REVISIONS TO THE STATE IMPLEMENTATION PLAN (SIP)
FOR THE CONTROL OF CARBON MONOXIDE AIR POLLUTION

EL PASO REDESIGNATION TO ATTAINMENT FOR CARBON MONOXIDE AND MAINTENANCE PLAN

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
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SECTION VI. CONTROL STRATEGY

A. Introduction (No change.)

B. Ozone (No change.)

1. *Dallas/Fort Worth* (No change.)
2. *Houston/Galveston* (No change.)
3. *Beaumont/Port Arthur* (No change.)
4. *El Paso* (No change.)
5. *Regional Strategies* (No change.)
6. *Northeast Texas* (No change.)

C. Particulate Matter (No change.)

D. Carbon Monoxide (Revised)

1. *El Paso* (Revised)

E. Lead (No change.)

F. Oxides of Nitrogen (No change.)

G. Sulfur Dioxide (No change.)

H. Conformity with the National Ambient Air Quality Standards (No change.)

I. Site Specific (No change.)

J. Mobile Sources Strategies (No change.)

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LIST OF ACRONYMS

CAMS - Continuous Air Monitoring System
CAMx - Comprehensive Air Quality Model with Extensions
CHIEF - Clearinghouse for Inventories & Emissions Factors
CO - carbon monoxide
CO_2 - carbon dioxide
CST - Central Standard Time
DLC - Diagnostic Link Connector
DPS - Texas Department of Public Safety
EDMS - Emissions and Dispersion Modeling System
EGAS - Economic Growth Analysis System
EGU - electric generating unit
EI - emissions inventory
EIQ - emissions inventory questionnaires
EPA - Environmental Protection Agency
ERG - Eastern Research Group
ETBE - ethyl tertiary butyl ether
ETI - Emission Trends Inventory
FCAA - Federal Clean Air Act
FMVECP - Federal Motor Vehicle Emission Control Program
GloBEIS - Global Biogenic Emissions Inventory System
HAP - hazardous air pollutant
HPMS - Highway Performance System
FR - Federal Register
I/M - inspection/maintenance
LIRAP - Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program
MPO - Metropolitan Planning Organization
m/sec - meters per second
MSA - Metropolitan Statistical Area
MTBE - methyl tertiary butyl ether
MVEB - Motor Vehicle Emissions Budget
NAAQS - National Ambient Air Quality Standard
NEI - National Emissions Inventory
NNEM - National Nonroad Emissions Model
NO_x - nitrogen oxides
OBD - On-Board Diagnostic
PM_{10} - particulate matter less than 10 micron
ppb - parts per billion
ppm - parts per million
PSDB - Point Source Data Base
PTE - potential to emit
RAM - Regional Air Model
REMI - Regional Economic Models, Incorporated
RVP - Reid Vapor Pressure
SIP - State Implementation Plan
SO_2 - sulfur dioxide

SO_x - sulfur oxides
STARS - State of Texas Air Reporting System
TAME - tertiary amyl methyl ether
TCEQ - Texas Commission on Environmental Quality (formerly the TNRCC)
TIPI - Texas Industrial Production Index
TNRCC - Texas Natural Resource Conservation Commission (renamed the TCEQ)
tpd - tons per day
tpy - tons per year
TSI - Two-Speed Idle
TTI - Texas Transportation Institute
UAM - urban airshed model
VMT - vehicle miles traveled
VOC - volatile organic compounds

EXECUTIVE SUMMARY

This State Implementation Plan (SIP) revision requests that the United States Environmental Protection Agency (EPA) redesignate El Paso, Texas, as being in attainment of the 8-hour carbon monoxide (CO) National Ambient Air Quality Standard (NAAQS). El Paso, Texas, was designated nonattainment in 1990 for the 8-hour CO standard and classified as "moderate" nonattainment under §107(d)(4)(A) and §186(a) of the Federal Clean Air Act (FCAA). The El Paso CO nonattainment area is restricted to a narrow strip of the city of El Paso along the Rio Grande, in El Paso County, adjacent to Ciudad Juarez, Mexico. There have been no monitored violations of the CO NAAQS since 2001.

For the EPA to redesignate El Paso, the following conditions must be met: 1) the area has attained the applicable NAAQS; 2) the area has a fully approved SIP under §110(k) of the FCAA and the area meets all the relevant requirements under §110 and part D of the FCAA; 3) the air quality improvement is permanent and enforceable; and 4) the area has a fully approved maintenance plan under §175A of the FCAA. This SIP revision contains the following elements:

- A review of quality-assured ambient air quality data showing that El Paso has attained the 8-hour NAAQS for CO;
- A review of current and future year emissions inventories and modeling analysis of CO emissions at a congested intersection showing that El Paso's air quality improvement is permanent and sustainable;
- A maintenance plan, approvable under §175A of the FCAA, that includes commitments to continue existing control strategies for CO.

The requirement for oxygenated fuels and a vehicle inspection/maintenance program will be continued as control strategies under the maintenance plan. The maintenance plan also includes a commitment to maintain appropriate monitoring equipment and a contingency plan in case additional violations of the 8-hour CO NAAQS should unexpectedly occur.

Because a CO redesignation will trigger a conformity determination for the El Paso area, this SIP revision also includes a CO Motor Vehicle Emissions Budget (MVEB) for the attainment year 2002, an interim year of 2011, and the final year of the maintenance plan, 2015. The MVEB is shown below in Table ES-1: *CO MVEB for El Paso CO Nonattainment Area.*

Table ES-1: CO MVEB for El Paso CO Nonattainment Area

Year	CO (tpd)
2002	29.66
2011	18.56
2015	16.63

CHAPTER 1: GENERAL INFORMATION

1.1 PURPOSE OF PLAN

The purpose of this Texas Commission on Environmental Quality (TCEQ) State Implementation Plan (SIP) revision is to request from the United States Environmental Protection Agency (EPA) the redesignation of El Paso from a moderate nonattainment area for the 8-hour carbon monoxide (CO) standard to attainment. This SIP revision includes a maintenance plan that will ensure the area remains in attainment of the CO standard.

1.2 BACKGROUND

1.2.1 Introduction

CO is a colorless, odorless, poisonous gas that reduces the ability of the blood to carry oxygen to vital tissues, affecting the cardiovascular and nervous systems. Low concentrations can adversely affect individuals with heart disease and can decrease exercise performance in young, healthy persons.

CO results from the incomplete combustion of carbon-containing compounds such as wood, coal, and liquid and gaseous fuels. Its formation is enhanced when the supply of oxygen is inadequate for the complete oxidation of fuels to carbon dioxide (CO_2). Modeling shows that most CO emissions in El Paso result from the incomplete combustion of gasoline by motor vehicles. Optimal combustion of gasoline occurs in warmer ambient temperatures because fuel combustion and pollution control equipment are more efficient at warmer temperatures. During the winter months, vehicles emit larger amounts of CO due to cold starts and longer warm-up periods. Due to its geography, El Paso is prone to temperature inversions, resulting in a low atmospheric mixing height and poor dispersion of pollutants.

The national ambient air quality standard (NAAQS) for CO is 9 parts per million (ppm) for an 8-hour average concentration and 35 ppm for a 1-hour average concentration; neither may be exceeded more than once per year. The determination of attainment of the standard is based on an annual number of exceedance days. A violation occurs when there is greater than one exceedance in any one calendar year (40 CFR §50.8). According to a June 18, 1990, EPA memorandum, *Ozone and Carbon Monoxide Design Value Calculations*, from William G. Laxton, "The CO NAAQS requires that not more than one 8-hour average per year can exceed 9 ppm (greater than or equal to 9.5 ppm to adjust for rounding)."

1.2.2 History of classification

El Paso, Texas was designated nonattainment in 1990 for the 8-hour CO standard and classified as moderate under §107(d)(4)(A) and §186(a) of the FCAA. The El Paso CO nonattainment area is restricted to a narrow strip along the Rio Grande, adjacent to Ciudad Juarez, Mexico.

The FCAA requires that CO nonattainment areas designated moderate and above demonstrate attainment through air quality modeling or any other analytical method determined by the Administrator of the EPA to be at least as effective. Section 179B of the FCAA contains special provisions for nonattainment areas that are affected by emissions emanating from outside the United States. Under §179B, the EPA will approve a SIP if the area meets all other FCAA requirements and establishes that implementation of the plan would achieve attainment of the CO standard by the FCAA statutory deadline "but for emissions emanating from outside of the United States."

