate 5	0.015				
White City High ADT	1.350				
White City Low ADT	3.400				
White City Industrial Ave G	11.000				
Remaining High ADT	0.190				
Remaining Low ADT	0.540				

Vehicle activity was extracted from the link-level travel model outputs for each of the six silt loading-specific locations. The model provides a forecast of average daily travel on defined roadway links. The daily traffic volume forecast for each link is multiplied by the link's length to yield VMT for each link. VMT is multiplied by PM₁₀ emission factors for re-suspended road dust to estimate paved and unpaved road dust emissions. Emissions estimates were subsequently adjusted to tons annually. VMT reported here represents modeled vehicle miles traveled within the PM₁₀ AQMA area, increased by 10 percent to include off-model local travel. Tables 14 through 21 present calculated of road dust emissions by location for each combination of calendar year (2017, 2027, 2037 and 2042) and transit scenario analyzed.

Table 14: 2017 Fugitive Dust Emissions for Paved and Unpaved Roads Without Transit									
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)	
Interstate 5	0.015	3.18	0.07	1,266,334	n/a	90,213	199	36	
White City High ADT	1.350	2.26	3.02	137,804	151,585	457,561	1009	184	
White City Low ADT	3.400	2.26	7.00	24,500	26,950	188,534	416	76	
White City Industrial Ave G	11.000	2.26	20.36	8,884	n/a	180,905	399	73	
Remaining High ADT	0.190	2.02	0.45	1,797,905	1,977,695	893,889	1971	360	
Remaining Low ADT	0.540	2.02	1.17	348,983	383,881	448,884	990	181	

⁷ US EPA, 2011. Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Vol. I: Stationary, Point and Area Sources. Section 13.2.1: Paved Roads January 2011 and Section 13.2.2: Unpaved Roads November 2006. (http://www.epa.gov/ttn/chief/ap42/ch13/index.html)

^{8 &}quot;Rogue Valley Metropolitan Planning Organization Rogue Valley Metropolitan Planning Organization Air Quality Conformity Determination for 2013-2038 Regional Transportation Plan 2012-2015 Metropolitan Transportation Improvement Program, 2012-2015 Metropolitan Transportation Improvement Program, as Amended," Rogue Valley Council of Governments, March 26, 2013.

Unpaved	521.0	3 2,214	n/a	1,154,862	2546	465
Total Fugitive Dust		3,586,623	3,817,542	3,414,848	7,528	1,374

n/a – not applicable



Table 15: 2027 F	Table 15: 2027 Fugitive Dust Emissions for Paved and Unpaved Roads Without Transit							nsit
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	1,598,444	n/a	113,872	251	46
White City High ADT	1.350	2.26	3.02	193,299	212,628	641,823	1415	258
White City Low ADT	3.400	2.26	7.00	24,916	27,408	191,739	423	77
White City Industrial Ave G	11.000	2.26	20.36	10,057	n/a	204,800	452	82
Remaining High ADT	0.190	2.02	0.45	2,143,330	2,357,663	1,065,629	2349	429
Remaining Low ADT	0.540	2.02	1.17	345,244	379,769	444,074	979	179
Unpaved			521.63	2,511	n/a	1,309,692	2887	527
Total Fugitive Dust				4,317,801	4,588,480	3,971,630	8,756	1,598

n/a – not applicable

Table 16: 2037 F	Table 16: 2037 Fugitive Dust Emissions for Paved and Unpaved Roads Without Transit							sit
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	1,870,438	n/a	133,248	294	54
White City High ADT	1.350	2.26	3.02	237,433	261,176	788,365	1738	317
White City Low ADT	3.400	2.26	7.00	21,793	23,972	167,706	370	67
White City Industrial Ave G	11.000	2.26	20.36	11,219	n/a	228,466	504	92
Remaining High ADT	0.190	2.02	0.45	2,564,422	2,820,864	1,274,989	2811	513
Remaining Low ADT	0.540	2.02	1.17	332,468	365,715	427,641	943	172
Unpaved			521.63	2,808	n/a	1,464,523	3229	589
Total Fugitive Dust				5,040,581	5,356,193	4,484,939	9,888	1,804

