




MEMO

Date: April 6, 2017

To: John Liosatos

From: Susanne Cotty 

Through: Aichong Sun
Dave Adler

Subject: Transportation Conformity Determination for the 2018-2022 Transportation Improvement Program (TIP)

Background:

Despite increases in the number of vehicle miles traveled (VMT), carbon monoxide (CO) levels in the Tucson region and throughout the nation continue to drop. Prior to 2000, the Tucson region was designated a CO nonattainment area, which requires modeling to determine conformity for transportation plans. This ensures that future onroad mobile emissions do not exceed that of a base year. Modeling of regional CO emissions for transportation plans continues to be conducted for comparison purposes.

In 2000, the region was designated in attainment under a Limited Maintenance Plan (LMP) option, which removed the requirement to meet an emission budget. In 2009 the EPA approved revisions to the Arizona State Implementation Plan (SIP) extending the CO LMP through 2020.

Modeling Activities:

The regional CO emissions impact from motor vehicles is analyzed annually for the TIP projects. Outputs from PAG's regional transportation forecasting model and results from EPA's air pollution emissions model, Motor Vehicles Emission Simulator (MOVES 2014a) were used to estimate CO emissions for three scenarios: start year, end year (Build) and the end year (No-build).

PAG's Transportation Modeling staff ran the Travel Demand Model (TDM) to estimate average weekday VMT, speeds, vehicle travel patterns and ramp data for the three TIP scenarios: 2018, 2022 (Build) and 2022 (No-build) networks.

Using this TDM data and current ADOT vehicle registration and National Oceanic and Atmospheric Administration (NOAA) meteorological data, PAG's Air Quality staff conducted mobile emission modeling using the most current version of the EPA's MOVES model. The MOVES2014a model was run for a January weekday, when CO levels are expected to be highest. The EPA model takes into account regulatory changes expected over the 2018-2022 period. The results shown in Table 1 demonstrate the conformity of the TIP 2018-2022 to the SIP in that the CO emissions from the build scenario are less than those of the base year CO emissions.

Table 1. Summary of CO Emissions Modeling Results: 2018-2022 TIP

Year	Total Daily Weekday VMT	Regional CO emissions (metric tons/weekday)
2018 (Start year)	22,408,700	100.6
2022 (Build)	24,410,200	98.8
2022 (No-build)	24,289,800	98.5

Please let me know if you need additional information.

cc: Farhad Moghimi
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