Texas submitted a revision to the Texas SIP for the El Paso CO moderate nonattainment area via a letter dated September 27, 1995, which was supplemented in February 1998. These revisions included air quality modeling, under §179B of the FCAA, demonstrating that El Paso would attain the CO NAAQS

but for emissions emanating from outside of the United States.

El Paso and Juarez, Mexico share an airshed. However, emissions inventory (EI) data were not available for Juarez, so modeling the entire airshed was not possible. In such an instance, §179B allows an area such as El Paso to perform modeling using only U.S. pollutant emissions data in conducting the attainment demonstration.

In the demonstration, Texas used two models, the Regional Air Model (RAM) and CAL3QHC. The CAL3QHC model has components based upon the California Line Model version 3 (CAL3) which calculates dispersion from line sources. CAL3QHC also has a queuing component (Q) for hot spot calculations (HC). The RAM was used to estimate background CO concentrations, and CAL3QHC was used to estimate hot-spot concentrations or those areas that are the most likely to produce the highest concentrations of CO. Using RAM modeling, Texas identified the worst-case meteorological episode conducive for CO concentration. This episode was subsequently used in the CAL3QHC modeling to determine CO concentrations at six selected intersections in the nonattainment area. These concentrations were then combined with hourly variables in the 8-hour period with the highest RAM-determined background CO concentration. The modeling results for El Paso indicate that the area would attain the CO standard but for emissions emanating from outside the United States. Texas performed CO modeling analysis for El Paso according to EPA guidance using conservative inputs to EPA guideline models.

1.3 PUBLIC HEARING INFORMATION

The commission held public hearings to consider this revision of the Texas State Implementation Plan and to solicit public comment. The hearings were held at the following times and locations:

City	Date	Time	Location
El Paso	September 1, 2005	2 p.m. 6 p.m.	Texas Commission on Environmental Quality Region 6 401 E. Franklin Ave., Ste. 560 El Paso, Texas

A question and answer session was held 30 minutes prior to each hearing. Written comments were also accepted via mail, fax, or e-mail. The public comment period closed at 5:00 p.m. on September 6, 2005.

1.4 SOCIAL AND ECONOMIC CONSIDERATIONS

Because rulemaking was not a part of this SIP revision, there are no changes that would require an analysis of social and economic considerations.

1.5 FISCAL AND MANPOWER RESOURCES

The state has determined that its fiscal and manpower resources are adequate and will not be adversely affected through the implementation of this plan.

CHAPTER 2: EMISSIONS INVENTORY

2.1 OVERVIEW

The Consolidated Emissions Reporting Rule (67 FR 39602, June 10, 2002) requires that Emission Inventories (EIs) be prepared for CO nonattainment areas. The planning agency must compile information on the important sources of CO emissions. The EI includes the source types present in an area, the amount of CO emitted, and the types of processes and control devices employed at each plant or source category. The EI provides data for a variety of air quality planning tasks, including establishing baseline emission levels, calculating reduction targets, control strategy development for achieving the required emission reductions, emission inputs into air quality simulation models, and tracking actual emission reductions against the established emissions growth and control budgets. The total inventory of CO emissions for an area is summarized from the estimates developed for four general categories of emissions sources, each explained below.

EIs also provide a way to demonstrate that attainment of the CO standard in El Paso County will be maintained. This maintenance demonstration consists of a comparison between the baseline EI (2002 seasonal) and the projected periodic EIs through the year 2015 taking into consideration growth in VMT, economic growth, and population growth.

2.2 POINT SOURCES

The commission requires EIs from accounts that meet any one of the several reporting requirements outlined in 30 Texas Administrative Code (TAC) §101.10, which are discussed below. An account (site) may be required to submit an EI for any of the following reasons (30 TAC §101.10).

- The account meets the definition of a major source, 30 TAC §116.12. For a moderate CO nonattainment area, a major source emits or has the potential to emit (PTE) of 100 tpy of CO.
- The account emits or has the PTE of 100 tpy of any criteria pollutant, regardless of attainment status of the area .
- The account emits or has the PTE of at least 10 tpy of any single HAP or 25 tpy of aggregate HAPs.

To collect emissions and industrial process operating data, emissions inventory questionnaires (EIQs) are mailed to all accounts in the state identified as having met any one of the reporting requirements of 30 TAC §101.10. Companies are required to report not only emissions data for all emissions-generating units and emission points, but also the amount of materials used in emissions-generating processes for a representative sample of sources. The EIQ also collects information on process equipment descriptions, operation schedules, emissions control devices currently in use, abatement device control efficiency, and stack parameters such as location, height, and exhaust gas flow rate. All data submitted via the EIQ are then subjected to quality assurance procedures and entered into the State of Texas Air Reporting System (STARS).

The 2002 CO season EI data obtained from STARS comprised the base year used for growing point source emissions to the appropriate future years. Point source CO projections for the years 2005, 2011 and 2015 were developed using the August 2005 Texas Industrial Production Index (TIPI)-derived factors where available and supplemented with Economic Growth Analysis System (EGAS) 4.0 factors where necessary. According to the Federal Reserve Bank of Dallas, the TIPI is a value-added index based on a weighted average of employment, worked hours, and some production data. The underlying process to derive TIPI data is the same as the Bureau of Economic Analysis gross-state product. A better

surrogate would have been local survey data based on production. However, no such data currently exist for the state of Texas, and resources are not available to conduct such a survey. For further information on the TIPI see http://www.dallasfed.org/data/data/mi5000.tab.htm.

The TIPI was used, where possible, because its data are more recent than those in the EGAS 4.0 model. For those categories in the Texas EI not covered by the TIPI, EGAS 4.0 factors were used. The EGAS model was last updated on January 26, 2001, and uses data and data models that date from the early 1980s to 1999. The Regional Economic Models, Incorporated (REMI) model, which is the economic basis of EGAS 4.0 uses economic data which date from 1969 to 1996. Also, EGAS uses historical emissions data from the National Emissions Inventory (NEI) ranging from 1972 to 1992. (See the EGAS 4.0 Reference Manual, available on EPA's Clearinghouse for Inventories and Emissions Factors (CHIEF) website).

The data from point sources (Table 2-1: *El Paso County CO Emission Inventory Baseline (2002) and Projection 2005, 2011, and 2015*) predict increases in CO emissions, resulting from increased levels of population and economic activity. Details of the El Paso County point source EI for CO may be found in Appendix B: *El Paso County Area, Nonroad Mobile, and Point Source Emissions Inventory Detail*.

2.3 AREA SOURCES

To capture information about sources of emissions that fall below the point source reporting levels and are too numerous or too small to identify individually, emissions from these sources are estimated on a source category or group basis. Area sources include commercial, small-scale industrial, and residential categories of sources that use materials or operate processes that can generate emissions. Area sources can be divided into two groups characterized by the emission mechanism: hydrocarbon evaporative emissions or fuel combustion emissions. Examples of sources of evaporative losses include printing, industrial coatings, degreasing solvents, house paints, leaking underground storage tanks, gasoline service station underground tank filling, and vehicle refueling operations. Fuel combustion sources include stationary source fossil fuel combustion at residences and businesses, as well as outdoor burning, structural fires, and wildfires. These emissions, with some exceptions, are estimated by multiplication of an EPA established emissions factor (emissions per unit of activity) times the appropriate activity or activity surrogate responsible for generating emissions. Population is the most commonly used activity surrogate for many area source categories, while other activity data include amount of gasoline sold in an area, employment by industry type, and acres of cropland.

The 2002 CO season EI data obtained from Texas Air Emissions Repository comprised the base year used for growing area source emissions to the appropriate future years. After reviewing EGAS 4.0, REMI EGAS (an older version of EGAS but updated with local economic factors), and the Emission Trends Inventory (ETI), the TCEQ determined that the variations between the three were minimal. Because the EGAS 4.0 factors are considered the most accurate, these factors were used for the bulk of the forecasting. The projected EIs were compiled by using EGAS growth factors for each area source category, as the standard and accepted method for developing future year EIs. The EGAS contains individual growth factors for each category for each forecasting year. There were exceptions to the use of EGAS 4.0 for growing emissions. For some fireplace categories, ETI data were used to project growth for 2005-2008. However, for the years 2011 and 2015, EGAS 4.0 applied growth factors were used for the same categories.

Review of the projected emissions data (Table 2-1) indicate a gradual rise in CO emissions. This rise is to be expected because area source emissions grow as the population increases in the majority of

instances. Details of the El Paso County area source EI for CO may be found in Appendix B: *El Paso County Area, Nonroad Mobile, and Point Source Emissions Inventory Detail*.

