MAY 19, 2026

# TRANSPORTATION CONFORMITY REPORT

## RMS 2052 MTP AND 2027-2030 RMS TIP

EL PASO METROPOLITAN PLANNING ORGANIZATION

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| | |
|---|---|
| AADT | Average Annual Daily Traffic |
| AERR | Air Emissions Reporting Requirements |
| ANSWT | Average Non-summer Weekday Traffic |
| APU | Auxiliary Power Unit |
| ATR | Automated Traffic Recorder |
| AVFT | Alternate Vehicle Fuel Technology |
| BD | Biodiesel |
| CAAA | Clean Air Act Amendments of 1990 |
| CFR | Code of Federal Regulations |
| CG | Conventional Gasoline |
| CMAQ | Congestion Mitigation and Air Quality Improvement Program |
| CNG | Compressed Natural Gas |
| CO | Carbon Monoxide |
| DFW | Dallas-Fort Worth |
| DOE | Department of Energy |
| DOT | Department of Transportation |
| E200 | Lower Volatility Percentage |
| E300 | Upper Volatility Percentage |
| EI | Emissions Inventory |
| EPA | Environmental Protection Agency |
| ETBE | Ethyl Tert-Butyl Ether |
| ETOH | Ethanol |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| GVWR | Gross Vehicle Weight Rating |
| HC | Hydrocarbon |

| | |
|---|---|
| HPMS | Highway Performance Monitoring System |
| I/M | Inspection and Maintenance |
| MoSERS | Mobile Source Emission Reduction Strategies |
| MOVES | Motor Vehicle Emission Simulator |
| MPA | Metropolitan Planning Area |
| MPO | Metropolitan Planning Organization |
| MTBE | Methyl Tert-Butyl Ether |
| MTP | Metropolitan Transportation Plan |
| MVEB | Motor Vehicle Emissions Budget |
| NAAQS | National Ambient Air Quality Standards |
| NOx | Nitrogen Oxides |
| OBD | Onboard Diagnostics |
| OD | Origin-Destination |
| ONI | Off-Network Idling |
| PACP | Pre-analysis Consensus Plan |
| PAH | Polycyclic Aromatic Hydrocarbons |
| PC | Passenger Car |
| PM | Particulate Matter |
| RIF | Road Idle Fraction |
| RTP | Regional Transportation Plan |
| RVP | Reid Vapor Pressure |
| SHEI | Source Hours Extended Idling |
| SHI | Source Hours Idling |
| SHO | Source Hours Operating |
| SHP | Source Hours Parked |
| SIP | State Implementation Plan |
| SUT | Source Use Type |

| | |
|---|---|
| T50 | Temperature at which 50% of the fuel has evaporated |
| T90 | Temperature at which 90% of the fuel has evaporated |
| TAME | Tert-Amyl Methyl Ether |
| TAZ | Traffic Analysis Zone |
| TCEQ | Texas Commission on Environmental Quality |
| TCM | Transportation Control Measure |
| TDM | Travel Demand Model |
| TERM | Transportation Emission Reduction Measure |
| TIP | Transportation Improvement Program |
| TTI | Texas A&M Transportation Institute |
| TxDMV | Texas Department of Motor Vehicles |
| TxDOT | Texas Department of Transportation |
| USC | U.S. Code |
| VHT | Vehicle Hours of Travel |
| VMT | Vehicle Miles of Travel |
| VOC | Volatile Organic Compound |
| VPGF | Vehicle Type of Population Growth Factor |

# 1. EXECUTIVE SUMMARY

## 1.1 CONFORMITY OVERVIEW

The Clean Air Act Amendments of 1990 (CAAA) require transportation plans, programs, and projects in nonattainment and maintenance areas, funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA), to conform to the motor vehicle emissions budgets (MVEBs) established in the state implementation plan (SIP) and deemed adequate or approved by the U.S. Environmental Protection Agency (EPA). Nonattainment areas with no MVEBs must demonstrate conformity by satisfying interim emissions test(s). Satisfying MVEBs or interim emissions tests ensures that transportation plans, programs, and projects do not produce new air quality violations, worsen existing violations, or delay the timely attainment of National Ambient Air Quality Standards (NAAQS). Section 176(c)(4) of the CAAA requires metropolitan planning organizations (MPOs), for areas designated as nonattainment and/or maintenance for a NAAQS, to conduct an air quality conformity analysis to demonstrate that metropolitan transportation plans (MTPs)/regional transportation plans (RTPs) and/or transportation improvement programs (TIPs) are consistent with the region's air quality goals.

This conformity analysis requires MVEB test(s) that must demonstrate that the total emissions for the nonattainment or maintenance area is less than or equal to the applicable SIP MVEB(s), which establish emissions ceilings for the regional transportation network. As the **El Paso** regional MPO, **El Paso MPO** is responsible for conducting the air quality conformity analysis to address the 2015 Ozone and $PM_{10}$ NAAQS.

In addition, this conformity analysis must satisfy the less-than-baseline interim emissions tests. For the less-than-baseline test, the build (or action scenario) emissions for each analysis year must be less than the baseline-year[1] emissions. As the El Paso MPO, El Paso MPO is responsible for conducting the air quality conformity analysis to address the 2015 Ozone NAAQS for the portion of Doña Ana County near Sunland Park, NM non-attainment area.

## 1.2 AIR QUALITY AND NONATTAINMENT AREA

### 1.2.1 Air Pollution

Pollutant(s) covered in this conformity analysis include the following.

Check all that apply.

[1] Certain nonattainment areas are required to use one or both of the interim emissions tests before they have adequate or approved MVEB for the relevant NAAQS. One of the interim emissions tests is the baseline year test, where projected on-road mobile source emissions are compared to on-road mobile source emissions in the baseline year. The baseline year that must be used for comparison is available at https://www.epa.gov/state-and-local-transportation/baseline-year-baseline-year-test-40-cfr-93119.

☒ **Precursors to ozone:** Volatile organic compounds (VOCs) and nitrogen oxides (NOx): "Ground-level ozone is a colorless compound formed when NOx and VOC chemically react in the presence of sunlight. It is not directly emitted into the air. Ground level ozone is known to trigger a variety of health problems and is particularly harmful to children, older adults, and people of all ages who have lung diseases, such as asthma" (source: EPA).

☐ **Carbon monoxide (CO):** "CO is a colorless, odorless gas that can be harmful when inhaled in large amounts. CO is released when something is burned. The greatest sources of CO to outdoor air are cars, trucks and other vehicles or machinery that burn fossil fuels. Breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain. At very high levels, CO can cause dizziness, confusion, unconsciousness, and death" (source: EPA).

☒ **Particulate matter that is 10 micrometers in diameter or less ($PM_{10}$):** "PM-10 are inhalable particles, with diameters that are generally 10 micrometers and smaller. PM-10 are either emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires, or formed in the atmosphere as a result of complex reactions of chemicals such as sulfur dioxide and nitrogen oxides, which are pollutants emitted from power plants, industries and automobiles. PM-10 can get deep into the lungs, and some may even get into the bloodstream" (source: EPA).

☐ **Particulate matter that is 2.5 micrometers in diameter or less ($PM_{2.5}$):** "PM 2.5 are inhalable particles, with diameters that are generally 2.5 micrometers and smaller. PM 2.5 are either emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires, or formed in the atmosphere as a result of complex reactions of chemicals such as sulfur dioxide and nitrogen oxides, which are pollutants emitted from power plants, industries and automobiles. PM 2.5 pose the greatest risk to health among particulate matter" (source: EPA).

### 1.2.2 Nonattainment Area

Figure 1-1 shows the El Paso MPO boundary map along with boundaries for the **PM10 and 2015 Ozone NAAQS nonattainment areas.**

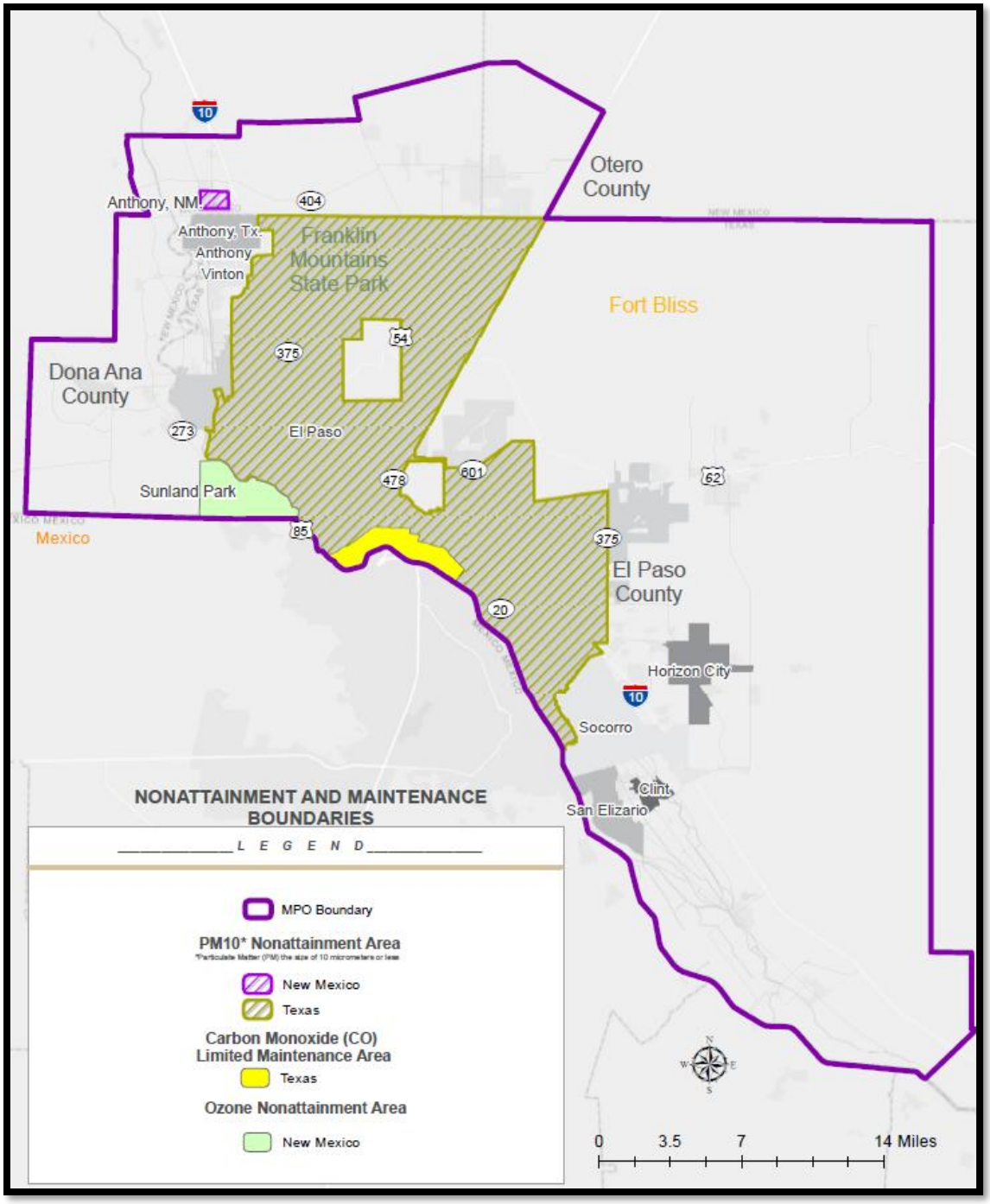


**Figure 1-1. El Paso MPO Nonattainment and Maintenance Boundaries**

[1]As of 3/25/2026, the El Paso County area is in attainment status for 2025 Ozone NAAQS. However, the interagency consultative partners have elected to evaluate El Paso County NOx and VOC emissions as part of this conformity analysis in case EPA issues a nonattainment designation for El Paso County in response to the D.C. Circuit Court decision before completion of this conformity process.

