5/8/2018

EL PASO METROPOLITAN PLANNING ORGANIZATION

TRANSPORTATION CONFORMITY REPORT

Amended Horizon 2040 Metropolitan Transportation Plan
and
Horizon 2017-2020 Transportation Improvement Program

This report was funded in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation. The views and opinions of the authors (or agency) expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation.

EL PASO METROPOLITAN PLANNING ORGANIZATION
TRANSPORTATION POLICY BOARD
RESOLUTION ADOPTING THE TRANSPORTATION CONFORMITY REPORT FOR THE AMENDEMENT HORIZON 2040 METROPOLITAN TRANSPORTATION PLAN (MTP) AND HORIZON 2017-2020 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)
FOR THE PARTICULATE MATTER NONATTAINMENT AREA AND THE CARBON MONOXIDE MAINTENANCE AREA

A conformity determination has been made that the proposed Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) have met the requirements for Carbon Monoxide (CO) and Particulate Matter of 10 Microns or less in size (PM_{10}) reductions set forth in the U.S. Environmental Protection Agency's (EPA's) final rule on conformity. Therefore, the MTP and TIP have been determined to:

(i) be consistent with the most recent estimates of mobile source emissions;

(ii) provide for expeditious implementation of transportation control measures in the applicable implementation plan; and

(iii) contribute to annual emissions reductions consistent with sections 182(b)(1) and 187(a)(7) with respect to CO, and PM_{10}.

It is therefore shown that the El Paso Metropolitan Planning Area's Amended Horizon 2040 MTP and the Horizon 2017-2020 TIP are in conformity under the Federal Clean Air Act Amendments of 1990 (FCAA).

Joe Moody, Texas State Representative
Chair, Transportation Policy Board
El Paso Metropolitan Planning Organization

Robert Bielek, P.E.

Robert Bielek, P.E., District Engineer
Texas Department of Transportation-El Paso District

Trent Doolittle

Trent Doolittle, P.E., District Engineer
New Mexico Department of Transportation-District

TABLE OF CONTENTS

GLOSSARY OF ABBREVIATIONS

ATP	Anti-Tampering Program
ATR	Automatic Traffic Recorder
CBI	Coordinated Border Infrastructure
CDB	County Data Base
CMAQ	Congestion Mitigation & Air Quality Improvement Program
CMP	Congestion Management Process
CNG	Compressed Natural Gas
CO	Carbon Monoxide
DPS	Department of Public Safety
EF	Emissions Factor
EMFAC	Emissions Factor Model
EMSCALC	Emissions Calculation Program
EPA	U.S. Environmental Protection Agency
EPMPO	El Paso Metropolitan Planning Organization
FCAA	Federal Clean Air Act and Federal Clean Air Act Amendments of 1990
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GC	Gas Cap
GVWR	Gross Vehicle Weight Rating
HC	Hydrocarbons
HDGV	Heavy-Duty Gasoline Vehicle
HDV	Heavy-Duty Vehicle
HOV	High-Occupancy Vehicle
HPMS	Highway Performance Monitoring System
I/M	Inspection/Maintenance Program
LDT	Light Duty Truck
LDV	Light Duty Vehicle
LOS	Level of Service
LPG	Liquefied Petroleum Gas

MMA Multi-Modal Assignment

MOBILE6.2.03 EPA-approved emissions modeling software

MOSERS Mobile Source Emission Reduction Strategies

MTP Metropolitan Transportation Plan

MVEB Motor Vehicle Emission Budget

NAAQS National Ambient Air Quality Standards

NEPA National Environmental Policy Act

NMDOT New Mexico Department of Transportation

NMED New Mexico Environment Department

OBD On-Board Diagnostics

PM_{10} Particulate Matter 10 Microns or Less

PPP Public Participation Program

PSI Pounds per Square Inch

RVP Low Reid Vapor Pressure Gasoline Program

ROW Right of Way

RTS Rapid Transit System

SIP State Implementation Plan

STIP Statewide Transportation Improvement Program

TAC Texas Administrative Code

TAZ Traffic Analysis Zone

TERM Transportation Emission Reduction Measures

TCM Transportation Control Measure

TCEQ Texas Commission on Environmental Quality

TCR Transportation Conformity Report

TDM Travel Demand Model

TIP Transportation Improvement Program

TMA Transportation Management Area

TPAC Transportation Project Advisory Committee

TPB Transportation Policy Board

TPD Tons per Day (Emissions)

TP&P Transportation Planning and Programming Division, TxDOT Austin

TRENDS Transportation Revenue Estimator and Needs Determination System

TRZ Transportation Reinvestment Zone

TSI	Two-Speed Idle
TTC	Texas Transportation Commission
TTI	Texas A&M Transportation Institute
TWG	Technical Working Group
TxDMV	Texas Department of Motor Vehicles
TxDOT	Texas Department of Transportation
TxDOT TP&P	Texas Department of Transportation Planning and Programming Division
TWG	Technical Working Group for Mobile Source Emissions
UPWP	Unified Planning Work Program
UTP	Unified Transportation Program
VHT	Vehicle Hours Traveled
VMEP	Voluntary Mobile Emissions Reduction Programs
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled

EXECUTIVE SUMMARY

The Air Quality Conformity Analysis performed for the Amended Horizon 2040 Metropolitan Transportation Plan (MTP) update and the Horizon 2017-2020 Transportation Improvement Program (TIP) demonstrate that the projected emissions of Carbon Monoxide (CO) and Particulate Matter 10 Microns or Less (PM_{10}) conform to the Motor Vehicle Emissions Budget (MVEB) enacted by the Texas Commission on Environmental Quality (TCEQ) and approved by the U.S. Environmental Protection Agency (EPA). This transportation conformity analysis was obtained by projecting vehicle miles and hours traveled from the TransCAD Travel Demand Model (TDM), calculating emissions of these vehicles using the MOVES2014a (released December 2015 and updated November 2016) and AP-42 section 13.2.1 models (EPA, January 2011) , and comparing the results to the MVEB for the County of El Paso, Texas. It should be noted that the CO maintenance plan budget covers a portion of the City of El Paso and although the PM_{10} nonattainment area is the City of El Paso, the PM_{10} budget covers El Paso County (Appendix A, page 4).

The original Horizon 2040 MTP was adopted by the Transportation Policy Board (TPB) on October 4, 2013 with revenue streams to cover project costs and programs beginning with FY 2013 and cover a planning horizon to the year 2040. The El Paso Metropolitan Planning Organization (EPMPO) submitted the original Horizon 2040 MTP, corresponding Horizon 2013-2016 TIP and original Transportation Conformity Report (TCR) (refer to http://www.elpasompo.org/scroll_bar_area/conformity_/default.htm) for approval by Federal Highway Administration (FHWA)/Federal Transit Administration (FTA). The EPMPO received a conformity determination on June 5, 2014.

On February 17, 2017 the TPB identified six projects (projects 1-6) as added capacity projects. TXDOT identified two additional added capacity projects (projects 7-8) for a total of eight added capacity projects (projects 1-8) requiring amendments to the Horizon 2040 MTP, 2017-2020 TIP (projects 1-6) and the TCR. Additional funding for projects came through TXDOT, to include categories 4, and 12, seeking approval by the Texas Transportation Commission (TTC) at their March 28, 2017 meeting by amending the 2017 Unified Transportation Program (UTP). There are also local funds and state of New Mexico funds included for added capacity projects requiring a conformity determination for the transportation planning documents.

Texas:

1. US 62/180 (Montana Ave.) Expressway & Frontage Roads, Phase I, CSJ 0374-02-097, MPO ID F407A-CAP, Build Westbound 3-lane Frontage Road from Global Reach Dr. to Tierra Este Rd. Ancillary work from Global Reach Dr. to Tierra Este Rd. to convert existing 3-lane Eastbound Mainlanes to 3-lane Eastbound Frontage Road. Construct 6-lane Expressway Eastbound/Westbound Mainlanes with Auxiliary lanes & Grade Separations at the Intersections from Lee Trevino Dr. to Tierra Este Rd.. Incidental work to Zaragoza Dr.
2. Eastlake Blvd Phase 1. CSJ 0924-06-436, MPO ID, P439X-MOD, Widen from 4 To 6 lanes divided, construction to include the intersection of Darrington and Eastlake with limits from IH-10 to Darrington Rd.
3. Eastlake Blvd Phase 2, CSJ 0924-06-500, MPO ID P463X-MOD, Widen/Restripe from 4 to 6 lane divided roadway with limits from Darrington Rd. to Horizon Blvd.
4. FM 1110 Clint Connection Rd. - Phase 1, CSJ 1281-02-007, MPO ID P520B-1-15A, Widen from 2 to 4-lane divided roadway with limits from FM 76 (North Loop Dr) to IH-10.
5. FM 1110 Clint Connection Rd. - Phase 2, CSJ 1281-01-017, MPO ID P520B-2-15A, Construct

a new 4 lane divided roadway with intersection improvements (reconstruction of intersections and additional turn lanes) at FM 76 (North Loop Dr.) and SH 20 (Alameda Ave) with limits from SH 20 (Alameda Ave) to FM 76 (North Loop Dr.).

New Mexico:

6. Airport Road Widening & Improvements, MPO ID P617X, Widen from 2 to 4 lanes, reconstruct roadway and include multi-use trail and sidewalks with limits from NM 136 (Pete Domenici Highway) to the Airport Entrance west of Pete Domenici Highway.

Additional Texas

7. Loop 375 Purple Heart Widening of Frontage Roads, MPO ID, F058X-CAP, widen Frontage Roads from 2 lanes to 3 lanes in each direction with Limits from Spur 601 to US 62/180 (Montana Ave.).

