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16. Abstract  This report documents the mobile source emissions estimation methodology used for the conformity analysis of the Transportation Improvement Program (TIP) and the metropolitan transportation plan for El Paso. Included in the report is a brief overview of the emission estimation methodology and the 24-hour traffic assignments used in the analyses; the methods used to estimate the seasonally adjusted time-of-day vehicle miles of travel and associated operating speeds; the estimation of the emission rates using the EPA's MOBILE5a program; and brief outlines of the method used to develop the emission estimates using the MOBILE5a emission rates and comparisons of the emission estimates for the Build and No Build options. An appendix presents the emission rates developed for conformity analysis.					
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**DEVELOPMENT OF EMISSION ESTIMATES FOR THE  
CONFORMITY ANALYSIS OF THE EL PASO FY-94 TIP**

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**Research Report 1375-2  
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**TEXAS TRANSPORTATION INSTITUTE  
The Texas A&M University System  
College Station, Texas**



## **IMPLEMENTATION STATEMENT**

This report documents for the record the procedures used by the Texas Transportation Institute in support of the FY-94 conformity analysis for El Paso. The findings of the conformity analysis were previously submitted by the Metropolitan Planning Organization and Texas Department of Transportation to the Federal Highway Administration. The software used for these procedures is described in Research Report 1279-2, "User's Guide for the Texas Mobile Source Emission Estimation Software: PREPIN, POLFAC5A, COADJ, IMPSUM, and SUMALL." No further implementation of the materials in this report is needed.

The purpose of this report is primarily to document procedures supporting State Implementation Plan submittals produced for and in cooperation with the Texas Natural Resource Conservation Commission. The State Implementation Plan-related materials being submitted to the Environmental Protection Agency by the Texas Natural Resource Conservation Commission are prepared in English units. Because this report is primarily to document procedures supporting State Implementation Plan submittals, English units have been used to maintain consistency.



## **DISCLAIMER**

The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the official views or policies of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation. Additionally, this report is not intended for construction, bidding, or permit purposes. George B. Dresser, Ph.D., is Principal Investigator for this project.





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## SUMMARY

### Emission Estimation Methodology

For the conformity analyses, a series of 24-hour assignments were performed for the El Paso region for the 1990 base year and for the Build and No-Build options for 1995, 1996, and 1999. Summer and/or winter mobile source emission estimates were developed for each of these assignments. These conformity analyses did not use TTI's IMPACT program to estimate mobile source emissions. Instead, a new series of programs (i.e., the POLFAC5A, PREPIN, and IMPSUM programs developed by TTI) were used. The following briefly describes the methodology and software used in developing the estimates.

A series of programs (developed by TTI to facilitate the application of EPA's MOBILE5a program for estimating mobile source emissions) was used for the conformity analyses. The three programs used to compute the mobile source emissions for the El Paso analyses are:

- PREPIN** The PREPIN program was developed for use in urban areas (such as El Paso) which do not have time-of-day assignments and speeds available for air quality analyses. The program inputs a 24-hour assignment and applies the needed seasonal adjustment factors. The time-of-day factors are applied to the seasonally adjusted 24-hour assignment results to estimate the directional time-of-day travel. The Dallas-Fort Worth speed models are used to estimate the operational time-of-day speeds by direction on the links. Special intrazonal links are defined, and the VMT and speeds for intrazonal trips are estimated. These VMT and speeds by link are subsequently input to the IMPSUM program for the application of MOBILE5a emission factors.
- POLFAC5A** The POLFAC5A program is used to apply EPA's MOBILE5a program to obtain the emission FACTORS (rates). The MOBILE5a emission factors are obtained for eight vehicle types and 63 speeds (i.e., 3 mph through 65 mph) for each vehicle type. Hence, there are 504 factors (i.e.,  $8 \times 63 = 504$ ) for each pollution type for each county. Three pollution types are computed: VOC, CO and NOx. Hence, for a given county there are 1,512 emission factors. These emission factors are output to an ASCII file for subsequent input to the IMPSUM program. POLFAC5A is applied for each time-of-day time period being used. These time-of-day emission factors are applied using the IMPSUM program to time-of-day VMT estimates by link.
- IMPSUM** The IMPSUM program applies the emission rates (obtained from POLFAC5A) and VMT mixes to the time-of-day VMT and speed estimates to estimate the emissions. The basic inputs to IMPSUM are:

1. Data specifying the number of counties in the region and their names.
2. Names of roadway types used in the study. These roadway types are used to summarize the emission results.
3. VMT mix by county and roadway type.
4. MOBILE5a emission factors developed using POLFAC5A by county.
5. Specification of units for reporting emissions (grams, pounds, or tons).
6. Abbreviated assignment results by link input for subject time period. PREPIN allows the user to estimate the VMT and speed on each link by time period. For each link, the following information is input to IMPSUM: county number, roadway type number, VMT on link, operational speed estimate, and link distance.

Using these input data, the VMT for each link is stratified by the eight vehicle types, and the MOBILE5a emission factors are applied to estimate the mobile source emissions for that link. The emissions for each county and emission type are reported by both roadway type and vehicle type (i.e., cross-classified by roadway type and vehicle type).

Using the PREPIN software, the El Paso 24-hour assignments were used to develop seasonally adjusted time-of-day AAWT VMT and speed estimates for four time-of-day periods:

Morning Peak Hour:	7:15 a.m. - 8:15 a.m.
Midday:	8:15 a.m. - 4:45 p.m.
Afternoon Peak Hour:	4:45 p.m. - 5:45 p.m.
Overnight:	5:45 p.m. - 7:15 a.m.

Separate time-of-day AAWT VMT and speed estimates were developed for the summer season and the winter season.

POLFAC5A was applied to develop the seasonal emission factors for each time-of-day period for each of the application years. The average temperature for the subject season and subject time-of-day period was an input to the POLFAC5A application of the MOBILE5a model. A separate 24-hour application of MOBILE5a was used to develop the diurnal emission rates.

Finally, IMPSUM was applied to estimate the emissions for each of the four time-of-day periods. The 24-hour diurnal estimates were computed using the 24-hour diurnal rates. The emission estimates for each of the four time-of-day periods and the diurnal estimates were summed to develop the final emission estimates.

## I. INTRODUCTION

This report documents the mobile source emission estimation methodology used for the conformity analysis of the FY-94 TIP for El Paso County. The remainder of this chapter provides a brief overview of the emission estimation methodology and the 24-hour traffic assignments used in the analyses. Chapter II describes the vehicle projections used in the analyses. Chapter III describes the methods used to estimate the seasonally adjusted time-of-day vehicle miles of travel (VMT) and associated operating speeds. Chapter IV discusses estimating emission rates using the EPA's MOBILE5a program. Chapter V briefly outlines the method used to develop the emission estimates using the MOBILE5a emission rates and compares the emission estimates for the Build and No-Build options.

### OVERVIEW OF EMISSION ESTIMATION METHODOLOGY

For the conformity analyses, a series of 24-hour assignments was performed for the El Paso region for the 1990 base year and for the Build and No-Build options for 1995, 1996, and 1999. Summer and/or winter mobile source emission estimates were developed for each of these assignments. These conformity analyses did not use TTI's IMPACT program for estimating mobile source emissions. Instead, a new series of programs (i.e., the POLFAC5A, PREPIN, and IMPSUM programs developed by TTI) was used for these analyses. The methodology and software used in developing the estimates is described below.

A series of programs (developed by TTI to facilitate the application of EPA's MOBILE5a program in estimating mobile source emissions) was used for the conformity analyses. The three programs used for computing the mobile source emissions for the El Paso analyses are:

**PREPIN** The PREPIN program was developed for urban areas (such as El Paso) where time-of-day assignments and speeds are not available for air quality analyses. The program inputs a 24-hour assignment and applies the needed seasonal adjustment factors. The time-of-day factors are applied to the seasonally adjusted 24-hour assignment results to estimate the directional time-of-day travel. The Dallas-Fort Worth speed models are used to estimate the operational time-of-day speeds by direction on the links. Special intrazonal links are defined, and the VMT and speeds for intrazonal trips are estimated. These VMT and speeds by link are subsequently input to the IMPSUM program for the application of MOBILE5a emission factors.

**POLFAC5A** The POLFAC5A program is used to apply the EPA's MOBILE5a program to obtain the emission FACTORS (rates). The MOBILE5a emission factors are obtained for eight vehicle types and 63 speeds (i.e., 3 mph through 65 mph) for each vehicle type. Hence, there are 504 factors (i.e.,  $8 \times 63 = 504$ ) for each pollution type for each county. Three pollution types are computed: VOC, CO, and NOX. Hence, for a given county there are

1,512 emission factors. These emission factors are output to an ASCII file for subsequent input to the IMPSUM program. The POLFAC5A program is applied for each time-of-day time period being used. These time-of-day emission factors are applied using the IMPSUM program to time-of-day VMT estimates by link.

**IMPSUM** The IMPSUM program applies the emission rates (obtained from POLFAC5A) and VMT mixes to the time-of-day VMT and speed estimates to estimate the emissions. The basic input to IMPSUM are:

1. Data specifying the number of counties in the region and their names.
2. Names of roadway types used in the study. These roadway types are used to summarize the emission results.
3. VMT mix by county and roadway type.
4. MOBILE5a emission factors developed using POLFAC5A by county.
5. Specification of the units for reporting emissions (grams, pounds, or tons).
6. Abbreviated assignment results by link input for the subject time period. The PREPIN program allows the user to estimate VMT and speed on each link by time period. For each link, the following information is input to IMPSUM: county number, roadway type number, VMT on link, operational speed estimate, and link distance.

Using these input data, the VMT for each link is stratified by the eight vehicle types and the MOBILE5a emission factors are applied to estimate the mobile source emissions for that link. The emissions for each county and emission type are reported by both roadway type and vehicle type (i.e., cross-classified by roadway type and vehicle type).

Using the PREPIN software, the El Paso 24-hour assignments were used to develop seasonally adjusted time-of-day AAWT VMT and speed estimates for four time-of-day periods:

- |    |                      |                       |
|----|----------------------|-----------------------|
| 1. | Morning Peak Hour:   | 7:15 a.m. - 8:15 a.m. |
| 2. | Midday:              | 8:15 a.m. - 4:45 p.m. |
| 3. | Afternoon Peak Hour: | 4:45 p.m. - 5:45 p.m. |
| 4. | Overnight:           | 5:45 p.m. - 7:15 a.m. |

Separate time-of-day AAWT VMT and speed estimates were developed for the summer and winter seasons.

The POLFAC5A program was applied to develop the seasonal emission factors for each time-of-day period for each of the application years. The average temperature for the subject season and subject time-of-day period was an input to the POLFAC5A application of the MOBILE5a model. A separate 24-hour application of MOBILE5a was used to develop the diurnal emission rates.

Finally, the IMPSUM program was applied to estimate the emissions for each of the four time-of-day periods. The 24-hour diurnal estimates were computed using the 24-hour diurnal rates. The emission estimates for each of the four time-of-day periods and the diurnal estimates were summed to develop the final emission estimates.

## 24-HOUR TRAFFIC ASSIGNMENTS

The 24-hour capacity restrained traffic assignments were developed by the Transportation Planning and Programming Division of TxDOT in a cooperative effort with the El Paso District Office of TxDOT and the El Paso MPO. Table I-1 summarizes the 24-hour highway assignments used in these analyses.

**Table I-1  
24-Hour Traffic Assignments**

<b>Traffic Assignment</b>	<b>Trip Table Year</b>	<b>Network Year</b>
1. 1990 Base Year	1990	1990
2. 1995 Build Option	1995	1995
3. 1995 No-Build Option	1995	1993
4. 1996 Build Option	1996	1996
5. 1996 No-Build Option	1996	1993
6. 1999 Build Option	1999	1999
7. 1999 No-Build Option	1999	1993

The travel demand models were developed and validated for the 1987 base year. The 1990 trip table was estimated by factoring the 1987 trip table to represent 1990 conditions. The 1996

trip table was developed by applying the travel demand models using forecast 1996 demographics. The 1995 trip table was estimated by factoring the 1996 trip table by 0.97 to represent 1995 travel. The 1999 trip table was also developed using a factoring approach.

These analyses used five highway networks (i.e., the 1990, 1993, 1995, 1996, and 1999 networks). The 1993 network was used to represent the No-Build option for the conformity analyses.



## II. PROJECTION OF VEHICLE REGISTRATIONS

The projection of vehicle registrations for use in EPA's MOBILE model program was done using a modified version of the methodology discussed in EPA's "Procedures for Preparing Emissions Projections" (pp. 32-39). The methodology suggested by EPA uses average growth rates for projecting estimates of new vehicle registrations and survival rates for estimating the number of older vehicles that will be registered in future years. The methodology used in this report is similar in that estimates of the number of older vehicles registered in future years are based on the use of scrappage rates which are also the basis for estimating survival rates. The primary difference in the methodology used in this report and the method suggested by EPA is the method of estimating the number of new vehicle registrations for future years. The input data and the methodology are discussed in the following sections.

### INPUT DATA

The input data consisted of the number of registered vehicles by age and type of vehicle (i.e., model year), survival or scrappage rates by age and type of vehicle, and population estimates for each county for 1990 through 2020. The registration data for each county came from TxDOT, Motor Vehicle Registration Division. This historical information was used to develop estimates of new vehicle registrations (by county) and estimates of the percentage of registered vehicles by type of vehicle and model year.

The data used in this analysis were the 1989 through 1992 vehicle registrations by model year for each of the counties being analyzed. The registration data for each of these years were data as of September 1 for each year. The 1992 registered vehicles were used as the base year from which subsequent projections were made.

Local data on survival/scrappage rates were not available. Data from the "Study of Vehicle Scrappage Rates," Oak Ridge National Laboratory, August 1990, were used for automobiles, light duty trucks, and heavy duty trucks. Scrappage rates were estimated for motorcycles using data from the "1991 Motorcycle Statistical Annual," Motorcycle Industry Council, Inc.

### METHODOLOGY

The first step was to estimate the total new vehicle registrations in 1992 for each county because the registration data available for 1992 were data as of September 1, 1992. An estimate of the average growth rate in new vehicle registrations between the years 1986 through 1991 was first developed. Since registration data were available for vehicles by type and model year only for 1989 through 1992, new vehicle registrations for 1986, 1987, and 1988 were estimated using scrappage rates applied to the vehicle registration data for 1989. For example, in Harris County 138,384 1988 model automobiles were registered in 1989. Using the scrappage rate of 0.00441 for one-year-old vehicles, the number of 1988 automobiles registered in 1988 was estimated by

dividing 138,384 by  $1 - 0.00441$ . The result was an estimate of 138,997 1988 automobiles registered in 1988. Using the same method with scrappage rates for two-and three-year-old vehicles, estimates of new vehicle registrations were developed for 1986 and 1987. These estimates were then used to develop average growth rates in new vehicle registrations for the five years prior to 1992. The average growth rate was then used to estimate the number of 1992 vehicles registered in 1992.

Based on the number of new vehicles registered as of September 1 each year and the number which were registered as of the end of each year (from the next year's registration data), the percentage of new vehicles registered as of September 1 was computed for years 1989, 1990, and 1991. A second estimate of the number of 1992 vehicles that would be registered in 1992 was developed based on the average percentage of new vehicles registered as of September 1 applied to the number of 1992 vehicles registered as of September 1, 1992. The final estimate used for 1992 was the average of the two estimates. In estimating vehicle registrations, each type of vehicle was estimated individually.

The Comptroller of Public Accounts supplies vehicle registration data and population estimates for 1990, 1991, and 1992. Regression analyses were performed relating the total number of registered vehicles in a county and the percentage of vehicles by type of vehicle to the population in the county. Total registered vehicles was related directly to population while the percentage of vehicles in each class was related to the natural log of the population. Where 1989 data were available for registered vehicles, the 1989 population was estimated based on the 1990 through 1992 population estimates.

The 1989-1992 vehicle registration data were analyzed to develop estimates of the percentage change in vehicles between years which could be attributed to new vehicle registrations and the percentage which could be attributed to additions/deletions of older vehicles in the vehicle population. A regression analysis was performed on the percentage which could be attributed to new vehicles as a function of population change for each county. The resulting coefficients were applied to the projected population change in each county to estimate the percentage of vehicular growth (by type of vehicle) expected to be due to new vehicle registrations. In addition, a regression analysis was performed relating the growth in new vehicle registrations with the population change from 1989 to 1992.

Beginning with the vehicles registered in 1992 by model year, the scrappage rates were applied to estimate the number of vehicles which would be expected to be in operation (and therefore registered) in 1993. Specific rates were used for automobiles, motorcycles, light duty trucks, and heavy duty trucks. The result was estimates of the number of 1968 through 1992 model year vehicles expected to be registered in each county in 1993.

Using the estimated population for each county and the coefficients obtained from the linear regressions, an estimate of the total vehicles expected to be registered in each county was developed. The percentage of vehicles by type was then estimated using the coefficients obtained from the linear regressions. These estimates were used to develop control totals of the estimated number of registered vehicles for each county. The absolute change in the total number of

vehicles (by type) expected to be registered in each county was then estimated by summing the number of 1968 through 1992 vehicles determined to still be in operation in 1993 and subtracting the total from the estimated number of vehicles expected to be registered in the county in 1993 (based on the estimated total registered vehicles by type). The result was estimates of the number of new and older vehicles which would be registered in the county. The percentage of those vehicles which would be new vehicles was estimated using the regression coefficients computed earlier and applied to the projected population change from the prior year. Using the regression results which related the change in new vehicle registrations with the population change, a second estimate of the number of new vehicle registrations was computed. For automobiles (LDV), motorcycles (MC), and light duty gas trucks type one (LDGT1), the larger of the two estimates of new vehicle registrations was used. For light duty gas trucks type two (LDGT2), heavy duty gas trucks (HDGV), and heavy duty diesel trucks (HDDV), the two estimates were averaged. These seemed to produce the most realistic results in analyzing the final projections. The remaining older vehicles were distributed in the same proportion as the vehicles which had survived from the prior year. The final step was the conversion of the vehicles into percentages for input to EPA's MOBILE model.

Estimates for 1994 through 2007 were developed using the same methodology applied to each year in a sequential manner. The estimates were then converted to percentages by model year and placed in computer files for input to EPA's MOBILE model.

The total vehicle registration by county was projected by vehicle type for 1996 and 1999. The 1990 data were already available from TxDOT's Motor Vehicle Registration Division. These projections were calculated by each vehicle model year for the current year and the 19 previous years, with the last year including all of the vehicles in the older category. The older category includes all vehicles 21 years and older. The totals of all vehicle model years by vehicle type were determined and put into three tables. The original vehicle registration data from TxDOT was aggregated into six vehicle groups LDV, MC, LDGT1, LDGT2, HDDV, and HDGV. These six groups were then disaggregated into the eight MOBILE4.1 vehicle groups using the MOBILE4.1 default values to separate LDV into LDGV and LDDV, LDT1 into LDGT1 and LDDT, and El Paso County HDGV and HDDV vehicle registration data to separate HDV into HDGV and HDDV. The procedure used to group the classification counts are shown below:

LDV	100 passenger cars from TxDOT vehicle classification counts
LDGV	98 LDV (MOBILE4.1 default)
LDDV	2 LDV (MOBILE4.1 default)
LDT1	80 panel and pickup trucks from TxDOT vehicle classification counts
LDGT1	97 LDT1 (MOBILE4.1 default)
LDDT	3 LDT1 (MOBILE4.1 default)
LDGT2	20 panel and pickup trucks from TxDOT vehicle classification counts
	20 other 2-axle from TxDOT vehicle classification counts
HDV	80 other 2-axle, plus remaining truck classifications
HDGV	76.8 HDV (September 1, 1990 El Paso County Vehicle Registration data)
HDDV	23.2 HDV (September 1, 1990 El Paso County Vehicle Registration data)
MC	100 motorcycles and motor scooters from vehicle classification counts

The distribution of panel and pickup trucks between LDT1 and LDGT2 and other 2-axle

trucks between LDGT2 and HDV is based on the professional judgment of TxDOT traffic data collection staff. TxDOT vehicle classification count procedures do not distinguish between gas and diesel trucks.

This distribution was followed for each vehicle type in order to determine the number of vehicles that are LDGT1, LDGV, LDDV, and LDDT. All of the other numbers will stay the same in the table. This table determines the total number of vehicles registered by the eight vehicle types for 1990, 1996, and 1999.

**Table II-1  
Vehicle Estimates for El Paso County**

<b>VEHICLE TYPE</b>	<b>1990</b>	<b>1996</b>	<b>1999</b>
LDGV	263,357	292,347	309,563
LDGT1	77,242	85,330	90,122
LDGT2	5,944	5,893	5,923
HDGV	3,485	3,190	3,087
LDDV	5,375	5,966	6,318
LDDT	2,389	2,639	2,780
HDDV	1,083	833	747
MC	5,167	3,691	3,166

### III. ESTIMATION OF TIME-OF-DAY VMT AND SPEEDS

The time-of-day VMT and speed estimates for El Paso County were developed using the PREPIN program. PREPIN is one of a series developed by TTI to facilitate the application of EPA's MOBILE5a program in estimating mobile source emissions. PREPIN was developed for use in urban areas (such as El Paso) which do not have time-of-day assignments and speeds available for air quality analyses. The program inputs a 24-hour assignment and applies the needed seasonal adjustment factors. The time-of-day factors are applied to the seasonally adjusted 24-hour assignment results to estimate the directional time-of-day travel. The Dallas-Fort Worth speed models are used to estimate the operational time-of-day speeds by direction on the links. Special intrazonal links are defined, and the VMT and speeds for intrazonal trips are estimated. These VMT and speeds by link are subsequently input to the IMPSUM program for the application of MOBILE5a emission factors. A copy of the user's guide for this series of programs is provided in Appendix B.

For the conformity analyses, a series of 24-hour assignments was performed for the El Paso region for the 1990 base year and for the Build and No-Build options for 1995, 1996, and 1999. For a given application year and season, four applications of PREPIN are run to estimate the directional VMT and speeds for each of four time periods comprising the 24-hour period:

Morning Peak Hour:	7:15 a.m. - 8:15 a.m.
Midday:	8:15 a.m. - 4:45 p.m.
Afternoon Peak Hour:	4:45 p.m. - 5:45 p.m.
Overnight:	5:45 p.m. - 7:15 a.m.

For a given application of PREPIN for the El Paso conformity analyses, the following parameters and data were input to PREPIN:

- County table of equals
- Area type table of equals
- Seasonal adjustment factor
- Time-of-day factor
- Directional split estimates
- Time-of-day capacity factors
- Freeflow speed factors
- Coefficients for the Dallas-Fort Worth speed estimation model
- Assignment trip table
- Zonal radii data
- Capacity restrained assignment results

The remainder of this chapter discusses these key input data used in the El Paso PREPIN applications to prepare the time-of-day VMT and speed estimates. The primary output of PREPIN is a data set for the subject time period containing two records for each link (i.e., one record specifying the estimated time-of-day VMT and speed in the peak, or principal, direction and the second record specifying the estimated VMT and speed in the opposite direction). This data set

is subsequently input to IMPSUM which applies the MOBILE5a emission rates (developed using POLFAC5A to estimate the mobile source emissions for each link. Finally, SUMALL combines the time-of-day emission estimates and computes the 24-hour diurnal estimates to obtain the 24-hour emission estimates.

## **COUNTY SPECIFICATIONS**

PREPIN provides for processing an assignment comprised of up to eight counties. Various summaries are produced by county and for the entire region. For a given application, the counties are numbered sequentially starting with one. The county table of equals data input to PREPIN specifies the zone numbers contained in each county. In the case of El Paso, the region is comprised of only one county. Hence, all zones in the El Paso region are equated to county 1. Each link in the network is assigned an associated zone number. Using the link's associated zone number, the county within which the link is located is determined using this input data. The county number is included the link record output data set produced by PREPIN. The specification of the county number in these data allow the IMPSUM program to accumulate and report the mobile source emission estimates by county.

## **AREA TYPE SPECIFICATIONS**

PREPIN allows various factors to be specified by area type number and functional classification number. The El Paso regional models use eight area types:

1. Central Business District (CBD)
2. CBD Fringe
3. Urban Residential
4. Urban North
5. Suburban (North)
6. Suburban (West)
7. Suburban (East)
8. Rural

The El Paso area type table of equals specifies the zones contained in each of the eight area types. Using the link's associated zone number, the area type within which the link is located is determined.

## **SEASONAL ADJUSTMENT FACTORS**

Because 24-hour travel on the highway system varies somewhat by season, PREPIN provides for the input and application of seasonal adjustment factors to account for the seasonal variations. The seasonal adjustment factors are applied to the 24-hour link volumes to estimate the seasonally adjusted 24-hour volumes and VMT. Two sets of seasonal adjustments were

employed in the El Paso conformity analyses: Winter Seasonal Adjustment Factors and Summer Seasonal Adjustment Factors. The following are the seasonal adjustment factors used in the El Paso conformity analyses:

<u>Season</u>	<u>Area Types</u>	<u>Factor</u>
Winter (November - January)	1 - 7 (urban)	0.998
	8 (rural)	1.018
Summer (June - August)	1 - 7 (urban)	1.019
	8 (rural)	1.070

These factors were estimated using data from 1990 Annual Report Permanent Automatic Traffic Recorders (published by the TxDOT). The following describes the procedures used to estimate the seasonal adjustment factors.

### Winter Seasonal Adjustment Factor Computations

The travel models are assumed to simulate AWT for a typical school year (September through May) and weekday (Monday through Thursday). For purposes of estimating a typical CO season (November through January) weekday (Monday through Friday) AWT, the Monday through Thursday AWT from the travel model was adjusted in two steps. The first step was to adjust Monday through Thursday travel to represent Monday through Friday travel by multiplying by the ratio of Monday through Thursday AAWT to Monday through Friday AAWT for the September through May time period. The second step was to adjust the September through May, Monday through Friday AAWT to November through January, Monday through Friday AAWT. The two adjustment factors were then multiplied to provide the total adjustment factor. Data from the ATR stations were used to calculate the adjustment factors.

There are four permanently located traffic recorders (ATRs) in El Paso County. Two of these are in the urban area, one is located just outside the urban boundary, and one is located in a rural area. The locations and adjustment factors are:

S070 FM-258, 2.3 miles west of FM-1110, Ysleta, rural  
Monday - Thursday to Monday - Friday: 102.3  
September - May to November - January: 97.9  
Total adjustment: 100.2

S123 IH-10, 1.2 miles south of Loop 375, El Paso boundary, rural  
Monday - Thursday to Monday - Friday: 102.6  
September - May to November - January: 100.7  
Total adjustment: 103.3

S162 IH-10, 0.6 miles west of US-54, El Paso, urban

Monday - Thursday to Monday - Friday: 101.5  
September - May to November - January: 98.1  
Total adjustment: 99.6

S189 US-54, 0.3 miles north of IH-10, El Paso, urban  
Monday - Thursday to Monday - Friday: 101.9  
September - May to November - January: 98.0  
Total adjustment: 99.9

The rural and urban travel model AWT was adjusted using 101.8 and 99.8, respectively, calculated by taking the average of the rural and urban adjustment factors for the Winter Season.

### **Summer Seasonal Adjustment Factor Computations**

The travel models are assumed to simulate AWT for a typical school year (September through May) and weekday (Monday through Thursday). For purposes of estimating a typical O3 season (June through August) weekday (Monday through Friday) AWT, the Monday through Thursday AWT from the travel model was adjusted in two steps. The first step was to adjust Monday through Thursday travel to represent Monday through Friday travel by multiplying by the ratio of Monday through Thursday AAWT to Monday through Friday AAWT for the September through May time period. The second step was to adjust the September through May, Monday through Friday AAWT to June through August, Monday through Friday AAWT. The two adjustment factors were then multiplied to provide the total adjustment factor. Data from the ATR stations were used to calculate the adjustment factors.

There are four permanently located traffic recorders (ATRs) in El Paso County. Two of these are in the urban area, one is located just outside the urban boundary, and one is located in a rural area. The locations and adjustment factors are:

S070 FM-258, 2.3 miles west of FM-1110, Ysleta, rural  
Monday - Thursday to Monday - Friday: 102.3  
September - May to June - August: 103.3  
Total adjustment: 105.7

S123 IH-10, 1.2 miles south of Loop 375, El Paso boundary, rural  
Monday - Thursday to Monday - Friday: 102.6  
September - May to June - August: 105.0  
Total adjustment: 108.3

S162 IH-10, 0.6 miles west of US-54, El Paso, urban  
Monday - Thursday to Monday - Friday: 101.5  
September - May to June - August: 99.7  
Total adjustment: 101.2

S189 US-54, 0.3 miles north of IH-10, El Paso, urban  
Monday - Thursday to Monday - Friday: 101.9  
September - May to June - August: 100.6  
Total adjustment: 102.5



The rural and urban travel model AWT was adjusted using 107.0 and 101.9, respectively, calculated by taking the average of the rural and urban adjustment factors for the Summer Season.

### TIME-OF-DAY TRAVEL FACTORS

The 1990 household travel survey data for three study areas (San Antonio, Amarillo, and Brownsville) were processed to develop the estimated portions of travel by time of day. Table III-1 summarizes the results obtained from the three studies and the averages used in the conformity analyses. These average percentages are applied to the seasonally adjusted volumes and VMT to estimate the volumes and VMT for each of the four time periods.

**TABLE III-1**  
**Portions of Travel by Time Periods**  
**(in percentages)**

	SAN ANTONIO	AMARILLO	BROWNSVILLE	AVERAGE
7:15 am to 8:15 am	10.88	10.84	10.34	10.69
8:15 am to 4:45 pm	48.13	51.17	51.71	50.33
4:45 pm to 5:45 pm	10.34	10.78	9.41	10.18
5:45 pm to 7:15 am	30.66	27.21	28.54	28.80
TOTALS	100.00	100.00	100.00	100.00
Number of Vehicle Trips in the Sample	15,466	20,844	9,567	-

### TIME-OF-DAY DIRECTIONAL SPLIT ESTIMATES

The 24-hour link assignment volumes are nondirectional volumes (i.e., the sum of the volumes in the two directions on a link). The seasonal adjustment factor and time-of-day travel factor are applied to estimate the seasonally adjusted time-of-day volume on a link. PREPIN provides for the application of directional splits to estimate the portion of the travel expected to occur in each direction. These directional volume estimates are used to estimate the directional speeds. PREPIN outputs two link records for a link: (1) link record containing the estimated VMT and (2) speed in the peak (or dominant) direction and a link record containing the estimated VMT and speed in the off-peak (or opposite) direction. This allows IMPSUM to apply the MOBILE5a emission factors directionally by speed.

Time-of-day directional splits for area type and facility type were provided by TxDOT's Transportation Planning and Programming Division after collaboration with TxDOT's Beaumont District and the El Paso MPO. Table III-2 summarizes the morning peak directional split used in the El Paso PREPIN applications. Table III-3 summarizes the directional splits used for the off-peak periods and Table III-4 summarizes the directional splits used for the afternoon peak period.

**TABLE III-2: Morning Peak-Period Directional Split Estimates for El Paso**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	54.0	65.0	50.0	65.0	65.0	58.0	58.0	-	-	-	50.0	50.0	-
2 CBD Fringe	87.0	60.0	50.0	60.0	60.0	59.0	59.0	63.0	63.0	50.0	50.0	50.0	-
3 Urban Resid.	85.0	62.0	60.0	62.0	62.0	58.0	58.0	53.0	53.0	60.0	60.0	60.0	-
4 Urban North	85.0	-	60.0	62.0	62.0	58.0	58.0	-	53.0	-	60.0	60.0	-
5 Suburb. (N)	76.0	-	63.0	66.5	66.5	65.0	65.0	73.8	73.8	-	63.0	63.0	-
6 Suburb. (W)	76.0	66.5	63.0	66.5	66.5	65.0	65.0	-	73.8	-	63.0	63.0	-
7 Suburb. (E)	76.0	66.5	63.0	66.5	66.5	65.0	65.0	-	73.8	-	63.0	63.0	-
8 Rural	78.0	71.0	70.0	71.0	71.0	68.0	68.0	-	75.0	-	70.0	70.0	71.0

**TABLE III-3: Off-Peak Directional Split Estimates for El Paso**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	54.0	55.0	51.0	55.0	55.0	55.0	55.0	-	-	-	51.0	51.0	-
2 CBD Fringe	54.0	54.0	51.0	54.0	54.0	55.0	55.0	53.0	53.0	51.0	51.0	51.0	-
3 Urban Resid.	55.0	50.0	53.0	50.0	50.0	52.0	52.0	52.0	52.0	53.0	53.0	53.0	-
4 Urban North	55.0	-	53.0	50.0	50.0	52.0	52.0	-	52.0	-	53.0	53.0	-
5 Suburb. (N)	54.0	-	51.0	56.5	56.5	56.5	56.5	55.5	55.5	-	51.0	51.0	-
6 Suburb. (W)	54.0	56.5	51.0	56.5	56.5	56.5	56.5	-	55.5	-	51.0	51.0	-
7 Suburb. (E)	54.0	56.5	51.0	56.5	56.5	56.5	56.5	-	55.5	-	51.0	51.0	-
8 Rural	52.0	55.0	53.0	55.0	55.0	58.0	58.0	-	54.0	-	53.0	53.0	55.0

**TABLE III-4: Afternoon Peak-Period Directional Split Estimates for El Paso**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free- way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.- Distrb.	Front. Road	Ramp	Trans- Mtn.
1 CBD	55.0	62.0	54.0	62.0	62.0	52.0	52.0	-	-	-	51.0	51.0	-
2 CBD Fringe	72.0	59.0	54.0	59.0	59.0	53.0	53.0	64.5	64.5	54.0	54.0	54.0	-
3 Urban Resid.	72.0	57.0	56.0	57.0	57.0	54.0	54.0	68.0	68.0	56.0	56.0	56.0	-
4 Urban North	72.0	-	56.0	57.0	57.0	54.0	54.0	-	68.0	-	56.0	56.0	-
5 Suburb. (N)	71.5	-	66.5	61.5	61.5	64.5	64.5	-	64.8	-	66.5	66.5	-
6 Suburb. (W)	71.5	61.5	66.5	61.5	61.5	64.5	64.5	-	64.8	-	66.5	66.5	-
7 Suburb. (E)	71.5	61.5	66.5	61.5	61.5	64.5	64.5	-	64.8	-	66.5	66.5	-
8 Rural	71.0	66.0	65.0	66.0	66.0	63.0	63.0	-	70.0	-	65.0	65.0	66.0

## TIME-OF-DAY CAPACITY FACTORS

The 24-hour capacity restraint assignments are performed using nondirectional 24-hour capacities. The nondirectional capacities are included in the assignment data set which are input to PREPIN. User supplied time-of-day capacity factors are applied to the nondirectional capacity (or service volume) for the subject time period. In computing the directional V/C ratio for estimating the directional speeds, PREPIN assumes the directional split for capacity to be 50-50.

Table III-5 summarizes the typical 24-hour capacities per lane used in the El Paso highway networks. Table III-6 summarizes the estimated hourly capacities per lane used in developing the capacity factors. These capacities were developed to be consistent with the hourly capacities used in the Dallas-Fort Worth region for the application of their speed models. The capacity factors for a given time period are computed as follows:

$$\text{Capacity Factor} = \frac{(\text{Hourly Capacity per Lane})(\text{Length of the Time Period})}{24\text{-hour Capacity per Lane}}$$

The length of the time period is specified in hours. Capacity factors (stratified by area type and functional classification) were computed for each of the four time periods.

## FREEFLOW SPEED FACTORS

The application of the Dallas-Fort Worth speed models requires an estimate of the freeflow speed on the link. These freeflow speed estimates are computed using the 24-hour speeds input on the link data. The freeflow speed factors (stratified by area type and functional classification) are applied to the 24-hour nondirectional link speeds to estimate the freeflow speed. The freeflow speed is assumed to be the same in each direction.

Table III-7 summarizes the typical 24-hour speeds used in the 1990 El Paso highway network. Table III-8 summarizes the typical freeflow speed estimates used in estimating the freeflow speed factors. These freeflow speed estimates were developed to be consistent with those used in the 1990 El Paso emission inventories. The freeflow speed factor for a given functional class and area type is computed by simply dividing the freeflow speed by the 24-hour speed. These user-estimated factors are input to PREPIN using SPDFAC records.

**TABLE III-5: Typical 24-Hour Capacities per Lane for the El Paso Network**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	-	9,500	17,250	8,350	7,550	7,250	6,600	6,200	5,700	5,700	6,750	18,000	-
2 CBD Fringe	-	8,500	19,550	7,500	6,800	6,500	5,950	5,550	5,100	5,100	6,750	18,000	-
3 Urban Resid.	-	8,500	19,550	7,100	6,400	5,500	5,050	4,650	4,300	4,300	6,750	18,000	-
4 Urban North	-	8,500	19,550	7,100	6,400	5,500	5,050	4,650	4,300	4,300	6,750	18,000	-
5 Suburb. (N)	-	7,500	11,750	6,250	5,600	4,050	3,750	3,350	3,150	3,150	3,750	18,000	-
6 Suburb. (W)	-	7,500	11,750	6,250	5,600	4,050	3,750	3,350	3,150	3,150	3,750	18,000	-
7 Suburb. (E)	-	7,500	11,750	6,250	5,600	4,050	3,750	3,350	3,150	3,150	3,750	18,000	-
8 Rural	-	6,000	7,600	4,400	3,900	2,550	2,400	1,800	1,700	1,700	2,750	18,000	12,000

**TABLE III-6: Estimated Typical Hourly Capacities per Lane for El Paso Network**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	-	825	1,800	550	500	550	500	450	400	400	550	1,100	-
2 CBD Fringe	-	900	1,850	600	550	600	550	475	425	425	600	1,200	-
3 Urban Resid.	-	975	1,875	650	600	625	575	500	450	450	625	1,250	-
4 Urban North	-	975	1,875	650	600	625	575	500	450	450	625	1,250	-
5 Suburb. (N)	-	1,088	1,950	725	675	700	625	550	500	500	700	1,400	-
6 Suburb. (W)	-	1,088	1,950	725	675	700	625	550	500	500	700	1,400	-
7 Suburb. (E)	-	1,088	1,950	725	675	700	625	550	500	500	700	1,400	-
8 Rural	-	1,200	2,000	800	725	750	675	575	525	525	750	1,500	2,000

**TABLE III-7: Average 24-Hour Speeds for the El Paso Network**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	15.0	13.0	35.6	11.7	12.1	10.9	12.0	-	-	-	17.5	20.0	-
2 CBD Fringe	25.0	29.1	34.0	24.4	23.4	18.7	19.0	17.6	18.3	20.0	20.6	18.7	-
3 Urban Resid.	26.0	34.8	34.1	29.0	29.0	25.7	24.8	18.3	21.4	22.5	24.4	20.6	-
4 Urban North	29.0	-	34.0	30.0	30.0	28.0	25.1	-	19.9	-	24.0	22.8	-
5 Suburb. (N)	35.0	-	42.3	30.4	30.4	27.1	29.9	30.0	28.7	-	37.6	32.5	-
6 Suburb. (W)	35.0	37.0	42.8	32.5	32.5	30.5	30.2	-	28.9	-	35.5	35.0	-
7 Suburb. (E)	33.0	35.4	42.9	31.0	31.0	30.8	29.5	-	31.5	-	31.4	27.1	-
8 Rural	40.0	37.0	47.7	42.8	42.8	36.3	38.6	-	39.0	-	36.8	34.6	20.0

**TABLE III-8: Estimated Typical Freeflow Speeds for the El Paso Network**

AREA TYPES	FUNCTIONAL CLASSIFICATIONS												
	0	1	2	4	5	6	7	8	9	A	B	C	D
	Cent. Conn.	Bordr. Hwy.	Free-way	Prin. Art. Div.	Prin. Art. Undiv.	Div. Art.	Undiv. Art.	Coll. Divided	Coll. Undiv.	Coll.-Distrb.	Front. Road	Ramp	Trans-Mtn.
1 CBD	15.0	50.0	55.0	11.9	11.9	11.9	11.9	-	-	-	11.9	16.9	-
2 CBD Fringe	25.0	50.0	55.0	25.4	25.4	20.0	20.0	19.4	19.4	25.4	25.4	30.4	-
3 Urban Resid.	26.0	51.0	57.0	32.7	32.7	27.5	27.5	24.1	24.1	32.7	32.7	37.7	-
4 Urban North	29.0	-	57.0	32.7	32.7	27.5	27.5	24.1	24.1	-	32.7	37.7	-
5 Suburb. (N)	35.0	-	57.0	36.4	36.4	31.3	31.3	30.0	30.0	-	36.4	41.4	-
6 Suburb. (W)	35.0	52.0	57.0	36.4	36.4	31.3	31.3	-	30.0	-	36.4	41.4	-
7 Suburb. (E)	33.0	52.0	57.0	36.4	36.4	31.3	31.3	-	30.0	-	36.4	41.4	-
8 Rural	40.0	60.0	68.0	60.0	60.0	55.0	55.0	50.0	50.0	-	60.0	64.0	60.0

## SPEED MODEL PARAMETERS

In the Dallas-Fort Worth speed model implemented in PREPIN the directional delay (in minutes per mile) due to congestion is computed using a volume-delay equation. The following is the general form of the volume-delay equation used in the model:

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

Where:

Delay	=	Congestion delay (in minutes/mile)
A & B	=	Volume-Delay Equation Coefficients (input via DELAY records into the PREPIN program)
M	=	Maximum minutes of delay per mile, read from the DELAY cards
V/C	=	Time-of-day directional V/C ratio

Two sets of coefficients and constraints were developed by the NCTCOG for the D-FW model: one for high-capacity facilities and one for low-capacity facilities. High-capacity facilities (usually freeways) are defined as those having a capacity exceeding 3,400 vehicles per hour (one way). The volume-delay equation parameters which were developed by the NCTCOG in late 1992 for use in the D-FW air quality analyses are presented in Table III-9.

**TABLE III-9: Volume-Delay Equation Parameters**

Parameters	Parameter Values	
	High-capacity Facilities	Low-capacity Facilities
A	0.015	0.050
B	3.5	3.0
M	5.0	10.0

Because the functional classification codes used in the link data may vary from study area to study area, PREPIN requires that the user specify the desired delay equation parameters by county and functional class. For the El Paso conformity applications, the high-capacity facilities parameter values in Table III-9 were used for functional classifications 1, 2, and 13 (i.e., the



Border Highway, Freeways, and the Trans-Mountain Highway). The low-capacity facilities parameter values in Table III-9 were used for all other functional classes. The speed models are not applied to centroid connectors. Because centroid connectors represent local streets which generally are relatively uncongested, it is assumed the 24-hour speed is representative of both the peak and off-peak speeds on these facilities.

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

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

These congested directional speed estimates for each link are included in the link records produced by PREPIN for subsequent input to IMPSUM to estimate the mobile emissions for the traffic moving at this estimated speed.

## OTHER DATA INPUTS

The remaining data inputs to the PREPIN program are:

- The 24-Hour Assignment Data Set: This is the network data set produced by the Texas Assignment Package which contains the capacity restraint assignment results. The PREPIN program uses this data set to obtain the following information for each link: the link's III-node and B-node numbers, the link's functional classification link distance, the input link data speed, and the final nondirectional capacity restrained assignment volume.
- The Assignment Trip Table: This is the packed 24-hour assignment trip table data set used to produce the subject assignment. PREPIN uses this data set to obtain the 24-hour intrazonal trips for each zone.
- The Zonal Radii Data: These data are the zonal radii estimates used as input to the trip distribution model applications for the El Paso area. These zonal radii estimates are used by PREPIN to estimate the average trip length of intrazonal trips.

These data sets were developed by TxDOT for use in the El Paso conformity analyses.



#### IV. ESTIMATION OF EMISSION RATES USING MOBILE5a

The MOBILE5a program was used to compute the mobile source emission rates (or factors) for the El Paso Conformity Analyses. MOBILE5a was used directly to compute 24-hour diurnal emission rates. MOBILE5a was applied using the POLFAC5A program to estimate the emission factors by speed for each of the four time-of-day time periods (i.e., AM Peak Hour, Midday, PM Peak Hour, and Overnight).

POLFAC5A is one of a series of programs developed by the Texas Transportation Institute to facilitate the computation of mobile source emissions. POLFAC5A is used to apply MOBILE5a to obtain emission factors. The emission factors are obtained for eight vehicle types and 63 speeds (i.e., 3 mph through 65 mph) for each vehicle type. Hence, there are 504 factors (i.e.,  $8 \times 63 = 504$ ) for each pollution type for each county. Three pollution types are being computed: VOC, CO, and NOX. Hence, for each county there are 1,512 emission factors. These emission factors are output to an ASCII file for subsequent input to either IMPSUM or COADJ. For El Paso, POLFAC5A was applied for each of the four time-of-day time periods for a given year and season. The emission factors from POLFAC5A are applied using IMPSUM to estimate emissions. A copy of the user's guide for this series of programs is included in Appendix B.

#### ESTIMATION OF TEMPERATURES BY TIME-OF-DAY

Texas Natural Resource Conservation Commission (TNRCC) provided the 24-hour temperature ranges for El Paso for both summer and winter seasons as presented in Table IV-1.

**TABLE IV-1**  
**Temperature Ranges**

Season	Low	High	Ambient
Summer Ozone	66	97	86.7
Winter CO	26	63	50.7

In addition, the TNRCC provided eight sets of hourly temperature data from El Paso for use in developing time-of-day time period temperature estimates. Four were used to estimate the summer temperature variations by time-of-day, and four were used to estimate the winter. For each season, the average temperature for each of the 24 one-hour periods was computed using these data, and the average observed temperatures for each of the four time periods was computed. They are summarized in Table IV-2. The high and low temperatures in the observed data are different from those specified in Table IV-1. To use these observed data to estimate the average temperatures for the four time periods for the temperature ranges in Table IV-1, the value of P in the following formula was computed for each time period:

$$T_i = T_{low} + P_i(T_{high} - T_{low})$$

Where:

- $T_i$  = Temperature for time period  $I$
- $T_{low}$  = Low temperature
- $T_{high}$  = High temperature
- $P_i$  = P factor for time period  $I$

The P factors for each time period are also summarized in Table IV-2.

The estimated temperatures for each time period were computed using the high and low temperatures provided by TNRCC (see Table IV-1), and the P factors were developed using the observed data (see Table IV-2). The resulting estimated average temperatures for each of the four time periods are shown in Table IV-3.

Diurnal rates were computed using a separate application of MOBILE5a. Each application of MOBILE5a requires three temperature inputs: the low temperature, the high temperature, and the ambient temperature. To avoid computing diurnals for the four time periods, the same temperature was input for the low, the high, and the ambient temperatures. Table IV-4 lists the temperature inputs for each of the four time periods and the 24-hour diurnal applications for El Paso.

**TABLE IV-2**  
**Observed Temperature Data Provided by TNRCC**

	Summer		Winter	
	Average Observed Temp	P Factor	Average Observed Temp	P Factor
LOW Observed Avg. Temp	76.0	-	49.0	-
Time Period 1 (AM Peak)	85.4	0.3378	57.4	0.2597
Time Period 2 (Midday)	99.9	0.8610	76.1	0.8396
Time Period 3 (PM Peak)	101.0	0.9084	74.8	0.7984
Time Period 4 (Overnight)	82.8	0.2459	56.6	0.2352
HIGH Observed Avg Temp	104.0	-	81.3	-

**TABLE IV-3**  
**Estimated Time-of-Day Average Temperatures for Conformity Analyses**

	Summer		Winter	
	Estimated Temp	P Factor	Estimated Temp	P Factor
LOW Temp Estimate	66.0	-	26.0	-
Time Period 1 (AM Peak)	76.5	0.3378	35.6	0.2597
Time Period 2 (Midday)	92.7	0.8610	57.1	0.8396
Time Period 3 (PM Peak)	94.2	0.9084	55.5	0.7984
Time Period 4 (Overnight)	73.6	0.2459	34.7	0.2352
HIGH Temp Estimate	97.0	-	63.0	-

**TABLE IV-4**  
**MOBILE5a Temperature Inputs Used for El Paso Conformity Applications**

	MOBILE5a Temperature Inputs		
	Low	High	Ambient
Summer: Time Period 1 (AM Peak)	76.5	76.5	76.5
Summer: Time Period 2 (Midday)	92.7	92.7	92.7
Summer: Time Period 3 (PM Peak)	94.2	94.2	94.2
Summer: Time Period 4 (Overnight)	73.6	73.6	73.6
Summer: 24-Hour Diurnal Application	66.0	97.0	86.7
Winter: Time Period 1 (AM Peak)	35.6	35.6	35.6
Winter: Time Period 2 (Midday)	57.1	57.1	57.1
Winter: Time Period 3 (PM Peak)	55.5	55.5	55.5
Winter: Time Period 4 (Overnight)	34.7	34.7	34.7
Winter: 24-Hour Diurnal Application	26.0	63.0	50.7

## **APPLICATION OF THE COADJ UTILITY PROGRAM FOR 1990 EMISSION RATES**

The special utility program COADJ produces a new set of emission factors by combining the emission factors from three applications of the POLFAC5A program. The program reads the emission factors from three data sets (FT01F001, FT02F001, and FT03F001) produced by the three applications of POLFAC5A. In the 1990 El Paso applications of COADJ, the three data sets contained the following emission factors:

- FT01F001: Emission factors from the POLFAC5A application which specified no Anti-Tampering Program and no Inspection and Maintenance (I/M) Program.
- FT02F001: Emission factors from the POLFAC5A application which specified an Anti-Tampering Program for model years 1968 to 1979 and an I/M Program.
- FT03F001: Emission factors from the POLFAC5A application which specified an Anti-Tampering Program for model years 1980 to present and no I/M Program.

The corresponding emission factors from FT02F001 and FT03F001 are summed, and the corresponding emission factors from FT01F001 are subtracted from the sums. The resulting set of emission factors are output in a data set for input to IMPSUM.

COADJ was originally developed for use in conjunction with MOBILE4.1. MOBILE4.1 allowed only one I/M program. COADJ and the procedure described above was needed to specify two I/M programs. The 1990 MOBILE set-ups continued to use this approach for the applications using MOBILE5a. COADJ was not needed for the 1995, 1996, and 1999 applications using MOBILE5a.

### **MOBILE5a SET-UPS**

Tables IV-5, IV-6, and IV-7 are the three summer 1990 MOBILE5a set-ups used to develop the 1990 summer emission factors for Time Period 1 (i.e., AM Peak Period). The three temperature inputs in each set-up are highlighted in the last two lines of the input data. The temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period), and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed Table IV-4. COADJ was used to combine the three sets of rates for each time period and compute the final rates which were input to the IMPSUM applications.

Tables IV-8, IV-9, and IV-10 are the three summer 1990 MOBILE5a set-ups used to develop the 1990 summer 24-hour diurnal emission rates. These three sets of rates are input to SUMALL for computing the 24-hour diurnals.

Tables IV-11, IV-12, and IV-13 are the three winter 1990 MOBILE5a set-ups used to develop the 1990 winter emission factors for Time Period 1 (AM Peak Period). Again, the three

temperature inputs in each set-up are highlighted in the last two lines of the input data. The temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period), and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed Table IV-4. The COADJ utility program was used to combine the three sets of rates for each time period and to compute the final rates which were input to the IMPSUM applications.

Tables IV-14, IV-15, and IV-16 are the three winter 1990 MOBILE5a set-ups used to develop the 1990 winter 24-hour diurnal emission rates. These three sets of rates are input to the SUMALL program for computing the 24-hour diurnals.

Table IV-17 lists the winter 1995 MOBILE5a set-ups used to develop the 1995 winter emission factors for Time Period 1 (AM Peak Period). Again, the three temperature inputs in the set-up are highlighted in the last two lines of the input data. The temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period), and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed Table IV-4. Table IV-18 lists winter 1995 MOBILE5a set-ups used to develop the 1995 winter 24-hour diurnal emission rates.

Table IV-19 lists the summer 1996 MOBILE5a set-ups used to develop the 1996 summer emission factors for Time Period 1 (AM Peak Period). Again, the temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period), and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed Table IV-4. Table IV-20 lists summer 1996 MOBILE5a set-up, used to develop the 1996 summer 24-hour diurnal emission rates.

Table IV-21 lists the winter 1999 MOBILE5a set-ups used to develop the 1999 winter emission factors for Time Period 1 (the AM Peak Period). Again, the temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period) and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed Table IV-4. Table IV-22 lists winter 1999 MOBILE5a set-ups used to develop the 1999 winter 24-hour diurnal emission rates.