**2015 Eight-Hour Ozone Standard Designation:** Marginal Nonattainment, effective December 30, 2021 (86 FR 67864).

In August 2018, the City of Sunland Park, New Mexico and environmental petitioners challenged EPA's attainment/unclassifiable designation for El Paso County. On July 10, 2020, the D.C. Circuit Court of Appeals issued its opinion to remand (without vacatur) the El Paso County attainment designation to the EPA and require EPA to issue a revised El Paso County designation for the 2015 eight-hour ozone NAAQS as expeditiously as practicable. On December 21, 2020, TCEQ submitted supplemental information to the EPA in support of retaining El Paso County's original attainment designation. EPA sent an application 120-day letter to Texas on May 25, 2021 notifying the governor that EPA intends to modify the designation for El Paso County to nonattainment as part of the existing Doña Ana partial-county (Sunland Park) ozone nonattainment area. On July 26, 2021, TCEQ submitted an application response requesting that EPA not modify El Paso County's existing attainment/unclassifiable designation consistent with all the information submitted by the state. On November 30, 2021, EPA published a final nonattainment designation for the 2015 eight-hour ozone NAAQS for El Paso County, effective December 30, 2021. EPA expanded the Sunland Park marginal nonattainment area to include all of El Paso County and renamed the area as the "El Paso-Las Cruces, Texas-New Mexico nonattainment area."

On June 30, 2023, the D.C. Circuit Court of Appeals reversed the nonattainment designation for El Paso County, finding that EPA's action was impermissibly retroactive.

The interagency consultative partners have elected to evaluate El Paso County NOx and VOC emissions as part of this conformity analysis in case EPA issues a nonattainment designation for El Paso County in response to the D.C. Circuit decision before completion of this conformity process.

**Remanded 2015 Eight-Hour Ozone Standard Designation:** Attainment/Unclassifiable, effective August 3, 2018 (83 FR 25776)

On October 1, 2015, EPA lowered the primary and secondary eight-hour ozone NAAQS to 0.070 parts per million (ppm) (80 FR 65292). El Paso County was designated attainment/unclassifiable under the 2015 eight-hour ozone NAAQS, effective August 3, 2018.

**2008 Eight-Hour Ozone Standard Designation:** Unclassifiable/Attainment, effective July 20, 2012 (77 FR 30088)

On March 27, 2008, EPA lowered the primary and secondary eight-hour ozone NAAQS to 0.075 ppm (73 FR 16436). El Paso County was designated unclassifiable/attainment under the 2008 eight-hour ozone NAAQS, effective July 20, 2012.

**1997 Eight-Hour Ozone Standard Designation:** Attainment, April 30, 2004 (69 FR 23858)

EPA's Phase I Implementation Rule for the eight-hour ozone standard directs that areas such as El Paso that were designated nonattainment for the previous one-hour ozone standard but attainment for the eight-hour ozone standard must submit a maintenance plan for eight-hour ozone. The El Paso maintenance plan was approved by EPA on January 15, 2009 (74 FR 2387).

**Eight-Hour Carbon Monoxide Standard Designation:** Attainment, August 4, 2008 (73 FR 45162)

The El Paso CO nonattainment area was restricted to a narrow strip of the city along the Rio Grande, in El Paso County, adjacent to Ciudad Juárez, Mexico. On February 13, 2008, the state submitted a revision to the SIP containing an eight-hour CO maintenance plan to provide for El Paso continued attainment of the eight-hour CO NAAQS until 2020. The redesignation request and maintenance plan were approved by EPA on August 4, 2008.

There have been no monitored violations of the CO eight-hour standard since 2001. The maintenance plan approved by EPA in August 2008 (effective on October 3, 2008), demonstrates that El Paso will remain in attainment of the CO standard for at least ten years following EPA approval. This maintenance plan includes a commitment to submit a second 10-year maintenance plan two years before the end of the first 10-year maintenance plan period. This was satisfied by a limited maintenance plan that was adopted by the TCEQ September 7, 2016 and approved by EPA September 8, 2017, effective October 10, 2017. The maintenance plan ensures that the area remains in attainment of the CO standard. The maintenance area boundary is described in the EPA Green Book as follows: "That portion of the City of El Paso bound on the north by Highway 10 from Porfirio Diaz Street to Raynolds Street, Raynolds Street from Highway 10 to the Southern Pacific Railroad lines, the Southern Pacific Railroad lines from Raynolds Street to Highway 62, Highway 62 from the Southern Pacific Railroad lines to Highway 20 and Highway 20 from Highway 62 to Polo Inn Road; bound on the east by Polo Inn Road from Highway 20 to the Texas Mexico border; bound from the south by the Texas-Mexico border from Polo Inn Road to Porfirio Diaz Street; and bound on the west by Porfirio Diaz Street from the Texas-Mexico border to Highway 10."

**PM10 Standard Designation:** Moderate Nonattainment, November 6, 1991 (56 FR 56694)

The City of El Paso was designated nonattainment for PM10 and classified as a moderate area upon enactment of the federal Clean Air Act (FCAA) Amendments of 1990. On November 15, 1991, Texas submitted to EPA the SIP revision for the El Paso moderate nonattainment area, to demonstrate that the area would attain the PM10 NAAQS no later than December 31, 1994. Modeling of U.S. emissions indicated that the nonattainment area would have been in attainment in 1991, and at the 1994 deadline, if not for emissions transported from outside the United States. Based on §179B of the FCAA, which provides that an area does not have to meet the moderate nonattainment deadline if the state demonstrates attainment if not for emissions from another country, there was no requirement for a reasonable further progress demonstration. EPA approved the El Paso PM10 SIP revision, effective February 17, 1994 (59 FR 02535).

The TCEQ submitted "Revisions to the State Implementation Plan (SIP) for Inhalable PM10: 1991 PM10 SIP for Moderate Area - El Paso" to the EPA in 1991. The EPA approved the SIP submittal in 1994. The PM10 non-attainment area described in the EPA Green Book is the City of El Paso.

**New Mexico PM10 SIP**

Anthony, New Mexico, in Doña Ana County, was designated as non-attainment for the PM10 24-hour NAAQS in 1991. Part of the PM10 Moderate Area SIP Guidance requires anthropogenic (man-made) source categories with significant emissions to be analyzed for technical and economic feasibility of implementing control measures. A copy of New Mexico's PM10 SIP is included in Appendix A. There is no PM10 budget established for Anthony, NM, however, an air quality assessment may be conducted on an individual project basis, in coordination with the New Mexico consultative partners, to examine the potential effects on PM10 within the Anthony, NM PM10 non-attainment area.

The non-attainment area is described in the EPA Green Book as the following: "The area bound by Anthony Quadrangle, Anthony, New Mexico - Texas. SE/4 La Mesa 15' Quadrangle, N3200 - W10630/7.5, Township 26S, Range 3E, Sections 35 and 36 as limited by the New Mexico - Texas State line on the south".

**New Mexico Ozone SIP**

Doña Ana County historically had air quality problems, including particulate matter and ozone pollution. In 1995, the EPA declared a 42 square-mile region in the southeast corner of the County on the border of Texas and Mexico as a marginal nonattainment area for the 1-hour ozone standard. The nonattainment area included the City of Sunland Park, and two census designated places, Santa Teresa, and La Union. Sunland Park was officially designated as nonattainment for ozone in a Federal Register announcement published June 12, 1995 (60 FR 30789).

On April 30, 2004, EPA designated the Sunland Park area as attainment of the 1997 8-hour ozone standard. As part of implementation of the 1997 8-hour ozone standard, EPA revoked the 1-hour ozone standard in 2004. Due to this revocation, New Mexico was required to provide a 10-year maintenance plan for the Sunland Park 1997 8-hour ozone attainment area under section 110(a)(1) of the Clean Air Act. Motor vehicle emissions budgets were not required under the 110(a)(1) maintenance plan, and therefore none were developed or approved.

On October 1, 2015, the EPA revised the 8-hour Ozone NAAQS (73 FR 16436), from 0.075 parts per million (ppm) to 0.070 ppm (80 FR 65292). In 2016, New Mexico Environment Department (NMED) recommended that EPA designate a portion of Doña Ana County near Sunland Park, NM as nonattainment (Appendix A). Based on 2014-2016 ozone monitoring data, EPA designated the area as a marginal nonattainment area on June 4, 2018 (Effective August 3, 2018) (83 FR 25776).

The Sunland Park baseline emissions inventory and emissions statement SIP Revision and Certification was submitted to EPA September 10, 2020 and approved October 15, 2021 (86 FR 57388). NMED's nonattainment new source review (NNSR) permitting requirements (20.2.79 NMAC; Permit-Nonattainment Areas) SIP Revision was amended by the Environmental Improvement Board on June 25, 2021 and submitted to EPA July 30, 2021 for approval in meeting the 2015 O3 NAAQS. Please note that adoption of Reasonably Available Control Technologies

(RACT) is not required for marginal ozone nonattainment areas and NMED has not included these in our SIP Revisions.

## 1.3 RTP/MTP AND TIP

This conformity determination is being prepared to ensure that the RMS2052 and 2027-2030 RMS TIP meet the conformity-related requirements of the CAAA, SIP, and final conformity rule (Title 40 of the Code of Federal Regulations [CFR], Parts 51 and 93).

Per 23 CFR 450.324, all projects are constrained by the financial resources estimated to be reasonably available within the transportation plan time frame. A list of the projects in the RMS 2052 and 2027-2030 RMS TIP that affect this conformity analysis is included in Appendix B—RTP/MTP of this conformity report.

## 1.4 ANALYSIS

This emissions analysis for determining conformity was performed under 40 CFR 93.109(c)(2)(ii)(B):

**The analysis years for this conformity are**:

- 2017; since there are no adequate or approved budgets for the Doña Ana County 2015 Ozone NAAQS nonattainment area, a baseline year of 2017 has been included to satisfy the conformity rule's interim emissions test requirements 40 CFR 93.119.
- 2027; analysis year will be solely for the Sunland Park 2015 Ozone NAAQS interim emissions test, which would satisfy the first analysis year requirement of 40 CFR 93.119(g)(1).
- 2032, 2042 and 2052 (the MTP horizon year)

Check only one box and then describe as applicable.

**☒ For nonattainment or maintenance areas with adequate or approved SIP MVEB(s)**

The PM10 MVEB applies to El Paso County.

For this conformity determination, regional emissions analysis for carbon monoxide (CO) will not be conducted based upon the U.S. Environmental Protection Agency (EPA) approval of the El Paso CO Limited Maintenance Plan (LMP) in September 2017. In accordance with CO LMPs, a regional emissions analysis for analysis years beyond 2020 is not required.

On meeting November 20th, 2025 EPMPO hosted a consultative partners conference call where was elected to evaluate El Paso County NOx and VOC emissions as part of this conformity analysis in case EPA issues a nonattainment designation for El Paso County in response to the D.C. Circuit decision before completion of this conformity process.

**☒ For moderate and above ozone nonattainment areas without an adequate or approved SIP MVEB(s)**

Since there are no adequate or approved budgets for the Doña Ana County ozone nonattainment area, an interim emissions test will be used. A baseline year 2017 has been included to satisfy the conformity rule's interim emissions test requirements (40 CFR 93.119). Furthermore, the baseline year emissions need to be modeled rather than interpolated, based on the latest planning assumptions, latest emissions model and appropriate methods for estimating travel and speeds. 2027 analysis year will be solely for the Sunland Park 2015 Ozone NAAQS interim emissions test. 2027 would satisfy the first analysis year requirement of 40 CFR 93.119(g)(1).

## 1.5 FINDINGS

The $PM_{10}$, VOC and NOx pollutant(s) vehicle summer/winter weekday period emission results shown in Table 1-1 below demonstrate that the El Paso **Metropolitan** nonattainment region meets the regional air quality conformity requirements 2015 Ozone and $PM_{10}$ NAAQS.