8. US 62/180 (Montana Ave.) Expressway & Frontage Roads, Phase II MPO ID, F407B-CAP, Construct 6 lane (expressway) MLs EB/WB with auxiliary lanes and grade separations at intersections from Tierra Este Rd to FM 659 (Zaragoza Rd). Build 2 lane WB/EB FRs in each direction from Tierra Este Rd to FM 659 Zaragoza Rd. Reconstruct 6 lane WB/EB ML from Global Reach Dr. to Lee Trevino Dr. to include auxiliary lanes and grade separation at intersection. Reconstruct existing EB FR from Global Reach Dr. to Tierra Este Rd in concrete (no added capacity). Work includes drainage, advanced signing, striping, transitional and incidental work (operation improvements) up to FM 659 (Zaragoza Rd). Project scope may be further phased depending on funding availability with limits from Global Reach Dr. to FM 659 (Zaragoza Rd.)

For a complete summary of financial sources, categories, costs and fiscal constraint of the Amended Horizon 2040 MTP, see Appendix C: Amended Horizon 2040 MTP-Financial Summary; for a key chart that details all of the projects impacted by this amendment see Appendix C-Key Chart of Horizon 2040 MTP Amendments; and for a complete project listing see Appendix C- Amended Horizon 2040 MTP Project List, all presented for an April 28, 2017 TPB approval (attachments in Appendix C).

Networks

The TDM has a validated 2007 base year with forecast network years of 2010, 2020, 2030, and 2040. The forecast years incorporate projects proposed in the MTP and TIP. The model outputs were then sent to the Texas A&M Transportation Institute (TTI) for emissions analysis.

Conformity Requirements

The Texas Commission on Environmental Quality (TCEQ) and New Mexico Environmental Department (NMED) prepared State Implementation Plans (SIPs) as described in the following subsections:

El Paso CO Maintenance Plan

There have been no monitored violations of the CO eight-hour standard since 2001. The maintenance plan approved by EPA in August 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 first10-year maintenance plan period. The maintenance plan was developed to ensure 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.”

PM_{10} SIP

The TCEQ submitted "Revisions to the State Implementation Plan (SIP) for Inhalable Particulate Matter (PM_{10}): 1991 PM_{10} SIP for Moderate Area - El Paso" to the EPA in 1991. The EPA approved the SIP submittal in 1994. The PM_{10} non-attainment area described in the EPA Green Book is the City of El Paso.

New Mexico PM_{10} SIP

Anthony, New Mexico, in Doña Ana County, was designated as non-attainment for the PM_{10} 24-hour NAAQS in 1991. Part of the PM_{10} 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 PM_{10} SIP is included in Appendix A. There is no PM_{10} 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 PM_{10} within the Anthony, NM PM_{10} 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”.

Regional Emissions Analysis

Regional emissions analyses of transportation plans and improvement programs are developed to ensure that they are consistent with air quality requirements identified in the SIP. The analysis of the EPMPO nonattainment areas accounts for emissions resulting from the EPMPO’s MTP and TIP, including all regionally significant projects, and the effects of emission control programs.

Motor Vehicle Emissions Budgets

The PM_{10} MVEB applies to El Paso County. The CO budget applies to the CO maintenance area.

Table 1
Motor Vehicle Emissions Budgets for El Paso CO Maintenance and PM_{10} Non-Attainment Areas

	CO	PM_{10}
Classification	Attainment/ Maintenance	Moderate Non-Attainment
MVEB tons/day	29.66[1]	12.1[2]

[1] Approval and Promulgation of Implementation Plans; Texas; El Paso County Carbon Monoxide Redesignation to Attainment, and Approval of Maintenance Plan
https://www.gpo.gov/fdsys/pkg/FR-2008-08-04/pdf/E8-17700.pdf
[2]Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso PM-10)

Conformity Tests

MOVES2014a is the EPA-approved model for calculating aggregate motor vehicle emission factors for pollutants such as CO and direct PM_{10}, so that they can be compared to the MVEB. The latest official release of MOVES 2014a (released December 2015 and updated November 2016) was applied for this analysis based on a consultative partners conference call to request guidance on the use of MOBILE-based motor vehicle emission budgets (MVEBs) with a MOVES-based regional emissions analysis for the transportation conformity determination as MOVES-based MVEBs do not currently exist in the SIP. For the purposes of this conformity determination, per guidance from the consultative partners, it was recommended to use the previous PM10 MOBILE-based MVEBs for the transportation conformity determination for the amended MTP/TIP conformity.

It was discussed by the consultative partners that EPA was likely to publish a limited maintenance plan for El Paso CO attainment status that may go into effect by the planned public involvement for the amendment. This would make for a less complicated conformity, but since the rule is not published yet is best to move forward with the development of the CO conformity so that there is no need to play catchup later since the schedule is already very tight. The EPMPO will proceed using the CO MOBILE-based MVEBs for the transportation conformity determination for the amended MTP/TIP conformity.

The AP-42 model is also used to calculate emission factors for re-suspended road dust. It was designed to calculate a daily (average seasonal day) emissions factor for each of the four basic road types (Freeway, Arterial, Collector and Local) and to apply these rates to the appropriate Vehicle Miles Traveled (VMT) estimates by TDM functional classification. The MOVES 2014a program is executed using summer and winter temperature and conditions to simulate emissions for CO and PM_{10}.

With regard to the CO conformity test, in addition to comparing emissions to the MVEB, a qualitative finding is also required per the federal conformity rule located in Title 40 of the Code of Federal Regulations (40 CFR) §93.118(b)(2)(i) . This qualitative finding is applicable to the 2010 analysis year.

This finding must show there are no factors which would cause or contribute to a new violation or exacerbate an existing violation in the years before the last year of the maintenance plan, 2020.

As required by 40 CFR §93.118 (b)(2)(i), transportation regional emissions were compared to the on-road mobile inventory in the EPA-approved CO Maintenance Plan, in particular, CO emissions from the CO maintenance plan base/attainment year for 2002 (29.66 tons per day) and for the last year of the maintenance plan 2020 (15.94 tons per day) were interpolated to obtain a value for 2010 (23.56 tons per day). The 2010 CO regional emissions (12.57 tons per day) were compared to the interpolated value (23.56 tons per day) and found to pass since it is less than the interpolated value.

Modeling

TransCAD software was used to create the EPMPO's regional TDM. Inputs to the TDM include projected demographics for the analysis years to test the effects of proposed transportation projects (2010, 2020, 2030 and 2040). Roadway networks were prepared for these years showing the number of lanes and roadway types (functional class) that would be constructed according to proposed MTP and TIP project descriptions, as well as roadways that already exist.

Table 2
El Paso Conformity Analysis Summary
(Emissions expressed in Tons per Day)

Pollutant	Budget	2010[3]	2020	2030	2040
CO[1]	**29.66**[4]	12.57	6.30	3.88	2.96
PM_{10}[2]	**12.1**[5]	6.19/6.85	6.68/7.27	7.41/8.02	8.48/9.17

1) The CO Analysis is only for zones in the maintenance areas. The MVEB of 29.66 tons per day applies to the network years 2020, 2030 and 2040. Emissions estimates indicate winter weekday figures.
2) PM_{10} emissions include summer/ winter figures. The PM_{10} budget is based on the 1994 PM_{10} Mobile Emissions Inventory.
3) The 29.66 tons per day CO MVEB is utilized for the 2020 and later analysis years. For the 2010 analysis year an emissions estimate (23.56 tons per day) was calculated by interpolating between the 2002 base year emissions inventory estimate of 29.66 tons per day (as stated in the CO Maintenance Plan) and the 2020 (last year of the maintenance plan) emissions inventory estimate of 15.94 tons per day (as stated in the CO Maintenance Plan).
4) Approval and Promulgation of Implementation Plans; Texas; El Paso County Carbon Monoxide Redesignation to Attainment, and Approval of Maintenance Plan (https://www.gpo.gov/fdsys/pkg/FR-2008-08-04/pdf/E8-17700.pdf)
5) Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso PM-10)

SECTION 1.0
INTRODUCTION

1.1 MPO Organization and Role

In the El Paso Transportation Management Area (TMA), the City of El Paso is designated as the fiscal agent for the MPO, established pursuant to Section 134 of Chapter 1 of Title 23 of the United States Code (23 USC). The Transportation Policy Board (TPB) is the transportation policy setting authority for the EPMPO. The TPB meetings are the forum for cooperative decision making by elected officials of local governments for the EPMPO Study Area. The EPMPO Study Area consists of El Paso County, and the southern portions of Doña Ana and Otero Counties in New Mexico. Appendix B provides a map of the EPMPO Study Area Boundary.

The MPO coordinates regional multimodal transportation plans involving the study of present transportation patterns in relation to existing and projected regional development. The TPB and its subcommittees carry out this coordination function. The MPO is responsible for the preparation of the MTP, the TIP, Transportation Conformity Report (TCR), the Unified Planning Work Program (UPWP), the Congestion Management Process (CMP), and other documents as required by 23 USC §134; the FCAA; and respective SIPs.

1.2 Purpose

The purpose of this conformity analysis is to determine if the Amended Horizon 2040 MTP and 2017-2020 TIP are consistent with projected CO and PM10 emission requirements.

1.3 Conformity Criteria

The FCAA require transportation plans, programs, and projects in non-attainment and maintenance areas that receive approval and/or funding from the FHWA or FTA, to conform to the MVEBs established in the respective SIP/Maintenance Plans. The main objective is to prevent future transportation development from causing new air quality violations, worsening existing violations, and/or delaying a region's attainment of the National Ambient Air Quality Standards (NAAQS). The conformity criteria used by the EPMPO is derived from the Transportation Conformity Regulations found in 40 CFR Part 93.

The following is a summary of the key criteria used in this conformity determination:

- Use of interagency consultation (see Section 7.0)
- Incorporation of the latest planning assumptions in the planning documents and modeling
- Use of approved models and methodology
- Development of an MTP and TIP that conform to the MVEBs established in the SIP/Maintenance Plans

1.4 Document Format

This conformity determination report follows the Model Conformity Documentation outline adopted by the Technical Working Group (TWG) for Mobile Source Emissions.