n/a – not applicable

Table 17: 2042 F	Table 17: 2042 Fugitive Dust Emissions for Paved and Unpaved Roads Without Transit							
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	2,000,981	n/a	142,548	314	57
White City High ADT	1.350	2.26	3.02	259,097	285,006	860,297	1897	346
White City Low ADT	3.400	2.26	7.00	21,669	23,836	166,754	368	67
White City Industrial Ave G	11.000	2.26	20.36	12,114	n/a	246,688	544	99
Remaining High ADT	0.190	2.02	0.45	2,736,296	3,009,926	1,360,442	2999	547
Remaining Low ADT	0.540	2.02	1.17	327,942	360,736	421,819	930	170
Unpaved		•	521.63	2,956	n/a	1,541,938	3399	620
Total Fugitive Dust				5,361,056	5,695,556	4,740,487	10,451	1,907

n/a – not applicable

Table 18: 2017	Table 18: 2017 Fugitive Dust Emissions for Paved and Unpaved Roads With Transit							
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	1,262,479	n/a	89,938	198	36
White City High ADT	1.350	2.26	3.02	137,618	151,380	456,943	1007	184
White City Low ADT	3.400	2.26	7.00	24,452	26,897	188,163	415	76
White City Industrial Ave G	11.000	2.26	20.36	8,886	n/a	180,959	399	73
Remaining High ADT	0.190	2.02	0.45	1,793,756	1,973,131	891,826	1966	359
Remaining Low ADT	0.540	2.02	1.17	348,381	383,219	448,109	988	180
Unpaved			521.63	2,214	n/a	1,154,862	2546	465
Total Fugitive Dust				3,577,785	3,808,205	3,410,799	7,520	1,372

n/a – not applicable

Table 19: 2027	Table 19: 2027 Fugitive Dust Emissions for Paved and Unpaved Roads With Transit							
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	1,594,136		113,565		46
White City High ADT	1.350	2.26		193,135		641,280		258
White City Low ADT	3.400	2.26		24,873		,	422	77
White City Industrial Ave G	11.000	2.26	20.36	10,055	n/a	204,760	451	82
Remaining High ADT	0.190	2.02	0.45	2,138,081	2,351,890	1,063,019	2344	428
Remaining Low ADT	0.540	2.02	1.17	344,599	379,059	443,244	977	178
Unpaved			521.63	2,511	n/a	1,309,692	2887	527
Total Fugitive Dust				4,307,389	4,577,458	3,966,965	8,746	1,596

n/a – not applicable

Table 20: 2037 Fugitive Dust Emissions for Paved and Unpaved Roads With Transit								
Location	Silt Loading	Average Weight	Emission Factor	Daily	Adjusted VMT +10%	Emissions	Emissions	Emissions
	(g/m^2)	(tons)	(g/mi)	VMT	I I	<u> </u>	(lbs/day)	(tons/year)
Interstate	0.015	3.18		1,864,968	n/a	132,859		53
White City High ADT	1.350	2.26	3.02	237,308	261,039	787,953	1737	317
White City Low ADT	3.400	2.26	7.00	21,773	23,951	167,553	369	67
White City Industrial Ave G	11.000	2.26	20.36	11,203	n/a	228,141	503	92
Remaining High ADT	0.190	2.02	0.45	2,558,752	2,814,627	1,272,170	2805	512
Remaining Low ADT	0.540	2.02	1.17	332,819	366,101	428,092	944	172
Unpaved			521.63	2,808	n/a	1,464,523	3229	589
Total Fugitive Dust				5,029,632	5,344,697	4,481,291	9,880	1,803

n/a – not applicable

Table 21: 2042	Table 21: 2042 Fugitive Dust Emissions for Paved and Unpaved roads With Transit							
Location	Silt Loading (g/m²)	Average Weight (tons)	Emission Factor (g/mi)	Daily VMT	Adjusted VMT +10%	Emissions (g/day)	Emissions (lbs/day)	Emissions (tons/year)
Interstate	0.015	3.18	0.07	1,995,867	n/a	142,184	313	57
White City High ADT	1.350	2.26	3.02	257,817	283,599	856,050	1887	344
White City Low ADT	3.400	2.26	7.00	21,652	23,817	166,617	367	67
White City Industrial Ave G	11.000	2.26	20.36	12,106	n/a	246,526	543	99
Remaining High ADT	0.190	2.02	0.45	2,731,716	3,004,888	1,358,165	2994	546
Remaining Low ADT	0.540	2.02	1.17	327,327	360,059	421,028	928	169
Unpaved			521.63	2,956	n/a	1,541,938	3399	620
Total Fugitive Dust				5,349,441	5,683,292	4,732,508	10,433	1,904