**☒ Table 1-1. For nonattainment or maintenance areas with adequate or approved SIP MVEB(s)**

**El Paso Conformity VMT and Emissions Analysis Summary**

| Analysis Year | Total Vehicle Miles of Travel | NOx[1] Budget (Tons/Day) | NOx Emissions (Tons/Day) | VOC[1] Budget (Tons/Day) | VOC Emissions (Tons/Day) | PM10[2] Budget (Tons/Day) | PM10 Emissions (Tons/Day) |
|---|---|---|---|---|---|---|---|
| 2032 | 22,611,188 | 39.76[4] | 5.25 | 36.23[4] | 4.00 | 12.05[3] | 6.02/6.68 |
| 2042 | 24,139,993 | 39.76[4] | 3.35 | 36.23[4] | 3.12 | 12.05[3] | 6.40/7.11 |
| 2052 | 25,194,212 | 39.76[4] | 3.12 | 36.23[4] | 2.90 | 12.05[3] | 6.58/7.32 |

[1]Ozone (VOC and NOx) include summer figure. The VOC and NOx budget is based on the 1996 one-hour ozone SUPER SIP. Using 2017 weather station data.
[2]PM10 emissions include summer/ winter figures. The PM10 budget is based on the 1994 PM10 Mobile Emissions Inventory. Using 2017 weather station data.
[3]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB)
[4]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB)

**☒ Table 1-2. For moderate and above ozone nonattainment areas without an adequate or approved SIP MVEB(s)**

**Sunland Park Ozone Nonattainment Area VMT and the interim emissions test no-greater-than baseline year Analysis Summary[1]**

| Analysis Year | Total Vehicle Miles of Travel | NOx Emissions (Tons/Day) | VOC Emissions (Tons/Day) |
|---|---|---|---|
| 2017 Baseline year | 97,898 | 0.09 | 0.044 |
| 2027 | 113,202 | 0.03 | 0.026 |
| 2032 | 115,342 | 0.02 | 0.021 |
| 2042 | 121,310 | 0.01 | 0.016 |
| 2052 | 126,704 | 0.01 | 0.015 |

[1]This conformity determination demonstrates that the total emissions calculated from the modeled roadway network for future years will be at levels below the baseline year (2017) as required for the interim emissions test no-greater-than baseline year. Table 1-2 provides the conformity results for the VOC and NOx no greater-than-baseline year emissions tests.

[2] El Paso regional TDM zones comprising the Sunland Park part of the El Paso-Las Cruces TX-NM ozone nonattainment area, in Doña Ana County, NM.

The results of the conformity determination demonstrate that RMS 2052 and 2027-2030 RMS TIP meet the requirements of the air quality SIP for the El Paso **Metropolitan Planning** nonattainment area and are per the CAAA (Title 42 U.S. Code [USC], Parts 7504, 7506 [c], and 7506 [d]), as amended on November 15, 1990, and the final conformity rule (40 CFR 51 and 93).

# 2. TRANSPORTATION CONFORMITY REQUIREMENTS

## 2.1 WHAT IS TRANSPORTATION CONFORMITY?

As mandated under CAAA Section 176(c), transportation conformity ensures that federally supported transportation activities align with and conform to the objectives outlined in a state's SIP. A SIP serves as the state air quality blueprint for meeting the NAAQS. The SIP consists of a compilation of legally enforceable rules and regulations crafted by a state or local air quality agency. The governor of the state submits this plan to EPA for approval. The primary goal of a SIP is to enhance air quality by achieving, progressing toward, or maintaining compliance with the NAAQS. Each SIP specifies emissions reductions for every pollutant or precursor, categorized by source type, including on-road motor vehicles, non-road equipment and vehicles, stationary sources, and area sources.

Before an RTP/MTP or TIP can be adopted, approved, or accepted in nonattainment areas, MPOs and the U.S. Department of Transportation (DOT) must make conformity determinations on these documents. As described in Section 176(c)(1) of the CAAA, transportation conformity is granted when the following conditions are met:

(A) Conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards.

(B) That such activities will not:
   i. Cause or contribute to any new violation of any standards in any area;
   ii. Increase the frequency or severity of any existing violation of any standard in any area; or
   iii. Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

A new conformity determination must be performed any time an RTP/MTP is amended in a significant manner, when a region or state's air quality goals change, and/or every 4 years.

## 2.2 CONFORMITY REQUIREMENTS

The CAAA requires transportation plans, programs, and projects in nonattainment and maintenance areas, which are funded or approved by FHWA or FTA, to conform to the MVEBs established in the SIP, or to satisfy applicable interim emissions tests, absent MVEBs. A regional emissions analysis is the key analytic component of the transportation conformity process. It is conducted to demonstrate that:

- Regional emissions from on-road sources do not exceed the established MVEB or satisfy interim emissions test(s), absent an MVEB.
- Regional emissions from on-road sources do not cause or contribute to violations of EPA's NAAQS.
- Transportation activities are consistent with air quality goals identified in the SIP.

As stipulated by the CAAA, requirements for conformity analysis include:

- Use of the latest planning assumptions (40 CFR 93.110).
- Analysis based on the latest emission estimation model available (40 CFR 93.111).
- Interagency consultation and a public involvement process, which must be conducted during the analysis (40 CFR 93.112).
- Timely implementation of transportation control measures (TCMs) (40 CFR 93.113).
- A transportation plan and TIP that are consistent with the MVEBs established in the applicable SIP (if there is an adequate or approved SIP budget) (40 CFR 93.118).
- Inclusion of all regionally significant projects expected in the nonattainment and maintenance area in the transportation plan and/or TIP (40 CFR 93.114 and 93.115).

The determination of the analysis is a two-step process in metropolitan areas. The first step is for the MPO to make the initial transportation conformity determination at the local level. For the El Paso region, the El Paso MPO policy body makes this decision. The second step is for FHWA and FTA to make a joint transportation conformity determination at the federal level. Upon federal approval, a 4-year window begins during which projects, programs, and policies identified in the RTP/MTP and TIP may move toward implementation.

## 2.3 Emissions Analysis

A regional emissions analysis is the key analytic component of the transportation conformity process. The emissions analysis is conducted to demonstrate that:

- Regional emissions from on-road sources do not exceed the established MVEBs (or, if no MVEB exists for the area, analysis-year build emissions do not exceed analysis-year no-build emissions and do not exceed baseline-year emissions).
- Regional emissions from on-road sources do not cause or contribute to violations of the EPA NAAQS.
- Transportation activities are consistent with air quality goals identified in the SIP.

### 2.3.1 Regional Inventory

This conformity analysis of the El Paso nonattainment area accounts for emissions resulting from the nonattainment area's RMS 2052 MTP, which includes all regionally significant projects located within the El Paso **Metropolitan** nonattainment area, and the effects of emission control programs adopted by an enforcing jurisdiction.

### 2.3.2 Emissions Tests

Conformity determinations must demonstrate consistency between expected emissions from implementing the RTP/MTP and TIP with the MVEBs in the applicable implementation plan.

Check only one box and then populate as applicable.

☒ **For nonattainment or maintenance areas with adequate or approved SIP MVEB(s)**

This conformity analysis requires MVEB test(s) that must demonstrate that the total emissions for the nonattainment or maintenance area is less than or equal to the applicable SIP MVEB(s), which establish emissions ceilings for the regional transportation network.

As the El Paso nonattainment area's MPO, the El Paso MPO is responsible for conducting the air quality conformity analysis to address the 2015 Ozone and PM10 NAAQS. The MVEB for the **El Paso** region is summarized in Table 2-1.1.

**Table 2-1.1. NAAQS and MVEB (Tons/Day)**

| NAAQS | Applicable SIP | Pollutant | MVEB (Tons/Day) |
|---|---|---|---|
| 2015 8-hour ozone[1] | 1-hour Ozone SIP | VOC | 36.23 |
| 2015 8-hour ozone[1] | 1-hour Ozone SIP | NOx | 39.76 |
| PM10 | 1987 PM10 SIP | PM10 | 12.05 |

[1] The interagency partners have elected to evaluate El Paso County NOx and VOC emissions as part of this conformity analysis in case EPA issues a nonattainment designation for El Paso County in response to the D.C. Circuit decision before completion of this conformity process. The VOC and NOx budget is based on the 1996 one-hour ozone SUPER SIP.

In addition, this conformity analysis must satisfy the less-than-baseline interim emissions tests. For the less-than-baseline test, the build (or action scenario) emissions for each analysis year must be less than the baseline-year emissions.

For the portion of Doña Ana County near Sunland Park, NM non-attainment area, El Paso MPO is responsible for conducting the air quality conformity analysis to address the Sunland Park 2015 Ozone NAAQS interim emissions test as listed in Table 2-1.2.

**Table 2-1.2. NAAQS and Pollutant for the Sunland Park nonattainment area**

| NAAQS | Pollutant |
|---|---|
| 2015 8-hour ozone | VOC |
| 2015 8-hour ozone | NOx |

### 2.3.3 Analysis Years

For the emission budget test, according to the conformity rule, 40 CFR 93.106, the regional emission analysis years should be selected according to the following:

- Any years within the time frame of the transportation plan, provided they are not more than 10 years apart.
- Any year with an emission analysis budget.
- The attainment year.
- The transportation plan horizon year.

Table 2-2 shows the conformity analysis years and describes their corresponding requirements for calculations.

**Table 2-2. Conformity Analysis Years**

| Requirements | Years |
|---|---|
| Baseline Conformity Year | **2017[1]** |
| Attainment Year | **N/A** |
| Intermediate Analysis Year(s) | **2027[2], 2032, 2042** |
| Horizon Year | **2052** |

N/A = not applicable.
[1]Since there are no adequate or approved budgets for the Doña Ana County ozone nonattainment area, a baseline year 2017 has been included to satisfied the conformity rule's interim emissions test requirements 40 CFR 93.119.
[2]2027 analysis year will be solely for the Sunland Park 2015 Ozone NAAQS interim emissions test. 2027 would satisfy the first analysis year requirement of 40 CFR 93.119(g)(1).

## 2.4 CHECKLIST

Table 2-3 shows the checklist detailing information relevant to this conformity document.

**Table 2-3. Checklist of Items Required in This Conformity Review**

| Item | Regulation Referenced | Item Format | Location within Report |
|---|---|---|---|
| **RMS 2052** | Part 93 Subpart A | Independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| **2027-2030 RMS TIP** | Part 93 Subpart A | Independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| **RMS2052 Transportation Conformity document** | Part 93 Subpart A | Independent self-supporting document (electronic file) | This document |
| Description of version of MOVES model being used | 40 CFR 93.111 | Discussion contained in conformity document | Chapter 5.1 |
| MOVES input and output files | | Electronic (ASCII or txt file format) | Appendix Section D.1 MOVES Input and Output |
| MOVES emission factors | | Electronic (ASCII or txt file format) | Appendix Section D.2 MOVES Emission Factors |
| MOVES activity | | Electronic (ASCII or txt file format) | Appendix Section D.3 Activities |
| MOVES external reference files | | Electronic (ASCII or txt file format) | Appendix Section D.1 MOVES Input and Output |
| MOVES utilities | | Electronic (ASCII or txt file format) | Appendix Section D.4 Emissions Modeling Utilities |

| Item | Regulation Referenced | Item Format | Location within Report |
|---|---|---|---|
| Highway Performance Monitoring System adjustment(s), factors, and approach | 40 CFR 93.122(b)(3) | Discussion contained in conformity document | Chapter 4.4 |
| Description of TDM validation, including validation year | 40 CFR 93.106(a)(1)(ii) | Discussion contained in conformity document | Chapter 4.1 and Appendix Section C.1 Travel Model Validation |
| Vehicle miles of travel | | Electronic file | Appendix Section D.5 VMT, Speed, and Emissions Summaries |
| Average loaded speeds | | Electronic file | Chapter 4.7.4 |
| Centerline mile summaries for each analysis year | | Electronic file | Appendix Section C.2 Links, Miles, Centerline, and Lane Miles Summaries |
| Definition of regionally significant roadway system | | Discussion contained in conformity document | Chapter 3.3 |
| Network link listing for each analysis year | | Discussion contained in conformity document (electronic file) (electronic files should include TransCAD files, SHAPE files, and spreadsheet files) | Chapter 4.5 |
| Files containing hourly distribution by county, roadway type, and vehicle type for vehicle miles of travel, vehicle hours, average operational speed, vehicle population, $NO_x$ emissions, and VOC emissions | | Electronic files in tab-delimited summary tables | Appendix Section D.5 VMT, Speed, and Emissions Summaries |
| Congestion Mitigation and Air Quality Improvement Program (CMAQ) projects containing emission benefits, methodologies, and implementation dates | | Identified in TIP: independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| Roadway system (capacity staging) | | Electronic file | Appendix Section C.2 Links, Miles, Centerline, and Lane Miles Summaries |
| List of non-federal projects | In response to March 2, 1999, court ruling | Identified in TIP: independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |

| Item | Regulation Referenced | Item Format | Location within Report |
|---|---|---|---|
| List of exempt projects | 40 CFR 93.105(c)<br>40 CFR 93.126<br>40 CFR 93.127<br>40 CFR 93.128 | Identified in TIP: independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| Evidence of fiscal constraint | 40 CFR 93.108 | Identified in TIP: independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| Evidence of RTP/MTP specifically describing the transportation system envisioned for each analysis year | 40 CFR 93.106(a) | Identified in TIP: independent self-supporting document (electronic file) | Link as listed in Appendix B—RTP/MTP |
| Evidence of public participation and response to comments | 40 CFR 93.105 | Electronic file | Appendix Section G.1 Meeting I |
| Endorsements and/or resolutions | | Electronic file | Appendix A—Resolution of Adoption |
| Memorandum of agreements | | Electronic file | Appendix A—Resolution of Adoption |
| Applicable *Federal Register* notices and related documents | | Discussion contained in conformity document | Throughout the conformity document and appendices |
| Interagency consultation | | Electronic file | Appendix F—Interagency Consultation Process |

# 3. RTP/MTP AND TIP

## 3.1 RMS 2052 AND 2027-2030 RMS TIP

### 3.1.1 Overview

El Paso MPO serves three counties in two states; El Paso County in Texas and the southern portions of Doña Ana and Otero counties in New Mexico. This region includes the PM10 and 2015 8-hour ozone nonattainment areas, which covers El Paso County, Texas and Dona Aña County, New Mexico.