Table IV-23 lists the summer 1999 MOBILE5a set-ups used to develop the 1999 summer emission factors for Time Period 1 (AM Peak Period). Again, the temperatures are the only changes made in the set-ups to develop the emission factors for Time Period 2 (Midday), Time Period 3 (PM Peak Period), and Time Period 4 (Overnight). The temperature inputs used for the other three time periods are listed in Table IV-4. Table IV-24 lists summer 1999 MOBILE5a set-up used to develop the 1999 summer 24-hour diurnal emission rates.

**TABLE IV-5**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #1 for Time Period 1**

1	PROMPT	
1	El Paso, Ozone Season - Run A1 AM Peak (1990 - no I/M, no ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenario	
3	MYMFLG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
1	ATPFLG - no atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
4	OUTFMT - 80-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
1	HCFLAG - Print total HC	
	.679.195.053.019.010.003.037.004 VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV	
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 July,1990 .LDGV..MY AGES	1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 Vehicle	11-
	.015 .010 .009 .008 .007 Registrations	21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDGT1.MY AGES	1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040 .LDGT2.MY AGES	1-1
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011	11-
	.017 .011 .011 .009 .009	21-
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040 .HDGV..MY AGES	1-1
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026	11-
	.049 .032 .031 .026 .025	21-
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 .LDDV..MY AGES	1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	11-
	.015 .010 .009 .008 .007	21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDDT..MY AGES	1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075 .HDDV..MY AGES	1-1
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015	11-
	.022 .015 .014 .012 .014	21-
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090 .MC...MY AGES	1-1
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000	11-
	.000 .000 .000 .000 .000	21-
	El Paso-03-Run A1 76.5 76.5 7.7 7.7 90 LAP rec: SCNME,MNTM	
	1 90 XXXX 76.5 20.6 27.3 20.6 7 RGN,CY,SPD,AMBTMP,P	



**TABLE IV-6**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #2 for Time Period 1**

1	PROMPT	
1	El Paso, Ozone Season - Run B1 AM PEAK (1990 - Includes I/M and 68-79 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
2	IMFLAG - idle I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - 68-79 atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
4	OUTFMT - 80-column descriptive format	
4	PRTFLG - Print HC, CO and NOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = Volatile organic compounds (VOC)	
1	HCFLAG - Print total HC (overridden by PRTFLG)	
.679	.195 .053 .019 .010 .003 .037 .004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
.015	.010 .009 .008 .007	Registrations 21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1.MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.037	.062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2.MY AGES 1-1
.037	.075 .062 .064 .051 .045 .045 .035 .018 .011	11-
.017	.011 .011 .009 .009	21-
.021	.031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
.053	.073 .057 .046 .036 .048 .047 .042 .034 .026	11-
.049	.032 .031 .026 .025	21-
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	11-
.015	.010 .009 .008 .007	21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.028	.024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
.095	.054 .069 .050 .019 .023 .028 .032 .026 .015	11-
.022	.015 .014 .012 .014	21-
.024	.063 .044 .053 .102 .094 .068 .086 .103 .090	.MC....MY AGES 1-1
.074	.196 .000 .000 .000 .000 .000 .000 .000 .000	11-
.000	.000 .000 .000 .000	21-
87	18 75 20 0. 0. 073 2 1 2221 1 11	I/M record
86	68 79 2221 21 073. 21112222	ATP (68-79my) record
El Paso-03-Run B1	76.5 76.5 7.7 7.7 90	LAP rec: SCNME,MNTM
1 90	XXXX 76.5 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P

**TABLE IV-7**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #3 for Time Period 1**

1	PROMPT	
1	El Paso, Ozone Season - Run C1 AM PEAK (1990 - Includes 80-20 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenario	
3	MYMFRG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - 80-20 atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
4	OUTFMT - 80-column descriptive format	
4	PRTFLG - Print HC, CO and NOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC=Volatile organic compounds (VOC)	
1	HCFLAG - Print total HC (overridden by PRTFLG)	
	.679.195.053.019.010.003.037.004 VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV	
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 July,1990 .LDGV..MY AGES 1-1	
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 Vehicle 11-	
	.015 .010 .009 .008 .007 Registrations 21-	
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDGT1.MY AGES 1-1	
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-	
	.025 .016 .016 .013 .012 21-	
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040 .LDGT2.MY AGES 1-1	
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011 11-	
	.017 .011 .011 .009 .009 21-	
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040 .HDGV..MY AGES 1-1	
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026 11-	
	.049 .032 .031 .026 .025 21-	
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 .LDDV..MY AGES 1-1	
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 11-	
	.015 .010 .009 .008 .007 21-	
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDDT..MY AGES 1-1	
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-	
	.025 .016 .016 .013 .012 21-	
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075 .HDDV..MY AGES 1-1	
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015 11-	
	.022 .015 .014 .012 .014 21-	
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090 .MC...MY AGES 1-1	
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000 11-	
	.000 .000 .000 .000 .000 21-	
	86 80 20 2221 21 073. 22222222 ATP (80-20my) recor	
	El Paso-03-Run C1 76.5 76.5 7.7 7.7 90 LAP rec: SCNME,MNTM	
	1 90 XXXX 76.5 20.6 27.3 20.6 7 RGN,CY,SPD,AMBTMP,P	

**TABLE IV-8**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #1 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Ozone Season - Run A 24 Hour (1990 - no I/M, no ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenario	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
1	ATPFLG - no atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMLFG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
	.679.195.053.019.010.003.037.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
	.015 .010 .009 .008 .007	Registrations 21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1.MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2.MY AGES 1-1
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011	11-
	.017 .011 .011 .009 .009	21-
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026	11-
	.049 .032 .031 .026 .025	21-
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	11-
	.015 .010 .009 .008 .007	21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015	11-
	.022 .015 .014 .012 .014	21-
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090	.MC....MY AGES 1-1
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000	11-
	.000 .000 .000 .000 .000	21-
	El Paso-03-Run A 66.0 97.0 7.7 7.7 90	LAP rec: SCNME,MNTM
	1 90 19.6 86.6 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P

**TABLE IV-9**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #2 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Ozone Season - Run B 24 Hour (1990 - Includes I/M and 68-79 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
2	IMFLAG - I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - Atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
.679.195.053.019.010.003.037.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV	
.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES	1-1
.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle	11-
.015 .010 .009 .008 .007	Registrations	21-
.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1.MY AGES	1-1
.036 .048 .044 .039 .031 .021 .026 .024 .019 .013		11-
.025 .016 .016 .013 .012		21-
.037 .062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2.MY AGES	1-1
.037 .075 .062 .064 .051 .045 .045 .035 .018 .011		11-
.017 .011 .011 .009 .009		21-
.021 .031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES	1-1
.053 .073 .057 .046 .036 .048 .047 .042 .034 .026		11-
.049 .032 .031 .026 .025		21-
.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES	1-1
.054 .060 .053 .042 .031 .019 .020 .019 .014 .010		11-
.015 .010 .009 .008 .007		21-
.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES	1-1
.036 .048 .044 .039 .031 .021 .026 .024 .019 .013		11-
.025 .016 .016 .013 .012		21-
.028 .024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES	1-1
.095 .054 .069 .050 .019 .023 .028 .032 .026 .015		11-
.022 .015 .014 .012 .014		21-
.024 .063 .044 .053 .102 .094 .068 .086 .103 .090	.MC....MY AGES	1-1
.074 .196 .000 .000 .000 .000 .000 .000 .000 .000		11-
.000 .000 .000 .000 .000		21-
87 18 75 20 0. 0. 073 2 1 2221 1 11	I/M record	
86 68 79 2221 21 073. 21112222	ATP (68-79my) recor	
El Paso-03-Run B 66.0 97.0 7.7 7.7 90	LAP rec: SCNME,MNTM	
1 90 19.6 86.6 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P	

**TABLE IV-10**  
**Summer 1990 El Paso County MOBILE5a Set-up**  
**Run #3 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Ozone Season - Run C 24 Hour (1990 - Includes 80-20 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - Atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
	.679.195.053.019.010.003.037.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
	.015 .010 .009 .008 .007	Registrations 21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1..MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2..MY AGES 1-1
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011	11-
	.017 .011 .011 .009 .009	21-
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026	11-
	.049 .032 .031 .026 .025	21-
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	11-
	.015 .010 .009 .008 .007	21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015	11-
	.022 .015 .014 .012 .014	21-
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090	.MC....MY AGES 1-1
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000	11-
	.000 .000 .000 .000 .000	21-
	86 80 20 2221 21 073. 22222222	ATP (80-20my) recor
	El Paso-03-Run C1 66.0 97.0 7.7 7.7 90	LAP rec: SCNME,MNTM
	1 90 19.6 86.6 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P

**TABLE IV-11**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #1 for Time Period 1**

1	PROMPT	
1	El Paso, CO Season - AT1 (1990 - no I/M, no ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
1	ATPFLG - no atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
4	OUTFMT - 80-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
1	HCFLAG - Print total HC	
.679	.195 .053 .019 .010 .003 .037 .004	VMT mix: LDGV, LDGT1, LDGT2, HDGV, LDDV, LDDT, HDDV
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	July, 1990 .LDGV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
.015	.010 .009 .008 .007	Registrations 21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1..MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.037	.062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2..MY AGES 1-1
.037	.075 .062 .064 .051 .045 .045 .035 .018 .011	11-
.017	.011 .011 .009 .009	21-
.021	.031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
.053	.073 .057 .046 .036 .048 .047 .042 .034 .026	11-
.049	.032 .031 .026 .025	21-
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	11-
.015	.010 .009 .008 .007	21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.028	.024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
.095	.054 .069 .050 .019 .023 .028 .032 .026 .015	11-
.022	.015 .014 .012 .014	21-
.024	.063 .044 .053 .102 .094 .068 .086 .103 .090	.MC...MY AGES 1-1
.074	.196 .000 .000 .000 .000 .000 .000 .000 .000	11-
.000	.000 .000 .000 .000	21-
El Paso-03-Run #1	35.6 35.6 11.6 11.6 90	LAP rec: SCNME, MNTM
1 90 XXXX	35.6 20.6 27.3 20.6 1	RGN, CY, SPD, AMBTMP, P

**TABLE IV-12**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #2 for Time Period 1**

1	PROMPT	
1	El Paso, CO Season - Run BT1 (1990 - Includes I/M and 68-79 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
2	IMFLAG - idle I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - 68-79 atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
4	OUTFMT - 80-column descriptive format	
4	PRTFLG - Print HC, CO and NOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = Volatile organic compounds (VOC)	
1	HCFLAG - Print total HC (overridden by PRTFLG)	
.679.195.053.019.010.003.037.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV	
.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES	1-1
.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle	11-
.015 .010 .009 .008 .007	Registrations	21-
.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1..MY AGES	1-1
.036 .048 .044 .039 .031 .021 .026 .024 .019 .013		11-
.025 .016 .016 .013 .012		21-
.037 .062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2..MY AGES	1-1
.037 .075 .062 .064 .051 .045 .045 .035 .018 .011		11-
.017 .011 .011 .009 .009		21-
.021 .031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES	1-1
.053 .073 .057 .046 .036 .048 .047 .042 .034 .026		11-
.049 .032 .031 .026 .025		21-
.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES	1-1
.054 .060 .053 .042 .031 .019 .020 .019 .014 .010		11-
.015 .010 .009 .008 .007		21-
.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES	1-1
.036 .048 .044 .039 .031 .021 .026 .024 .019 .013		11-
.025 .016 .016 .013 .012		21-
.028 .024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES	1-1
.095 .054 .069 .050 .019 .023 .028 .032 .026 .015		11-
.022 .015 .014 .012 .014		21-
.024 .063 .044 .053 .102 .094 .068 .086 .103 .090	.MC...MY AGES	1-1
.074 .196 .000 .000 .000 .000 .000 .000 .000 .000		11-
.000 .000 .000 .000 .000		21-
87 18 75 20 0. 0. 073 2 1 2221 1 11	I/M record	
86 68 79 2221 21 073. 21112222	ATP (68-79my) recor	
El Paso-03-Run #2 35.6 35.6 11.6 11.6 90	LAP rec: SCNME,MNTM	
1 90 XXXX 35.6 20.6 27.3 20.6 1	RGN,CY,SPD,AMBTMP,P	

**TABLE IV-13**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #3 for Time Period 1**

1	PROMPT																			
1	El Paso, CO Season - Run CT1 (1990 - Includes 80-20 ATP)																			
1	TAMFLG - Default: Tampering Rates																			
1	SPDFLG - User input: one speed for all vehicle types																			
3	VMFLAG - User input: single VMT mix for all scenarios																			
3	MYMFRG - Default: AMAR, User input: Reg. Distributions																			
1	NEWFLG - Default: Basic exhaust emission rates																			
1	IMFLAG - no I/M																			
1	ALHFLG - No additional correction factors																			
2	ATPFLG - 80-20 atp																			
5	RLFLAG - Zero-out refueling emissions																			
2	LOCFLG - User input: one LAP record for all scenarios																			
1	TEMFLG - MOBILE5 calculates exhaust temperatures																			
4	OUTFMT - 80-column descriptive format																			
4	PRTFLG - Print HC, CO and NOX emission factors																			
1	IDLFLG - No idle emissions calculated or printed																			
3	NMHFLG - Print HC=Volatile organic compounds (VOC)																			
1	HCFLAG - Print total HC (overridden by PRTFLG)																			
	.679.195.053.019.010.003.037.004 VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV																			
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 July,1990 .LDGV..MY AGES 1-1																			
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 Vehicle 11-																			
	.015 .010 .009 .008 .007 Registrations 21-																			
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDGT1..MY AGES 1-1																			
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-																			
	.025 .016 .016 .013 .012 21-																			
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040 .LDGT2..MY AGES 1-1																			
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011 11-																			
	.017 .011 .011 .009 .009 21-																			
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040 .HDGV..MY AGES 1-1																			
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026 11-																			
	.049 .032 .031 .026 .025 21-																			
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 .LDDV..MY AGES 1-1																			
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 11-																			
	.015 .010 .009 .008 .007 21-																			
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDDT..MY AGES 1-1																			
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-																			
	.025 .016 .016 .013 .012 21-																			
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075 .HDDV..MY AGES 1-1																			
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015 11-																			
	.022 .015 .014 .012 .014 21-																			
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090 .MC...MY AGES 1-1																			
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000 11-																			
	.000 .000 .000 .000 .000 21-																			
	86 80 20 2221 21 073 . 22222222 ATP (80-20my) recor																			
	El Paso-03-Run #3 35.6 35.6 11.6 11.6 90 LAP rec: SCNME,MNTM																			
	1 90 XXXX 35.6 20.6 27.3 20.6 1 RGN,CY,SPD,AMBTMP,P																			



**TABLE IV-14**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #1 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, CO Season - 24 Hour Diurnal (1990 - no I/M, no ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMFRG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
1	ATPFLG - no atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
	.679.195.053.019.010.003.037.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	July,1990 .LDGV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
	.015 .010 .009 .008 .007	Registrations 21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1.MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2.MY AGES 1-1
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011	11-
	.017 .011 .011 .009 .009	21-
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026	11-
	.049 .032 .031 .026 .025	21-
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010	11-
	.015 .010 .009 .008 .007	21-
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013	11-
	.025 .016 .016 .013 .012	21-
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015	11-
	.022 .015 .014 .012 .014	21-
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090	.MC...MY AGES 1-1
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000	11-
	.000 .000 .000 .000 .000	21-
	El Paso-03-Run #1 26.0 63.0 11.6 11.6 90	LAP rec: SCNME,MNTM
	1 90 19.6 50.7 20.6 27.3 20.6 1	RGN,CY,SPD,AMBTMP,P

**TABLE IV-15**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #2 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, CO Season - Run B 24hr (1990 - Includes I/M and 68-79 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
2	IMFLAG - idle I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - 68-79 atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
.679	.195 .053 .019 .010 .003 .037 .004	VMT mix: LDGV, LDGT1, LDGT2, HDGV, LDDV, LDDT, HDDV
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	July, 1990 .LDGV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	Vehicle 11-
.015	.010 .009 .008 .007	Registrations 21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDGT1..MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.037	.062 .059 .037 .065 .052 .055 .042 .051 .040	.LDGT2..MY AGES 1-1
.037	.075 .062 .064 .051 .045 .045 .035 .018 .011	11-
.017	.011 .011 .009 .009	21-
.021	.031 .027 .033 .047 .052 .048 .034 .043 .040	.HDGV..MY AGES 1-1
.053	.073 .057 .046 .036 .048 .047 .042 .034 .026	11-
.049	.032 .031 .026 .025	21-
.042	.077 .074 .069 .065 .068 .070 .051 .055 .058	.LDDV..MY AGES 1-1
.054	.060 .053 .042 .031 .019 .020 .019 .014 .010	11-
.015	.010 .009 .008 .007	21-
.038	.066 .077 .068 .082 .070 .068 .048 .050 .049	.LDDT..MY AGES 1-1
.036	.048 .044 .039 .031 .021 .026 .024 .019 .013	11-
.025	.016 .016 .013 .012	21-
.028	.024 .028 .046 .059 .087 .066 .042 .057 .075	.HDDV..MY AGES 1-1
.095	.054 .069 .050 .019 .023 .028 .032 .026 .015	11-
.022	.015 .014 .012 .014	21-
.024	.063 .044 .053 .102 .094 .068 .086 .103 .090	.MC...MY AGES 1-1
.074	.196 .000 .000 .000 .000 .000 .000 .000 .000	11-
.000	.000 .000 .000 .000	21-
87	18 75 20 0. 0. 073 2 1 2221 1 11	I/M record
86	68 79 2221 21 073. 21112222	ATP (68-79my) recor
El Paso-03-Run #2	26.0 63.0 11.6 11.6 90	LAP rec: SCNME, MNTM
1 90	19.6 50.7 20.6 27.3 20.6 1	RGN, CY, SPD, AMBTMP, P

**TABLE IV-16**  
**Winter 1990 El Paso County MOBILE5a Set-up**  
**Run #3 for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, CO Season - Run CT1 (1990 - Includes 80-20 ATP)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMFLG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default: Basic exhaust emission rates	
1	IMFLAG - no I/M	
1	ALHFLG - No additional correction factors	
2	ATPFLG - 80-20 atp	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE5 calculates exhaust temperatures	
3	OUTFMT - 112-column descriptive format	
4	PRTFLG - Print all three pollutant emission factors	
2	IDLFLG - Idle emissions printed	
3	NMHFLG - Print HC = volatile organic compounds (VOC)	
3	HCFLAG - Print HC Components	
	.679.195.053.019.010.003.037.004 VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV	
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 July,1990 .LDGV..MY AGES 1-1	
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 Vehicle 11-	
	.015 .010 .009 .008 .007 Registrations 21-	
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDGT1.MY AGES 1-1	
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-	
	.025 .016 .016 .013 .012 21-	
	.037 .062 .059 .037 .065 .052 .055 .042 .051 .040 .LDGT2.MY AGES 1-1	
	.037 .075 .062 .064 .051 .045 .045 .035 .018 .011 11-	
	.017 .011 .011 .009 .009 21-	
	.021 .031 .027 .033 .047 .052 .048 .034 .043 .040 .HDGV..MY AGES 1-1	
	.053 .073 .057 .046 .036 .048 .047 .042 .034 .026 11-	
	.049 .032 .031 .026 .025 21-	
	.042 .077 .074 .069 .065 .068 .070 .051 .055 .058 .LDDV..MY AGES 1-1	
	.054 .060 .053 .042 .031 .019 .020 .019 .014 .010 11-	
	.015 .010 .009 .008 .007 21-	
	.038 .066 .077 .068 .082 .070 .068 .048 .050 .049 .LDDT..MY AGES 1-1	
	.036 .048 .044 .039 .031 .021 .026 .024 .019 .013 11-	
	.025 .016 .016 .013 .012 21-	
	.028 .024 .028 .046 .059 .087 .066 .042 .057 .075 .HDDV..MY AGES 1-1	
	.095 .054 .069 .050 .019 .023 .028 .032 .026 .015 11-	
	.022 .015 .014 .012 .014 21-	
	.024 .063 .044 .053 .102 .094 .068 .086 .103 .090 .MC...MY AGES 1-1	
	.074 .196 .000 .000 .000 .000 .000 .000 .000 .000 11-	
	.000 .000 .000 .000 .000 21-	
	86 80 20 2221 21 073. 22222222 ATP (80-20my) recor	
	El Paso-03-Run #3 26.0 63.0 11.6 11.6 90 LAP rec: SCNME,MNTM	
	1 90 19.6 50.7 20.6 27.3 20.6 1 RGN,CY,SPD,AMBTMP,P	

**TABLE IV-17**  
**Winter 1995 El Paso County MOBILE5a Set-up**  
**for Time Period 1**

1	PROMPT	
1	El Paso, TM1	CO Season - 1995 Proj Control Centralized (Winter Run)
1	TAMFLG	- Default: Tampering Rates
1	SPDFLG	- User input: one speed for all vehicle types
3	VMFLAG	- User input: single Vmt mix for all scenarios
3	MYMFRG	- Default: AMAR, User input: Reg. Distributions
1	NEWFLG	- Default Basic exhaust rates,used.
5	IMFLAG	- Uses Two I/M programs and MOBILE5 models impact on emission
1	ALHFLG	- No additional correction factors
8	ATPFLG	- ATP AND PRESSURE AND PURGE TEST
5	RLFLAG	- Zero-out refueling emissions
2	LOCFLG	- User input: one LAP record for all scenarios
1	TEMFLG	- MOBILE4.1 calculates exhaust temperatures
4	OUTFMT	- 112-column descriptive format
4	PRTFLG	- Print HC, CO and NOX emission factors
1	IDLFLG	- No idle emissions calculated or printed
3	NMHFLG	- Print HC = Volatile organic compounds (VOC)
1	HCFLAG	- Print Total HC (overridden by prtflg)
.686.197.053.020.003.001.036.004	VMT mix:	LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063	July,1996	.LDGV..MY AGES 1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013	Vehicle	11-
.009 .006 .006 .006 .013	Registrations	21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054		.LDGT1.MY AGES 1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.064 .082 .079 .077 .046 .037 .042 .050 .047 .031		.LDGT2.MY AGES 1-1
.048 .037 .037 .027 .031 .024 .020 .042 .035 .032		11-
.027 .023 .021 .017 .023		21-
.042 .056 .057 .058 .037 .039 .035 .031 .029 .034		.HDGV..MY AGES 1-1
.049 .054 .044 .027 .035 .030 .044 .050 .041 .033		11-
.023 .033 .030 .027 .061		21-
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063		.LDDV..MY AGES 1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013		11-
.009 .006 .006 .006 .013		21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054		.LDDT..MY AGES 1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.047 .062 .062 .062 .017 .029 .039 .030 .035 .052		.HDDV..MY AGES 1-1
.059 .067 .053 .036 .039 .055 .062 .036 .035 .027		11-
.014 .016 .016 .020 .030		21-
.026 .042 .049 .054 .060 .041 .045 .044 .030 .032		.MC....MY AGES 1-1
.061 .515 .000 .000 .000 .000 .000 .000 .000 .000		11-
.000 .000 .000 .000 .000		21-
87 20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr	
87 20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240	
95 71 20 2222 12 095. 12211111	ATP record (2spd id	
95 71 20 2222 12 095.	PRESSURE TEST	
95 90 20 2222 12 095.	PURGE TEST	
El Paso-03-Run B 35.6 35.6 11.6 11.6 90 1 1 1	LAP rec: SCNME,MNTM	
1 95 XXXX 35.6 20.6 27.3 20.6	RGN,CY,SPD,AMBTMP,P	

**TABLE IV-18**  
**Winter 1995 El Paso County MOBILE5a Set-up**  
**for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Diurnal CO Season - 1995 Proj Control Centralized (Winter Run)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMFRG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default Basic exhaust rates, used.	
5	IMFLAG - Uses Two I/M programs and MOBILE5 models impact on emission	
1	ALHFLG - No additional correction factors	
8	ATPFLG - ATP AND PRESSURE AND PURGE TEST	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE4.1 calculates exhaust temperatures	
3	OUTFMT - 112-Descriptive format	
4	PRTFLG - Print HC, CO, and NOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = Volatile organic compounds (VOC)	
3	HCFLAG - HC components	
.686.197.053.020.003.001.036.004	VMT mix: LDGV, LDGT1, LDGT2, HDGV, LDDV, LDDT, HDDV	
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063	July, 1996 .LDGV..MY AGES	1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013	Vehicle	11-
.009 .006 .006 .006 .013	Registrations	21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054	.LDGT1..MY AGES	1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.064 .082 .079 .077 .046 .037 .042 .050 .047 .031	.LDGT2..MY AGES	1-1
.048 .037 .037 .027 .031 .024 .020 .042 .035 .032		11-
.027 .023 .021 .017 .023		21-
.042 .056 .057 .058 .037 .039 .035 .031 .029 .034	.HDGV..MY AGES	1-1
.049 .054 .044 .027 .035 .030 .044 .050 .041 .033		11-
.023 .033 .030 .027 .061		21-
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063	.LDDV..MY AGES	1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013		11-
.009 .006 .006 .006 .013		21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054	.LDDT..MY AGES	1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.047 .062 .062 .062 .017 .029 .039 .030 .035 .052	.HDDV..MY AGES	1-1
.059 .067 .053 .036 .039 .055 .062 .036 .035 .027		11-
.014 .016 .016 .020 .030		21-
.026 .042 .049 .054 .060 .041 .045 .044 .030 .032	.MC...MY AGES	1-1
.061 .515 .000 .000 .000 .000 .000 .000 .000 .000		11-
.000 .000 .000 .000 .000		21-
87 20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr	
87 20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240	
95 71 20 2222 12 095. 12211111	ATP record (2spd id	
95 71 20 2222 12 095.	PRESSURE TEST	
95 90 20 2222 12 095.	PURGE TEST	
El Paso-03-Run B 26.0 63.0 11.6 11.6 90 1 1 1	LAP rec: SCNME, MNTM	
1 95 19.6 50.7 20.6 27.3 20.6	RGN, CY, SPD, AMBTMP, P	

**TABLE IV-19**  
**Summer 1996 El Paso County MOBILE5a Set-up**  
**for Time Period 1**

1	PROMPT	
1	El Paso, TM1	- 1996 proj Control (1996-Includes I/M and 71-20 ATP)with CAA
1	TAMFLG	- Default: Tampering Rates
1	SPDFLG	- User input: one speed for all vehicle types
3	VMFLAG	- User input: single VMT mix for all scenarios
3	MYMFLG	- Default: AMAR, User input: Reg. Distributions
1	NEWFLG	- Default Basic exhaust rates,new fmvc, new evap. tst
5	IMFLAG	- Uses two I/M programs and I/M prog for CAAA STD
1	ALHFLG	- No additional correction factors
8	ATPFLG	- ATP AND PRESSURE AND PURGE TEST
5	RLFLAG	- Zero-out refueling emissions
2	LOCFLG	- User input: one LAP record for all scenarios
1	TEMFLG	- MOBILE4.1 calculates exhaust temperatures
4	OUTFMT	- 112-column descriptive format
4	PRTFLG	- Print HC, CO, and NOX emission factors
1	IDLFLG	- No idle emissions calculated or printed
3	NMFLG	- Print HC = Volatile organic compounds (VOC)
1	HCFLAG	- Print Total HC (overridden by prtflg)
.686.197.053.020.003.001.036.004	VMT mix:	LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063	July,1996	.LDGV..MY AGES 1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013	Vehicle	11-
.009 .006 .006 .006 .013	Registrations	21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054		.LDGT1.MY AGES 1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.064 .082 .079 .077 .046 .037 .042 .050 .047 .031		.LDGT2.MY AGES 1-1
.048 .037 .037 .027 .031 .024 .020 .042 .035 .032		11-
.027 .023 .021 .017 .023		21-
.042 .056 .057 .058 .037 .039 .035 .031 .029 .034		.HDGV..MY AGES 1-1
.049 .054 .044 .027 .035 .030 .044 .050 .041 .033		11-
.023 .033 .030 .027 .061		21-
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063		.LDDV..MY AGES 1-1
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013		11-
.009 .006 .006 .006 .013		21-
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054		.LDDT..MY AGES 1-1
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		11-
.017 .011 .013 .012 .027		21-
.047 .062 .062 .062 .017 .029 .039 .030 .035 .052		.HDDV..MY AGES 1-1
.059 .067 .053 .036 .039 .055 .062 .036 .035 .027		11-
.014 .016 .016 .020 .030		21-
.026 .042 .049 .054 .060 .041 .045 .044 .030 .032		.MC....MY AGES 1-1
.061 .515 .000 .000 .000 .000 .000 .000 .000 .000		11-
.000 .000 .000 .000 .000		21-
87 20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr	
87 20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240	
95 71 20 2222 12 095. 12211111	ATP record (2spd id	
95 71 20 2222 12 095.	PRESSURE TEST	
95 90 20 2222 12 095.	PURGE TEST	
EL PASO-03	LAP rec: SCNME,MNTP	
1 96 XXXX 76.5 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P	

**TABLE IV-20**  
**Summer 1996 El Paso County MOBILE5a Set-up**  
**for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Diurnal - 1996 proj Control (1996-Includes I/M and 71-20 ATP)with CAAA STD and I/M prog	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User Input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default Basic exhaust rates,new fmvcv, new evap. tst	
5	IMFLAG - Uses two I/M programs and I/M prog for CAAA STD	
1	ALHFLG - No additional correction factors	
8	ATPFLG - ATP AND PRESSURE AND PURGE TEST	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE4.1 calculates exhaust temperatures	
3	OUTFMT - 112-Descriptive format	
4	PRTFLG - Print HC, CO, and NOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = Volatile organic compounds (VOC)	
3	HCFLAG - HC components	
.686.197.053.020.003.001.036.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV,MC	
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063	July,1996 .LDGV..MY AGES	1-10
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013	Vehicle Registrations	11-20 21-25
.009 .006 .006 .006 .013		
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054	.LDGT1.MY AGES	1-10 11-20
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		21-25
.017 .011 .013 .012 .027	.LDGT2.MY AGES	1-10 11-20
.064 .082 .079 .077 .046 .037 .042 .050 .047 .031		21-25
.048 .037 .037 .027 .031 .024 .020 .042 .035 .032	.HDGV..MY AGES	1-10 11-20
.027 .023 .021 .017 .023		21-25
.042 .056 .057 .058 .037 .039 .035 .031 .029 .034	.LDDV..MY AGES	1-10 11-20
.049 .054 .044 .027 .035 .030 .044 .050 .041 .033		21-25
.023 .033 .030 .027 .061	.LDDT..MY AGES	1-10 11-20
.045 .063 .066 .069 .071 .067 .058 .073 .071 .063		21-25
.056 .053 .048 .030 .028 .025 .021 .022 .019 .013	.LDDT..MY AGES	1-10 11-20
.009 .006 .006 .006 .013		21-25
.055 .071 .069 .068 .047 .047 .046 .056 .064 .054	.HDDV..MY AGES	1-10 11-20
.062 .051 .046 .031 .030 .029 .022 .027 .025 .021		21-25
.017 .011 .013 .012 .027	.MC....MY AGES	1-10 11-20
.047 .062 .062 .062 .017 .029 .039 .030 .035 .052		21-25
.059 .067 .053 .036 .039 .055 .062 .036 .035 .027		
.014 .016 .016 .020 .030		
.026 .042 .049 .054 .060 .041 .045 .044 .030 .032		
.061 .515 .000 .000 .000 .000 .000 .000 .000 .000		
.000 .000 .000 .000 .000		
87 20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr	
87 20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240	
95 71 20 2222 12 095. 12211111	ATP record (2spd idle	
95 71 20 2222 12 095.	PRESSURE TEST	
95 90 20 2222 12 095.	PURGE TEST	
EL PASO-03 66. 097. 7.7 7.7 90	LAP rec:	
1 96 19.6 86.6 20.6 27.3 20.6 7		

**TABLE IV-21**  
**Winter 1999 El Paso County MOBILE5a Set-up**  
**for Time Period 1**

1	PROMPT	
1	El Paso, TM1 CO Season - 1999 Proj Control Centralized (Winter Run)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default Basic exhaust rates,used.	
5	IMFLAG - Uses Two I/M programs and MOBILE5 models impact on emission	
1	ALHFLG - No additional correction factors	
8	ATPFLG - ATP AND PRESSURE AND PURGE TEST	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLAG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE4.1 calculates exhaust temperatures	
4	OUTFMT - 112-column descriptive format	
4	PRTFLAG - Print HC, CO and NOX emission factors	
1	IDLFLAG - No idle emissions calculated or printed	
3	NMHFLAG - Print HC = Volatile organic compounds (VOC)	
1	HCFLAG - Print Total HC (overridden by prtflg)	
	.686.197.053.020.003.001.036.004 VMT mix: LDGV,LDGT1,LDGT2,HGCV,LDDV,LDDT,HDDV	
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDGV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDGV 1999
	.012 .010 .007 .005 .015	LDGV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDGT1 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDGT1 1999
	.019 .017 .014 .012 .036	LDGT1 1999
	.065 .083 .079 .074 .071 .068 .066 .038 .030 .033	LDGT2 1999
	.039 .035 .022 .034 .026 .026 .018 .021 .016 .013	LDGT2 1999
	.029 .024 .022 .018 .048	LDGT2 1999
	.042 .057 .057 .057 .058 .058 .058 .036 .037 .032	HGCV 1999
	.028 .026 .029 .041 .044 .035 .021 .028 .024 .034	HGCV 1999
	.039 .032 .026 .018 .083	HGCV 1999
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDDV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDDV 1999
	.012 .010 .007 .005 .015	LDDV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDDT 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDDT 1999
	.019 .017 .014 .012 .036	LDDT 1999
	.047 .063 .063 .061 .061 .060 .059 .016 .027 .035	HDDV 1999
	.026 .030 .042 .047 .052 .041 .027 .029 .041 .046	HDDV 1999
	.026 .026 .020 .010 .043	HDDV 1999
	.017 .029 .037 .043 .050 .053 .055 .051 .035 .037	MC 1999
	.040 .553 .000 .000 .000 .000 .000 .000 .000 .000	MC 1999
	.000 .000 .000 .000 .000	MC 1999
87	20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr
87	20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240
95	71 20 2222 12 095. 12211111	ATP record (2spd id
95	71 20 2222 12 095.	PRESSURE TEST
95	90 20 2222 12 095.	PURGE TEST
El Paso-03-Run	B 35.6.35.6 11.6 11.6 90 1 1 1	LAP rec: SCNME,MNTM
1 99 XXXX	35.6 20.6 27.3 20.6	RGN,CY,SPD,AMBTMP,P



**TABLE IV-22**  
**Winter 1999 El Paso County MOBILE5a Set-up**  
**for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Diurnal CO Season - 1999 Proj Control Centralized (Winter Run)	
1	TAMFLG - Default: Tampering Rates	
1	SPDFLG - User input: one speed for all vehicle types	
3	VMFLAG - User input: single VMT mix for all scenarios	
3	MYMRFG - Default: AMAR, User input: Reg. Distributions	
1	NEWFLG - Default Basic exhaust rates,used.	
5	IMFLAG - Uses Two I/M programs and MOBILE5 models impact on emission	
1	ALHFLG - No additional correction factors	
8	ATPFLG - ATP AND PRESSURE AND PURGE TEST	
5	RLFLAG - Zero-out refueling emissions	
2	LOCFLAG - User input: one LAP record for all scenarios	
1	TEMFLG - MOBILE4.1 calculates exhaust temperatures	
3	OUTFMT - 112-Descriptive format	
4	PRTFLG - Print HC, CO, and MOX emission factors	
1	IDLFLG - No idle emissions calculated or printed	
3	NMHFLG - Print HC = Volatile organic compounds (VOC)	
3	HCFLAG - HC components	
	.686.197.053.020.003.001.036.004 VMT mix: LDGV,LDGT1,LDGT2,HGCV,LDDV,LDDT,HDDV	
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDGV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDGV 1999
	.012 .010 .007 .005 .015	LDGV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDGT1 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDGT1 1999
	.019 .017 .014 .012 .036	LDGT1 1999
	.065 .083 .079 .074 .071 .068 .066 .038 .030 .033	LDGT2 1999
	.039 .035 .022 .034 .026 .026 .018 .021 .016 .013	LDGT2 1999
	.029 .024 .022 .018 .048	LDGT2 1999
	.042 .057 .057 .057 .058 .058 .058 .036 .037 .032	HGCV 1999
	.028 .026 .029 .041 .044 .035 .021 .028 .024 .034	HGCV 1999
	.039 .032 .026 .018 .083	HGCV 1999
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDDV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDDV 1999
	.012 .010 .007 .005 .015	LDDV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDDT 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDDT 1999
	.019 .017 .014 .012 .036	LDDT 1999
	.047 .063 .063 .061 .061 .060 .059 .016 .027 .035	HDDV 1999
	.026 .030 .042 .047 .052 .041 .027 .029 .041 .046	HDDV 1999
	.026 .026 .020 .010 .043	HDDV 1999
	.017 .029 .037 .043 .050 .053 .055 .051 .035 .037	MC 1999
	.040 .553 .000 .000 .000 .000 .000 .000 .000 .000	MC 1999
	.000 .000 .000 .000 .000	MC 1999
87 20	68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr
87 20	90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240
95 71	20 2222 12 095. 12211111	ATP record (2spd id
95 71	20 2222 12 095.	PRESSURE TEST
95 90	20 2222 12 095.	PURGE TEST
El Paso-03-Run	B 26.9 63.0 11.6 11.6 90 1 1 1	LAP rec: SCNME,MNTM
1 99	19.6 50.7 20.6 27.3 20.6	RGN,CY,SPD,AMBTMP,P

**TABLE IV-23**  
**Summer 1999 El Paso County MOBILE5a Set-up**  
**for Time Period 1**

1	PROMPT	
1	El Paso, TM1	- 1999 proj Control (1999-Includes I/M and 71-20 ATP)with CAA
1	TAMFLG	- Default: Tampering Rates
1	SPDFLG	- User Input: one speed for all vehicle types
3	VMFLAG	- User input: single VMT mix for all scenarios
3	MYMFLG	- Default: AMAR, User input: Reg. Distributions
1	NEWFLG	- Default Basic exhaust rates,new fmvcp, new evap. tst
5	IMFLAG	- Uses two I/M programs and I/M prog for CAAA STD
1	ALHFLG	- No additional correction factors
8	ATPFLG	- ATP AND PRESSURE AND PURGE TEST
5	RLFLAG	- Zero-out refueling emissions
2	LOCFLG	- User input: one LAP record for all scenarios
1	TEMFLG	- MOBILE4.1 calculates exhaust temperatures
4	OUTFMT	- 112-column descriptive format
4	PRTFLG	- Print HC, CO, and NOX emission factors
1	IDLFLG	- No idle emissions calculated or printed
3	NMHFLG	- Print HC = Volatile organic compounds (VOC)
1	HCFLAG	- Print Total HC (overridden by prtflg)
	.686.197.053.020.003.001.036.004	VMT mix: LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDGV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDGV 1999
	.012 .010 .007 .005 .015	LDGV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDGT1 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDGT1 1999
	.019 .017 .014 .012 .036	LDGT1 1999
	.065 .083 .079 .074 .071 .068 .066 .038 .030 .033	LDGT2 1999
	.039 .035 .022 .034 .026 .026 .018 .021 .016 .013	LDGT2 1999
	.029 .024 .022 .018 .048	LDGT2 1999
	.042 .057 .057 .057 .058 .058 .036 .037 .032	HDGV 1999
	.028 .026 .029 .041 .044 .035 .021 .028 .024 .034	HDGV 1999
	.039 .032 .026 .018 .083	HDGV 1999
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDDV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDDV 1999
	.012 .010 .007 .005 .015	LDDV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDDT 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDDT 1999
	.019 .017 .014 .012 .036	LDDT 1999
	.047 .063 .063 .061 .061 .060 .059 .016 .027 .035	HDDV 1999
	.026 .030 .042 .047 .052 .041 .027 .029 .041 .046	HDDV 1999
	.026 .026 .020 .010 .043	HDDV 1999
	.017 .029 .037 .043 .050 .053 .055 .051 .035 .037	MC 1999
	.040 .553 .000 .000 .000 .000 .000 .000 .000 .000	MC 1999
	.000 .000 .000 .000 .000	MC 1999
87 20	68 89 03 03 095 1 2 2222 2111 220. 1.20 999.	I/M record strt yr
87 20	90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50	I/M 240
95 71	20 2222 12 095. 12211111	ATP record (2spd id
95 71	20 2222 12 095.	PRESSURE TEST
95 90	20 2222 12 095.	PURGE TEST
EL PASO-03	76.5 76.5 7.7 7.7 90	LAP rec: SCNME,MNTP
1 99 XXXX	76.5 20.6 27.3 20.6 7	RGN,CY,SPD,AMBTMP,P

**TABLE IV-24**  
**Summer 1999 El Paso County MOBILE5a Set-up**  
**for 24-Hour Diurnal Rates**

1	PROMPT	
1	El Paso, Diurnal	- 1999 proj Control (1999-Includes I/M and 71-20 ATP)with CAA
1	TAMFLG	- Default: Tampering Rates
1	SPDFLG	- User Input: one speed for all vehicle types
3	VMFLAG	- User input: single VMT mix for all scenarios
3	MYMRFG	- Default: AMAR, User input: Reg. Distributions
1	NEWFLG	- Default Basic exhaust rates,new fmvcp, new evap. tst
5	IMFLAG	- Uses two I/M programs and I/M prog for CAAA STD
1	ALHFLG	- No additional correction factors
8	ATPFLG	- ATP AND PRESSURE AND PURGE TEST
5	RLFLAG	- Zero-out refueling emissions
2	LOCFLG	- User input: one LAP record for all scenarios
1	TEMFLG	- MOBILE4.1 calculates exhaust temperatures
3	OUTFMT	- 112-Descriptive format
4	PRTFLG	- Print HC, CO, and NOX emission factors
1	IDLFLG	- No idle emissions calculated or printed
3	NMHFLG	- Print HC = Volatile organic compounds (VOC)
3	HCFLAG	- HC components
	.686.197.053.020.003.001.036.004	VMT mix: LDGV,LDGT1,LDGT2,HdGV,LDDV,LDDT,HDDV
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDGV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDGV 1999
	.012 .010 .007 .005 .015	LDGV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDGT1 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDGT1 1999
	.019 .017 .014 .012 .036	LDGT1 1999
	.065 .083 .079 .074 .071 .068 .066 .038 .030 .033	LDGT2 1999
	.039 .035 .022 .034 .026 .026 .018 .021 .016 .013	LDGT2 1999
	.029 .024 .022 .018 .048	LDGT2 1999
	.042 .057 .057 .057 .058 .058 .036 .037 .032	HdGV 1999
	.028 .026 .029 .041 .044 .035 .021 .028 .024 .034	HdGV 1999
	.039 .032 .026 .018 .083	HdGV 1999
	.044 .061 .063 .066 .068 .070 .071 .071 .064 .052	LDDV 1999
	.062 .056 .045 .038 .034 .029 .017 .016 .014 .011	LDDV 1999
	.012 .010 .007 .005 .015	LDDV 1999
	.055 .072 .070 .067 .064 .062 .060 .041 .040 .038	LDDT 1999
	.045 .050 .041 .046 .037 .033 .022 .022 .021 .015	LDDT 1999
	.019 .017 .014 .012 .036	LDDT 1999
	.047 .063 .063 .061 .061 .060 .059 .016 .027 .035	HDDV 1999
	.026 .030 .042 .047 .052 .041 .027 .029 .041 .046	HDDV 1999
	.026 .026 .020 .010 .043	HDDV 1999
	.017 .029 .037 .043 .050 .053 .055 .051 .035 .037	MC 1999
	.040 .553 .000 .000 .000 .000 .000 .000 .000 .000	MC 1999
	.000 .000 .000 .000 .000	MC 1999
87 20 68 89 03 03 095 1 2 2222 2111 220. 1.20 999.		I/M record strt yr
87 20 90 20 03 03 095 1 2 2222 4211 1.20 20.0 2.50		I/M 240
95 71 20 2222 12 095. 12211111		ATP record (2spd id
95 71 20 2222 12 095.		PRESSURE TEST
95 90 20 2222 12 095.		PURGE TEST
EL PASO-03 66.0 97.0 7.7 7.7 90		LAP rec: SCNME,MNTP
1 99 19.6 86.6 20.6 27.3 20.6 7		RGN,CY,SPD,AMBTMP,P

## **EMISSION RATES**

The emission rates are presented in Appendix A. The 24-hour diurnal emission rates for a given application (i.e., a given year and season) are stratified only by vehicle type. The emission factors used in computing the emissions produced on individual links in the highway network for a given application are by the four time-of-day time periods, the eight vehicle types and by 63 speeds (i.e., 3 mph through 65 mph).

## V. EMISSION ESTIMATES

The emission estimates are computed using the emission rates discussed in the preceding chapter. The time-of-day emission estimates are developed using the time-of-day emission rates (discussed in Chapter IV) and the time-of-day VMT and speed estimates (discussed in Chapter III). The 24-hour emission estimates are prepared by computing the 24-hour diurnal estimates and combining the diurnal estimates with the results from each of the four time-of-day time periods. The following provides a more detailed discussion of the method used to estimate the time-of-day emissions and the method used to develop the 24-hour emission estimates. Also included is a brief summary of the Build versus No-Build results for the El Paso FY-94 TIP.

### ESTIMATION OF TIME-OF-DAY EMISSIONS

For a given year and season, the mobile source emissions for each of the four time-of-day time periods were computed using the IMPSUM program. The IMPSUM program is one of a series of programs developed by TTI to facilitate the computation of emissions. IMPSUM uses emission factors obtained from POLFAC5A (or COADJ), the user-estimated VMT mixes, and the VMT/speed estimates to compute the emissions by county. A copy of the user's guide for this series of programs is provided in Appendix B.

The basic inputs for the conformity applications of IMPSUM for El Paso were:

1. Data specifying the number of counties in the region and their names (i.e., one county named El Paso).
2. Names of the road types used in the study. These road types are used to summarize the emission results. The roadway types used in the conformity analyses are the functional classes used in the networks.
3. VMT mix by county used in the MOBILE5a set-ups.
4. Emission factors from POLFAC5A or COADJ by county.
5. Specification of the units for reporting emissions (grams, pounds, or tons).
6. Link records providing the estimated VMT and speeds. For each link record, the following information must be provided: county number, road type number, VMT estimate, operational speed estimate, and center line miles. These data were prepared using PREPIN.

As stated previously, the emission rates produced using MOBILE5a are stratified by eight vehicle types. Hence, to apply the emission rates, VMT for a link record are disaggregated by the eight vehicle types applying the user-supplied VMT mixes. The software was designed to allow the user to input the VMT mix data by county and by roadway type within a county. IMPSUM uses these data to disaggregate the VMT for each link by the eight vehicle types based on the user-supplied estimate of the VMT mix for that link's county and roadway type.

The emission estimates are computed for each link by multiplying the appropriate emission factors corresponding to the link's roadway type and the link's estimated speed. For non-integer

speed estimates, the emission factors are computed by interpolating between the emission factors for the integer speeds on either side of the subject speed. The interpolation is performed using the reciprocals of the corresponding speeds rather than the speeds themselves. The emission results are accumulated for each county by vehicle type and roadway type.

## **ESTIMATION OF 24-HOUR EMISSIONS**

For El Paso applications, PREPIN, POLFAC5A, and IMPSUM were applied to estimate the mobile source emissions for each of the four time-of-day time periods for each scenario. The four time-of-day estimates must be combined with the diurnal estimates to obtain the 24-hour emission estimates. SUMALL was used to compute the 24-hour emission estimates for El Paso.

SUMALL is designed to sum the results from two or more IMPSUM applications (i.e., the time-of-day applications). SUMALL also provides the option of calculating the 24-hour diurnal emission estimates. The diurnal estimates are combined with the time-of-day estimates (which exclude diurnals) to obtain the 24-hour emission estimates. The 24-hour tabular summaries produced by SUMALL are essentially the same as those produced for the individual time-of-day time periods by IMPSUM.

As previously noted, MOBILE5a is not structured to compute diurnal emissions for less than a 24-hour time period; therefore, a separate run of MOBILE5a was made to calculate the diurnal emissions for each application year and season. Diurnal emissions are produced by LDGV, LDGT1, LDGT, HDGV, and MC vehicle types. Diesel vehicle types do not produce diurnal emissions. Multiple diurnal emissions are produced by LDGV, LDGT1, LDGT2, and HDGV. According to Terry Newell, U.S. EPA Motor Vehicle Laboratory, 12.26 percent of LDGV, LDGT1, and LDGT2 vehicle types and 23.1 percent of HDGV vehicles undergo multiple diurnals. These percentages were applied to the total number of vehicles by vehicle type to calculate the number of vehicles of multiple diurnals as shown in Table V-1.

**TABLE V-1**  
**El Paso County Number of Vehicles by Vehicle Type and**  
**Number of Vehicles Subject to Multiple Diurnals 1990, 1996, 1999**

Vehicle Type	Total 1990	Multiple Diurnals 1990	Total 1996	Multiple Diurnals 1996	Total 1999	Multiple Diurnals 1999
LDGV	2263,357	32,287	292,437	35,853	309,563	37,952
LDGT1	77,242	9,470	85,330	10,461	90,122	1,282
LDGT2	5,944	729	5,893	722	5,923	649
HDGV	3,485	805	3,190	737	3,087	713
LDDV	5,375	0	5,966	0	6,318	0
LDDT	2,389	0	2,639	0	2,780	0
HDDV	1,083	0	833	0	747	0
MC	5,167	0	3,691	0	3,166	0

Note: Diurnal emission rates (grams per gasoline vehicle) are calculated separately for the 24-hour period

- a. TEMFLG = 1
- b. HCFLAG = 3
- c. OUTFMT = 3 (print evaporative emission rates by component)
- d. Speed = 19.6

## BUILD VERSUS NO-BUILD RESULTS FOR THE FY-94 TIP

An important part of the conformity analysis of the El Paso FY-94 TIP is the comparison of the Build versus No-Build emission estimates. Table V-2 summarizes the 24-hour emission estimates for the Build and No-Build options for the winter of 1995. Table V-3 provides similar results for the summer of 1996. Finally, Tables V-4 and V-5 present the summer and the winter estimates for 1999. As may be observed in each of the four tables, both the VOC and CO estimates for the Build option are consistently lower than the No-Build for the same year and season. Except for the summer of 1996, the NOX is also lower for the Build option than for the No-Build.

**TABLE V-2**  
**Winter 1995 24-Hour Emission Estimates for the**  
**El Paso FY-94 TIP**

<b>Emission Type</b>	<b>No-Build Option Emissions</b>	<b>Build Option Emissions</b>	<b>Difference in Emissions</b>	<b>Percentage Difference in Emissions</b>
VOC (tons)	31.8218	31.7591	-0.0627	-0.197
CO (tons)	352.5570	352.5256	-0.0314	-0.009
NOX (tons)	47.1422	47.1256	-0.0166	-0.035

**TABLE V-3**  
**Summer 1996 24-Hour Emission Estimates for the**  
**El Paso FY-94 TIP**

<b>Emission Type</b>	<b>No-Build Option Emissions</b>	<b>Build Option Emissions</b>	<b>Difference in Emissions</b>	<b>Percentage Difference in Emissions</b>
VOC (tons)	26.0681	25.9099	-0.1582	-0.607
CO (tons)	224.4720	223.7480	-0.7240	-0.323
NOX (tons)	40.7414	40.7516	+0.0102	+0.025



**TABLE V-4**  
**Summer 1999 24-Hour Emission Estimates for the**  
**El Paso FY-94 TIP**

<b>Emission Type</b>	<b>No-Build Option Emissions</b>	<b>Build Option Emissions</b>	<b>Difference in Emissions</b>	<b>Percentage Difference in Emissions</b>
VOC (tons)	24.1228	23.1821	-0.9407	-3.900
CO (tons)	194.3284	186.2742	-8.0542	-4.145
NOX (tons)	38.1497	37.6481	-0.5016	-1.315

**TABLE V-5**  
**Winter 1999 24-Hour Emission Estimates for the**  
**El Paso FY-94 TIP**

<b>Emission Type</b>	<b>No-Build Option Emissions</b>	<b>Build Option Emissions</b>	<b>Difference in Emissions</b>	<b>Percent Difference in Emissions</b>
VOC (tons)	29.1694	27.9895	-1.1799	-4.045%
CO (tons)	308.4147	295.8791	-12.5356	-4.065%
NOX (tons)	44.1376	43.5529	-0.5847	-1.325%



## **APPENDIX A**

### **MOBILE5a EMISSION RATES**

The purpose of this appendix is to present tabular summaries of the emission rates developed and used in the FY-94 TIP Conformity Analyses for El Paso. The first section presents the 24-hour diurnal emission rates used for a given year and season. The second section presents the time-of-day rates used for a given year and season.