2.4 NONROAD MOBILE SOURCES

This category includes aircraft operations, railroad locomotives, and a very broad range of nonroad equipment that includes 600-horsepower engines mounted on construction equipment to 1-horsepower string trimmers. Calculation methods for emissions from nonroad engine sources are based on information about equipment population, engine horsepower, load factor, emission factor, and annual usage. EPA's NONROAD model is used to calculate emissions from all nonroad mobile categories except aircraft, airport ground support equipment, and locomotives. The Emissions and Dispersion Modeling System (EDMS) model is used to calculate aircraft emissions. Emissions data from airport ground support equipment and locomotives were developed by consultants conducting surveys of equipment populations and usage as well as collecting other relevant activity data associated with these categories.

For the categories not included in the NONROAD model (Aircraft, Airport Ground Support Equipment, and Locomotives) the 2002 Periodic Emissions Inventory was grown to 2015 using EGAS 4.0 growth factors. For all the categories that have emissions data developed by the NONROAD model, the model was run for the selected future years to generate those emissions projections. The data from nonroad mobile source categories (Table 2-1) predict increases in CO emissions, resulting from increased levels of population and economic activity. Details of the El Paso County Nonroad Mobile Source EI for CO may be found in Appendix B: *El Paso County Area, Nonroad Mobile, and Point Source Emissions Inventory Detail*.

2.5 ONROAD MOBILE SOURCES

Onroad mobile sources consist of automobiles, trucks, motorcycles, and other motor vehicles traveling on public roadways. Combustion-related emissions are estimated for vehicle engine exhaust, and evaporative hydrocarbon emissions are estimated for the fuel tank and other evaporative leak sources on the vehicle. Emission factors have been developed using the newest version of EPA's mobile emissions factor model, MOBILE6.2. Various inputs are provided to the model to simulate the vehicle fleet driving in each particular nonattainment area. Inputs include such parameters as vehicle speeds by roadway type, vehicle registration by vehicle type and age, percentage of vehicles in cold start mode, percentage of miles traveled by vehicle type, type of inspection and maintenance (I/M) program in place, and gasoline vapor pressure. All of these inputs have an impact on the emission factor calculated by the MOBILE6.2 model, and every effort is made to input parameters reflecting local conditions. To complete the emissions estimate, the emission factors calculated by the MOBILE6.2 model must then be multiplied by the vehicle miles traveled (VMT). The level of vehicle travel activity is developed from travel demand models run by the Texas Transportation Institute (TTI). The travel demand models have been validated against a large number of ground counts of traffic passing over counters placed in various locations throughout each county. Estimates of VMT are often calibrated to outputs from the federal Highway Performance Monitoring System, which is a model built from a smaller number of traffic counters. Finally, roadway speeds, which are required for the MOBILE6.2 model's input, are calculated by a post-processor to the travel demand model. Data for onroad mobile emissions sources (Table 2-1) predict a significant decrease in CO emissions in the future. This decrease can be traced to the implementation of the I/M program, strengthened federal vehicle standards, and the use of oxygenated fuels.

The El Paso onroad mobile source EI was developed under contract by TTI. Appendix A: *El Paso*

County Redesignation Mobile Source Emissions Inventory Documentation provides detailed information on how the inventories for CO were developed. CO information is in Task 2 and Task 4 of the report. Input and summary output files for the link-based mobile source emissions inventory work can also be found in Appendix A.

2.6 EMISSIONS INVENTORY SUMMARY

Table 2-1 summarizes the base year and projected CO season emissions inventories for El Paso County. The initial year, 2002 (chosen as the baseline year), had approximately 427 tpd total CO emissions. Future years all demonstrate a steadily decreasing inventory for the county.

Table 2-1: El Paso County CO Emission Inventory Baseline (2002) and Projection 2005, 2011, and 2015

Year	Point Source (tpd)	Area (tpd)	Nonroad Mobile (tpd)	Onroad Mobile (tpd)	Total (tpd)
2002	4.67	16.42	45.90	360.34	427.33
2005	4.42	16.8	48.71	325.50	385.43
2011	4.78	17.61	55.23	245.16	322.78
2015	5.03	18.17	59.18	232.02	314.40

2.7 MOTOR VEHICLE EMISSIONS BUDGET

Motor vehicle emissions budgets (MVEBs) refer to the maximum allowable emissions from onroad mobile sources and are determined for each applicable criteria pollutant or precursor as defined in the SIP. These budgets must be used by transportation planners in transportation conformity analyses. In order to pass the budget test, areas must demonstrate that the estimated emissions from transportation plans, programs, and projects do not exceed the MVEB(s). Only technology-related measures, such as I/M, cleaner fuels, and use restrictions/incentives, may be included as onroad mobile source emission control measures. Measures that could limit future highway construction, such as growth restrictions, may not be included.

The requirement for CO plans was established by the 1990 FCAA Amendments to ensure continued progress toward achieving the CO standard. For this redesignation SIP, EPA requires that the MVEB be based on the CO nonattainment area. Appendix A: *El Paso County Redesignation Mobile Source Emissions Inventory Documentation*, summarizes the El Paso County 24-hour CO season weekday EI estimates for various analysis years. Emissions were also estimated for the El Paso CO nonattainment area and included in the tabular emissions summary files provided in the electronic data submittal.

Using that data set, the TCEQ calculated the El Paso CO nonattainment area budget as depicted in Table 2-2: *CO MVEB for El Paso CO Nonattainment Area*. The year 2011 was chosen as an interim year for conformity determination. The year 2015 is presented as the last year of the 10-year maintenance plan.

Table 2-2: CO MVEB for El Paso CO Nonattainment Area

Year	CO (tpd)
2002	29.66
2011	18.56
2015	16.63

CHAPTER 3: ATTAINMENT OF THE CARBON MONOXIDE STANDARD

3.1 NATIONAL AMBIENT AIR QUALITY STANDARDS FOR CARBON MONOXIDE

The current NAAQS for CO is 9 ppm, 8-hour average, and 35 ppm, 1-hour average. The El Paso area is designated nonattainment for the 8-hour CO standard. All areas in Texas comply with the 1-hour standard.

The EPA requires an area to have two consecutive calendar years of complete, quality-assured monitoring data with no violations before the area can be redesignated attainment for the CO standard. The attainment demonstration must be based on representative air monitoring data collected with approved measuring instruments and procedures and with adequate quality assurance and quality control.

No monitor in an area requesting redesignation can have more than one 8-hour average concentration exceeding 9 ppm during either of the two most recent calendar years. The rounding convention in the NAAQS specifies that values less than 9.5 ppm do not exceed the standard, whereas concentrations of 9.5 ppm or greater do.

3.2 CLEAN AIR ACT CONDITIONS FOR REDESIGNATION

Section 107(d)(3)(E) of the FCAA states that EPA can redesignate an area to attainment if the following conditions are met:

A. The area has attained the applicable NAAQS.

B. The area has a fully approved SIP under §110(k) of the FCAA and the area meets all the relevant requirements under §110 and part D of the FCAA.

C. The air quality improvement is permanent and enforceable.

D. The area has a fully approved maintenance plan under §175A of the FCAA.

3.3 HAS THE AREA ATTAINED THE NAAQS?

This redesignation request is based on quality-assured air quality data. Table 3-1: *El Paso County CO Monitors With 8-Hour Readings Greater Than NAAQS 1999-2004* shows that the CO standard was not violated from 2002 through 2004. Figure 3-1: *El Paso County CO Monitor Locations* depicts the locations of El Paso County's CO monitoring system. Table 3-1 shows that there were no monitors recording a reading of 9.5 ppm or greater in 1999. Two different monitors in 2000 recorded one reading each that was greater than 9.5 ppm but since these readings were at two different monitors, no violation occurred. In 2001 one monitor had one reading greater than 9.5 ppm but since there was only one high reading no violation occurred. There were no readings in El Paso greater than 9.5 ppm after 2001 and there were no high readings for the winter months of 2004-2005. Figure 3-2: *8-hour CO Design Value for El Paso 1990-2004* shows that the design value for 2002 was 8.8 ppm and for 2004 the design value was 6.5 ppm, all below the 8-hour CO NAAQS of 9 ppm. There is no record of any exceedance of the 1-hour carbon monoxide standard in the El Paso area.