On May 22, 2026, RMS 2052 MTP and the 2027-2030 RMS TIP were considered for approval by the EPMPO Transportation Policy Board. The RMS 2052 MTP update covers a planning period of 2026 through 2052 and contains a list of projects fiscally constrained by estimates of reasonably available revenues. This update reflects the priorities for transportation investments within the EPMPO metropolitan planning area (MPA). A complete listing of fiscally constrained projects, as proposed under this conformity determination, is provided in Appendix Section B.1 Project Listings. This listing denotes projects that are regionally significant or otherwise subject to transportation conformity and those projects that are exempt from transportation conformity, are exempt from regional emissions analysis, or have been determined to be not regionally significant.

### 3.1.2 Submittal Frequency

Consistent with the requirements of 23 USC 134, the transportation plan and/or TIP are required to be updated every 4 years. Since **El Paso Metropolitan area** is a non-attainment area for the PM10 and 2015 ozone NAAQS, every amendment or update to the transportation plan and/or TIP must show conformity to the air quality budgets coming from the latest revisions to the SIP. If more than 4 years elapsed after DOT's transportation conformity determination for a plan update, a 12-month grace period shall be in force. At the end of this 12-month grace period, DOT's existing transportation conformity determination will lapse.

A conformity determination for a transportation plan must be based on the transportation plan and all amendments. According to 40 CFR 93.104, each new transportation plan and/or TIP update or amendment must be demonstrated to conform before amendments are approved by the El Paso MPO Policy Board or accepted by DOT unless the amendment merely adds or deletes exempt projects listed in 40 CFR 93.126, 93.127, or 993.128.

According to 42 USC 7506 I(2)(E), the MPO must redetermine the conformity of existing transportation plans and programs not later than 2 years after the date on which the administrator:

i. Finds a motor vehicle emissions budget to be adequate per 40 CFR 93.118(e)(4) (as in effect on October 1, 2004);
ii. Approves an implementation plan that establishes a motor vehicle emissions budget if that budget has not yet been determined to be adequate per clause (i); or
iii. Promulgates an implementation plan that establishes or revises a MVEB.

### 3.1.3 Fiscal Constraints

All transportation plans prepared by the MPO are required to be fiscally constrained. Fiscal constraint is demonstrated by a financial plan that outlines reasonably available future revenues to implement the projects listed in the transportation plan. The constraints are:

- **Long-range financial constraint:** The transportation plans' financial element must identify all sources of funds reasonably expected to be available and any innovative financial strategies that may be necessary to implement the transportation plans. The RMS 2052 update estimates $8.9B of revenue to be reasonably available to implement the recommendations. The RMS 2052 update's total expenditure is estimated to be approximately $7.8.
- **Short-range financial constraint:** Financial constraint is also required for a conforming TIP, with funds programmed being equal to the total funds available. The TIP comprises the first 4 years of transportation activities in the transportation plan. The 2027-2030 RMS TIP amendment estimates $1.3B of revenue to be reasonably available to implement the recommendations. The 2027-2030 RMS TIP amendment's total expenditure is estimated to be approximately $1.3B.

## 3.2 Regional Significant Control Program

Each SIP submitted by a state under Section 110 of the CAAA shall include enforceable emission limitations and other control measures, means, or techniques, as well as schedules and timetables for compliance to meet the applicable requirements of the act. No MPO designated under 23 USC 134 shall give its approval to any project, program, or plan that does not conform to an implementation plan.

## 3.3 Regionally Significant Travel Projects/Programs

Per 40 CFR 93.101, regionally significant projects are transportation projects (other than an exempt project) that are on a facility that serves regional transportation needs (e.g., access to and from the area outside of the region; major activity centers in the region; major planned developments such as new retail malls, sports complexes, etc.; or transportation terminals and most terminals themselves). Regionally significant projects would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Regionally significant roadways include:

> The determination of regionally significant projects comes from the "Regionally Significant Project" definition found in 40 CFR Section 93.101. The definition is as follows:
>
> "*Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the*

*area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel."*

The networks used in the TDM consist of existing and planned future roadways. Functionally classified roadways (minor arterial and above) or projects seeking federal funding are considered regionally significant. Most of the roadways contained in the model networks are regionally significant. Some roadways are included that are not regionally significant but are necessary to define the traffic analysis zone (TAZ) structure used in the TDM, facilitating TDM performance (e.g., provide access and/or connectivity to the network from/to smaller urban TAZs or rural TAZs that are not bordered by regionally significant roadways).

## 3.4 OTHER PROJECTS/PROGRAMS

### 3.4.1 Non-federal Projects/Programs

Non-federal projects funded by sources such as local governments and local transportation authorities, such as signal improvements, intersection improvements, and local roadway widening, may be of insufficient scale or scope to require inclusion within a transportation conformity regional emissions analysis. These non-regionally significant projects that do not require any federal project approval actions (e.g., environmental clearance or permit approvals) are not individually listed within the transportation plan and/or TIP.

### 3.4.2 Exempt Projects/Programs

The regulation 40 CFR 93.126 identifies several project types that are exempt from the requirement of a conformity determination. When a conforming transportation plan or TIP is revised to add or remove an exempt project, a new conformity determination is not required. Some of the exempt projects listed under 40 CFR 93.126 include the continuation of ridesharing and vanpooling promotion activities at current levels, bicycle and pedestrian facilities, railroad/highway crossings, fencing, shoulder improvements, the purchase of replacement transit vehicles, and road landscaping.

Additionally, 40 CFR 93.127 identifies project types that are exempt from a regional emissions analysis but may still require project-level conformity. These include intersection channelization projects, intersection signalization projects at individual intersections, interchange reconfiguration projects, changes in vertical and horizontal alignment, truck size and weight inspection stations, and bus terminals and transfer points.

Finally, 40 CFR 93.128 exempts traffic signal synchronization projects; however, regionally significant traffic signal synchronization projects must be included in subsequent regional emissions analyses.

# 4. VEHICLE ACTIVITY ESTIMATION

## 4.1 OVERVIEW OF THE TRAVEL MODEL

The El Paso MPO TDM serves as the source for forecasting vehicle miles of travel (VMT) and other travel characteristics for El Paso County in Texas and the southern portions of Doña Ana and Otero counties in New Mexico. The TDM is executed in the TransCAD environment. The model base year is 2022, and the forecasted years are 2027,2032,2042 and 2052. The trip characteristics forecasted include the number of trips, trip origins-destinations (ODs), and travel mode. The model assigns all vehicle trips to the roadway network and produces VMT at the link level. The assigned roadway network with forecasted VMT is then processed by the emissions model for mobile emission analysis.

## 4.2 TRANSPORTATION MODELING PROCESS

The forecasting technique is based on a four-step sequential process designed to model travel behavior and predict the level of travel demand at regional, sub-area, or small-area levels. These four steps are trip generation, trip distribution, mode choice, and roadway assignment.

### 4.2.1 Trip Generation Model

The basic geographic unit for the travel demand modes is the traffic analysis zone (TAZ). Trip generation was performed using trip rate cross-classification tables, and balancing attractions to productions. Trip generation model is done using TripCAL6, a software developed by the Texas Transportation Institute. The travel model covers 1,234 square miles which includes El Paso County in Texas, and parts of Doña Ana and Otero Counties in New Mexico; and contains 869 TAZs, of which 848 are internal zones and 21 are external zones or stations.

For this conformity analysis, the defined base year for the forecast is 2022. The demographic estimates and forecasts were developed, first as regional control totals for the entire El Paso MPO area by the Texas Demographic Center, for years 2022, 2027, 2032, 2042 and 2052. Then, through a land-use model (using UrbanSIM software) calibrated and validated for the El Paso MPO area, control total demographics for each forecast year are distributed geographically to the TAZ level, considering land-use zoning policies, land availability and cost, among other land-market variables, as well as travel accessibility conditions from the transportation networks.

### 4.2.2 Trip Distribution Model

The trip distribution model determines the interaction between each zone within the study area. The model connects trip ends estimated in the trip generation model, creating OD TAZ pairs and resulting in OD trip tables. This step is performed using the a doubly-constrained Gravity model available as a module within the TransCAD software.

Trips were allocated based on friction factors calibrated from trip-length frequency distributions (TLFD) by trip purpose obtained from a combination of available travel surveys and location-based services (LBS) data from mobile devices. Then, a reasonableness check was performed to

ensure that the modeled trip information was consistent with observed origin-destination sample (proportional) LBS data, as well as goodness-of -fit comparisons between resulting modeled vs observed TLFDs.

### 4.2.3 Mode Choice Model

The mode choice model subsequently determines the mode of travel selected by travelers. This determination is performed using a Nested Logit Model. These decisions are based on the characteristics of:

- The trip maker (income and auto sufficiency).
- The trip (purpose, length, and orientation).
- The availability and utility of the competing transportation modes.

Table 4-1 shows the mode choices included.

**Table 4-1. Mode Choices Modeled**

| Number | Mode choice | Sub-nests |
|---|---|---|
| 1 | Auto | 1, 2 & 3+ occup |
| 2 | Transit | walk access & drive access |
| 3 | non-motorized | walk & bicycle |

### 4.2.4 Roadway Assignment Model

The Roadway Assignment Model loads the travel demand (trips) to the roadway network, calculates delay for congested links, and reassigns as necessary to achieve network equilibrium. This step is performed using User Equilibrium Roadway Assignment Model.

## 4.3 Speed Estimation Procedure

As part of the TDM calibration process, speeds for each roadway facility type are estimated and further categorized by area type. These input speeds reflect the average daily travel speeds. The traffic assignment step produces estimated congested travel speeds based on traffic flows and application of the volume-delay function. The speeds input to trip distribution and mode choice are generally not consistent with the speeds output from traffic assignment. To rectify this inconsistency, results from the traffic assignment are used to re-compute zone to zone travel times (speed feedback loop). The model is re-run, and a comparison is then made between the initial and updated zone to zone travel times. If the travel times are not reasonably similar, the updated travel times are then fed back to trip distribution and mode choice. This process is repeated iteratively until a convergence criterion or iteration limit is met.

## 4.4 Local Street VMT

The roadway network of the regional TDM does not contain the details of local (residential) streets. However, a local street VMT estimate is possible based on data provided by the travel model. Local street VMT is calculated for each county by multiplying the number of intrazonal trips by the intrazonal trip length and then adding the VMT from the zone centroid connectors. The temporal distribution is assumed to be the same as for non-local streets.

## 4.5 Model VMT Adjustments

Adjustment factors based on the Texas Department of Transportation's (TxDOT's) Highway Performance Monitoring System (HPMS) data and automated traffic recorder (ATR) data were applied to the TDM's VMT to ensure consistent reporting across the state. For future analysis years, an HPMS adjustment factor was applied to the model-estimated time-of-day VMT prior to the estimation of time-of-day speeds. Seasonal, daily, and hourly adjustment factors, developed from ATR data, were applied to both historic and future years to convert the TDM VMT to season-specific, day-type-specific, and hourly VMT. As a result, the time-of-day speeds used in the emissions estimation are based on HPMS- and ATR-adjusted VMT. This methodology is consistent with the procedures used by the Texas A&M Transportation Institute (TTI) in developing model adjustment factors for the rest of Texas.