#### **24-HOUR DIURNAL EMISSION RATES**

The diurnal emission rates are input to the SUMALL program for the computation of the 24-hour diurnal emissions. Table A-1 summarizes the 24-hour 1990 diurnal emission rates used for the El Paso conformity analyses for the FY-94 TIP. Table A-2 summarizes the 24-hour 1995 winter diurnal emission rates and the 1996 summer diurnal rates used for the El Paso conformity analyses. Table A-3 summarizes the 24-hour 1999 diurnal emission rates used for the El Paso conformity analyses. The MOBILE5a set-ups used to compute these rates were presented in Chapter IV.



**Table A-1**  
**1990 El Paso Diurnal Rates**

El Paso 1990 Winter Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
8.68	13.18	22.57	39.33	0.	0.	0.	29.54
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
16.46	21.48	26.47	40.81	0.	0.	0.	0.
El Paso 1990 Summer Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
10.15	14.58	23.04	42.54	0.	0.	0.	30.22
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
20.72	26.14	29.75	44.51	0.	0.	0.	0.

**Table A-2**  
**1995 and 1996 El Paso Diurnal Rates**

El Paso 1995 Winter Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
2.63	4.48	12.38	28.45	0.	0.	0.	12.71
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
6.11	8.86	14.92	32.37	0.	0.	0.	0.
El Paso 1996 Summer Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
2.86	4.34	10.65	28.34	0.	0.	0.	16.40
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
10.07	12.61	17.82	37.52	0.	0.	0.	0.

**Table A-3  
1999 El Paso Diurnal Rates**

El Paso 1999 Winter Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
1.79	3.02	7.20	20.66	0.	0.	0.	12.59
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
4.28	5.82	9.31	25.62	0.	0.	0.	0.
El Paso 1999 Summer Diurnal Emission rates in grams							
Weighted Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
2.28	3.44	7.32	22.36	0.	0.	0.	16.40
Multiple Diurnal							
LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
8.87	10.86	13.98	32.62	0.	0.	0.	0.

## **TIME-OF-DAY EMISSION RATES BY SPEED**

Emission rates were developed for each of the four time-of-day time periods for a given year and season. For a given emission type, year, and season, the emission factors are stratified by the eight vehicle types and 63 speeds (i.e., 3 mph through 65 mph). Tables A-4-1 through A-4-12 list the 1990 El Paso County summer emission rates used in the conformity analyses. As discussed in Chapter IV, the 1990 emission rates were computed using POLFAC5A and COADJ. Tables A-4-1 through A-4-12 are the rates computed by COADJ which are input to IMPSUM for emission computations. Tables A-4-13 through A-4-24 list the 1990 El Paso County winter emission rates used in the conformity analyses. Tables 28-25 through 28-36 list the 1995 winter emission rates and Tables A-4-37 through A-4-48 list the 1996 summer emission rates. Finally, Tables A-4-49 through A-4-60 list the 1999 summer emission rates and Tables A-4-61 through A-4-72 list the 1996 winter emission rates. The MOBILE5a rates in Tables A-4-13 through A-4-72 were developed using POLFAC5A and were used as input to IMPSUM for emissions computations by time-of-day time period.



**Table A-4-1**  
**El Paso 1990 Summer Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGV	LDDV	LDDT	HDDV	MC
3	14.99636	17.13504	30.70596	37.36603	1.56547	2.23755	7.34006	16.80569
4	11.16335	12.96166	23.06969	31.16971	1.48627	2.12434	6.96868	14.05060
5	8.91702	10.44458	18.41329	27.27522	1.41231	2.01864	6.62192	12.01389
6	7.44075	8.75994	15.27762	24.40822	1.34322	1.91988	6.29796	10.47916
7	6.39916	7.55880	13.03738	22.11684	1.27863	1.82756	5.99512	9.30244
8	5.68703	6.72648	11.47549	20.36272	1.21822	1.74121	5.71186	8.38586
9	5.13495	6.07895	10.26690	18.82581	1.16168	1.66041	5.44678	7.66154
10	4.69046	5.55744	9.30225	17.45332	1.10874	1.58474	5.19858	7.08146
11	4.32488	5.12875	8.51788	16.22255	1.05915	1.51386	4.96605	6.61103
12	4.01866	4.76992	7.86936	15.11519	1.01267	1.44742	4.74810	6.22497
13	3.75803	4.46462	7.32491	14.11614	0.96908	1.38511	4.54372	5.90448
14	3.53306	4.20089	6.86132	13.21272	0.92818	1.32666	4.35195	5.63536
15	3.33638	3.96990	6.46128	12.39408	0.88979	1.27179	4.17196	5.40679
16	3.16245	3.76493	6.11171	11.65091	0.85374	1.22026	4.00293	5.21041
17	3.00701	3.58085	5.80261	10.97509	0.81987	1.17185	3.84412	5.03969
18	2.86677	3.41367	5.52622	10.35954	0.78804	1.12635	3.69487	4.88952
19	2.73913	3.26029	5.27647	9.79803	0.75811	1.08357	3.55454	4.75584
20	2.62501	3.14082	5.07285	9.28733	0.72996	1.04333	3.42255	4.63545
21	2.52544	3.03174	4.88141	8.82369	0.70347	1.00548	3.29836	4.52581
22	2.43403	2.93082	4.70524	8.39952	0.67854	0.96985	3.18148	4.42491
23	2.34966	2.83686	4.54202	8.01101	0.65507	0.93630	3.07144	4.33119
24	2.27138	2.74893	4.38993	7.65479	0.63297	0.90471	2.96781	4.24341
25	2.19850	2.66634	4.24757	7.32784	0.61216	0.87496	2.87021	4.16065
26	2.13038	2.58852	4.11382	7.02745	0.59254	0.84693	2.77826	4.08222
27	2.06653	2.51508	3.98783	6.75124	0.57407	0.82052	2.69163	4.00760
28	2.00654	2.44568	3.86895	6.49703	0.55666	0.79563	2.60999	3.93646
29	1.95009	2.38008	3.75670	6.26290	0.54025	0.77218	2.53306	3.86857
30	1.89690	2.31811	3.65066	6.04710	0.52478	0.75008	2.46055	3.80380
31	1.84672	2.25959	3.55055	5.84809	0.51021	0.72925	2.39223	3.74210
32	1.79936	2.20443	3.45614	5.66445	0.49648	0.70963	2.32785	3.68346
33	1.75466	2.15253	3.36725	5.49494	0.48355	0.69114	2.26720	3.62794
34	1.71244	2.10377	3.28370	5.33839	0.47136	0.67372	2.21007	3.57557
35	1.67257	2.05809	3.20534	5.19378	0.45989	0.65733	2.15628	3.52645
36	1.63496	2.01539	3.13205	5.06020	0.44909	0.64189	2.10565	3.48063
37	1.59945	1.97557	3.06365	4.93680	0.43893	0.62737	2.05802	3.43815
38	1.56596	1.93854	3.00001	4.82282	0.42938	0.61372	2.01324	3.39908
39	1.53438	1.90421	2.94095	4.71758	0.42041	0.60089	1.97117	3.36342
40	1.50461	1.87244	2.88630	4.62047	0.41198	0.58886	1.93167	3.33116
41	1.47653	1.84312	2.83585	4.53094	0.40409	0.57756	1.89463	3.30228
42	1.45006	1.81610	2.78940	4.44847	0.39669	0.56699	1.85994	3.27668
43	1.42510	1.79123	2.74664	4.37260	0.38977	0.55710	1.82749	3.25416
44	1.40150	1.76832	2.70735	4.30294	0.38330	0.54786	1.79719	3.23464
45	1.37918	1.74716	2.67117	4.23911	0.37728	0.53925	1.76895	3.21783
46	1.35799	1.72755	2.63774	4.18077	0.37168	0.53124	1.74268	3.20343
47	1.33781	1.70917	2.60664	4.12765	0.36648	0.52382	1.71832	3.19104
48	1.31867	1.69178	2.57725	4.07910	0.36168	0.51695	1.69578	3.18017
49	1.31610	1.68908	2.57175	4.03224	0.35725	0.51062	1.67502	3.18017
50	1.31368	1.68653	2.56656	3.99023	0.35318	0.50481	1.65597	3.18017
51	1.31140	1.68411	2.56168	3.95286	0.34947	0.49951	1.63857	3.18017
52	1.30925	1.68184	2.55707	3.91995	0.34611	0.49469	1.62279	3.18017
53	1.30721	1.67968	2.55272	3.89132	0.34307	0.49036	1.60857	3.18017
54	1.30527	1.67763	2.54860	3.86684	0.34037	0.48649	1.59588	3.18017
55	1.30343	1.67570	2.54470	3.84639	0.33798	0.48308	1.58468	3.18017
56	1.37416	1.77615	2.70717	3.82988	0.33590	0.48011	1.57495	3.31258
57	1.44498	1.87668	2.86984	3.81722	0.33414	0.47758	1.56666	3.44499
58	1.51588	1.97730	3.03267	3.80837	0.33267	0.47549	1.55978	3.57740
59	1.58685	2.07801	3.19568	3.80329	0.33150	0.47382	1.55430	3.70981
60	1.65788	2.17878	3.35883	3.80195	0.33063	0.47257	1.55020	3.84222
61	1.72900	2.27964	3.52213	3.80436	0.33004	0.47174	1.54747	3.97463
62	1.80016	2.38055	3.68557	3.81055	0.32975	0.47132	1.54611	4.10704
63	1.87140	2.48153	3.84912	3.82054	0.32975	0.47132	1.54611	4.23945
64	1.94268	2.58257	4.01282	3.83441	0.33004	0.47174	1.54748	4.37185
65	2.01401	2.68365	4.17661	3.85222	0.33063	0.47257	1.55020	4.50426

**Table A-4-2**  
**El Paso 1990 Summer Time Period 1 CO Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HdGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	155.38470	185.55438	313.61304	463.39795	5.20712	6.10937	44.05968	152.88594
4	118.88527	142.84187	242.67019	423.38696	4.79895	5.63048	40.60597	121.92653
5	96.01119	115.44814	195.58197	387.68237	4.43083	5.19858	37.49117	99.56009
6	80.37769	96.51557	162.40796	355.77100	4.09840	4.80855	34.67833	83.04301
7	69.07537	82.77459	138.08164	327.20508	3.79782	4.45588	32.13496	70.59894
8	60.56878	72.43849	119.69479	301.59570	3.52569	4.13660	29.83241	61.04965
9	53.96619	64.44268	105.45142	278.60278	3.27903	3.84720	27.74525	53.59682
10	48.71321	58.11268	94.18540	257.93018	3.05518	3.58456	25.85115	47.68774
11	44.44716	53.00161	85.11042	239.31749	2.85179	3.34593	24.13023	42.93307
12	40.92140	48.80214	77.67993	222.53650	2.66679	3.12888	22.56488	39.05324
13	37.96249	45.29683	71.50465	207.38806	2.49834	2.93124	21.13956	35.84422
14	35.44528	42.32784	66.30107	193.69608	2.34479	2.75108	19.84032	33.15527
15	33.27730	39.77832	61.85920	181.30695	2.20469	2.58671	18.65485	30.87311
16	31.38897	37.56007	58.02085	170.08362	2.07673	2.43658	17.57217	28.91185
17	29.72728	35.60596	54.66553	159.90680	1.95977	2.29935	16.58247	27.20563
18	28.25098	33.86416	51.69998	150.66989	1.85276	2.17380	15.67706	25.70361
19	26.92790	32.29424	49.05201	142.27908	1.75478	2.05884	14.84803	24.36617
20	25.76481	31.13968	47.00119	134.65167	1.66502	1.95352	14.08849	23.16248
21	24.73121	30.05368	45.11157	127.71370	1.58272	1.85697	13.39213	22.06839
22	23.78425	29.04458	43.37804	121.39998	1.50723	1.76840	12.75339	21.06505
23	22.91173	28.10064	41.77639	115.62529	1.43796	1.68712	12.16725	20.13771
24	22.10391	27.21305	40.28779	110.41992	1.37437	1.61251	11.62918	19.27496
25	21.35300	26.37540	38.89772	105.65623	1.31599	1.54401	11.13516	18.46819
26	20.65262	25.58310	37.59471	101.32074	1.26238	1.48111	10.68155	17.71054
27	19.99785	24.83300	36.37043	97.37712	1.21316	1.42336	10.26508	16.99706
28	19.38445	24.12292	35.21811	93.79297	1.16798	1.37036	9.88281	16.32393
29	18.80932	23.45145	34.13304	90.53990	1.12653	1.32173	9.53213	15.68848
30	18.26954	22.81769	33.11132	87.59206	1.08854	1.27715	9.21062	15.08870
31	17.76290	22.22106	32.15005	84.92679	1.05374	1.23632	8.91617	14.52302
32	17.28739	21.66093	31.24700	82.52403	1.02191	1.19898	8.64686	13.99031
33	16.84137	21.13701	30.40039	80.35688	0.99285	1.16489	8.40098	13.49005
34	16.42326	20.64891	29.60849	78.43657	0.96638	1.13382	8.17692	13.02118
35	16.03175	20.19600	28.86999	76.72208	0.94232	1.10559	7.97336	12.58344
36	15.66557	19.77770	28.18339	75.21040	0.92053	1.08004	7.78904	12.17582
37	15.32353	19.39331	27.54740	73.89087	0.90089	1.05699	7.62282	11.79813
38	15.00440	19.04190	26.96033	72.75447	0.88327	1.03632	7.47374	11.44921
39	14.70712	18.72248	26.42055	71.79312	0.86758	1.01790	7.34094	11.12831
40	14.43056	18.43386	25.92632	71.00069	0.85371	1.00164	7.22362	10.83449
41	14.17355	18.17456	25.47559	70.37160	0.84160	0.98742	7.12113	10.56657
42	13.93492	17.94298	25.06583	69.90161	0.83117	0.97519	7.03288	10.32298
43	13.71348	17.73718	24.69468	69.58780	0.82236	0.96486	6.95838	10.10228
44	13.50785	17.55493	24.35887	69.42790	0.81513	0.95638	6.89721	9.90240
45	13.31661	17.39354	24.05534	69.42104	0.80944	0.94970	6.84903	9.72137
46	13.13809	17.24960	23.77995	69.56691	0.80525	0.94478	6.81357	9.55673
47	12.97048	17.11931	23.52794	69.86670	0.80254	0.94160	6.79064	9.40544
48	12.81173	16.99804	23.29437	70.32234	0.80130	0.94014	6.78013	9.26451
49	12.81173	16.99804	23.29437	70.93684	0.80151	0.94040	6.78197	9.26451
50	12.81173	16.99804	23.29437	71.71425	0.80319	0.94236	6.79615	9.26451
51	12.81173	16.99804	23.29437	72.65988	0.80634	0.94606	6.82277	9.26451
52	12.81173	16.99804	23.29437	73.78015	0.81097	0.95149	6.86198	9.26451
53	12.81173	16.99804	23.29437	75.08260	0.81712	0.95870	6.91399	9.26451
54	12.81173	16.99804	23.29437	76.57648	0.82481	0.96773	6.97908	9.26451
55	12.81173	16.99804	23.29437	78.27193	0.83409	0.97862	7.05761	9.26451
56	15.35973	20.74553	28.74712	80.18126	0.84501	0.99143	7.15003	11.49533
57	17.90766	24.49305	34.19994	82.31793	0.85764	1.00624	7.25686	13.72615
58	20.45566	28.24053	39.65272	84.69771	0.87204	1.02314	7.37869	15.95697
59	23.00365	31.98804	45.10552	87.33832	0.88829	1.04221	7.51624	18.18777
60	25.55169	35.73560	50.55831	90.25954	0.90650	1.06357	7.67030	20.41858
61	28.09959	39.48309	56.01111	93.48390	0.92677	1.08735	7.84179	22.64940
62	30.64766	43.23061	61.46391	97.03673	0.94921	1.11368	8.03170	24.88022
63	33.19566	46.97812	66.91670	100.94641	0.97397	1.14273	8.24120	27.11105
64	35.74365	50.72568	72.36954	105.24495	1.00120	1.17468	8.47158	29.34184
65	38.29163	54.47320	77.82232	109.96773	1.03106	1.20971	8.72425	31.57266

**Table A-4-3**  
**El Paso 1990 Summer Time Period 1 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HLDV	LDDV	LDDT	HDDV	HC
3	2.48486	2.69925	3.36466	5.55334	2.83676	3.31708	37.16812	0.89806
4	2.32896	2.51887	3.21190	5.61081	2.71728	3.17737	35.60272	0.85898
5	2.23005	2.40759	3.11959	5.66828	2.60654	3.04788	34.15169	0.82655
6	2.16061	2.33227	3.05904	5.72574	2.50386	2.92781	32.80634	0.80026
7	2.10875	2.27861	3.01774	5.78321	2.40864	2.81647	31.55879	0.77962
8	2.06842	2.23930	2.98933	5.84068	2.32034	2.71322	30.40179	0.76415
9	2.03627	2.21018	2.97011	5.89814	2.23845	2.61746	29.32886	0.75341
10	2.01018	2.18869	2.95782	5.95561	2.16252	2.52867	28.33398	0.74694
11	1.98879	2.17309	2.95089	6.01307	2.09213	2.44637	27.41174	0.74433
12	1.97115	2.16217	2.94822	6.07054	2.02691	2.37011	26.55724	0.74517
13	1.95657	2.15505	2.94899	6.12801	1.96651	2.29948	25.76588	0.74909
14	1.94454	2.15103	2.95254	6.18548	1.91063	2.23414	25.03366	0.75572
15	1.93465	2.14956	2.95836	6.24294	1.85897	2.17373	24.35683	0.76470
16	1.92659	2.15021	2.96604	6.30041	1.81128	2.11796	23.73195	0.77571
17	1.92009	2.15258	2.97519	6.35787	1.76731	2.06656	23.15596	0.78844
18	1.91493	2.15639	2.98555	6.41534	1.72687	2.01927	22.62605	0.80258
19	1.91094	2.16135	2.99682	6.47281	1.68975	1.97586	22.13968	0.81786
20	1.90993	2.17513	3.01691	6.53027	1.65578	1.93614	21.69456	0.83403
21	1.91725	2.20248	3.04876	6.58774	1.62479	1.89991	21.28862	0.85084
22	1.92447	2.22850	3.07917	6.64520	1.59666	1.86700	20.91994	0.86806
23	1.93161	2.25324	3.10823	6.70267	1.57123	1.83728	20.58684	0.88550
24	1.93867	2.27679	3.13600	6.76013	1.54842	1.81059	20.28784	0.90296
25	1.94565	2.29920	3.16252	6.81760	1.52810	1.78683	20.02159	0.92028
26	1.95256	2.32050	3.18787	6.87507	1.51019	1.76589	19.78696	0.93730
27	1.95940	2.34076	3.21207	6.93254	1.49461	1.74767	19.58281	0.95389
28	1.96617	2.35996	3.23517	6.99000	1.48129	1.73210	19.40833	0.96993
29	1.97289	2.37819	3.25720	7.04747	1.47018	1.71910	19.26274	0.98532
30	1.97953	2.39545	3.27821	7.10493	1.46122	1.70863	19.14540	0.99999
31	1.98614	2.41178	3.29829	7.16240	1.45438	1.70064	19.05580	1.01387
32	1.99271	2.42721	3.31744	7.21987	1.44963	1.69509	18.99361	1.02692
33	1.99925	2.44181	3.33577	7.27734	1.44695	1.69195	18.95850	1.03911
34	2.00582	2.45561	3.35336	7.33480	1.44633	1.69123	18.95033	1.05043
35	2.01240	2.46866	3.37026	7.39227	1.44777	1.69290	18.96912	1.06089
36	2.01902	2.48105	3.38660	7.44973	1.45126	1.69699	19.01489	1.07052
37	2.02575	2.49282	3.40245	7.50720	1.45683	1.70350	19.08786	1.07937
38	2.03259	2.50406	3.41795	7.56467	1.46450	1.71247	19.18832	1.08749
39	2.03961	2.51486	3.43322	7.62213	1.47430	1.72392	19.31673	1.09497
40	2.04684	2.52530	3.44840	7.67960	1.48627	1.73793	19.47365	1.10190
41	2.05433	2.53550	3.46362	7.73707	1.50048	1.75454	19.65971	1.10841
42	2.06215	2.54557	3.47903	7.79453	1.51697	1.77382	19.87578	1.11462
43	2.07035	2.55562	3.49484	7.85200	1.53582	1.79586	20.12277	1.12069
44	2.07903	2.56579	3.51120	7.90947	1.55711	1.82076	20.40176	1.12679
45	2.08822	2.57621	3.52832	7.96693	1.58094	1.84863	20.71405	1.13311
46	2.09802	2.58704	3.54639	8.02440	1.60742	1.87959	21.06097	1.13985
47	2.10852	2.59841	3.56564	8.08186	1.63667	1.91379	21.44415	1.14724
48	2.11980	2.61052	3.58630	8.13933	1.66881	1.95138	21.86531	1.15552
49	2.12442	2.71858	3.74498	8.19680	1.70401	1.99253	22.32646	1.19314
50	2.30903	2.82663	3.90368	8.25427	1.74242	2.03744	22.82970	1.23077
51	2.40364	2.93469	4.06236	8.31173	1.78422	2.08632	23.37743	1.26839
52	2.49827	3.04274	4.22106	8.36920	1.82963	2.13942	23.97238	1.30602
53	2.59288	3.15079	4.37975	8.42666	1.87885	2.19698	24.61737	1.34365
54	2.68751	3.25885	4.53845	8.48413	1.93215	2.25930	25.31560	1.38127
55	2.78212	3.36690	4.69713	8.54160	1.98978	2.32669	26.07072	1.41890
56	2.87675	3.47495	4.85582	8.59906	2.05204	2.39949	26.88640	1.45652
57	2.97136	3.58300	5.01451	8.65653	2.11925	2.47808	27.76712	1.49415
58	3.06598	3.69106	5.17319	8.71399	2.19178	2.56289	28.71735	1.53178
59	3.16060	3.79912	5.33188	8.77146	2.27001	2.65436	29.74231	1.56940
60	3.25522	3.90717	5.49058	8.82893	2.35437	2.75301	30.84770	1.60703
61	3.34983	4.01522	5.64927	8.88639	2.44534	2.85938	32.03957	1.64466
62	3.44444	4.12328	5.80795	8.94386	2.54343	2.97408	33.32478	1.68228
63	3.53908	4.23133	5.96664	9.00133	2.64921	3.09778	34.71085	1.71991
64	3.63369	4.33938	6.12533	9.05879	2.76332	3.23120	36.20589	1.75753
65	3.72831	4.44744	6.28402	9.11626	2.88644	3.37517	37.81902	1.79516

**Table A-4-4**  
**El Paso 1990 Summer Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	20.86557	22.49722	39.48883	54.43991	1.56547	2.23755	7.34006	18.52307
4	15.08886	16.51693	28.42872	42.59019	1.48627	2.12434	6.96868	15.78760
5	11.84749	13.08199	22.14090	35.95869	1.41231	2.01864	6.62192	13.76552
6	9.77930	10.85493	18.09373	31.51964	1.34322	1.91988	6.29796	12.24187
7	8.35025	9.30149	15.28867	28.21730	1.27863	1.82756	5.99512	11.07370
8	7.44126	8.28359	13.47582	25.98404	1.21822	1.74121	5.71186	10.16382
9	6.73913	7.49941	12.08701	24.07784	1.16168	1.66041	5.44678	9.44482
10	6.17003	6.87010	10.97886	22.39307	1.10874	1.58474	5.19858	8.86900
11	5.69839	6.35469	10.07767	20.89386	1.05915	1.51386	4.96605	8.40205
12	5.29998	5.92495	9.33234	19.55280	1.01267	1.44742	4.74810	8.01885
13	4.95783	5.56081	8.70647	18.34816	0.96908	1.38511	4.54372	7.70074
14	4.65970	5.24764	8.17358	17.26241	0.92818	1.32666	4.35195	7.43362
15	4.39649	4.97456	7.71392	16.28084	0.88979	1.27179	4.17196	7.20676
16	4.16136	4.73336	7.31266	15.39124	0.85374	1.22026	4.00293	7.01185
17	3.94912	4.51774	6.95836	14.58313	0.81987	1.17185	3.84412	6.84241
18	3.75567	4.32286	6.64220	13.84750	0.78804	1.12635	3.69487	6.69335
19	3.57785	4.14492	6.35729	13.17657	0.75811	1.08357	3.55454	6.56068
20	3.42444	4.00284	6.12383	12.56889	0.72996	1.04333	3.42255	6.44119
21	3.30028	3.86777	5.90012	12.02120	0.70347	1.00548	3.29836	6.33237
22	3.18615	3.74265	5.69455	11.52025	0.67854	0.96985	3.18148	6.23223
23	3.08064	3.62609	5.50443	11.06144	0.65507	0.93630	3.07144	6.13921
24	2.98267	3.51692	5.32763	10.64068	0.63297	0.90471	2.96781	6.05209
25	2.89130	3.41432	5.16248	10.25436	0.61216	0.87496	2.87021	5.96995
26	2.80581	3.31760	5.00763	9.89927	0.59254	0.84693	2.77826	5.89211
27	2.72560	3.22627	4.86208	9.57252	0.57407	0.82052	2.69163	5.81805
28	2.65017	3.13995	4.72496	9.27158	0.55666	0.79563	2.60999	5.74744
29	2.57908	3.05831	4.59567	8.99414	0.54025	0.77218	2.53306	5.68006
30	2.51198	2.98117	4.47369	8.73816	0.52478	0.75008	2.46055	5.61576
31	2.44863	2.90832	4.35861	8.50179	0.51021	0.72925	2.39223	5.55453
32	2.38873	2.83962	4.25012	8.28339	0.49648	0.70963	2.32785	5.49632
33	2.33207	2.77493	4.14791	8.08148	0.48355	0.69114	2.26720	5.44122
34	2.27848	2.71416	4.05179	7.89471	0.47136	0.67372	2.21007	5.38923
35	2.22777	2.65718	3.96151	7.72188	0.45989	0.65733	2.15628	5.34047
36	2.17979	2.60387	3.87690	7.56190	0.44909	0.64189	2.10565	5.29499
37	2.13438	2.55411	3.79772	7.41380	0.43893	0.62737	2.05802	5.25283
38	2.09142	2.50779	3.72380	7.27669	0.42938	0.61372	2.01324	5.21403
39	2.05079	2.46478	3.65493	7.14976	0.42041	0.60089	1.97117	5.17864
40	2.01232	2.42491	3.59090	7.03231	0.41198	0.58886	1.93167	5.14661
41	1.97593	2.38804	3.53147	6.92368	0.40409	0.57756	1.89463	5.11795
42	1.94146	2.35399	3.47638	6.82327	0.39669	0.56699	1.85994	5.09252
43	1.90880	2.32255	3.42534	6.73056	0.38977	0.55710	1.82749	5.07017
44	1.87781	2.29352	3.37808	6.64507	0.38330	0.54786	1.79719	5.05078
45	1.84833	2.26661	3.33424	6.56637	0.37728	0.53925	1.76895	5.03409
46	1.82023	2.24157	3.29341	6.49405	0.37168	0.53124	1.74268	5.01978
47	1.79333	2.21804	3.25518	6.42779	0.36648	0.52382	1.71832	5.00747
48	1.76774	2.19563	3.21863	6.36634	0.36168	0.51695	1.69578	4.99668
49	1.76197	2.18950	3.20567	6.30253	0.35725	0.51062	1.67502	4.99668
50	1.75655	2.18375	3.19348	6.24480	0.35318	0.50481	1.65597	4.99668
51	1.75143	2.17830	3.18198	6.19286	0.34947	0.49951	1.63857	4.99668
52	1.74659	2.17318	3.17114	6.14645	0.34611	0.49469	1.62279	4.99668
53	1.74203	2.16833	3.16091	6.10534	0.34307	0.49036	1.60857	4.99668
54	1.73771	2.16375	3.15124	6.06934	0.34037	0.48649	1.59588	4.99668
55	1.73362	2.15940	3.14208	6.03828	0.33798	0.48308	1.58468	4.99668
56	1.81228	2.27219	3.30960	6.01202	0.33590	0.48011	1.57495	5.12804
57	1.89114	2.38518	3.47758	5.99045	0.33414	0.47758	1.56666	5.25941
58	1.97019	2.49836	3.64598	5.97348	0.33267	0.47549	1.55978	5.39079
59	2.04940	2.61172	3.81476	5.96102	0.33150	0.47382	1.55430	5.52216
60	2.12877	2.72527	3.98391	5.95306	0.33063	0.47257	1.55020	5.65353
61	2.20831	2.83897	4.15340	5.94956	0.33004	0.47174	1.54747	5.78490
62	2.28798	2.95283	4.32321	5.95052	0.32975	0.47132	1.54611	5.91627
63	2.36779	3.06682	4.49332	5.95599	0.32975	0.47132	1.54611	6.04764
64	2.44772	3.18094	4.66371	5.96599	0.33004	0.47174	1.54748	6.17901
65	2.52776	3.29518	4.83436	5.98060	0.33063	0.47257	1.55020	6.31038

**Table A-4-5**  
**El Paso 1990 Summer Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGV	LDDV	LDDT	HDDV	MC
3	203.18635	238.41697	391.25219	634.18921	5.20712	6.10937	44.05968	193.29532
4	155.21921	183.75632	302.20582	579.43164	4.79895	5.63048	40.60597	154.15373
5	125.15536	148.51876	243.28867	530.56714	4.43083	5.19858	37.49117	125.88036
6	104.61530	124.12137	201.86255	486.89429	4.09840	4.80855	34.67833	105.00378
7	89.77424	106.41509	171.52502	447.79980	3.79782	4.45588	32.13496	89.27666
8	78.61161	93.11160	148.61369	412.75171	3.52569	4.13660	29.83241	77.20889
9	69.95334	82.83813	130.87419	381.28467	3.27903	3.84720	27.74525	67.79092
10	63.06918	74.72182	116.84615	352.99243	3.05518	3.58456	25.85115	60.32396
11	57.48171	68.18251	105.54678	327.51904	2.85179	3.34593	24.13023	54.31573
12	52.86600	62.82046	96.29400	304.55396	2.66679	3.12888	22.56488	49.41286
13	48.99367	58.35257	88.60244	283.82227	2.49834	2.93124	21.13956	45.35754
14	45.70001	54.57314	82.11906	265.08447	2.34479	2.75108	19.84032	41.95914
15	42.86315	51.32955	76.58249	248.12941	2.20469	2.58671	18.65485	39.07457
16	40.39165	48.50690	71.79608	232.76981	2.07673	2.43658	17.57217	36.59523
17	38.21558	46.01774	67.60997	218.84225	1.95977	2.29935	16.58247	34.43799
18	36.28087	43.79455	63.90841	206.20100	1.85276	2.17380	15.67706	32.53856
19	34.54514	41.78510	60.60158	194.71764	1.75478	2.05884	14.84803	30.84689
20	33.01552	40.28351	58.05452	184.27908	1.66502	1.95352	14.08849	29.32407
21	31.65788	38.86082	55.69727	174.78401	1.58272	1.85697	13.39213	27.93953
22	30.41200	37.53216	53.53387	166.14333	1.50723	1.76840	12.75339	26.66957
23	29.26215	36.28265	51.53427	158.27765	1.43796	1.68712	12.16725	25.49553
24	28.19571	35.10179	49.67545	151.11644	1.37437	1.61251	11.62918	24.40302
25	27.20284	33.98195	47.93921	144.59703	1.31599	1.54401	11.13516	23.38120
26	26.27543	32.91829	46.31158	138.66365	1.26238	1.48111	10.68155	22.42146
27	25.40733	31.90758	44.78236	133.26659	1.21316	1.42336	10.26508	21.51756
28	24.59325	30.94795	43.34310	128.36147	1.16798	1.37036	9.88281	20.66469
29	23.82934	30.03858	41.98796	123.90945	1.12653	1.32173	9.53213	19.85950
30	23.11212	29.17903	40.71222	119.87514	1.08854	1.27715	9.21062	19.09950
31	22.43879	28.36941	39.51232	116.22754	1.05374	1.23632	8.91617	18.38274
32	21.80694	27.60959	38.38544	112.93921	1.02191	1.19898	8.64686	17.70776
33	21.21455	26.89963	37.32930	109.98567	0.99285	1.16489	8.40098	17.07396
34	20.65971	26.23951	36.34183	107.34526	0.96638	1.13382	8.17692	16.48000
35	20.14074	25.62883	35.42121	104.99889	0.94232	1.10559	7.97336	15.92554
36	19.65604	25.06697	34.56564	102.93005	0.92053	1.08004	7.78904	15.40932
37	19.20402	24.55329	33.77340	101.12416	0.90089	1.05699	7.62282	14.93109
38	18.78331	24.08660	33.04244	99.56892	0.88327	1.03632	7.47374	14.48940
39	18.39225	23.66564	32.37057	98.25333	0.86758	1.01790	7.34094	14.08328
40	18.02947	23.28880	31.75550	97.16876	0.85371	1.00164	7.22362	13.71152
41	17.69341	22.95405	31.19476	96.30783	0.84160	0.98742	7.12113	13.37264
42	17.38239	22.65908	30.68513	95.66467	0.83117	0.97519	7.03288	13.06462
43	17.09480	22.40097	30.22349	95.23523	0.82236	0.96486	6.95838	12.78565
44	16.82868	22.17652	29.80580	95.01640	0.81513	0.95638	6.89721	12.53304
45	16.58207	21.98164	29.42823	95.00697	0.80944	0.94970	6.84903	12.30432
46	16.35253	21.81111	29.08537	95.20662	0.80525	0.94478	6.81357	12.09633
47	16.13749	21.65914	28.77144	95.61691	0.80254	0.94160	6.79064	11.90520
48	15.93390	21.51865	28.48020	96.24045	0.80130	0.94014	6.78013	11.72709
49	15.93390	21.51865	28.48020	97.08142	0.80151	0.94040	6.78197	11.72709
50	15.93390	21.51865	28.48020	98.14536	0.80319	0.94236	6.79615	11.72709
51	15.93390	21.51865	28.48020	99.43950	0.80634	0.94606	6.82277	11.72709
52	15.93390	21.51865	28.48020	100.97270	0.81097	0.95149	6.86198	11.72709
53	15.93390	21.51865	28.48020	102.75511	0.81712	0.95870	6.91399	11.72709
54	15.93390	21.51865	28.48020	104.79964	0.82481	0.96773	6.97908	11.72709
55	15.93390	21.51865	28.48020	107.11998	0.83409	0.97862	7.05761	11.72709
56	19.22332	26.37336	35.20926	109.73296	0.84501	0.99143	7.15003	14.55095
57	22.51276	31.22812	41.93839	112.65715	0.85764	1.00624	7.25686	17.37480
58	25.80227	36.08281	48.66750	115.91408	0.87204	1.02314	7.37869	20.19865
59	29.09173	40.93754	55.39661	119.52788	0.88829	1.04221	7.51624	23.02254
60	32.38121	45.79230	62.12569	123.52573	0.90650	1.06357	7.67030	25.84637
61	35.67065	50.64702	68.85485	127.93849	0.92677	1.08735	7.84179	28.67023
62	38.96013	55.50175	75.58393	132.80069	0.94921	1.11368	8.03170	31.49408
63	42.24962	60.35648	82.31306	138.15135	0.97397	1.14273	8.24120	34.31795
64	45.53907	65.21122	89.04215	144.03415	1.00120	1.17468	8.47158	37.14182
65	48.82856	70.06601	95.77127	150.49756	1.03106	1.20971	8.72425	39.96568

**Table A-4-6**  
**El Paso 1990 Summer Time Period 2 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HLDV	LDDV	LDDT	HDDV	MC
3	2.30193	2.54088	2.96615	4.94385	2.83676	3.31708	37.16812	0.79718
4	2.14840	2.36548	2.82006	4.99501	2.71728	3.17737	35.60272	0.76249
5	2.05224	2.25771	2.73170	5.04617	2.60654	3.04788	34.15169	0.73370
6	1.98556	2.18501	2.67347	5.09733	2.50386	2.92781	32.80634	0.71037
7	1.93634	2.13327	2.63337	5.14849	2.40864	2.81647	31.55879	0.69204
8	1.89847	2.09536	2.60533	5.19965	2.32034	2.71322	30.40179	0.67831
9	1.86857	2.06723	2.58584	5.25081	2.23845	2.61746	29.32886	0.66877
10	1.84452	2.04634	2.57271	5.30197	2.16252	2.52867	28.33398	0.66303
11	1.82495	2.03102	2.56451	5.35312	2.09213	2.44637	27.41174	0.66071
12	1.80893	2.02013	2.56021	5.40429	2.02691	2.37011	26.55724	0.66146
13	1.79578	2.01278	2.55902	5.45544	1.96651	2.29948	25.76588	0.66494
14	1.78498	2.00834	2.56038	5.50660	1.91063	2.23414	25.03366	0.67083
15	1.77617	2.00627	2.56379	5.55776	1.85897	2.17373	24.35683	0.67880
16	1.76900	2.00617	2.56888	5.60892	1.81128	2.11796	23.73195	0.68857
17	1.76326	2.00767	2.57534	5.66008	1.76731	2.06656	23.15596	0.69987
18	1.75872	2.01050	2.58287	5.71124	1.72687	2.01927	22.62605	0.71242
19	1.75521	2.01439	2.59126	5.76240	1.68975	1.97586	22.13968	0.72599
20	1.75462	2.02661	2.60773	5.81356	1.65578	1.93614	21.69456	0.74034
21	1.76234	2.05221	2.63561	5.86472	1.62479	1.89991	21.28862	0.75526
22	1.76984	2.07648	2.66216	5.91587	1.59666	1.86700	20.91994	0.77055
23	1.77715	2.09951	2.68745	5.96704	1.57123	1.83728	20.58684	0.78603
24	1.78428	2.12137	2.71156	6.01819	1.54842	1.81059	20.28784	0.80153
25	1.79125	2.14214	2.73454	6.06936	1.52810	1.78683	20.02159	0.81690
26	1.79805	2.16184	2.75644	6.12051	1.51019	1.76589	19.78696	0.83200
27	1.80468	2.18052	2.77731	6.17167	1.49461	1.74767	19.58281	0.84673
28	1.81117	2.19822	2.79720	6.22283	1.48129	1.73210	19.40833	0.86097
29	1.81754	2.21497	2.81613	6.27399	1.47018	1.71910	19.26274	0.87463
30	1.82375	2.23080	2.83415	6.32515	1.46122	1.70863	19.14540	0.88765
31	1.82986	2.24577	2.85133	6.37631	1.45438	1.70064	19.05580	0.89998
32	1.83585	2.25990	2.86771	6.42747	1.44963	1.69509	18.99361	0.91156
33	1.84176	2.27323	2.88334	6.47863	1.44695	1.69195	18.95850	0.92238
34	1.84758	2.28581	2.89828	6.52979	1.44633	1.69123	18.95033	0.93243
35	1.85337	2.29768	2.91263	6.58095	1.44777	1.69290	18.96912	0.94172
36	1.85912	2.30892	2.92645	6.63211	1.45126	1.69699	19.01489	0.95027
37	1.86488	2.31958	2.93983	6.68326	1.45683	1.70350	19.08786	0.95812
38	1.87067	2.32973	2.95287	6.73443	1.46450	1.71247	19.18832	0.96533
39	1.87654	2.33945	2.96564	6.78558	1.47430	1.72392	19.31673	0.97196
40	1.88252	2.34881	2.97831	6.83675	1.48627	1.73793	19.47365	0.97812
41	1.88866	2.35791	2.99095	6.88790	1.50048	1.75454	19.65971	0.98389
42	1.89501	2.36686	3.00372	6.93907	1.51697	1.77382	19.87578	0.98941
43	1.90162	2.37576	3.01674	6.99022	1.53582	1.79586	20.12277	0.99480
44	1.90856	2.38472	3.03017	7.04138	1.55711	1.82076	20.40176	1.00021
45	1.91586	2.39386	3.04418	7.09254	1.58094	1.84863	20.71405	1.00582
46	1.92362	2.40333	3.05890	7.14370	1.60742	1.87959	21.06097	1.01180
47	1.93191	2.41322	3.07455	7.19486	1.63667	1.91379	21.44415	1.01836
48	1.94080	2.42373	3.09129	7.24602	1.66881	1.95138	21.86531	1.02571
49	2.02698	2.52393	3.22772	7.29718	1.70401	1.99253	22.32646	1.05911
50	2.11316	2.62411	3.36415	7.34834	1.74242	2.03744	22.82970	1.09251
51	2.19933	2.72430	3.50058	7.39950	1.78422	2.08632	23.37743	1.12591
52	2.28552	2.82448	3.63701	7.45066	1.82963	2.13942	23.97238	1.15931
53	2.37170	2.92467	3.77343	7.50182	1.87885	2.19698	24.61737	1.19271
54	2.45788	3.02486	3.90986	7.55298	1.93215	2.25930	25.31560	1.22611
55	2.54406	3.12504	4.04630	7.60414	1.98978	2.32669	26.07072	1.25951
56	2.63025	3.22523	4.18271	7.65529	2.05204	2.39949	26.88640	1.29291
57	2.71642	3.32542	4.31914	7.70645	2.11925	2.47808	27.76712	1.32631
58	2.80260	3.42561	4.45557	7.75761	2.19178	2.56289	28.71735	1.35970
59	2.88879	3.52580	4.59200	7.80877	2.27001	2.65436	29.74231	1.39310
60	2.97497	3.62598	4.72843	7.85993	2.35437	2.75301	30.84770	1.42650
61	3.06115	3.72617	4.86486	7.91109	2.44534	2.85938	32.03957	1.45990
62	3.14733	3.82636	5.00128	7.96225	2.54343	2.97408	33.32478	1.49330
63	3.23352	3.92654	5.13772	8.01341	2.64921	3.09778	34.71085	1.52670
64	3.31969	4.02674	5.27414	8.06457	2.76332	3.23120	36.20589	1.56010
65	3.40587	4.12692	5.41056	8.11573	2.88644	3.37517	37.81902	1.59350

**Table A-4-7**  
**El Paso 1990 Summer Time Period 3 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HOGV	LDDV	LDDT	HDDV	MC
3	21.60668	23.22071	40.71517	56.69449	1.56547	2.23755	7.34006	18.70932
4	15.57511	16.99045	29.17440	44.06116	1.48627	2.12434	6.96868	15.97409
5	12.20508	13.42937	22.65731	37.05457	1.41231	2.01864	6.62192	13.95218
6	10.06126	11.12818	18.48201	32.40288	1.34322	1.91988	6.29796	12.42866
7	8.58316	9.52681	15.59744	28.96570	1.27863	1.82756	5.99512	11.26060
8	7.64947	8.48439	13.74958	26.67114	1.21822	1.74121	5.71186	10.35081
9	6.92875	7.68225	12.33564	24.71852	1.16168	1.66041	5.44678	9.63188
10	6.34441	7.03877	11.20751	22.99486	1.10874	1.58474	5.19858	9.05612
11	5.85995	6.51199	10.29005	21.46252	1.05915	1.51386	4.96605	8.58923
12	5.45056	6.07296	9.53123	20.09277	1.01267	1.44742	4.74810	8.20607
13	5.09884	5.70111	8.89408	18.86311	0.96908	1.38511	4.54372	7.88799
14	4.79221	5.38146	8.35154	17.75520	0.92818	1.32666	4.35195	7.62090
15	4.52138	5.10288	7.88364	16.75403	0.88979	1.27179	4.17196	7.39406
16	4.27937	4.85697	7.47520	15.84686	0.85374	1.22026	4.00293	7.19917
17	4.06078	4.63727	7.11464	15.02296	0.81987	1.17185	3.84412	7.02976
18	3.86148	4.43881	6.79299	14.27304	0.78804	1.12635	3.69487	6.88072
19	3.67821	4.25769	6.50322	13.58913	0.75811	1.08357	3.55454	6.74807
20	3.52035	4.11261	6.26555	12.96988	0.72996	1.04333	3.42255	6.62859
21	3.39306	3.97399	6.03726	12.41200	0.70347	1.00548	3.29836	6.51978
22	3.27603	3.84558	5.82751	11.90176	0.67854	0.96985	3.18148	6.41965
23	3.16785	3.72591	5.63356	11.43444	0.65507	0.93630	3.07144	6.32664
24	3.06738	3.61384	5.45322	11.00587	0.63297	0.90471	2.96781	6.23953
25	2.97369	3.50847	5.28480	10.61238	0.61216	0.87496	2.87021	6.15740
26	2.88603	3.40915	5.12692	10.25066	0.59254	0.84693	2.77826	6.07956
27	2.80377	3.31537	4.97853	9.91780	0.57407	0.82052	2.69163	6.00552
28	2.72639	3.22668	4.83879	9.61121	0.55666	0.79563	2.60999	5.93491
29	2.65349	3.14284	4.70703	9.32852	0.54025	0.77218	2.53306	5.86754
30	2.58468	3.06359	4.58274	9.06767	0.52478	0.75008	2.46055	5.80326
31	2.51970	2.98874	4.46547	8.82678	0.51021	0.72925	2.39223	5.74202
32	2.45826	2.91814	4.35491	8.60416	0.49648	0.70963	2.32785	5.68382
33	2.40014	2.85165	4.25076	8.39832	0.48355	0.69114	2.26720	5.62873
34	2.34515	2.78919	4.15279	8.20788	0.47136	0.67372	2.21007	5.57675
35	2.29312	2.73060	4.06075	8.03161	0.45989	0.65733	2.15628	5.52799
36	2.24387	2.67577	3.97446	7.86842	0.44909	0.64189	2.10565	5.48252
37	2.19727	2.62460	3.89370	7.71730	0.43893	0.62737	2.05802	5.44036
38	2.15317	2.57692	3.81824	7.57737	0.42938	0.61372	2.01324	5.40157
39	2.11144	2.53265	3.74793	7.44779	0.42041	0.60089	1.97117	5.36618
40	2.07195	2.49159	3.68250	7.32785	0.41198	0.58886	1.93167	5.33415
41	2.03456	2.45360	3.62172	7.21688	0.40409	0.57756	1.89463	5.30549
42	1.99914	2.41849	3.56535	7.11427	0.39669	0.56699	1.85994	5.28007
43	1.96557	2.38605	3.51308	7.01949	0.38977	0.55710	1.82749	5.25772
44	1.93370	2.35608	3.46463	6.93204	0.38330	0.54786	1.79719	5.23833
45	1.90338	2.32828	3.41963	6.85150	0.37728	0.53925	1.76895	5.22164
46	1.87447	2.30239	3.37769	6.77746	0.37168	0.53124	1.74268	5.20734
47	1.84677	2.27804	3.33839	6.70957	0.36648	0.52382	1.71832	5.19502
48	1.82043	2.25486	3.30078	6.64650	0.36168	0.51695	1.69578	5.18423
49	1.81422	2.24825	3.28677	6.58044	0.35725	0.51062	1.67502	5.18423
50	1.80837	2.24204	3.27359	6.52062	0.35318	0.50481	1.65597	5.18423
51	1.80285	2.23619	3.26116	6.46673	0.34947	0.49951	1.63857	5.18423
52	1.79765	2.23066	3.24946	6.41851	0.34611	0.49469	1.62279	5.18423
53	1.79273	2.22543	3.23840	6.37573	0.34307	0.49036	1.60857	5.18423
54	1.78808	2.22050	3.22795	6.33817	0.34037	0.48649	1.59588	5.18423
55	1.78367	2.21582	3.21806	6.30567	0.33798	0.48308	1.58468	5.18423
56	1.86331	2.33013	3.38624	6.27808	0.33590	0.48011	1.57495	5.31558
57	1.94315	2.44468	3.55492	6.25527	0.33414	0.47758	1.56666	5.44692
58	2.02319	2.55942	3.72406	6.23716	0.33267	0.47549	1.55978	5.57828
59	2.10342	2.67438	3.89360	6.22368	0.33150	0.47382	1.55430	5.70963
60	2.18382	2.78952	4.06355	6.21476	0.33063	0.47257	1.55020	5.84098
61	2.26439	2.90483	4.23387	6.21040	0.33004	0.47174	1.54747	5.97233
62	2.34511	3.02029	4.40453	6.21060	0.32975	0.47132	1.54611	6.10368
63	2.42597	3.13592	4.57551	6.21537	0.32975	0.47132	1.54611	6.23503
64	2.50696	3.25168	4.74680	6.22476	0.33004	0.47174	1.54748	6.36638
65	2.58808	3.36758	4.91837	6.23884	0.33063	0.47257	1.55020	6.49775

**Table A-4-8**  
**El Paso 1990 Summer Time Period 3 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGV	LDDV	LDDT	HDDV	MC
3	210.10554	246.16183	402.15626	654.14453	5.20712	6.10937	44.05968	198.50276
4	160.47466	189.74117	310.55518	597.66406	4.79895	5.63048	40.60597	158.30675
5	129.37099	153.35419	249.97682	547.26245	4.43083	5.19858	37.49117	129.27205
6	108.12255	128.15793	207.39602	502.21582	4.09840	4.80855	34.67833	107.83353
7	92.77097	109.87265	176.21751	461.89062	3.79782	4.45588	32.13496	91.68323
8	81.22523	96.13582	152.67310	425.73950	3.52569	4.13660	29.83241	79.29082
9	72.27036	85.52971	134.44397	393.28247	3.27903	3.84720	27.74525	69.61948
10	65.15083	77.15231	120.02873	364.10010	3.05518	3.58456	25.85115	61.95169
11	59.37251	70.40402	108.41714	337.82520	2.85179	3.34593	24.13023	55.78188
12	54.59932	64.87180	98.90815	314.13745	2.66679	3.12888	22.56488	50.74709
13	50.59492	60.26281	91.00319	292.75317	2.49834	2.93124	21.13956	46.58269
14	47.18892	56.36447	84.33954	273.42554	2.34479	2.75108	19.84032	43.09283
15	44.25522	53.01893	78.64862	255.93733	2.20469	2.58671	18.65485	40.13058
16	41.69928	50.10756	73.72843	240.09431	2.07673	2.43658	17.57217	37.58452
17	39.44875	47.53976	69.42505	225.72853	1.95977	2.29935	16.58247	35.36913
18	37.44759	45.24586	65.61959	212.68947	1.85276	2.17380	15.67706	33.41847
19	35.65213	43.17183	62.21991	200.84477	1.75478	2.05884	14.84803	31.68120
20	34.06957	41.62020	59.60421	190.07774	1.66502	1.95352	14.08849	30.11726
21	32.66495	40.14903	57.18241	180.28394	1.58272	1.85697	13.39213	28.69533
22	31.37583	38.77434	54.95967	171.37132	1.50723	1.76840	12.75339	27.39105
23	30.18583	37.48084	52.90533	163.25812	1.43796	1.68712	12.16725	26.18523
24	29.08205	36.25776	50.99552	155.87157	1.37437	1.61251	11.62918	25.06317
25	28.05420	35.09744	49.21172	149.14705	1.31599	1.54401	11.13516	24.01367
26	27.09400	33.99472	47.53958	143.02695	1.26238	1.48111	10.68155	23.02791
27	26.19509	32.94655	45.96850	137.46008	1.21316	1.42336	10.26508	22.09952
28	25.35206	31.95108	44.48995	132.40056	1.16798	1.37036	9.88281	21.22351
29	24.56094	31.00754	43.09785	127.80844	1.12653	1.32173	9.53213	20.39648
30	23.81810	30.11557	41.78735	123.64722	1.08854	1.27715	9.21062	19.61589
31	23.12075	29.27536	40.55482	119.88484	1.05374	1.23632	8.91617	18.87967
32	22.46634	28.48687	39.39727	116.49304	1.02191	1.19898	8.64686	18.18642
33	21.85286	27.75013	38.31250	113.44656	0.99285	1.16489	8.40098	17.53543
34	21.27830	27.06529	37.29817	110.72305	0.96638	1.13382	8.17692	16.92535
35	20.74095	26.43196	36.35263	108.30292	0.94232	1.10559	7.97336	16.35588
36	20.23912	25.84947	35.47384	106.16891	0.92053	1.08004	7.78904	15.82569
37	19.77123	25.31720	34.66011	104.30623	0.90089	1.05699	7.62282	15.33453
38	19.33583	24.83391	33.90933	102.70206	0.88327	1.03632	7.47374	14.88088
39	18.93121	24.39832	33.21917	101.34506	0.86758	1.01790	7.34094	14.46379
40	18.55594	24.00877	32.58742	100.22636	0.85371	1.00164	7.22362	14.08200
41	18.20837	23.66313	32.01137	99.33833	0.84160	0.98742	7.12113	13.73398
42	17.88684	23.35895	31.48774	98.67494	0.83117	0.97519	7.03288	13.41765
43	17.58960	23.09334	31.01342	98.23193	0.82236	0.96486	6.95838	13.13117
44	17.31467	22.86273	30.58419	98.00624	0.81513	0.95638	6.89721	12.87177
45	17.05995	22.66296	30.19606	97.99655	0.80944	0.94970	6.84903	12.63690
46	16.82293	22.48856	29.84367	98.20244	0.80525	0.94478	6.81357	12.42331
47	16.60090	22.33340	29.52091	98.62564	0.80254	0.94160	6.79064	12.22705
48	16.39075	22.18998	29.22136	99.26881	0.80130	0.94014	6.78013	12.04415
49	16.39075	22.18998	29.22136	100.13628	0.80151	0.94040	6.78197	12.04415
50	16.39075	22.18998	29.22136	101.23369	0.80319	0.94236	6.79615	12.04415
51	16.39075	22.18998	29.22136	102.56853	0.80634	0.94606	6.82277	12.04415
52	16.39075	22.18998	29.22136	104.14996	0.81097	0.95149	6.86198	12.04415
53	16.39075	22.18998	29.22136	105.98854	0.81712	0.95870	6.91399	12.04415
54	16.39075	22.18998	29.22136	108.09731	0.82481	0.96773	6.97908	12.04415
55	16.39075	22.18998	29.22136	110.49068	0.83409	0.97862	7.05761	12.04415
56	19.78840	27.20834	36.13186	113.18588	0.84501	0.99143	7.15003	14.94436
57	23.18603	32.22674	43.04237	116.20213	0.85764	1.00624	7.25686	17.84456
58	26.58375	37.24511	49.95288	119.56146	0.87204	1.02314	7.37869	20.74475
59	29.98141	42.26344	56.86333	123.28902	0.88829	1.04221	7.51624	23.64497
60	33.37912	47.28182	63.77388	127.41272	0.90650	1.06357	7.67030	26.54518
61	36.77676	52.30018	70.68436	131.96429	0.92677	1.08735	7.84179	29.44540
62	40.17447	57.31854	77.59482	136.97952	0.94921	1.11368	8.03170	32.34560
63	43.57214	62.33687	84.50539	142.49857	0.97397	1.14273	8.24120	35.24583
64	46.96982	67.35528	91.41589	148.56644	1.00120	1.17468	8.47158	38.14604
65	50.36749	72.37367	98.32641	155.23325	1.03106	1.20971	8.72425	41.04625