n/a - not applicable

Total Emissions and Budget Comparisons

Table 22 presents comparison of motor vehicle PM_{10} emissions under the two TIP transit scenarios analyzed to applicable motor vehicle emission budgets in calendar years 2017, 2027 2037 and 2042. The PM_{10} budgets are annual and emissions are reported in tons per year units. Table 22 also provides a breakdown of the PM_{10} emission components from on-road exhaust and paved and unpaved road dust.

Table 22: Comparison of Total Motor Vehicle PM ₁₀ Emissions to Applicable Emission Budgets (tons/year)					
Transit Scenario	2017	2027	2037	2042	
With Transit PM ₁₀ Total Emissions	1,525	1,703	1,912	2,020	
Exhaust (tons/year)*	153	107	108	116	
Paved Road Dust (tons/year)	908	1,069	1,214	1,284	
Unpaved Road Dust (tons/year)	465	527	589	620	
Without Transit PM ₁₀ Total Emissions	1,527	1,705	1,914	2,024	
Exhaust (tons/year) *	154	107	109	116	
Paved Road Dust (tons/year)	909	1,071	1,215	1,287	
Unpaved Road Dust (tons/year)	465	527	589	620	
PM10 Vehicle Emission Budget	3,754	3,754	3,754	3,754	

^{*}In conducting the MOVES modeling for this amended 2042 RTP conformity analysis, it was discovered that MOVES modeling runs for the original conformity analysis contained errors in the compiled speed distribution inputs that resulted in exhaust emissions that were roughly 30 tons per year higher than those shown above in Table 22. The exhaust emissions in Table 22 reflect properly processed speed distribution inputs to MOVES.

Exempt Projects 40 CFR 93.126-127

Certain financially constrained transportation projects are exempt from the conformity process because they do not measurably impair air quality. For example, a project to install medians on a highway to improve safety is exempt for conformity purposes. Often, an exempt project provides a benefit to air quality by reducing emissions, particularly particulate emissions. For

example, a project common in the RVMPO area is an urban upgrade – installing curbs, gutters, bike lanes and sidewalks. By expanding the paved area, vehicles track-out of dirt from driveways and shoulders is reduced, and streets can be cleaned more effectively. A description of the project segments to be amended into the 2042 RTP and 2024 TIP and their exempt status is in Appendix C. The status of these projects has been determined through interagency consultation. Details on federal project exemption rules are in Appendix D.



3.0 Summary

The finding of this conformity determination is that the proposed amendment to the 2017-2042 RTP and 2021-2024 TIP will result in CO and PM₁₀ emissions lower than respective maintenance plan on-road emissions budgets. Therefore, the RTP and TIP and comply with specific requirements of the federal Clean Air Act and Oregon State Conformity Rule, OAR 340-252-0010, and the federal rule 40 CFR 93.118.

The estimates illustrate the impact travel, expressed as total vehicle miles traveled (VMT), has on air quality, and ultimately the region's ability to maintain transportation conformity. PM_{10} in the Medford-Ashland PM_{10} maintenance area is anticipated to increase as a result of increasing VMT. By the horizon of the RTP the region can expect to be using slightly more than half of its PM_{10} emissions budget. Transportation projects that will have the greatest benefit to PM_{10} emissions will be those that address road dust. Paving projects – especially widening shoulders to accommodate bikes, curbs, gutters and sidewalks – will continue to be among the most beneficial. By reviewing the lists of planned and programmed projects, Appendix E, projects that reduce particulate emissions can be identified. They include urban upgrade projects that add curbs, gutters and sidewalks. Credits for air-quality-improving projects, often funded with federal Congestion Mitigation and Air Quality (CMAQ) funds could theoretically have been used as offsets against the future year emissions estimates, however, offset calculations were not required to meet the PM_{10} budget tests and were not taken.