### 4.5.1 HPMS Adjustments

The HPMS adjustment factor is applied to the model-estimated time-of-day VMT prior to the estimation of time-of-day speed for future years. In this way, the time-of-day speeds used in the estimation of emissions are based on the HPMS-adjusted VMT. The factor used to reconcile model-estimated regional VMT to HPMS-estimated regional VMT is calculated by dividing the HPMS-estimated average non-summer weekday VMT on the TDM validation year:

$$HPMS\ ANSWT\ VMT = HPMS\ AADT\ VMT\ \times AADT\_to\_ANSWT\ Factor$$

$$HPMS\ Factor = HPMS\ ANSWT\ VMT / TDM\ VMT$$

Where:

*HPMS ANSWT VMT* = HPMS-based annual non-summer weekday traffic VMT.[2]

As Table 4-2 shows, the HPMS adjustment factor was calculated based on these calculations.

**Table 4-2. 2022 HPMS Factor**

| HPMS AADT VMT[1] | AADT-to-ANSWT Factor | HPMSANSWT VMT | TDM VMT* | HPMS Factor** |
|---|---|---|---|---|
| 18,622,623.000 | 1.063608 | 19,807,171.000 | 18,006,439.000 | 1.100005 |

* Total counties included. Counties included were El Paso County, Southern Doña Ana County, and a portion of Otero County.
** Applied to all analysis years and areas in the TDM.

### 4.5.2 Seasonal Adjustments

Seasonal adjustment factors are used to adjust the TDM's VMT to seasonal VMT for historic years and future years. The seasonal adjustment factors were developed using the 2014 to 2023 ATR data over the years. To adjust the representative seasonal weekday traffic VMT from TDM to the specified day types in the **summer and winter** season, ratios were calculated 1) by dividing the average day-of-week (weekday) count for the **summer (June–August) or winter (December–February)** episodes by the ANSWT count for future years, 2) by dividing the average day-of-week (weekday) count for the **summer (June–August) or winter (December–February)** episodes by the AADT count for historic years. Table 4-3 shows the seasonal adjustment factors.

**Table 4-3. Seasonal Adjustment Factors**

| Season | Counties | Adjustment Factor | Adjustment Factor |
|---|---|---|---|
| Summer weekday | **El Paso County, Southern Doña Ana County, and a portion of Otero County** | **1.02925** | **0.967696** |
| Winter weekday | **El Paso County, Southern Doña Ana County, and a portion of Otero County.** | **1.096595** | **1.031014** |

### 4.5.3 Hourly Adjustments

The hourly factors in Table 4-4 are used to convert the TDM output into hourly VMT. The hourly factors were developed using the 2014 to 2023 ATR data over the years.

**Table 4-4. Example of Summer Weekday Hourly VMT Distribution**

| Period | Hour | 24-hour | 4-Period |
|---|---|---|---|
| overnight | 12:00 a.m. to 01:00 a.m. | 0.010846 | 0.041290 |
| overnight | 01:00 a.m. to 02:00 a.m. | 0.007215 | 0.027467 |
| overnight | 02:00 a.m. to 03:00 a.m. | 0.005870 | 0.022347 |
| overnight | 03:00 a.m. to 04:00 a.m. | 0.005968 | 0.022720 |
| overnight | 04:00 a.m. to 05:00 a.m. | 0.008663 | 0.032979 |
| overnight | 05:00 a.m. to 06:00 a.m. | 0.019998 | 0.076131 |

| Period | Hour | 24-hour | 4-Period |
|---|---|---|---|
| overnight | 06:00 a.m. to 07:00 a.m. | 0.037990 | 0.144625 |
| AM peak | 07:00 a.m. to 08:00 a.m. | 0.061414 | 0.343036 |
| AM peak | 08:00 a.m. to 09:00 a.m. | 0.062268 | 0.347806 |
| AM peak | 09:00 a.m. to 10:00 a.m. | 0.055349 | 0.309159 |
| midday | 10:00 a.m. to 11:00 a.m. | 0.053289 | 0.184592 |
| midday | 11:00 a.m. to 12:00 p.m. | 0.055258 | 0.191413 |
| midday | 12:00 p.m. to 01:00 p.m. | 0.058304 | 0.201964 |
| midday | 01:00 p.m. to 02:00 p.m. | 0.059668 | 0.206689 |
| midday | 02:00 p.m. to 03:00 p.m. | 0.062166 | 0.215342 |
| PM peak | 03:00 p.m. to 04:00 p.m. | 0.066269 | 0.245800 |
| PM peak | 04:00 p.m. to 05:00 p.m. | 0.070171 | 0.260273 |
| PM peak | 05:00 p.m. to 06:00 p.m. | 0.071267 | 0.264339 |
| PM peak | 06:00 p.m. to 07:00 p.m. | 0.061898 | 0.229588 |
| overnight | 07:00 p.m. to 08:00 p.m. | 0.048916 | 0.186220 |
| overnight | 08:00 p.m. to 09:00 p.m. | 0.039984 | 0.152216 |
| overnight | 09:00 p.m. to 10:00 p.m. | 0.032893 | 0.125221 |
| overnight | 10:00 p.m. to 11:00 a.m. | 0.025890 | 0.098561 |
| overnight | 11:00 p.m. to 12:00 a.m. | 0.018446 | 0.070223 |

### 4.5.4 Nonrecurring Congestion

Is nonrecurring congestion a factor?

☐ **Yes**

☒ **No**

Regional travel demand model does not model for nonrecurring congestion, and this emission model does not use any adjustment factor developed to account for nonrecurring congestion.

## 4.6 Vehicle Registration Distributions

Vehicle registration distributions were developed using the latest available TxDMV analysis-year-specific county vehicle registration data. Data from 2021 were used for the **2017** base year. The latest available data 2023 were used for the future analysis years 2027, 2032, 2042 and 2052. MOVES defaults were used where the required information was not available in the TxDMV data.

### 4.6.1 Age Fractions

The input values for each vehicle class are 31 age fractions representing the fraction of vehicles by age for that vehicle class as of the evaluation year. These age fractions start with the evaluation year as the first age fraction and work back in annual increments to end with the 30th fraction, which represents the fraction of vehicles of age 30 years and older. The fractions are calculated as the model-year-specific registrations in a class divided by the total vehicles registered in that class.

### 4.6.2 Alternative Fuel Vehicle Technology (AVFT)

AVFT fractions represent the share of vehicles by model year for each vehicle type and fuel type. TTI developed the evaluation-year-specific local diesel fractions for the MOVES single-unit and combination truck source use types using the latest TxDMV data, for all analysis years, aggregated to the statewide level. For all source types, CNG and electricity fractions were set to zero and the gasoline/diesel/flex-fuel fractions were normalized (sum to 1.0) for each source type and model year. Fuel usage for flex-fuel vehicles was set to 100 percent gasoline (in the fuel usage fraction input table).

## 4.7 Estimation of On-Network Activity

### 4.7.1 VMT Mix

VMT mix (or fractions) is very important to be able to estimate link emissions. The VMT mix is applied to the adjusted VMT in a post-process methodology to describe the share of vehicles for each vehicle type and fuel type on the road. The VMT mix enables the assignment of emission factors by vehicle type and fuel type to VMT to calculate emissions on a specified roadway facility or functional class. VMT mix is estimated for four MOVES roadway types: rural restricted (rural freeways), rural unrestricted (rural arterials and collectors), urban restricted (urban freeways), and urban unrestricted (urban arterials and collectors) for daily time periods for each of the modeled counties. Each county's roadway sections are classified as rural or urban by the vehicle activity behavior and the demographics of the county. The VMT mix methodology uses data, assumptions, and procedures from the TxDOT, TTI, and El Paso region TDM.

Consistent with the prior analysis, the VMT mixes were produced in 5-year increments and applied to analysis years as follows:

- **2015 VMT mix for 2013 through 2017 analysis years.**
- **2020 VMT mix for 2018 through 2022 analysis years.**
- **2025 VMT mix for 2023 through 2027 analysis years.**
- **2030 VMT mix for 2028 through 2032 analysis years.**
- **2040 VMT mix for 2038 through 2042 analysis years.**
- **2050 VMT mix for 2048 through 2052 analysis years.**

Using the latest available vehicle classification counts 2014 to 2023 and MOVES 4 defaults, TTI estimated the time-of-day (AM peak, midday, PM peak, and overnight) VMT mixes by the four MOVES road types. No seasonal adjustments were made for VMT mix.

### 4.7.2 Transit Systems

Is transit VMT applicable?

☐ **Applicable**

[**Transit county, coverage area (in square miles), and transit VMT** (e.g., TRANSIT_NAME serves XX, YY, and ZZ Counties. Its service area covers 9,999 miles. The summer weekday daily regional transit VMT for analysis years 2023, 2026, 2036, and 2045 is ####, ####, ####, and ####, respectively.]

☒ **Not applicable**

The transit trips are excluded from the highway assignment and do not contribute to roadway VMT.

### 4.7.3 Roadway VMT

Roadway VMT is provided by hour, county, road type and area type. Appendix Section D.5 VMT, Speed, and Emissions Summaries contains all the network years with the final VMT estimates.

### 4.7.4 Average Loaded Speeds

Average loaded speeds are provided by hour, county, road type, and area type. The final average loaded speeds are listed in Appendix Section D.5 VMT, Speed, and Emissions Summaries.

### 4.7.5 Centerline and Lane Miles.

Centerline miles and lane miles are provided by functional class and area type for each analysis year and are listed in Appendix Section C.2 Links, Miles, Centerline, and Lane Miles Summaries.

## 4.8 Estimation of Off-Network Activity

County-level,hourly estimates of the off-network idling (ONI), vehicle-population-based source hours parked (SHP), and vehicle-population-based start activity were required for each vehicle type to estimate the off-network emissions. Hotelling hours including source hours extended idling (SHEI) and auxiliary power unit (APU) hours estimates were needed to estimate the off-network hotelling emissions for combination long-haul trucks only.

The vehicle population and hourly SHP, starts, ONI, source hours extended idling (SHEI), and APU hours are available in the Appendix Section D.3 Activities.

### 4.8.1 Vehicle Population

Vehicle population data were required to estimate SHP and vehicle start activity. The vehicle population estimates were derived from the **mid-year 2023 data**, county-specific vehicle registration data provided by TxDMV, TxDOT district-level VMT mix data, and HPMS-reported county-level VMT totals.

The following steps were used to disaggregate the TxDMV vehicle registration data to vehicle population data by vehicle type:

1. VMT mix data were used to calculate the proportional representation of each MOVES vehicle type within each TxDMV aggregation class (first column of Table 4-5).

**Table 4-5. Vehicle Registration Aggregations and Vehicle Types**

| Vehicle Registration Aggregation | Associated Vehicle Type |
|---|---|
| Motorcycles | MC_Gas |
| Passenger cars | PC_Gas; PC_Diesel; PC_Electricity |
| Multipurpose Passenger Vehicle (MPV) and Truck<=10000 | PT_Gas; PT_Diesel; PT_Electricity<br>LCT_Gas; LCT_Diesel; LCT_Electricity |
| Bus other than School Bus | Obus_Gas; Obus_Diesel; Obus_Electricity<br>TBus_Gas; TBus_Diesel; TBus_Electricity |
| School Bus | SBus_Gas; SBus_Diesel; SBus_Electricity |
| Motorhome | MH_Gas; MH_Diesel; MH_Electricity |
| Count of 10000<Truck<=19500 other than Motorhome | RT_Gas; RT_Diesel; RT_Electricity<br>SUShT_Gas; SUShT_Diesel; SUShT_Electricity |
| 19500<Truck<33000 other than Truck-Tractor and Motorhome and with sleeping cab | SULhT_Gas; SULhT_Diesel; SULhT_Electricity |
| 19500<Truck-Tractor with no sleeping cab | CShT_Gas; CShT_Diesel; CShT_Electricity |
| 19500<Truck-Tractor and body type is Truck-Tractor with sleeping cab | CLhT_Diesel; CShT_Electricity |

a. The VIN number in the **2023 mid-year** TxDMV county registrations data extracts were used for estimating the vehicle populations.