**Table A-4-9**  
**El Paso 1990 Summer Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HdGV	LDDV	LDDT	HDDV	MC
3	2.28768	2.52823	2.93406	4.89313	2.83676	3.31708	37.16812	0.78835
4	2.13430	2.35321	2.78846	4.94377	2.71728	3.17737	35.60272	0.75405
5	2.03834	2.24571	2.70039	4.99440	2.60654	3.04788	34.15169	0.72558
6	1.97187	2.17318	2.64232	5.04504	2.50386	2.92781	32.80634	0.70250
7	1.92283	2.12160	2.60231	5.09567	2.40864	2.81647	31.55879	0.68438
8	1.88516	2.08380	2.57428	5.14631	2.32034	2.71322	30.40179	0.67080
9	1.85543	2.05572	2.55475	5.19694	2.23845	2.61746	29.32886	0.66137
10	1.83152	2.03488	2.54155	5.24757	2.16252	2.52867	28.33398	0.65569
11	1.81210	2.01958	2.53323	5.29821	2.09213	2.44637	27.41174	0.65340
12	1.79620	2.00867	2.52879	5.34884	2.02691	2.37011	26.55724	0.65414
13	1.78315	2.00130	2.52743	5.39948	1.96651	2.29948	25.76588	0.65758
14	1.77245	1.99680	2.52859	5.45011	1.91063	2.23414	25.03366	0.66340
15	1.76370	1.99468	2.53181	5.50075	1.85897	2.17373	24.35683	0.67129
16	1.75661	1.99448	2.53668	5.55138	1.81128	2.11796	23.73195	0.68095
17	1.75091	1.99591	2.54289	5.60202	1.76731	2.06656	23.15596	0.69212
18	1.74641	1.99865	2.55020	5.65265	1.72687	2.01927	22.62605	0.70453
19	1.74294	2.00245	2.55835	5.70329	1.68975	1.97586	22.13968	0.71795
20	1.74237	2.01453	2.57452	5.75392	1.65578	1.93614	21.69456	0.73214
21	1.75012	2.03999	2.60208	5.80455	1.62479	1.89991	21.28862	0.74690
22	1.75763	2.06410	2.62830	5.85518	1.59666	1.86700	20.91994	0.76202
23	1.76496	2.08699	2.65329	5.90582	1.57123	1.83728	20.58684	0.77733
24	1.77210	2.10871	2.67710	5.95645	1.54842	1.81059	20.28784	0.79265
25	1.77904	2.12934	2.69979	6.00709	1.52810	1.78683	20.02159	0.80785
26	1.78583	2.14889	2.72141	6.05772	1.51019	1.76589	19.78696	0.82280
27	1.79246	2.16744	2.74201	6.10836	1.49461	1.74767	19.58281	0.83736
28	1.79892	2.18501	2.76162	6.15899	1.48129	1.73210	19.40833	0.85144
29	1.80526	2.20164	2.78030	6.20963	1.47018	1.71910	19.26274	0.86495
30	1.81143	2.21737	2.79808	6.26026	1.46122	1.70863	19.14540	0.87783
31	1.81749	2.23220	2.81503	6.31090	1.45438	1.70064	19.05580	0.89001
32	1.82344	2.24623	2.83116	6.36153	1.44963	1.69509	18.99361	0.90147
33	1.82929	2.25945	2.84658	6.41217	1.44695	1.69195	18.95850	0.91217
34	1.83506	2.27192	2.86132	6.46280	1.44633	1.69123	18.95033	0.92211
35	1.84077	2.28371	2.87547	6.51344	1.44777	1.69290	18.96912	0.93129
36	1.84645	2.29483	2.88907	6.56407	1.45126	1.69699	19.01489	0.93975
37	1.85213	2.30541	2.90225	6.61470	1.45683	1.70350	19.08786	0.94751
38	1.85785	2.31547	2.91509	6.66534	1.46450	1.71247	19.18832	0.95464
39	1.86361	2.32510	2.92766	6.71597	1.47430	1.72392	19.31673	0.96121
40	1.86951	2.33437	2.94012	6.76661	1.48627	1.73793	19.47365	0.96729
41	1.87553	2.34339	2.95256	6.81724	1.50048	1.75454	19.65971	0.97300
42	1.88175	2.35226	2.96510	6.86788	1.51697	1.77382	19.87578	0.97845
43	1.88824	2.36105	2.97790	6.91851	1.53582	1.79586	20.12277	0.98378
44	1.89504	2.36991	2.99110	6.96914	1.55711	1.82076	20.40176	0.98914
45	1.90220	2.37895	3.00484	7.01978	1.58094	1.84863	20.71405	0.99469
46	1.90980	2.38829	3.01931	7.07042	1.60742	1.87959	21.06097	1.00060
47	1.91790	2.39807	3.03466	7.12105	1.63667	1.91379	21.44415	1.00709
48	1.92660	2.40845	3.05109	7.17169	1.66881	1.95138	21.86531	1.01436
49	2.01211	2.50799	3.18570	7.22232	1.70401	1.99253	22.32646	1.04739
50	2.09762	2.60755	3.32032	7.27296	1.74242	2.03744	22.82970	1.08042
51	2.18314	2.70709	3.45495	7.32359	1.78422	2.08632	23.37743	1.11345
52	2.26867	2.80664	3.58957	7.37423	1.82963	2.13942	23.97238	1.14647
53	2.35418	2.90619	3.72419	7.42486	1.87885	2.19698	24.61737	1.17950
54	2.43970	3.00574	3.85880	7.47549	1.93215	2.25930	25.31560	1.21253
55	2.52522	3.10530	3.99342	7.52613	1.98978	2.32669	26.07072	1.24556
56	2.61072	3.20485	4.12804	7.57676	2.05204	2.39949	26.88640	1.27859
57	2.69623	3.30438	4.26266	7.62740	2.11925	2.47808	27.76712	1.31162
58	2.78175	3.40394	4.39729	7.67803	2.19178	2.56289	28.71735	1.34465
59	2.86728	3.50349	4.53191	7.72866	2.27001	2.65436	29.74231	1.37768
60	2.95279	3.60304	4.66653	7.77930	2.35437	2.75301	30.84770	1.41071
61	3.03831	3.70259	4.80114	7.82994	2.44534	2.85938	32.03957	1.44374
62	3.12383	3.80213	4.93576	7.88057	2.54343	2.97408	33.32478	1.47677
63	3.20934	3.90169	5.07038	7.93121	2.64921	3.09778	34.71085	1.50980
64	3.29486	4.00123	5.20501	7.98184	2.76332	3.23120	36.20589	1.54283
65	3.38036	4.10078	5.33962	8.03247	2.88644	3.37517	37.81902	1.57586

**Table A-4-10**  
**El Paso 1990 Summer Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	14.66563	16.76807	30.22444	36.05325	1.56547	2.23755	7.34006	16.59785
4	10.93623	12.70655	22.77253	30.18875	1.48627	2.12434	6.96868	13.82461
5	8.74207	10.24690	18.19997	26.45541	1.41231	2.01864	6.62192	11.77448
6	7.29641	8.59647	15.10899	23.68201	1.34322	1.91988	6.29796	10.22962
7	6.27462	7.41770	12.89531	21.45148	1.27863	1.82756	5.99512	9.04514
8	5.57139	6.59593	11.34204	19.72711	1.21822	1.74121	5.71186	8.12251
9	5.02599	5.95653	10.13954	18.21347	1.16168	1.66041	5.44678	7.39341
10	4.58715	5.44194	9.18014	16.86072	1.10874	1.58474	5.19858	6.80950
11	4.22646	5.01928	8.40042	15.64699	1.05915	1.51386	4.96605	6.33597
12	3.92453	4.66583	7.75612	14.55453	1.01267	1.44742	4.74810	5.94736
13	3.66777	4.36537	7.21554	13.56863	0.96908	1.38511	4.54372	5.62475
14	3.44632	4.10613	6.75553	12.67692	0.92818	1.32666	4.35195	5.35384
15	3.25289	3.87930	6.35886	11.86876	0.88979	1.27179	4.17196	5.12376
16	3.08199	3.67826	6.01246	11.13502	0.85374	1.22026	4.00293	4.92609
17	2.92941	3.49791	5.70636	10.46773	0.81987	1.17185	3.84412	4.75425
18	2.79187	3.33433	5.43280	9.85993	0.78804	1.12635	3.69487	4.60307
19	2.66680	3.18441	5.18578	9.30549	0.75811	1.08357	3.55454	4.46851
20	2.55465	3.06743	4.98400	8.80108	0.72996	1.04333	3.42255	4.34733
21	2.45620	2.95953	4.79351	8.34293	0.70347	1.00548	3.29836	4.23696
22	2.36583	2.85973	4.61818	7.92377	0.67854	0.96985	3.18148	4.13540
23	2.28244	2.76683	4.45574	7.53987	0.65507	0.93630	3.07144	4.04105
24	2.20510	2.67991	4.30436	7.18787	0.63297	0.90471	2.96781	3.95269
25	2.13310	2.59829	4.16263	6.86481	0.61216	0.87496	2.87021	3.86939
26	2.06582	2.52139	4.02946	6.56801	0.59254	0.84693	2.77826	3.79044
27	2.00278	2.44883	3.90400	6.29511	0.57407	0.82052	2.69163	3.71533
28	1.94356	2.38028	3.78562	6.04396	0.55666	0.79563	2.60999	3.64372
29	1.88786	2.31549	3.67381	5.81268	0.54025	0.77218	2.53306	3.57538
30	1.83537	2.25429	3.56821	5.59952	0.52478	0.75008	2.46055	3.51018
31	1.78589	2.19651	3.46849	5.40296	0.51021	0.72925	2.39223	3.44807
32	1.73918	2.14205	3.37446	5.22161	0.49648	0.70963	2.32785	3.38905
33	1.69510	2.09082	3.28593	5.05422	0.48355	0.69114	2.26720	3.33316
34	1.65350	2.04269	3.20273	4.89966	0.47136	0.67372	2.21007	3.28045
35	1.61423	1.99761	3.12471	4.75691	0.45989	0.65733	2.15628	3.23100
36	1.57719	1.95548	3.05175	4.62506	0.44909	0.64189	2.10565	3.18487
37	1.54224	1.91618	2.98367	4.50328	0.43893	0.62737	2.05802	3.14212
38	1.50928	1.87966	2.92036	4.39082	0.42938	0.61372	2.01324	3.10278
39	1.47822	1.84580	2.86163	4.28702	0.42041	0.60089	1.97117	3.06689
40	1.44895	1.81447	2.80731	4.19125	0.41198	0.58886	1.93167	3.03442
41	1.42136	1.78558	2.75719	4.10297	0.40409	0.57756	1.89463	3.00535
42	1.39537	1.75895	2.71106	4.02168	0.39669	0.56699	1.85994	2.97958
43	1.37085	1.73443	2.66865	3.94692	0.38977	0.55710	1.82749	2.95692
44	1.34773	1.71189	2.62970	3.87830	0.38330	0.54786	1.79719	2.93727
45	1.32585	1.69107	2.59384	3.81545	0.37728	0.53925	1.76895	2.92035
46	1.30509	1.67176	2.56073	3.75804	0.37168	0.53124	1.74268	2.90585
47	1.28534	1.65369	2.52997	3.70578	0.36648	0.52382	1.71832	2.89338
48	1.26659	1.63661	2.50093	3.65807	0.36168	0.51695	1.69578	2.88244
49	1.24823	1.63411	2.49587	3.61225	0.35725	0.51062	1.67502	2.88244
50	1.26201	1.63178	2.49111	3.57120	0.35318	0.50481	1.65597	2.88244
51	1.25992	1.62955	2.48662	3.53472	0.34947	0.49951	1.63857	2.88244
52	1.25794	1.62746	2.48239	3.50262	0.34611	0.49469	1.62279	2.88244
53	1.25606	1.62549	2.47838	3.47475	0.34307	0.49036	1.60857	2.88244
54	1.25428	1.62360	2.47460	3.45097	0.34037	0.48649	1.59588	2.88244
55	1.25260	1.62183	2.47102	3.43115	0.33798	0.48308	1.58468	2.88244
56	1.32321	1.72201	2.63416	3.41522	0.33590	0.48011	1.57495	3.01572
57	1.39391	1.82226	2.79746	3.40310	0.33414	0.47758	1.56666	3.14901
58	1.46468	1.92260	2.96094	3.39472	0.33267	0.47549	1.55978	3.28230
59	1.53553	2.02303	3.12458	3.39007	0.33150	0.47382	1.55430	3.41558
60	1.60644	2.12351	3.28836	3.38911	0.33063	0.47257	1.55020	3.54887
61	1.67740	2.22406	3.45225	3.39186	0.33004	0.47174	1.54747	3.68216
62	1.74842	2.32467	3.61627	3.39834	0.32975	0.47132	1.54611	3.81545
63	1.81950	2.42533	3.78042	3.40858	0.32975	0.47132	1.54611	3.94874
64	1.89064	2.52606	3.94467	3.42265	0.33004	0.47174	1.54748	4.08202
65	1.96182	2.62682	4.10902	3.44062	0.33063	0.47257	1.55020	4.21531

**Table A-4-11**  
**El Paso 1990 Summer Time Period 4 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	153.54695	183.38515	310.11205	447.05688	5.20712	6.10937	44.05968	150.46495
4	117.49213	141.14957	239.98972	408.45654	4.79895	5.63048	40.60597	119.99574
5	94.90477	114.08350	193.44420	374.01123	4.43083	5.19858	37.49117	97.98288
6	79.46967	95.38365	160.65011	343.22485	4.09840	4.80855	34.67833	81.72668
7	68.31100	81.81242	136.60042	315.66650	3.79782	4.45588	32.13496	69.47899
8	59.91233	71.60323	118.42121	290.95996	3.52569	4.13660	29.83241	60.08034
9	53.39283	63.70405	104.33758	268.77856	3.27903	3.84720	27.74525	52.74496
10	48.20545	57.44913	93.19720	248.83461	3.05518	3.58456	25.85115	46.92903
11	43.99223	52.39731	84.22285	230.87814	2.85179	3.34593	24.13023	42.24931
12	40.50969	48.24556	76.87456	214.68892	2.66679	3.12888	22.56488	38.43060
13	37.58684	44.77927	70.76738	200.07469	2.49834	2.93124	21.13956	35.27223
14	35.10007	41.84287	65.62114	186.86554	2.34479	2.75108	19.84032	32.62572
15	32.95815	39.32095	61.22818	174.91333	2.20469	2.58671	18.65485	30.37958
16	31.09259	37.12684	57.43218	164.08572	2.07673	2.43658	17.57217	28.44936
17	29.45094	35.19411	54.11395	154.26782	1.95977	2.29935	16.58247	26.77016
18	27.99254	33.47153	51.18133	145.35663	1.85276	2.17380	15.67706	25.29196
19	26.68559	31.91957	48.56301	137.26175	1.75478	2.05884	14.84803	23.97577
20	25.53674	30.77961	46.53453	129.90332	1.66502	1.95352	14.08849	22.79129
21	24.51518	29.70746	44.66591	123.20993	1.58272	1.85697	13.39213	21.71465
22	23.57958	28.71179	42.95177	117.11891	1.50723	1.76840	12.75339	20.72736
23	22.71764	27.78095	41.36818	111.57417	1.43796	1.68712	12.16725	19.81488
24	21.91984	26.90623	39.89656	106.52606	1.37437	1.61251	11.62918	18.96600
25	21.17839	26.08119	38.52233	101.93037	1.31599	1.54401	11.13516	18.17218
26	20.48702	25.30121	37.23437	97.74776	1.26238	1.48111	10.68155	17.42674
27	19.84073	24.56307	36.02425	93.94322	1.21316	1.42336	10.26508	16.72478
28	19.23549	23.86458	34.88533	90.48543	1.16798	1.37036	9.88281	16.06250
29	18.66792	23.20427	33.81291	87.34708	1.12653	1.32173	9.53213	15.43731
30	18.13539	22.58111	32.80309	84.50319	1.08854	1.27715	9.21062	14.84722
31	17.63549	21.99445	31.85304	81.93193	1.05374	1.23632	8.91617	14.29068
32	17.16638	21.44380	30.96046	79.61389	1.02191	1.19898	8.64686	13.76657
33	16.72631	20.92862	30.12367	77.53183	0.99285	1.16489	8.40098	13.27437
34	16.31375	20.44852	29.34091	75.67058	0.96638	1.13382	8.17692	12.81307
35	15.92740	20.00293	28.61078	74.01654	0.94232	1.10559	7.97336	12.38237
36	15.56594	19.59117	27.93198	72.55815	0.92053	1.08004	7.78904	11.98130
37	15.22817	19.21257	27.30308	71.28514	0.90089	1.05699	7.62282	11.60967
38	14.91296	18.86622	26.72248	70.18880	0.88327	1.03632	7.47374	11.26634
39	14.61922	18.55107	26.18863	69.26143	0.86758	1.01790	7.34094	10.95057
40	14.34583	18.26601	25.69969	68.49686	0.85371	1.00164	7.22362	10.66142
41	14.09165	18.00955	25.25366	67.88998	0.84160	0.98742	7.12113	10.39777
42	13.85554	17.78020	24.84813	67.43658	0.83117	0.97519	7.03288	10.15803
43	13.63630	17.57600	24.48072	67.13387	0.82236	0.96486	6.95838	9.94083
44	13.43259	17.39478	24.14820	66.97961	0.81513	0.95638	6.89721	9.74410
45	13.24303	17.23397	23.84753	66.97299	0.80944	0.94970	6.84903	9.56592
46	13.06600	17.09022	23.57469	67.11369	0.80525	0.94478	6.81357	9.40386
47	12.89972	16.95990	23.32500	67.40292	0.80254	0.94160	6.79064	9.25496
48	12.74221	16.83849	23.09359	67.84245	0.80130	0.94014	6.78013	9.11625
49	12.74221	16.83849	23.09359	68.43532	0.80151	0.94040	6.78197	9.11625
50	12.74221	16.83849	23.09359	69.18529	0.80319	0.94236	6.79615	9.11625
51	12.74221	16.83849	23.09359	70.09760	0.80634	0.94606	6.82277	9.11625
52	12.74221	16.83849	23.09359	71.17838	0.81097	0.95149	6.86198	9.11625
53	12.74221	16.83849	23.09359	72.43486	0.81712	0.95870	6.91399	9.11625
54	12.74221	16.83849	23.09359	73.87605	0.82481	0.96773	6.97908	9.11625
55	12.74221	16.83849	23.09359	75.51172	0.83409	0.97862	7.05761	9.11625
56	15.26287	20.53829	28.49061	77.35370	0.84501	0.99143	7.15003	11.31136
57	17.78343	24.23809	33.88773	79.41504	0.85764	1.00624	7.25686	13.50648
58	20.30409	27.93793	39.28485	81.71091	0.87204	1.02314	7.37869	15.70158
59	22.82477	31.63773	44.68191	84.25841	0.88829	1.04221	7.51624	17.89670
60	25.34542	35.33754	50.07906	87.07663	0.90650	1.06357	7.67030	20.09180
61	27.86604	39.03738	55.47615	90.18726	0.92677	1.08735	7.84179	22.28691
62	30.38667	42.73717	60.87324	93.61479	0.94921	1.11368	8.03170	24.48201
63	32.90737	46.43703	66.27036	97.38661	0.97397	1.14273	8.24120	26.67712
64	35.42799	50.13684	71.66745	101.53357	1.00120	1.17468	8.47158	28.87222
65	37.94864	53.83663	77.06457	106.08978	1.03106	1.20971	8.72425	31.06734

**Table A-4-12**  
**El Paso 1990 Summer Time Period 4 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HOGV	LDDV	LDDT	HDDV	MC
3	2.53111	2.73178	3.43046	5.57140	2.83676	3.31708	37.16812	0.91542
4	2.37349	2.54999	3.27636	5.62905	2.71728	3.17737	35.60272	0.87559
5	2.27332	2.43775	3.18324	5.68670	2.60654	3.04788	34.15169	0.84253
6	2.20286	2.36175	3.12215	5.74436	2.50386	2.92781	32.80634	0.81573
7	2.15014	2.30759	3.08052	5.80201	2.40864	2.81647	31.55879	0.79469
8	2.10912	2.26790	3.05193	5.85966	2.32034	2.71322	30.40179	0.77893
9	2.07635	2.23850	3.03267	5.91732	2.23845	2.61746	29.32886	0.76797
10	2.04973	2.21681	3.02042	5.97497	2.16252	2.52867	28.33398	0.76137
11	2.02786	2.20107	3.01361	6.03262	2.09213	2.44637	27.41174	0.75871
12	2.00981	2.19007	3.01112	6.09028	2.02691	2.37011	26.55724	0.75958
13	1.99486	2.18291	3.01213	6.14793	1.96651	2.29948	25.76588	0.76357
14	1.98252	2.17889	3.01596	6.20559	1.91063	2.23414	25.03366	0.77033
15	1.97236	2.17747	3.02210	6.26324	1.85897	2.17373	24.35683	0.77948
16	1.96406	2.17816	3.03013	6.32089	1.81128	2.11796	23.73195	0.79071
17	1.95735	2.18063	3.03966	6.37854	1.76731	2.06656	23.15596	0.80368
18	1.95202	2.18454	3.05041	6.43620	1.72687	2.01927	22.62605	0.81809
19	1.94788	2.18963	3.06210	6.49385	1.68975	1.97586	22.13968	0.83367
20	1.94688	2.20357	3.08267	6.55151	1.65578	1.93614	21.69456	0.85015
21	1.95427	2.23110	3.11501	6.60916	1.62479	1.89991	21.28862	0.86728
22	1.96154	2.25728	3.14593	6.66681	1.59666	1.86700	20.91994	0.88484
23	1.96876	2.28220	3.17549	6.72446	1.57123	1.83728	20.58684	0.90261
24	1.97590	2.30594	3.20374	6.78211	1.54842	1.81059	20.28784	0.92041
25	1.98297	2.32854	3.23075	6.83977	1.52810	1.78683	20.02159	0.93807
26	1.98999	2.35003	3.25656	6.89742	1.51019	1.76589	19.78696	0.95541
27	1.99692	2.37046	3.28121	6.95508	1.49461	1.74767	19.58281	0.97232
28	2.00381	2.38986	3.30475	7.01272	1.48129	1.73210	19.40833	0.98867
29	2.01064	2.40825	3.32720	7.07038	1.47018	1.71910	19.26274	1.00436
30	2.01743	2.42569	3.34865	7.12803	1.46122	1.70863	19.14540	1.01932
31	2.02416	2.44218	3.36910	7.18569	1.45438	1.70064	19.05580	1.03347
32	2.03088	2.45777	3.38867	7.24334	1.44963	1.69509	18.99361	1.04677
33	2.03759	2.47254	3.40738	7.30100	1.44695	1.69195	18.95850	1.05919
34	2.04432	2.48649	3.42533	7.35865	1.44633	1.69123	18.95033	1.07073
35	2.05107	2.49969	3.44261	7.41630	1.44777	1.69290	18.96912	1.08140
36	2.05791	2.51222	3.45930	7.47396	1.45126	1.69699	19.01489	1.09122
37	2.06482	2.52415	3.47552	7.53160	1.45683	1.70350	19.08786	1.10023
38	2.07190	2.53553	3.49138	7.58926	1.46450	1.71247	19.18832	1.10851
39	2.07914	2.54648	3.50701	7.64691	1.47430	1.72392	19.31673	1.11613
40	2.08661	2.55707	3.52256	7.70457	1.48627	1.73793	19.47365	1.12320
41	2.09437	2.56742	3.53815	7.76222	1.50048	1.75454	19.65971	1.12983
42	2.10247	2.57764	3.55399	7.81988	1.51697	1.77382	19.87578	1.13616
43	2.11098	2.58787	3.57021	7.87752	1.53582	1.79586	20.12277	1.14235
44	2.11996	2.59819	3.58701	7.93518	1.55711	1.82076	20.40176	1.14857
45	2.12951	2.60880	3.60459	7.99283	1.58094	1.84863	20.71405	1.15501
46	2.13968	2.61982	3.62318	8.05049	1.60742	1.87959	21.06097	1.16188
47	2.15058	2.63143	3.64298	8.10814	1.63667	1.91379	21.44415	1.16941
48	2.16229	2.64378	3.66424	8.16580	1.66881	1.95138	21.86531	1.17785
49	2.25873	2.75319	3.82641	8.22344	1.70401	1.99253	22.32646	1.21620
50	2.35516	2.86261	3.98857	8.28110	1.74242	2.03744	22.82970	1.25456
51	2.45159	2.97203	4.15074	8.33875	1.78422	2.08632	23.37743	1.29291
52	2.54803	3.08144	4.31291	8.39641	1.82963	2.13942	23.97238	1.33126
53	2.64447	3.19086	4.47506	8.45406	1.87885	2.19698	24.61737	1.36962
54	2.74091	3.30029	4.63723	8.51171	1.93215	2.25930	25.31560	1.40797
55	2.83735	3.40970	4.79940	8.56937	1.98978	2.32669	26.07072	1.44633
56	2.93379	3.51912	4.96157	8.62702	2.05204	2.39949	26.88640	1.48468
57	3.03023	3.62853	5.12373	8.68467	2.11925	2.47808	27.76712	1.52303
58	3.12666	3.73795	5.28590	8.74232	2.19178	2.56289	28.71735	1.56139
59	3.22309	3.84738	5.44807	8.79998	2.27001	2.65436	29.74231	1.59974
60	3.31953	3.95680	5.61023	8.85763	2.35437	2.75301	30.84770	1.63809
61	3.41597	4.06621	5.77240	8.91529	2.44534	2.85938	32.03957	1.67645
62	3.51242	4.17563	5.93456	8.97294	2.54343	2.97408	33.32478	1.71480
63	3.60885	4.28505	6.09673	9.03059	2.64921	3.09778	34.71085	1.75315
64	3.70528	4.39446	6.25890	9.08825	2.76332	3.23120	36.20589	1.79151
65	3.80172	4.50388	6.42106	9.14590	2.88644	3.37517	37.81902	1.82986

**Table A-4-13**  
**El Paso 1990 Winter Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HOGV	LDDV	LDDT	HDDV	MC
3	20.79336	23.34388	38.29047	35.49255	1.54391	2.16771	7.63656	22.39813
4	16.01918	18.29435	30.08523	32.41623	1.46580	2.05804	7.25018	18.37354
5	13.03941	15.02715	24.60304	29.65686	1.39286	1.95563	6.88942	15.40408
6	11.00339	12.74830	20.71380	27.17860	1.32472	1.85995	6.55237	13.17022
7	9.52870	11.08000	17.84312	24.94986	1.26102	1.77052	6.23730	11.46002
8	8.41553	9.81513	15.66037	22.94296	1.20144	1.68686	5.94260	10.12967
9	7.54851	8.82964	13.96043	21.13350	1.14568	1.60858	5.66681	9.07958
10	6.85621	8.04446	12.60955	19.49997	1.09348	1.53528	5.40858	8.23946
11	6.29197	7.40676	11.51691	18.02350	1.04457	1.46661	5.16666	7.55878
12	5.82405	6.88007	10.61903	16.68727	0.99872	1.40224	4.93990	7.00061
13	5.43011	6.43838	9.87035	15.47656	0.95573	1.34188	4.72726	6.53756
14	5.09402	6.06273	9.23758	14.37824	0.91540	1.28525	4.52775	6.14896
15	4.80386	5.73901	8.69587	13.38072	0.87754	1.23209	4.34049	5.81909
16	4.55061	5.45654	8.22645	12.47374	0.84198	1.18217	4.16463	5.53579
17	4.32738	5.20719	7.81487	11.64814	0.80858	1.13527	3.99941	5.28960
18	4.12882	4.98459	7.45001	10.89580	0.77718	1.09119	3.84412	5.07308
19	3.95074	4.78385	7.12316	10.20950	0.74767	1.04975	3.69813	4.88039
20	3.78465	4.62211	6.84966	9.58279	0.71990	1.01077	3.56080	4.70687
21	3.62694	4.45124	6.57863	9.00991	0.69378	0.97410	3.43160	4.54884
22	3.48262	4.29328	6.32933	8.48574	0.66920	0.93958	3.30999	4.40341
23	3.34983	4.14633	6.09840	8.00571	0.64605	0.90708	3.19551	4.26830
24	3.22708	4.00896	5.88322	7.56569	0.62425	0.87648	3.08770	4.14175
25	3.11314	3.88003	5.68180	7.16202	0.60372	0.84765	2.98616	4.02242
26	3.00704	3.75870	5.49256	6.79140	0.58438	0.82050	2.89049	3.90929
27	2.90796	3.64430	5.31429	6.45087	0.56616	0.79491	2.80036	3.80166
28	2.81523	3.53636	5.14606	6.13778	0.54899	0.77080	2.71542	3.69900
29	2.72830	3.43447	4.98720	5.84974	0.53281	0.74808	2.63538	3.60101
30	2.64672	3.33837	4.83718	5.58460	0.51756	0.72667	2.55995	3.50749
31	2.57011	3.24784	4.69556	5.34042	0.50318	0.70649	2.48886	3.41838
32	2.49811	3.16267	4.56208	5.11547	0.48964	0.68748	2.42189	3.33366
33	2.43045	3.08273	4.43646	4.90818	0.47689	0.66957	2.35879	3.25341
34	2.36690	3.00786	4.31852	4.71711	0.46487	0.65269	2.29935	3.17768
35	2.30721	2.93792	4.20801	4.54099	0.45356	0.63681	2.24339	3.10659
36	2.25117	2.87278	4.10481	4.37868	0.44291	0.62186	2.19071	3.04025
37	2.19860	2.81230	4.00869	4.22912	0.43289	0.60779	2.14116	2.97870
38	2.14933	2.75632	3.91944	4.09137	0.42347	0.59456	2.09457	2.92202
39	2.10317	2.70467	3.83686	3.96457	0.41462	0.58214	2.05079	2.87024
40	2.05997	2.65716	3.76068	3.84796	0.40631	0.57048	2.00970	2.82333
41	2.01955	2.61359	3.69064	3.74084	0.39852	0.55954	1.97117	2.78126
42	1.98174	2.57373	3.62640	3.64258	0.39122	0.54929	1.93508	2.74387
43	1.94636	2.53732	3.56760	3.55260	0.38440	0.53971	1.90132	2.71093
44	1.91325	2.50408	3.51383	3.47041	0.37802	0.53076	1.86979	2.68227
45	1.88220	2.47365	3.46462	3.39554	0.37208	0.52242	1.84041	2.65750
46	1.85302	2.44569	3.41944	3.32757	0.36656	0.51466	1.81308	2.63619
47	1.82544	2.41971	3.37766	3.26614	0.36143	0.50747	1.78773	2.61779
48	1.79925	2.39524	3.33861	3.21091	0.35669	0.50081	1.76429	2.60159
49	1.79925	2.39524	3.33861	3.16160	0.35233	0.49468	1.74268	2.60159
50	1.79925	2.39524	3.33861	3.11795	0.34832	0.48905	1.72286	2.60159
51	1.79925	2.39524	3.33861	3.07971	0.34466	0.48391	1.70476	2.60159
52	1.79925	2.39524	3.33861	3.04671	0.34134	0.47925	1.68834	2.60159
53	1.79925	2.39524	3.33861	3.01876	0.33835	0.47505	1.67355	2.60159
54	1.79925	2.39524	3.33861	2.99574	0.33568	0.47131	1.66035	2.60159
55	1.79925	2.39524	3.33861	2.97752	0.33332	0.46800	1.64870	2.60159
56	1.92639	2.57042	3.59776	2.96400	0.33128	0.46513	1.63857	2.79004
57	2.05355	2.74560	3.85690	2.95513	0.32953	0.46268	1.62994	2.97849
58	2.18070	2.92079	4.11605	2.95086	0.32809	0.46065	1.62279	3.16694
59	2.30784	3.09597	4.37521	2.95116	0.32693	0.45903	1.61708	3.35539
60	2.43500	3.27115	4.63434	2.95604	0.32607	0.45782	1.61282	3.54384
61	2.56216	3.44634	4.89350	2.96552	0.32550	0.45701	1.60998	3.73229
62	2.68929	3.62152	5.15264	2.97966	0.32521	0.45661	1.60857	3.92074
63	2.81645	3.79670	5.41179	2.99851	0.32521	0.45661	1.60857	4.10919
64	2.94360	3.97188	5.67095	3.02218	0.32550	0.45701	1.60999	4.29764
65	3.07075	4.14707	5.93009	3.05079	0.32607	0.45782	1.61282	4.48609

**Table A-4-14**  
**El Paso 1990 Winter Time Period 1 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDOV	LDDT	HDOV	MC
3	270.22803	303.71777	483.31275	537.26147	5.16339	5.99173	44.61014	221.89059
4	206.52899	233.73954	373.93872	490.87329	4.75865	5.52206	41.11327	176.95349
5	166.84721	189.01298	301.42944	449.47705	4.39362	5.09847	37.95958	144.46162
6	139.81887	158.16580	250.37560	412.47949	4.06398	4.71595	35.11159	120.45126
7	120.31245	135.80474	212.94556	379.35986	3.76593	4.37008	32.53645	102.35236
8	105.64039	118.99599	184.65479	349.66846	3.49608	4.05695	30.20512	88.45853
9	94.25133	105.99673	162.73700	323.01099	3.25149	3.77312	28.09189	77.61215
10	85.18537	95.70625	145.39784	299.04272	3.02952	3.51553	26.17412	69.01146
11	77.81679	87.39618	131.42776	277.46265	2.82784	3.28150	24.43170	62.09090
12	71.72111	80.56660	119.98685	258.00757	2.64440	3.06863	22.84680	56.44435
13	66.60045	74.86394	110.47661	240.44472	2.47736	2.87479	21.40366	51.77542
14	62.23998	70.03167	102.46128	224.57030	2.32510	2.69811	20.08820	47.86469
15	58.48120	65.87993	95.61832	210.20648	2.18617	2.53690	18.88791	44.54750
16	55.20489	62.26566	89.70463	197.19411	2.05929	2.38966	17.79172	41.69888
17	52.31995	59.07960	84.53503	185.39519	1.94331	2.25507	16.78964	39.22295
18	49.75598	56.23753	79.96629	174.68597	1.83720	2.13194	15.87292	37.04556
19	47.45741	53.67421	75.88735	164.95772	1.74005	2.01920	15.03353	35.10912
20	45.43025	51.75997	72.64900	156.11452	1.65104	1.91591	14.26450	33.36850
21	43.62477	49.95599	69.68659	148.07066	1.56943	1.82121	13.55944	31.78841
22	41.97117	48.27893	66.97034	140.75061	1.49458	1.73435	12.91273	30.34126
23	40.44837	46.70920	64.46228	134.08705	1.42588	1.65464	12.31926	29.00542
24	39.03921	45.23265	62.13294	128.02036	1.36283	1.58146	11.77447	27.76408
25	37.73009	43.83871	59.95909	122.49738	1.30493	1.51428	11.27427	26.60446
26	36.51007	42.51999	57.92286	117.47084	1.25177	1.45259	10.81500	25.51640
27	35.37013	41.27127	56.01088	112.89861	1.20297	1.39596	10.39332	24.49252
28	34.30307	40.08914	54.21226	108.74318	1.15817	1.34397	10.00628	23.52705
29	33.30286	38.97131	52.51934	104.97157	1.11707	1.29628	9.65122	22.61589
30	32.36470	37.91628	50.92586	101.55385	1.07940	1.25256	9.32570	21.75600
31	31.48441	36.92321	49.42700	98.46376	1.04489	1.21252	9.02757	20.94496
32	30.65831	35.99110	48.01904	95.67802	1.01333	1.17590	8.75489	20.18102
33	29.88340	35.11935	46.69891	93.17586	0.98452	1.14246	8.50593	19.46326
34	29.15686	34.30723	45.46386	90.93901	0.95826	1.11199	8.27908	18.79018
35	28.47627	33.55397	44.31154	88.95128	0.93440	1.08431	8.07297	18.16127
36	27.83921	32.85834	43.23953	87.19856	0.91280	1.05924	7.88635	17.57512
37	27.24362	32.21916	42.24565	85.66870	0.89332	1.03664	7.71806	17.03140
38	26.68735	31.63495	41.32733	84.35118	0.87585	1.01636	7.56712	16.52846
39	26.16840	31.10392	40.48178	83.23665	0.86029	0.99830	7.43265	16.06529
40	25.68475	30.62416	39.70637	82.31786	0.84654	0.98235	7.31387	15.64057
41	25.23445	30.19327	38.99785	81.58847	0.83453	0.96841	7.21010	15.25265
42	24.81546	29.80832	38.35236	81.04364	0.82419	0.95641	7.12075	14.89936
43	24.42565	29.46626	37.76621	80.67981	0.81546	0.94628	7.04531	14.57875
44	24.06275	29.16332	37.23443	80.49442	0.80829	0.93796	6.98338	14.28794
45	23.72441	28.89496	36.75238	80.48643	0.80264	0.93141	6.93460	14.02424
46	23.40776	28.65546	36.31354	80.65556	0.79849	0.92659	6.89870	13.78424
47	23.10974	28.43849	35.91113	81.00314	0.79580	0.92347	6.87548	13.56378
48	22.82706	28.23627	35.53741	81.53142	0.79457	0.92204	6.86483	13.35872
49	22.82706	28.23627	35.53741	82.24384	0.79478	0.92229	6.86670	13.35872
50	22.82706	28.23627	35.53741	83.14517	0.79645	0.92422	6.88106	13.35872
51	22.82706	28.23627	35.53741	84.24152	0.79957	0.92784	6.90801	13.35872
52	22.82706	28.23627	35.53741	85.54041	0.80416	0.93317	6.94771	13.35872
53	22.82706	28.23627	35.53741	87.05045	0.81025	0.94024	7.00037	13.35872
54	22.82706	28.23627	35.53741	88.78242	0.81788	0.94909	7.06627	13.35872
55	22.82706	28.23627	35.53741	90.74815	0.82709	0.95977	7.14579	13.35872
56	22.25594	34.37883	43.79866	92.96178	0.83792	0.97234	7.23936	16.57495
57	31.68476	40.52137	52.05994	95.43904	0.85044	0.98687	7.34752	19.79117
58	36.11358	46.66398	60.32106	98.19815	0.86472	1.00344	7.47088	23.00740
59	40.54243	52.80656	68.58235	101.25967	0.88083	1.02214	7.61015	26.22365
60	44.97125	58.94911	76.84359	104.64651	0.89889	1.04309	7.76613	29.43988
61	49.40010	65.09169	85.10480	108.38483	0.91898	1.06641	7.93976	32.65611
62	53.82895	71.23430	93.36601	112.50394	0.94124	1.09224	8.13205	35.87231
63	58.25781	77.37685	101.62729	117.03682	0.96579	1.12073	8.34416	39.08856
64	62.68666	83.51942	109.88846	122.02048	0.99279	1.15206	8.57742	42.30478
65	67.11547	89.66198	118.14972	127.49612	1.02240	1.18642	8.83325	45.52103

**Table A-4-15**  
**El Paso 1990 Winter Time Period 1 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	3.22609	3.37737	4.13392	6.21891	2.81243	3.27667	38.28360	1.08456
4	3.02990	3.15204	3.95024	6.28327	2.69397	3.13867	36.67122	1.03736
5	2.90416	3.01249	3.83741	6.34762	2.58418	3.01075	35.17665	0.99820
6	2.81495	2.91763	3.76203	6.41198	2.48238	2.89214	33.79091	0.96645
7	2.74764	2.84967	3.70958	6.47633	2.38798	2.78216	32.50592	0.94152
8	2.69481	2.79955	3.67258	6.54068	2.30043	2.68016	31.31421	0.92284
9	2.65226	2.76214	3.64675	6.60504	2.21924	2.58557	30.20909	0.90986
10	2.61743	2.73420	3.62939	6.66939	2.14397	2.49787	29.18434	0.90205
11	2.58858	2.71362	3.61866	6.73374	2.07418	2.41657	28.23441	0.89890
12	2.56457	2.69889	3.61325	6.79810	2.00952	2.34123	27.35426	0.89992
13	2.54452	2.68890	3.61216	6.86245	1.94965	2.27147	26.53915	0.90465
14	2.52780	2.68281	3.61462	6.92681	1.89424	2.20692	25.78497	0.91266
15	2.51388	2.67991	3.62002	6.99116	1.84302	2.14725	25.08780	0.92350
16	2.50238	2.67969	3.62781	7.05551	1.79574	2.09216	24.44418	0.93680
17	2.49295	2.68166	3.63758	7.11987	1.75216	2.04138	23.85092	0.95217
18	2.48533	2.68546	3.64894	7.18422	1.71206	1.99467	23.30511	0.96925
19	2.47929	2.69074	3.66155	7.24858	1.67526	1.95179	22.80412	0.98770
20	2.47738	2.70736	3.68449	7.31293	1.64158	1.91255	22.34566	1.00723
21	2.48608	2.74129	3.72145	7.37728	1.61086	1.87676	21.92752	1.02752
22	2.49472	2.77553	3.75688	7.44163	1.58296	1.84426	21.54778	1.04833
23	2.50335	2.80418	3.79085	7.50599	1.55776	1.81489	21.20468	1.06938
24	2.51194	2.83336	3.82342	7.57034	1.53513	1.78854	20.89671	1.09047
25	2.52050	2.86111	3.85463	7.63469	1.51499	1.76506	20.62247	1.11139
26	2.52907	2.88750	3.88453	7.69905	1.49723	1.74437	20.38078	1.13194
27	2.53759	2.91259	3.91318	7.76341	1.48178	1.72638	20.17052	1.15197
28	2.54612	2.93641	3.94058	7.82776	1.46858	1.71100	19.99080	1.17134
29	2.55463	2.95901	3.96681	7.89211	1.45756	1.69816	19.84085	1.18993
30	2.56315	2.98044	3.99191	7.95646	1.44868	1.68782	19.71999	1.20765
31	2.57167	3.00073	4.01592	8.02082	1.44191	1.67992	19.62770	1.22441
32	2.58024	3.01995	4.03893	8.08517	1.43720	1.67444	19.56364	1.24017
33	2.58886	3.03814	4.06102	8.14953	1.43454	1.67134	19.52748	1.25489
34	2.59753	3.05536	4.08224	8.21388	1.43393	1.67062	19.51906	1.26857
35	2.60632	3.07168	4.10273	8.27824	1.43535	1.67228	19.53841	1.28120
36	2.61526	3.08719	4.12258	8.34259	1.43881	1.67631	19.58556	1.29283
37	2.62438	3.10196	4.14192	8.40694	1.44433	1.68274	19.66072	1.30351
38	2.63374	3.11611	4.16088	8.47130	1.45194	1.69160	19.76421	1.31332
39	2.64341	3.12971	4.17962	8.53565	1.46165	1.70292	19.89645	1.32235
40	2.65341	3.14291	4.19831	8.60000	1.47352	1.71676	20.05809	1.33073
41	2.66385	3.15580	4.21710	8.66435	1.48760	1.73316	20.24974	1.33858
42	2.67477	3.16855	4.23623	8.72871	1.50395	1.75221	20.47229	1.34608
43	2.68628	3.18129	4.25586	8.79306	1.52264	1.77398	20.72668	1.35341
44	2.69846	3.19419	4.27624	8.85742	1.54375	1.79858	21.01405	1.36078
45	2.71140	3.20740	4.29761	8.92177	1.56738	1.82611	21.33571	1.36841
46	2.72522	3.22111	4.32022	8.98613	1.59364	1.85669	21.69305	1.37655
47	2.74002	3.23553	4.34434	9.05048	1.62263	1.89047	22.08772	1.38548
48	2.75592	3.25085	4.37024	9.11484	1.65450	1.92760	22.52153	1.39547
49	2.88003	3.38640	4.56495	9.17919	1.68939	1.96825	22.99652	1.44091
50	3.00413	3.52194	4.75964	9.24354	1.72747	2.01262	23.51486	1.48635
51	3.12824	3.65751	4.95434	9.30789	1.76892	2.06091	24.07903	1.53179
52	3.25235	3.79305	5.14903	9.37225	1.81393	2.11336	24.69183	1.57723
53	3.37645	3.92862	5.34375	9.43660	1.86274	2.17022	25.35619	1.62267
54	3.50056	4.06416	5.53845	9.50096	1.91557	2.23178	26.07536	1.66811
55	3.62468	4.19971	5.73314	9.56531	1.97271	2.29834	26.85315	1.71355
56	3.74878	4.33527	5.92784	9.62966	2.03443	2.37026	27.69333	1.75899
57	3.87288	4.47082	6.12254	9.69402	2.10107	2.44789	28.60045	1.80443
58	3.99700	4.60637	6.31724	9.75837	2.17297	2.53167	29.57919	1.84987
59	4.12110	4.74192	6.51194	9.82273	2.25053	2.62203	30.63493	1.89531
60	4.24522	4.87748	6.70664	9.88708	2.33417	2.71947	31.77348	1.94075
61	4.36932	5.01303	6.90134	9.95144	2.42436	2.82455	33.00111	1.98619
62	4.49343	5.14858	7.09604	10.01579	2.52161	2.93785	34.32491	2.03163
63	4.61754	5.28414	7.29075	10.08014	2.62649	3.06004	35.75258	2.07707
64	4.74165	5.41968	7.48545	10.14449	2.73962	3.19184	37.29250	2.12251
65	4.86576	5.55523	7.68015	10.20885	2.86168	3.33405	38.95404	2.16795

**Table A-4-16**  
**El Paso 1990 Winter Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	23.97630	24.78180	44.63990	55.70268	1.54391	2.16771	7.63656	19.04503
4	17.35277	18.16801	32.18591	42.86009	1.46580	2.05804	7.25018	15.72233
5	13.60572	14.35297	25.03927	35.70673	1.39286	1.95563	6.88942	13.27034
6	11.20105	11.87195	20.40962	30.93974	1.32472	1.85995	6.55237	11.42553
7	9.53235	10.13734	17.18707	27.40704	1.26102	1.77052	6.23730	10.01300
8	8.46364	8.98386	15.08039	25.03625	1.20144	1.68686	5.94260	8.91409
9	7.63354	8.09301	13.46375	23.01530	1.14568	1.60858	5.66681	8.04661
10	6.95698	7.37760	12.17421	21.22966	1.09348	1.53528	5.40858	7.35252
11	6.39293	6.79125	11.12617	19.64073	1.04457	1.46661	5.16666	6.79012
12	5.91346	6.30203	10.26010	18.21928	0.99872	1.40224	4.93990	6.32891
13	5.49898	5.88720	9.53353	16.94220	0.95573	1.34188	4.72726	5.94627
14	5.13533	5.53025	8.91542	15.79074	0.91540	1.28525	4.52775	5.62515
15	4.81207	5.21888	8.38273	14.74935	0.87754	1.23209	4.34049	5.35253
16	4.52128	4.94379	7.91802	13.80507	0.84198	1.18217	4.16463	5.11841
17	4.25694	4.69789	7.50790	12.94676	0.80858	1.13527	3.99941	4.91494
18	4.01435	4.47567	7.14205	12.16492	0.77718	1.09119	3.84412	4.73600
19	3.78982	4.27283	6.81238	11.45131	0.74767	1.04975	3.69813	4.57674
20	3.60108	4.11251	6.53707	10.80709	0.71990	1.01077	3.56080	4.43332
21	3.45718	3.96237	6.27951	10.23015	0.69378	0.97410	3.43160	4.30271
22	3.32494	3.82368	6.04284	9.70247	0.66920	0.93958	3.30999	4.18251
23	3.20278	3.69484	5.82395	9.21918	0.64605	0.90708	3.19551	4.07085
24	3.08940	3.57449	5.62036	8.77598	0.62425	0.87648	3.08770	3.96626
25	2.98373	3.46169	5.43011	8.36907	0.60372	0.84765	2.98616	3.86763
26	2.88489	3.35563	5.25171	7.99502	0.58438	0.82050	2.89049	3.77414
27	2.79218	3.25572	5.08393	7.65086	0.56616	0.79491	2.80036	3.68519
28	2.70501	3.16148	4.92586	7.33385	0.54899	0.77080	2.71542	3.60035
29	2.62290	3.07258	4.77679	7.04160	0.53281	0.74808	2.63538	3.51937
30	2.54543	2.98872	4.63616	6.77194	0.51756	0.72667	2.55995	3.44209
31	2.47225	2.90968	4.50350	6.52293	0.50318	0.70649	2.48886	3.36845
32	2.40310	2.83528	4.37851	6.29284	0.48964	0.68748	2.42189	3.29844
33	2.33769	2.76536	4.26086	6.08010	0.47689	0.66957	2.35879	3.23213
34	2.27581	2.69977	4.15032	5.88331	0.46487	0.65269	2.29935	3.16955
35	2.21726	2.63838	4.04664	5.70119	0.45356	0.63681	2.24339	3.11082
36	2.16185	2.58108	3.94964	5.53260	0.44291	0.62186	2.19071	3.05601
37	2.10942	2.52770	3.85909	5.37651	0.43289	0.60779	2.14116	3.00516
38	2.05981	2.47811	3.77476	5.23199	0.42347	0.59456	2.09457	2.95834
39	2.01285	2.43216	3.69645	5.09820	0.41462	0.58214	2.05079	2.91557
40	1.96843	2.38969	3.62390	4.97438	0.40631	0.57048	2.00970	2.87683
41	1.92639	2.35054	3.55684	4.85984	0.39852	0.55954	1.97117	2.84209
42	1.88657	2.31448	3.49499	4.75397	0.39122	0.54929	1.93508	2.81122
43	1.84884	2.28132	3.43798	4.65619	0.38440	0.53971	1.90132	2.78403
44	1.81303	2.25084	3.38549	4.56601	0.37802	0.53076	1.86979	2.76037
45	1.77899	2.22271	3.33708	4.48298	0.37208	0.52242	1.84041	2.73994
46	1.74654	2.19666	3.29229	4.40668	0.36656	0.51466	1.81308	2.72236
47	1.71549	2.17233	3.25061	4.33673	0.36143	0.50747	1.78773	2.70719
48	1.68603	2.14908	3.21077	4.27182	0.35669	0.50081	1.76429	2.69384
49	1.68017	2.14283	3.19669	4.20408	0.35233	0.49468	1.74268	2.69384
50	1.67466	2.13695	3.18345	4.14277	0.34832	0.48905	1.72286	2.69384
51	1.66947	2.13141	3.17097	4.08758	0.34466	0.48391	1.70476	2.69384
52	1.66457	2.12618	3.15920	4.03823	0.34134	0.47925	1.68834	2.69384
53	1.65994	2.12124	3.14811	3.99448	0.33835	0.47505	1.67355	2.69384
54	1.65557	2.11657	3.13760	3.95612	0.33568	0.47131	1.66035	2.69384
55	1.65143	2.11216	3.12767	3.92298	0.33332	0.46800	1.64870	2.69384
56	1.74534	2.24348	3.32530	3.89491	0.33128	0.46513	1.63857	2.84975
57	1.83946	2.37502	3.52341	3.87178	0.32953	0.46268	1.62994	3.00566
58	1.93376	2.50677	3.72198	3.85350	0.32809	0.46065	1.62279	3.16158
59	2.02824	2.63870	3.92097	3.83998	0.32693	0.45903	1.61708	3.31749
60	2.12288	2.77080	4.12037	3.83120	0.32607	0.45782	1.61282	3.47341
61	2.21768	2.90308	4.32014	3.82713	0.32550	0.45701	1.60998	3.62932
62	2.31262	3.03551	4.52025	3.82775	0.32521	0.45661	1.60857	3.78524
63	2.40769	3.16807	4.72069	3.83311	0.32521	0.45661	1.60857	3.94115
64	2.50290	3.30077	4.92143	3.84326	0.32550	0.45701	1.60999	4.09706
65	2.59822	3.43361	5.12245	3.85825	0.32607	0.45782	1.61282	4.25298