In addition to not taking emission credits, RVMPO might have estimated a reduction in unpaved roads based on history, existing policies and planned and programmed projects, however, no reduction of road miles was anticipated in the VMT estimate for unpaved roads.

Another potential downward adjustment to VMT for seasonal travel changes also was not pursued by RVMPO. The PM₁₀ maintenance plan is based on winter travel, which is lower than summer and average annual travel. The RVMPO travel demand model is based on travel averaged annually, and so VMT estimates used here are averaged annual traffic data, which are greater than winter VMT numbers that RVMPO could have used in estimating PM₁₀ emissions.

Finally, this demonstration also doesn't assume major changes in travel behavior. For instance, the transit district, RVMPO and the member jurisdictions are working toward expanding transit service, but because funds and projects haven't been identified, shift to transit travel – or other alternatives such as bicycling and walking – is not anticipated.

Appendices



Appendix A

Federal Register Promulgation of CO Budget

Federal Register Promulgation of PM_{10} & CO Budgets CO Limited Maintenance Plan



Appendix B

Supporting Correspondence

USDOT Conformity Determination



U.S. DEPARTMENT OF TRANSPORTATION



Federal Highway Administration Oregon Division 530 Center Street, Suite 420 Salem, Oregon 97301 503-399-5749 Federal Transit Administration Region 10 915 Second Avenue, Room 3142 Seattle, Washington 98174-1002 206-220-7954

June 12, 2017

HAD-OR/ FTA-TRO-10 File Code: 724.441

Mr. Karl D. Welzenbach Planning Program Manager Rogue Valley Council of Governments 155 N. 1st St., P.O. Box 3275 Central Point, OR 97502

RE: USDOT Air Quality Conformity Determination of Rogue Valley Metropolitan Planning Organization, 2017-2042 Regional Transportation Plan

Dear Mr. Welzenbach:

The Clean Air Act Amendments of 1990 (CAAA) require that transportation plans, programs, and projects cannot create new National Ambient Air Quality Standards (NAAQS) violations, increase the frequency or severity of existing NAAQS violations or delay the attainment of the NAAQS. The U.S. Department of Transportation (Federal Highway Administration, FHWA and Federal Transit Administration, FTA) is required to make a transportation conformity determination in non-attainment and maintenance areas as outlined in 40 CFR 93.104 (Frequency of Conformity Determinations) and 23 CFR Part 450 (FHWA and FTA Planning Rule). The CAAA requires States and Metropolitan Planning Organizations (MPOs) to demonstrate, through the conformity process, that the transportation program, as a whole, is consistent with the State Implementation Plan (SIP). Transportation conformity ensures that federal funding and approval are given to those transportation activities that are consistent with air quality goals and do not worsen air quality or interfere with the purpose of the SIP.

The United States Environmental Protection Agency (EPA) approved a carbon monoxide (CO) limited maintenance plan (LMP), effective September 19, 2016 (see 81 FR 47029; July 20, 2016) and a PM₁₀ maintenance plan, effective August 18, 2006, (see 71 FR 35163; June 19, 2006) for the Medford area. With the approved CO LMP, the Rogue Valley Metropolitan Planning Organization (RVMPO) is no longer required to complete regional emissions analysis for the Medford area for CO; however, emissions analysis is required for the Medford-Ashland area for PM₁₀. All other transportation conformity requirements still apply to both pollutants (see 40 CFR 93.109(b)).

This letter constitutes the joint FHWA and FTA air quality conformity determination (AQCD) for the RVMPO 2017-2042 Regional Transportation Plan (RTP), adopted by the RVMPO Policy Committee March 28, 2017. The conformity analysis provided by RVMPO indicated that the air quality conformity requirements have been met. Based on our review of the RVMPO air quality conformity determination, analysis, and documentation submitted to our offices on April 3, 2017,

we find the 2017-2042 RTP conforms to the SIP, in accordance with the Transportation Conformity Rule and the Oregon Conformity SIP. This federal conformity determination was made after interagency consultation with EPA Region 10, Oregon Department of Environmental Quality, and Oregon Department of Transportation, pursuant to the Transportation Conformity Rule.