Table 3-1: El Paso County CO Monitors With 8-Hour Readings Greater Than NAAQS 1999-2004

8-Hr CO Standard	1999	2000	2001	2002	2003	2004
CAMS # & Monitor Location	**Number of readings > NAAQS**	**Number of readings > NAAQS**	**Number of readings > NAAQS**	**Number of readings > NAAQS**	**Number of readings > NAAQS**	**Number of readings > NAAQS**
C49 Socorro	None	None	None	None	None	None
C12 UTEP	None	None	None	None	None	None
C37 Ascarate Park	None	1	None	None	None	None
C40 Sun Metro	None	1	1	None	None	None
C41 Chamizal	None	None	None	None	None	None
C-413 Tillman	None	None	None	None	None	None
C414 Ivanhoe	None	None	None	None	None	None
C72 Skyline Park	None	None	None	None	None	None
Total Number of readings > NAAQS	None	2	1	None	None	None

3.4 DOES THE AREA HAVE A FULLY APPROVED SIP?

The EPA approved, through direct final action, a revision to the Texas SIP submitted to show attainment of the CO NAAQS in the El Paso CO nonattainment area (but for emissions emanating from outside of the United States). The EPA also approved the El Paso area's CO emissions budget and a CO contingency measure requirement. The State submitted the revisions to satisfy §179B and other Part D requirements of the FCAA. This approval was effective September 2, 2003, and was announced in 68 Federal Register (FR) 39457 on July 2, 2003.

3.5 ARE THE IMPROVEMENTS IN AIR QUALITY PERMANENT AND ENFORCEABLE?

Improvement in ambient CO concentration in the El Paso nonattainment area can be attributed to emissions reductions that are permanent and enforceable. The area meets the national standard for CO as the result of the implemented federal, state, and local controls.

The population of the City of El Paso increased by 9.3 percent from 1990 to 2000, going from 515,610 to 563,662, while the county population increased by 15.0 percent, increasing from 591,610 to 679,622. Ciudad Juarez, Mexico, the sister city of El Paso, had a population increase from 1990 to 2000 of 45.0 percent, going from 789,522 to 1,142,354. During this same time period, the CO design value decreased from 14 ppm in 1990 to 9.2 ppm in 2000. In spite of increased population, implemented controls have decreased CO concentrations.

The following permanent and enforceable control measures have resulted in the air quality improvement in El Paso. The enforceable measures will remain in place for the duration of the initial maintenance period to ensure continued maintenance of the CO NAAQS in the El Paso area.

3.5.1 Oxygenated Fuels Program

Oxygenated fuel is conventional gasoline "splash blended" with an oxygenate to reduce CO emissions by promoting more complete combustion. Methanol, ethanol, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), or tertiary amyl methyl ether (TAME) can be added to achieve a minimum oxygen content of 2.7 percent oxygen by weight. Currently, both ethanol and MTBE are being used as oxygenates in El Paso.

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.

3.5.2 Federal Motor Vehicle Emission Control Program

The Federal Motor Vehicle Emission Control Program (FMVECP) has dramatically reduced CO emissions through a continuing process of requiring manufacturers to produce new vehicles that meet increasingly tighter emission standards. As older, more polluting vehicles are replaced with newer vehicles, CO emissions in the El Paso area will continue to decline.

3.5.3 Vehicle Inspection and Maintenance (I/M) Program

The Texas Vehicle Emissions Testing Program, also known as Air Check Texas, applies to vehicle owners in El Paso County and is integrated with the annual safety inspection program. Air Check Texas is operated by the Texas Department of Public Safety (DPS). Vehicles are tested annually either at a decentralized test-and-repair facility or at a test-only facility. Gasoline-powered vehicles from two through 24 years old are tested beginning with the vehicle's second model year anniversary. Vehicles failing the test must be repaired and pass a retest or qualify for a waiver.

El Paso currently employs the Two-Speed Idle (TSI) emissions test that began in 1987. This test measures the tailpipe exhaust emissions of a vehicle while the vehicle idles at both high and low speed. The TSI analyzer meets two-speed idle specifications and tests vehicles for CO_2 in addition to hydrocarbons and CO. The TSI test comprises two phases: a high speed test (2200-2800 RPMs) for the first phase of the emissions test; then, a test at idle (350-1200 RPMs) followed by a gas cap integrity test that meets EPA-required specifications and procedures.

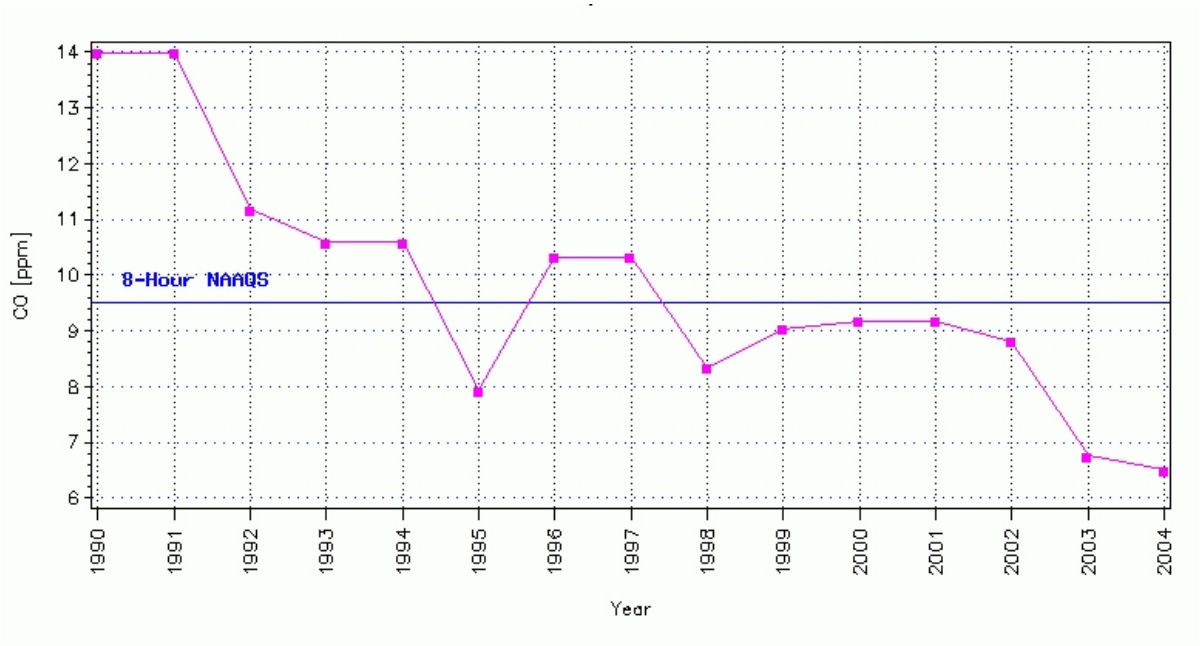
The TCEQ plans to implement an enhanced I/M program in El Paso in 2007 that would require all 1996 and newer model year vehicles registered and primarily operated in El Paso County to be tested using EPA-approved on-board diagnostics (OBD) test procedures. All 1995 and older model year vehicles registered and primarily operated in El Paso County would be tested using the EPA-approved TSI test. This enhanced I/M program will continue to ensure the area maintains the CO standard. A full description of the proposed I/M program can be found in Section 5.3.3, *Onroad Source Control Strategies*.

3.6 DOES THE AREA HAVE A FULLY APPROVED MAINTENANCE PLAN?

An EPA memorandum dated September 4, 1992, entitled *Procedures for Processing Requests to Redesignate Areas to Attainment*, allows states to submit their redesignation request and their maintenance plan at the same time. Consequently, the TCEQ is submitting both documents simultaneously and requests that both proceed on parallel tracks. The maintenance plan is set forth in Chapter 5 of this document.

Figure 3-1: El Paso County CO Monitor Locations

Figure 3-2: 8-Hour CO Design Value for El Paso 1990-2004



CHAPTER 4: EL PASO CARBON MONOXIDE HOT SPOT ANALYSIS

4.1 BACKGROUND

In the past, CO concentrations in El Paso have exceeded the NAAQS for 8-hour average CO, and as a result the EPA designated a narrow strip of the city near the river as nonattainment for CO. However, as Figure 3-2 shows, there has been a substantial downward trend in the CO design value, which is defined as the highest second high value in each two year period. The design value has been below the standard every year since 1998.

4.2 REQUEST FOR REDESIGNATION

Since there have been no exceedances of the CO standard in the El Paso area for more than five years, the City of El Paso has asked to be redesignated as attainment. The EPA recognizes that the five years of monitoring data supports redesignation, but has asked for additional modeling to address two concerns:

- The El Paso CO monitoring network has a limited number of sites, and therefore may not have identified all the hot spots in the El Paso area; and

- In the future, urban growth may increase mobile emissions enough to cause exceedances of the NAAQS.

