

ATTACHMENT A

CONSULTATION ON A CONFORMITY ANALYSIS FOR A PROPOSED AMENDMENT TO THE FY 2020-2029 SUN CORRIDOR METROPOLITAN PLANNING ORGANIZATION TRANSPORTATION IMPROVEMENT PROGRAM AND REGIONAL TRANSPORTATION PLAN 2040 UPDATE

The Sun Corridor Metropolitan Planning Organization is conducting consultation on a conformity analysis for an amendment to the FY 2020-2029 Sun Corridor MPO Transportation Improvement Program (TIP) and the Sun Corridor MPO Regional Transportation Plan (RTP) 2040 Update. The conformity analysis indicates that the proposed amendment to the TIP and RTP Update satisfies the criteria specified in the federal transportation conformity rule for a conformity determination. A finding of conformity is therefore supported.

The federal conformity regulations at 40 CFR Parts 51 and 93 specify the criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. Under the federal transportation conformity rule, the principal criteria for a determination of conformity for transportation plans and programs are: (1) the TIP and Regional Transportation Plan must pass an emissions budget test with a budget that has been found to be adequate or approved by the U.S. Environmental Protection Agency (EPA) for transportation conformity purposes, or an interim emissions test; (2) the latest planning assumptions and emissions models specified for use in air quality implementation plans must be employed; (3) the TIP and Regional Transportation Plan must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and (4) consultation.

The current conformity determination for the FY 2020-2029 Sun Corridor MPO Transportation Improvement Program and Sun Corridor MPO Regional Transportation Plan 2040 Update for the Pinal County PM-10 and PM-2.5 nonattainment areas was made by the Federal Highway Administration and Federal Transit Administration on July 18, 2022. The results of the regional emissions analysis for the Pinal County PM-10 and PM-2.5 nonattainment areas for the proposed amendment to the Sun Corridor MPO TIP and RTP 2040 Update are described below and in Table 1.

Pinal County Nonattainment Areas Regional Emissions Analysis

On June 24, 2020, EPA published a final rule to determine that the West Pinal County Moderate PM-10 Nonattainment Area failed to attain the PM-10 standard by the December 31, 2018 attainment date and to reclassify the West Pinal nonattainment area as a Serious Area, effective July 24, 2020.

On January 8, 2021, EPA published a proposed rule to approve in part and disapprove in part the 2015 West Pinal Moderate PM-10 Nonattainment Area Plan prepared by the Arizona Department of Environmental Quality. In the notice, EPA proposed to approve the base year 2008 emissions inventory for direct PM-10 and to disapprove the remaining elements of the plan, including motor vehicle emissions budgets for conformity. On May 17, 2021, the Arizona Department of Environmental Quality withdrew the Moderate area attainment plan submission.

On June 1, 2022, the 2022 Serious Area Particulate Plan for PM-10 for the West Pinal County Nonattainment Area was submitted to EPA. The 2022 Serious Area Particulate Plan for PM-10 establishes motor vehicle emissions budgets for transportation conformity. The conformity budgets from the 2022 Serious Area Particulate Plan for PM-10 have not been found to be adequate or approved by the EPA for transportation conformity purposes.

Since there are no adequate or approved motor vehicle emissions budgets for conformity for the Pinal County PM-10 and PM-2.5 nonattainment areas, the conformity interim emissions tests were applied.

In selecting analysis years for the interim emissions tests, the transportation conformity rule indicates that the years must be no more than ten years apart, the first year must be no more than five years beyond the year in which the conformity determination is being made, and the last year must be aligned with the transportation plan. The analysis year 2025 is modeled since it meets the requirement that the first year must be no more than five years beyond the year in which the conformity determination is being made. The analysis year 2030 is an intermediate year that meets the federal conformity requirement that analysis years be no more than ten years apart. The analysis year 2040 is the horizon year for the Sun Corridor MPO Regional Transportation Plan 2040 Update and the analysis year 2050 is the horizon year for the MOMENTUM 2050 MAG Regional Transportation Plan. Therefore, the action and baseline tests were conducted for PM-10 for the West Pinal PM-10 Nonattainment Area and for PM-2.5 and NO_x for the West Central Pinal PM-2.5 Nonattainment Area for the analysis years of 2025, 2030, 2040, and 2050. For each test, the required emissions estimates were developed using the transportation and emission modeling approaches required under the federal transportation conformity rule.

The Maricopa Association of Governments and the Sun Corridor Metropolitan Planning Organization have coordinated on this amendment for inputs to the transportation model and on the required interagency consultation on the conformity analysis. Both the MAG Metropolitan Planning Area Boundary and the Sun Corridor Metropolitan Planning Area Boundary include portions of the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area. Both nonattainment areas are covered by the boundaries of the two metropolitan planning organizations. Consequently, transportation conformity is required to be demonstrated for both nonattainment areas by both metropolitan planning organizations.