1.5 Electronic Data Submittal

The MTP, TIP, conformity documents for all non-attainment areas within the EPMPO, attachments, and related technical documents are available on the EPMPO Web Site located at http://www.elpasompo.org/ and electronically on a compact disc (CD) from the EPMPO. Please call (915) 212-0258 for a copy. The conformity determination is in Adobe (pdf) formats.

1.6 Pre-Analysis Consensus Template

The Pre-Analysis Consensus Template originates from the efforts of the TWG to develop a process for reaching early consensus on the parameters to be used for a conformity determination. A Pre-Analysis Consensus Plan was utilized for this amended conformity determination. The development of the networks and the emissions modeling are a two-step process and therefore some of the information in the pre-analysis consensus template populated initially could be modified. The EPMPO's takeaway from the consultative call on March 20, 2017 is that consensus has been reached on the Pre Analysis Consensus Plan with the understanding that this was the current state of knowledge as of March 24, 2017, and the information in the Pre Analysis Consensus Plan will be confirmed in the future. The consultation partners agreed to move forward and include the analysis notes, containing the remaining details in the conformity document.

SECTION 2.0
MTP AND TIP CONFORMITY TO THE SIP

2.1 Overview

2.2 Submittal Frequency

The MPO, under rules that govern nonattainment metropolitan areas, must approve a long-range plan every four years and a short-range program every four years, with all plans passing an analysis for conformity determination. If amendments are proposed to the MTP or TIP that would affect air quality and estimated emissions, an additional analysis must be made. The EPMPO is proposing an amendment to the above mentioned MTP and TIP, which will require a conformity determination. The TPB follows the procedure of hearing and considering all public comments before adopting the respective MTP and TIP, however, there were no public comments submitted during the public involvement period for this TCR, and three general comments were received concerning the El Paso MPO documentation (refer to Appendix L).

2.3 Transportation Control Measures

There are no TCM requirements identified in the PM_{10} SIP and CO Maintenance Plan.

2.4 Regionally Significant Control Programs

Regionally significant control programs are intended to mitigate air pollution and assist an area in attaining the NAAQS. A mix of programs are selected by the state and are based on which programs are needed to attain the NAAQS. The selected control programs are incorporated into the appropriate SIP. Section 2.4.1, below, is one provision written in the SIP's for the nonattainment pollutants dealing with transportation-related measures.

2.4.1 Inspection and Maintenance Program

The current El Paso County Inspection and Maintenance (I/M) program, originating in 1987, employs the Two-Speed Idle (TSI) and the on-board diagnostics (OBD) tests. All 1995 and older model year vehicles are required to pass the TSI test. The TSI test measures tailpipe exhaust emissions of CO, CO2, and other hydrocarbons while the vehicle idles at both high and low speeds and then includes a gas cap integrity test. The EPA-approved OBD test is required for all 1996 model year and newer vehicles. The OBD is an emission test to check the vehicle's on-board computer that identifies problems with the vehicle's emission control components.

Details of the I/M program and rules may be found in 30 Texas Administrative Code (TAC) Chapter 114 Subchapter C Division 1: Vehicle Inspection and Maintenance.

2.5 Regionally Significant Travel Projects/Programs

The TDM used for conformity determination consist of existing roadways considered to be regionally significant in the base year (2007) and the regionally significant roadways expected to be in place for each of the intermediate and horizon years: 2010, 2020, 2030, and 2040 regardless of funding source.

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."

Included in the TDM are the roadways on which conformity is based and thus considered regionally significant. Roadways in the travel demand model are coded with functional class and capacity classifications.

Regionally significant transit projects are represented through the mode share model. The model includes route systems for transit, with changes in speed or other operating conditions affecting the projected ridership. The mode share model has an effect on roadways by removing any projected transit riders before automobile vehicle trips are calculated and assigned to roadways.

2.6 Non-Federal Projects/Programs

The MTP contains population and land use assumptions that project urban growth to the year 2040 into areas that are now vacant or have rural-type development. It has been El Paso's experience in the recent past that urban development involves the transition of totally or primarily vacant land (mainly desert) into subdivisions, with all services being provided in conjunction with the subdivision development, including water, sewer, roadways, and other services such as schools and parks. This has been accomplished through the subdivision ordinances of the City of El Paso and surrounding communities, and the relationship that the cities have with large developers who are able to build large-scale, phased developments. Although this procedure so far has occurred primarily within the larger cities and their extra-territorial jurisdictions, it can be expected that the same type of development will occur within other municipalities as urban growth expands.

The EPMPO coordinated with the municipalities within the region on roadways to be built by developers in the Amended Horizon 2040 MTP. The majority of these projects are from the City of El Paso's Major Thoroughfare Plan. Through the City of El Paso's Subdivision Ordinance, the developer is solely responsible for building these roadways. El Paso County, Dona Ana County, the Town of Horizon City, and the City of Socorro coordinated developer built roadways listed in the Amended Horizon 2040 with members of the MTP Workgroup. These jurisdictions have Subdivision Improvement Agreements directing the developers to take sole responsibility for building these roadways.

2.7 Exempt Projects/Programs

Certain types of projects are defined in 40 CFR §93.126 that are exempt from conformity determination requirements. These projects generally do not add capacity to the roadway network and do not increase the transit miles traveled; thus, they add no new emissions to the metropolitan area. The examples listed in 40 CFR §93.126 include:

Safety

- Railroad/highway crossings
-Projects that correct/improve/eliminate a hazardous location or feature
-Safer non-Federal-aid system roads
-Shoulder improvements
-Projects that increase sight distance
-Highway Safety Improvement Program Implementation
-Traffic control devices and operating assistance other than signalization projects
-Railroad/highway crossing warning devices
-Guardrails, median barriers, crash cushions
-Pavement resurfacing and/or rehabilitation
-Pavement marking
-Emergency relief
-Fencing
-Skid treatments
-Safety roadside rest areas
-Adding medians
-Truck climbing lanes outside the urbanized area
-Lighting improvements
-Widening narrow pavements or reconstructing bridges
-Emergency truck pullovers

Mass Transit

-Operating assistance to transit agencies
-Purchase of support vehicles
-Rehabilitation of transit vehicles (In PM_{10} nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.)
-Purchase of office, shop, and operating equipment for existing facilities
-Purchase of operating equipment for vehicles
-Construction or renovation of power, signal, and communications systems
-Construction of small passenger shelters and information kiosks
-Reconstruction or renovation of transit buildings and structures
-Rehabilitation or reconstruction of track structures, track, and trackbed in existing right of way
-Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet
-Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR Part 771

Air Quality

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

Other

-Specific activities which do not involve or lead directly to construction, such as:
Planning and technical studies
Grants for training and research programs
Planning activities conducted pursuant to Titles 23 and 49 U.S.C.
Federal-aid systems revisions

-Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action
-Noise attenuation
-Emergency or hardship advance land acquisitions
-Acquisition of scenic easements
-Plantings, landscaping, etc.
-Sign removal
-Directional and informational signs
-Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities)
-Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes

2.8 Financial Planning for the Amended Horizon 2040 MTP

The original Horizon 2040 MTP was adopted by the TPB on October 4, 2013 with revenue streams to cover project costs and programs beginning with FY 2013 and cover a planning horizon to the year 2040. The EPMPO submitted the original Horizon 2040 MTP, corresponding Horizon 2013-2016 TIP and original TCR (refer to http://www.elpasompo.org/scroll_bar_area/conformity_/default.htm) for approval by FHWA/FTA. The EPMPO received a conformity determination on June 5, 2014.

On February 17, 2017 the TPB identified six projects (projects 1-6) as added capacity projects. TXDOT identified two additional added capacity projects (projects 7-8) for a total of eight added capacity projects (projects 1-8) requiring amendments to the Horizon 2040 MTP, 2017-2020 TIP (projects 1-6) and the TCR. Additional funding for projects came through TxDOT, to include categories 4, and 12, seeking approval by the TTC at their March 28, 2017 meeting by amending the 2017 UTP. There are also local funds and state of New Mexico funds included for added capacity projects requiring a conformity determination for the transportation planning documents.

Texas:

1. US 62/180 (Montana Ave.) Expressway & Frontage Roads, Phase I, CSJ 0374-02-097, MPO ID F407A-CAP, Build Westbound 3-lane Frontage Road from Global Reach Dr. to Tierra Este Rd. Ancillary work from Global Reach Dr. to Tierra Este Rd. to convert existing 3-lane Eastbound Mainlanes to 3-lane Eastbound Frontage Road. Construct 6-lane Expressway Eastbound/Westbound Mainlanes with Auxiliary lanes & Grade Separations at the Intersections from Lee Trevino Dr. to Tierra Este Rd.. Incidental work to Zaragoza Dr.
2. Eastlake Blvd Phase 1. CSJ 0924-06-436, MPO ID, P439X-MOD, Widen from 4 To 6 lanes divided, construction to include the intersection of Darrington and Eastlake with limits from IH-10 to Darrington Rd.
3. Eastlake Blvd Phase 2, CSJ 0924-06-500, MPO ID P463X-MOD, Widen/Restripe from 4 to 6 lane divided roadway with limits from Darrington Rd. to Horizon Blvd.
4. FM 1110 Clint Connection Rd. - Phase 1, CSJ 1281-02-007, MPO ID P520B-1-15A, Widen from 2 to 4-lane divided roadway with limits from FM 76 (North Loop Dr) to IH-10.
5. FM 1110 Clint Connection Rd. - Phase 2, CSJ 1281-01-017, MPO ID P520B-2-15A, Construct a new 4 lane divided roadway with intersection improvements (reconstruction of intersections and additional turn lanes) at FM 76 (North Loop Dr.) and SH 20 (Alameda Ave) with limits from SH 20 (Alameda Ave) to FM 76 (North Loop Dr.).

New Mexico:

6. Airport Road Widening & Improvements, MPO ID P617X, Widen from 2 to 4 lanes, reconstruct roadway and include multi-use trail and sidewalks with limits from NM 136 (Pete Domenici Highway) to the Airport Entrance west of Pete Domenici Highway.