**Table A-4-17**  
**El Paso 1990 Winter Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	223.31060	253.28516	397.64014	502.76831	5.16339	5.99173	44.61014	179.19968
4	170.70295	194.78890	307.64917	459.35815	4.75865	5.52206	41.11327	142.90814
5	137.90604	157.44583	248.02380	420.61963	4.39362	5.09847	37.95958	116.66635
6	115.55670	131.70179	206.04666	385.99707	4.06398	4.71595	35.11159	97.27394
7	99.42250	113.03979	175.27080	355.00391	3.76593	4.37008	32.53645	82.65572
8	87.28514	99.00795	152.00657	327.21924	3.49608	4.05695	30.20512	71.43362
9	77.86305	88.15177	133.98004	302.27271	3.25149	3.77312	28.09189	62.67287
10	70.36284	79.55367	119.71644	279.84375	3.02952	3.51553	26.17412	55.72592
11	64.26713	72.60662	108.22214	259.64966	2.82784	3.28150	24.43170	50.13608
12	59.22478	66.89457	98.80707	241.44302	2.64440	3.06863	22.84680	45.57526
13	54.98938	62.12299	90.97942	225.00760	2.47736	2.87479	21.40366	41.80412
14	51.38314	58.07860	84.38136	210.15234	2.32510	2.69811	20.08820	38.64549
15	48.27482	54.60335	78.74773	196.71068	2.18617	2.53690	18.88791	35.96634
16	45.56598	51.57829	73.87883	184.53381	2.05929	2.38966	17.79172	33.66570
17	43.18119	48.91244	69.62227	173.49237	1.94331	2.25507	16.78964	31.66614
18	41.06194	46.53574	65.86058	163.47075	1.83720	2.13194	15.87292	29.90781
19	39.16254	44.39383	62.50226	154.36703	1.74005	2.01920	15.03353	28.34409
20	37.49570	42.81872	59.85805	146.09163	1.65104	1.91591	14.26450	26.93861
21	36.02045	41.34223	57.44508	138.56419	1.56943	1.82121	13.55944	25.66283
22	34.66949	39.97107	55.23259	131.71405	1.49458	1.73435	12.91273	24.49448
23	33.42553	38.68913	53.18978	125.47832	1.42588	1.65464	12.31926	23.41605
24	32.27458	37.48459	51.29245	119.80115	1.36283	1.58146	11.77447	22.41397
25	31.20542	36.34857	49.52179	114.63269	1.30493	1.51428	11.27427	21.47791
26	30.20906	35.27482	47.86309	109.92888	1.25177	1.45259	10.81500	20.59967
27	29.27815	34.25872	46.30547	105.65025	1.20297	1.39596	10.39332	19.77324
28	28.40674	33.29741	44.84022	101.76158	1.15817	1.34397	10.00628	18.99396
29	27.58998	32.38878	43.46092	98.23212	1.11707	1.29628	9.65122	18.25858
30	26.82390	31.53147	42.16243	95.03383	1.07940	1.25256	9.32570	17.56453
31	26.10485	30.72446	40.94097	92.14211	1.04489	1.21252	9.02757	16.90993
32	25.43020	29.96698	39.79350	89.53523	1.01333	1.17590	8.75489	16.29333
33	24.79721	29.25842	38.71751	87.19376	0.98452	1.14246	8.50593	15.71401
34	24.20381	28.59798	37.71076	85.10046	0.95826	1.11199	8.27908	15.17072
35	23.64788	27.98506	36.77139	83.24037	0.93440	1.08431	8.07297	14.66306
36	23.12744	27.41859	35.89746	81.60017	0.91280	1.05924	7.88635	14.18991
37	22.64083	26.89759	35.08714	80.16859	0.89332	1.03664	7.71806	13.75096
38	22.18638	26.42082	34.33844	78.93564	0.87585	1.01636	7.56712	13.34493
39	21.76235	25.98680	33.64910	77.89264	0.86029	0.99830	7.43265	12.97097
40	21.36722	25.59400	33.01691	77.03284	0.84654	0.98235	7.31387	12.62802
41	20.99936	25.24048	32.43931	76.35028	0.83453	0.96841	7.21010	12.31478
42	20.65705	24.92392	31.91314	75.84044	0.82419	0.95641	7.12075	12.02947
43	20.33863	24.64189	31.43542	75.49997	0.81546	0.94628	7.04531	11.77054
44	20.04226	24.39127	31.00213	75.32649	0.80829	0.93796	6.98338	11.53565
45	19.76593	24.16862	30.60944	75.31902	0.80264	0.93141	6.93460	11.32264
46	19.50737	23.96932	30.25215	75.47729	0.79849	0.92659	6.89870	11.12877
47	19.26418	23.78839	29.92448	75.80252	0.79580	0.92347	6.87548	10.95070
48	19.03343	23.61965	29.62042	76.29689	0.79457	0.92204	6.86483	10.78507
49	19.03343	23.61965	29.62042	76.96359	0.79478	0.92229	6.86670	10.78507
50	19.03343	23.61965	29.62042	77.80704	0.79645	0.92422	6.88106	10.78507
51	19.03343	23.61965	29.62042	78.83301	0.79957	0.92784	6.90801	10.78507
52	19.03343	23.61965	29.62042	80.04849	0.80416	0.93317	6.94771	10.78507
53	19.03343	23.61965	29.62042	81.46158	0.81025	0.94024	7.00037	10.78507
54	19.03343	23.61965	29.62042	83.08237	0.81788	0.94909	7.06627	10.78507
55	19.03343	23.61965	29.62042	84.92188	0.82709	0.95977	7.14579	10.78507
56	22.71859	28.75766	36.49739	86.99341	0.83792	0.97234	7.23936	13.38165
57	26.40372	33.89564	43.37439	89.31161	0.85044	0.98687	7.34752	15.97824
58	30.08888	39.03374	50.25138	91.89359	0.86472	1.00344	7.47088	18.57480
59	33.77398	44.17173	57.12841	94.75858	0.88083	1.02214	7.61015	21.17139
60	37.45906	49.30975	64.00536	97.92793	0.89889	1.04309	7.76613	23.76796
61	41.14421	54.44779	70.88236	101.42624	0.91898	1.06641	7.93976	26.36458
62	44.82932	59.58582	77.75941	105.28093	0.94124	1.09224	8.13205	28.96114
63	48.51446	64.72388	84.63643	109.52272	0.96579	1.12073	8.34416	31.55772
64	52.19960	69.86190	91.51335	114.18646	0.99279	1.15206	8.57742	34.15431
65	55.88472	74.99996	98.39038	119.31055	1.02240	1.18642	8.83325	36.75087

**Table A-4-18**  
**El Paso 1990 Winter Time Period 2 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	2.82869	2.99750	3.73059	5.81686	2.81243	3.27667	38.28360	0.97788
4	2.65830	2.80058	3.57156	5.87705	2.69397	3.13867	36.67122	0.93533
5	2.54904	2.67857	3.47443	5.93724	2.58418	3.01075	35.17665	0.90002
6	2.47154	2.59572	3.41010	5.99744	2.48238	2.89214	33.79091	0.87139
7	2.41314	2.53653	3.36590	6.05763	2.38798	2.78216	32.50592	0.84891
8	2.36739	2.49309	3.33530	6.11782	2.30043	2.68016	31.31421	0.83207
9	2.33065	2.46091	3.31457	6.17802	2.21924	2.58557	30.20909	0.82037
10	2.30066	2.43718	3.30134	6.23821	2.14397	2.49787	29.18434	0.81332
11	2.27596	2.42002	3.29397	6.29840	2.07418	2.41657	28.23441	0.81048
12	2.25550	2.40809	3.29129	6.35860	2.00952	2.34123	27.35426	0.81140
13	2.23854	2.40042	3.29245	6.41879	1.94965	2.27147	26.53915	0.81567
14	2.22449	2.39626	3.29675	6.47898	1.89424	2.20692	25.78497	0.82289
15	2.21293	2.39497	3.30361	6.53918	1.84302	2.14725	25.08780	0.83267
16	2.20349	2.39608	3.31259	6.59937	1.79574	2.09216	24.44418	0.84466
17	2.19588	2.39915	3.32328	6.65957	1.75216	2.04138	23.85092	0.85851
18	2.18986	2.40384	3.33533	6.71976	1.71206	1.99467	23.30511	0.87391
19	2.18521	2.40987	3.34845	6.77995	1.67526	1.95179	22.80412	0.89055
20	2.18407	2.42578	3.37055	6.84015	1.64158	1.91255	22.34566	0.90816
21	2.19206	2.45668	3.40477	6.90033	1.61086	1.87676	21.92752	0.92646
22	2.20003	2.48609	3.43760	6.96052	1.58296	1.84426	21.54778	0.94521
23	2.20796	2.51412	3.46908	7.02072	1.55776	1.81489	21.20468	0.96420
24	2.21589	2.54082	3.49929	7.08091	1.53513	1.78854	20.89671	0.98321
25	2.22377	2.56628	3.52827	7.14111	1.51499	1.76506	20.62247	1.00207
26	2.23165	2.59050	3.55603	7.20130	1.49723	1.74437	20.38078	1.02060
27	2.23949	2.61352	3.58260	7.26149	1.48178	1.72638	20.17052	1.03866
28	2.24731	2.63542	3.60806	7.32168	1.46858	1.71100	19.99080	1.05613
29	2.25511	2.65618	3.63239	7.38188	1.45756	1.69816	19.84085	1.07289
30	2.26288	2.67588	3.65567	7.44207	1.44868	1.68782	19.71999	1.08887
31	2.27064	2.69452	3.67792	7.50227	1.44191	1.67992	19.62770	1.10398
32	2.27843	2.71216	3.69924	7.56246	1.43720	1.67444	19.56364	1.11819
33	2.28623	2.72885	3.71969	7.62266	1.43454	1.67134	19.52748	1.13146
34	2.29407	2.74464	3.73933	7.68285	1.43393	1.67062	19.51906	1.14379
35	2.30199	2.75959	3.75827	7.74304	1.43535	1.67228	19.53841	1.15518
36	2.31002	2.77378	3.77661	7.80323	1.43881	1.67631	19.58556	1.16567
37	2.31820	2.78729	3.79447	7.86342	1.44433	1.68274	19.66072	1.17530
38	2.32657	2.80020	3.81197	7.92362	1.45194	1.69160	19.76421	1.18414
39	2.33519	2.81262	3.82927	7.98381	1.46165	1.70292	19.89645	1.19229
40	2.34409	2.82464	3.84650	8.04401	1.47352	1.71676	20.05809	1.19983
41	2.35337	2.83640	3.86384	8.10420	1.48760	1.73316	20.24974	1.20692
42	2.36310	2.84801	3.88148	8.16439	1.50395	1.75221	20.47229	1.21368
43	2.37332	2.85962	3.89961	8.22459	1.52264	1.77398	20.72668	1.22029
44	2.38414	2.87138	3.91844	8.28478	1.54375	1.79858	21.01405	1.22693
45	2.39564	2.88346	3.93821	8.34497	1.56738	1.82611	21.33571	1.23382
46	2.40792	2.89601	3.95913	8.40516	1.59364	1.85669	21.69305	1.24116
47	2.42109	2.90924	3.98149	8.46536	1.62263	1.89047	22.08772	1.24920
48	2.43526	2.92333	4.00552	8.52556	1.65450	1.92760	22.52153	1.25822
49	2.54451	3.04463	4.18373	8.58575	1.68939	1.96825	22.99652	1.29918
50	2.65377	3.16593	4.36194	8.64594	1.72747	2.01262	23.51486	1.34016
51	2.76303	3.28723	4.54015	8.70613	1.76892	2.06091	24.07903	1.38113
52	2.87229	3.40854	4.71835	8.76633	1.81393	2.11336	24.69183	1.42210
53	2.98155	3.52982	4.89655	8.82652	1.86274	2.17022	25.35619	1.46307
54	3.09081	3.65113	5.07476	8.88671	1.91557	2.23178	26.07536	1.50404
55	3.20007	3.77243	5.25297	8.94691	1.97271	2.29834	26.85315	1.54501
56	3.30933	3.89374	5.43117	9.00709	2.03443	2.37026	27.69333	1.58598
57	3.41858	4.01503	5.60938	9.06729	2.10107	2.44789	28.60045	1.62695
58	3.52785	4.13633	5.78760	9.12749	2.17297	2.53167	29.57919	1.66792
59	3.63710	4.25763	5.96580	9.18768	2.25053	2.62203	30.63493	1.70889
60	3.74637	4.37893	6.14400	9.24787	2.33417	2.71947	31.77348	1.74986
61	3.85563	4.50023	6.32220	9.30807	2.42436	2.82455	33.00111	1.79083
62	3.96489	4.62154	6.50041	9.36826	2.52161	2.93785	34.32491	1.83180
63	4.07416	4.74282	6.67862	9.42846	2.62649	3.06004	35.75258	1.87277
64	4.18341	4.86413	6.85683	9.48865	2.73962	3.19184	37.29250	1.91374
65	4.29268	4.98542	7.03503	9.54884	2.86168	3.33405	38.95404	1.95471

**Table A-4-19**  
**El Paso 1990 Winter Time Period 3 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	23.43994	24.40406	43.69790	53.57990	1.54391	2.16771	7.63656	19.24510
4	17.05159	17.99785	31.73460	41.71848	1.46580	2.05804	7.25018	15.87929
5	13.41253	14.27026	24.79815	35.01108	1.39286	1.95563	6.88942	13.39549
6	11.06598	11.83217	20.27340	30.47998	1.32472	1.85995	6.55237	11.52677
7	9.43205	10.12075	17.10882	27.08441	1.26102	1.77052	6.23730	10.09595
8	8.37058	8.96875	15.01202	24.75653	1.20144	1.68686	5.94260	8.98281
9	7.54589	8.07827	13.40073	22.76273	1.14568	1.60858	5.66681	8.10411
10	6.87503	7.36372	12.11590	20.99767	1.09348	1.53528	5.40858	7.40104
11	6.31685	6.77860	11.07220	19.42494	1.04457	1.46661	5.16666	6.83137
12	5.84346	6.29090	10.21019	18.01646	0.99872	1.40224	4.93990	6.36420
13	5.45317	5.87782	9.48745	16.75003	0.95573	1.34188	4.72726	5.97662
14	5.07780	5.52277	8.87301	15.60756	0.91540	1.28525	4.52775	5.65135
15	4.76089	5.21340	8.34380	14.57390	0.87754	1.23209	4.34049	5.37522
16	4.47651	4.94043	7.88243	13.63638	0.84198	1.18217	4.16463	5.13807
17	4.21861	4.69668	7.47553	12.78411	0.80858	1.13527	3.99941	4.93198
18	3.98250	4.47667	7.11273	12.00774	0.77718	1.09119	3.84412	4.75072
19	3.76448	4.27604	6.78600	11.29915	0.74767	1.04975	3.69813	4.58941
20	3.57975	4.11720	6.51305	10.65878	0.71990	1.01077	3.56080	4.44414
21	3.43616	3.96672	6.25637	10.08419	0.69378	0.97410	3.43160	4.31185
22	3.30429	3.82773	6.02047	9.55861	0.66920	0.93958	3.30999	4.19009
23	3.18250	3.69855	5.80227	9.07727	0.64605	0.90708	3.19551	4.07699
24	3.06948	3.57790	5.59927	8.63587	0.62425	0.87648	3.08770	3.97105
25	2.96421	3.46479	5.40955	8.23064	0.60372	0.84765	2.98616	3.87115
26	2.86578	3.35842	5.23158	7.85818	0.58438	0.82050	2.89049	3.77645
27	2.77349	3.25821	5.06420	7.51552	0.56616	0.79491	2.80036	3.68635
28	2.68674	3.16369	4.90646	7.19997	0.54899	0.77080	2.71542	3.60042
29	2.60506	3.07451	4.75769	6.90910	0.53281	0.74808	2.63538	3.51840
30	2.52804	2.99037	4.61731	6.64078	0.51756	0.72667	2.55995	3.44011
31	2.45534	2.91107	4.48491	6.39307	0.50318	0.70649	2.48886	3.36552
32	2.38666	2.83644	4.36011	6.16425	0.48964	0.68748	2.42189	3.29461
33	2.32172	2.76632	4.24268	5.95276	0.47689	0.66957	2.35879	3.22744
34	2.26035	2.70055	4.13233	5.75717	0.46487	0.65269	2.29935	3.16406
35	2.20231	2.63900	4.02887	5.57624	0.45356	0.63681	2.24339	3.10457
36	2.14744	2.58156	3.93209	5.40883	0.44291	0.62186	2.19071	3.04905
37	2.09555	2.52806	3.84174	5.25390	0.43289	0.60779	2.14116	2.99754
38	2.04648	2.47839	3.75765	5.11051	0.42347	0.59456	2.09457	2.95011
39	2.00011	2.43240	3.67957	4.97785	0.41462	0.58214	2.05079	2.90679
40	1.95627	2.38992	3.60728	4.85513	0.40631	0.57048	2.00970	2.86754
41	1.91482	2.35075	3.54050	4.74169	0.39852	0.55954	1.97117	2.83236
42	1.87560	2.31473	3.47894	4.63691	0.39122	0.54929	1.93508	2.80109
43	1.83850	2.28163	3.42224	4.54021	0.38440	0.53971	1.90132	2.77354
44	1.80332	2.25121	3.37008	4.45110	0.37802	0.53076	1.86979	2.74958
45	1.76992	2.22318	3.32201	4.36913	0.37208	0.52242	1.84041	2.72888
46	1.73812	2.19724	3.27756	4.29388	0.36656	0.51466	1.81308	2.71107
47	1.70772	2.17303	3.23622	4.22500	0.36143	0.50747	1.78773	2.69570
48	1.67888	2.14992	3.19681	4.16123	0.35669	0.50081	1.76429	2.68217
49	1.67359	2.14428	3.18413	4.09548	0.35233	0.49468	1.74268	2.68217
50	1.66863	2.13899	3.17219	4.03608	0.34832	0.48905	1.72286	2.68217
51	1.66396	2.13400	3.16097	3.98270	0.34466	0.48391	1.70476	2.68217
52	1.65954	2.12929	3.15037	3.93509	0.34134	0.47925	1.68834	2.68217
53	1.65538	2.12484	3.14037	3.89300	0.33835	0.47505	1.67355	2.68217
54	1.65144	2.12064	3.13092	3.85625	0.33568	0.47131	1.66035	2.68217
55	1.64772	2.11666	3.12197	3.82465	0.33332	0.46800	1.64870	2.68217
56	1.74358	2.25060	3.32356	3.79807	0.33128	0.46513	1.63857	2.84009
57	1.83965	2.38474	3.52558	3.77639	0.32953	0.46268	1.62994	2.99800
58	1.93587	2.51904	3.72803	3.75951	0.32809	0.46065	1.62279	3.15591
59	2.03225	2.65352	3.93085	3.74737	0.32693	0.45903	1.61708	3.31383
60	2.12880	2.78815	4.13403	3.73993	0.32607	0.45782	1.61282	3.47174
61	2.22547	2.92295	4.33754	3.73717	0.32550	0.45701	1.60998	3.62966
62	2.32227	3.05788	4.54138	3.73910	0.32521	0.45661	1.60857	3.78757
63	2.41921	3.19294	4.74549	3.74573	0.32521	0.45661	1.60857	3.94549
64	2.51625	3.32812	4.94989	3.75714	0.32550	0.45701	1.60999	4.10340
65	2.61339	3.46340	5.15453	3.77339	0.32607	0.45782	1.61282	4.26131

**Table A-4-20**  
**El Paso 1990 Winter Time Period 3 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	225.65618	255.78931	402.56422	505.05005	5.16339	5.99173	44.61014	181.92059
4	172.49692	196.73200	311.47314	461.44287	4.75865	5.52206	41.11327	145.07805
5	139.35603	159.02395	251.10717	422.52881	4.39362	5.09847	37.95958	118.43788
6	116.77225	133.02631	208.60470	387.74854	4.06398	4.71595	35.11159	98.75121
7	100.46888	114.18005	177.44301	356.61499	3.76593	4.37008	32.53645	83.91113
8	88.20437	100.00974	153.88711	328.70435	3.49608	4.05695	30.20512	72.51878
9	78.68366	89.04690	135.63504	303.64453	3.25149	3.77312	28.09189	63.62517
10	71.10490	80.36455	121.19339	281.11328	3.02952	3.51553	26.17412	56.57280
11	64.94540	73.34999	109.55598	260.82764	2.82784	3.28150	24.43170	50.89818
12	59.85031	67.58257	100.02397	242.53882	2.64440	3.06863	22.84680	46.26816
13	55.57058	62.76506	92.09946	226.02876	2.47736	2.87479	21.40366	42.43980
14	51.92659	58.68186	85.42000	211.10606	2.32510	2.69811	20.08820	39.23325
15	48.78584	55.17331	79.71698	197.60339	2.18617	2.53690	18.88791	36.51343
16	46.04867	52.11936	74.78822	185.37131	2.05929	2.38966	17.79172	34.17784
17	43.63891	49.42795	70.47947	174.27977	1.94331	2.25507	16.78964	32.14790
18	41.49745	47.02841	66.67162	164.21262	1.83720	2.13194	15.87292	30.36287
19	39.57819	44.86571	63.27209	155.06760	1.74005	2.01920	15.03353	28.77541
20	37.89291	43.27279	60.59256	146.75465	1.65104	1.91591	14.26450	27.34857
21	36.40037	41.77900	58.14692	139.19301	1.56943	1.82121	13.55944	26.05338
22	35.03358	40.39166	55.90450	132.31183	1.49458	1.73435	12.91273	24.86728
23	33.77503	39.09448	53.83391	126.04781	1.42588	1.65464	12.31926	23.77242
24	32.61049	37.87547	51.91078	120.34485	1.36283	1.58146	11.77447	22.75510
25	31.52878	36.72567	50.11603	115.15300	1.30493	1.51428	11.27427	21.80475
26	30.52067	35.63872	48.43478	110.42776	1.25177	1.45259	10.81500	20.91315
27	29.57875	34.61024	46.85598	106.12971	1.20297	1.39596	10.39332	20.07411
28	28.69708	33.63713	45.37073	102.22340	1.15817	1.34397	10.00628	19.28297
29	27.87065	32.71726	43.97265	98.67793	1.11707	1.29628	9.65122	18.53638
30	27.09540	31.84927	42.65644	95.46515	1.07940	1.25256	9.32570	17.83177
31	26.36800	31.03226	41.41838	92.56027	1.04489	1.21252	9.02757	17.16719
32	25.68538	30.26542	40.25532	89.94159	1.01333	1.17590	8.75489	16.54120
33	25.04494	29.54804	39.16463	87.58945	0.98452	1.14246	8.50593	15.95304
34	24.44449	28.87954	38.14425	85.48671	0.95826	1.11199	8.27908	15.40148
35	23.88199	28.25907	37.19209	83.61812	0.93440	1.08431	8.07297	14.88608
36	23.35543	27.68571	36.30626	81.97055	0.91280	1.05924	7.88635	14.40573
37	22.86310	27.15834	35.48502	80.53239	0.89332	1.03664	7.71806	13.96010
38	22.40330	26.67590	34.72620	79.29385	0.87585	1.01636	7.56712	13.54788
39	21.97433	26.23677	34.02750	78.24619	0.86029	0.99830	7.43265	13.16825
40	21.57457	25.83937	33.38684	77.38248	0.84654	0.98235	7.31387	12.82008
41	21.20238	25.48173	32.80155	76.69682	0.83453	0.96841	7.21010	12.50208
42	20.85608	25.16163	32.26834	76.18466	0.82419	0.95641	7.12075	12.21244
43	20.53395	24.87649	31.78423	75.84265	0.81546	0.94628	7.04531	11.94957
44	20.23412	24.62318	31.34526	75.66832	0.80829	0.93796	6.98338	11.71112
45	19.95458	24.39820	30.94736	75.66086	0.80264	0.93141	6.93460	11.49488
46	19.69303	24.19696	30.58531	75.81981	0.79849	0.92659	6.89870	11.29807
47	19.44697	24.01416	30.25341	76.14658	0.79580	0.92347	6.87548	11.11729
48	19.21358	23.84378	29.94528	76.64317	0.79457	0.92204	6.86483	10.94915
49	19.21358	23.84378	29.94528	77.31291	0.79478	0.92229	6.86670	10.94915
50	19.21358	23.84378	29.94528	78.16017	0.79645	0.92422	6.88106	10.94915
51	19.21358	23.84378	29.94528	79.19075	0.79957	0.92784	6.90801	10.94915
52	19.21358	23.84378	29.94528	80.41179	0.80416	0.93317	6.94771	10.94915
53	19.21358	23.84378	29.94528	81.83130	0.81025	0.94024	7.00037	10.94915
54	19.21358	23.84378	29.94528	83.45941	0.81788	0.94909	7.06627	10.94915
55	19.21358	23.84378	29.94528	85.30730	0.82709	0.95977	7.14579	10.94915
56	22.93495	29.03098	36.89950	87.38817	0.83792	0.97234	7.23936	13.58524
57	26.65639	34.21819	43.85373	89.71700	0.85044	0.98687	7.34752	16.22133
58	30.37778	39.40540	50.80801	92.31064	0.86472	1.00344	7.47088	18.85741
59	34.09915	44.59256	57.76221	95.18857	0.88083	1.02214	7.61015	21.49352
60	37.82054	49.77976	64.71649	98.37238	0.89889	1.04309	7.76613	24.12959
61	41.54193	54.96700	71.67069	101.88654	0.91898	1.06641	7.93976	26.76567
62	45.26333	60.15422	78.62491	105.75871	0.94124	1.09224	8.13205	29.40176
63	48.98471	65.34141	85.57918	110.01981	0.96579	1.12073	8.34416	32.03787
64	52.70611	70.52858	92.53343	114.70470	0.99279	1.15206	8.57742	34.67395
65	56.42757	75.71583	99.48765	119.85201	1.02240	1.18642	8.83325	37.31004

**Table A-4-21**  
**El Paso 1990 Winter Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	2.85661	3.02469	3.75952	5.84919	2.81243	3.27667	38.28360	0.98554
4	2.68440	2.82574	3.59871	5.90973	2.69397	3.13867	36.67122	0.94265
5	2.57398	2.70248	3.50045	5.97025	2.58418	3.01075	35.17665	0.90706
6	2.49569	2.61875	3.43533	6.03078	2.48238	2.89214	33.79091	0.87821
7	2.43666	2.55895	3.39053	6.09131	2.38798	2.78216	32.50592	0.85556
8	2.39041	2.51503	3.35949	6.15184	2.30043	2.68016	31.31421	0.83859
9	2.35326	2.48247	3.33839	6.21236	2.21924	2.58557	30.20909	0.82679
10	2.32293	2.45845	3.32485	6.27289	2.14397	2.49787	29.18434	0.81969
11	2.29795	2.44103	3.31724	6.33342	2.07418	2.41657	28.23441	0.81683
12	2.27723	2.42891	3.31438	6.39395	2.00952	2.34123	27.35426	0.81776
13	2.26004	2.42108	3.31537	6.45448	1.94965	2.27147	26.53915	0.82206
14	2.24581	2.41677	3.31953	6.51501	1.89424	2.20692	25.78497	0.82933
15	2.23409	2.41538	3.32629	6.57553	1.84302	2.14725	25.08780	0.83919
16	2.22451	2.41639	3.33518	6.63606	1.79574	2.09216	24.44418	0.85127
17	2.21677	2.41938	3.34579	6.69659	1.75216	2.04138	23.85092	0.86524
18	2.21063	2.42402	3.35780	6.75712	1.71206	1.99467	23.30511	0.88075
19	2.20590	2.42998	3.37089	6.81764	1.67526	1.95179	22.80412	0.89753
20	2.20468	2.44594	3.39305	6.87817	1.64158	1.91255	22.34566	0.91527
21	2.21272	2.47706	3.42746	6.93870	1.61086	1.87676	21.92752	0.93371
22	2.22074	2.50669	3.46048	6.99922	1.58296	1.84426	21.54778	0.95262
23	2.22871	2.53491	3.49214	7.05975	1.55776	1.81489	21.20468	0.97175
24	2.23668	2.56180	3.52253	7.12028	1.53513	1.78854	20.89671	0.99091
25	2.24461	2.58741	3.55167	7.18081	1.51499	1.76506	20.62247	1.00992
26	2.25252	2.61179	3.57958	7.24133	1.49723	1.74437	20.38078	1.02859
27	2.26041	2.63498	3.60632	7.30187	1.48178	1.72638	20.17052	1.04680
28	2.26827	2.65702	3.63189	7.36239	1.46858	1.71100	19.99080	1.06440
29	2.27612	2.67791	3.65637	7.42292	1.45756	1.69816	19.84085	1.08129
30	2.28395	2.69773	3.67978	7.48345	1.44868	1.68782	19.71999	1.09739
31	2.29177	2.71649	3.70218	7.54398	1.44191	1.67992	19.62770	1.11263
32	2.29960	2.73426	3.72362	7.60450	1.43720	1.67444	19.56364	1.12695
33	2.30746	2.75105	3.74417	7.66503	1.43454	1.67134	19.52748	1.14032
34	2.31535	2.76694	3.76394	7.72556	1.43393	1.67062	19.51906	1.15275
35	2.32334	2.78199	3.78298	7.78609	1.43535	1.67228	19.53841	1.16423
36	2.33143	2.79630	3.80143	7.84662	1.43881	1.67631	19.58556	1.17480
37	2.33967	2.80989	3.81940	7.90714	1.44433	1.68274	19.66072	1.18450
38	2.34811	2.82289	3.83701	7.96767	1.45194	1.69160	19.76421	1.19342
39	2.35680	2.83539	3.85440	8.02820	1.46165	1.70292	19.89645	1.20162
40	2.36579	2.84750	3.87174	8.08873	1.47352	1.71676	20.05809	1.20923
41	2.37516	2.85934	3.88919	8.14925	1.48760	1.73316	20.24974	1.21637
42	2.38496	2.87104	3.90694	8.20978	1.50395	1.75221	20.47229	1.22319
43	2.39527	2.88272	3.92519	8.27031	1.52264	1.77398	20.72668	1.22985
44	2.40619	2.89458	3.94413	8.33084	1.54375	1.79858	21.01405	1.23654
45	2.41780	2.90673	3.96400	8.39137	1.56738	1.82611	21.33571	1.24348
46	2.43018	2.91937	3.98504	8.45190	1.59364	1.85669	21.69305	1.25088
47	2.44346	2.93268	4.00752	8.51242	1.62263	1.89047	22.08772	1.25898
48	2.45775	2.94686	4.03171	8.57295	1.65450	1.92760	22.52153	1.26807
49	2.56805	3.06918	4.21109	8.63348	1.68939	1.96825	22.99652	1.30936
50	2.67837	3.19152	4.39049	8.69401	1.72747	2.01262	23.51486	1.35065
51	2.78867	3.31384	4.56987	8.75454	1.76892	2.06091	24.07903	1.39194
52	2.89898	3.43616	4.74926	8.81507	1.81393	2.11336	24.69183	1.43323
53	3.00929	3.55849	4.92867	8.87559	1.86274	2.17022	25.35619	1.47452
54	3.11961	3.68082	5.10805	8.93612	1.91557	2.23178	26.07536	1.51582
55	3.22990	3.80314	5.28744	8.99665	1.97271	2.29834	26.85315	1.55711
56	3.34022	3.92547	5.46683	9.05717	2.03443	2.37026	27.69333	1.59840
57	3.45053	4.04780	5.64623	9.11770	2.10107	2.44789	28.60045	1.63969
58	3.56083	4.17013	5.82561	9.17823	2.17297	2.53167	29.57919	1.68098
59	3.67114	4.29244	6.00500	9.23876	2.25053	2.62203	30.63493	1.72227
60	3.78145	4.41477	6.18441	9.29929	2.33417	2.71947	31.77348	1.76356
61	3.89176	4.53709	6.36379	9.35982	2.42436	2.82455	33.00111	1.80485
62	4.00206	4.65942	6.54319	9.42034	2.52161	2.93785	34.32491	1.84615
63	4.11238	4.78175	6.72258	9.48087	2.62649	3.06004	35.75258	1.88744
64	4.22268	4.90407	6.90196	9.54140	2.73962	3.19184	37.29250	1.92873
65	4.33300	5.02640	7.08136	9.60193	2.86168	3.33405	38.95404	1.97002

**Table A-4-22**  
**El Paso 1990 Winter Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	21.10131	23.67578	38.73284	35.68695	1.54391	2.16771	7.63656	22.60730
4	16.25558	18.55311	30.43085	32.59369	1.46580	2.05804	7.25018	18.54500
5	13.23174	15.23941	24.88535	29.81915	1.39286	1.95563	6.88942	15.54773
6	11.16582	12.92850	20.95176	27.32726	1.32472	1.85995	6.55237	13.29297
7	9.66960	11.23682	18.04849	25.08624	1.26102	1.77052	6.23730	11.56677
8	8.54019	9.95428	15.84100	23.06825	1.20144	1.68686	5.94260	10.22398
9	7.66055	8.95503	14.12183	21.24879	1.14568	1.60858	5.66681	9.16409
10	6.95815	8.15886	12.75564	19.60629	1.09348	1.53528	5.40858	8.31612
11	6.38567	7.51225	11.65059	18.12167	1.04457	1.46661	5.16666	7.62909
12	5.91090	6.97817	10.74247	16.77809	0.99872	1.40224	4.93990	7.06571
13	5.51120	6.53027	9.98525	15.56073	0.95573	1.34188	4.72726	6.59834
14	5.17018	6.14934	9.34523	14.45636	0.91540	1.28525	4.52775	6.20611
15	4.87575	5.82104	8.79731	13.45335	0.87754	1.23209	4.34049	5.87316
16	4.61878	5.53461	8.32247	12.54136	0.84198	1.18217	4.16463	5.58722
17	4.39228	5.28172	7.90617	11.71122	0.80858	1.13527	3.99941	5.33874
18	4.19079	5.05598	7.53710	10.95474	0.77718	1.09119	3.84412	5.12021
19	4.01010	4.85242	7.20649	10.26465	0.74767	1.04975	3.69813	4.92572
20	3.84154	4.68839	6.92990	9.63449	0.71990	1.01077	3.56080	4.75057
21	3.68148	4.51509	6.65575	9.05846	0.69378	0.97410	3.43160	4.59107
22	3.53498	4.35487	6.40356	8.53140	0.66920	0.93958	3.30999	4.44428
23	3.40022	4.20585	6.16996	8.04873	0.64605	0.90708	3.19551	4.30792
24	3.27564	4.06652	5.95232	7.60629	0.62425	0.87648	3.08770	4.18019
25	3.16001	3.93578	5.74862	7.20039	0.60372	0.84765	2.98616	4.05974
26	3.05234	3.81274	5.55721	6.82773	0.58438	0.82050	2.89049	3.94556
27	2.95179	3.69675	5.37692	6.48532	0.56616	0.79491	2.80036	3.83693
28	2.85770	3.58730	5.20679	6.17051	0.54899	0.77080	2.71542	3.73331
29	2.76949	3.48400	5.04613	5.88088	0.53281	0.74808	2.63538	3.63441
30	2.68671	3.38657	4.89441	5.61428	0.51756	0.72667	2.55995	3.54001
31	2.60897	3.29477	4.75119	5.36876	0.50318	0.70649	2.48886	3.45007
32	2.53592	3.20843	4.61622	5.14257	0.48964	0.68748	2.42189	3.36455
33	2.46729	3.12737	4.48918	4.93413	0.47689	0.66957	2.35879	3.28356
34	2.40279	3.05147	4.36990	4.74201	0.46487	0.65269	2.29935	3.20712
35	2.34223	2.98056	4.25816	4.56493	0.45356	0.63681	2.24339	3.13537
36	2.28537	2.91452	4.15379	4.40172	0.44291	0.62186	2.19071	3.06841
37	2.23203	2.85319	4.05658	4.25133	0.43289	0.60779	2.14116	3.00629
38	2.18203	2.79642	3.96631	4.11282	0.42347	0.59456	2.09457	2.94908
39	2.13519	2.74405	3.88278	3.98533	0.41462	0.58214	2.05079	2.89681
40	2.09133	2.69586	3.80573	3.86807	0.40631	0.57048	2.00970	2.84946
41	2.05032	2.65167	3.73488	3.76037	0.39852	0.55954	1.97117	2.80700
42	2.01193	2.61124	3.66989	3.66156	0.39122	0.54929	1.93508	2.76927
43	1.97602	2.57431	3.61039	3.57109	0.38440	0.53971	1.90132	2.73602
44	1.94241	2.54058	3.55598	3.48845	0.37802	0.53076	1.86979	2.70708
45	1.91089	2.50971	3.50620	3.41316	0.37208	0.52242	1.84041	2.68208
46	1.88124	2.48132	3.46047	3.34482	0.36656	0.51466	1.81308	2.66057
47	1.85324	2.45495	3.41818	3.28305	0.36143	0.50747	1.78773	2.64200
48	1.82666	2.43011	3.37864	3.22752	0.35669	0.50081	1.76429	2.62564
49	1.82666	2.43011	3.37864	3.17794	0.35233	0.49468	1.74268	2.62564
50	1.82666	2.43011	3.37864	3.13404	0.34832	0.48905	1.72286	2.62564
51	1.82666	2.43011	3.37864	3.09560	0.34466	0.48391	1.70476	2.62564
52	1.82666	2.43011	3.37864	3.06241	0.34134	0.47925	1.68834	2.62564
53	1.82666	2.43011	3.37864	3.03431	0.33835	0.47505	1.67355	2.62564
54	1.82666	2.43011	3.37864	3.01116	0.33568	0.47131	1.66035	2.62564
55	1.82666	2.43011	3.37864	2.99284	0.33332	0.46800	1.64870	2.62564
56	1.95565	2.60776	3.64084	2.97925	0.33128	0.46513	1.63857	2.61584
57	2.08467	2.78542	3.90305	2.97033	0.32953	0.46268	1.62994	3.00604
58	2.21369	2.96306	4.16526	2.96603	0.32809	0.46065	1.62279	3.19624
59	2.34271	3.14072	4.42745	2.96634	0.32693	0.45903	1.61708	3.38643
60	2.47172	3.31837	4.68966	2.97124	0.32607	0.45782	1.61282	3.57663
61	2.60075	3.49602	4.95186	2.98078	0.32550	0.45701	1.60998	3.76683
62	2.72976	3.67368	5.21406	2.99499	0.32521	0.45661	1.60857	3.95703
63	2.85878	3.85133	5.47626	3.01395	0.32521	0.45661	1.60857	4.14722
64	2.98779	4.02898	5.73848	3.03775	0.32550	0.45701	1.60999	4.33742
65	3.11682	4.20664	6.00068	3.06651	0.32607	0.45782	1.61282	4.52762

**Table A-4-23**  
**El Paso 1990 Winter Time Period 4 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	273.58618	307.26489	488.46436	539.07202	5.16339	5.99173	44.61014	224.10614
4	209.08974	236.46736	377.90894	492.52686	4.75865	5.52206	41.11327	178.72038
5	168.91565	191.22006	304.62622	450.99170	4.39362	5.09847	37.95958	145.90411
6	141.55391	160.01530	253.03125	413.86938	4.06398	4.71595	35.11159	121.65405
7	121.80742	137.39569	215.20550	380.63818	3.76593	4.37008	32.53645	103.37454
8	106.95505	120.39288	186.61618	350.84668	3.49608	4.05695	30.20512	89.34204
9	95.42611	107.24382	164.46726	324.09912	3.25149	3.77312	28.09189	78.38742
10	86.24867	96.83475	146.94492	300.05029	3.02952	3.51553	26.17412	69.70085
11	78.78943	88.42901	132.82725	278.39795	2.82784	3.28150	24.43170	62.71126
12	72.61869	81.52070	121.26515	258.87695	2.64440	3.06863	22.84680	57.00833
13	67.43486	75.75234	111.65399	241.25500	2.47736	2.87479	21.40366	52.29279
14	63.02047	70.86430	103.55359	225.32710	2.32510	2.69811	20.08820	48.34302
15	59.21505	66.66463	96.63769	210.91484	2.18617	2.53690	18.88791	44.99272
16	55.89819	63.00862	90.66102	197.85867	2.05929	2.38966	17.79172	42.11565
17	52.97746	59.78567	85.43622	186.01996	1.94331	2.25507	16.78964	39.61501
18	50.38155	56.91071	80.81870	175.27464	1.83720	2.13194	15.87292	37.41589
19	48.05448	54.31758	76.69626	165.51363	1.74005	2.01920	15.03353	35.46007
20	46.00196	52.38057	73.42331	156.64062	1.65104	1.91591	14.26450	33.70209
21	44.17377	50.55459	70.42913	148.56969	1.56943	1.82121	13.55944	32.10620
22	42.49945	48.85703	67.68373	141.22487	1.49458	1.73435	12.91273	30.64459
23	40.95755	47.26820	65.14876	134.53889	1.42588	1.65464	12.31926	29.29539
24	39.53068	45.77359	62.79437	128.45180	1.36283	1.58146	11.77447	28.04164
25	38.20523	44.36254	60.59733	122.91017	1.30493	1.51428	11.27427	26.87041
26	36.96985	43.02765	58.53933	117.86664	1.25177	1.45259	10.81500	25.77148
27	35.81571	41.76361	56.60699	113.27904	1.20297	1.39596	10.39332	24.73737
28	34.73522	40.56700	54.78920	109.10960	1.15817	1.34397	10.00628	23.76224
29	33.72260	39.43548	53.07833	105.32532	1.11707	1.29628	9.65122	22.84195
30	32.77273	38.36746	51.46793	101.89607	1.07940	1.25256	9.32570	21.97348
31	31.88136	37.36214	49.95319	98.79556	1.04489	1.21252	9.02757	21.15430
32	31.04504	36.41862	48.53029	96.00041	1.01333	1.17590	8.75489	20.38271
33	30.26048	35.53617	47.19619	93.48987	0.98452	1.14246	8.50593	19.65779
34	29.52488	34.71419	45.94808	91.24548	0.95826	1.11199	8.27908	18.97798
35	28.83581	33.95167	44.78346	89.25101	0.93440	1.08431	8.07297	18.34277
36	28.19084	33.24748	43.70010	87.49242	0.91280	1.05924	7.88635	17.75078
37	27.58772	32.60051	42.69563	85.95743	0.89332	1.03664	7.71806	17.20160
38	27.02448	32.00920	41.76752	84.63545	0.87585	1.01636	7.56712	16.69363
39	26.49899	31.47172	40.91297	83.51715	0.86029	0.99830	7.43265	16.22585
40	26.00929	30.98612	40.12920	82.59523	0.84654	0.98235	7.31387	15.79687
41	25.55334	30.54994	39.41301	81.86343	0.83453	0.96841	7.21010	15.40508
42	25.12905	30.16042	38.76053	81.31677	0.82419	0.95641	7.12075	15.04827
43	24.73429	29.81418	38.16802	80.95169	0.81546	0.94628	7.04531	14.72446
44	24.36678	29.50759	37.63028	80.76569	0.80829	0.93796	6.98338	14.43074
45	24.02415	29.23604	37.14294	80.75766	0.80264	0.93141	6.93460	14.16441
46	23.70339	28.99366	36.69921	80.92738	0.79849	0.92659	6.89870	13.92201
47	23.40156	28.77408	36.29216	81.27611	0.79580	0.92347	6.87548	13.69935
48	23.11522	28.56946	35.91428	81.80615	0.79457	0.92204	6.86483	13.49225
49	23.11522	28.56946	35.91428	82.52103	0.79478	0.92229	6.86670	13.49225
50	23.11522	28.56946	35.91428	83.42534	0.79645	0.92422	6.88106	13.49225
51	23.11522	28.56946	35.91428	84.52542	0.79957	0.92784	6.90801	13.49225
52	23.11522	28.56946	35.91428	85.82864	0.80416	0.93317	6.94771	13.49225
53	23.11522	28.56946	35.91428	87.34378	0.81025	0.94024	7.00037	13.49225
54	23.11522	28.56946	35.91428	89.08162	0.81788	0.94909	7.06627	13.49225
55	23.11522	28.56946	35.91428	91.05397	0.82709	0.95977	7.14579	13.49225
56	27.59844	34.78314	44.26148	93.27505	0.83792	0.97234	7.23936	16.74062
57	32.08167	40.99681	52.60870	95.76065	0.85044	0.98687	7.34752	19.98901
58	36.56489	47.21063	60.95592	98.52911	0.86472	1.00344	7.47088	23.23737
59	41.04812	53.42436	69.30316	101.60086	0.88083	1.02214	7.61015	26.48573
60	45.53132	59.63809	77.65041	104.99916	0.89889	1.04309	7.76613	29.73415
61	50.01453	65.85180	85.99759	108.75011	0.91898	1.06641	7.93976	32.98250
62	54.49781	72.06553	94.34485	112.88304	0.94124	1.09224	8.13205	36.23088
63	58.98098	78.27927	102.69206	117.43120	0.96579	1.12073	8.34416	39.47928
64	63.46428	84.49301	111.03925	122.43172	0.99279	1.15206	8.57742	42.72765
65	67.94748	90.70676	119.38654	127.92575	1.02240	1.18642	8.83325	45.97601

**Table A-4-24**  
**El Paso 1990 Winter Time Period 4 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	3.24483	3.39475	4.15230	6.23409	2.81243	3.27667	38.28360	1.08944
4	3.04743	3.16812	3.96749	6.29860	2.69397	3.13867	36.67122	1.04203
5	2.92089	3.02777	3.85395	6.36311	2.58418	3.01075	35.17665	1.00269
6	2.83113	2.93235	3.77808	6.42762	2.48238	2.89214	33.79091	0.97080
7	2.76339	2.86400	3.72524	6.49213	2.38798	2.78216	32.50592	0.94576
8	2.71023	2.81358	3.68796	6.55664	2.30043	2.68016	31.31421	0.92700
9	2.66741	2.77591	3.66190	6.62115	2.21924	2.58557	30.20909	0.91396
10	2.63235	2.74779	3.64435	6.68566	2.14397	2.49787	29.18434	0.90611
11	2.60331	2.72705	3.63347	6.75017	2.07418	2.41657	28.23441	0.90294
12	2.57913	2.71218	3.62793	6.81469	2.00952	2.34123	27.35426	0.90397
13	2.55894	2.70210	3.62674	6.87920	1.94965	2.27147	26.53915	0.90872
14	2.54208	2.69591	3.62912	6.94371	1.89424	2.20692	25.78497	0.91676
15	2.52806	2.69296	3.63445	7.00822	1.84302	2.14725	25.08780	0.92766
16	2.51646	2.69266	3.64219	7.07273	1.79574	2.09216	24.44418	0.94102
17	2.50694	2.69459	3.65192	7.13724	1.75216	2.04138	23.85092	0.95645
18	2.49925	2.69834	3.66324	7.20175	1.71206	1.99467	23.30511	0.97361
19	2.49314	2.70358	3.67583	7.26626	1.67526	1.95179	22.80412	0.99215
20	2.49120	2.72023	3.69881	7.33078	1.64158	1.91255	22.34566	1.01176
21	2.49993	2.75430	3.73589	7.39528	1.61086	1.87676	21.92752	1.03215
22	2.50862	2.78666	3.77143	7.45979	1.58296	1.84426	21.54778	1.05305
23	2.51728	2.81743	3.80552	7.52430	1.55776	1.81489	21.20468	1.07420
24	2.52591	2.84671	3.83818	7.58881	1.53513	1.78854	20.89671	1.09538
25	2.53451	2.87455	3.86950	7.65333	1.51499	1.76506	20.62247	1.11639
26	2.54310	2.90105	3.89950	7.71783	1.49723	1.74437	20.38078	1.13703
27	2.55168	2.92622	3.92823	7.78235	1.48178	1.72638	20.17052	1.15716
28	2.56023	2.95013	3.95572	7.84686	1.46858	1.71100	19.99080	1.17661
29	2.56878	2.97281	3.98204	7.91137	1.45756	1.69816	19.84085	1.19529
30	2.57733	2.99432	4.00721	7.97588	1.44868	1.68782	19.71999	1.21309
31	2.58590	3.01469	4.03131	8.04039	1.44191	1.67992	19.62770	1.22992
32	2.59449	3.03397	4.05439	8.10490	1.43720	1.67444	19.56364	1.24576
33	2.60314	3.05222	4.07654	8.16942	1.43454	1.67134	19.52748	1.26054
34	2.61187	3.06951	4.09784	8.23392	1.43393	1.67062	19.51906	1.27427
35	2.62070	3.08589	4.11840	8.29844	1.43535	1.67228	19.53841	1.28697
36	2.62969	3.10145	4.13831	8.36294	1.43881	1.67631	19.58556	1.29865
37	2.63886	3.11629	4.15772	8.42745	1.44433	1.68274	19.66072	1.30938
38	2.64826	3.13048	4.17676	8.49197	1.45194	1.69160	19.76421	1.31923
39	2.65798	3.14415	4.19556	8.55647	1.46165	1.70292	19.89645	1.32831
40	2.66803	3.15739	4.21431	8.62099	1.47352	1.71676	20.05809	1.33671
41	2.67851	3.17034	4.23317	8.68550	1.48760	1.73316	20.24974	1.34461
42	2.68950	3.18314	4.25236	8.75001	1.50395	1.75221	20.47229	1.35214
43	2.70106	3.19592	4.27206	8.81452	1.52264	1.77398	20.72668	1.35951
44	2.71331	3.20888	4.29252	8.87903	1.54375	1.79858	21.01405	1.36691
45	2.72633	3.22213	4.31396	8.94354	1.56738	1.82611	21.33571	1.37457
46	2.74021	3.23590	4.33664	9.00805	1.59364	1.85669	21.69305	1.38275
47	2.75509	3.25037	4.36084	9.07256	1.62263	1.89047	22.08772	1.39171
48	2.77108	3.26575	4.38683	9.13708	1.65450	1.92760	22.52153	1.40176
49	2.89588	3.40195	4.58228	9.20159	1.68939	1.96825	22.99652	1.44740
50	3.02067	3.53814	4.77772	9.26610	1.72747	2.01262	23.51486	1.49304
51	3.14548	3.67435	4.97317	9.33061	1.76892	2.06091	24.07903	1.53869
52	3.27029	3.81055	5.16862	9.39512	1.81393	2.11336	24.69183	1.58433
53	3.39508	3.94675	5.36408	9.45963	1.86274	2.17022	25.35619	1.62998
54	3.51989	4.08294	5.55952	9.52414	1.91557	2.23178	26.07536	1.67562
55	3.64469	4.21914	5.75496	9.58865	1.97271	2.29834	26.85315	1.72127
56	3.76950	4.35534	5.95041	9.65316	2.03443	2.37026	27.69333	1.76691
57	3.89429	4.49154	6.14585	9.71767	2.10107	2.44789	28.60045	1.81256
58	4.01910	4.62774	6.34132	9.78218	2.17297	2.53167	29.57919	1.85820
59	4.14390	4.76393	6.53676	9.84670	2.25053	2.62203	30.63493	1.90384
60	4.26870	4.90013	6.73221	9.91120	2.33417	2.71947	31.77348	1.94949
61	4.39351	5.03632	6.92765	9.97572	2.42436	2.82455	33.00111	1.99513
62	4.51831	5.17253	7.12311	10.04023	2.52161	2.93785	34.32491	2.04078
63	4.64312	5.30872	7.31856	10.10474	2.62649	3.06004	35.75258	2.08642
64	4.76791	5.44493	7.51401	10.16925	2.73962	3.19184	37.29250	2.13206
65	4.89272	5.58112	7.70945	10.23376	2.86168	3.33405	38.95404	2.17771