Your letter also included a request for an AQCD for the 2018-2021 Metropolitan Transportation Improvement Program (TIP), adopted by RVMPO Policy Committee March 28, 2017. However, RVMPO is readopting the 2018-2021 TIP to include additional projects. The USDOT will make an AQCD for the MPO TIP at a later date.

Please contact Mr. Chris Bucher of FHWA at 503-316-2555 or Mr. Jeremy Borrego of FTA at 206-220-7956 if you have any questions.

Sincerely,

Phillip A. Ditzler
Division Administrator
Federal Highway Administration

for Linda M. Gehrke Regional Administrator Federal Transit Administration

cc:

FHWA Rachael Tupica, Senior Transportation Planner
FTA Jeremy Borrego, Transportation Program Specialist
Ned Conroy, Community Planner
EPA Karl Pepple, Environmental Protection Specialist
Claudia Vaupel, Air Quality Planner
ODEQ Dave Nordberg, Transportation Planning Coordinator
ODOT Natalie Liljenwal, Environmental Engineer
Mike Baker, Region 3 Planning Manager
Erik Havig, Planning Section Manager
Jeff Flowers, Program and Funding Services Manager

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U.S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration Oregon Division 530 Center Street, Suite 420 Salem, Oregon 97301 503-399-5749 Federal Transit Administration Region 10 915 Second Avenue, Room 3142 Seattle, Washington 98174-1002 206-220-7954

September 29, 2017

In Reply Refer To: HDA-OR/FTA-TRO-10

Mr. Karl D. Welzenbach Planning Program Manager Rogue Valley Council of Governments 155 N. 1st St., P.O. Box 3275 Central Point, OR 97502

Dear Mr. Welzenbach:

The Clean Air Act Amendments of 1990 (CAAA) require that transportation plans, programs, and projects cannot create new National Ambient Air Quality Standards (NAAQS) violations, increase the frequency or severity of existing NAAQS violations or delay the attainment of the NAAQS. The U.S. Department of Transportation (FHWA and FTA) is required to make a transportation conformity determination in non-attainment and maintenance areas as outlined in 40 CFR 93.104 (Frequency of Conformity Determinations) and 23 CFR Part 450 (FHWA and FTA Planning Rule). The CAAA requires States and Metropolitan Planning Organizations (MPOs) to demonstrate, through the conformity process, that the transportation program as a whole is consistent with the State Implementation Plan (SIP). Transportation conformity ensures that Federal funding and approval are given to those transportation activities that are consistent with air quality goals and do not worsen air quality or interfere with the purpose of the SIP.

The United States Environmental Protection Agency (EPA) approved a carbon monoxide (CO) limited maintenance plan (LMP), effective September 19, 2016 (81 FR 47029; July 20, 2016) and a maintenance plan for particulate matter of less than 10 microns (PM₁₀), effective August 18, 2006, (71 FR 35163; June 19, 2006) for the Medford area. With the approved CO LMP, the Rogue Valley Metropolitan Planning Organization (RVMPO) is not required to complete regional emissions analysis for the Medford area for CO; however, emissions analysis is required for the Medford-Ashland area for PM₁₀. All other transportation conformity requirements still apply to both pollutants (40 CFR 93.109(b)).

This letter constitutes the joint Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) air quality conformity determination (AQCD) for the RVMPO 2018-2021 MTIP, adopted by the RVMPO Policy Committee on June 27, 2017. The conformity analysis provided by RVMPO indicated that the air quality conformity requirements have been met. Based on our review of the RVMPO conformity determination, analysis, and documentation

submitted to our offices from your letter dated July 5, 2017, we find that the 2018-2021 MTIP conform to the SIP in accordance with the Transportation Conformity Rule and the Oregon Conformity SIP. This Federal conformity determination was made after interagency consultation with EPA Region 10, Oregon Department of Environmental Quality, and Oregon Department of Transportation, pursuant to the Transportation Conformity Rule.