Additional Texas

7. Loop 375 Purple Heart Widening of Frontage Roads, MPO ID, F058X-CAP, widen Frontage Roads from 2 lanes to 3 lanes in each direction with Limits from Spur 601 to US 62/180 (Montana Ave.).

8. US 62/180 (Montana Ave.) Expressway & Frontage Roads, Phase II MPO ID, F407B-CAP, Construct 6 lane (expressway) MLs EB/WB with auxiliary lanes and grade separations at intersections from Tierra Este Rd to FM 659 (Zaragoza Rd). Build 2 lane WB/EB FRs in each direction from Tierra Este Rd to FM 659 Zaragoza Rd. Reconstruct 6 lane WB/EB ML from Global Reach Dr. to Lee Trevino Dr. to include auxiliary lanes and grade separation at intersection. Reconstruct existing EB FR from Global Reach Dr. to Tierra Este Rd in concrete (no added capacity). Work includes drainage, advanced signing, striping, transitional and incidental work (operation improvements) up to FM 659 (Zaragoza Rd). Project scope may be further phased depending on funding availability with limits from Global Reach Dr. to FM 659 (Zaragoza Rd.)

For a complete summary of financial sources, categories, costs and fiscal constraint of the Amended Horizon 2040 MTP, see Appendix C-Amended Horizon 2040 MTP-Financial Summary; for a key chart that details all of the projects impacted by this amendment Appendix C- Key Chart of Horizon 2040 MTP Amendments; and for a complete project listing see Appendix C: Amended Horizon 2040 MTP Project List, all presented for an April 28, 2017 TPB approval (attachments in Appendix C).

The life of the Horizon 2040 MTP is based on a 4-year clock from the approved conformity determination date, as is applicable to non-attainment areas, such as the El Paso MPO. This amendment will not change the date of June 5, 2018 for the required development of a new conforming MTP. This amendment does not change the planning assumptions of the original Horizon 2040 MTP.

The financial information provided below is a summary of the current information for the Amended Horizon 2040 MTP. This includes the planning assumptions of the original Horizon 2040 MTP and adjustments in project costs and revenues over the course of multiple Statewide Transportation Improvement Program (STIP) revisions in Texas and New Mexico since the original Horizon 2040 MTP was approved.

The Amended Horizon 2040 MTP contains $9.7B of multimodal projects. Projects on the Texas highway project list include added capacity, roadway improvements, enhancements, maintenance and rehabilitation, safety, and other types of projects at a cost of $6.2B. Transit investments come to $3.3B, (of which operations for Sun Metro, the city of El Paso's mass transit provider totals $2.4B), to cover maintenance, equipment, and transit facilities. Sun Metro has the majority of transit investments, but there are also county and health and human service transit programs included in the plan. New Mexico projects include added capacity, roadway improvements, maintenance and

rehabilitation projects, which total approximately $171M.

For Texas, financial revenues for this plan have been from TXDOT's 2013, 2014, 2015, 2016 and 2017 UTPs. The UTP is the primary source of federal and state funds in the Amended Horizon 2040 MTP. The UTP reflects the projects and programs that may be delivered from traditional (FHWA and State of Texas) and non-traditional funding over a ten-year period.

There have been three TIPs during the life of the Horizon 2040 MTP, the Horizon 2013-2016, Horizon 2015-2018 and Horizon 2017-2020.

The 2017-2020 TIP covers a program horizon of four fiscally constrained years. The 2017-2020 TIP is consistent with the Amended Horizon 2040 MTP, and contain regionally significant projects to be funded with federal and non-federal funds. Inclusion of a project in the 2017-2020 TIP reflects a consensus of priority needs among residents living in the MPO study area, locally and state-elected officials, local transportation agency representatives, and representatives of TxDOT and NMDOT. The 2017-2020 TIP is, in effect, a listing of transportation priority needs that will be implemented that contain total estimated costs and implementation dates. The 2017-2020 TIP may be amended as transportation needs and/or funding levels change.

The 2017-2020 TIP is fiscally constrained for transit projects, and highway projects in the New Mexico and Texas portion of the MPO study area. This area is comprised of El Paso County, southern Dona Ana County, NM, and a small portion of Otero County, NM. The majority of projects are in the highway section for Texas, but all federal, state and locally funded projects of regional significance in the El Paso MPO study area are included.

Traditional federal funding categories that flow through TxDOT into the TIP are based on revenue forecasts in TxDOT's associated UTP. Close coordination is ongoing with NMDOT on available funds to be used in New Mexico. Transit projects are funded with FTA funds, and local funds. Most of the transit funding is for Sun Metro projects, the mass transit provider in the region.

Meetings of the Transportation Project Advisory Committee (TPAC), which recommends projects for approval, and the TPB, which approves projects in the TIP and associated MTP were used as open forum for the MPO public involvement process. The required 30-day public involvement/comment period was met for the corresponding documents. These meetings were advertised in local newspapers. At the time of the approval of the Amended Horizon 2040 MTP and TCR, the corresponding Horizon 2017-2020 TIP was also amended by the TPB, on April 28, 2017.

2.9 Financial Planning for Corresponding TIPs

The 2017-2020 TIP covers a program horizon of four fiscally constrained years. The 2017-2020 TIP is consistent with the Amended Horizon 2040 MTP, and contain regionally significant projects to be funded with federal and non-federal funds. Inclusion of a project in the 2017-2020 TIP reflects a consensus of priority needs among residents living in the MPO study area, locally and state-elected officials, local transportation agency representatives, and representatives of TxDOT and NMDOT. The 2017-2020 TIP is, in effect, a listing of transportation priority needs that will be implemented that contain total estimated costs and implementation dates. The 2017-2020 TIP may be amended as transportation needs and/or funding levels change.

The 2017-2020 TIP is fiscally constrained for transit projects, and highway projects in the New

Mexico and Texas portion of the MPO study area. This area is comprised of El Paso County, southern Dona Ana County, NM, and a small portion of Otero County, NM. The majority of projects are in the highway section for Texas, but all federal, state and locally funded projects of regional significance in the El Paso MPO study area are included.

Traditional federal funding categories that flow through TxDOT into the TIP are based on revenue forecasts in TxDOT's associated UTP. The UTP reflects the projects and programs that may be delivered from available forecasted funding in Texas over a 10-year period. Close coordination is ongoing with NMDOT on available funds to be used in New Mexico. Transit projects are funded with FTA funds, and local funds. Most of the transit funding is for Sun Metro projects, the mass transit provider in the region.

Meetings of the Transportation Project Advisory Committee (TPAC), which recommends projects for approval, and the TPB, which approves projects in the TIP were used as open forum for the MPO public involvement process. The required 30 day public involvement/comment period was met for the 2017-2020 TIP. These meetings were advertised in local newspapers. At the time of the approval of the Amended Horizon 2040 MTP the corresponding Horizon 2017-2020 TIP was also amended by the TPB on April 28, 2017.

SECTION 3.0
VEHICLE ACTIVITY

Section 3.0 describes the basic TDM inputs and approach used to develop the modeled volumes that are a necessary part of the air quality conformity process. Two of the primary travel model inputs - networks (e.g., an electronic representation of the current and future transportation system made up of links and nodes) and demographics - are briefly described below.

3.1 Demographic Specification

The 2007 base year demographic estimates and 2010, 2020, 2030 and 2040 demographic forecasts for the Horizon Model were developed through a TxDOT sponsored socioeconomic data update process during 2011. The process consisted of a Delphi consensus building workshop with a series of online feedback sessions combined with field review, stakeholder interviews, and GIS analysis of aerial photography.

The results of the socioeconomic data update were reviewed by the EPMPO, TxDOT El Paso District and TxDOT Planning and Programming Division (TPP). Revisions were made based on feedback from the review combined with additional follow up analysis. Further information on the development of the demographic data for the base and forecast years associated with each Traffic Analysis Zone (TAZ) can be found in Appendix I - Demographic Update.

A final set of TAZ demographic and employment attributes for use in the Horizon Model was agreed to and approved by all parties in September of 2012. The final TAZ geography contains 815 TAZs, as well as 20 external stations, including several border crossings.

Table 3
Summary of Demographic Data for the Study Area

	2007	**2010**	**2020**	**2030**	**2040**
Population	786,560	832,836	951,072	1,060,674	1,158,195
Employment	291,878	306,656	340,998	382,021	429,455
Households (HH)	256,198	270,326	314,789	358,115	399,153
Persons/HH	3.07	3.08	3.02	2.96	2.90

Source: El Paso MPO, 2011

3.2 Travel Demand Model

For the development of the 2040 Horizon Travel Demand Model (Horizon Model), the EPMPO sought a vendor to develop a Model interface along with the validation of the new 2007 base year (refer to Appendix G) and development of the forecast years. A re-validation of 2007 TDM was made on 2014 (refer to Appendix G). The model factors, HPMS and the seasonal adjustment utilized for this conformity determination are indicated in Table 4. This section provides a brief description of the Horizon Model.

Table 4
Travel Model Demand factors

Model Factor	Detail
HPMS	1.070615672[1]
Seasonal Adjustment	2007 and 2010 Historical (AADT) Summer Seasonal Adjustment: 1.03734 2007 and 2010 Historical (AADT) Winter Seasonal Adjustment: 1.08368 2020, 2030, & 2040 TDM (ANSWT) Seasonal Summer Weekday Factor: 0.95294 2020, 2030, & 2040 TDM (ANSWT) Seasonal Winter Weekday Factor: 0.99551

[1] HPMS value had been updated with the 2007 validation year VMT.

3.2.1 Travel Model Description

The study area for the Horizon Model includes El Paso County in Texas and small portions of Dona Ana and Otero counties in New Mexico. The model base year is 2007 and the model forecast years include 2010, 2020, 2030, and 2040. The Horizon Model uses a multiyear master line layer from which individual analysis year networks are derived for use in the analysis of travel demand in the El Paso area.