In response to these concerns, the TCEQ has agreed to perform CO modeling at a heavily utilized intersection to demonstrate that CO exceedances are not currently occurring at a potential hot spot and will not occur at that location in the future. The Cordova/Paisano intersection is just north of the International Bridge of the Americas and was designed to serve the heavy traffic leaving the United States border inspection area. The EPA has agreed that modeling the mobile source emissions at the Cordova/Paisano intersection to determine the current and expected future CO concentrations will satisfy their concerns.

4.3 MODELING PROTOCOL

The EPA approved the proposed modeling protocol on March 30, 2005 (Appendix C: *EPA Letter Approving the El Paso Modeling Protocol*) and the Cordova/Paisano intersection was selected for screening analysis. This intersection was one of six previously modeled for the *El Paso Carbon Monoxide Modeling Report: Section 818 Demonstration* (1995) submitted by the TCEQ to EPA. It is also the largest intersection in El Paso near the International Bridge of the Americas, which provides an entry point between El Paso and Juarez, Mexico.

4.4 CONCEPTUAL MODEL FOR CARBON MONOXIDE EVENTS

El Paso CO events typically occur during the winter months, primarily in November, December and January. CO events generally occur during the late evening hours with very light winds (wind speed < 3 mph). These events appear to be associated with near-stagnant conditions in local drainage flows in the urban basin. One hypothesis for this association is that urban CO emissions from both El Paso and Juarez are trapped under the nocturnal inversion, accumulating and circulating slowly in the basin. CO events build after the evening rush hour and end quickly, evidently terminated by a change in flow that carries the CO pool down the river valley to the southeast.

CO sources include domestic heating and urban traffic in both El Paso and Juarez. Evening rush hour traffic over the International Bridge is heavy in both directions, and cars may idle for extended periods waiting for border inspections. Historically, this traffic has been heavy during the evening hours on

holiday weekends between Thanksgiving and Christmas. However, statistical analysis of recent data suggests that CO events are just as likely to occur on weekdays as on weekends.

4.5 THE CORDOVA/PAISANO INTERSECTION

Figure 4-1: *Photograph of Cordova/Paisano Intersection* shows a photograph of the Cordova/Paisano intersection used in this modeling. The intersection is a complex three-level roadway that accepts traffic from the International Bridge and routes it to the rest of the city. The International Bridge is not shown, but the US customs area is evident at the bottom (south) end of the photograph. Cars leaving the customs area drive north via the underpass to join IH-10 which is off the photo to the northeast. East/west traffic uses the Paisano overpass. The middle layer (at ground level) includes the on-ramps, off-ramps, turn lanes and traffic signals.

4.6 EPISODE SELECTION

The first step in episode selection is to identify the meteorological conditions associated with recent CO events. Since there have been very few CO exceedances in recent years, a screening analysis was performed to identify enough days with relatively high CO concentrations to provide a statistical sample. El Paso data from 1995-2004 was screened to identify days with 8-hour CO concentrations greater than 75% of the standard (CO > 6.75 ppm).

A representative monitor was needed near the Cordova/Paisano intersection to reflect the factors that influence CO concentrations in the area. Since CO events appear to be terminated by fresh air flowing down the river valley, the Ascarate Park monitor (CAMS 37) was selected because it is downwind of the Cordova/Paisano intersection and because it has experienced some of the higher CO events during recent years.

This screening process identified 15 days with relatively high CO concentrations at the Ascarate Park monitor. Table 4-1: *Recent Carbon Monoxide Events (8-hour CO Concentrations > 6.75 ppm)* depicts the days chosen. Of these 15 days, the January 18, 2000, episode was selected for CO modeling because it was a relatively recent event (no events met the 6.75 ppm screening criteria in 2002 and 2003) and occurred on a non-holiday January weekday. Additionally, January 18th was one of only two events with relatively high CO readings at both the Ascarate Park and Chamizal monitors, the two monitors nearest the International Bridge.

Table 4-1: Recent Carbon Monoxide Events (8-hour CO Concentrations > 6.75 ppm)

Site Name	Date	8-Hr CO (ppm)	1-Hr CO (ppm)	Time (MST)
Ascarate Park Southeast (C37)	Thu 10/21/1999	8.63	11.6	21:00
Ascarate Park Southeast (C37)	Tue 12/28/1999	7.66	10.7	22:00
Ascarate Park Southeast (C37)	Wed 1/5/2000	7.01	15.0	19:00
Ascarate Park Southeast (C37)	Sun 1/16/2000	12.34	14.2	22:00
Ascarate Park Southeast (C37)	Mon 1/17/2000	7.85	13.0	00:00
Ascarate Park Southeast (C37)	Tue 1/18/2000	7.90	10.2	21:00
Ascarate Park Southeast (C37)	Wed 1/19/2000	6.98	15.6	21:00
Ascarate Park Southeast (C37)	Thu ½0/2000	8.56	11.3	23:00
Ascarate Park Southeast (C37)	Mon 3/13/2000	8.75	16.8	22:00
Ascarate Park Southeast (C37)	Sun 12/24/2000	9.18	11.6	21:00
Ascarate Park Southeast (C37)	Mon 12/25/2000	7.28	11.9	01:00
Ascarate Park Southeast (C37)	Sat 2/3/2001	7.46	16.1	21:00
Ascarate Park Southeast (C37)	Wed 1/7/2004	7.63	7.6	20:00
Ascarate Park Southeast (C37)	Wed 11/3/2004	7.47	7.5	21:00
Ascarate Park Southeast (C37)	Sat 11/6/2004	7.40	7.4	20:00
Average		8.15	12.0	

During the January 18th CO episode, the Ascarate Park monitor measured a peak 1-hour CO concentration of 10.2 ppm at 9:00 p.m. The Chamizal monitor measured a peak 1-hour CO concentration of 10.7 ppm at 8:00 p.m. During the period of peak traffic (5-6 p.m. CST) the measured temperature was 69.7 degrees Fahrenheit and the average relative humidity was 28.5% at the Chamizal (CAMS 41) monitor operated by the TCEQ, which is located less than one mile southwest of the Cordova/Paisano intersection. Winds during the episode were very light (averaging only one mile/hour during the CO event) and variable in direction.

4.7 ESTIMATION OF ONROAD MOBILE CO EMISSION RATES

Under contract to the TCEQ, the TTI developed both "Summer Weekday" and "Winter Weekday" onroad mobile source EIs for the 1999, 2002, 2005, 2008, 2011, 2014, 2015, and 2020 calendar years. In order to model the January 18, 2000, "hot spot" episode day, the January/Winter 1999 MOBILE6.2 input files used by TTI were modified for application in January 2000. These input files include the effects of the TSI I/M program which was operating in January 2000. For the purposes of developing emission rates, the MOBILE6.2 model allows the user to model either January 1 or July 1 of a particular calendar year

by specifying either 1 or 7, respectively, for the EVALUATION MONTH command. The January switch was used because CO events happen in the winter, and the episode selected was in January.

The temperature and humidity inputs for the hot spot analysis were designed to develop conservative (high side) estimates of emissions and were therefore based upon a climatological analysis rather than the actual measurements at the Chamizal monitor during the episode. Temperature was conservatively set at 30 degrees Fahrenheit since colder temperatures produce more CO. Relative humidity was set to 80 percent, which is not necessarily conservative but is representative for cold temperatures. The MOBILE6.2 model was used to estimate arterial, freeway, and idling emission rates. The average arterial and freeway speeds modeled were 40 and 50 mph, respectively. In order to calculate the idling emission rates, MOBILE6.2 was run at an average arterial speed of 2.5 mph, then the gram/mile output was multiplied by 2.5 mph to obtain gram/hour idling emission rates. This approach is recommended in Section 4.4.4, Page 43 of the August 2004 *Technical Guidance on the Use of MOBILE6.2 for Emission Inventory Preparation.*

The MOBILE6.2 AGGREGATED OUTPUT command was used in conjunction with the DATABASE OUTPUT option to obtain CO emission rates for each of the 28 vehicle types. Finally, a composite or "fleet wide" emission rate was obtained by weighting the individual emission rates by the relative VMT contribution of each vehicle type to the overall VMT total for the 5-6 p.m. time period from the TTI "Winter Weekday" analysis for 1999.