2. The proportional fractions calculated in step 1 were multiplied by the total number of vehicles reported in each TxDMV vehicle registration category to obtain the estimated number of vehicles (populations) for each modeled MOVES vehicle type.

Analysis-year vehicle type populations were then calculated by applying a vehicle type of population growth factor (VPGF). The VPGF was calculated using each analysis year's VMT in the summer weekday scenario divided by the county-level HPMS-reported total VMT for the registration data year **2023** in the summer weekday scenario.

### 4.8.2 Off-Network Idling Hours

Off-network idling (ONI) is an idling activity that occurs while a vehicle is idling in a parking lot, drive-through, or driveway while waiting to pick up passengers or loading/unloading cargo. ONI applies to all MOVES source types.

TTI estimates ONI hours activity (i.e., SHI off-network) for each hour of the day using the following formula:

$$ONI\ Hours = (SHO_{network} \times TIF - SHI_{network})/(1 - TIF)$$

Where:

- $SHO_{network}$ is the source hours operating (SHO) on each link. This is calculated by dividing the VMT associated with each link by the link's congested speed.
- $SHI_{network}$ is the total SHI that occurs on the network (idling that occurs as a component of drive cycles) and is calculated by multiplying $SHO_{network}$ by a road idle fraction (RIF). RIF is the proportion of idling (in units of time) that occurs within a drive cycle at a specified operational speed. Default values for RIF were used as defined in the MOVES data table roadidlefraction.
- $TIF$ is the total idle fraction or total idling time on- and off-network divided by total SHO on- and off-network: TIF = ($SHI_{network}$ + ONI) / ($SHO_{network}$ + ONI). Default values for *TIF* were used as defined in the MOVES data table totalidlefraction.

### 4.8.3 Source Hours Parked

The next activity measure needed to estimate the off-network emissions is county-level estimates of SHP by hour and vehicle type. The SHP was estimated as a function of total source hours (hours a vehicle exists) minus its hours of operation on roads (SHO is the same as vehicle hours of travel [VHT]) and its hours of idling off-network (ONI).

The vehicle-type SHP estimates were calculated for each hour of the day based on the link VMT and speeds, the VMT mix used in the link-based emissions analysis, and the vehicle population estimates. The VMT mix was applied to the link VMT to produce VMT estimates by vehicle type. Link VMT was divided by the link speed to produce SHO estimates. SHO and ONI were aggregated across links and then subtracted from source hours (equal to the vehicle population since source hours equal the number of hours in the period), resulting in SHP estimates by vehicle type. This was performed for each analysis year, county, and hour of the day.

### 4.8.4 Start Activity

Vehicle start activity was estimated using county-level vehicle-type populations and data from MOVES representing the average number of starts per vehicle type per hour. The starts per vehicle per hour were using MOVES run to calculate from the input database with local data such as the age distribution and fuel fractions of the local fleet.

TTI used MOVES runs with the input database with local input data combined with MOVES default parameters (startsageadjustment, startsmonthadjust **June through August average for summer or December through February average for winter**, and startspervehicle) to produce hourly starts per vehicle output representative of the **June through August summer or December through February winter** period. The output was then post-processed to produce the scenario-

specific starts per vehicle for the summer period defined by the study scope. The weekday vehicle start estimates for each vehicle type were calculated by county, analysis year, and hour of the day.

### 4.8.5 Hoteling: Source Hours Extended Idling and Auxiliary Power Unit Hours

Hoteling hours were calculated for heavy-duty, long-haul trucks only (i.e., SUT ID 62 in MOVES) in several steps. First, total hoteling hours for a base year were calculated using information from the latest available Texas Commission on Environmental Quality (TCEQ) extended idling study.[3] Scaling factors, calculated based on the ratio of analysis year long-haul truck VMT and base year long-haul truck VMT, were then used to scale these base hoteling hours to those relevant in each analysis year, which were then allocated to each hour of the day. Estimations were then made of the proportions of hoteling hours that occur in each of the four hoteling categories: idling using the main engine (SHEI), diesel APU operation, electric APU operation, or main engine off and no auxiliary power based on the MOVES hotellingactivitydistribution table.[4]

#### *4.8.5.1 Estimating 24-Hour Hoteling*

County-level hoteling scaling factors were developed to transform base Error! Reference source n ot found.winter weekday total daily hoteling hours to daily hoteling hours for each conformity analysis-year scenario. Scaling factors were calculated using the ratio of heavy-duty long-haul VMT for each scenario relative to heavy-duty long-haul VMT for a Error! Reference source not f ound.winter weekday (scenario SUT 62 VMT divided by 2017 winter weekday SUT 62 VMT).

Total daily hoteling for each county and scenario was calculated by multiplying the appropriate scaling factor by the total daily hoteling hours contained in the Error! Reference source not f ound.winter weekday total daily hoteling hours study.

#### *4.8.5.2 Hoteling by Hour Estimation*

Daily hoteling hours were allocated to each hour of the day as a function of the inverse of activity scenario hourly VHT fractions for SUT 62. The hourly VHT fractions were calculated using the hourly VHT from the SHP estimation process (VHT = SHO). The inverses of these hourly VHT fractions were calculated and then normalized across all hours to produce the county-level, hoteling hours hourly distribution.

If the hourly hoteling hours were greater than the SHP (for SUT 62), the final hoteling hours estimate was set to the SHP.

#### *4.8.5.3 SHEI and APU*

SHEI and APU hours components of hoteling hours were then estimated for each hour using the hourly hoteling hours estimates, combination long-haul truck travel fractions (calculated from local age distributions and MOVES default relative mileage accumulation rates), and hoteling activity distributions for each model year.

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[3] *Heavy-Duty Vehicle Idle Activity Study, Final Report*. Texas A&M Transportation Institute, Environment and Air Quality Division, July 2019.

[4] Only SHEI and APU diesel hoteling generates emissions. The other fractions are calculated for completeness.

The SHEI and APU hours activity distribution fractions (see Table 4-6) were each first multiplied by the travel distribution (model-year operating mode activity fraction multiplied by the associated mode-year travel fraction). The products of the SHEI fractions and travel fractions were then summed to produce the total SHEI fraction, and the same process was performed for APU hours to produce the total APU hours fraction. (The sum of the SHEI and APU hours fractions subtracted from 1.0 results in the fraction of hoteling hours with electric power or no power in use.)

**Table 4-6. Hoteling Activity Distribution by Model Year**

| First Model Year | Last Model Year | 200 Extended Idling | 201 Hoteling Diesel Auxiliary | 203 Hoteling Battery AC | 204 Hoteling APU Off |
|---|---|---|---|---|---|
| 1960 | 2009 | 0.80 | 0.00 | 0.00 | 0.20 |
| 2010 | 2020 | 0.73 | 0.07 | 0.00 | 0.20 |
| 2021 | 2023 | 0.48 | 0.24 | 0.08 | 0.20 |
| 2024 | 2026 | 0.40 | 0.32 | 0.08 | 0.20 |
| 2027 | 2060 | 0.36 | 0.32 | 0.12 | 0.20 |

The total SHEI and APU hours fractions were then multiplied by the hoteling hours for each hour of the day to produce the SHEI and APU hours estimates for each hour. This was performed for each analysis scenario.

# 5. EMISSIONS FACTOR ESTIMATION

A regional emissions analysis must be conducted for multiple analysis years to satisfy the requirements of 40 CFR 93.109 of the conformity rule for ozone nonattainment areas. Specifically, the regional emissions analysis is used to conduct the emission budget test (or interim emission tests) and to determine any contributions to emission reductions. The procedures for determining regional transportation-related emissions are described in 40 CFR 93.118 of the conformity rule. This section discusses the analysis years, and the modeling processes used to conduct the analysis.

## 5.1 EMISSIONS FACTOR ESTIMATION MODEL

According to 40 CFR 93.111 of the conformity rule, the determination must be based on the latest emission estimation model. EPA released the new MOVES model, MOVES 5**,** that was released in December 2024, with an effective date of December 11, 2026, when the MOVES5 grace period ends. Because this conformity analysis began before the end of the grace period for using MOVES5, the MOVES4 model can still be used for this analysis.

As outlined in the pre-analysis consensus plan (PACP), included in Appendix Section F.1 Approved Pre-analysis Consensus Plan , the Interagency Consultation Partners approved the use of MOVES4 to develop 2027, 2032, 2042 and 2052 vehicle emission factors. Emission factors are one component to determine VOC, NOx and PM emissions from the region's on-road vehicles.

Table 5-1 through Table 6-2 list MOVES4 input parameters with the appropriate data source and/or methodology applied. The information listed applies to all counties and analysis years unless otherwise specified.

**Table 5-1. MOVES Input Parameters and Data Source**

| Input Parameter | Description | Base Data Source | Notes |
|---|---|---|---|
| Vehicle population by source type | Input the number of vehicles in the geographic area to be modeled for each source type. | Texas Department of Motor Vehicles (TxDMV) data (mid-year 2023, mid-year 2021), MOVES defaults for rates runs. | • Local gasoline, diesel, and electricity source type populations by analysis year are estimated for use external to MOVES in the estimation of county level vehicle starts and source-hours-parked, and needed in the external emissions calculations, per the Texas A&M Transportation Institute's (TTI's) rates-per-activity, TDM-based method.<br>• Populations by source use type (SUT) and fuel type are a function of TxDMV mid-year vehicle registration data and VMT mix, and in the case of base and future years, population scaling factors.<br>• Since no 2017 registration data are available for use with the 2017 baseline, the 2021 mid-year TxDMV data will be used to scale for the 2017 analysis year.<br>• The 2023 mid-year TxDMV data will be used to scale for all the rest of the future analysis years. |
| Fleet age distribution by source type | Input data that provide the distribution of vehicle counts by age for each calendar year and vehicle type. TxDMV registration data were used to estimate the age distribution of vehicle types up to 31 years. | TxDMV data (mid-year 2023, mid-year 2021), MOVES defaults for motor homes, and buses. | • Age distributions will be developed using TxDMV registration data aggregated at the county level for all source types except the single-unit and combination long-haul source types, which will be statewide level.<br>• Since no 2017 registration data are available for use with the 2017 baseline, the 2021 mid-year TxDMV data will be used for the 2017 baseline.<br>• The 2023 mid-year TxDMV data will be used for all the rest of the future analysis years.<br>• The distribution of age fractions should sum up to 1.0 for each source use type for each analysis year. |
| Fleet VMT by HPMS vehicle type | Distribute MOVES default VMT to five HPMS vehicle types. | MOVES defaults for rate runs | • Local activity estimates were applied in emissions calculations external to MOVES. |
| Road type VMT distributions | Input MOVES default VMT by road type. | MOVES defaults for rate runs | • Local activity estimates were applied in emissions calculations external to MOVES.<br>• The VMT fraction was distributed between the road type and must sum to 1.0 for each source type. |
| Average speed distribution | Input average speed data specific to vehicle type, road | MOVES defaults for rate runs | • Local activity estimates were applied in emissions calculations external to MOVES. |