Please contact Mr. Chris Bucher at (503) 316-2555 or Mr. Jeremy Borrego of FTA at (206) 220-7956 if you have any questions.

Sincerely,

Phillip A. Ditzler
Division Administrator
Federal Highway Administration

Linda M. Gehrke Regional Administrator Federal Transit Administration

cc:

FHWA Chris Bucher, Operations Engineer

Rachael Tupica, Senior Transportation Planner

FTA Jeremy Borrego, Transportation Program Specialist

Ned Conroy, Community Planner

EPA Karl Pepple, Environmental Protection Specialist

Claudia Vaupel, Air Quality Planner

ODEQ Dave Nordberg, Transportation Planning Coordinator

ODOT Natalie Liljenwal, Environmental Engineer

Mike Baker, Region 3 Planning Manager Erik Havig, Planning Section Manager

Jeff Flowers, Program and Funding Services Manager

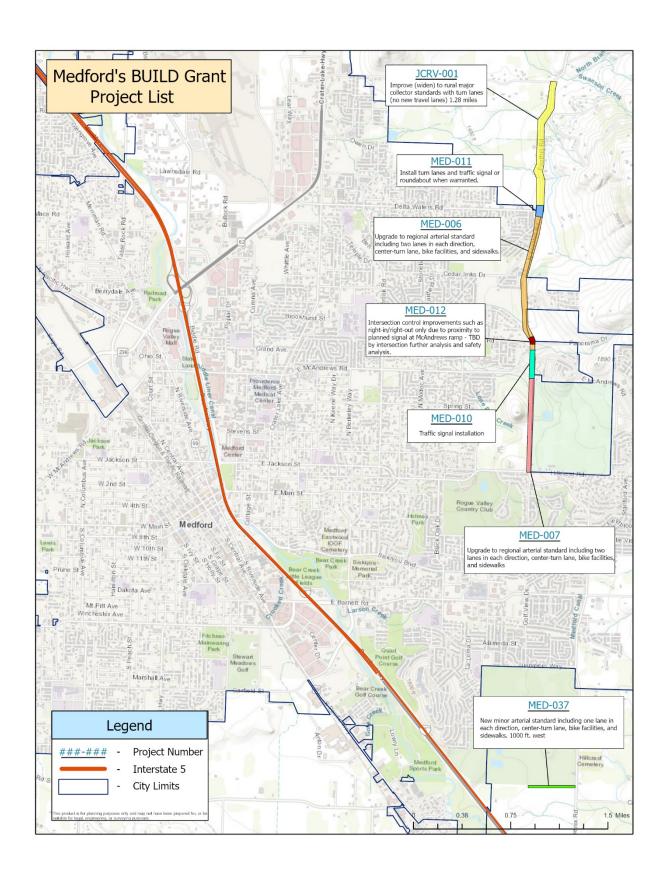
Appendix C

Projects Contained in BUILD Grant

List of Project Segments Map of Project Segments



JCRV-001	Foothill Rd., Delta Waters to Dry Creek Rd.	Improve (widen) to rural major collector standards with turn lanes (no new travel lanes) - 6,800 ft, 1.28 miles	short	\$ 3,300,000	BUILD Grant	Exempt 93.126 Table 2 - Projects that correct, improve, or eliminate a hazardous location or feature, widening narrow pavements with no additional travel lanes	PM10
		Upgrade to regional					
MED-006	Foothill Road, McAndrews Road to Delta Waters Road	arterial standard including two lanes in each direction, centerturn lane, bike facilities, and sidewalks (part of the N. Phoenix / Foothill and S Stage Corridor)	Short	\$36,000,000	BUILD Gran	t Non-exempt	PM10/CO
MED-007	Foothill Road, Hillcrest Road to McAndrews Road	Upgrade to regional arterial standard including two lanes in each direction, center- turn lane, bike facilities, and sidewalks	Short	\$13,000,000	BUILD Gran	t Non-exempt	PM10/CO
MED-010	McAndrews Road at Foothill Road Ramps	Install traffic signals	Short	\$600,000	BUILD Gran	t Exempt 93.127 Table 3 - Intersection signalization at individual intersections	PM10/CO
MED-011	Foothill Road & Delta Waters Road	Install turn lanes and traffic signal or roundabout when warranted (part of the N. Phoenix / Foothill and S Stage Corridor)	Short	\$2,200,000	BUILD Gran	Exempt 93.126 Table 2 - Projects that correct, improve,	PM10/CO
MED-012	Foothill Road & Lone Pine Road	Intersection control improvements such as right-in/right-out only due to proximity to planned signal at McAndrews ramp - TBD by intersection further analysis and safety analysis (part of the N. Phoenix / Foothill and S Stage Corridor)	Short	\$400,000	BUILD Gran	t Exempt 93.126 Table 2 - Safety eliminate hazardous feature	PM10/CO
MED-037	South Stage Road, North Phoenix Road to 1,000 feet West	New minor arterial standard including one lane in each direction, center-turn lane, bike facilities, and sidewalks (part of the N. Phoenix / Foothill and S Stage Corridor)	Short	\$2,000,000	BUILD Gran	t Non-exempt	