Mexican vehicle emissions were calculated separately. The same temperature, humidity, and average speed inputs referenced above were used to run the June 5, 2003, draft version of MOBILE6.2-Mexico, which is being developed by Eastern Research Group (ERG) under contract to both the Western Governor's Association and the Binational Advisory Committee. Greater detail on use of this model can be found in an October 31, 2003, report entitled *MOBILE6-Mexico Documentation and User's Guide*. Various default inputs recommended in this report were followed for estimating emission rates from Mexican vehicles.

For the purposes of modeling the future case of January 2015, similar MOBILE6.2 inputs were used as described above. Other than the obvious calendar year change, the I/M program modeled for the 2015 future case was the June 15, 2005, proposed OBD I/M program instead of the TSI program which was modeled for the 2000 base case. All of the MOBILE6.2 and MOBILE6.2-Mexico input, output, reference, and spreadsheet files used for this analysis are provided in a compressed electronic file as Appendix D: *Emission Inventory Calculations* to this document. The spreadsheets were intentionally structured so that final weighted emission rates could be estimated if the user wishes to determine the effects of alternate scenarios for temperature, humidity, average speed, and Mexican vehicle contribution.

4.8 CAL3QHC MODELING

The EPA has approved CAL3QHC as a screening tool for the prediction of CO at roadway intersections. The CAL3QHC model has components based upon the California Line Model version 3 (CAL3) which calculates dispersion from line sources. CAL3QHC also has a queuing component (Q) for hot spot calculations (HC). This SIP revision includes CAL3QHC modeling with realistic traffic volumes and conservative emissions and meteorological assumptions for one of the largest intersections in El Paso.

Input variables and parameters for this screening analysis are described in the *User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near*

Roadway Intersections (EPA-454/R-92-006 Revised). The CAL3QHC input and output file are included as Appendix E: *CAL3QHC Calculations for Base Case* to this SIP revision. The key inputs to this model are summarized here. The Cordova/Paisano link geometry is the same as used in the *El Paso Carbon Monoxide Modeling Report: Section 818 Demonstration* (1995). Traffic volume through the Cordova/Paisano interchange was provided by City of El Paso staff and is included as Appendix F *CAL3QHC Calculations for Future Case*. Traffic counts from 6 p.m. on a Friday evening (April 22, 2005) were used as representative of peak rush hour values. Signal phase information (total signal time and red time for different intersection links, for example) also came from the city.

Mobile emissions factors were calculated by MOBILE6.2 for an El Paso specific fleet distribution as well as for a Mexican fleet. Due to the very close proximity of the Cordova/Paisano intersection to the U.S.-Mexico border, a conservative 50/50 split in VMT contribution from U.S. and Mexican vehicles was assumed. Consequently, the final CO emission rates that were input into CAL3QHC model were weighted toward the higher emissions associated with the older Mexican fleet.

Conservative meteorological assumptions were also incorporated into the CAL3QHC modeling. Ambient temperatures were set to 30 degrees Fahrenheit. This temperature is close to the average low temperature for January and well below the actual temperature for the episode day. It is also consistent with the low temperature scenario submitted in 1995.

Wind speeds of 1 meter per second (m/sec) (2.2 mph) were assumed, blowing variously from all directions in five degree increments. According to the User's Guide, CAL3QHC is not validated for windspeeds below the 1 m/sec threshold. Likewise, a more conservative mixing height of 100 meters is used rather than the default of 1000 meters. The default stability class of "E" was used for the transition between neutral conditions at dusk to the much more stable conditions occurring in the evening and early morning hours.

4.9 RESULTS

The maximum 1-hour value calculated for CO for the current case in this screening analysis was 11.5 ppm based upon the conservative assumptions described above. This value is consistent with the maximum CO measured during the episode at the Chamizal and Ascarate Park monitors.

A persistence factor derived from the ratio of peak 8-hour average to peak 1-hour average was used to convert this 1-hour value to an 8-hour estimate. Using the persistence factor of 0.677 based upon data from the Ascarate Park monitor, the 8-hour concentration predicted from this screening was 7.8 ppm, which is below the 9 ppm 8-hour NAAQS for CO.

For the future case (2015) analysis, the traffic was increased according to the traffic demand modeling and the emissions were adjusted to account for the newer fleet and I/M program upgrades. The same conservative emissions and meteorological factors were used. In the future case, the 1-hour CO concentration was 3.2 ppm. The same persistence factor was used to convert the 1-hour concentration to an 8-hour average. The future case predicted CO concentration was 2.2 ppm, well below the 8-hour NAAQS for CO.

Table 4-2: El Paso Modeled Ascarate Park CO Hotspot Concentration

Modeled Carbon Monoxide	1- Hour Concentration (ppm)	1 Hour - 8 Hour Persistence Factor	8-Hour Concentration (ppm)
Base Case	11.5	.677	7.8
Future Case	3.2	.677	2.2

4.10 CONCLUSION

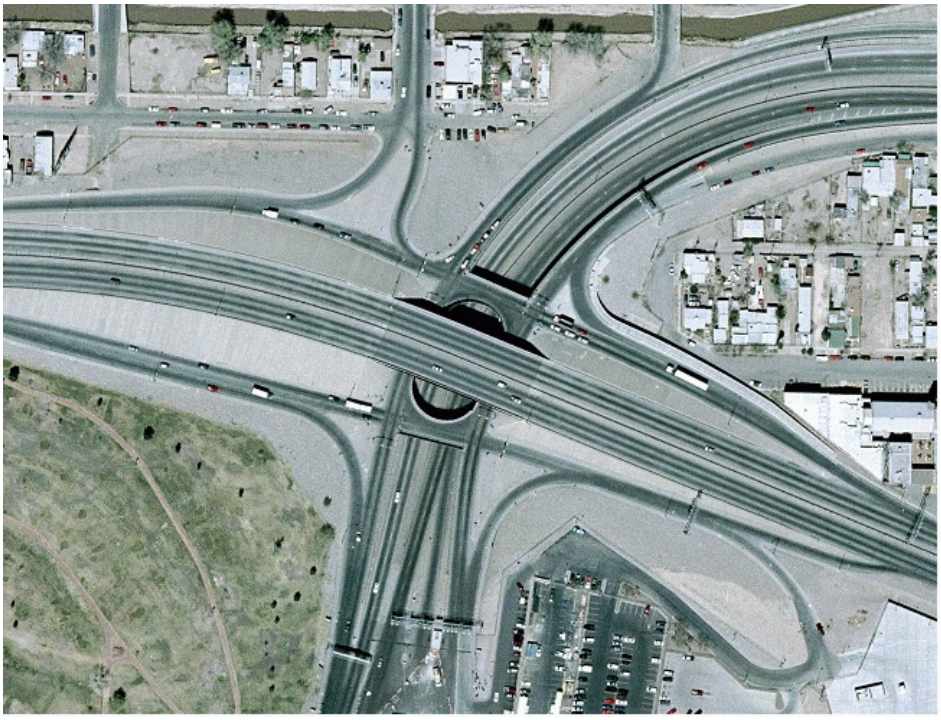
This analysis confirms the current CO concentrations and the trend line established by recent ambient air quality monitoring in the El Paso area. There has been a steady decline in CO levels and the El Paso area is now in compliance with the federal standard for CO.

Using EPA-approved modeling procedures and conservative methodology for the current case, the hot spot analysis indicates a maximum 8-hour CO concentration of 7.8 ppm which is below the 9 ppm federal 8-hour standard.

A similar analysis was conducted for the 2015 future case. Based on the same conservative analysis, the 8-hour CO concentration at the Cordova/Paisano intersection is expected to be 2.2 ppm, again below the federal standard.

The improvement in air quality in the El Paso area may be attributed to the combination of a newer fleet, oxygenated fuels and the TSI I/M program. The existing I/M program will be upgraded in 2007 by the addition of an OBD testing component. As a result of this upgrade, the air quality in the El Paso area should continue to improve in the foreseeable future.

Figure 4-1: Photograph of Cordova/Paisano Intersection



CHAPTER 5: MAINTENANCE PLAN

5.1 MAINTENANCE PLAN GENERAL

A major component of this redesignation request is the maintenance plan, which must demonstrate that the CO standard will be attained for at least ten years from the date of EPA plan approval. Under this plan, El Paso will demonstrate maintenance through the year 2015. The maintenance demonstration consists of a comparison between the baseline EI (2002 seasonal) and the projected periodic EIs through the year 2015 taking into consideration growth in VMT, the economy, and population. Table 2-1 presents the projected emissions by category through 2015. The projected EIs show emissions in 2015 are expected to be below the baseline EI.

