

## 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 March 22, 2021. The results of the regional emissions analysis for the Pinal County PM-10 and PM-2.5 nonattainment areas are described below and in Table 1.

#### Pinal County Nonattainment Areas Regional Emissions Analysis

For the Pinal County PM-10 and PM-2.5 nonattainment areas, there are no adequate or approved motor vehicle emissions budgets for conformity. Therefore, the conformity interim emissions tests were applied. In January 2017, EPA indicated they will not find to be adequate or approve the 2018 emissions budget in the 2015 West Pinal Moderate

PM-10 Nonattainment Area SIP prepared by the Arizona Department of Environmental Quality (ADEQ) and submitted to EPA in December 2015. Therefore, the 2018 PM-10 budget in that SIP was not included in this regional emissions analysis.

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 last horizon year for both the Sun Corridor MPO Regional Transportation Plan 2040 Update and the 2040 MAG Regional Transportation Plan Update. 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<sub>x</sub> for the West Central Pinal PM-2.5 Nonattainment Area for the analysis years of 2025, 2030, and 2040. 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, and 2040. 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, and 2040. 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<sub>x</sub>, 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, and 2040. Since the NO<sub>x</sub> emissions predicted for the action scenarios are not greater than the NO<sub>x</sub> 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 2020 MAG Conformity Analysis for the FY 2020-2024 MAG Transportation Improvement Program and the 2040 Regional Transportation Plan Update and the Sun Corridor Metropolitan Planning Organization 2020 Conformity Analysis, except that the latest EPA Motor Vehicle Emission Simulator model (MOVES3) to estimate motor vehicle emission factors and the MAG Activity Based Model to estimate vehicle miles of travel and speeds were used.

On January 7, 2021, EPA published a notice of availability of the MOVES3 mobile source emissions model which began a two-year grace period that ends on January 9, 2023. After this date, MOVES3 must be used in regional emissions analyses. In addition, 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. Data output from the latest state-of-the-practice MAG Activity-Based Model for the transportation modeling domain was used to estimate onroad vehicle emissions.

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 April 8, 2021. 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 for the West Pinal PM-10 Nonattainment Area and West Central Pinal PM-2.5 Nonattainment Area that contain TCMs. The 2015 West Pinal Moderate PM-10 Nonattainment Area State Implementation Plan (SIP) prepared by ADEQ was submitted

to EPA on December 21, 2015. 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.

### 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	115,714.0	12.1	349.8
- Baseline	119,257.4	12.2	351.8
2030			
- Action	121,912.6	11.4	286.1
- Baseline	125,764.4	11.6	303.3
2040			
- Action	136,637.2	12.1	282.5
- Baseline	140,446.1	14.2	410.9

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. 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 August 2019. The MAG Traffic Analysis Zone System was updated and expanded to reflect the latest socioeconomic changes in 2019.</p>	AZ-SMART (UrbanSim/ OPUS)	<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. 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</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
	the latest base year based on a comprehensive validation is 2018.		
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