**Table A-4-25**  
**El Paso 1995 Winter Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	HC
3	13.43353	17.46184	24.45544	19.57680	1.67332	2.41596	6.14262	18.97887
4	10.33830	13.58508	19.14296	17.87308	1.58866	2.29373	5.83184	15.62736
5	8.45294	11.16451	15.68264	16.34489	1.50961	2.17959	5.54165	13.14505
6	7.18401	9.51124	13.26229	14.97237	1.43576	2.07296	5.27054	11.27142
7	6.27275	8.31469	11.48919	13.73803	1.36672	1.97328	5.01710	9.83275
8	5.58764	7.41225	10.14564	12.62654	1.30214	1.88005	4.78005	8.71068
9	5.05453	6.70995	9.10017	11.62439	1.24171	1.79280	4.55822	7.82298
10	4.62840	6.14956	8.26863	10.71969	1.18513	1.71110	4.35050	7.11132
11	4.28031	5.69302	7.59471	9.90196	1.13212	1.63457	4.15591	6.53369
12	3.99078	5.31448	7.03943	9.16192	1.08243	1.56283	3.97351	6.05928
13	3.74628	4.99571	6.57507	8.49139	1.03584	1.49556	3.80247	5.66518
14	3.53706	4.72356	6.18144	7.88311	0.99213	1.43244	3.64199	5.33406
15	3.35598	4.48830	5.84354	7.33065	0.95109	1.37319	3.49136	5.05269
16	3.19764	4.28261	5.55006	6.82834	0.91256	1.31755	3.34990	4.81085
17	3.05794	4.10088	5.29233	6.37110	0.87635	1.26528	3.21700	4.60055
18	2.93368	3.93878	5.06363	5.95444	0.84233	1.21616	3.09210	4.41550
19	2.82234	3.79290	4.85872	5.57434	0.81034	1.16997	2.97467	4.25076
20	2.71023	3.66955	4.68490	5.22725	0.78025	1.12652	2.86421	4.10237
21	2.59992	3.53347	4.50243	4.90998	0.75194	1.08565	2.76028	3.96723
22	2.49935	3.40852	4.33502	4.61968	0.72529	1.04718	2.66246	3.84288
23	2.40722	3.29318	4.18049	4.35382	0.70020	1.01096	2.57037	3.72737
24	2.32248	3.18621	4.03706	4.11013	0.67658	0.97685	2.48366	3.61921
25	2.24423	3.08666	3.90337	3.88657	0.65433	0.94473	2.40198	3.51725
26	2.17175	2.99373	3.77828	3.68130	0.63337	0.91446	2.32503	3.42064
27	2.10440	2.90677	3.66094	3.49271	0.61362	0.88595	2.25252	3.32875
28	2.04167	2.82527	3.55064	3.31931	0.59501	0.85908	2.18420	3.24116
29	1.98310	2.74880	3.44684	3.15979	0.57747	0.83375	2.11982	3.15760
30	1.92833	2.67700	3.34910	3.01295	0.56094	0.80989	2.05915	3.07790
31	1.87701	2.60958	3.25704	2.87771	0.54536	0.78740	2.00197	3.00200
32	1.82887	2.54628	3.17039	2.75313	0.53069	0.76621	1.94809	2.92989
33	1.78365	2.48688	3.08890	2.63832	0.51686	0.74625	1.89734	2.86166
34	1.74113	2.43116	3.01235	2.53251	0.50384	0.72744	1.84953	2.79732
35	1.70111	2.37894	2.94055	2.43497	0.49157	0.70974	1.80451	2.73700
36	1.66342	2.33005	2.87333	2.34508	0.48003	0.69307	1.76214	2.68077
37	1.62789	2.28432	2.81048	2.26225	0.46917	0.67740	1.72229	2.62870
38	1.59438	2.24160	2.75186	2.18596	0.45896	0.66266	1.68481	2.58083
39	1.56275	2.20172	2.69727	2.11573	0.44937	0.64881	1.64960	2.53720
40	1.53289	2.16453	2.64654	2.05115	0.44037	0.63581	1.61654	2.49777
41	1.50466	2.12988	2.59948	1.99182	0.43192	0.62362	1.58555	2.46255
42	1.47797	2.09758	2.55587	1.93740	0.42402	0.61220	1.55652	2.43139
43	1.45270	2.06749	2.51548	1.88757	0.41662	0.60152	1.52936	2.40405
44	1.42876	2.03941	2.47808	1.84205	0.40971	0.59154	1.50401	2.38042
45	1.40603	2.01315	2.44339	1.80058	0.40327	0.58225	1.48037	2.36015
46	1.38443	1.98850	2.41110	1.76294	0.39728	0.57360	1.45839	2.34286
47	1.36384	1.96523	2.38089	1.72892	0.39173	0.56558	1.43800	2.32803
48	1.34415	1.94307	2.35238	1.69833	0.38659	0.55817	1.41914	2.31507
49	1.34415	1.94307	2.35238	1.67103	0.38186	0.55133	1.40176	2.31507
50	1.34415	1.94307	2.35238	1.64685	0.37752	0.54506	1.38582	2.31507
51	1.34415	1.94307	2.35238	1.62567	0.37355	0.53933	1.37126	2.31507
52	1.34415	1.94307	2.35238	1.60740	0.36995	0.53414	1.35805	2.31507
53	1.34415	1.94307	2.35238	1.59192	0.36671	0.52946	1.34615	2.31507
54	1.34415	1.94307	2.35238	1.57917	0.36382	0.52528	1.33554	2.31507
55	1.34415	1.94307	2.35238	1.56907	0.36126	0.52160	1.32617	2.31507
56	1.41672	2.06056	2.51023	1.56159	0.35905	0.51839	1.31802	2.48024
57	1.48929	2.17806	2.66809	1.55668	0.35715	0.51566	1.31108	2.64542
58	1.56186	2.29555	2.82595	1.55431	0.35559	0.51340	1.30532	2.81060
59	1.63444	2.41304	2.98381	1.55448	0.35434	0.51160	1.30074	2.97578
60	1.70701	2.53053	3.14166	1.55718	0.35340	0.51025	1.29731	3.14096
61	1.77958	2.64802	3.29952	1.56243	0.35278	0.50935	1.29503	3.30614
62	1.85215	2.76551	3.45738	1.57026	0.35247	0.50890	1.29389	3.47131
63	1.92472	2.88301	3.61524	1.58070	0.35247	0.50890	1.29389	3.63649
64	1.99729	3.00050	3.77310	1.59381	0.35278	0.50935	1.29503	3.80167
65	2.06986	3.11799	3.93095	1.60965	0.35340	0.51025	1.29731	3.96685

**Table A-4-26**  
**El Paso 1995 Winter Time Period 1 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HJGV	LDDV	LDDT	HDDV	MC
3	168.25087	211.02339	273.36304	295.90820	5.42499	6.31766	40.47337	215.01674
4	129.05144	162.23389	211.18817	270.35986	4.99975	5.82244	37.30084	171.48053
5	105.23669	132.04782	171.19589	247.56035	4.61623	5.37581	34.43956	140.05774
6	89.24921	111.59926	143.47977	227.18283	4.26989	4.97248	31.85565	116.87027
7	77.79407	96.90332	123.31245	208.94164	3.95673	4.60779	29.51933	99.41075
8	69.19827	85.88466	108.10643	192.58832	3.67321	4.27763	27.40417	86.01851
9	62.52028	77.35143	96.31654	177.90594	3.41623	3.97836	25.48692	75.56929
10	57.18919	70.57005	86.96324	164.70479	3.18301	3.70677	23.74699	67.28581
11	52.83879	65.06424	79.39680	152.81917	2.97112	3.46000	22.16614	60.62059
12	49.22340	60.51176	73.17097	142.10353	2.77838	3.23555	20.72823	55.18091
13	46.17215	56.68707	67.97029	132.43021	2.60288	3.03117	19.41890	50.68053
14	43.56261	53.42776	63.56639	123.68704	2.44290	2.84488	18.22542	46.90761
15	41.30482	50.61427	59.79054	115.77583	2.29694	2.67489	17.13644	43.70341
16	39.33121	48.15662	56.51595	108.60904	2.16363	2.51965	16.14189	40.94745
17	37.59023	45.98619	53.64586	102.11052	2.04177	2.37773	15.23276	38.54744
18	36.04179	44.04987	51.10538	96.21217	1.93028	2.24790	14.40102	36.43217
19	34.65433	42.30635	48.83626	90.85410	1.82821	2.12903	13.63947	34.54619
20	33.27199	40.87079	46.96246	85.98352	1.73468	2.02012	12.94175	32.84648
21	31.88693	39.32027	45.02612	81.55316	1.64895	1.92027	12.30207	31.29919
22	30.62421	37.89359	43.25732	77.52142	1.57030	1.82869	11.71533	29.87825
23	29.46747	36.57365	41.63206	73.85141	1.49813	1.74464	11.17689	28.56306
24	28.40344	35.34697	40.13095	70.50999	1.43188	1.66749	10.68262	27.33791
25	27.42104	34.20284	38.73859	67.46808	1.37105	1.59665	10.22881	26.19092
26	26.51105	33.13281	37.44235	64.69957	1.31520	1.53161	9.81212	25.11276
27	25.66576	32.13020	36.23236	62.18137	1.26392	1.47189	9.42955	24.09665
28	24.87866	31.18965	35.10025	59.89268	1.21685	1.41708	9.07839	23.13744
29	24.14413	30.30678	34.03955	57.81538	1.17367	1.36679	8.75625	22.23160
30	23.45746	29.47803	33.04474	55.93295	1.13408	1.32069	8.46092	21.37651
31	22.81448	28.70044	32.11124	54.23102	1.09783	1.27847	8.19044	20.57008
32	22.21161	27.97133	31.23520	52.69672	1.06467	1.23986	7.94304	19.81085
33	21.64568	27.28841	30.41338	51.31857	1.03440	1.20460	7.71718	19.09824
34	21.11391	26.64951	29.64287	50.08662	1.00681	1.17248	7.51136	18.43076
35	20.61375	26.05270	28.92110	48.99184	0.98175	1.14329	7.32436	17.80812
36	20.14294	25.49599	28.24565	48.02652	0.95905	1.11686	7.15504	17.22891
37	19.69951	24.97760	27.61436	47.18394	0.93859	1.09302	7.00236	16.69290
38	19.28156	24.49564	27.02512	46.45824	0.92023	1.07165	6.86541	16.19839
39	18.88730	24.04834	26.47575	45.84438	0.90388	1.05261	6.74342	15.74431
40	18.51520	23.63388	25.96431	45.33835	0.88943	1.03578	6.63565	15.32920
41	18.16377	23.25043	25.48871	44.93661	0.87681	1.02109	6.54150	14.95140
42	17.83165	22.89590	25.04671	44.63654	0.86595	1.00844	6.46044	14.60854
43	17.51740	22.56830	24.63618	44.43614	0.85677	0.99775	6.39200	14.29849
44	17.21971	22.26530	24.25467	44.33401	0.84924	0.98898	6.33580	14.01815
45	16.93736	21.98454	23.89978	44.32965	0.84331	0.98207	6.29155	13.76462
46	16.66896	21.72284	23.56871	44.42281	0.83894	0.97699	6.25898	13.53421
47	16.41316	21.47713	23.25822	44.61423	0.83612	0.97370	6.23792	13.32241
48	16.16859	21.24359	22.96518	44.90517	0.83483	0.97219	6.22826	13.12476
49	16.16859	21.24359	22.96518	45.29759	0.83505	0.97246	6.22994	13.12476
50	16.16859	21.24359	22.96518	45.79399	0.83680	0.97449	6.24298	13.12476
51	16.16859	21.24359	22.96518	46.39783	0.84008	0.97831	6.26743	13.12476
52	16.16859	21.24359	22.96518	47.11322	0.84491	0.98393	6.30345	13.12476
53	16.16859	21.24359	22.96518	47.94493	0.85131	0.99139	6.35122	13.12476
54	16.16859	21.24359	22.96518	48.89885	0.85932	1.00072	6.41101	13.12476
55	16.16859	21.24359	22.96518	49.98151	0.86899	1.01198	6.48316	13.12476
56	18.59135	25.08041	27.42528	51.20073	0.88037	1.02523	6.56805	16.28557
57	21.01414	28.91725	31.88535	52.56511	0.89352	1.04055	6.66618	19.44638
58	23.43690	32.75407	36.34543	54.08476	0.90853	1.05802	6.77810	22.60719
59	25.85968	36.59093	40.80550	55.77094	0.92546	1.07774	6.90446	25.76804
60	28.28247	40.42778	45.26563	57.63634	0.94443	1.09983	7.04597	28.92880
61	30.70526	44.26460	49.72572	59.69530	0.96555	1.12442	7.20350	32.08965
62	33.12804	48.10144	54.18582	61.96400	0.98893	1.15165	7.37796	35.25046
63	35.55081	51.93828	58.64592	64.46057	1.01472	1.18169	7.57040	38.41129
64	37.97362	55.77512	63.10597	67.20543	1.04309	1.21472	7.78203	41.57211
65	40.39638	59.61197	67.56612	70.22128	1.07420	1.25095	8.01414	44.73291

**Table A-4-27**  
**El Paso 1995 Winter Time Period 1 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HLDGV	LDDV	LDDT	HDDV	MC
3	3.14942	3.40265	3.64477	5.05780	2.84528	3.32483	28.32419	1.11001
4	2.90358	3.13601	3.41273	5.11014	2.72544	3.18480	27.13127	1.06171
5	2.75354	2.97446	3.27502	5.16247	2.61436	3.05500	26.02548	1.02163
6	2.65181	2.86625	3.18508	5.21481	2.51137	2.93465	25.00026	0.98913
7	2.57798	2.78910	3.12288	5.26715	2.41587	2.82305	24.04958	0.96362
8	2.52183	2.73182	3.07834	5.31949	2.32730	2.71956	23.16788	0.94450
9	2.47767	2.68811	3.04580	5.37183	2.24516	2.62358	22.35022	0.93122
10	2.44204	2.65418	3.02182	5.42416	2.16901	2.53458	21.59209	0.92322
11	2.41275	2.62754	3.00418	5.47650	2.09841	2.45208	20.88933	0.92000
12	2.38831	2.60651	2.99137	5.52884	2.03300	2.37564	20.23811	0.92104
13	2.36767	2.58990	2.98230	5.58118	1.97242	2.30486	19.63507	0.92589
14	2.35009	2.57682	2.97618	5.63352	1.91636	2.23936	19.07707	0.93408
15	2.33500	2.56661	2.97242	5.68586	1.86455	2.17881	18.56128	0.94518
16	2.32198	2.55874	2.97054	5.73820	1.81671	2.12291	18.08510	0.95879
17	2.31069	2.55280	2.97017	5.79054	1.77262	2.07139	17.64615	0.97452
18	2.30087	2.54846	2.97103	5.84287	1.73205	2.02398	17.24234	0.99200
19	2.29230	2.54542	2.97285	5.89521	1.69482	1.98048	16.87170	1.01089
20	2.29381	2.54937	2.98085	5.94755	1.66075	1.94066	16.53250	1.03087
21	2.30686	2.57279	3.00593	5.99989	1.62967	1.90434	16.22314	1.05164
22	2.31895	2.59470	3.02947	6.05222	1.60145	1.87136	15.94219	1.07293
23	2.33020	2.61524	3.05162	6.10457	1.57595	1.84157	15.68837	1.09449
24	2.34071	2.63455	3.07249	6.15690	1.55306	1.81482	15.46052	1.11607
25	2.35059	2.65271	3.09218	6.20924	1.53268	1.79101	15.25762	1.13747
26	2.35990	2.66982	3.11078	6.26158	1.51472	1.77001	15.07880	1.15851
27	2.36872	2.68593	3.12836	6.31392	1.49909	1.75175	14.92323	1.17901
28	2.37708	2.70111	3.14500	6.36625	1.48573	1.73615	14.79026	1.19884
29	2.38506	2.71542	3.16075	6.41860	1.47459	1.72312	14.67932	1.21786
30	2.39268	2.72890	3.17568	6.47093	1.46561	1.71262	14.58990	1.23600
31	2.39999	2.74160	3.18985	6.52327	1.45875	1.70461	14.52162	1.25315
32	2.40703	2.75357	3.20331	6.57561	1.45399	1.69905	14.47423	1.26928
33	2.41382	2.76485	3.21613	6.62795	1.45130	1.69591	14.44747	1.28435
34	2.42040	2.77548	3.22838	6.68029	1.45068	1.69518	14.44125	1.29834
35	2.42680	2.78553	3.24011	6.73263	1.45211	1.69686	14.45557	1.31127
36	2.43306	2.79502	3.25138	6.78496	1.45562	1.70095	14.49044	1.32318
37	2.43919	2.80403	3.26228	6.83730	1.46120	1.70748	14.54605	1.33411
38	2.44524	2.81259	3.27288	6.88964	1.46889	1.71647	14.62262	1.34415
39	2.45123	2.82078	3.28326	6.94198	1.47872	1.72795	14.72046	1.35339
40	2.45719	2.82864	3.29349	6.99432	1.49073	1.74199	14.84005	1.36196
41	2.46315	2.83625	3.30367	7.04665	1.50498	1.75863	14.98184	1.37000
42	2.46915	2.84367	3.31388	7.09899	1.52152	1.77796	15.14648	1.37768
43	2.47522	2.85098	3.32423	7.15133	1.54043	1.80006	15.33472	1.38518
44	2.48139	2.85825	3.33481	7.20367	1.56178	1.82502	15.54733	1.39272
45	2.48771	2.86556	3.34573	7.25601	1.58569	1.85295	15.78530	1.40053
46	2.49420	2.87301	3.35710	7.30835	1.61225	1.88398	16.04968	1.40887
47	2.50092	2.88069	3.36905	7.36069	1.64158	1.91826	16.34167	1.41800
48	2.50789	2.88868	3.38169	7.41303	1.67382	1.95593	16.66263	1.42823
49	2.60761	3.00618	3.52635	7.46536	1.70912	1.99718	17.01405	1.47474
50	2.70734	3.12367	3.67100	7.51771	1.74765	2.04220	17.39754	1.52124
51	2.80706	3.24117	3.81565	7.57004	1.78958	2.09120	17.81494	1.56775
52	2.90678	3.35866	3.96031	7.62238	1.83512	2.14442	18.26831	1.61425
53	3.00650	3.47616	4.10496	7.67472	1.88449	2.20211	18.75983	1.66076
54	3.10622	3.59365	4.24961	7.72705	1.93795	2.26458	19.29193	1.70727
55	3.20594	3.71114	4.39427	7.77940	1.99575	2.33212	19.86736	1.75377
56	3.30567	3.82864	4.53892	7.83173	2.05820	2.40509	20.48895	1.80028
57	3.40539	3.94614	4.68358	7.88407	2.12561	2.48387	21.16008	1.84679
58	3.50511	4.06363	4.82823	7.93641	2.19836	2.56888	21.88423	1.89329
59	3.60483	4.18113	4.97288	7.98875	2.27682	2.66056	22.66531	1.93980
60	3.70455	4.29862	5.11754	8.04109	2.36143	2.75944	23.50771	1.98631
61	3.80427	4.41612	5.26219	8.09343	2.45268	2.86606	24.41594	2.03281
62	3.90399	4.53361	5.40684	8.14576	2.55106	2.98103	25.39536	2.07932
63	4.00371	4.65110	5.55150	8.19810	2.65716	3.10501	26.45157	2.12582
64	4.10344	4.76860	5.69615	8.25044	2.77162	3.23876	27.59091	2.17233
65	4.20316	4.88610	5.84081	8.30278	2.89510	3.38305	28.82021	2.21884

**Table A-4-28**  
**El Paso 1995 Winter Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	16.78577	18.53012	28.22357	32.63918	1.67332	2.41596	6.14262	16.57213
4	12.18476	13.57385	20.38255	24.94885	1.58866	2.29373	5.83184	13.75873
5	9.60959	10.76088	15.92290	20.68013	1.50961	2.17959	5.54165	11.67499
6	7.96986	8.95239	13.05210	17.85275	1.43576	2.07296	5.27054	10.10219
7	6.83719	7.69631	11.06102	15.77140	1.36672	1.97328	5.01710	8.89452
8	6.13291	6.86599	9.76481	14.41024	1.30214	1.88005	4.78005	7.95262
9	5.58265	6.22369	8.76854	13.25112	1.24171	1.79280	4.55822	7.20744
10	5.12820	5.70534	7.97069	12.22387	1.18513	1.71110	4.35050	6.61004
11	4.74364	5.27768	7.31879	11.30668	1.13212	1.63457	4.15591	6.12516
12	4.41153	4.91810	6.77671	10.48295	1.08243	1.56283	3.97351	5.72692
13	4.11973	4.61074	6.31882	9.73969	1.03584	1.49556	3.80247	5.39610
14	3.85955	4.34412	5.92647	9.06635	0.99213	1.43244	3.64199	5.11814
15	3.62457	4.10978	5.58587	8.45423	0.95109	1.37319	3.49136	4.88195
16	3.40999	3.90135	5.28658	7.89608	0.91256	1.31755	3.34990	4.67894
17	3.21212	3.71394	5.02063	7.38566	0.87635	1.26528	3.21700	4.50241
18	3.02810	3.54378	4.78185	6.91768	0.84233	1.21616	3.09210	4.34707
19	2.85569	3.38790	4.56540	6.48754	0.81034	1.16997	2.97467	4.20878
20	2.71002	3.26211	4.38609	6.10837	0.78025	1.12652	2.86421	4.08422
21	2.60593	3.14366	4.21650	5.78526	0.75194	1.08565	2.76028	3.97078
22	2.51040	3.03488	4.06097	5.48942	0.72529	1.04718	2.66246	3.86639
23	2.42228	2.93447	3.91748	5.21819	0.70020	1.01096	2.57037	3.76943
24	2.34066	2.84136	3.78440	4.96916	0.67658	0.97685	2.48366	3.67863
25	2.26474	2.75469	3.66043	4.74023	0.65433	0.94473	2.40198	3.59304
26	2.19388	2.67376	3.54454	4.52949	0.63337	0.91446	2.32503	3.51195
27	2.12753	2.59803	3.43590	4.33529	0.61362	0.88595	2.25252	3.43481
28	2.06523	2.52701	3.33385	4.15612	0.59501	0.85908	2.18420	3.36129
29	2.00658	2.46034	3.23785	3.99066	0.57747	0.83375	2.11982	3.29114
30	1.95126	2.39770	3.14746	3.83770	0.56094	0.80989	2.05915	3.22423
31	1.89897	2.33881	3.06235	3.69617	0.54536	0.78740	2.00197	3.16053
32	1.84944	2.28345	2.98220	3.56511	0.53069	0.76621	1.94809	3.10000
33	1.80248	2.23141	2.90678	3.44365	0.51686	0.74625	1.89734	3.04272
34	1.75787	2.18252	2.83585	3.33101	0.50384	0.72744	1.84953	2.98871
35	1.71544	2.13660	2.76924	3.22649	0.49157	0.70974	1.80451	2.93807
36	1.67504	2.09350	2.70675	3.12946	0.48003	0.69307	1.76214	2.89088
37	1.63653	2.05307	2.64821	3.03935	0.46917	0.67740	1.72229	2.84716
38	1.59977	2.01518	2.59344	2.95563	0.45896	0.66266	1.68481	2.80698
39	1.56465	1.97970	2.54229	2.87785	0.44937	0.64881	1.64960	2.77035
40	1.53105	1.94647	2.49457	2.80558	0.44037	0.63581	1.61654	2.73726
41	1.49889	1.91538	2.45011	2.73845	0.43192	0.62362	1.58555	2.70769
42	1.46806	1.88627	2.40872	2.67612	0.42402	0.61220	1.55652	2.68153
43	1.43846	1.85902	2.37018	2.61826	0.41662	0.60152	1.52936	2.65858
44	1.41001	1.83347	2.33430	2.56460	0.40971	0.59154	1.50401	2.63875
45	1.38263	1.80945	2.30083	2.51490	0.40327	0.58225	1.48037	2.62173
46	1.35622	1.78680	2.26950	2.46892	0.39728	0.57360	1.45839	2.60721
47	1.33069	1.76532	2.24003	2.42646	0.39173	0.56558	1.43800	2.59477
48	1.30650	1.74470	2.21177	2.38709	0.38659	0.55817	1.41914	2.58389
49	1.30264	1.74034	2.20331	2.34900	0.38186	0.55133	1.40176	2.58389
50	1.29901	1.73624	2.19534	2.31450	0.37752	0.54506	1.38582	2.58389
51	1.29558	1.73238	2.18784	2.28341	0.37355	0.53933	1.37126	2.58389
52	1.29235	1.72873	2.18076	2.25557	0.36995	0.53414	1.35805	2.58389
53	1.28930	1.72529	2.17408	2.23085	0.36671	0.52946	1.34615	2.58389
54	1.28641	1.72204	2.16776	2.20914	0.36382	0.52528	1.33554	2.58389
55	1.28368	1.71896	2.16179	2.19032	0.36126	0.52160	1.32617	2.58389
56	1.33753	1.80700	2.28136	2.17432	0.35905	0.51839	1.31802	2.72254
57	1.39152	1.89520	2.40123	2.16108	0.35715	0.51566	1.31108	2.86120
58	1.44563	1.98354	2.52136	2.15052	0.35559	0.51340	1.30532	2.99986
59	1.49985	2.07200	2.64176	2.14261	0.35434	0.51160	1.30074	3.13851
60	1.55418	2.16059	2.76239	2.13733	0.35340	0.51025	1.29731	3.27717
61	1.60862	2.24930	2.88325	2.13466	0.35278	0.50935	1.29503	3.41583
62	1.66315	2.33811	3.00432	2.13459	0.35247	0.50890	1.29389	3.55449
63	1.71777	2.42702	3.12558	2.13715	0.35247	0.50890	1.29389	3.69314
64	1.77247	2.51603	3.24702	2.14236	0.35278	0.50935	1.29503	3.83180
65	1.82725	2.60512	3.36864	2.15026	0.35340	0.51025	1.29731	3.97046

**Table A-4-29**  
**El Paso 1995 Winter Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	147.66380	183.03989	232.78447	278.69360	5.42499	6.31766	40.47337	172.59195
4	113.24057	140.60912	179.70450	254.63080	4.99975	5.82244	37.30084	137.64583
5	92.34071	114.41431	145.67708	233.15746	4.61623	5.37581	34.43956	112.42305
6	78.31458	96.68764	122.13646	213.96548	4.26989	4.97248	31.85565	93.81067
7	68.26598	83.95161	105.02135	196.78552	3.95673	4.60779	29.51933	79.79610
8	60.72549	74.40091	92.11943	181.38367	3.67321	4.27763	27.40417	69.04622
9	54.86676	67.00128	82.11458	167.55547	3.41623	3.97836	25.48692	60.65877
10	50.18901	61.11716	74.17430	155.12238	3.18301	3.70677	23.74699	54.00967
11	46.37111	56.33665	67.74759	143.92827	2.97112	3.46000	22.16614	48.65956
12	43.19772	52.38133	62.45650	133.83597	2.77838	3.23555	20.72823	44.29321
13	40.51910	49.05643	58.03400	124.72549	2.60288	3.03117	19.41890	40.68077
14	38.22798	46.22180	54.28693	116.49098	2.44290	2.84488	18.22542	37.65230
15	36.24556	43.77428	51.07262	109.04005	2.29694	2.67489	17.13644	35.08034
16	34.51262	41.63622	48.28387	102.29024	2.16363	2.51965	16.14189	32.86813
17	32.98402	39.74847	45.83881	96.16975	2.04177	2.37773	15.23276	30.94168
18	31.62462	38.06519	43.67416	90.61458	1.93028	2.24790	14.40102	29.24377
19	30.40678	36.55069	41.74059	85.56824	1.82821	2.12903	13.63947	27.72992
20	29.20103	35.31654	40.15807	80.98102	1.73468	2.02012	12.94175	26.36555
21	28.00198	33.98576	38.52002	76.80841	1.64895	1.92027	12.30207	25.12358
22	26.90903	32.76277	37.02402	73.01129	1.57030	1.82869	11.71533	23.98299
23	25.90811	31.63264	35.64969	69.55475	1.49813	1.74464	11.17689	22.92732
24	24.98769	30.58369	34.38087	66.40779	1.43188	1.66749	10.68262	21.94389
25	24.13809	29.60649	33.20436	63.54283	1.37105	1.59665	10.22881	21.02321
26	23.35135	28.69366	32.10948	60.93541	1.31520	1.53161	9.81212	20.15778
27	22.62073	27.83923	31.08774	58.56367	1.26392	1.47189	9.42955	19.34218
28	21.94049	27.03831	30.13210	56.40813	1.21685	1.41708	9.07839	18.57224
29	21.30582	26.28706	29.23692	54.45168	1.17367	1.36679	8.75625	17.84509
30	20.71255	25.58220	28.39755	52.67885	1.13408	1.32069	8.46092	17.15874
31	20.15709	24.92102	27.60992	51.07591	1.09783	1.27847	8.19044	16.51143
32	19.63626	24.30101	26.87090	49.63084	1.06467	1.23986	7.94304	15.90202
33	19.14732	23.72011	26.17754	48.33295	1.03440	1.20460	7.71718	15.33000
34	18.68782	23.17642	25.52736	47.17262	1.00681	1.17248	7.51136	14.79420
35	18.25558	22.66812	24.91814	46.14151	0.98175	1.14329	7.32436	14.29443
36	17.84860	22.19348	24.34779	45.23235	0.95905	1.11686	7.15504	13.82950
37	17.46516	21.75090	23.81454	44.43875	0.93859	1.09302	7.00236	13.39924
38	17.10361	21.33878	23.31639	43.75534	0.92023	1.07165	6.86541	13.00231
39	16.76241	20.95554	22.85167	43.17719	0.90388	1.05261	6.74342	12.63781
40	16.44029	20.59966	22.41864	42.70058	0.88943	1.03578	6.63565	12.30461
41	16.13588	20.26956	22.01556	42.32224	0.87681	1.02109	6.54150	12.00136
42	15.84800	19.96356	21.64049	42.03958	0.86595	1.00844	6.46044	11.72614
43	15.57548	19.67990	21.29178	41.85086	0.85677	0.99775	6.39200	11.47727
44	15.31721	19.41679	20.96729	41.75470	0.84924	0.98898	6.33580	11.25224
45	15.07209	19.17220	20.66505	41.75056	0.84331	0.98207	6.29155	11.04873
46	14.83898	18.94368	20.38274	41.83832	0.83894	0.97699	6.25898	10.86378
47	14.61677	18.72867	20.11771	42.01862	0.83612	0.97370	6.23792	10.69378
48	14.40428	18.52415	19.86736	42.29262	0.83483	0.97219	6.22826	10.53513
49	14.40428	18.52415	19.86736	42.66220	0.83505	0.97246	6.22994	10.53513
50	14.40428	18.52415	19.86736	43.12975	0.83680	0.97449	6.24298	10.53513
51	14.40428	18.52415	19.86736	43.69838	0.84008	0.97831	6.26743	10.53513
52	14.40428	18.52415	19.86736	44.37219	0.84491	0.98393	6.30345	10.53513
53	14.40428	18.52415	19.86736	45.15550	0.85131	0.99139	6.35122	10.53513
54	14.40428	18.52415	19.86736	46.05394	0.85932	1.00072	6.41101	10.53513
55	14.40428	18.52415	19.86736	47.07356	0.86899	1.01198	6.48316	10.53513
56	16.54193	21.84697	23.69647	48.22185	0.88037	1.02523	6.56805	13.07229
57	18.67957	25.16982	27.52562	49.50693	0.89352	1.04055	6.66618	15.60946
58	20.81721	28.49261	31.35483	50.93816	0.90853	1.05802	6.77810	18.14659
59	22.95485	31.81541	35.18391	52.52623	0.92546	1.07774	6.90446	20.68376
60	25.09251	35.13824	39.01311	54.28308	0.94443	1.09983	7.04597	23.22089
61	27.23021	38.46111	42.84225	56.22224	0.96555	1.12442	7.20350	25.75807
62	29.36786	41.78392	46.67140	58.35899	0.98893	1.15165	7.37796	28.29521
63	31.50551	45.10677	50.50053	60.71030	1.01472	1.18169	7.57040	30.83240
64	33.64320	48.42960	54.32970	63.29550	1.04309	1.21472	7.78203	33.36954
65	35.78082	51.75240	58.15889	66.13582	1.07420	1.25095	8.01414	35.90669

**Table A-4-30**  
**El Paso 1995 Winter Time Period 2 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	2.76406	3.00136	3.25612	4.71372	2.84528	3.32483	28.32419	1.00083
4	2.54873	2.76775	3.05341	4.76250	2.72544	3.18480	27.13127	0.95728
5	2.41731	2.62619	2.93341	4.81128	2.61436	3.05500	26.02548	0.92114
6	2.32822	2.53140	2.85532	4.86006	2.51137	2.93465	25.00026	0.89184
7	2.26360	2.46390	2.80161	4.90883	2.41587	2.82305	24.04958	0.86884
8	2.21448	2.41387	2.76343	4.95761	2.32730	2.71956	23.16788	0.85160
9	2.17588	2.37583	2.73583	5.00639	2.24516	2.62358	22.35022	0.83962
10	2.14477	2.34643	2.71579	5.05517	2.16901	2.53458	21.59209	0.83241
11	2.11924	2.32347	2.70134	5.10395	2.09841	2.45208	20.88933	0.82950
12	2.09796	2.30550	2.69114	5.15273	2.03300	2.37564	20.23811	0.83045
13	2.08004	2.29145	2.68426	5.20150	1.97242	2.30486	19.63507	0.83482
14	2.06480	2.28055	2.67998	5.25028	1.91636	2.23936	19.07707	0.84220
15	2.05175	2.27219	2.67777	5.29906	1.86455	2.17881	18.56128	0.85221
16	2.04052	2.26592	2.67722	5.34784	1.81671	2.12291	18.08510	0.86448
17	2.03082	2.26136	2.67799	5.39662	1.77262	2.07139	17.64615	0.87866
18	2.02240	2.25821	2.67982	5.44539	1.73205	2.02398	17.24234	0.89442
19	2.01508	2.25623	2.68248	5.49417	1.69482	1.98048	16.87170	0.91146
20	2.01657	2.26029	2.69047	5.54295	1.66075	1.94066	16.53250	0.92947
21	2.02809	2.28128	2.71332	5.59173	1.62967	1.90434	16.22314	0.94820
22	2.03877	2.30097	2.73481	5.64050	1.60145	1.87136	15.94219	0.96740
23	2.04872	2.31947	2.75506	5.68928	1.57595	1.84157	15.68837	0.98683
24	2.05804	2.33689	2.77417	5.73806	1.55306	1.81482	15.46052	1.00629
25	2.06679	2.35330	2.79223	5.78684	1.53268	1.79101	15.25762	1.02559
26	2.07505	2.36876	2.80929	5.83561	1.51472	1.77001	15.07880	1.04456
27	2.08287	2.38335	2.82544	5.88439	1.49909	1.75175	14.92323	1.06304
28	2.09029	2.39710	2.84072	5.93317	1.48573	1.73615	14.79026	1.08092
29	2.09737	2.41006	2.85520	5.98195	1.47459	1.72312	14.67932	1.09807
30	2.10413	2.42228	2.86892	6.03073	1.46561	1.71262	14.58990	1.11442
31	2.11062	2.43379	2.88194	6.07951	1.45875	1.70461	14.52162	1.12989
32	2.11685	2.44463	2.89432	6.12828	1.45399	1.69905	14.47423	1.14444
33	2.12287	2.45485	2.90610	6.17706	1.45130	1.69591	14.44747	1.15802
34	2.12870	2.46448	2.91735	6.22584	1.45068	1.69518	14.44125	1.17064
35	2.13437	2.47357	2.92813	6.27462	1.45211	1.69686	14.45557	1.18230
36	2.13990	2.48215	2.93849	6.32339	1.45562	1.70095	14.49044	1.19303
37	2.14532	2.49028	2.94850	6.37217	1.46120	1.70748	14.54605	1.20289
38	2.15066	2.49802	2.95824	6.42095	1.46889	1.71647	14.62262	1.21194
39	2.15594	2.50540	2.96777	6.46973	1.47872	1.72795	14.72046	1.22027
40	2.16120	2.51249	2.97717	6.51851	1.49073	1.74199	14.84005	1.22800
41	2.16646	2.51935	2.98653	6.56728	1.50498	1.75863	14.98184	1.23525
42	2.17175	2.52604	2.99594	6.61606	1.52152	1.77796	15.14648	1.24217
43	2.17710	2.53264	3.00548	6.66484	1.54043	1.80006	15.33472	1.24893
44	2.18255	2.53922	3.01525	6.71362	1.56178	1.82502	15.54733	1.25573
45	2.18812	2.54584	3.02536	6.76239	1.58569	1.85295	15.78530	1.26278
46	2.19386	2.55261	3.03591	6.81118	1.61225	1.88398	16.04968	1.27029
47	2.19980	2.55960	3.04702	6.85995	1.64158	1.91826	16.34167	1.27852
48	2.20597	2.56691	3.05880	6.90874	1.67382	1.95593	16.66263	1.28775
49	2.29338	2.67099	3.18963	6.95751	1.70912	1.99718	17.01405	1.32968
50	2.38078	2.77507	3.32047	7.00629	1.74765	2.04220	17.39754	1.37161
51	2.46819	2.87915	3.45130	7.05506	1.78958	2.09120	17.81494	1.41354
52	2.55560	2.98322	3.58214	7.10384	1.83512	2.14442	18.26831	1.45548
53	2.64301	3.08730	3.71298	7.15262	1.88449	2.20211	18.75983	1.49741
54	2.73041	3.19138	3.84382	7.20139	1.93795	2.26458	19.29193	1.53934
55	2.81782	3.29546	3.97465	7.25017	1.99575	2.33212	19.86736	1.58127
56	2.90523	3.39953	4.10549	7.29895	2.05820	2.40509	20.48895	1.62320
57	2.99263	3.50361	4.23632	7.34773	2.12561	2.48387	21.16008	1.66514
58	3.08004	3.60769	4.36716	7.39651	2.19836	2.56888	21.88423	1.70707
59	3.16745	3.71177	4.49800	7.44529	2.27682	2.66056	22.66531	1.74900
60	3.25486	3.81584	4.62883	7.49407	2.36143	2.75944	23.50771	1.79093
61	3.34227	3.91992	4.75967	7.54284	2.45268	2.86606	24.41594	1.83286
62	3.42967	4.02400	4.89051	7.59162	2.55106	2.98103	25.39536	1.87480
63	3.51708	4.12808	5.02134	7.64040	2.65716	3.10501	26.45157	1.91673
64	3.60449	4.23215	5.15218	7.68918	2.77162	3.23876	27.59091	1.95866
65	3.69189	4.33623	5.28302	7.73796	2.89510	3.38305	28.82021	2.00059

**Table A-4-31**  
**El Paso 1995 Winter Time Period 3 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	HC
3	16.29501	18.23000	27.62187	31.26636	1.67332	2.41596	6.14262	16.71300
4	11.88033	13.42469	20.08252	24.17772	1.58866	2.29373	5.83184	13.86650
5	9.39594	10.67767	15.75427	20.18729	1.50961	2.17959	5.54165	11.75824
6	7.80795	8.90287	12.95036	17.50989	1.43576	2.07296	5.27054	10.16694
7	6.70797	7.66589	10.99705	15.51753	1.36672	1.97328	5.01710	8.94505
8	6.01360	6.83832	9.70830	14.18551	1.30214	1.88005	4.78005	7.99207
9	5.47129	6.19777	8.71662	13.04587	1.24171	1.79280	4.55822	7.23813
10	5.02465	5.68141	7.92296	12.03432	1.18513	1.71110	4.35050	6.63371
11	4.64779	5.25590	7.27500	11.13018	1.13212	1.63457	4.15591	6.14312
12	4.32330	4.89861	6.73668	10.31765	1.08243	1.56283	3.97351	5.74020
13	4.03907	4.59364	6.28240	9.58421	1.03584	1.49556	3.80247	5.40548
14	3.78641	4.32948	5.89354	8.91970	0.99213	1.43244	3.64199	5.12425
15	3.55892	4.09765	5.55631	8.31566	0.95109	1.37319	3.49136	4.88528
16	3.35179	3.89177	5.26031	7.76501	0.91256	1.31755	3.34990	4.67989
17	3.16134	3.70694	4.99756	7.26165	0.87635	1.26528	3.21700	4.50127
18	2.98473	3.53937	4.76189	6.80039	0.84233	1.21616	3.09210	4.34411
19	2.81969	3.38610	4.54848	6.37670	0.81034	1.16997	2.97467	4.20419
20	2.67868	3.26195	4.37134	6.00207	0.78025	1.12652	2.86421	4.07816
21	2.57527	3.14327	4.20221	5.68076	0.75194	1.08565	2.76028	3.96339
22	2.48042	3.03430	4.04708	5.38661	0.72529	1.04718	2.66246	3.85777
23	2.39299	2.93369	3.90395	5.11695	0.70020	1.01096	2.57037	3.75967
24	2.31204	2.84039	3.77119	4.86939	0.67658	0.97685	2.48366	3.66780
25	2.23681	2.75355	3.64751	4.64185	0.65433	0.94473	2.40198	3.58121
26	2.16664	2.67246	3.53187	4.43246	0.63337	0.91446	2.32503	3.49916
27	2.10098	2.59657	3.42346	4.23955	0.61362	0.88595	2.25252	3.42112
28	2.03937	2.52541	3.32161	4.06163	0.59501	0.85908	2.18420	3.34673
29	1.98141	2.45861	3.22579	3.89738	0.57747	0.83375	2.11982	3.27576
30	1.92678	2.39585	3.13558	3.74560	0.56094	0.80989	2.05915	3.20807
31	1.87518	2.33685	3.05062	3.60522	0.54536	0.78740	2.00197	3.14361
32	1.82636	2.28140	2.97063	3.47528	0.53069	0.76621	1.94809	3.08236
33	1.78009	2.22928	2.89535	3.35493	0.51686	0.74625	1.89734	3.02441
34	1.73619	2.18032	2.82458	3.24338	0.50384	0.72744	1.84953	2.96977
35	1.69447	2.13435	2.75810	3.13993	0.49157	0.70974	1.80451	2.91854
36	1.65477	2.09121	2.69577	3.04396	0.48003	0.69307	1.76214	2.87078
37	1.61697	2.05077	2.63738	2.95489	0.46917	0.67740	1.72229	2.82655
38	1.58093	2.01287	2.58278	2.87221	0.45896	0.66266	1.68481	2.78589
39	1.54652	1.97739	2.53179	2.79545	0.44937	0.64881	1.64960	2.74884
40	1.51365	1.94419	2.48426	2.72420	0.44037	0.63581	1.61654	2.71536
41	1.48221	1.91313	2.43999	2.65807	0.43192	0.62362	1.58555	2.68545
42	1.45211	1.88407	2.39879	2.59674	0.42402	0.61220	1.55652	2.65897
43	1.42324	1.85688	2.36046	2.53987	0.41662	0.60152	1.52936	2.63576
44	1.39552	1.83140	2.32479	2.48720	0.40971	0.59154	1.50401	2.61569
45	1.36887	1.80746	2.29154	2.43848	0.40327	0.58225	1.48037	2.59847
46	1.34320	1.78490	2.26043	2.39347	0.39728	0.57360	1.45839	2.58379
47	1.31841	1.76351	2.23120	2.35198	0.39173	0.56558	1.43800	2.57119
48	1.29490	1.74300	2.20320	2.31360	0.38659	0.55817	1.41914	2.56018
49	1.29142	1.73907	2.19558	2.27670	0.38186	0.55133	1.40176	2.56018
50	1.28815	1.73538	2.18840	2.24331	0.37752	0.54506	1.38582	2.56018
51	1.28507	1.73190	2.18165	2.21329	0.37355	0.53933	1.37126	2.56018
52	1.28216	1.72862	2.17527	2.18647	0.36995	0.53414	1.35805	2.56018
53	1.27941	1.72552	2.16925	2.16273	0.36671	0.52946	1.34615	2.56018
54	1.27681	1.72259	2.16357	2.14195	0.36382	0.52528	1.33554	2.56018
55	1.27434	1.71981	2.15818	2.12405	0.36126	0.52160	1.32617	2.56018
56	1.32920	1.80952	2.28010	2.10892	0.35905	0.51839	1.31802	2.70047
57	1.38419	1.89935	2.40228	2.09652	0.35715	0.51566	1.31108	2.84076
58	1.43928	1.98931	2.52471	2.08679	0.35559	0.51340	1.30532	2.98105
59	1.49448	2.07939	2.64737	2.07969	0.35434	0.51160	1.30074	3.12133
60	1.54977	2.16958	2.77024	2.07519	0.35340	0.51025	1.29731	3.26162
61	1.60516	2.25987	2.89331	2.07328	0.35278	0.50935	1.29503	3.40191
62	1.66063	2.35026	3.01658	2.07397	0.35247	0.50890	1.29389	3.54220
63	1.71618	2.44074	3.14001	2.07727	0.35247	0.50890	1.29389	3.68249
64	1.77181	2.53131	3.26362	2.08321	0.35278	0.50935	1.29503	3.82277
65	1.82751	2.62195	3.38737	2.09184	0.35340	0.51025	1.29731	3.96306

**Table A-4-32**  
**El Paso 1995 Winter Time Period 3 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	HC
3	148.22855	184.02623	234.69368	279.60645	5.42499	6.31766	40.47337	175.30856
4	113.67580	141.37668	181.19440	255.46484	4.99975	5.82244	37.30084	139.81239
5	92.69551	115.04079	146.88295	233.92123	4.61623	5.37581	34.43956	114.19263
6	78.61481	97.21664	123.14034	214.66638	4.26989	4.97248	31.85565	95.28728
7	68.52687	84.41008	105.87642	197.43013	3.95673	4.60779	29.51933	81.05209
8	60.95691	74.80670	92.86206	181.97783	3.67321	4.27763	27.40417	70.13301
9	55.07530	67.36652	82.77017	168.10429	3.41623	3.97836	25.48692	61.61354
10	50.37936	61.45050	74.76120	155.63052	3.18301	3.70677	23.74699	54.85979
11	46.54672	56.64438	68.27939	144.39977	2.97112	3.46000	22.16614	49.42548
12	43.36113	52.66814	62.94331	134.27443	2.77838	3.23555	20.72823	44.99039
13	40.67227	49.32584	58.48357	125.13409	2.60288	3.03117	19.41890	41.32106
14	38.37244	46.47653	54.70522	116.87256	2.44290	2.84488	18.22542	38.24495
15	36.38245	44.01634	51.46436	109.39726	2.29694	2.67489	17.13644	35.63248
16	34.64299	41.86729	48.65262	102.62526	2.16363	2.51965	16.14189	33.38550
17	33.10854	39.96974	46.18758	96.48477	2.04177	2.37773	15.23276	31.42871
18	31.74399	38.27774	44.00528	90.91141	1.93028	2.24790	14.40102	29.70407
19	30.52151	36.75520	42.05595	85.84851	1.82821	2.12903	13.63947	28.16638
20	29.31049	35.51349	40.45918	81.24628	1.73468	2.02012	12.94175	26.78058
21	28.10532	34.17462	38.80707	77.06001	1.64895	1.92027	12.30207	25.51903
22	27.00677	32.94397	37.29817	73.25047	1.57030	1.82869	11.71533	24.36047
23	26.00073	31.80672	35.91196	69.78255	1.49813	1.74464	11.17689	23.28818
24	25.07553	30.75098	34.63216	66.62531	1.43188	1.66749	10.68262	22.28929
25	24.22153	29.76735	33.44533	63.75096	1.37105	1.59665	10.22881	21.35413
26	23.43065	28.84843	32.34082	61.13503	1.31520	1.53161	9.81212	20.47507
27	22.69617	27.98819	31.31003	58.75549	1.26392	1.47189	9.42955	19.64661
28	22.01237	27.18179	30.34587	56.59293	1.21685	1.41708	9.07839	18.86455
29	21.37433	26.42531	29.44275	54.63007	1.17367	1.36679	8.75625	18.12598
30	20.77792	25.71553	28.59584	52.85141	1.13408	1.32069	8.46092	17.42882
31	20.21950	25.04965	27.80118	51.24321	1.09783	1.27847	8.19044	16.77132
32	19.69589	24.42534	27.05548	49.79346	1.06467	1.23986	7.94304	16.15231
33	19.20436	23.84036	26.35591	48.49126	1.03440	1.20460	7.71718	15.57129
34	18.74243	23.29288	25.69994	47.32709	1.00681	1.17248	7.51136	15.02707
35	18.30789	22.78111	25.08525	46.29268	0.98175	1.14329	7.32436	14.51943
36	17.89880	22.30324	24.50990	45.38052	0.95905	1.11686	7.15504	14.04718
37	17.51334	21.85773	23.97191	44.58432	0.93859	1.09302	7.00236	13.61015
38	17.14990	21.44295	23.46948	43.89864	0.92023	1.07165	6.86541	13.20697
39	16.80699	21.05731	23.00073	43.31860	0.90388	1.05261	6.74342	12.83673
40	16.48320	20.69928	22.56406	42.84042	0.88943	1.03578	6.63565	12.49829
41	16.17729	20.36726	22.15765	42.46088	0.87681	1.02109	6.54150	12.19026
42	15.88798	20.05957	21.77954	42.17728	0.86595	1.00844	6.46044	11.91071
43	15.61413	19.77444	21.42804	41.98792	0.85677	0.99775	6.39200	11.65792
44	15.35460	19.51009	21.10101	41.89151	0.84924	0.98898	6.33580	11.42935
45	15.10831	19.26431	20.79651	41.88733	0.84331	0.98207	6.29155	11.22264
46	14.87410	19.03481	20.51207	41.97537	0.83894	0.97699	6.25898	11.03478
47	14.65085	18.81889	20.24512	42.15622	0.83612	0.97370	6.23792	10.86210
48	14.43737	18.61354	19.99298	42.43117	0.83483	0.97219	6.22826	10.70095
49	14.43737	18.61354	19.99298	42.80190	0.83505	0.97246	6.22994	10.70095
50	14.43737	18.61354	19.99298	43.27101	0.83680	0.97449	6.24298	10.70095
51	14.43737	18.61354	19.99298	43.84154	0.84008	0.97831	6.26743	10.70095
52	14.43737	18.61354	19.99298	44.51755	0.84491	0.98393	6.30345	10.70095
53	14.43737	18.61354	19.99298	45.30342	0.85131	0.99139	6.35122	10.70095
54	14.43737	18.61354	19.99298	46.20480	0.85932	1.00072	6.41101	10.70095
55	14.43737	18.61354	19.99298	47.22780	0.86899	1.01198	6.48316	10.70095
56	16.58223	21.95520	23.85060	48.37982	0.88037	1.02523	6.56805	13.27804
57	18.72710	25.29684	27.70827	49.66911	0.89352	1.04055	6.66618	15.85515
58	20.87195	28.63849	31.56595	51.10498	0.90853	1.05802	6.77810	18.43224
59	23.01685	31.98018	35.42361	52.69829	0.92546	1.07774	6.90446	21.00931
60	25.16174	35.32181	39.28125	54.46086	0.94443	1.09983	7.04597	23.58643
61	27.30661	38.66347	43.13889	56.40643	0.96555	1.12442	7.20350	26.16351
62	29.45148	42.00514	46.99658	58.55014	0.98893	1.15165	7.37796	28.74057
63	31.59636	45.34680	50.85422	60.90916	1.01472	1.18169	7.57040	31.31769
64	33.74124	48.68846	54.71190	63.50282	1.04309	1.21472	7.78203	33.89478
65	35.88614	52.03012	58.56958	66.35245	1.07420	1.25095	8.01414	36.47183