The TCEQ is required to complete and submit a revised maintenance plan to EPA eight years after EPA approves this redesignation request. This updated demonstration must show that the CO standard will be maintained for an additional ten years. As with this initial 10-year plan, the second 10-year plan will be developed considering the latest emission factors, methodologies, and modeling techniques. The most current information on expected population and industrial growth, and all planned or reasonably anticipated transportation projects, plans, and programs will be accounted for in the revised maintenance demonstration.

5.2 ATTAINMENT INVENTORY

An EPA memorandum dated September 4, 1992, entitled *Procedures for Processing Requests to Redesignate Areas to Attainment,* directs states to prepare an EI that is representative of attainment and includes the emissions during the time period associated with the monitoring data showing attainment. This inventory is referred to as the attainment inventory. The year 2002 was selected as the base year for El Paso CO redesignation. El Paso's CO monitored data for 2002 shows the area was in attainment of the NAAQS as depicted in Table 3-1 and Figure 3-1. Table 5-1: *El Paso County CO 2002 Baseline Emissions Inventory* depicts El Paso County CO emissions in 2002 by source type in tons per day.

Table 5-1: El Paso County CO 2002 Baseline Emissions Inventory

Point (tpd)	Area (tpd)	Nonroad Mobile (tpd)	Onroad Mobile (tpd)	Totals (tpd)
4.67	16.42	45.90	360.34	427.33

5.3 MAINTENANCE DEMONSTRATION

EPA guidance allows for a state to demonstrate maintenance of a NAAQS by showing that future projected emissions are less than or equal to the attainment year inventory. The following paragraphs discuss the projected CO inventories for 2005, 2011, and 2015. The year 2015 represents the required 10 years for a maintenance demonstration. The years 2005 and 2011 were examined to determine inventory trends between 2002 and 2015.

5.3.1 Projected Emission Inventories for 2002, 2005, 2011, 2015

To demonstrate that the maintenance plan will prevent any exceedance of the NAAQS over the required time period until 2015, the projected CO EI for 2011 and 2015 were compared with the El Paso area's 2002 attainment inventory. As presented in Table 2-1, the projected emissions inventories for 2011 and 2015 are well below the 2002 baseline inventory. The projected 2015 carbon monoxide emission inventory is 314.40 tpd of carbon monoxide per winter day, 26.4 percent below the 2002 attainment inventory of 427.33 tpd.

5.3.2 Point and Area Source Control Strategies

The maintenance plan and SIP do not include any new control strategies for point or area sources. Therefore, only emissions source growth was considered when the CO emission projects for maintenance years were developed.

5.3.3 Onroad Source Control Strategies

This maintenance plan includes two TCEQ-established strategies to control emissions from onroad mobile sources: the oxygenated fuels program and an I/M program.

Federal Emission Standards

The FMVECP has dramatically reduced CO emissions through a continuing process of requiring manufacturers to produce new vehicles that meet tighter and tighter emission standards. As older, more polluting vehicles are replaced with newer vehicles, CO emission in the El Paso area will continue to decline.

Oxygenated Fuel Program

The El Paso Oxygenated Fuel Program is designed to help reduce CO emissions from the cold starts of motor vehicles during the winter months. Oxygenated fuel is conventional gasoline "splash blended" with an oxygenate such as methanol, ethanol, MTBE, ETBE, or TAME to achieve a minimum oxygen content of 2.7 percent oxygen by weight. Currently, both ethanol and MTBE are used as oxygenates in El Paso.

The 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.

All gasoline storage, refining, and blending facilities; gasoline terminal and bulk plants; and gasoline transporters affected by this section are required to register with the commission and the El Paso City-County Health District. The owner or operator of each affected facility must provide the following information to the commission and must update this information, as necessary, by September 1 of each year:

(1) company name, mailing address, local street address, and telephone number;
(2) name and title of the company's chief executive officer and a local contact;
(3) type of facility;
(4) commission account numbers, if applicable; and
(5) description of the affected operation.

All facilities affected by this section must maintain complete and accurate records for at least two years and make such records available to representatives of the commission, EPA, or local air pollution agency having jurisdiction in the area upon request. The information in the records shall include, but shall not be limited to, the following:

(1) for refiners/importers of oxygenated gasoline,

(A) copies of all results of tests for oxygen content performed on batches of gasoline prior to transfer. For purposes of this rule, a batch of gasoline is considered any quantity greater than one gallon;

(B) copies of all bills of lading or transfer documents for each batch; and

©) documents stating whether or not shipments of gasoline to any facility in a control area for use during a control period were oxygenated or non-oxygenated and stating oxygen content by weight of the gasoline, type of oxygenate used, and oxygenate content by volume.

(2) for blenders, gasoline terminals, and bulk plants,

(A) copies of all results of tests for oxygen content performed on batches of gasoline prior to transfer, or records of automated blending operations;

(B) copies of all documents stating the quantity and oxygen content of the gasoline received and the type of oxygenate received by the facility; and

©) copies of all documents stating the quantity of gasoline shipped, whether gasoline shipments from the facility were oxygenated or non-oxygenated, and the type of oxygenate used.

(3) for gasoline transporters,

(A) copies of all documents stating the quantity of gasoline received by the transporter, whether the gasoline is oxygenated or non-oxygenated, and the type of oxygenate used; and

(B) copies of all bills of lading or transfer documents for each batch.

(4) for retailer and wholesale purchaser-consumer,

(A) copies of all documents stating the quantity of gasoline received by the facility, whether the gasoline is oxygenated or non-oxygenated, and the type of oxygenate used; and

(B) copies of all bills of lading or transfer documents for each batch.

The oxygen content of gasoline at facilities affected by this section must be determined by the following test methods:

(1) gasoline sampling methodology described in 40 CFR, Part 80, Appendix D;

(2) American Society for Testing and Materials Method D4815 for the control periods beginning in 1992 and thereafter;

(3) EPA Oxygenate Flame Ionization Detector Test Method; or

(4) other test methods approved by EPA beginning in 1995 and thereafter.

Each gasoline pump at a retail outlet from which oxygenated gasoline is dispensed must display a legible

and conspicuous label on which either the statement in paragraph (1) or the statement in paragraph (2) below is printed in 36-point bold type in a color contrasting with the intended background. This label must be placed so it is clearly legible from each side of the pump from which fuel can be dispensed.

(1) A label on which the following statement is printed shall be displayed only during the period of October 1 through March 31: "The gasoline dispensed from this pump is oxygenated and will reduce carbon monoxide pollution from motor vehicles."

(2) A label on which the following statement is printed shall be displayed during the period of October 1 through March 31 and may be displayed at any other time up to year-round: "From October 1 through March 31, the gasoline dispensed from this pump is oxygenated and will reduce carbon monoxide pollution from motor vehicles."

The sale or distribution of non-oxygenated gasoline in a control area during the control period is allowed only under the following conditions:

(1) such gasoline is segregated from oxygenated gasoline;

(2) the documents that accompany such gasoline are clearly marked as "non-oxygenated gasoline, not for sale to ultimate consumers in a control area," and shall accompany the gasoline at all times;

(3) the product is clearly labeled as "blendstock," "export," "storage," or a similar statement to prohibit improper distribution; and

(4) the non-oxygenated gasoline is in fact not sold or dispensed to ultimate consumers during the control period in the control area.

Vehicle Inspection and Maintenance (I/M) Program
The El Paso I/M program has used TSI since January 1, 1987. The program has been effective at reducing CO emissions.

Beginning January 1, 2007, in El Paso County, gasoline powered vehicles model year 1995 and older will continue emissions testing using TSI and model year vehicles 1996 and newer will be tested using OBD. Additionally, all vehicle emissions inspection stations in the El Paso program area will offer both tests.

Applicability
All gasoline-powered vehicles two to 24 years old, registered and primarily operated in the I/M program area (El Paso County), will be required to undergo an annual emissions test in conjunction with the annual safety inspection. Emissions tests are conducted at public safety inspection stations. The program does not apply to vehicles registered as antique or parade vehicles, motorcycles, or slow moving vehicles, as defined by Section 547.001, Transportation Code.

Vehicle Emissions Inspection Requirements
OBD testing will be implemented for 1996 model year and newer vehicles. The OBD system monitors emissions performance components to ensure that the vehicle runs as cleanly as possible. If a problem is detected, the OBD system illuminates a "Check Engine" or "Service Engine Soon" warning light on the vehicle's instrument panel. The system will store information about the detected malfunction so that a

repair technician can accurately diagnose and fix the problem.