For PM-10, the projected emissions for the action scenario are not greater than the projected emissions for the baseline scenario for each of the years analyzed: 2025, 2030, 2040, and 2050. Since the PM-10 emissions predicted for the action scenarios are not greater than the PM-10 emissions predicted for the baseline scenarios, the conformity interim emission test is satisfied. It is also reasonable to expect the action emissions would not exceed the baseline emissions for the time periods between the analysis years.

For PM-2.5, the projected emissions for the action scenario are not greater than the projected emissions for the baseline scenario for each of the years analyzed: 2025, 2030, 2040, and 2050. Since the PM-2.5 emissions predicted for the action scenarios are not greater than the PM-2.5 emissions predicted for the baseline scenarios, the conformity interim emission test is satisfied. It is also reasonable to expect the action emissions would not exceed the baseline emissions for the time periods between the analysis years.

For NO_x, the projected emissions for the action scenario are not greater than the projected emissions for the baseline scenario for each of the years analyzed: 2025, 2030, 2040, and 2050. Since the NO_x emissions predicted for the action scenarios are not greater than the NO_x emissions predicted for the baseline scenarios, the conformity interim emission test is satisfied. It is also reasonable to expect the action emissions would not exceed the baseline emissions for the time periods between the analysis years.

Latest Planning Assumptions and Emissions Models

In accordance with federal transportation conformity requirements, the latest planning assumptions and emissions models specified for use in air quality implementation plans were employed for this conformity determination. The latest planning assumptions used for this conformity determination are consistent with the 2021 MAG Conformity Analysis for the FY 2022-2025 MAG Transportation Improvement Program and MOMENTUM 2050 Regional Transportation Plan and the Sun Corridor Metropolitan Planning Organization 2021 Conformity Analysis.

Through the consultation process, it was determined that the “time that the conformity analysis begins” will be the day that the first traffic assignment is submitted for travel demand modeling. All analyses were conducted using the latest planning assumptions and emissions models in force at the time the conformity analysis began on September 30, 2022. A summary of the latest planning assumptions, including population, employment, and vehicle registrations data used in the regional emissions analysis, is provided in Table 2.

Timely Implementation of Transportation Control Measures

A status report on Transportation Control Measures (TCMs) is not required since there are no applicable plans approved by EPA for the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area that contain TCMs. On December 21, 2015, the 2015 West Pinal Moderate PM-10 Nonattainment Area State Implementation Plan (SIP) prepared by the Arizona Department of Environmental Quality (ADEQ) was submitted to EPA. Also, on May 1, 2017, EPA approved SIP revisions that concern particulate matter emissions from construction sites, agricultural activity, and other fugitive dust sources, effective May 31, 2017. On May 17, 2021, ADEQ withdrew the 2015 West Pinal Moderate PM-10 Nonattainment Area SIP submission.

On June 1, 2022, the 2022 Serious Area Particulate Plan for PM-10 for the West Pinal County Nonattainment Area was submitted to EPA. The 2022 Serious Area Particulate Plan for PM-10 contains a variety of measures to reduce fugitive dust sources. The 2022 Serious Area Particulate Plan for PM-10 does not contain any TCMs.

Consultation

In accordance with federal and state rules, the Sun Corridor MPO is required to provide reasonable opportunity for consultation with state air and transportation agencies, local agencies, U.S. Department of Transportation, Environmental Protection Agency, and other interested parties. A 30-day consultation period is being provided on the conformity analysis and the amendment to the FY 2020-2029 Sun Corridor MPO Transportation Improvement Program and Sun Corridor MPO Regional Transportation Plan 2040 Update. Consultation is concluded by notifying the agencies and other interested parties of any approval action taken by the Sun Corridor MPO Executive Board and any comments received during the period of consultation.

TABLE 1. CONFORMITY INTERIM EMISSION (ACTION/BASELINE) TEST RESULTS
(KILOGRAMS/DAY) PINAL COUNTY NONATTAINMENT AREAS

	PM-10 Nonattainment Area	PM-2.5 Nonattainment Area	
<i>Pollutant</i>	<i>PM-10</i>	<i>PM-2.5</i>	<i>NOx</i>
2025			
- Action	115,597.7	12.2	356.4
- Baseline	119,249.2	12.5	372.5
2030			
- Action	121,753.5	10.9	268.5
- Baseline	125,684.5	11.5	300.8
2040			
- Action	136,702.0	12.1	286.0
- Baseline	140,259.6	13.7	403.0
2050			
- Action	154,137.0	16.8	473.9
- Baseline	157,450.1	18.5	586.8