**Table A-4-33**  
**El Paso 1995 Winter Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	2.79003	3.02914	3.28315	4.74405	2.84528	3.32483	28.32419	1.00867
4	2.57265	2.79325	3.07841	4.79314	2.72544	3.18480	27.13127	0.96478
5	2.43999	2.65031	2.95718	4.84223	2.61436	3.05500	26.02548	0.92836
6	2.35004	2.55459	2.87827	4.89132	2.51137	2.93465	25.00026	0.89883
7	2.28480	2.48642	2.82397	4.94041	2.41587	2.82305	24.04958	0.87564
8	2.23521	2.43590	2.78535	4.98951	2.32730	2.71956	23.16788	0.85827
9	2.19623	2.39746	2.75741	5.03860	2.24516	2.62358	22.35022	0.84620
10	2.16482	2.36774	2.73709	5.08769	2.16901	2.53458	21.59209	0.83893
11	2.13903	2.34453	2.72242	5.13678	2.09841	2.45208	20.88933	0.83600
12	2.11755	2.32635	2.71204	5.18588	2.03300	2.37564	20.23811	0.83695
13	2.09943	2.31212	2.70500	5.23497	1.97242	2.30486	19.63507	0.84135
14	2.08404	2.30107	2.70060	5.28406	1.91636	2.23936	19.07707	0.84880
15	2.07085	2.29258	2.69828	5.33315	1.86455	2.17881	18.56128	0.85889
16	2.05951	2.28620	2.69764	5.38224	1.81671	2.12291	18.08510	0.87125
17	2.04969	2.28155	2.69833	5.43133	1.77262	2.07139	17.64615	0.88554
18	2.04118	2.27832	2.70009	5.48043	1.73205	2.02398	17.24234	0.90143
19	2.03378	2.27627	2.70270	5.52952	1.69482	1.98048	16.87170	0.91859
20	2.03526	2.28032	2.71069	5.57861	1.66075	1.94066	16.53250	0.93675
21	2.04689	2.30149	2.73370	5.62770	1.62967	1.90434	16.22314	0.95563
22	2.05766	2.32134	2.75535	5.67679	1.60145	1.87136	15.94219	0.97498
23	2.06770	2.33999	2.77573	5.72588	1.57595	1.84157	15.68837	0.99456
24	2.07709	2.35754	2.79497	5.77497	1.55306	1.81482	15.46052	1.01417
25	2.08591	2.37408	2.81314	5.82407	1.53268	1.79101	15.25762	1.03362
26	2.09424	2.38967	2.83032	5.87315	1.51472	1.77001	15.07880	1.05274
27	2.10213	2.40436	2.84657	5.92225	1.49909	1.75175	14.92323	1.07137
28	2.10961	2.41822	2.86195	5.97134	1.48573	1.73615	14.79026	1.08938
29	2.11675	2.43128	2.87652	6.02043	1.47459	1.72312	14.67932	1.10667
30	2.12357	2.44358	2.89033	6.06952	1.46561	1.71262	14.58990	1.12315
31	2.13011	2.45518	2.90344	6.11862	1.45875	1.70461	14.52162	1.13874
32	2.13640	2.46610	2.91589	6.16771	1.45399	1.69905	14.47423	1.15340
33	2.14247	2.47640	2.92775	6.21680	1.45130	1.69591	14.44747	1.16709
34	2.14835	2.48610	2.93907	6.26589	1.45068	1.69518	14.44125	1.17980
35	2.15407	2.49526	2.94992	6.31499	1.45211	1.69686	14.45557	1.19156
36	2.15964	2.50391	2.96034	6.36407	1.45562	1.70095	14.49044	1.20237
37	2.16511	2.51211	2.97042	6.41317	1.46120	1.70748	14.54605	1.21231
38	2.17050	2.51990	2.98022	6.46226	1.46889	1.71647	14.62262	1.22143
39	2.17583	2.52734	2.98981	6.51135	1.47872	1.72795	14.72046	1.22983
40	2.18114	2.53449	2.99928	6.56044	1.49073	1.74199	14.84005	1.23761
41	2.18644	2.54140	3.00870	6.60953	1.50498	1.75863	14.98184	1.24492
42	2.19178	2.54815	3.01816	6.65863	1.52152	1.77796	15.14648	1.25190
43	2.19718	2.55480	3.02776	6.70772	1.54043	1.80006	15.33472	1.25872
44	2.20268	2.56142	3.03759	6.75681	1.56178	1.82502	15.54733	1.26557
45	2.20831	2.56810	3.04776	6.80590	1.58569	1.85295	15.78530	1.27267
46	2.21409	2.57492	3.05837	6.85499	1.61225	1.88398	16.04968	1.28024
47	2.22008	2.58196	3.06954	6.90408	1.64158	1.91826	16.34167	1.28853
48	2.22631	2.58932	3.08138	6.95318	1.67382	1.95593	16.66263	1.29783
49	2.31456	2.69433	3.21318	7.00227	1.70912	1.99718	17.01405	1.34009
50	2.40280	2.79935	3.34499	7.05137	1.74765	2.04220	17.39754	1.38235
51	2.49104	2.90436	3.47680	7.10045	1.78958	2.09120	17.81494	1.42461
52	2.57929	3.00938	3.60860	7.14955	1.83512	2.14442	18.26831	1.46687
53	2.66753	3.11439	3.74041	7.19864	1.88449	2.20211	18.75983	1.50914
54	2.75577	3.21941	3.87222	7.24772	1.93795	2.26458	19.29193	1.55140
55	2.84402	3.32443	4.00402	7.29682	1.99575	2.33212	19.86736	1.59366
56	2.93226	3.42944	4.13583	7.34591	2.05820	2.40509	20.48895	1.63591
57	3.02051	3.53445	4.26764	7.39500	2.12561	2.48387	21.16008	1.67818
58	3.10875	3.63947	4.39944	7.44409	2.19836	2.56888	21.88423	1.72044
59	3.19699	3.74448	4.53125	7.49319	2.27682	2.66056	22.66531	1.76270
60	3.28524	3.84950	4.66306	7.54228	2.36143	2.75944	23.50771	1.80496
61	3.37348	3.95452	4.79486	7.59137	2.45268	2.86606	24.41594	1.84722
62	3.46173	4.05953	4.92667	7.64046	2.55106	2.98103	25.39536	1.88948
63	3.54997	4.16455	5.05848	7.68956	2.65716	3.10501	26.45157	1.93174
64	3.63821	4.26956	5.19029	7.73865	2.77162	3.23876	27.59091	1.97400
65	3.72645	4.37457	5.32209	7.78774	2.89510	3.38305	28.82021	2.01626

**Table A-4-34**  
**El Paso 1995 Winter Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	13.64685	17.73024	24.77277	19.69728	1.67332	2.41596	6.14262	19.14229
4	10.50222	13.79326	19.39026	17.98303	1.58866	2.29373	5.83184	15.76191
5	8.58692	11.33552	15.88532	16.44547	1.50961	2.17959	5.54165	13.25823
6	7.29791	9.65701	13.43414	15.06447	1.43576	2.07296	5.27054	11.36847
7	6.37226	8.44226	11.63861	13.82252	1.36672	1.97328	5.01710	9.91741
8	5.67634	7.52612	10.27808	12.70418	1.30214	1.88005	4.78005	8.78569
9	5.13483	6.81316	9.21941	11.69585	1.24171	1.79280	4.55822	7.89033
10	4.70198	6.24425	8.37735	10.78558	1.18513	1.71110	4.35050	7.17255
11	4.34839	5.78078	7.69488	9.96282	1.13212	1.63457	4.15591	6.58995
12	4.05429	5.39647	7.13254	9.21821	1.08243	1.56283	3.97351	6.11145
13	3.80592	5.07284	6.66226	8.54354	1.03584	1.49556	3.80247	5.71396
14	3.59340	4.79653	6.26359	7.93152	0.99213	1.43244	3.64199	5.37998
15	3.40944	4.55768	5.92136	7.37566	0.95109	1.37319	3.49136	5.09619
16	3.24860	4.34885	5.62411	6.87025	0.91256	1.31755	3.34990	4.85227
17	3.10669	4.16434	5.36306	6.41019	0.87635	1.26528	3.21700	4.64016
18	2.98046	3.99976	5.13142	5.99096	0.84233	1.21616	3.09210	4.45352
19	2.86736	3.85166	4.92388	5.60852	0.81034	1.16997	2.97467	4.28736
20	2.75347	3.72639	4.74781	5.25929	0.78025	1.12652	2.86421	4.13769
21	2.64141	3.58820	4.56293	4.94006	0.75194	1.08565	2.76028	4.00139
22	2.53924	3.46133	4.39332	4.64798	0.72529	1.04718	2.66246	3.87597
23	2.44566	3.34420	4.23676	4.38048	0.70020	1.01096	2.57037	3.75946
24	2.35957	3.23560	4.09146	4.13529	0.67658	0.97685	2.48366	3.65037
25	2.28009	3.13452	3.95603	3.91035	0.65433	0.94473	2.40198	3.54753
26	2.20646	3.04017	3.82932	3.70382	0.63337	0.91446	2.32503	3.45009
27	2.13805	2.95189	3.71046	3.51406	0.61362	0.88595	2.25252	3.35741
28	2.07433	2.86915	3.59875	3.33960	0.59501	0.85908	2.18420	3.26907
29	2.01484	2.79152	3.49361	3.17909	0.57747	0.83375	2.11982	3.18479
30	1.95921	2.71863	3.39461	3.03134	0.56094	0.80989	2.05915	3.10440
31	1.90708	2.65019	3.30138	2.89527	0.54536	0.78740	2.00197	3.02785
32	1.85818	2.58593	3.21362	2.76992	0.53069	0.76621	1.94809	2.95512
33	1.81225	2.52563	3.13109	2.65441	0.51686	0.74625	1.89734	2.88630
34	1.76906	2.46906	3.05357	2.54794	0.50384	0.72744	1.84953	2.82140
35	1.72841	2.41606	2.98085	2.44980	0.49157	0.70974	1.80451	2.76057
36	1.69013	2.36642	2.91276	2.35935	0.48003	0.69307	1.76214	2.70385
37	1.65404	2.32000	2.84910	2.27601	0.46917	0.67740	1.72229	2.65133
38	1.62000	2.27663	2.78972	2.19925	0.45896	0.66266	1.68481	2.60305
39	1.58787	2.23614	2.73442	2.12860	0.44937	0.64881	1.64960	2.55904
40	1.55753	2.19837	2.68303	2.06361	0.44037	0.63581	1.61654	2.51928
41	1.52886	2.16318	2.63535	2.00392	0.43192	0.62362	1.58555	2.48376
42	1.50175	2.13038	2.59116	1.94917	0.42402	0.61220	1.55652	2.45232
43	1.47607	2.09981	2.55023	1.89903	0.41662	0.60152	1.52936	2.42475
44	1.45175	2.07129	2.51232	1.85323	0.40971	0.59154	1.50401	2.40092
45	1.42866	2.04462	2.47716	1.81151	0.40327	0.58225	1.48037	2.38047
46	1.40670	2.01958	2.44443	1.77363	0.39728	0.57360	1.45839	2.36303
47	1.38578	1.99594	2.41379	1.73940	0.39173	0.56558	1.43800	2.34807
48	1.36578	1.97342	2.38489	1.70863	0.38659	0.55817	1.41914	2.33500
49	1.36578	1.97342	2.38489	1.68115	0.38186	0.55133	1.40176	2.33500
50	1.36578	1.97342	2.38489	1.65682	0.37752	0.54506	1.38582	2.33500
51	1.36578	1.97342	2.38489	1.63552	0.37355	0.53933	1.37126	2.33500
52	1.36578	1.97342	2.38489	1.61713	0.36995	0.53414	1.35805	2.33500
53	1.36578	1.97342	2.38489	1.60155	0.36671	0.52946	1.34615	2.33500
54	1.36578	1.97342	2.38489	1.58872	0.36382	0.52528	1.33554	2.33500
55	1.36578	1.97342	2.38489	1.57857	0.36126	0.52160	1.32617	2.33500
56	1.43950	2.09268	2.54479	1.57104	0.35905	0.51839	1.31802	2.50160
57	1.51323	2.21195	2.70470	1.56609	0.35715	0.51566	1.31108	2.66820
58	1.58695	2.33121	2.86460	1.56371	0.35559	0.51340	1.30532	2.83480
59	1.66067	2.45048	3.02451	1.56388	0.35434	0.51160	1.30074	3.00140
60	1.73440	2.56974	3.18441	1.56660	0.35340	0.51025	1.29731	3.16800
61	1.80812	2.68900	3.34431	1.57189	0.35278	0.50935	1.29503	3.33460
62	1.88184	2.80827	3.50422	1.57976	0.35247	0.50890	1.29389	3.50120
63	1.95557	2.92753	3.66412	1.59027	0.35247	0.50890	1.29389	3.66781
64	2.02929	3.04679	3.82403	1.60346	0.35278	0.50935	1.29503	3.83440
65	2.10302	3.16606	3.98393	1.61940	0.35340	0.51025	1.29731	4.00100

**Table A-4-35**  
**El Paso 1995 Winter Time Period 4 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGGV	LDDV	LDDT	HDDV	MC
3	170.40970	213.58319	276.41602	297.05762	5.42499	6.31766	40.47337	217.20872
4	130.70825	164.20662	213.54738	271.40942	4.99975	5.82244	37.30084	173.22871
5	106.58931	133.65761	173.11244	248.52170	4.61623	5.37581	34.43956	141.48558
6	90.39784	112.96333	145.09090	228.06499	4.26989	4.97248	31.85565	118.06169
7	78.79663	98.09094	124.70178	209.75294	3.95673	4.60779	29.51933	100.42416
8	70.09132	86.93999	109.32861	193.33618	3.67321	4.27763	27.40417	86.89542
9	63.32819	78.30449	97.40919	178.59673	3.41623	3.97836	25.48692	76.33968
10	57.92918	71.44176	87.95293	165.34436	3.18301	3.70677	23.74699	67.97173
11	53.52328	65.86990	80.30310	153.41258	2.97112	3.46000	22.16614	61.23860
12	49.86179	61.26285	74.00862	142.65530	2.77838	3.23555	20.72823	55.74347
13	46.77156	57.39232	68.75046	132.94447	2.60288	3.03117	19.41890	51.19719
14	44.12871	54.09399	64.29781	124.16736	2.44290	2.84488	18.22542	47.38582
15	41.84209	51.24677	60.48016	116.22539	2.29694	2.67489	17.13644	44.14894
16	39.84328	48.75966	57.16922	109.03073	2.16363	2.51965	16.14189	41.36485
17	38.08002	46.56319	54.26730	102.50702	2.04177	2.37773	15.23276	38.94040
18	36.51181	44.60365	51.69862	96.58575	1.93028	2.24790	14.40102	36.80357
19	35.10661	42.83917	49.40428	91.20686	1.82821	2.12903	13.63947	34.89839
20	33.70625	41.38548	47.50897	86.31734	1.73468	2.02012	12.94175	33.18130
21	32.30280	39.81468	45.54959	81.86983	1.64895	1.92027	12.30207	31.61827
22	31.02327	38.36942	43.75972	77.82248	1.57030	1.82869	11.71533	30.18283
23	29.85120	37.03223	42.11511	74.13814	1.49813	1.74464	11.17689	28.85420
24	28.77303	35.78949	40.59622	70.78380	1.43188	1.66749	10.68262	27.61659
25	27.77762	34.63040	39.18735	67.73006	1.37105	1.59665	10.22881	26.45790
26	26.85558	33.54639	37.87578	64.95082	1.31520	1.53161	9.81212	25.36874
27	25.99908	32.53069	36.65147	62.42282	1.26392	1.47189	9.42955	24.34230
28	25.20154	31.57784	35.50603	60.12524	1.21685	1.41708	9.07839	23.37332
29	24.45728	30.68344	34.43286	58.03989	1.17367	1.36679	8.75625	22.45824
30	23.76152	29.84386	33.42627	56.15018	1.13408	1.32069	8.46092	21.59442
31	23.11002	29.05611	32.48180	54.44159	1.09783	1.27847	8.19044	20.77979
32	22.49915	28.31747	31.59541	52.90137	1.06467	1.23986	7.94304	20.01283
33	21.92572	27.62561	30.76393	51.51791	1.03440	1.20460	7.71718	19.29294
34	21.38689	26.97836	29.98434	50.28110	1.00681	1.17248	7.51136	18.61864
35	20.88013	26.37376	29.25403	49.18208	0.98175	1.14329	7.32436	17.98967
36	20.40312	25.80977	28.57057	48.21300	0.95905	1.11686	7.15504	17.40454
37	19.95380	25.28461	27.93184	47.36714	0.93859	1.09302	7.00236	16.86308
38	19.53026	24.79639	27.33562	46.63864	0.92023	1.07165	6.86541	16.36353
39	19.13078	24.34320	26.77972	46.02242	0.90388	1.05261	6.74342	15.90482
40	18.75375	23.92336	26.26215	45.51440	0.88943	1.03578	6.63565	15.48548
41	18.39766	23.53485	25.78085	45.11111	0.87681	1.02109	6.54150	15.10383
42	18.06108	23.17570	25.33348	44.80988	0.86595	1.00844	6.46044	14.75746
43	17.74265	22.84381	24.91801	44.60870	0.85677	0.99775	6.39200	14.44426
44	17.44101	22.53691	24.53188	44.50620	0.84924	0.98898	6.33580	14.16106
45	17.15488	22.25244	24.17267	44.50180	0.84331	0.98207	6.29155	13.90494
46	16.88290	21.98737	23.83749	44.59529	0.83894	0.97699	6.25898	13.67218
47	16.62372	21.73842	23.52315	44.78748	0.83612	0.97370	6.23792	13.45822
48	16.37587	21.50182	23.22649	45.07953	0.83483	0.97219	6.22826	13.25856
49	16.37587	21.50182	23.22649	45.47353	0.83505	0.97246	6.22994	13.25856
50	16.37587	21.50182	23.22649	45.97180	0.83680	0.97449	6.24298	13.25856
51	16.37587	21.50182	23.22649	46.57799	0.84008	0.97831	6.26743	13.25856
52	16.37587	21.50182	23.22649	47.29617	0.84491	0.98393	6.30345	13.25856
53	16.37587	21.50182	23.22649	48.13107	0.85131	0.99139	6.35122	13.25856
54	16.37587	21.50182	23.22649	49.08875	0.85932	1.00072	6.41101	13.25856
55	16.37587	21.50182	23.22649	50.17558	0.86899	1.01198	6.48316	13.25856
56	18.82906	25.38385	27.73486	51.39951	0.88037	1.02523	6.56805	16.45160
57	21.28224	29.26591	32.24333	52.76924	0.89352	1.04055	6.66618	19.64464
58	23.73550	33.14793	36.75175	54.29477	0.90853	1.05802	6.77810	22.83766
59	26.18872	37.03000	41.26021	55.98753	0.92546	1.07774	6.90446	26.03072
60	28.64191	40.91200	45.76866	57.86014	0.94443	1.09983	7.04597	29.22372
61	31.09517	44.79407	50.27707	59.92709	0.96555	1.12442	7.20350	32.41679
62	33.54837	48.67609	54.78552	62.20459	0.98893	1.15165	7.37796	35.60980
63	36.00159	52.55812	59.29398	64.71088	1.01472	1.18169	7.57040	38.80286
64	38.45479	56.44020	63.80244	67.46645	1.04309	1.21472	7.78203	41.99593
65	40.90804	60.32224	68.31087	70.49394	1.07420	1.25095	8.01414	45.18893

**Table A-4-36**  
**El Paso 1995 Winter Time Period 4 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	3.16880	3.42204	3.66340	5.06826	2.84528	3.32483	28.32419	1.11501
4	2.92142	3.15378	3.42994	5.12071	2.72544	3.18480	27.13127	1.06649
5	2.77044	2.99127	3.29138	5.17316	2.61436	3.05500	26.02548	1.02623
6	2.66806	2.88241	3.20087	5.22561	2.51137	2.93465	25.00026	0.99359
7	2.59377	2.80480	3.13827	5.27805	2.41587	2.82305	24.04958	0.96796
8	2.53727	2.74716	3.09341	5.33050	2.32730	2.71956	23.16788	0.94875
9	2.49282	2.70319	3.06064	5.38295	2.24516	2.62358	22.35022	0.93541
10	2.45697	2.66903	3.03647	5.43539	2.16901	2.53458	21.59209	0.92738
11	2.42749	2.64222	3.01868	5.48784	2.09841	2.45208	20.88933	0.92414
12	2.40289	2.62104	3.00574	5.54029	2.03300	2.37564	20.23811	0.92519
13	2.38212	2.60430	2.99656	5.59273	1.97242	2.30486	19.63507	0.93005
14	2.36442	2.59112	2.99036	5.64518	1.91636	2.23936	19.07707	0.93828
15	2.34923	2.58082	2.98652	5.69763	1.86455	2.17881	18.56128	0.94944
16	2.33612	2.57287	2.98458	5.75007	1.81671	2.12291	18.08510	0.96311
17	2.32475	2.56686	2.98416	5.80252	1.77262	2.07139	17.64615	0.97890
18	2.31486	2.56246	2.98497	5.85497	1.73205	2.02398	17.24234	0.99646
19	2.30623	2.55938	2.98675	5.90741	1.69482	1.98048	16.87170	1.01544
20	2.30774	2.56331	2.99475	5.95986	1.66075	1.94066	16.53250	1.03551
21	2.32088	2.58684	3.01992	6.01230	1.62967	1.90434	16.22314	1.05638
22	2.33303	2.60885	3.04355	6.06475	1.60145	1.87136	15.94219	1.07776
23	2.34435	2.62948	3.06578	6.11720	1.57595	1.84157	15.68837	1.09941
24	2.35493	2.64888	3.08673	6.16964	1.55306	1.81482	15.46052	1.12109
25	2.36486	2.66712	3.10649	6.22209	1.53268	1.79101	15.25762	1.14259
26	2.37423	2.68429	3.12516	6.27454	1.51472	1.77001	15.07880	1.16372
27	2.38309	2.70048	3.14281	6.32699	1.49909	1.75175	14.92323	1.18432
28	2.39151	2.71572	3.15950	6.37943	1.48573	1.73615	14.79026	1.20423
29	2.39953	2.73009	3.17531	6.43188	1.47459	1.72312	14.67932	1.22335
30	2.40720	2.74362	3.19030	6.48433	1.46561	1.71262	14.58990	1.24156
31	2.41455	2.75638	3.20452	6.53677	1.45875	1.70461	14.52162	1.25879
32	2.42163	2.76839	3.21803	6.58922	1.45399	1.69905	14.47423	1.27500
33	2.42846	2.77972	3.23090	6.64167	1.45130	1.69591	14.44747	1.29013
34	2.43508	2.79041	3.24318	6.69411	1.45068	1.69518	14.44125	1.30418
35	2.44152	2.80049	3.25496	6.74656	1.45211	1.69686	14.45557	1.31718
36	2.44781	2.81003	3.26627	6.79901	1.45562	1.70095	14.49044	1.32913
37	2.45398	2.81907	3.27722	6.85145	1.46120	1.70748	14.54605	1.34012
38	2.46006	2.82768	3.28785	6.90390	1.46889	1.71647	14.62262	1.35020
39	2.46608	2.83589	3.29827	6.95634	1.47872	1.72795	14.72046	1.35948
40	2.47208	2.84379	3.30854	7.00879	1.49073	1.74199	14.84005	1.36809
41	2.47808	2.85143	3.31875	7.06124	1.50498	1.75863	14.98184	1.37617
42	2.48411	2.85889	3.32900	7.11369	1.52152	1.77796	15.14648	1.38388
43	2.49022	2.86622	3.33938	7.16613	1.54043	1.80006	15.33472	1.39142
44	2.49642	2.87353	3.35000	7.21858	1.56178	1.82502	15.54733	1.39899
45	2.50278	2.88087	3.36095	7.27102	1.58569	1.85295	15.78530	1.40684
46	2.50931	2.88835	3.37237	7.32348	1.61225	1.88398	16.04968	1.41521
47	2.51606	2.89606	3.38435	7.37592	1.64158	1.91826	16.34167	1.42438
48	2.52308	2.90409	3.39704	7.42837	1.67382	1.95593	16.66263	1.43466
49	2.62341	3.02222	3.54234	7.48082	1.70912	1.99718	17.01405	1.48137
50	2.72374	3.14035	3.68765	7.53326	1.74765	2.04220	17.39754	1.52809
51	2.82408	3.25848	3.83295	7.58571	1.78958	2.09120	17.81494	1.57480
52	2.92441	3.37662	3.97826	7.63816	1.83512	2.14442	18.26831	1.62152
53	3.02474	3.49475	4.12356	7.69060	1.88449	2.20211	18.75983	1.66823
54	3.12508	3.61289	4.26887	7.74304	1.93795	2.26458	19.29193	1.71495
55	3.22541	3.73102	4.41418	7.79550	1.99575	2.33212	19.86736	1.76167
56	3.32575	3.84916	4.55948	7.84794	2.05820	2.40509	20.48895	1.80838
57	3.42607	3.96729	4.70479	7.90039	2.12561	2.48387	21.16008	1.85510
58	3.52641	4.08542	4.85009	7.95283	2.19836	2.56888	21.88423	1.90182
59	3.62674	4.20355	4.99540	8.00528	2.27682	2.66056	22.66531	1.94853
60	3.72707	4.32168	5.14070	8.05773	2.36143	2.75944	23.50771	1.99525
61	3.82741	4.43982	5.28601	8.11018	2.45268	2.86606	24.41594	2.04196
62	3.92774	4.55795	5.43132	8.16262	2.55106	2.98103	25.39536	2.08868
63	4.02808	4.67609	5.57662	8.21507	2.65716	3.10501	26.45157	2.13539
64	4.12841	4.79422	5.72193	8.26752	2.77162	3.23876	27.59091	2.18211
65	4.22874	4.91235	5.86723	8.31997	2.89510	3.38305	28.82021	2.22883

**Table A-4-37**  
**El Paso 1996 Summer Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	8.83396	10.87212	17.25403	18.97498	1.70093	2.40350	5.69445	14.08075
4	6.56119	8.14838	12.89870	15.73942	1.61487	2.28189	5.40634	11.87424
5	5.26154	6.55954	10.30422	13.72514	1.53451	2.16835	5.13732	10.24000
6	4.42183	5.51946	8.58303	12.25611	1.45944	2.06226	4.88599	9.00649
7	3.83562	4.78766	7.36386	11.09095	1.38927	1.96310	4.65104	8.05933
8	3.44960	4.29479	6.52854	10.21811	1.32363	1.87035	4.43129	7.32061
9	3.15011	3.91051	5.88086	9.45463	1.26220	1.78355	4.22564	6.73618
10	2.90685	3.59804	5.36028	8.77206	1.20468	1.70227	4.03308	6.26766
11	2.70456	3.33805	4.93311	8.15911	1.15080	1.62613	3.85269	5.88737
12	2.53302	3.11742	4.57619	7.60674	1.10029	1.55477	3.68360	5.57504
13	2.38511	2.92697	4.27307	7.10748	1.05293	1.48784	3.52504	5.31559
14	2.25571	2.76008	4.01185	6.65509	1.00849	1.42505	3.37627	5.09759
15	2.14108	2.61185	3.78367	6.24422	0.96678	1.36611	3.23662	4.91235
16	2.03841	2.47861	3.58189	5.87029	0.92761	1.31076	3.10549	4.75313
17	1.94555	2.35756	3.40140	5.52931	0.89081	1.25876	2.98229	4.61468
18	1.86081	2.24652	3.23826	5.21782	0.85622	1.20988	2.86650	4.49285
19	1.78289	2.14377	3.08940	4.93276	0.82371	1.16393	2.75763	4.38439
20	1.70931	2.06045	2.96643	4.67599	0.79312	1.12071	2.65523	4.28670
21	1.64528	1.98767	2.85445	4.44740	0.76434	1.08005	2.55888	4.19773
22	1.58662	1.92079	2.75165	4.23811	0.73725	1.04178	2.46821	4.11586
23	1.53262	1.85903	2.65671	4.04625	0.71175	1.00574	2.38284	4.03982
24	1.48270	1.80174	2.56859	3.87016	0.68774	0.97181	2.30245	3.96861
25	1.43637	1.74838	2.48645	3.70838	0.66512	0.93985	2.22673	3.90148
26	1.39322	1.69855	2.40961	3.55958	0.64382	0.90974	2.15539	3.83788
27	1.35290	1.65188	2.33753	3.42259	0.62374	0.88138	2.08818	3.77738
28	1.31513	1.60808	2.26977	3.29635	0.60482	0.85464	2.02484	3.71972
29	1.27965	1.56692	2.20600	3.17992	0.58699	0.82945	1.96516	3.66471
30	1.24624	1.52819	2.14593	3.07244	0.57019	0.80571	1.90891	3.61223
31	1.21473	1.49172	2.08930	2.97317	0.55436	0.78334	1.85590	3.56227
32	1.18495	1.45736	2.03595	2.88141	0.53944	0.76226	1.80596	3.51480
33	1.15675	1.42498	1.98568	2.79654	0.52539	0.74240	1.75890	3.46987
34	1.13002	1.39446	1.93837	2.71801	0.51215	0.72369	1.71459	3.42751
35	1.10463	1.36570	1.89386	2.64531	0.49968	0.70608	1.67286	3.38780
36	1.08050	1.33859	1.85205	2.57799	0.48795	0.68950	1.63358	3.35078
37	1.05752	1.31304	1.81279	2.51565	0.47691	0.67390	1.59662	3.31650
38	1.03562	1.28897	1.77600	2.45791	0.46654	0.65924	1.56188	3.28498
39	1.01472	1.26629	1.74154	2.40444	0.45679	0.64546	1.52924	3.25626
40	0.99475	1.24492	1.70930	2.35495	0.44763	0.63253	1.49860	3.23030
41	0.97565	1.22477	1.67916	2.30914	0.43905	0.62040	1.46987	3.20712
42	0.95736	1.20577	1.65099	2.26679	0.43101	0.60904	1.44295	3.18660
43	0.93981	1.18783	1.62465	2.22767	0.42349	0.59841	1.41778	3.16860
44	0.92297	1.17087	1.60003	2.19158	0.41647	0.58849	1.39427	3.15305
45	0.90677	1.15479	1.57694	2.15833	0.40992	0.57924	1.37236	3.13970
46	0.89117	1.13950	1.55522	2.12777	0.40384	0.57064	1.35198	3.12831
47	0.87611	1.12491	1.53469	2.09975	0.39819	0.56266	1.33308	3.11855
48	0.86181	1.11098	1.51516	2.07414	0.39297	0.55529	1.31560	3.11002
49	0.84803	1.10916	1.51204	2.05088	0.38816	0.54849	1.29949	3.11002
50	0.85855	1.10743	1.50910	2.03001	0.38374	0.54225	1.28471	3.11002
51	0.85705	1.10580	1.50633	2.01142	0.37971	0.53655	1.27121	3.11002
52	0.85564	1.10425	1.50371	1.99502	0.37605	0.53138	1.25897	3.11002
53	0.85429	1.10279	1.50124	1.98072	0.37276	0.52673	1.24794	3.11002
54	0.85302	1.10140	1.49889	1.96846	0.36982	0.52257	1.23809	3.11002
55	0.85181	1.10008	1.49667	1.95818	0.36722	0.51891	1.22941	3.11002
56	0.88412	1.14976	1.57771	1.94983	0.36497	0.51572	1.22186	3.21876
57	0.91649	1.19951	1.65885	1.94338	0.36305	0.51300	1.21542	3.32751
58	0.94890	1.24931	1.74010	1.93879	0.36145	0.51075	1.21009	3.43626
59	0.98137	1.29916	1.82144	1.93604	0.36018	0.50896	1.20583	3.54500
60	1.01388	1.34907	1.90286	1.93514	0.35923	0.50761	1.20265	3.65375
61	1.04644	1.39902	1.98437	1.93607	0.35860	0.50672	1.20054	3.76249
62	1.07903	1.44901	2.06595	1.93885	0.35829	0.50628	1.19948	3.87124
63	1.11166	1.49905	2.14761	1.94350	0.35829	0.50628	1.19949	3.97999
64	1.14433	1.54912	2.22932	1.95004	0.35860	0.50672	1.20054	4.08873
65	1.17703	1.59923	2.31111	1.95851	0.35923	0.50762	1.20265	4.19748

**Table A-4-38**  
**El Paso 1996 Summer Time Period 1 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	80.25406	104.58652	152.83388	220.77815	5.47653	6.30152	39.29140	151.73120
4	61.65607	80.40222	117.73409	201.71559	5.04724	5.80757	36.21147	121.00894
5	50.37383	65.50882	95.35751	184.70470	4.66008	5.36208	33.43378	98.83479
6	42.80699	55.44574	79.93062	169.50104	4.31045	4.95978	30.92531	82.47202
7	37.38841	48.22224	68.73784	155.89125	3.99431	4.59603	28.65723	70.15134
8	33.32358	42.80768	60.30998	143.69005	3.70811	4.26670	26.60384	60.70078
9	30.16589	38.61310	53.77774	132.73552	3.44868	3.96820	24.74258	53.32710
10	27.64500	35.27727	48.59351	122.88617	3.21325	3.69730	23.05347	47.48166
11	25.58757	32.56647	44.39626	114.01831	2.99934	3.45117	21.51880	42.77821
12	23.87746	30.32292	40.93875	106.02335	2.80477	3.22729	20.12288	38.93959
13	22.43398	28.43643	38.04681	98.80612	2.62760	3.02343	18.85179	35.76381
14	21.19931	26.82773	35.59464	92.28282	2.46611	2.83761	17.69316	33.10138
15	20.13098	25.43854	33.48936	86.38026	2.31876	2.66806	16.63597	30.84027
16	19.19717	24.22502	31.66118	81.03313	2.18418	2.51321	15.67048	28.89548
17	18.37354	23.15375	30.05698	76.18459	2.06116	2.37166	14.78789	27.20186
18	17.64116	22.19891	28.63560	71.78380	1.94862	2.24216	13.98044	25.70915
19	16.98518	21.34026	27.36504	67.78615	1.84557	2.12360	13.24113	24.37828
20	16.30759	20.61172	26.31552	64.15222	1.75116	2.01496	12.56379	23.17882
21	15.60573	19.80771	25.23198	60.84676	1.66461	1.91537	11.94280	22.08694
22	14.96627	19.06993	24.24194	57.83868	1.58521	1.82401	11.37319	21.08421
23	14.38095	18.38934	23.33221	55.10042	1.51236	1.74018	10.85047	20.15614
24	13.84298	17.75871	22.49208	52.60744	1.44548	1.66323	10.37064	19.29160
25	13.34669	17.17224	21.71300	50.33789	1.38407	1.59257	9.93008	18.48221
26	12.88733	16.62524	20.98792	48.27232	1.32769	1.52770	9.52556	17.72137
27	12.46095	16.11397	20.31136	46.39343	1.27592	1.46813	9.15416	17.00435
28	12.06415	15.63536	19.67863	44.68587	1.22841	1.41346	8.81327	16.32745
29	11.69405	15.18684	19.08607	43.13599	1.18482	1.36330	8.50053	15.68822
30	11.34818	14.76630	18.53055	41.73155	1.14486	1.31732	8.21382	15.08482
31	11.02439	14.37197	18.00948	40.46173	1.10826	1.27521	7.95124	14.51574
32	10.72082	14.00224	17.52063	39.31697	1.07479	1.23669	7.71108	13.97998
33	10.43580	13.65573	17.06215	38.28876	1.04422	1.20152	7.49180	13.47710
34	10.16790	13.33121	16.63231	37.36957	1.01637	1.16948	7.29199	13.00607
35	9.91581	13.02751	16.22966	36.55275	0.99107	1.14037	7.11046	12.56670
36	9.67837	12.74353	15.85278	35.83253	0.96816	1.11401	6.94608	12.15797
37	9.45453	12.47827	15.50043	35.20387	0.94750	1.09023	6.79786	11.77971
38	9.24333	12.23076	15.17133	34.66241	0.92897	1.06891	6.66491	11.43075
39	9.04390	12.00002	14.86428	34.20445	0.91246	1.04992	6.54648	11.11031
40	8.85543	11.78513	14.57815	33.82690	0.89788	1.03314	6.44186	10.81738
41	8.67719	11.58515	14.31176	33.52716	0.88514	1.01848	6.35046	10.55078
42	8.50845	11.39910	14.06381	33.30325	0.87417	1.00586	6.27176	10.30883
43	8.34858	11.22602	13.83313	33.15376	0.86491	0.99520	6.20532	10.09004
44	8.19693	11.06486	13.61837	33.07759	0.85731	0.98646	6.15077	9.89221
45	8.05288	10.91447	13.41819	33.07430	0.85132	0.97957	6.10781	9.71330
46	7.91581	10.77354	13.23100	33.14381	0.84691	0.97449	6.07619	9.55071
47	7.78509	10.64065	13.05510	33.28664	0.84406	0.97122	6.05574	9.40125
48	7.66010	10.51419	12.88873	33.50371	0.84276	0.96971	6.04636	9.26177
49	7.66010	10.51419	12.88873	33.79648	0.84298	0.96997	6.04800	9.26177
50	7.66010	10.51419	12.88873	34.16689	0.84475	0.97200	6.06065	9.26177
51	7.66010	10.51419	12.88873	34.61739	0.84806	0.97581	6.08439	9.26177
52	7.66010	10.51419	12.88873	35.15115	0.85293	0.98142	6.11936	9.26177
53	7.66010	10.51419	12.88873	35.77167	0.85939	0.98886	6.16574	9.26177
54	7.66010	10.51419	12.88873	36.48338	0.86748	0.99816	6.22378	9.26177
55	7.66010	10.51419	12.88873	37.29112	0.87725	1.00940	6.29382	9.26177
56	8.76728	12.33221	15.36797	38.20081	0.88873	1.02261	6.37624	11.49227
57	9.87447	14.15022	17.84715	39.21877	0.90201	1.03789	6.47150	13.72278
58	10.98166	15.96822	20.32639	40.35258	0.91716	1.05532	6.58015	15.95328
59	12.08884	17.78621	22.80563	41.61066	0.93425	1.07499	6.70281	18.18378
60	13.19603	19.60423	25.28488	43.00241	0.95340	1.09702	6.84020	20.41428
61	14.30322	21.42221	27.76410	44.53859	0.97472	1.12155	6.99313	22.64476
62	15.41040	23.24020	30.24333	46.23126	0.99832	1.14871	7.16249	24.87524
63	16.51756	25.05824	32.72260	48.09395	1.02436	1.17867	7.34931	27.10576
64	17.62473	26.87625	35.20178	50.14194	1.05300	1.21162	7.55476	29.33624
65	18.73192	28.69424	37.68105	52.39203	1.08440	1.24776	7.78009	31.56676

**Table A-4-39**  
**El Paso 1996 Summer Time Period 1 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGV	LDDV	LDDT	HDDV	MC
3	2.28906	2.53085	2.88385	4.56874	2.82175	3.24855	25.92682	0.90848
4	2.10597	2.33072	2.69233	4.61601	2.70291	3.11173	24.83485	0.86895
5	1.99484	2.20973	2.57807	4.66329	2.59275	2.98491	23.82268	0.83614
6	1.91991	2.12881	2.50287	4.71057	2.49061	2.86732	22.88422	0.80955
7	1.86581	2.07117	2.45032	4.75785	2.39590	2.75828	22.01398	0.78867
8	1.82486	2.02833	2.41214	4.80513	2.30806	2.65716	21.20694	0.77302
9	1.79279	1.99559	2.38372	4.85240	2.22661	2.56338	20.45851	0.76215
10	1.76700	1.97007	2.36225	4.89968	2.15107	2.47643	19.76454	0.75560
11	1.74584	1.94993	2.34591	4.94696	2.08106	2.39582	19.12123	0.75296
12	1.72822	1.93390	2.33349	4.99424	2.01619	2.32114	18.52516	0.75382
13	1.71334	1.92111	2.32411	5.04151	1.95611	2.25197	17.97314	0.75778
14	1.70067	1.91089	2.31714	5.08879	1.90052	2.18798	17.46240	0.76449
15	1.68977	1.90275	2.31208	5.13607	1.84913	2.12882	16.99025	0.77357
16	1.68035	1.89632	2.30857	5.18335	1.80170	2.07420	16.55437	0.78471
17	1.67214	1.89128	2.30632	5.23062	1.75797	2.02386	16.15257	0.79758
18	1.66498	1.88741	2.30510	5.27790	1.71774	1.97755	15.78295	0.81189
19	1.65869	1.88449	2.30471	5.32518	1.68081	1.93504	15.44368	0.82735
20	1.65969	1.88592	2.30885	5.37246	1.64702	1.89613	15.13319	0.84370
21	1.66904	1.90108	2.32655	5.41973	1.61620	1.86065	14.85002	0.86071
22	1.67765	1.91526	2.34315	5.46701	1.58821	1.82843	14.59283	0.87813
23	1.68563	1.92856	2.35875	5.51429	1.56292	1.79932	14.36050	0.89577
24	1.69306	1.94106	2.37344	5.56157	1.54022	1.77318	14.15193	0.91344
25	1.70000	1.95282	2.38731	5.60884	1.52001	1.74991	13.96620	0.93095
26	1.70652	1.96389	2.40041	5.65612	1.50220	1.72940	13.80252	0.94817
27	1.71266	1.97433	2.41281	5.70340	1.48670	1.71156	13.66012	0.96495
28	1.71846	1.98416	2.42455	5.75068	1.47345	1.69631	13.53840	0.98118
29	1.72396	1.99343	2.43569	5.79796	1.46240	1.68359	13.43685	0.99675
30	1.72919	2.00218	2.44627	5.84523	1.45349	1.67333	13.35500	1.01159
31	1.73418	2.01043	2.45634	5.89251	1.44669	1.66550	13.29250	1.02563
32	1.73896	2.01821	2.46594	5.93979	1.44197	1.66006	13.24912	1.03883
33	1.74354	2.02555	2.47512	5.98707	1.43930	1.65700	13.22463	1.05116
34	1.74797	2.03249	2.48392	6.03434	1.43868	1.65628	13.21894	1.06261
35	1.75224	2.03905	2.49238	6.08162	1.44011	1.65793	13.23204	1.07320
36	1.75639	2.04526	2.50056	6.12890	1.44358	1.66193	13.26396	1.08294
37	1.76044	2.05117	2.50850	6.17617	1.44912	1.66830	13.31487	1.09189
38	1.76440	2.05680	2.51627	6.22346	1.45675	1.67708	13.38495	1.10010
39	1.76829	2.06220	2.52390	6.27073	1.46650	1.68831	13.47451	1.10767
40	1.77214	2.06740	2.53147	6.31801	1.47841	1.70202	13.58398	1.11468
41	1.77597	2.07244	2.53903	6.36529	1.49254	1.71829	13.71376	1.12126
42	1.77978	2.07737	2.54664	6.41257	1.50894	1.73717	13.86448	1.12755
43	1.78361	2.08224	2.55438	6.45984	1.52769	1.75875	14.03678	1.13369
44	1.78747	2.08710	2.56231	6.50712	1.54887	1.78314	14.23139	1.13986
45	1.79139	2.09199	2.57050	6.55440	1.57258	1.81043	14.44922	1.14625
46	1.79539	2.09698	2.57905	6.60168	1.59892	1.84076	14.69122	1.15307
47	1.79949	2.10213	2.58802	6.64895	1.62801	1.87425	14.95851	1.16054
48	1.80371	2.10749	2.59750	6.69623	1.65998	1.91106	15.25230	1.16892
49	1.80794	2.11285	2.60698	6.74351	1.69499	1.95136	15.57397	1.17739
50	1.81226	2.11821	2.61646	6.79079	1.73320	1.99535	15.92501	1.18596
51	2.01003	2.36219	2.92699	6.83806	1.77478	2.04322	16.30707	1.28311
52	2.07880	2.44709	3.03682	6.88535	1.81995	2.09522	16.72209	1.32117
53	2.14757	2.53199	3.14665	6.93262	1.86891	2.15159	17.17198	1.35923
54	2.21635	2.61689	3.25648	6.97989	1.92193	2.21262	17.65904	1.39730
55	2.28512	2.70179	3.36631	7.02717	1.97925	2.27862	18.18578	1.43536
56	2.35389	2.78669	3.47614	7.07445	2.04118	2.34991	18.75478	1.47342
57	2.42266	2.87159	3.58597	7.12173	2.10804	2.42688	19.36909	1.51148
58	2.49144	2.95649	3.69580	7.16900	2.18018	2.50994	20.03194	1.54955
59	2.56021	3.04139	3.80563	7.21629	2.25800	2.59952	20.74693	1.58761
60	2.62898	3.12629	3.91547	7.26356	2.34191	2.69613	21.51799	1.62567
61	2.69775	3.21119	4.02529	7.31084	2.43240	2.80031	22.34937	1.66373
62	2.76653	3.29609	4.13512	7.35812	2.52997	2.91263	23.24586	1.70180
63	2.83530	3.38099	4.24495	7.40540	2.63520	3.03378	24.21272	1.73986
64	2.90407	3.46588	4.35478	7.45267	2.74870	3.16445	25.25560	1.77792
65	2.97284	3.55078	4.46461	7.49995	2.87117	3.30544	26.38083	1.81598

**Table A-4-40**  
**El Paso 1996 Summer Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	12.06977	13.63200	21.74982	28.34518	1.70093	2.40350	5.69445	16.10608
4	8.68892	9.90307	15.61056	22.07945	1.61487	2.28189	5.40634	13.92576
5	6.82932	7.82218	12.17145	18.58501	1.53451	2.16835	5.13732	12.31090
6	5.66002	6.50042	9.98121	16.25957	1.45944	2.06226	4.88599	11.09202
7	4.85990	5.59047	8.47299	14.54057	1.38927	1.96310	4.65104	10.15610
8	4.37924	5.01417	7.51426	13.40806	1.32363	1.87035	4.43129	9.42614
9	4.00659	4.57034	6.77930	12.44286	1.26220	1.78355	4.22564	8.84865
10	3.69978	4.21146	6.18981	11.58771	1.20468	1.70227	4.03308	8.38568
11	3.44096	3.91467	5.70710	10.82457	1.15080	1.62613	3.85269	8.00991
12	3.21813	3.66445	5.30465	10.13971	1.10029	1.55477	3.68360	7.70128
13	3.02296	3.44992	4.96373	9.52230	1.05293	1.48784	3.52504	7.44490
14	2.86947	3.26324	4.67076	8.96360	1.00849	1.42505	3.37627	7.22949
15	2.69327	3.09861	4.41570	8.45629	0.96678	1.36611	3.23662	7.04644
16	2.55107	2.95170	4.19099	7.99432	0.92761	1.31076	3.10549	6.88912
17	2.42035	2.81918	3.99083	7.57251	0.89081	1.25876	2.98229	6.75231
18	2.29914	2.69846	3.81075	7.18638	0.85622	1.20988	2.86650	6.63192
19	2.18591	2.58753	3.64723	6.83211	0.82371	1.16393	2.75763	6.52475
20	2.08692	2.49537	3.51073	6.51728	0.79312	1.12071	2.65523	6.42822
21	2.01171	2.40998	3.38186	6.24443	0.76434	1.08005	2.55888	6.34031
22	1.94259	2.33137	3.26361	5.99457	0.73725	1.04178	2.46821	6.25941
23	1.87876	2.25865	3.15447	5.76543	0.71175	1.00574	2.38284	6.18427
24	1.81956	2.19106	3.05324	5.55500	0.68774	0.97181	2.30245	6.11390
25	1.76443	2.12801	2.95894	5.36149	0.66512	0.93985	2.22673	6.04757
26	1.71291	2.06901	2.87079	5.18332	0.64382	0.90974	2.15539	5.98472
27	1.66461	2.01365	2.78816	5.01909	0.62374	0.88138	2.08818	5.92495
28	1.61919	1.96162	2.71053	4.86753	0.60482	0.85464	2.02484	5.86796
29	1.57638	1.91264	2.63748	4.72752	0.58699	0.82945	1.96516	5.81360
30	1.53594	1.86648	2.56866	4.59805	0.57019	0.80571	1.90891	5.76175
31	1.49764	1.82295	2.50379	4.47821	0.55436	0.78334	1.85590	5.71238
32	1.46131	1.78188	2.44262	4.36720	0.53944	0.76226	1.80596	5.66547
33	1.42679	1.74311	2.38494	4.26430	0.52539	0.74240	1.75890	5.62108
34	1.39394	1.70653	2.33057	4.16882	0.51215	0.72369	1.71459	5.57922
35	1.36262	1.67200	2.27935	4.08019	0.49968	0.70608	1.67286	5.53998
36	1.33272	1.63942	2.23111	3.99787	0.48795	0.68950	1.63358	5.50341
37	1.30415	1.60867	2.18571	3.92139	0.47691	0.67390	1.59662	5.46953
38	1.27680	1.57967	2.14302	3.85030	0.46654	0.65924	1.56188	5.43838
39	1.25060	1.55229	2.10290	3.78421	0.45679	0.64546	1.52924	5.41000
40	1.22546	1.52646	2.06522	3.72278	0.44763	0.63253	1.49860	5.38436
41	1.20131	1.50208	2.02983	3.66568	0.43905	0.62040	1.46987	5.36144
42	1.17808	1.47905	1.99661	3.61262	0.43101	0.60904	1.44295	5.34116
43	1.15571	1.45727	1.96538	3.56333	0.42349	0.59841	1.41778	5.32338
44	1.13414	1.43664	1.93603	3.51759	0.41647	0.58849	1.39427	5.30801
45	1.11330	1.41705	1.90837	3.47518	0.40992	0.57924	1.37236	5.29483
46	1.09313	1.39839	1.88221	3.43591	0.40384	0.57064	1.35198	5.28357
47	1.07359	1.38053	1.85739	3.39962	0.39819	0.56266	1.33308	5.27393
48	1.05506	1.36346	1.83360	3.36599	0.39297	0.55529	1.31560	5.26550
49	1.05147	1.35949	1.82648	3.33406	0.38816	0.54849	1.29949	5.26550
50	1.04808	1.35575	1.81977	3.30513	0.38374	0.54225	1.28471	5.26550
51	1.04488	1.35222	1.81344	3.27908	0.37971	0.53655	1.27121	5.26550
52	1.04186	1.34888	1.80748	3.25576	0.37605	0.53138	1.25897	5.26550
53	1.03900	1.34573	1.80184	3.23506	0.37276	0.52673	1.24794	5.26550
54	1.03630	1.34274	1.79651	3.21689	0.36982	0.52257	1.23809	5.26550
55	1.03373	1.33991	1.79146	3.20117	0.36722	0.51891	1.22941	5.26550
56	1.06702	1.39331	1.87425	3.18781	0.36497	0.51572	1.22186	5.37295
57	1.10043	1.44684	1.95729	3.17677	0.36305	0.51300	1.21542	5.48041
58	1.13396	1.50050	2.04056	3.16800	0.36145	0.51075	1.21009	5.58786
59	1.16759	1.55427	2.12404	3.16147	0.36018	0.50896	1.20583	5.69532
60	1.20132	1.60816	2.20772	3.15714	0.35923	0.50761	1.20265	5.80278
61	1.23515	1.66215	2.29159	3.15502	0.35860	0.50672	1.20054	5.91023
62	1.26906	1.71624	2.37563	3.15510	0.35829	0.50628	1.19948	6.01769
63	1.30306	1.77042	2.45984	3.15739	0.35829	0.50628	1.19949	6.12514
64	1.33713	1.82468	2.54420	3.16191	0.35860	0.50672	1.20054	6.23260
65	1.37128	1.87903	2.62871	3.16871	0.35923	0.50762	1.20265	6.34006