Model year 1996 and newer vehicles are required to meet EPA specifications for collection and transfer of emissions control data during each driving cycle. The Diagnostic Link Connector (DLC) cable on the emissions test analyzer is connected to the DLC located in the vehicle. When the vehicle's OBD system has checked the emissions control systems and detected a problem with the vehicle, this information is stored in the vehicle's on-board computer. The OBD test transmits this data to the analyzer and the vehicle will fail the inspection. The Vehicle Inspection Report will indicate which emissions control systems were checked and display the description of the fault codes retrieved from the vehicle's computer.

The TSI testing program will be used to test 1995 model year and older vehicles. The TSI test uses a tailpipe probe exhaust gas analyzer to measure hydrocarbons and carbon monoxide while the vehicle is idling at a low and a high rate.

Control Requirements
Affected vehicles are required to comply with the air pollution emission control requirements included in the annual vehicle safety inspection administered by DPS, the vehicle emissions I/M requirements, and the onroad emissions test requirements. Federal government agencies must require vehicles driven by federal employees on property under the jurisdiction of the agency and located in El Paso County to comply with the vehicle emissions requirements. If a vehicle fails the emissions inspection test, the failure will be indicated on the Vehicle Inspection Report. The vehicle can be returned to the same inspection station within 15 days for a free re-test. A passing emissions inspection test (or test waiver) is required in order to receive a safety inspection sticker. Test on resale is required for all vehicles from counties without I/M programs that are sold or registered in the El Paso County. The DPS conducts onroad testing, also known as remote sensing, which is used to identify high emitting vehicles. Governmental and quasi-governmental agencies that fall outside the normal registration or inspection process must comply with all vehicle emissions I/M program testing requirements in El Paso County.

Waivers and Extensions
The following waivers and extensions as specified in 37 TAC §23.93, relating to Vehicle Emissions Inspection Requirements, will be available to all qualifying vehicle owners/operators through the Texas Department of Public Safety (DPS):

- Individual Vehicle Waiver – In order to address unusual cases where a vehicle cannot meet emissions standards, an Individual Vehicle Waiver may be issued to a vehicle owner whose vehicle has failed its initial emissions inspection and re-inspection and in which at least $600 in emissions related repairs have been performed.

- Low Mileage Waiver – A Low Mileage Waiver may be issued to a vehicle owner whose vehicle has failed both its initial emissions inspection and the re-inspection and in which at least $100 in emissions related repairs have been performed. The vehicle should have been driven less than 5,000 miles in the previous inspection cycle and anticipate being driven fewer than 5,000 miles before the next required safety inspection.

- Parts Availability Time Extension – A Parts Availability Extension may be issued for 30, 60, or 90 days to a vehicle owner whose vehicle fails the initial emission inspection and needs time to locate necessary vehicle emissions control parts.

- Low Income Time Extension – A Low Income Time Extension may be issued to a vehicle owner whose vehicle has failed its initial inspection and re-inspection, and the applicant's adjusted gross income is at or below the federal poverty level.

Prohibitions
The adopted rule prohibits misuse of vehicle emissions testing documents or certifications.

Equipment Evaluation Procedures for Vehicle Gas Analyzers
Guidelines have been established for approval of exhaust gas analyzers or analyzer system for use in the I/M program.

Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program (LIRAP)
Counties that implement a vehicle emissions inspection program may elect to implement the Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program (LIRAP). Vehicle owners/operators whose vehicles fail the emissions inspection and who meet eligibility requirements may receive assistance through this program. The assistance can pay for emissions related repairs or be used toward a replacement vehicle. The assistance program is funded through a portion of the emissions inspection fee. The program is administered through a grant contract between the TCEQ and each participating county. By statute, no more than 5 percent of the funds provided to each county may be used for the administrative costs of the program. Assistance is limited to no more than $600 for repairs or $1,000 toward replacement of the vehicle.

In order to be eligible for LIRAP, the vehicle owner's total family income must be less than or equal to twice the amount of the Federal Poverty Guidelines for designated family units. (As of September 2004, $24,980 for a family of two and $37,700 for a family of four). A vehicle is eligible for repair assistance if the emissions inspection has been failed within 30 days prior to application, is currently registered, and has been registered in the program area for the two years preceding application, and it passes the safety inspection portion of the test. Repairs must be performed at a DPS-recognized repair facility. Vehicle retirement eligibility requirements are the same as for vehicle repairs, except the vehicle must have passed a safety inspection within 15 months of the application.

Emissions Fee
The emissions portion of the test fee set by the TCEQ will remain $14.00. However, if the El Paso County Commissioners Court elects to participate in LIRAP, the cost that motorists will pay for emissions tests will increase by $2.00, for an emissions test fee not to exceed $16.00 in El Paso County. The safety inspection fee is $12.50, so the combined inspection cost will not exceed $28.50. Testing equipment costs estimated at $15,000 per station, are recouped through emission test fees. The equipment includes the TSI, the OBD analyzer testing system, gas cap tester, secured computer hard-drive, printer, and 2-D Bar Code scanner.

Since onroad sources are a major CO contributor, adherence to transportation conformity budgets is also considered a key element of the maintenance plan.

5.3.4 Nonroad Source Control Strategies

For nonroad sources, this maintenance plan relies on CO reductions anticipated from Phase 1 of the Federal Spark Ignition Small Engine Rule which are incorporated into the calculation algorithm of the

EPA's National Nonroad Emissions Model (NNEM), version 2.2.

5.4 MONITORING NETWORK

To verify that the CO nonattainment area remains in attainment, the TCEQ will continue to operate an appropriate air monitoring network. The air monitoring results will reveal any changes in the ambient air quality, as well as assist the TCEQ in determining whether or not it is necessary to implement any contingency measures. The state will continue to work with the EPA through the air monitoring network review process, as required by 40 CRF Part 58, to determine: 1) the adequacy of the CO monitoring network; 2) if additional monitoring is needed; and 3) when monitoring can be discontinued. Air monitoring data will continue to be quality assured according to the requirements in the EPA regulations.

5.5 CONTINGENCY PLAN

Section 175A of the FCAA requires that maintenance plans include contingency provisions. The purpose of the contingency provisions is to assure that any violation of the NAAQS that occurs after the redesignation of an area to attainment will be corrected promptly.

5.5.1 Contingency Measure Trigger

If air quality monitoring data indicate that the CO NAAQS was violated (that is, more than one reading at the same monitor in one calendar year at or above 9.5 ppm) , the TCEQ will first analyze available data regarding the air quality, meteorology, international transport and related activities in the area to determine the cause of the violation. If this analysis determines that the violation was caused by actions than cannot be controlled by regulatory actions within the jurisdiction of the TCEQ, such as emissions from Mexico, the TCEQ will notify EPA of the findings and request EPA actions to promptly correct the CO violation. If, after this analysis is complete, it is determined that the violation was caused by actions that can be controlled by regulatory actions, the TCEQ will develop measures that will reduce the CO levels to the extent necessary to comply with the NAAQS.

5.5.2 Contingency Measures

On December 4, 2002, the commission adopted a revision to the I/M SIP. This revision added OBD testing to the low-enhanced I/M program in El Paso County as a contingency measure to be implemented in the event such measures became necessary to maintain attainment of the CO NAAQS in the El Paso area. On October 26, 2005, the commission adopted revisions to the I/M program rules and SIP that added OBD testing as an active control measure to the established I/M program described in Section 5.3.3 and withdrew OBD testing as a contingency measure from the I/M SIP. This contingency measure is being replaced by the commitment described below.

Since the implementation of potential contingency measures would not be expected to take place until well in the future, the identification of specific detailed measures is not practical. The most appropriate contingency measures may be significantly different from the measures mentioned below due to technological, societal, economic, and political factors that are impossible to predict.

The following control measures will be analyzed:

- Vehicle Idling Restrictions: limiting the amount of time vehicles are allowed to operate at idle, thereby reducing the amount of carbon monoxide produced during extended idling operations.

- Improved Vehicle I/M: limiting the carbon monoxide emission through the use of future mobile source testing technology.

- Improved Traffic Control Measures reducing the number of vehicles and the amount of time vehicles spend tied-up in traffic congestion.

These measures, or other strategies that will reduce the CO levels to the extent necessary to comply with the NAAQS, will be proposed and implemented within 18 months of the commission publishing notification in the *Texas Register* of its determination that contingency action is necessary to attain the NAAQS for CO.