TABLE 2. LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS FOR THE MAG TRANSPORTATION MODELING DOMAIN COVERING MARICOPA AND PINAL COUNTIES

Assumption	Source	MAG Models	Next Scheduled Update
Population and Employment	<p>Under the Governor’s Executive Order 2011-04, official County projections are updated every 3 to 4 years. These official projections are used by all agencies for planning purposes. The Arizona Department of Administration (ADOA) prepared a new set of Maricopa County projections based on the U. S. Census Bureau’s 2013-2017 American Community Survey data and employment projections prepared by Dr. George Hammond at the University of Arizona’s Economic and Business Research Center in December 2018. MAG developed a set of subcounty population and employment projections for Maricopa County that are consistent with the ADOA population projections. The MAG Regional Council approved the subcounty socioeconomic projections in June 2019. In addition, Central Arizona Governments (CAG) approved the Pinal County subcounty socioeconomic projections, based on the ADOA Pinal County projections, in September 2019. The MAG Traffic Analysis Zone System was updated and expanded to reflect the latest socioeconomic changes in 2019.</p>	AZ-SMART (UrbanSim)	<p>Under the Governor’s Executive Order 2011-04, official county socioeconomic projections will be developed by the Arizona Department of Administration. Following the release of the 2020 U.S. Census data, the Arizona Department of Administration (ADOA) will prepare a new set of Maricopa County projections in December 2022. MAG will develop a set of subcounty population and employment projections for Maricopa County that are consistent with the ADOA population projections.</p>
Traffic Counts	<p>The highway models were validated for the 2018 base year based on traffic count data from approximately 1,000 traffic count locations, collected by MAG in 2018-2019 during peak seasons.</p>	MAG Travel Demand Models	<p>Region-wide traffic counts are typically collected by MAG every 2-4 years, depending on available funds and model base year definition. MAG has completed 2018-2019 regional traffic counts.</p>

TABLE 2 (CONTINUED). LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS FOR THE MAG TRANSPORTATION MODELING DOMAIN COVERING MARICOPA AND PINAL COUNTIES

Assumption	Source	MAG Models	Next Scheduled Update
<p>Vehicle Miles of Travel</p>	<p>MAG has transitioned to an Activity Based Model based on the Coordinated Travel Regional Activity Based Modeling Platform (CT-RAMP2) family of Activity Based Models for travel demand forecasting. The calibration work for the major components of the Activity Based Model has been completed. Datasets used in the model calibration process include 2017 Household and Establishment surveys and the 2019 transit on-board survey. In addition, 2013-2017 ACS PUMS and MAG socioeconomic data are also used to generate a synthetic population which is input to the Activity Based Model.</p> <p>Activity Based Model components such as long-term choice for mandatory activity (work and school) location models, day-level models for activity participation, tour formation, and other tour and trip detail models such as time-of-day choice and mode choice were recalibrated based on the 2017 Household Travel Survey and the 2019 transit on-board survey. The truck model was recalibrated based on the 2017 ATRI data, 2015 StreetLight data and 2013 Transearch data.</p> <p>The external travel model was recalibrated in 2014 based on regional growth projections for Arizona and neighboring states.</p> <p>Incremental updates and improvements were introduced to the model to reflect network changes, socioeconomic forecast changes, and changes in the traffic zone system.</p> <p>MAG conducted a comprehensive revalidation of the Activity Based Model using 2018-2019 traffic counts and 2018 speed data. The overall calibration year for the model is 2018 and the latest base year based on a comprehensive validation is 2018.</p>	<p>MAG Travel Demand Models</p>	<p>Future updates to the Activity Based Model will include further refinements/updates to various sub-models.</p>

TABLE 2 (CONTINUED). LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS FOR THE MAG TRANSPORTATION MODELING DOMAIN COVERING MARICOPA AND PINAL COUNTIES

Assumption	Source	MAG Models	Next Scheduled Update
Speeds	The highway models were validated using peak season average speed based on 50 million traffic speed records purchased from HERE for calendar year 2018 and also compared to a similar data set purchased in the same year.	MAG Travel Demand Models	Commercial travel speed data are acquired by MAG periodically to validate the transportation models. MAG also utilizes commercial speed data for future estimation and model calibration purposes. MAG has acquired new speed data required for the ongoing model calibration and validation to the new base year processes. MAG has also collaborated with ADOT and capitalized on ADOT commercial speed data contracts.
Vehicle Registrations	July 2019 vehicle registrations were provided by ADOT.	MOVES3	When newer data become available from ADOT.
Implementation Measures	Latest implementation status of commitments in prior SIPs.	N/A	Updated for every conformity analysis.

ATTACHMENT B