| Input Parameter | Description | Base Data Source | Notes |
|---|---|---|---|
| | type, and hour of day/type of day into 16 speed bins. | | • The sum of speed distribution over all speed bins for each road type, vehicle type, and hour/day type is 1.0. |
| Fuel supply (Table 5-2) | Input data to assign existing fuels to counties, months, and years, and to assign the associated market share for each fuel. | Combination of MOVES defaults and local information. | • For each analysis year and season, the local fuel supply will consist of one conventional gasoline formulation and one biodiesel formulation and one electricity formulation. (Although only the predominant fuels, gasoline and diesel, and electricity, will be modeled, the other MOVES fuel type formulations will be input as required to run the MOVES model.) |
| Fuel formulation (Table 5-3) | Input Texas fuel region-specific fuel properties applicable to the county. | El Paso fuel survey data from TCEQ fuel study, Department of Energy (DOE) state-level biodiesel (BD) consumption estimates, and MOVES defaults for parameters. | • Conventional gasoline (CG) formulations based on the Texas Commission on Environmental Quality's (TCEQ's) summer 2017 and summer 2023 (latest available) fuel survey samples from El Paso County.<br>• The 2017 CG properties are actual 2017 averages (fuel grade averages weighted by relative sales volumes).<br>• The future years (2024+) CG properties are the latest available actual 2023 averages except with Reid vapor pressure (RVP), average sulfur level, and average benzene content set to the expected values (MOVES4 defaults, consistent with the pertinent regulatory standards).<br>• The 2017 diesel sulfur level is the statewide average from TCEQ's 2017 survey.<br>• Future years diesel sulfur was set to the current expected future year value (6 ppm), which is conservative and consistent with the statewide diesel sulfur average from TCEQ's latest (2023) survey.<br>• The BD ester volume percentages were based on 2017 for 2017 analysis year and 2023 for all future years from the latest available (2023) DOE state-level transportation sector BD consumption estimates.<br>o Fuel subtype IDs 12 and 21 are 10% ethanol-blend gasoline and biodiesel, respectively. |
| Fuel engine fraction | Input fuel engine fractions (i.e., gasoline versus diesel versus flex-fuel engine types in the vehicle population) by model year for all vehicle types. | TxDMV mid-year 2023, and mid-year 2021 registration data for particular source type diesel fractions; MOVES defaults for other source types. | • Locality-specific/MOVES default (renormalized with setting compressed natural gas [CNG] fractions to zero).<br>• TTI developed the evaluation year-specific local diesel and electricity fractions for the MOVES single unit and combination truck source use types using the 2021 TxDMV data for 2017 analysis year, and 2023 mid-year TxDMV data for all 2023 and |

| Input Parameter | Description | Base Data Source | Notes |
|---|---|---|---|
| | | | beyond analysis years, aggregated to the TxDOT-El Paso District level. |
| Meteorology (Table 5-4) | Input county-specific data on temperature, humidity, and barometric pressure. | Average hourly from weather stations within El Paso County. | • The summer and winter season temperature and humidity data are the same values used in the previous RMS 2050 MTP emissions analysis.<br>• These inputs were based on 2017 El Paso County weather station data, provided by TCEQ, and are consistent with TCEQ's latest (2017) El Paso periodic emissions inventory submittal to EPA required under the Air Emissions Reporting Rule. |
| Inspection and maintenance (I/M) coverage (Table 5-6) | Input I/M coverage records for each combination of pollutants, process, county, fuel type, regulatory class, and model year specified using this input. | TCEQ provided I/M program statistics for calculating the compliance factor input. TTI developed these inputs essentially in consultation with TCEQ. | • Begin and end model year (X, Y) define the range of model years covered, where X and Y, respectively, are calculated as YearID–24 and YearID–2.<br>• I/M compliance factor estimates were calculated by TTI using TCEQ 2017 statewide compliance data and MOVES4 I/M compliance factor equation in MOVES4 Technical Guidance, El Paso I/M-program-specific I/M waiver rates and failure rates, and statewide average I/M compliance rates in combination with MOVES4 regulatory class coverage adjustments for 2017 analysis year.<br>• I/M compliance factor estimates were calculated by TTI using TCEQ 2023 statewide compliance data and MOVES4 I/M compliance factor equation in MOVES4 Technical Guidance, El Paso I/M-program-specific I/M waiver rates and failure rates, and statewide average I/M compliance rates in combination with MOVES4 regulatory class coverage adjustments for future analysis years (2023 and beyond).<br>• The model processes/pollutants affected are start and running exhaust hydrocarbon (HC), CO, NOx, and tank vapor venting HC; fuel type is gasoline; frequency is annual. |

**Table 5-2. Fuel Supply**

| Fuel Type | Fuel Formulation ID | Market Share | Market Share CV* |
|---|---|---|---|
| Gasoline | 17103, 17703, 2313, 2373, 2473 | 1.0 | N/A |
| Diesel | 30176, 30236, 30600 | 1.0 | N/A |
| Electricity | 90 | 1.0 | N/A |

* The market share CV is the coefficient variation of the market share. MOVES requires that market shares of all fuel types be included in order to run the model, including alternative fuel types of E85, CNG, and electricity.

**Table 5-3. Fuel Properties**

| Factor | Information | | | | | | |
|---|---|---|---|---|---|---|---|
| Fuel Type | Gasoline | Gasoline | Gasoline | Gasoline | Diesel | Diesel | Electricity |
| Fuel Formulation ID | 17103 | 17703 | 2313 | 2473 | 30176 | 30600 | 90 |
| Fuel Subtype ID | 12 | 12 | 12 | 12 | 21 | 21 | 90 |
| Analysis Year | 2017 | 2017 | 2024+ | 2024+ | 2017 | 2024+ | 2017+ |
| Season | Winter | Summer | Winter | Summer | Summer and Winter | Summer and Winter | Summer and Winter |
| RVP | 11.5 | 6.94 | 11.5 | 7 | 0 | 0 | N/A |
| Sulfur Level | 25.0304 | 19.56 | 8.12 | 7.15 | 6.37 | 6 | 0 |
| ETOH Volume | 10 | 9.6 | 10 | 9.89 | 0 | 0 | N/A |
| MTBE Volume | 0 | 0 | 0 | 0 | 0 | 0 | N/A |
| ETBE Volume | 0 | 0 | 0 | 0 | 0 | 0 | N/A |
| TAME Volume | 0 | 0 | 0 | 0 | 0 | 0 | N/A |
| Aromatic Content | 20.8537 | 26.67 | 20.6335 | 27.1 | 0 | 0 | N/A |
| Olefin Content | 9.73041 | 5.5 | 9.38928 | 5.62 | 0 | 0 | N/A |
| Benzene Content | 0.612097 | 1.13 | 0.617 | 0.689 | 0 | 0 | N/A |
| e200 | 49.7981 | 48.74 | 50.0065 | 45.96 | 0 | 0 | N/A |
| e300 | 84.8353 | 87.84 | 85.7324 | 85.8 | 0 | 0 | N/A |
| Vol to Wt Percent Oxy | 0.3653 | 0.3653 | 0.3653 | 0.3653 | 0 | 0 | 0 |

| Factor | Information | | | | | | |
|---|---|---|---|---|---|---|---|
| BioDiesel Ester Volume | N/A | N/A | N/A | N/A | 4.68 | 3.38 | N/A |
| Cetane Index | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PAH Content | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| T50 | 199.738 | 206.12 | 198.832 | 207.76 | 0 | 0 | N/A |
| T90 | 321.949 | 306.72 | 318.167 | 315.98 | 0 | 0 | 0 |

Note: MOVES requires all on-road mobile fuel types to run, so MOVES default E85, CNG, and electricity fuel formulations were included in the input. N/A denotes not applicable.

**Table 5-4. Hourly Meteorological Data**

| Factor | Information | | | |
|---|---|---|---|---|
| **County/Area(s)** | | | | |
| **Season** | **Summer** | | **Winter** | |
| **Hour** | **Temperature (°F)** | **Relative Humidity (%)** | **Temperature (°F)** | **Relative Humidity (%)** |
| 00:00 a.m.–01:00 a.m. | 79.77 | 42.73 | 48.57 | 45.01 |
| 01:00 a.m.–02:00 a.m. | 78.51 | 45.05 | 47.44 | 46.81 |
| 02:00 a.m.–03:00 a.m. | 77.31 | 47.11 | 46.44 | 48.65 |
| 03:00 a.m.–04:00 a.m. | 76.27 | 49.05 | 45.46 | 50.32 |
| 04:00 a.m.–05:00 a.m. | 75.38 | 50.63 | 44.62 | 51.63 |
| 05:00 a.m.–06:00 a.m. | 74.47 | 52.45 | 43.71 | 53.29 |
| 06:00 a.m.–07:00 a.m. | 73.96 | 53.51 | 43.08 | 54.26 |
| 07:00 a.m.–08:00 a.m. | 75.19 | 51.26 | 43.39 | 52.85 |
| 08:00 a.m.–09:00 a.m. | 77.54 | 46.95 | 45.76 | 48.11 |
| 09:00 a.m.–10:00 a.m. | 80.13 | 42.42 | 48.91 | 43.16 |
| 10:00 a.m.–11:00 a.m. | 82.81 | 37.98 | 52.31 | 38.25 |
| 11:00 a.m.–12:00 p.m. | 85.38 | 33.88 | 55.29 | 34.22 |
| 12:00 p.m.–13:00 p.m. | 87.54 | 30.66 | 57.39 | 31.80 |
| 13:00 p.m.–14:00 p.m. | 89.27 | 28.03 | 59.07 | 29.61 |
| 14:00 p.m.–15:00 p.m. | 90.68 | 25.90 | 60.29 | 27.94 |
| 15:00 p.m.–16:00 p.m. | 91.85 | 24.01 | 60.83 | 27.40 |
| 16:00 p.m.–17:00 p.m. | 92.09 | 24.18 | 60.37 | 28.06 |
| 17:00 p.m.–18:00 p.m. | 91.62 | 24.77 | 58.77 | 30.20 |
| 18:00 p.m.–19:00 p.m. | 90.74 | 25.75 | 56.88 | 32.70 |
| 19:00 p.m.–20:00 p.m. | 89.02 | 28.24 | 55.16 | 35.17 |
| 20:00 p.m.–21:00 p.m. | 86.68 | 32.05 | 53.66 | 37.07 |
| 21:00 p.m.–22:00 p.m. | 84.78 | 34.61 | 52.16 | 39.26 |

| | | | | |
|---|---|---|---|---|
| 22:00 p.m.–23:00 p.m. | 82.97 | 37.00 | 50.77 | 41.34 |
| 23:00 p.m.–24:00 p.m. | 81.28 | 40.04 | 49.58 | 42.97 |

**Table 5-5. Barometric Pressure**

| Period | Barometric Pressure (Inches of Mercury) |
|---|---|
| 24-hr | 26.169 |

**Table 5-6. I/M Inputs**

| Factor | I/M Information | | | | |
|---|---|---|---|---|---|
| Test standards description | Two-mode, 2500 RPM/ idle test | Evaporative gas cap check | Evaporative gas cap and OBD check | Exhaust OBD check | |
| Test Standards ID | 12 | 41 | 45 | 51 | |
| Year ID | 2017 | 2017 | 2017, 2032, 2042, 2052 | 2017, 2032, 2042, 2052 | |
| I/M program ID | N/A | N/A | N/A | N/A | |
| Pollutant Process ID | N/A | N/A | N/A | N/A | |
| Source use type* | 21, 31, 32 | 21, 31, 32 | 21, 31, 32 | 21, 31, 32 | |
| Begin model year | X | X | 1996 | 1996 | |
| End model year | 1995 | 1995 | Y | Y | |
| I/M compliance | 21–95.20%<br>31–92.56%<br>32–73.27% | 21–95.20%<br>31–92.56%<br>32–73.27% | 2017:<br>21–95.20%<br>31–92.56%<br>32–73.27%<br><br>2023 and beyond:<br>21–94.40%<br>31–91.78%<br>32–72.66% | 2017:<br>21–95.20%<br>31–92.56%<br>32–73.27%<br><br>2023 and beyond:<br>21–94.40%<br>31–91.78%<br>32–72.66% | |

* Source Use Type: 21—passenger car, 31—passenger truck, 32—light commercial truck.
N/A denotes not applicable.

## 5.2 Adjustments to Emission Factors

Post-processing adjustments are applied to the emission factor post-process utility developed by TTI. These adjustments are applied either before or simultaneously with the emission calculation procedures to establish the model results. Table 5-7 lists the strategies that were utilized to post-process emission factors produced by MOVES (applied before emission calculation procedures).

**Table 5-7. MOVES Emissions Factor Post-processing to Be Performed by County and Year**

| Strategy and Post-processing Result | Analysis Year | Counties |
|---|---|---|
| Texas Low Emission Diesel (TxLED) | All analysis years | N/A |

# 6. REGIONAL EMISSIONS DETERMINATION

To report final emission analysis results, it is necessary to account for modeled link-level emission inventories, emission factor adjustments, and MoSERS emission benefits.

## 6.1 MODELED EMISSIONS

After the emission factors were developed, the emission was calculated using activity estimates from TTI emission inventory estimation utilities and emission rates from MOVES4: MOVES4Utils, developed by TTI for MOVES. This utility combines vehicle activity (see Chapter 5) and emissions factors (see Chapter 6) to create emission estimates at the link level.