The Horizon Model interface is a combination of TxDOT trip generation and distribution programs and standalone set of macros that run within the TransCAD travel demand modeling software platform.

The Horizon Model is a trip-based model, typical of most state of the practice models, which is validated to daily traffic flows. Only person trips engaged in vehicular travel are analyzed. Transit and non-motorized trips are accounted for, but not specifically addressed in this version of the model. The traffic flows are produced through a typical four step process that includes – trip generation, trip distribution, and mode share and traffic assignment. The trip generation and trip distribution procedures utilize TxDOT TP&P uniquely developed software, commonly referred to as the "Texas Package".

Within the Texas Package, the TripCAL5 trip generation software is used to generate person trip ends for the El Paso travel demand models. The Horizon Model uses TxDOT's ATOM2 trip distribution program to distribute the productions and attractions calculated by the trip generation program. A stand alone macro converts the person trips to vehicle trips using a mode share macro developed by the vendor from the 2009 HH Travel Survey. The macro allocates proportions of trips to drive alone; shared ride 2 and share ride 3+ based on the market segments and time of day.

The Horizon Model uses the TransCAD Multi-Modal Assignment (MMA) model. The TransCAD MMA model is a generalized cost assignment procedure that allows assignment of trips by individual modes or user classes to the network, simultaneously. Each mode or class can have different congestion impacts, different volume delay function parameters, and different values of time. This assignment method also allows the user to explicitly model the influence of toll facilities of all types.

Toll roads included in the Horizon MTP were coded in the network.

SECTION 4.0
EMISSIONS BUDGET AND MOVES MODEL

4.1 Overview

The TDM has a validated 2007 base year with forecast network years of 2010, 2020, 2030, and 2040 (Appendix J, the Emissions Analysis Notes include the network years as well as the base year). The forecast years incorporate projects proposed in the MTP and TIP. The model outputs were then sent to the Texas A&M Transportation Institute (TTI) for emissions analysis.

4.1.1 Assumptions

This document summarizes the MOVES2014.a inputs and other inventory elements TTI used for developing the 2010, 2020, 2030, and 2040 on-road mobile source emissions inventories for the El Paso MTP conformity analysis.

4.1.2 Methodology

TTI produced winter season weekday CO, and both summer and winter weekday PM_{10} emissions estimates for each evaluation year. The procedure and data applied to develop the emissions estimates follows the same general methodology (i.e., hourly, TDM link-based) as applied in the most recent El Paso MTP conformity analysis. However, the procedure applied the latest planning assumptions to include data that are more recently available (e.g., new traffic assignments, latest available registrations data for development of vehicle fleet characteristics, latest MOVES2014.a model release, as allowed by the timeframe of this analysis).

4.1.3 Data Sources and Development

The EPMPO provided the requisite 24-hour travel model traffic assignments and intrazonal trips. TTI provided the various seasonal weekday VMT adjustment factors (for total VMT and for hourly VMT distributions) based on the latest multi-year TxDOT El Paso Automatic Traffic Recorder (ATR) data, and the HPMS consistency factor (from travel model validation year). TTI also provided travel model traffic assignments and intrazonal trips by time period (AM Peak, Midday, PM Peak, and Overnight), as well as VMT mix by roadway functional classification group for the 24-hour period, based on recent multi-year classification counts.

The MOVES2014a speed-sensitive Freeway and Arterial drive cycle emissions factors were applied to the freeway and non-freeway (excluding Ramps) functional classifications, respectively, and the MOVES2014a Ramp drive-cycle emissions factors were applied to the Ramp functional classification.

TTI provided emissions estimates for 13 vehicle types in the typical summary form of hourly totals by county and road type as well as 24-hour totals. The MOVES2014a commands/inputs are located in Appendix J.

4.2 MOVES2014a Inputs

TTI developed the MOVES2014a model inputs according to guidance provided in *MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity* (EPA, November 2015) and *MOVES2014a*

User Guide (EPA, November 2015). Please see Appendix J for more detailed information on the MOVES Inputs.

4.2.1 Summary of Control Programs Modeled

This section summarizes the MOVES2014a commands and data parameter values used in MOVES2014a to model the El Paso I/M Program and Anti-Tampering Program (ATP), CO season Oxygenated Fuel Program and the Fuel Reid Vapor Pressure (RVP) Gasoline Program.

4.2.2 I/M Program

The El Paso I/M program consists of exhaust (start year 1987) and evaporative (start year 1997) component tests conducted on an annual basis. As of January 1, 2007, 1996 and newer I/M-subject vehicles equipped with on-board diagnostics (OBD) systems are tested under OBD and gas cap integrity (GC) tests, while pre-1996 and non-OBD equipped vehicles are tested under the Two Speed Idle (TSI) and GC tests. Please see Appendix J for more detailed information on the I/M Program.

4.2.3 Anti-Tampering Program (ATP)

The ATP is a statewide, annual vehicle inspection program that is included in the emissions factor modeling for areas that also administer an I/M program. The ATP became effective in El Paso in 1983. The ATP requires any person owning, operating, and/or selling a motor vehicle to ensure the systems or devices used to control emissions are in good and operable condition. The program requires the use of the equipment at all times, thus prohibiting the operator or vendor from tampering with the emissions control system of the vehicle. The program is administered by the Department of Public Safety (DPS). This program applies to the gasoline-fueled vehicle class within a two through twenty four year vehicle age. For this conformity analysis the I/M program and ATP were modeled using MOVES2014a commands and input parameters provided in Table 12 of the ELP Horizon Analysis notes found in Appendix J.

4.2.4 Oxygenated Fuel, Fuel Reid Vapor Pressure, and Diesel Sulfur Content

The El Paso Oxygenated Fuels Program, which began on October 1, 1992, requires that all gasoline in the area have a minimum oxygen content of 2.7 percent oxygen by weight from October 1 to March 31 of each year in order to control CO emissions. Please see Appendix J for more detailed information on the Oxygenated Fuel, Reid Vapor Pressure, and Diesel Sulfur Content.

4.2.5 Temperatures by Time Period

The ambient temperature input values (shown in Table 5 below) consist of the seasonal daily average hourlytemperatures. These values were input to MOVES2014a by season and are consistent with those inputs used in the CO Maintenance Plan and subsequent periodic on-road mobile source inventories.

Table 5
Meteorological Inputs to MOVES: Temperature (T) - Fahrenheit, Relative Humidity (RH) - Percent, Barometric Pressure (BP) - Inches of Mercury[1].

Hour	Summer			Winter		
	T	RH	BP	T	RH	BP
1	76.4	48.8	26.068	34.3	50.1	26.191
2	74.5	51.8		32.7	53.6	
3	72.9	55.4		31.0	55.0	
4	71.5	59.3		29.9	57.4	
5	70.4	60.9		28.6	58.7	
6	69.0	63.8		27.9	60.0	
7	66.0	67.7		26.0	63.9	
8	68.2	73.0		27.7	62.0	
9	74.0	58.5		34.5	51.9	
10	78.7	50.1		42.9	40.7	
11	83.0	43.0		49.0	33.8	
12	86.3	38.0		54.6	28.1	
13	89.5	33.5		58.0	25.3	
14	92.4	29.1		59.9	23.2	
15	94.3	26.3		62.0	21.3	
16	95.2	24.9		63.0	20.4	
17	97.0	23.2		62.5	21.2	
18	96.0	24.4		59.1	23.8	
19	93.0	27.6		52.8	30.5	
20	90.8	31.1		50.0	33.1	
21	88.3	33.6		44.2	41.9	
22	84.5	39.1		40.8	44.3	
23	82.3	42.8		39.1	46.4	
24	80.1	44.4		37.3	50.5	

Note: Hourly values are consistent with prior MOBILE6 "min/max temperature" command input values used in the original 1990 base year SIP emissions inventories and in prior El Paso MTP regional emissions estimates for conformity. TTI estimated average the hourly temperature values within the original min/max temperature input range (and hourly average relative humidity and barometric pressure values) using hourly weather data from the same dates and location (El Paso International Airport weather station) used for the original min/max temperature estimates.
[1] Appendix J- ELP Horizon Analysis Notes

4.2.6 Vehicle Registration Distributions and Diesel Fractions

Vehicle registration (age) distributions and diesel fractions inputs to MOVES2014a were developed using the latest available TxDMV analysis year-specific mid-year county vehicle registration data. 2007 data was used for the 2007 base year and 2010 data was used for the 2010 analysis year.

The latest available data (2014) was used for the future analysis years; 2020, 2030, and 2040. The vehicle age distribution input data set are county level except for the heavy-duty vehicle class 8b category which is state level. The diesel fractions input data sets (one for each evaluation year) are state level. MOVES2014a defaults were used where the required information was not available in the TxDMV data.

The application of local registration distributions and diesel fractions follows guidance in MOVES2014 and MOVES2014a Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity (EPA, November 2015). Please see Appendix J for more detailed information on the vehicle age distributions and diesel fractions.

4.2.7 Vehicle Registration Distributions

The user-supplied vehicle registration distributions input to MOVES2014a are by vehicle age for any of the 13 composite (combined gasoline and diesel) vehicle types. MOVES2014.a internal default distributions are applied for vehicle classes for which the analyst does not provide alternate values. The input values for each vehicle class are 30 age fractions representing the fraction of vehicles by age for that particular vehicle class as of July of the evaluation year. These age fractions start with the evaluation year as the 1st 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.

4.2.8 Diesel Fractions

MOVES2014a allows the modeler to specify diesel fractions for 13 composite (gasoline and diesel) vehicle categories by vehicle age. MOVES2014a assumes that urban/transit buses are 100 percent diesel, and that motorcycles are all gasoline fueled, so these two categories do not require diesel fractions. The diesel fraction represents the portion of diesel vehicles in a composite (gasoline and diesel) vehicle class for any vehicle age. When the modeler enters diesel fractions, all 13 sets of fractions are required. Each set of fractions contains the diesel fractions estimates for 30 vehicle ages from the evaluation year back through the 30th fraction, which represents vehicle ages of 30 years and older. The model year that MOVES2014a applies to each age-specific diesel fraction value depends on the calendar year of evaluation, thus the modeler must provide separate input for each evaluation year to be modeled.