Appendix D

Exempt Projects Under 40 CFR 93-126 and 93-127

(Text of federal regulations)



93.126 Exempt Projects

Notwithstanding the other requirements of this subpart, highway and transit projects of the types listed in table 2 of this section are exempt from the requirement to determine conformity. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. A particular action of the type listed in table 2 of this section is not exempt if the MPO in consultation with other agencies (see §93.105(c)(1)(iii)), the EPA, and the FHWA (in the case of a highway project) or the FTA (in the case of a transit project) concur that it has potentially adverse emissions impacts for any reason. States and MPOs must ensure that exempt projects do not interfere with TCM implementation. Table 2 follows:

Table 2—Exempt Projects Safety

- Railroad/highway crossing.
- Projects that correct, improve, or eliminate a hazardous location or feature.
- Safer non-Federal-aid system roads.
- Shoulder improvements.
- Increasing sight distance.
- Highway Safety Improvement Program implementation.
- Traffic control devices and operating assistance other than signalization projects.
- Railroad/highway crossing warning devices.
- Guardrails, median barriers, crash cushions.
- Pavement resurfacing and/or rehabilitation.
- Pavement marking.
- Emergency relief (23 U.S.C. 125).
- Fencing.
- Skid treatments.
- Safety roadside rest areas.
- Adding medians.
- Truck climbing lanes outside the urbanized area.
- Lighting improvements.
- Widening narrow pavements or reconstructing bridges (no additional travel lanes).
- Emergency truck pullovers.
- Mass Transit
- Operating assistance to transit agencies.
- Purchase of support vehicles.
- Rehabilitation of transit vehicles₁.
- Purchase of office, shop, and operating equipment for existing facilities.
- Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.).
- Construction or renovation of power, signal, and communications systems.
- Construction of small passenger shelters and information kiosks.

- Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures).
- Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way.
- Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet₁.
- Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771.

Air Quality

- Continuation of ride-sharing and van-pooling promotion activities at current levels.
- Bicycle and pedestrian facilities.

Other

- Specific activities which do not involve or lead directly to construction, such as:
- Planning and technical studies.
- Grants for training and research programs.
- Planning activities conducted pursuant to titles 23 and 49 U.S.C.
- Federal-aid systems revisions.
- Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action.
- Noise attenuation.
- Emergency or hardship advance land acquisitions (23 CFR 710.503).
- Acquisition of scenic easements.
- Plantings, landscaping, etc.
- Sign removal.
- Directional and informational signs.
- Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities).
- Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes.

Note: 1 In PM_{10} and PM2.5nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.

93.127 Projects Exempt from Regional Emissions Analysis

Notwithstanding the other requirements of this subpart, highway and transit projects of the types listed in Table 3 of this section are exempt from regional emissions analysis requirements. The local effects of these projects with respect to CO concentrations must be considered to determine if a hot-spot analysis is required prior to making a project-level conformity determination. The local effects of projects with respect to PM₁₀ and PM2.5concentrations must be considered and a hot-spot analysis performed prior to making a project-level conformity determination, if a project in Table 3 also meets the criteria in §93.123(b)(1). These projects may then proceed to the project development process even in the absence of a conforming transportation plan and TIP. A particular action of the type listed in Table 3 of this section is not exempt from regional emissions analysis if the MPO in consultation with other agencies (see §93.105(c)(1)(iii)), the

EPA, and the FHWA (in the case of a highway project) or the FTA (in the case of a transit project) concur that it has potential regional impacts for any reason. Table 3 follows:

Table 3—Projects Exempt From Regional Emissions Analyses

- Intersection channelization projects.
- Intersection signalization projects at individual intersections.
- Interchange reconfiguration projects.
- Changes in vertical and horizontal alignment.
- Truck size and weight inspection stations.
- Bus terminals and transfer points.