Check only one box and then populate Table 6-1 as applicable.

**☒ For nonattainment or maintenance areas with adequate or approved SIP MVEB(s)**

**Table 6.1.1 VMT and Modeled Emissions for the PM10 SIP (summer/ winter)**

| Analysis Year | VMT | PM10 (Tons/Day)[1] |
|---|---|---|
| MVEB | N/A | **12.05**[2] |
| 2032 | 22,611,188 | 6.02/6.68 |
| 2042 | 24,139,993 | 6.40/7.11 |
| 2052 | 25,194,212 | 6.58/7.32 |

[1]PM10 emissions include summer/ winter figures. The PM10 budget is based on the 1994 PM10 Mobile Emissions Inventory. Using 2017 weather station data.
[2]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB)

**Table 6-1.2 VMT and Modeled Emissions for the 2015 Summer Season VOC and NOx Emission Data El Paso County[1]**

| Analysis Year | VMT | NOx (Tons/Day) | VOC (Tons/Day) |
|---|---|---|---|
| MVEB | N/A | **39.76** | **36.23** |
| 2032 | 22,611,188 | 5.25 | 4.00 |
| 2042 | 24,139,993 | 3.35 | 3.12 |
| 2052 | 25,194,212 | 3.12 | 2.90 |

[1]All values are average summer weekday estimates. The VMT listed are used to calculate the average speed. Using 2017 weather station data.

**Table 6-1.3 VMT and Summer Season VOC and NOx Emission Data Dona Ana nonattainment area Modeled the interim emissions test no-greater-than baseline year [1,2]**

| Analysis Year | VMT | NOx (Tons/Day) | VOC (Tons/Day) |
|---|---|---|---|
| 2017 | 97,898 | 0.09 | 0.044 |
| 2027 | 113,202 | 0.03 | 0.026 |

| | | | |
|---|---|---|---|
| 2032 | 115,342 | 0.02 | 0.021 |
| 2042 | 121,310 | 0.01 | 0.016 |
| 2052 | 126,704 | 0.01 | 0.015 |

[1]All values are average summer weekday estimates. The VMT listed are used to calculate the average speed. Using 2017 weather station data.
[2] El Paso regional TDM zones comprising the Sunland Park ozone nonattainment area, in Doña Ana County, NM.

## 6.2 Impacts from Adjustments and MOSERS

### 6.2.1 Mobile Source Emission Reduction Strategies

The Mobile Source Emission Reduction Strategies (MoSERS) is a collection of transportation projects or related activities with identifiable emission reduction benefits. Most of these MoSERS projects were funded through the CMAQ funds.

#### *6.2.1.1 Transportation Control Measures*

To meet the requirements of the SIP, nonattainment areas may make specific commitments in their SIP to implement MoSERS, called Transportation Control Measures (TCMs).

TCMs are projects, programs, and related activities designed to achieve on-road mobile source emission reductions and are included as control measures in an applicable SIP. TCMs are strategies to reduce vehicle use or change traffic flow and/or congestion conditions to decrease vehicular emissions. TCMs are further defined in 40 CFR 93.101, as amended by *Federal Register* Volume 62, page 43780. The CAAA requires that TCMs be included in SIPs for regions designated as serious and above ozone nonattainment areas.

Section 93.113 of the conformity rule requires MPOs to verify that the MTP and TIP provide for the timely implementation of TCMs in the applicable SIP. The MTP was reviewed to confirm that the goals, directives, recommendations, and projects do not contradict the specific requirements or commitments of the applicable SIP. The TIP was reviewed to confirm that implementation and expected implementation of projects through federal, state, and local funding sources are on schedule.

There are no Transportation Control Measure (TCM) requirements identified in the PM10 SIP. The 1996 one-hour ozone SUPER SIP's TCM requirements are no longer valid.

## 6.3 Final Analysis Results

Table 6-3 shows the final mobile emission results of this conformity analysis.

- "As per 40 CFR 93.118(a), to demonstrate conformity, the final emissions must be less than or equal to the maximum allowable level set forth by the MVEB for **Particulate Matter (PM-10)** , **Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx)**in the SIP.";

- - "The emissions reduction for each year is calculated by subtracting the emissions from the build (or action) scenario from those in the no-build (or baseline) scenario. As per 40 CFR 93.119(b)(1), to demonstrate conformity, the emissions in the build (action) scenario must be lower than those in the no-build (baseline) scenario by at least 0.001 tons per day. Additionally, in each analysis year, emissions under the build scenario must also be below those of the baseline year (**2017**) by at least 0.001 tons per day."

**☒ Table 6-1. For nonattainment or maintenance areas with adequate or approved SIP MVEB(s)**

VMT and Final Emissions for the Approved 2015 Ozone and PM10 SIP

| Analysis Year | VMT | NOx [1,4] Budget (Tons/Day) | NOx [1] (Tons/Day) | VOC [1,4] Budget (Tons/Day) | VOC[1] (Tons/Day) | PM10[2,3] Budget (Tons/Day) | PM10[2] (Tons/Day) |
|---|---|---|---|---|---|---|---|
| 2032 | 22,611,188 | 39.76 | 5.25 | 36.23 | 4.00 | 12.05 | 6.02/6.68 |
| 2042 | 24,139,993 | 39.76 | 3.35 | 36.23 | 3.12 | 12.05 | 6.40/7.11 |
| 2052 | 25,194,212 | 39.76 | 3.12 | 36.23 | 2.90 | 12.05 | 6.58/7.32 |

[1]Ozone (VOC and NOx) include summer figure. The VOC and NOx budget is based on the 1996 one-hour ozone SUPER SIP. Using 2017 weather station data.
[2]PM10 emissions include summer/ winter figures. The PM10 budget is based on the 1994 PM10 Mobile Emissions Inventory. Using 2017 weather station data.
[3]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB)
[4]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB)

VMT and Final Dona Ana nonattainment area Modeled the interim emissions test no-greater-than baseline year[1,2]

| Analysis Year | VMT | NOx (Baseline) (Tons/Day) | VOC (Baseline) (Tons/Day) |
|---|---|---|---|
| 2017 | **97,898** | **0.09** | **0.044** |
| 2027 | 113,202 | 0.03 | 0.026 |
| 2032 | 115,342 | 0.02 | 0.021 |
| 2042 | 121,310 | 0.01 | 0.016 |
| 2052 | 126,704 | 0.01 | 0.015 |

[1]This conformity determination demonstrates that the total emissions calculated from the modeled roadway network for future years will be at levels below the baseline year (2017) as required for the interim emissions test no-greater-than baseline year. Table provides the conformity results for the VOC and NOx no greater-than-baseline year emissions tests.
[2] El Paso regional TDM zones comprising the Sunland Park part of the El Paso-Las Cruces TX-NM ozone nonattainment area, in Doña Ana County, NM.

# 7. INTERAGENCY CONSULTATION

Regulation 40 CFR 93.112 of the conformity rule includes procedures for interagency consultation, resolution of conflict, and public consultation of the conformity analysis affecting the MTP and TIP. Local, state, and federal transportation and air quality agencies affected by this conformity analysis were consulted on the scope, methodologies, and products of the conformity finding. A conformity steering committee composed of representatives from El Paso MPO, TxDOT, TCEQ, TTI, FHWA, FTA,[5] and EPA was consulted regularly during the conformity process. The purpose of this group is to ensure the modeling methodology used in this conformity analysis is consistent with the on-road modeling used in the SIP and that the most recent planning assumptions were used.

Appendix Section F.2 Consultation Review and Meeting Summary provides a comprehensive list of the steering committee's meeting agenda and decisions, the Pre-Analysis Consensus Plan and comment/response matrix of the consultants review process.

[5] FHWA acts as the executive agent for FTA.

# 8. PUBLIC INVOLVEMENT

Public participation is recognized as an integral part of the planning process. The public participation process for transportation conformity and other transportation plans, projects, and policies includes timely public notice, full public access to technical and policy information, opportunities for early and continuing involvement, and explicit consideration and response to public input.

Public participation strategies and procedures are designed to inform the public about transportation and air quality issues, provide opportunities to involve the public in the decision-making process, and seek public and stakeholder input. Additionally, this process builds support among the public who are stakeholders in transportation investments. Public views and opinions are included in the final RTP/MTP and TIP documents.

Generally, each meeting will be consisted of an overview presentation, a question-and-answer session, an open house for viewing exhibits and gathering more information, and various avenues for submitting public comments. The public meeting presentation will be recorded and made available on the MPO's website for public viewing and feedback. Table 8-1 provides the public meeting dates, location addresses, and links to the meeting's agenda/recording.

**Table 8-1. Public Involving Meeting Information**

| Number | Meeting Date | Address |
|---|---|---|
| 1 | Wednesday April 22, 2026<br>5:30 p.m. – 7:00 p.m. | Pat O'Rourke Recreational Center<br>901 N. Virginia St., El Paso TX 79902 |
| 2 | Thursday April 30,2026<br>5:30 p.m. – 7:00 p.m | The Beast Urban Park<br>13501 Jason Crandall St., El Paso, TX 79938. |
| 3 | Saturday May 2,2026<br>10:30 a.m. – 12:00 p.m. | Sunland Park Multi-Generational Center<br>4700 McNutt Rd., Sunland Park NM 88063 |
| 4 | Wednesday, May 6, 2026<br>5:30 p.m. -7:00 p.m. | Rio Vista Community Center<br>901 Rio Vista, El Paso, TX 79927 |
| 5 | Wednesday May 13, 2026<br>5:30 p.m. – 7:00 p.m. | Nolan Richardson Recreation Center<br>4435 Maxwell Ave., El Paso TX 79904 |

The public comment period began on April 18, 2026 and end on May 17, 2026. Public inputs were collected via comment cards at public meetings, an online participation exercise, emails, letters, and speaking opportunities at technical committee and policy board meetings.

During the 30-day public comment period for the RMS 2052 MTP, RMS 2027-2030 MTP and related Transportation Conformity Report, EPMPO staff held five public meetings to solicit comments from the public. All meetings were held in-person. The meetings attracted a total of approximate 80-90 members of the public to attend. Meetings were conducted in an open house format, with a presentation provided by staff, with the opportunity for attendees to ask questions and provide comments. EPMPO received 71 public comments. 80% of Comments Expressed Opposition to Border Highway East/Support for Rio Bosque Wetlands Park Preservation.

The public comment and response matrix is included as Appendix G of the Transportation Conformity Report.

# APPENDIX A—RESOLUTION OF ADOPTION

# APPENDIX B—RTP/MTP

**RMS2052**

**2027-2030 TIP**

https://www.elpasompo.org/GetInvolved

## B.1 PROJECT LISTINGS

**Instruction:** This appendix contains the project listing files in PDF and a database-accessible format, such as CSV.

# APPENDIX C—TRANSPORTATION MODELING SYSTEM

## C.1 Travel Model Validation

## C.2 Links, Miles, Centerline, and Lane Miles Summaries

## C.3 Roadway Network Files

**Instruction:** This appendix includes the travel model shapefiles.

# APPENDIX D—EMISSIONS MODELING INFORMATION

## D.1 MOVES Input and Output

**Instruction:** This appendix includes the MOVES input county databases, MOVES RunSpec files input and output databases, and MOVES external modeling external files.

## D.2 MOVES Emission Factors

**Instruction:** Each analysis year may be listed as its own attachment, such as Appendix D.2.1, Appendix D.2.2, etc.

## D.3 Activities

**Instruction:** This includes VMT, extended idling, starts, etc.

## D.4 Emissions Modeling Utilities

## D.5 VMT, Speed, and Emissions Summaries

# APPENDIX E—TIMELY IMPLEMENTATION DOCUMENTATION FOR TCM

## N/A

# APPENDIX F—INTERAGENCY CONSULTATION PROCESS

## F.1 Approved Pre-analysis Consensus Plan

## F.2 Consultation Review and Meeting Summary

# APPENDIX G—PUBLIC INVOLVEMENT PROCESS

## G.1 MEETING INFORMATION

# APPENDIX H—SUPPLEMENTAL MATERIAL—OPTIONAL

**Instruction:** This appendix contains all information that the MPO wishes to share but does not fit in Appendices A through G.