4.2.9 VMT Mix

TTI developed El Paso County time-of-day (AM Peak, Mid-Day, PM Peak, Overnight), weekday VMT mix (Source Use Types) estimates by roadway functional classification for each analysis year. Using latest available vehicle classification counts (2005-2014) and associated year-end registration data (2013). The methodology is described in *Developing MOVES Source Use Types and VMT Mix for Conformity Analysis (TTI, August 2016)*.

MOVES uses a different vehicle classification scheme than the FHWA categories. MOVES categorized the fleet based on nine different fuel types and 13 different source use types (SUTs). For the analysis, VMT mix estimates were developed for functional classification groups. Please see Appendix J for more detailed information on the VMT Mix.

4.2.10 TRANSVMT Inputs

The TRANSVMT program post-processes TDM output to produce directional, time-of-day specific, on-road vehicle, link VMT and speed estimates. The TRANSVMT program processes a TDM traffic assignment by multiplying the link volumes by the appropriate Highway Performance Monitoring System (HPMS), seasonal, or other VMT factors. Time-of-day factors are then used to distribute the link VMT to each hour in the day. For non-directional traffic assignments, directional split factors are also applied to produce VMT/volume estimates for each direction of travel.

A speed model involving both the link estimated free flow speed and estimated directional delay (as a function of volume and capacity) was used to estimate the operational time-of-day link speeds for each direction.

Since intrazonal links are not included in the TDM, special intrazonal links are created and the VMT and speeds for these special links are estimated using the intrazonal trips from the trip matrix and the zonal radii. The link VMT and speeds produced by TRANSVMT are an input to the emissions calculation program, EMSCALC.

4.2.11 Time-of-Day Factors

TTI used the multi-year TxDOT El Paso ATR data to develop one set of average weekday VMT factors for each seasonal period for all analysis years. These factors were applied to allocate the time period TDM assignment-based VMT by hour-of-day to determine emissions. Please see Appendix J for more detailed information on the time-of-day factors.

4.2.12 Area Type Specifications

El Paso is divided into five area types designated by a code or label and defined as shown in Table 6.

Table 6
El Paso Area Types

Label	Description
1	Business District
2	Urban Intense
3	Urban Central
4	Suburban
5	Rural

4.2.13 Time-of-Day Directional Split Factors

The 24-hour link assignment volumes, adjusted for season and HPMS consistency and allocated by time-of-day, are non-directional volumes (i.e., the sum of the volumes in the two directions on a link). Directional splits were applied to estimate the portion of the travel that occurred in each direction. These directional volume estimates were used to estimate the directional speeds. Application of the directional split factors resulted in two link records for each network link: one record containing the estimated VMT and speed in the peak (or dominant) direction, and the second record containing the estimated VMT and speed in the opposite direction. This allowed the application of MOVES

emissions factors directionally by speed. Please see Appendix J for more detailed information on the time-of day directional split factors.

4.2.14 Time-of-Day Capacity Factors

Time-of-day (i.e., hourly) capacity factors were applied to non-directional capacity (or service volume) for each hour. In computing the directional volume/capacity (v/c) ratio for estimating the directional speeds, the directional split for capacity is assumed to be 50-50. Please see Appendix J for more detailed information on the time-of-day capacity factors.

4.2.15 Free Flow Speed Factors

The estimated free flow speed is used in conjunction with the estimated directional delay (in minutes/mile) to compute the directional congested speed. Unless free flow speeds are included in the TDM, free flow speed factors are used to convert TDM speeds (which are by definition level of Service [LOS] C) to LOS A speeds (free flow).
Details of this procedure are provided in the discussion of the speed model in Section 4.2.16. Please see Appendix J for more detailed information on the free flow speed factors.

4.2.16 Speed Model Formulation

The TDM speed model uses hourly volume and capacity to estimate delay. The link volume was also allocated by hour and direction using the VMT factors (HPMS and seasonal adjustments), hourly factors, and directional split factors. The development of hourly volume and capacity by direction is discussed previously in this document. The directional delay (in minutes per mile) due to congestion was calculated using the following volume/delay equation:

$$Delay = Min\left[A\, e^{B\left(\frac{V}{C}\right)}, M\right]$$

Where:

Delay = congestion delay (in minutes/mile);
A & B = volume/delay equation coefficients;
M = maximum minutes of delay per mile; and
V/C = time-of-day directional V/C ratio.

The delay model parameters (A, B, and M) were developed for the Dallas/Fort Worth area and verified by application in other Texas urban areas. Table 7 shows these parameters.

Table 7
Volume/Delay Equation Parameters

Facility Category	A	B	M
High-Capacity Facilities	0.015	3.5	5.0
Low-Capacity Facilities	0.050	3.0	10.0

Given the estimated directional delay (in minutes/mile) and the estimated free flow speed, the directional congested speed is computed as follows:

$$Congested\ speed = \frac{60}{\frac{60}{Freeflow\ speed} + Delay}$$

This model was applied at the link level by area type and functional class combination for each time period and each direction. Directional, hourly operational link speeds were estimated using the speed model, which estimates delay on each link as a function of volume-to-capacity, and applies it to the link's estimated free-flow speed. Local streets category link average operational speeds were estimated, represented by the centroid connector and added intrazonal links, as centroid connector TDM input speeds and the zone's average centroid connector input speed, respectively. Please see Appendix J for more detailed information on the speed model.

4.3 Post Processed Adjustments

No emissions rate adjustments were required and therefore no emissions rate adjustments via post-processing were performed.

SECTION 5.0
MOBILE SOURCE EMISSION REDUCTION STRATEGIES (MOSERS)

5.1 Transportation Control Measures

As defined by the EPA in the Transportation Conformity Regulations, a Transportation Control Measure (TCM) "is any measure that is specifically identified and committed to in the applicable implementation plan, including a substitute or additional TCM that is incorporated into the applicable State Implementation Plan (SIPs) through the process established in FCAA section 176(c)(8), that is either one of the types listed in FCAA section 108, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology-based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart."

The approved El Paso CO Maintenance Plan, and El Paso and Anthony, NM, PM_{10} SIP, do not contain any TCMs.

5.1.1 Timely Implementation of TCMs

There are no current TCMs to report

5.1.2 Project "Slippage"

No project "slippage" to report

5.2 VMEP

The El Paso SIP does not include any Voluntary Mobile Emissions Reduction Programs (VMEP).

5.3 TERM

The El Paso SIP does not include any Transportation Emission Reduction Measures (TERM).

5.4 CMAQ

Part of the strategy to reduce emissions has been to use Congestion Mitigation & Air Quality Improvement Program (CMAQ) funds leveraged with local and other federal funds to develop projects that positively affect air quality. The El Paso region has made use of these funds since their inception in the Intermodal Surface Transportation Efficiency Act of 1991.

Before any project is approved and funded an evaluation is made of the costs and air quality benefits resulting from project implementation.

The TPAC of the MPO is charged with comparing the results of these evaluations and making recommendations to the TPB for allocation of CMAQ funding in each fiscal year of the TIP.

The MPO Project List includes CMAQ projects that will be funded through the Horizon TIPs (see Appendix C).

SECTION 6.0
DETERMINATION OF REGIONAL TRANSPORTATION EMISSIONS

This section describes the modeling procedures used to determine conformity for the Amended Horizon 2040 MTP. It describes the TDM, mobile source emission estimation methodology, and AP-42 Model, Section 13.2.1.

6.1 Procedure

6.1.1 Mobile Source Emissions Estimate and AP-42 Model, Section 13.2.1

6.1.1.1 MOVES

The EPA highway vehicle emissions factor model provides average in-use fleet emissions factors for a variety of pollutants. For this case, the model was used to produce emissions factors for two pollutants: CO and PM_{10} (direct vehicle PM_{10} emissions, excluding re-suspended dust from paved roads, which is discussed later in this document). MOVES2014a is the most recently EPA-approved model; however, MOBILE6.2.03 was used in the process of generating highway mobile source emissions inventories, motor vehicle emissions budgets, and control strategies for SIPs under the FCAA, and in developing environmental impact statements under the National Environmental Policy Act (NEPA). The EPMPO hosted a consultative partners conference call to request guidance on the use of MOBILE-based motor vehicle emission budgets (MVEBs) with a MOVES-based regional emissions analysis for the transportation conformity determination as MOVES-based MVEBs do not currently exist in the SIP. For the purposes of this conformity determination, per guidance from the consultative partners, it was recommended to use the previous PM10 and CO MOBILE-based MVEBs for the transportation conformity determination for the amended MTP/TIP conformity.

MOVES2014a is a model that estimates volatile organic compounds (VOCs), nitrogen oxides (NOx), particule matter ($PM_{2.5}$ and PM_{10}), carbon monoxide (CO) , and other precursors from cars, trucks, buses, and motorcycles for SIP purposes and conformity determinations outside of California (California use EMFAC). The internal calculation procedures used in MOVES2014a are provided in various technical reports posted on EPA's MOVES Internet page located at https://www.epa.gov/moves/moves-technical-reports.

MOVES categorizes vehicles into 13 source types and have 6 fuel types (gasoline, ethanol (E-85), diesel, compressed natural gas (CNG), electricity, and liquefied petroleum gas (LPG)) . MOVES calculates emissions based on vehicle miles traveled (VMT) by vehicle type, the number of each type of vehicle in the fleet, vehicle age distribution, fuel information, meteorological data, etcetera. The user can specify many of the variables affecting vehicle emissions. Five different road types are considered in MOVES as well as a 31-year range for vehicle ages.
Table 8 shows the 13 source types, which are subsets of five HPMS vehicle types.