Appendix E

Description of Public and Agency Participation



Opportunities for Public and Agency Participation

TO BE COMPLETED UPON REVIEW

Overview

This section provides additional detail about how both the general public and key agencies participated in the development of this conformity determination for the proposed amendment to the 2017-2042 Regional Transportation Plan (RTP) and the 2021-2024 Transportation Improvement Program. It includes Mail Tribune newspaper notices (newspaper of record for Jackson County, Medford, RVMPO and RVCOG) regarding various outreach activities and the legal notice for the public hearing held by the RVMPO Policy Committee on adoption of this conformity determination and the plan and program.

RVMPO Public Participation Plan

The RVMPO Public Participation Plan (updated in 2018) was followed in development of this conformity determination and the corresponding RTP and TIP. The Public Participation Plan describes activities and procedures to be followed in the course of developing these documents as well as desired outcomes. The activities described below conducted for this conformity determination are consistent with the Public Participation Plan, which is consistent with 23 CFR 450.316, metropolitan planning, interested parties participation and consultation. Detailed records of all activities described below are maintained in RVCOG offices, 155 N. 1st St., Central Point.

RVMPO Committee Meetings

Throughout development of the conformity determination three RVMPO standing committees meet regularly in publicly announced meetings. All meeting notices and background material are posted on the web, www.rvmpo.org.

- RVMPO Public Advisory Council met bimonthly. Membership is appointed by the RVMPO Policy Committee and includes representation from all RVMPO jurisdictions.
- RVMPO Policy Committee met monthly, with all meetings announced to the news media and to about 100 interested parties. Members are appointed by each RVMPO jurisdiction, including the public transportation provider and ODOT.
- RVMPO Technical Advisory Committee, the standing committee for consultation on air quality under OAR 340-252-0060, met monthly, with all meetings announced to the news media and about 90 interested parties. Membership includes staff from all member jurisdictions and FHWA, Oregon DEQ, ODOT and Department of Land Conservation and Development,

All meeting materials and summary meeting minutes are posted on the RVMPO web site, www.rvmpo.org.

Detailed records of consultation are on file with Rogue Valley Council of Governments, 115 N. First St., Central Point, OR.

Outreach

Outreach on the proposed amendments began in the fall of 2020.

The proposed amendment to the 2017-42 RTP, 2021-24 TIP, and AQCD reflects public input in several areas including:

1. Projects: adding new projects to the 2017-42 RTP and 2021-24 TIP

Projects selected to receive regional funds in the TIP are evaluated on several factors including impacts on air quality.

All comments received specific to this document are summarized with RVMPO responses in Appendix F.

Outreach efforts illustrated on the following pages are:

- 1. Newspaper ads promoting draft document on RVMPO's website
- 2. Newspaper display ad printed in the Mail Tribune prior to hearing.

AQCD Interagency Consultation

Opportunities for agencies to participate in this analysis occurred throughout the development process. Agencies consulted were ODOT, ODEQ, FHWA and FTA. A summary is provided in section 2.1 of the main document. The RVMPO consulted with the Interagency Consultation Group (IACG) during the development of this AQCD.

(Public Hearings, Ads, Notices)



(Public Hearing Ads/Notices)



Appendix F

Public and Agency Comments Received and Responses During Public Comment Period



Comments Received During Comment Period

The RVMPO held a formal 30-day public comment period February 23, 2021 to March 23, 2021, and a public hearing on March 23, 2021. Activities during the comment period are described in Appendix F. Record of all activities during comment period are on file at RVCOG, Central Point, OR.

#	Comment Received	RVMPO Response
1		
2		
3		