Table 8
MOVES Source Types and HPMS Vehicle Types

Source Type ID	Source Types	HPMS Vehicle Type ID	HPMS Vehicle Type
11	Motorcycle	10	Motorcycles
21	Passenger Car	25	Light Duty Vehicles-Short and Long Wheelbase
31	Passenger Truck		
32	Light Commercial Truck		
41	Intercity Bus	40	Buses
42	Transit Bus		
43	School Bus		
51	Refuse Truck	50	Single Unit Trucks
52	Single Unit Short-haul Truck		
53	Single Unit Long-haul Truck		
54	Motor Home		
61	Combination Short-haul Truck	60	Combination Trucks
62	Combination Long-haul Truck		

Table 9 shows the five different road types and their description.

Table 9. Road Types

Road Type	Description
Off-Network (roadtype 1)	all locations where the predominant activity is vehicle starts, parking and idling (parking lots, truck stops, rest areas, freight or bus terminals)
Rural Restricted Access (2)	rural highways that can only be accessed by an on-ramp
Rural Unrestricted Access (3)	all other rural roads (arterials, connectors, and local streets)
Urban Restricted Access (4)	urban highways that can only be accessed by an on-ramp
Urban Unrestricted Access (5)	all other urban roads (arterials, connectors, and local streets)

6.1.2 TTI Emissions Estimation Utilities

The following is a summary of the series of tools developed by TTI for developing link-based, time-of-day, on-road mobile source emissions estimates for air quality analyses. These utilities produce emissions factors with the latest MOVES emissions factor model, and apply them to travel model-based activity estimates to calculate emissions at user-specified temporal and spatial scales. The location of emissions by grid, or travel network link coordinates, may also be specified. The emissions estimation tools are: RatesCalc, EmsCalc, TransVMT, VMTmixBuild, OffNetActCalc, VehpopulationBuild and MOVESfleetInputBuild. RatesCalc – produces and/or compiles emissions rate tables from MOVES output; EmsCalc – calculates hourly link emissions for a county (or coded sub-county area) using the estimated link VMT and speeds, VMT mixes, off-network activity, and emissions factors from MOVES, RatesCalc, or RatesAdj; TransVMT – estimates the on-road fleet VMT and operational speeds for use in air quality analyses (input to EmsCalc), based on TDM data sets; VMTmixBuild – formats gasoline and diesel MOVES source type (vehicle type) VMT mix input

to EmsCalc; OffNetActCalc – calculates SHP, SHI, APU hours, and starts inputs to EmsCalc; VehpopulationBuild – calculates vehicle population estimates input to OffNetActCalc based on vehicle registration data and other factors; and MOVESfleetInputBuild – produces sourcetypeagedistribution and avft (i.e., fuel fractions) table inputs to MOVES, based on vehicle registration data, MOVES default data, and VMT mix estimates.(See Appendix J)

6.2 Calculated Emissions

6.2.1 Calculated Link-Based Emissions

The main components of the emissions estimates (link VMT, VMT mix, and emissions factors) were combined according to the procedures described to produce the resulting emissions estimates.

The resulting emissions estimates are summarized in table 10 . Additional detail in the form of hourly and 24-hour emissions by functional classification and vehicle type are available electronically (Appendix J).

6.2.2 Calculated Emissions for Donut Areas

Emissions for donut areas are not applicable for this analysis since nonattainment area is not outside the metropolitan planning area boundary and is not a donut area (reference: 40 CFR 93.101 Definitions).

6.3 Emissions Estimations Utilities

6.3.1 TRANSVMT

The TRANSVMT utility post-processes travel demand models (TDM) outputs to produce hourly, on-road vehicle, seasonal and day-of-week specific, directional link VMT, and speed estimates. The TRANSVMT utility processes a TDM traffic assignment by multiplying the link volumes by the appropriate HPMS, seasonal, or other VMT factors. Hourly factors are then used to distribute the link VMT to each hour in the day. The TTI speed model is used to estimate the operational time-of-day link speeds for each direction. Since intrazonal links are not included in the TDM, special intrazonal links are created and the VMT and speeds for these special links are estimated using the intrazonal trips from the trip matrix and the zonal radii. The link VMT and speeds produced by TRANSVMT are subsequently input to the EmsCalc utility for applying the MOVES-based emissions factors (as well as with other utilities to develop off-network activity estimates).

6.3.2 VehPopulationBuild

The VehPopulationBuild utility builds the sourcetypeyear data files in a format consistent with the MOVES input database table and the SUT/fuel type population input file (can be used with the EmsCalc utility to estimate emissions or the OffNetActCalc utility to estimate starts and SHP) using the VMT mix and the Texas Department of Motor Vehicles (TxDMV) registration data sets. The TxDMV registration data sets are three sets of registration data (an age registration data file, a gas trucks registration data file, and a diesel trucks registration data file) that list 31 years of registration data.

6.3.3 OffNetActCalc

The OffNetActCalc calculates the analysis scenario (i.e., year, season, day type) SHP, starts, SHI, and APU hours by hour, SUT, and fuel type used to estimate emissions using the EmsCalc utility. The starts activity is calculated using the SUT/fuel type population and the starts per vehicle (typically

the MOVES default). The SHI and APU hours are a function of hotelling hours. This utility has two options for calculating the hotelling hours. Using the first option, the analysis scenario 24-hour hotelling hours is calculated using a user-supplied extended idle factor applied to the source hours operating (SHO) data. The second option (and suggested method) uses base data (24-hour hotelling, link VMT and speeds, and VMT mix), the analysis scenario data used to calculate the SHP, and the analysis scenario SHP to calculate the analysis scenario 24-hour hotelling hours.

6.3.4 MOVESfleetInputBuild

The MOVESfleetInputBuild utility builds the sourcetypeagedistribution database table and fuel/engine fraction inputs to MOVES using the TxDOT registration data sets and the MOVES default database tables.

6.3.5 RatesCalc

The RatesCalc utility calculates emissions rates in terms of rate/SHP for the evaporative emissions processes using the data in the County Data Base (CDB) used in the MOVES emissions rates run and the MOVES default database.

6.3.6 EMSCALC

The EmsCalc utility estimates the hourly link emissions for one user-specified county using the emissions factors (either from RatesCalc or RatesAdj), the 24-hour or time period VMT mix, the hourly link VMT and speeds activity estimates (either from TRANSVMT or VirtualLinkVMT), and the off-network activity (SHP, starts, and SHI). This utility produces a tab-delimited output summary (including hourly and 24-hour totals) and hourly link emissions output files (optional). The primary inputs to EmsCalcare: emissions factors from RatesCalc or RatesAdj; link-based hourly VMT and speeds developed with the TRANSVMT or VirtualLinkVMT utility. For each link, the following information is input to EmsCalc: link start node, link end node, link county number, link roadway type number, link area type number, link VMT, and link operational speed estimate; 24-hour or time period VMT mix by roadway type, MOVES SUT, and MOVES fuel type; and Off-network activity (SHP, starts, SHI, and APU hours) by hour and SUT/fuel type.

The emissions estimation can be categorized by two basic types based on the type of emissions factors: the roadway-based emissions and the off-network-based emissions. For the roadway-based emissions (ttirateperdistance emissions factors), the VMT for each link is distributed to each of the SUT/fuel type combinations listed in the VMT mix by roadway type (as designated in the VMT roadway type designations). For link speeds greater than 75 mph, the emissions factors for 75 mph are used. For link speeds less than 2.5 mph, the emissions factors for 2.5 mph are used. For those link speeds that fall between the 16 MOVES speeds, the emissions factors are interpolated using the emissions factor interpolation methodology in the following section. For the off-network emissions , the ttirateperstart, ttirateperhour, and ttiratepershp emissions rates(by SUT/fuel type) are multiplied by the appropriate activity, which is determined by the emissions process.

The emissions estimates are output in a tab-delimited file (including all of the SUT/fuel type combinations listed in the VMT mix on a single line, separated by a tab character) for the specified county by pollutant, link roadway type, and SUT/fuel type combination for each of the specified episode time periods. A 24-hour (or total if all 24 hours are not specified) output is also included in the tab-delimited file.

Example Emissions Factor Interpolation

To calculate emissions factors for link speeds that fall between two of the 16 MOVES speed bin speeds, an interpolation methodology similar to the methodology used with MOBILE6 is used. This methodology interpolates each emissions factor using a factor developed from the inverse link speed and the inverse high and low bounding speed bin speeds. The following is an example for a link speed of 41.2 mph.

The interpolated emissions factor (EF_{Interp}) is expressed as:

$$EF_{Interp} = EF_{LowSpeed} - FAC_{Interp} \times (EF_{LowSpeed} - EF_{HighSpeed})$$

Where:

$EF_{LowSpeed}$ = emissions factor (EF) corresponding to the speed below the average link speed;

$EF_{HighSpeed}$ = EF corresponding to the speed above the average link speed; and

$$FAC_{Interp} = \left(\frac{1}{Speed_{link}} - \frac{1}{Speed_{low}}\right) \Big/ \left(\frac{1}{Speed_{high}} - \frac{1}{Speed_{low}}\right)$$

Given that:

$EF_{LowSpeed}$ = 0.7413 g/mi;
$EF_{HighSpeed}$ = 0.7274 g/mi;
$Speed_{lnk}$ = 41.2 mph;
$Speed_{low}$ = 40 mph; and
$Speed_{high}$ = 45 mph.

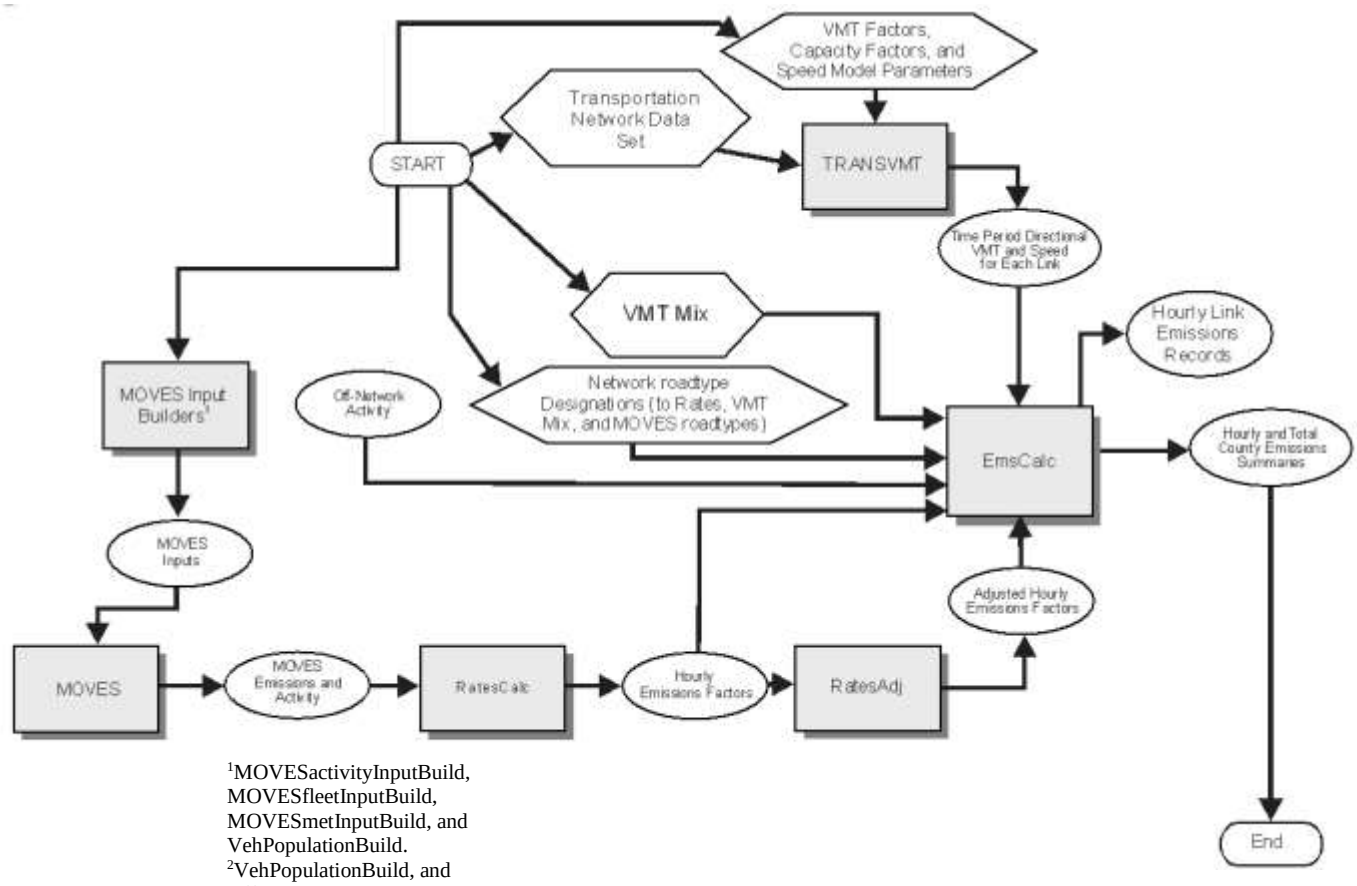
$$FAC_{Interp} = \left(\frac{1}{41.2mph} - \frac{1}{40mph}\right) \Big/ \left(\frac{1}{45mph} - \frac{1}{40mph}\right) = \frac{-0.00073}{-0.00278} = 0.26214;$$

EF_{Interp} = 0.7413 g/mi - (0.26214) × (0.7413 g/mi - 0.7274 g/mi);

= 0.7377 g/mi.

The following diagram shows the overall emissions estimate process flow.

Diagram 1
Travel Demand Model Network Link-Based
Hourly MOVES Emissions Estimates



[1]MOVESactivityInputBuild, MOVESfleetInputBuild, MOVESmetInputBuild, and VehPopulationBuild.
[2]VehPopulationBuild, and OffNetActCalc.

6.4 Final Emission Analysis Results

6.4.1 Network-Based Model

Table 10 is a summary of the VMT and associated CO emissions for the winter season emissions.

Table 10
Winter Season CO Emission Data[1]

YEAR	Total Vehicle Miles of Travel (Including Intrazonal)	CO Emissions in Tons per Day
MVEB	-	29.66
2010[2]	1,352,099	12.57
2020	1,475,345	6.30
2030	1,648,157	3.88
2040	1,893,894	2.96

[1] All values are average winter weekday estimates. The VMT listed are used to calculate the average speed.
[2] The 29.66 tons per day CO MVEB is utilized for the 2020 and later analysis years. For the 2010 analysis year an emissions estimate (23.56 tons per day) was calculated by interpolating between the 2002 base year emissions inventory estimate of 29.66 tons per day (as stated in the CO Maintenance Plan) and the 2020 (last year of the maintenance plan) emissions inventory estimate of 15.94 tons per day (as stated in the CO Maintenance Plan).

Sources: Networks and Traffic Assignments, TxDOT. VMT, Emission Factors, and Emission Estimates, TTI.

Table 11
PM_{10} Emission Data

Year	Season	VMT[1]	PM_{10} Emissions (tons/day)
MVEB	--	--	12.1
2010	Summer	15,466,606	6.19
	Winter	16,157,530	6.85
2020	Summer	19,080,815	6.68
	Winter	19,933,199	7.27
2030	Summer	22,248,616	7.41
	Winter	23,242,512	8.02
2040	Summer	25,781,591	8.48
	Winter	26,933,313	9.17

Notes: 1) VMT are from summer and winter action assignments.

Source: Texas A&M Transportation Institute

6.4.2 Off-Network TERMS

Off-network TERM have not been included in the El Paso SIP, thus there is no requirement to make adjustment.

6.4.3 Summary

The CO and PM_{10} emissions from the travel demand model all meet the MVEB requirements without any adjustments or additional credits required from VMEP, TERM, or TCMs.

This conformity determination demonstrates that the total emissions calculated from the modeled roadway network for future years will be at levels below the MVEB. Table 2, on page 13 provides the conformity results for both the PM_{10} and CO budget tests.

SECTION 7.0
INTERAGENCY CONSULTATION

7.1 Process Description

Section 176(c)(4)(B)(i) of the FCAA contain the guidelines that are used by the EPMPO during the interagency consultation process for conformity. Based on these guidelines, the EPMPO must provide the opportunity for consultation with the group of partners (listed below) prior to the conformity determination. Preliminary technical meetings are held with the consultative partners and the EPMPO to discuss the planning process prior to the commencement of emissions modeling. The modeling parameters, planning assumptions, as well as the type of model to be used are discussed with the consultative partners.

Upon conclusion of the preliminary technical meetings, the emissions modeling process begins. Once the emissions estimates are developed, they are included in the transportation conformity report. If there is a need to re-evaluate the emissions estimates and conduct additional modeling, the consultative partners are notified.

The EPMPO provides a 30 day public comment period. At the end of the 30 day public comment period, the conformity report is prepared for submittal to the TPB for review. The finalized conformity document is then sent to all consultative partners for the beginning of a 90 day review period, in which the consultative partners provide comments on the conformity document before final approval. The EPMPO responds to all comments, and as needed, incorporates the requested edits into the conformity document. Once all edits have been incorporated, the conformity document may be submitted to the FHWA for final review of the transportation conformity report.

The consultative procedures specifically require coordination with the following government agencies during the MTP development process and for the interagency review:

- EPA
- FHWA (Texas and New Mexico)
- FTA
- TxDOT
- TCEQ

Since the EPMPO regional study area covers portions of southern New Mexico, consultations with the following New Mexico agencies are also involved in the consultative process:

- NMDOT
- NMED

The EPMPO's committee structure helps to ensure that the consultative requirements are met during the MTP development process. TxDOT, NMDOT, and NMED are members of the TPAC of the MPO. This committee recommends approval of the MTP, the TIP, and recommends submittal of the TCR to the TPB.

All three documents are submitted to all the consultative partners including the Texas and New Mexico Divisions of the FHWA.

Interagency consultation efforts conducted for this conformity determination included the development of a Pre-analysis Consensus Plan, multiple consultation conference calls with the Consultative Group, and several opportunities for review and comments on the transportation conformity determination document by the consultation partners.

In addition, the meeting minutes from various consultative calls specific to this conformity determination can be found in Appendix F.

SECTION 8.0

PUBLIC PARTICIPATION

The goal of the Public Participation process is to involve the community in a proactive planning effort that provides the opportunity for input in the early stages of the conformity determination. The guidelines followed for public participation can be found at the following link: http://elpasotx-prod.civica.granicusops.com/civicax/filebank/blobdload.aspx?BlobID=22867

The 30-day public comment period was held from March 29,2017 to April 28,2017at the following locations, dates, and times:

• Richard Burges Branch Library	April 10,2017	1:30-3:30 p.m.
• Northwest Library, El Paso Community College	April 10,2017	6-8 p.m.
• Judge Edward S. Marquez Branch Library	April 11,2017	10-12 p.m.
• Mission Valley RCC	April 11,2017	6-8 p.m.
• Sunland Park Library	April 12,2017	9-11 a.m.
• Anthony, NM City Hall	April 12, 2017	4-6 p.m.
• Horizon – Oz Glaze Senior Center	April 13,2017	9-11 a.m.
• Memorial Park Library	April 13, 2017	1-3 p.m.
• El Paso County Water Improvement District	April 17, 2017	3:30-5:30 p.m.

Draft plans were provided free of charge, however, copies of over-sized or lengthy materials were available at reproduction and postage costs consistent with the State of Texas Comptroller's policy. Electronic copies of draft documents and major updates are posted on the MPO website for public viewing.

http://www.elpasompo.org/scroll_bar_area/conformity_/default.htm

There were no public comments received during the public involvement period for the Amendment Horizon 2040 TCD and three general comments were received concerning the El Paso MPO documentation (refer to Appendix L).