**Table A-4-1**  
**El Paso 1996 Summer Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	90.22404	121.80792	181.69545	298.34668	5.47653	6.30152	39.29140	194.96100
4	69.21217	93.67691	139.79395	272.58716	5.04724	5.80757	36.21147	155.48564
5	56.42767	76.22096	113.01599	249.59996	4.66008	5.36208	33.43378	126.99384
6	47.84012	64.38353	94.53484	229.05470	4.31045	4.95978	30.92531	105.96919
7	41.68715	55.87686	81.12215	210.66315	3.99431	4.59603	28.65723	90.13820
8	37.07167	49.50343	71.02435	194.17514	3.70811	4.26670	26.60384	77.99509
9	33.48785	44.57314	63.20108	179.37173	3.44868	3.96820	24.74258	68.52055
10	30.62868	40.66002	56.99573	166.06186	3.21325	3.69730	23.05347	61.00967
11	28.29697	37.48717	51.97479	154.07834	2.99934	3.45117	21.51880	54.96617
12	26.36038	34.86700	47.84129	143.27434	2.80477	3.22729	20.12288	50.03391
13	24.72690	32.66820	44.38594	133.52138	2.62760	3.02343	18.85179	45.95329
14	23.33054	30.79610	41.45737	124.70615	2.46611	2.83761	17.69316	42.53229
15	22.12279	29.18103	38.94403	116.72975	2.31876	2.66806	16.63597	39.62697
16	21.06731	27.77061	36.76199	109.50389	2.18418	2.51321	15.67048	37.12807
17	20.13632	26.52484	34.84746	102.95181	2.06116	2.37166	14.78789	34.95193
18	19.30826	25.41292	33.15103	97.00484	1.94862	2.24216	13.98044	33.03395
19	18.56615	24.41081	31.63423	91.60263	1.84557	2.12360	13.24113	31.32391
20	17.81216	23.57417	30.40742	86.69196	1.75116	2.01496	12.56379	29.78271
21	17.04295	22.66379	29.15475	82.22511	1.66461	1.91537	11.94280	28.37976
22	16.34142	21.82503	28.00937	78.16019	1.58521	1.82401	11.37319	27.09132
23	15.69856	21.04784	26.95601	74.45984	1.51236	1.74018	10.85047	25.89883
24	15.10700	20.32445	25.98233	71.09096	1.44548	1.66323	10.37064	24.78796
25	14.56060	19.64876	25.07857	68.02397	1.38407	1.59257	9.93008	23.74796
26	14.05429	19.01596	24.23676	65.23268	1.32769	1.52770	9.52556	22.77036
27	13.58382	18.42230	23.45058	62.69368	1.27592	1.46813	9.15416	21.84903
28	13.14559	17.86484	22.71486	60.38609	1.22841	1.41346	8.81327	20.97928
29	12.73655	17.34113	22.02545	58.29173	1.18482	1.36330	8.50053	20.15794
30	12.35408	16.84927	21.37889	56.39381	1.14486	1.31732	8.21382	19.38261
31	11.99594	16.38770	20.77229	54.67786	1.10826	1.27521	7.95124	18.65141
32	11.66015	15.95490	20.20325	53.13092	1.07479	1.23669	7.71108	17.96301
33	11.34497	15.54968	19.66969	51.74142	1.04422	1.20152	7.49180	17.31686
34	11.04889	15.17087	19.16974	50.49930	1.01637	1.16948	7.29199	16.71162
35	10.77051	14.81739	18.70178	49.39548	0.99107	1.14037	7.11046	16.16708
36	10.50860	14.48813	18.26419	48.42216	0.96816	1.11401	6.94608	15.62190
37	10.26205	14.18208	17.85562	47.57266	0.94750	1.09023	6.79786	15.13588
38	10.02982	13.89821	17.47467	46.84102	0.92897	1.06891	6.66491	14.68750
39	9.81095	13.63544	17.11984	46.22212	0.91246	1.04992	6.54648	14.27576
40	9.60457	13.39271	16.78993	45.71187	0.89788	1.03314	6.44186	13.89937
41	9.40986	13.16893	16.48352	45.30685	0.88514	1.01848	6.35046	13.55681
42	9.22600	12.96286	16.19904	45.00427	0.87417	1.00586	6.27176	13.24592
43	9.05227	12.77328	15.93515	44.80226	0.86491	0.99520	6.20532	12.96480
44	8.88790	12.59878	15.69016	44.69933	0.85731	0.98646	6.15077	12.71060
45	8.73217	12.43779	15.46246	44.69490	0.85132	0.97957	6.10781	12.48072
46	8.58430	12.28843	15.25010	44.78879	0.84691	0.97449	6.07619	12.27180
47	8.44352	12.14866	15.05096	44.98181	0.84406	0.97122	6.05574	12.07976
48	8.30901	12.01607	14.86286	45.27515	0.84276	0.96971	6.04636	11.90055
49	8.30901	12.01607	14.86286	45.67081	0.84298	0.96997	6.04800	11.90055
50	8.30901	12.01607	14.86286	46.17131	0.84475	0.97200	6.06065	11.90055
51	8.30901	12.01607	14.86286	46.78014	0.84806	0.97581	6.08439	11.90055
52	8.30901	12.01607	14.86286	47.50139	0.85293	0.98142	6.11936	11.90055
53	8.30901	12.01607	14.86286	48.33992	0.85939	0.98886	6.16574	11.90055
54	8.30901	12.01607	14.86286	49.30173	0.86748	0.99816	6.22378	11.90055
55	8.30901	12.01607	14.86286	50.39334	0.87725	1.00940	6.29382	11.90055
56	9.57024	14.19943	17.82407	51.62253	0.88873	1.02261	6.37624	14.76654
57	10.83147	16.38277	20.78528	52.99820	0.90201	1.03789	6.47150	17.63254
58	12.09271	18.56610	23.74657	54.53041	0.91716	1.05532	6.58015	20.49852
59	13.35394	20.74945	26.70786	56.23045	0.93425	1.07499	6.70281	23.36450
60	14.61518	22.93282	29.66910	58.11118	0.95340	1.09702	6.84020	26.23047
61	15.87639	25.11613	32.63036	60.18713	0.97472	1.12155	6.99313	29.09648
62	17.13763	27.29947	35.59160	62.47452	0.99832	1.14871	7.16249	31.96246
63	18.39883	29.48286	38.55290	64.99168	1.02436	1.17867	7.34931	34.82846
64	19.66005	31.66621	41.51411	67.75917	1.05300	1.21162	7.55476	37.69446
65	20.92128	33.84956	44.47539	70.79982	1.08440	1.24776	7.78009	40.56042

**Table A-4-42**  
**El Paso 1996 Summer Time Period 2 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	H0GV	LDDV	LDDT	HDDV	MC
3	2.27325	2.49529	2.73451	4.33415	2.82175	3.24855	25.92682	0.80643
4	2.08811	2.29500	2.54392	4.37900	2.70291	3.11173	24.83485	0.77133
5	1.97609	2.17411	2.43015	4.42385	2.59275	2.98491	23.82268	0.74221
6	1.90079	2.09334	2.35511	4.46870	2.49061	2.86732	22.88422	0.71861
7	1.84662	2.03582	2.30247	4.51355	2.39590	2.75828	22.01398	0.70007
8	1.80574	1.99306	2.26400	4.55840	2.30806	2.65716	21.20694	0.68618
9	1.77580	1.96033	2.23512	4.60325	2.22661	2.56338	20.45851	0.67653
10	1.74820	1.93476	2.21303	4.64810	2.15107	2.47643	19.76454	0.67072
11	1.72723	1.91449	2.19596	4.69295	2.08106	2.39582	19.12123	0.66838
12	1.70980	1.89828	2.18269	4.73780	2.01619	2.32114	18.52516	0.66914
13	1.69511	1.88524	2.17236	4.78265	1.95611	2.25197	17.97314	0.67266
14	1.68260	1.87472	2.16437	4.82750	1.90052	2.18798	17.46240	0.67861
15	1.67185	1.86624	2.15823	4.87235	1.84913	2.12882	16.99025	0.68667
16	1.66255	1.85943	2.15360	4.91720	1.80170	2.07420	16.55437	0.69656
17	1.65445	1.85398	2.15018	4.96205	1.75797	2.02386	16.15257	0.70799
18	1.64737	1.84967	2.14777	5.00690	1.71774	1.97755	15.78295	0.72069
19	1.64114	1.84628	2.14616	5.05175	1.68081	1.93504	15.44368	0.73441
20	1.64230	1.84703	2.14874	5.09660	1.64702	1.89613	15.13319	0.74893
21	1.65192	1.86157	2.16484	5.14145	1.61620	1.86065	14.85002	0.76402
22	1.66076	1.87513	2.17987	5.18630	1.58821	1.82843	14.59283	0.77949
23	1.66893	1.88781	2.19395	5.23115	1.56292	1.79932	14.36050	0.79514
24	1.67651	1.89970	2.20717	5.27600	1.54022	1.77318	14.15193	0.81082
25	1.68357	1.91087	2.21960	5.32085	1.52001	1.74991	13.96620	0.82637
26	1.69017	1.92136	2.23131	5.36570	1.50220	1.72940	13.80252	0.84166
27	1.69637	1.93123	2.24237	5.41055	1.48670	1.71156	13.66012	0.85655
28	1.70220	1.94051	2.25281	5.45540	1.47345	1.69631	13.53840	0.87096
29	1.70770	1.94925	2.26270	5.50025	1.46240	1.68359	13.43685	0.88478
30	1.71290	1.95748	2.27206	5.54510	1.45349	1.67333	13.35500	0.89795
31	1.71784	1.96523	2.28095	5.58995	1.44669	1.66550	13.29250	0.91042
32	1.72255	1.97253	2.28941	5.63480	1.44197	1.66006	13.24912	0.92213
33	1.72704	1.97941	2.29747	5.67965	1.43930	1.65700	13.22463	0.93308
34	1.73134	1.98589	2.30518	5.72450	1.43868	1.65628	13.21894	0.94325
35	1.73547	1.99202	2.31258	5.76935	1.44011	1.65793	13.23204	0.95264
36	1.73945	1.99781	2.31971	5.81420	1.44358	1.66193	13.26396	0.96129
37	1.74329	2.00330	2.32660	5.85905	1.44912	1.66830	13.31487	0.96923
38	1.74703	2.00852	2.33332	5.90390	1.45675	1.67708	13.38495	0.97652
39	1.75067	2.01351	2.33989	5.94875	1.46650	1.68831	13.47451	0.98324
40	1.75424	2.01830	2.34638	5.99360	1.47841	1.70202	13.58398	0.98946
41	1.75775	2.02293	2.35282	6.03845	1.49254	1.71829	13.71376	0.99531
42	1.76121	2.02744	2.35928	6.08330	1.50894	1.73717	13.86448	1.00088
43	1.76466	2.03187	2.36581	6.12815	1.52769	1.75875	14.03678	1.00634
44	1.76811	2.03626	2.37246	6.17300	1.54887	1.78314	14.23139	1.01181
45	1.77157	2.04067	2.37930	6.21785	1.57258	1.81043	14.44922	1.01749
46	1.77507	2.04514	2.38638	6.26270	1.59892	1.84076	14.69122	1.02354
47	1.77862	2.04972	2.39378	6.30755	1.62801	1.87425	14.95851	1.03018
48	1.78225	2.05446	2.40156	6.35240	1.65998	1.91106	15.25230	1.03761
49	1.84972	2.13709	2.50243	6.39725	1.69499	1.95136	15.57397	1.07140
50	1.91719	2.21972	2.60329	6.44210	1.73320	1.99535	15.92501	1.10518
51	1.98467	2.30235	2.70416	6.48695	1.77478	2.04322	16.30707	1.13897
52	2.05214	2.38498	2.80502	6.53180	1.81995	2.09522	16.72209	1.17276
53	2.11961	2.46760	2.90589	6.57665	1.86891	2.15159	17.17198	1.20654
54	2.18709	2.55023	3.00676	6.62150	1.92193	2.21262	17.65904	1.24033
55	2.25456	2.63286	3.10763	6.66635	1.97925	2.27862	18.18578	1.27412
56	2.32203	2.71549	3.20849	6.71120	2.04118	2.34991	18.75478	1.30790
57	2.38951	2.79812	3.30936	6.75605	2.10804	2.42688	19.36909	1.34169
58	2.45698	2.88075	3.41022	6.80090	2.18018	2.50994	20.03194	1.37548
59	2.52446	2.96338	3.51109	6.84575	2.25800	2.59952	20.74693	1.40926
60	2.59193	3.04601	3.61195	6.89060	2.34191	2.69613	21.51799	1.44305
61	2.65940	3.12864	3.71282	6.93545	2.43240	2.80031	22.34937	1.47684
62	2.72688	3.21127	3.81369	6.98030	2.52997	2.91263	23.24586	1.51062
63	2.79435	3.29389	3.91456	7.02516	2.63520	3.03378	24.21272	1.54441
64	2.86182	3.37652	4.01542	7.07000	2.74870	3.16445	25.25560	1.57820
65	2.92930	3.45915	4.11629	7.11485	2.87117	3.30544	26.38083	1.61199

**Table A-4-43**  
**El Paso 1996 Summer Time Period 3 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	HC
3	12.46333	14.01375	22.38278	29.56750	1.70093	2.40350	5.69445	16.32204
4	8.94098	10.14341	15.99168	22.88744	1.61487	2.28189	5.40634	14.14295
5	7.01128	7.99346	12.43309	19.19292	1.53451	2.16835	5.13732	12.52901
6	5.80145	6.63226	10.17639	16.75316	1.45944	2.06226	4.88599	11.31081
7	4.97539	5.69740	8.62714	14.96112	1.38927	1.96310	4.65104	10.37542
8	4.48336	5.10985	7.65112	13.79525	1.32363	1.87035	4.43129	9.64588
9	4.10211	4.65806	6.90394	12.80449	1.26220	1.78355	4.22564	9.06871
10	3.78802	4.29300	6.30483	11.92773	1.20468	1.70227	4.03308	8.60601
11	3.52285	3.99130	5.81437	11.14600	1.15080	1.62613	3.85269	8.23045
12	3.29439	3.73715	5.40558	10.44488	1.10029	1.55477	3.68360	7.92200
13	3.09413	3.51943	5.05940	9.81311	1.05293	1.48784	3.52504	7.66576
14	2.91599	3.33014	4.76203	9.24156	1.00849	1.42505	3.37627	7.45047
15	2.75548	3.16336	4.50324	8.72274	0.96678	1.36611	3.23662	7.27533
16	2.60924	3.01467	4.27536	8.25034	0.92761	1.31076	3.10549	7.11029
17	2.47471	2.88065	4.07248	7.81903	0.89081	1.25876	2.98229	6.97356
18	2.34988	2.75869	3.89006	7.42421	0.85622	1.20988	2.86650	6.85324
19	2.23318	2.64672	3.72453	7.06192	0.82371	1.16393	2.75763	6.74613
20	2.13159	2.55335	3.58609	6.74022	0.79312	1.12071	2.65523	6.64965
21	2.05498	2.46612	3.45475	6.46182	0.76434	1.08005	2.55888	6.56179
22	1.98457	2.38581	3.33422	6.20688	0.73725	1.04178	2.46821	6.48094
23	1.91953	2.31149	3.22298	5.97307	0.71175	1.00574	2.38284	6.40584
24	1.85919	2.24239	3.11980	5.75834	0.68774	0.97181	2.30245	6.33551
25	1.80299	2.17790	3.02369	5.56087	0.66512	0.93985	2.22673	6.26922
26	1.75045	2.11754	2.93385	5.37904	0.64382	0.90974	2.15539	6.20641
27	1.70119	2.06089	2.84963	5.21142	0.62374	0.88138	2.08818	6.14667
28	1.65486	2.00763	2.77050	5.05671	0.60482	0.85464	2.02484	6.08972
29	1.61118	1.95747	2.69604	4.91377	0.58699	0.82945	1.96516	6.03539
30	1.56991	1.91019	2.62589	4.78157	0.57019	0.80571	1.90891	5.98357
31	1.53081	1.86559	2.55974	4.65918	0.55436	0.78334	1.85590	5.93422
32	1.49372	1.82349	2.49737	4.54579	0.53944	0.76226	1.80596	5.88734
33	1.45846	1.78374	2.43854	4.44064	0.52539	0.74240	1.75890	5.84297
34	1.42490	1.74622	2.38307	4.34308	0.51215	0.72369	1.71459	5.80114
35	1.39290	1.71079	2.33079	4.25248	0.49968	0.70608	1.67286	5.76192
36	1.36235	1.67734	2.28154	4.16831	0.48795	0.68950	1.63358	5.72536
37	1.33314	1.64577	2.23517	4.09008	0.47691	0.67390	1.59662	5.69150
38	1.30518	1.61596	2.19154	4.01735	0.46654	0.65924	1.56188	5.66038
39	1.27837	1.58783	2.15052	3.94972	0.45679	0.64546	1.52924	5.63201
40	1.25265	1.56127	2.11196	3.88682	0.44763	0.63253	1.49860	5.60638
41	1.22794	1.53619	2.07574	3.82833	0.43905	0.62040	1.46987	5.58348
42	1.20416	1.51248	2.04169	3.77396	0.43101	0.60904	1.44295	5.56322
43	1.18126	1.49005	2.00968	3.72344	0.42349	0.59841	1.41778	5.54544
44	1.15916	1.46880	1.97956	3.67652	0.41647	0.58849	1.39427	5.53008
45	1.13782	1.44860	1.95115	3.63299	0.40992	0.57924	1.37236	5.51690
46	1.11716	1.42935	1.92427	3.59267	0.40384	0.57064	1.35198	5.50566
47	1.09713	1.41092	1.89873	3.55536	0.39819	0.56266	1.33308	5.49602
48	1.07813	1.39330	1.87426	3.52076	0.39297	0.55529	1.31560	5.48759
49	1.07427	1.38904	1.86657	3.48765	0.38816	0.54849	1.29949	5.48759
50	1.07063	1.38501	1.85933	3.45764	0.38374	0.54225	1.28471	5.48759
51	1.06720	1.38122	1.85251	3.43057	0.37971	0.53655	1.27121	5.48759
52	1.06395	1.37763	1.84608	3.40631	0.37605	0.53138	1.25897	5.48759
53	1.06089	1.37424	1.84000	3.38475	0.37276	0.52673	1.24794	5.48759
54	1.05798	1.37103	1.83425	3.36577	0.36982	0.52257	1.23809	5.48759
55	1.05523	1.36799	1.82880	3.34930	0.36722	0.51891	1.22941	5.48759
56	1.08863	1.42185	1.91183	3.33526	0.36497	0.51572	1.22186	5.59498
57	1.12216	1.47586	1.99512	3.32358	0.36305	0.51300	1.21542	5.70238
58	1.15581	1.53000	2.07866	3.31423	0.36145	0.51075	1.21009	5.80978
59	1.18958	1.58427	2.16243	3.30716	0.36018	0.50896	1.20583	5.91717
60	1.22345	1.63866	2.24642	3.30235	0.35923	0.50761	1.20265	6.02457
61	1.25743	1.69316	2.33061	3.29979	0.35860	0.50672	1.20054	6.13196
62	1.29150	1.74776	2.41498	3.29948	0.35829	0.50628	1.19948	6.23935
63	1.32565	1.80246	2.49954	3.30142	0.35829	0.50628	1.19949	6.34675
64	1.35989	1.85726	2.58426	3.30564	0.35860	0.50672	1.20054	6.45415
65	1.39421	1.91214	2.66913	3.31217	0.35923	0.50762	1.20265	6.56154

**Table A-4-44**  
**El Paso 1996 Summer Time Period 3 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	91.69049	124.39040	185.82924	307.90991	5.47653	6.30152	39.29140	200.46814
4	70.32265	95.66312	142.94728	281.32422	5.04724	5.80757	36.21147	159.87773
5	57.31749	77.82272	115.53938	257.60010	4.66008	5.36208	33.43378	130.58105
6	48.58032	65.71991	96.62259	236.39667	4.31045	4.95978	30.92531	108.96252
7	42.31981	57.02161	82.89362	217.41563	3.99431	4.59603	28.65723	92.68436
8	37.62372	50.50500	72.55792	200.39912	3.70811	4.26670	26.60384	80.19824
9	33.97748	45.46478	64.55054	185.12128	3.44868	3.96820	24.74258	70.45609
10	31.06874	41.46530	58.19939	171.38474	3.21325	3.69730	23.05347	62.73303
11	28.69681	38.22321	53.06067	159.01711	2.99934	3.45117	21.51880	56.51884
12	26.72699	35.54652	48.83040	147.86676	2.80477	3.22729	20.12288	51.44722
13	25.06560	33.30081	45.29420	137.80121	2.62760	3.02343	18.85179	47.25133
14	23.64546	31.38907	42.29723	128.70341	2.46611	2.83761	17.69316	43.73373
15	22.41724	29.73999	39.72520	120.47134	2.31876	2.66806	16.63597	40.74634
16	21.34384	28.29988	37.49226	113.01384	2.18418	2.51321	15.67048	38.17683
17	20.39705	27.02782	35.53308	106.25177	2.06116	2.37166	14.78789	35.93921
18	19.55490	25.89223	33.79703	100.11418	1.94862	2.24216	13.98044	33.96707
19	18.80011	24.86852	32.24481	94.53882	1.84557	2.12360	13.24113	32.20871
20	18.03494	24.01598	30.99313	89.47070	1.75116	2.01496	12.56379	30.62398
21	17.25584	23.09009	29.71684	84.86069	1.66461	1.91537	11.94280	29.18140
22	16.54520	22.23662	28.54977	80.66550	1.58521	1.82401	11.37319	27.85660
23	15.89389	21.44537	27.47643	76.84654	1.51236	1.74018	10.85047	26.63040
24	15.29448	20.70850	26.48418	73.36966	1.44548	1.66323	10.37064	25.48816
25	14.74074	20.01987	25.56310	70.20438	1.38407	1.59257	9.93008	24.41876
26	14.22756	19.37462	24.70506	67.32359	1.32769	1.52770	9.52556	23.41356
27	13.75064	18.76901	23.90373	64.70326	1.27592	1.46813	9.15416	22.46622
28	13.30635	18.20010	23.15375	62.32170	1.22841	1.41346	8.81327	21.57191
29	12.89162	17.66553	22.45094	60.16017	1.18482	1.36330	8.50053	20.72734
30	12.50381	17.16335	21.79179	58.20146	1.14486	1.31732	8.21382	19.93011
31	12.14065	16.69202	21.17337	56.43047	1.10826	1.27521	7.95124	19.17825
32	11.80016	16.25009	20.59326	54.83394	1.07479	1.23669	7.71108	18.47041
33	11.48058	15.83637	20.04933	53.39993	1.04422	1.20152	7.49180	17.80602
34	11.18038	15.44970	19.53966	52.11798	1.01637	1.16948	7.29199	17.18369
35	10.89816	15.08901	19.06265	50.97876	0.99107	1.14037	7.11046	16.60318
36	10.63268	14.75318	18.61664	49.97429	0.96816	1.11401	6.94608	16.06317
37	10.38280	14.44121	18.20026	49.09752	0.94750	1.09023	6.79786	15.56342
38	10.14748	14.15206	17.81206	48.34242	0.92897	1.06891	6.66491	15.10238
39	9.92576	13.88463	17.45056	47.70366	0.91246	1.04992	6.54648	14.67901
40	9.71675	13.63784	17.11452	47.17709	0.89788	1.03314	6.44186	14.29199
41	9.51961	13.41057	16.80246	46.75911	0.88514	1.01848	6.35046	13.93975
42	9.33352	13.20156	16.51282	46.44687	0.87417	1.00586	6.27176	13.62008
43	9.15773	13.00953	16.24420	46.23833	0.86491	0.99520	6.20532	13.33102
44	8.99148	12.83305	15.99490	46.13206	0.85731	0.98646	6.15077	13.06964
45	8.83401	12.67047	15.76326	46.12755	0.85132	0.97957	6.10781	12.83327
46	8.68453	12.51983	15.54727	46.22444	0.84691	0.97449	6.07619	12.61845
47	8.54223	12.37900	15.34476	46.42366	0.84406	0.97122	6.05574	12.42098
48	8.40629	12.24546	15.15350	46.72639	0.84276	0.96971	6.04636	12.23671
49	8.40629	12.24546	15.15350	47.13469	0.84298	0.96997	6.04800	12.23671
50	8.40629	12.24546	15.15350	47.65125	0.84475	0.97200	6.06065	12.23671
51	8.40629	12.24546	15.15350	48.27959	0.84806	0.97581	6.08439	12.23671
52	8.40629	12.24546	15.15350	49.02397	0.85293	0.98142	6.11936	12.23671
53	8.40629	12.24546	15.15350	49.88939	0.85939	0.98886	6.16574	12.23671
54	8.40629	12.24546	15.15350	50.88203	0.86748	0.99816	6.22378	12.23671
55	8.40629	12.24546	15.15350	52.00861	0.87725	1.00940	6.29382	12.23671
56	9.69050	14.48416	18.18506	53.27725	0.88873	1.02261	6.37624	15.18365
57	10.97471	16.72282	21.21663	54.69699	0.90201	1.03789	6.47150	18.13062
58	12.25892	18.96150	24.24826	56.27826	0.91716	1.05532	6.58015	21.07753
59	13.54313	21.20020	27.27988	58.03282	0.93425	1.07499	6.70281	24.02448
60	14.82734	23.43890	30.31149	59.97388	0.95340	1.09702	6.84020	26.97145
61	16.11151	25.67758	33.34311	62.11633	0.97472	1.12155	6.99313	29.91838
62	17.39574	27.91624	36.37471	64.47705	0.99832	1.14871	7.16249	32.86530
63	18.67992	30.15497	39.40636	67.07486	1.02436	1.17867	7.34931	35.81226
64	19.96411	32.39366	42.43791	69.93109	1.05300	1.21162	7.55476	38.75920
65	21.24832	34.63237	45.46956	73.06918	1.08440	1.24776	7.78009	41.70616

**Table A-4-45**  
**El Paso 1996 Summer Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	2.27258	2.49291	2.72293	4.31553	2.82175	3.24855	25.92682	0.79750
4	2.08722	2.29256	2.53236	4.36019	2.70291	3.11173	24.83485	0.76280
5	1.97510	2.17165	2.41859	4.40484	2.59275	2.98491	23.82268	0.73400
6	1.89976	2.09087	2.34354	4.44950	2.49061	2.86732	22.88422	0.71065
7	1.84556	2.03334	2.29088	4.49416	2.39590	2.75828	22.01398	0.69232
8	1.80467	1.99058	2.25237	4.53882	2.30806	2.65716	21.20694	0.67859
9	1.77274	1.95784	2.22343	4.58348	2.22661	2.56338	20.45851	0.66904
10	1.74714	1.93225	2.20129	4.62813	2.15107	2.47643	19.76454	0.66330
11	1.72619	1.91197	2.18415	4.67279	2.08106	2.39582	19.12123	0.66098
12	1.70876	1.89573	2.17080	4.71745	2.01619	2.32114	18.52516	0.66173
13	1.69408	1.88267	2.16039	4.76210	1.95611	2.25197	17.97314	0.66521
14	1.68158	1.87212	2.15231	4.80676	1.90052	2.18798	17.46240	0.67110
15	1.67084	1.86361	2.14608	4.85142	1.84913	2.12882	16.99025	0.67907
16	1.66155	1.85676	2.14135	4.89608	1.80170	2.07420	16.55437	0.68885
17	1.65345	1.85127	2.13783	4.94074	1.75797	2.02386	16.15257	0.70015
18	1.64637	1.84691	2.13531	4.98539	1.71774	1.97755	15.78295	0.71271
19	1.64014	1.84349	2.13360	5.03005	1.68081	1.93504	15.44368	0.72628
20	1.64132	1.84418	2.13605	5.07471	1.64702	1.89613	15.13319	0.74064
21	1.65096	1.85866	2.15202	5.11936	1.61620	1.86065	14.85002	0.75556
22	1.65981	1.87217	2.16692	5.16402	1.58821	1.82843	14.59283	0.77086
23	1.66800	1.88480	2.18088	5.20868	1.56292	1.79932	14.36050	0.78634
24	1.67559	1.89664	2.19398	5.25333	1.54022	1.77318	14.15193	0.80185
25	1.68266	1.90775	2.20630	5.29799	1.52001	1.74991	13.96620	0.81723
26	1.68928	1.91820	2.21790	5.34265	1.50220	1.72940	13.80252	0.83234
27	1.69548	1.92802	2.22884	5.38731	1.48670	1.71156	13.66012	0.84707
28	1.70131	1.93726	2.23918	5.43196	1.47345	1.69631	13.53840	0.86131
29	1.70681	1.94595	2.24896	5.47662	1.46240	1.68359	13.43685	0.87498
30	1.71201	1.95414	2.25823	5.52128	1.45349	1.67333	13.35500	0.88801
31	1.71695	1.96185	2.26703	5.56594	1.44669	1.66550	13.29250	0.90034
32	1.72165	1.96911	2.27539	5.61059	1.44197	1.66006	13.24912	0.91193
33	1.72613	1.97595	2.28336	5.65526	1.43930	1.65700	13.22463	0.92275
34	1.73042	1.98240	2.29099	5.69991	1.43868	1.65628	13.21894	0.93280
35	1.73454	1.98848	2.29830	5.74457	1.44011	1.65793	13.23204	0.94210
36	1.73850	1.99424	2.30534	5.78922	1.44358	1.66193	13.26396	0.95065
37	1.74234	1.99970	2.31215	5.83388	1.44912	1.66830	13.31487	0.95850
38	1.74606	2.00489	2.31878	5.87854	1.45675	1.67708	13.38495	0.96571
39	1.74968	2.00984	2.32527	5.92319	1.46650	1.68831	13.47451	0.97236
40	1.75322	2.01460	2.33166	5.96786	1.47841	1.70202	13.58398	0.97851
41	1.75671	2.01919	2.33802	6.01251	1.49254	1.71829	13.71376	0.98429
42	1.76015	2.02367	2.34439	6.05717	1.50894	1.73717	13.86448	0.98980
43	1.76357	2.02806	2.35081	6.10183	1.52769	1.75875	14.03678	0.99520
44	1.76698	2.03242	2.35736	6.14648	1.54887	1.78314	14.23139	1.00061
45	1.77040	2.03678	2.36409	6.19114	1.57258	1.81043	14.44922	1.00622
46	1.77386	2.04121	2.37106	6.23580	1.59892	1.84076	14.69122	1.01221
47	1.77737	2.04574	2.37833	6.28046	1.62801	1.87425	14.95851	1.01877
48	1.78096	2.05044	2.38597	6.32512	1.65998	1.91106	15.25230	1.02612
49	1.84834	2.13289	2.48612	6.36977	1.69499	1.95136	15.57397	1.05954
50	1.91573	2.21535	2.58628	6.41443	1.73320	1.99535	15.92501	1.09295
51	1.98311	2.29781	2.68643	6.45909	1.77478	2.04322	16.30707	1.12636
52	2.05050	2.38027	2.78658	6.50375	1.81995	2.09522	16.72209	1.15977
53	2.11788	2.46273	2.88673	6.54840	1.86891	2.15159	17.17198	1.19319
54	2.18527	2.54518	2.98688	6.59306	1.92193	2.21262	17.65904	1.22660
55	2.25266	2.62764	3.08704	6.63772	1.97925	2.27862	18.18578	1.26001
56	2.32004	2.71010	3.18719	6.68237	2.04118	2.34991	18.75478	1.29343
57	2.38743	2.79256	3.28734	6.72703	2.10804	2.42688	19.36909	1.32684
58	2.45482	2.87502	3.38749	6.77169	2.18018	2.50994	20.03194	1.36025
59	2.52220	2.95747	3.48764	6.81635	2.25800	2.59952	20.74693	1.39367
60	2.58959	3.03993	3.58779	6.86100	2.34191	2.69613	21.51799	1.42708
61	2.65697	3.12239	3.68794	6.90566	2.43240	2.80031	22.34937	1.46049
62	2.72436	3.20485	3.78810	6.95032	2.52997	2.91263	23.24586	1.49390
63	2.79175	3.28731	3.88825	6.99498	2.63520	3.03378	24.21272	1.52732
64	2.85913	3.36976	3.98840	7.03963	2.74870	3.16445	25.25560	1.56073
65	2.92652	3.45222	4.08855	7.08429	2.87117	3.30544	26.38083	1.59414

**Table A-4-46**  
**El Paso 1996 Summer Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HdGV	LDDV	LDDT	HDDV	MC
3	8.67584	10.67306	16.99229	18.26395	1.70093	2.40350	5.69445	13.79853
4	6.45758	8.01445	12.73782	15.20585	1.61487	2.28189	5.40634	11.57688
5	5.18465	6.45836	10.18999	13.27880	1.53451	2.16835	5.13732	9.93142
6	4.36025	5.43747	8.49414	11.86059	1.45944	2.06226	4.88599	8.68944
7	3.78375	4.71805	7.29027	10.72848	1.38927	1.96310	4.65104	7.73578
8	3.40064	4.22981	6.45943	9.87112	1.32363	1.87035	4.43129	6.99200
9	3.10334	3.84922	5.81509	9.11969	1.26220	1.78355	4.22564	6.40356
10	2.86215	3.54016	5.29761	8.44747	1.20468	1.70227	4.03308	5.93182
11	2.66185	3.28337	4.87338	7.84354	1.15080	1.62613	3.85269	5.54892
12	2.49222	3.06580	4.51928	7.29914	1.10029	1.55477	3.68360	5.23445
13	2.34617	2.87828	4.21890	6.80702	1.05293	1.48784	3.52504	4.97321
14	2.21859	2.71424	3.96032	6.36104	1.00849	1.42505	3.37627	4.75372
15	2.10575	2.56879	3.73473	5.95601	0.96678	1.36611	3.23662	4.56721
16	2.00484	2.43828	3.53548	5.58741	0.92761	1.31076	3.10549	4.40690
17	1.91371	2.31991	3.35747	5.25134	0.89081	1.25876	2.98229	4.26750
18	1.83069	2.21152	3.19678	4.94438	0.85622	1.20988	2.86650	4.14483
19	1.75448	2.11140	3.05031	4.66353	0.82371	1.16393	2.75763	4.03563
20	1.68199	2.02974	2.92882	4.41031	0.79312	1.12071	2.65523	3.93726
21	1.61822	1.95725	2.81712	4.18448	0.76434	1.08005	2.55888	3.84769
22	1.55983	1.89066	2.71457	3.97771	0.73725	1.04178	2.46821	3.76525
23	1.50610	1.82918	2.61989	3.78819	0.71175	1.00574	2.38284	3.68869
24	1.45646	1.77217	2.53200	3.61425	0.68774	0.97181	2.30245	3.61699
25	1.41040	1.71910	2.45007	3.45447	0.66512	0.93985	2.22673	3.54940
26	1.36753	1.66954	2.37344	3.30752	0.64382	0.90974	2.15539	3.48536
27	1.32750	1.62315	2.30156	3.17226	0.62374	0.88138	2.08818	3.42445
28	1.29001	1.57963	2.23400	3.04763	0.60482	0.85464	2.02484	3.36639
29	1.25482	1.53873	2.17041	2.93270	0.58699	0.82945	1.96516	3.31100
30	1.22170	1.50027	2.11051	2.82664	0.57019	0.80571	1.90891	3.25817
31	1.19048	1.46407	2.05406	2.72869	0.55436	0.78334	1.85590	3.20786
32	1.16098	1.42997	2.00088	2.63817	0.53944	0.76226	1.80596	3.16006
33	1.13307	1.39784	1.95079	2.55447	0.52539	0.74240	1.75890	3.11483
34	1.10663	1.36756	1.90364	2.47704	0.51215	0.72369	1.71459	3.07218
35	1.08153	1.33904	1.85931	2.40538	0.49968	0.70608	1.67286	3.03220
36	1.05769	1.31217	1.81767	2.33906	0.48795	0.68950	1.63358	2.99493
37	1.03500	1.28684	1.77859	2.27765	0.47691	0.67390	1.59662	2.96040
38	1.01339	1.26299	1.74197	2.22080	0.46654	0.65924	1.56188	2.92867
39	0.99277	1.24052	1.70769	2.16817	0.45679	0.64546	1.52924	2.89975
40	0.97309	1.21936	1.67563	2.11948	0.44763	0.63253	1.49860	2.87362
41	0.95428	1.19941	1.64568	2.07444	0.43905	0.62040	1.46987	2.85027
42	0.93628	1.18060	1.61770	2.03281	0.43101	0.60904	1.44295	2.82961
43	0.91902	1.16285	1.59156	1.99438	0.42349	0.59841	1.41778	2.81149
44	0.90246	1.14608	1.56712	1.95895	0.41647	0.58849	1.39427	2.79583
45	0.88655	1.13018	1.54423	1.92634	0.40992	0.57924	1.37236	2.78239
46	0.87123	1.11508	1.52270	1.89639	0.40384	0.57064	1.35198	2.77093
47	0.85646	1.10065	1.50237	1.86895	0.39819	0.56266	1.33308	2.76110
48	0.84242	1.08690	1.48304	1.84389	0.39297	0.55529	1.31560	2.75251
49	0.84088	1.08522	1.48018	1.82116	0.38816	0.54849	1.29949	2.75251
50	0.83943	1.08363	1.47748	1.80078	0.38374	0.54225	1.28471	2.75251
51	0.83805	1.08213	1.47493	1.78264	0.37971	0.53655	1.27121	2.75251
52	0.83675	1.08071	1.47252	1.76666	0.37605	0.53138	1.25897	2.75251
53	0.83552	1.07937	1.47024	1.75275	0.37276	0.52673	1.24794	2.75251
54	0.83434	1.07809	1.46809	1.74085	0.36982	0.52257	1.23809	2.75251
55	0.83323	1.07688	1.46604	1.73090	0.36722	0.51891	1.22941	2.75251
56	0.86578	1.12671	1.54758	1.72286	0.36497	0.51572	1.22186	2.86200
57	0.89838	1.17661	1.62920	1.71668	0.36305	0.51300	1.21542	2.97149
58	0.93102	1.22655	1.71092	1.71235	0.36145	0.51075	1.21009	3.08099
59	0.96371	1.27654	1.79273	1.70984	0.36018	0.50896	1.20583	3.19048
60	0.99644	1.32658	1.87461	1.70914	0.35923	0.50761	1.20265	3.29997
61	1.02921	1.37667	1.95657	1.71026	0.35860	0.50672	1.20054	3.40946
62	1.06202	1.42679	2.03860	1.71320	0.35829	0.50628	1.19948	3.51895
63	1.09486	1.47695	2.12069	1.71799	0.35829	0.50628	1.19949	3.62845
64	1.12774	1.52715	2.20285	1.72465	0.35860	0.50672	1.20054	3.73794
65	1.16065	1.57738	2.28506	1.73323	0.35923	0.50762	1.20265	3.84743

**Table A-4-47**  
**El Paso 1996 Summer Time Period 4 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	80.65579	104.56339	152.15903	213.57257	5.47653	6.30152	39.29140	148.98367
4	61.97491	80.38554	117.22864	195.13213	5.04724	5.80757	36.21147	118.81773
5	50.64709	65.50940	94.97159	178.67644	4.66008	5.36208	33.43378	97.04509
6	43.05136	55.46240	79.63086	163.96895	4.31045	4.95978	30.92531	80.97862
7	37.61256	48.25154	68.50154	150.80339	3.99431	4.59603	28.65723	68.88106
8	33.53258	42.84630	60.12141	139.00038	3.70811	4.26670	26.60384	59.60162
9	30.36296	38.65829	53.62564	128.40340	3.44868	3.96820	24.74258	52.36145
10	27.83232	35.32700	48.46991	118.87550	3.21325	3.69730	23.05347	46.62186
11	25.76674	32.61923	44.29517	110.29709	2.99934	3.45117	21.51880	42.00357
12	24.04967	30.37764	40.85585	102.56300	2.80477	3.22729	20.12288	38.23447
13	22.60020	28.49239	37.97879	95.58136	2.62760	3.02343	18.85179	35.11623
14	21.36028	26.88448	35.53902	89.27097	2.46611	2.83761	17.69316	32.50198
15	20.28737	25.49576	33.44414	83.56104	2.31876	2.66806	16.63597	30.28180
16	19.34953	24.28261	31.62500	78.38841	2.18418	2.51321	15.67048	28.37225
17	18.52231	23.21173	30.02866	73.69812	2.06116	2.37166	14.78789	26.70929
18	17.78677	22.25731	28.61421	69.44096	1.94862	2.24216	13.98044	25.24362
19	17.12801	21.39923	27.34988	65.57379	1.84557	2.12360	13.24113	23.93684
20	16.44588	20.66895	26.30255	62.05847	1.75116	2.01496	12.56379	22.75911
21	15.73782	19.86110	25.21902	58.86089	1.66461	1.91537	11.94280	21.68701
22	15.09279	19.12012	24.22917	55.95099	1.58521	1.82401	11.37319	20.70242
23	14.50244	18.43689	23.31969	53.30212	1.51236	1.74018	10.85047	19.79115
24	13.95991	17.80408	22.47993	50.89046	1.44548	1.66323	10.37064	18.94226
25	13.45948	17.21585	21.70131	48.69499	1.38407	1.59257	9.93008	18.14752
26	12.99636	16.66747	20.97676	46.69681	1.32769	1.52770	9.52556	17.40047
27	12.56652	16.15509	20.30081	44.87929	1.27592	1.46813	9.15416	16.69643
28	12.16655	15.67561	19.66872	43.22743	1.22841	1.41346	8.81327	16.03180
29	11.79353	15.22639	19.07681	41.72815	1.18482	1.36330	8.50053	15.40414
30	11.44494	14.80527	18.52193	40.36954	1.14486	1.31732	8.21382	14.81166
31	11.11863	14.41042	18.00146	39.14116	1.10826	1.27521	7.95124	14.25289
32	10.81268	14.04022	17.51318	38.03377	1.07479	1.23669	7.71108	13.72684
33	10.52543	13.69324	17.05524	37.03912	1.04422	1.20152	7.49180	13.23306
34	10.25541	13.36820	16.62587	36.14995	1.01637	1.16948	7.29199	12.77056
35	10.00131	13.06392	16.22359	35.35979	0.99107	1.14037	7.11046	12.33914
36	9.76194	12.77929	15.84700	34.66302	0.96816	1.11401	6.94608	11.93781
37	9.53624	12.51329	15.49483	34.05492	0.94750	1.09023	6.79786	11.56641
38	9.32325	12.26493	15.16583	33.53114	0.92897	1.06891	6.66491	11.22377
39	9.12208	12.03322	14.85878	33.08809	0.91246	1.04992	6.54648	10.90913
40	8.93193	11.81724	14.57254	32.72282	0.89788	1.03314	6.44186	10.62151
41	8.75205	11.61605	14.30594	32.43292	0.88514	1.01848	6.35046	10.35973
42	8.58171	11.42870	14.05768	32.21632	0.87417	1.00586	6.27176	10.12216
43	8.42027	11.25420	13.82663	32.01710	0.86491	0.99520	6.20532	9.90733
44	8.26709	11.09153	13.61140	31.99800	0.85731	0.98646	6.15077	9.71308
45	8.12154	10.93956	13.41069	31.99483	0.85132	0.97957	6.10781	9.53741
46	7.98301	10.79700	13.22293	32.06203	0.84691	0.97449	6.07619	9.37776
47	7.85087	10.66248	13.04642	32.20026	0.84406	0.97122	6.05574	9.23101
48	7.72451	10.53443	12.87944	32.41025	0.84276	0.96971	6.04636	9.09406
49	7.72451	10.53443	12.87944	32.69345	0.84298	0.96997	6.04800	9.09406
50	7.72451	10.53443	12.87944	33.05174	0.84475	0.97200	6.06065	9.09406
51	7.72451	10.53443	12.87944	33.48756	0.84806	0.97581	6.08439	9.09406
52	7.72451	10.53443	12.87944	34.00386	0.85293	0.98142	6.11936	9.09406
53	7.72451	10.53443	12.87944	34.60416	0.85939	0.98886	6.16574	9.09406
54	7.72451	10.53443	12.87944	35.29266	0.86748	0.99816	6.22378	9.09406
55	7.72451	10.53443	12.87944	36.07408	0.87725	1.00940	6.29382	9.09406
56	8.83485	12.34459	15.34493	36.95399	0.88873	1.02261	6.37624	11.28417
57	9.94519	14.15476	17.81039	37.93877	0.90201	1.03789	6.47150	13.47429
58	11.05552	15.96492	20.27585	39.03557	0.91716	1.05532	6.58015	15.66440
59	12.16586	17.77505	22.74136	40.25256	0.93425	1.07499	6.70281	17.85451
60	13.27619	19.58519	25.20682	41.59891	0.95340	1.09702	6.84020	20.04460
61	14.38653	21.39534	27.67232	43.08499	0.97472	1.12155	6.99313	22.23473
62	15.49685	23.20552	30.13782	44.72241	0.99832	1.14871	7.16249	24.42482
63	16.60718	25.01570	32.60329	46.52432	1.02436	1.17867	7.34931	26.61493
64	17.71750	26.82585	35.06880	48.50540	1.05300	1.21162	7.55476	28.80501
65	18.82782	28.63602	37.53424	50.68207	1.08440	1.24776	7.78009	30.99513

**Table A-4-48**  
**El Paso 1996 Summer Time Period 4 NOX Emission Rates (grams/mile)**

<u>Speed</u>	<u>LDGV</u>	<u>LDGT1</u>	<u>LDGT2</u>	<u>HDGV</u>	<u>LDDV</u>	<u>LDDT</u>	<u>HDDV</u>	<u>MC</u>
3	2.33566	2.57133	2.93892	4.47339	2.82175	3.24855	25.92682	0.92604
4	2.14913	2.36822	2.74452	4.51968	2.70291	3.11173	24.83485	0.88574
5	2.03588	2.24542	2.62854	4.56598	2.59275	2.98491	23.82268	0.85230
6	1.95949	2.16328	2.55221	4.61226	2.49061	2.86732	22.88422	0.82520
7	1.90432	2.10475	2.49887	4.65856	2.39590	2.75828	22.01398	0.80391
8	1.86255	2.06125	2.46013	4.70485	2.30806	2.65716	21.20694	0.78796
9	1.82981	2.02800	2.43131	4.75114	2.22661	2.56338	20.45851	0.77688
10	1.80349	2.00208	2.40955	4.79743	2.15107	2.47643	19.76454	0.77021
11	1.78188	1.98162	2.39302	4.84372	2.08106	2.39582	19.12123	0.76751
12	1.76388	1.96534	2.38047	4.89001	2.01619	2.32114	18.52516	0.76839
13	1.74868	1.95234	2.37100	4.93630	1.95611	2.25197	17.97314	0.77243
14	1.73572	1.94196	2.36399	4.98259	1.90052	2.18798	17.46240	0.77926
15	1.72458	1.93370	2.35892	5.02889	1.84913	2.12882	16.99025	0.78853
16	1.71494	1.92717	2.35544	5.07518	1.80170	2.07420	16.55437	0.79988
17	1.70655	1.92205	2.35324	5.12147	1.75797	2.02386	16.15257	0.81300
18	1.69922	1.91812	2.35208	5.16776	1.71774	1.97755	15.78295	0.82758
19	1.69278	1.91516	2.35176	5.21405	1.68081	1.93504	15.44368	0.84334
20	1.69383	1.91655	2.35600	5.26034	1.64702	1.89613	15.13319	0.86001
21	1.70334	1.93181	2.37393	5.30663	1.61620	1.86065	14.85002	0.87734
22	1.71211	1.94609	2.39076	5.35292	1.58821	1.82843	14.59283	0.89511
23	1.72024	1.95949	2.40658	5.39921	1.56292	1.79932	14.36050	0.91309
24	1.72781	1.97208	2.42149	5.44550	1.54022	1.77318	14.15193	0.93109
25	1.73489	1.98393	2.43556	5.49179	1.52001	1.74991	13.96620	0.94895
26	1.74153	1.99509	2.44887	5.53808	1.50220	1.72940	13.80252	0.96650
27	1.74779	2.00562	2.46146	5.58438	1.48670	1.71156	13.66012	0.98360
28	1.75370	2.01554	2.47340	5.63067	1.47345	1.69631	13.53840	1.00014
29	1.75932	2.02490	2.48473	5.67696	1.46240	1.68359	13.43685	1.01601
30	1.76466	2.03372	2.49549	5.72325	1.45349	1.67333	13.35500	1.03114
31	1.76975	2.04205	2.50574	5.76954	1.44669	1.66550	13.29250	1.04546
32	1.77464	2.04990	2.51551	5.81583	1.44197	1.66006	13.24912	1.05891
33	1.77933	2.05732	2.52485	5.86212	1.43930	1.65700	13.22463	1.07148
34	1.78385	2.06432	2.53381	5.90841	1.43868	1.65628	13.21894	1.08315
35	1.78823	2.07095	2.54244	5.95471	1.44011	1.65793	13.23204	1.09394
36	1.79248	2.07724	2.55078	6.00100	1.44358	1.66193	13.26396	1.10388
37	1.79663	2.08321	2.55888	6.04728	1.44912	1.66830	13.31487	1.11300
38	1.80069	2.08891	2.56680	6.09358	1.45675	1.67708	13.38495	1.12137
39	1.80469	2.09437	2.57460	6.13987	1.46650	1.68831	13.47451	1.12908
40	1.80865	2.09963	2.58234	6.18616	1.47841	1.70202	13.58398	1.13623
41	1.81258	2.10474	2.59007	6.23245	1.49254	1.71829	13.71376	1.14294
42	1.81651	2.10975	2.59787	6.27874	1.50894	1.73717	13.86448	1.14934
43	1.82045	2.11469	2.60579	6.32503	1.52769	1.75875	14.03678	1.15560
44	1.82443	2.11962	2.61392	6.37133	1.54887	1.78314	14.23139	1.16189
45	1.82848	2.12459	2.62233	6.41761	1.57258	1.81043	14.44922	1.16841
46	1.83260	2.12967	2.63110	6.46391	1.59892	1.84076	14.69122	1.17536
47	1.83684	2.13491	2.64032	6.51020	1.62801	1.87425	14.95851	1.18298
48	1.84120	2.14037	2.65007	6.55649	1.65998	1.91106	15.25230	1.19151
49	1.91135	2.22655	2.76213	6.60278	1.69499	1.95136	15.57397	1.23031
50	1.98150	2.31274	2.87418	6.64907	1.73320	1.99535	15.92501	1.26911
51	2.05165	2.39893	2.98624	6.69536	1.77478	2.04322	16.30707	1.30791
52	2.12180	2.48512	3.09829	6.74165	1.81995	2.09522	16.72209	1.34671
53	2.19195	2.57131	3.21035	6.78794	1.86891	2.15159	17.17198	1.38551
54	2.26210	2.65750	3.32240	6.83423	1.92193	2.21262	17.65904	1.42430
55	2.33224	2.74369	3.43446	6.88053	1.97925	2.27862	18.18578	1.46310
56	2.40240	2.82988	3.54651	6.92681	2.04118	2.34991	18.75478	1.50190
57	2.47254	2.91607	3.65857	6.97311	2.10804	2.42688	19.36909	1.54070
58	2.54270	3.00226	3.77062	7.01940	2.18018	2.50994	20.03194	1.57950
59	2.61284	3.08846	3.88268	7.06569	2.25800	2.59952	20.74693	1.61830
60	2.68299	3.17464	3.99473	7.11198	2.34191	2.69613	21.51799	1.65709
61	2.75314	3.26083	4.10679	7.15827	2.43240	2.80031	22.34937	1.69589
62	2.82329	3.34702	4.21884	7.20456	2.52997	2.91263	23.24586	1.73469
63	2.89344	3.43321	4.33090	7.25086	2.63520	3.03378	24.21272	1.77349
64	2.96359	3.51940	4.44295	7.29714	2.74870	3.16445	25.25560	1.81229
65	3.03374	3.60559	4.55501	7.34344	2.87117	3.30544	26.38083	1.85109



**Table A-4-49**  
**El Paso 1999 Summer Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	7.20356	8.60571	13.13533	13.69765	1.55287	2.07594	5.15755	14.03449
4	5.35694	6.42944	9.80647	11.40576	1.47430	1.97091	4.89660	11.84599
5	4.30903	5.17608	7.84557	9.96470	1.40094	1.87284	4.65295	10.22509
6	3.63549	4.36250	6.55446	8.90692	1.33240	1.78121	4.42531	9.00164
7	3.16686	3.79303	5.64395	8.06451	1.26833	1.69556	4.21252	8.06221
8	2.86141	3.41340	5.02294	7.43187	1.20841	1.61545	4.01349	7.32952
9	2.62447	3.11747	4.54136	6.87761	1.15233	1.54048	3.82723	6.74986
10	2.43169	2.87639	4.15349	6.38140	1.09982	1.47028	3.65282	6.28516
11	2.27105	2.67530	3.83427	5.93525	1.05062	1.40452	3.48944	5.90798
12	2.13451	2.50419	3.56658	5.53271	1.00452	1.34288	3.33629	5.59820
13	2.01650	2.35608	3.33837	5.16848	0.96128	1.28508	3.19268	5.34086
14	1.91303	2.22594	3.14091	4.83805	0.92071	1.23084	3.05794	5.12464
15	1.82116	2.11008	2.96777	4.53761	0.88263	1.17993	2.93146	4.94091
16	1.73870	2.00573	2.81411	4.26385	0.84686	1.13213	2.81269	4.78300
17	1.66396	1.91074	2.67623	4.01392	0.81327	1.08721	2.70110	4.64567
18	1.59564	1.82349	2.55127	3.78531	0.78169	1.04500	2.59623	4.52484
19	1.53271	1.74267	2.43699	3.57581	0.75200	1.00531	2.49763	4.41727
20	1.46991	1.67388	2.33792	3.38781	0.72408	0.96798	2.40488	4.32037
21	1.41367	1.61398	2.24793	3.22172	0.69781	0.93286	2.31762	4.23213
22	1.36219	1.55902	2.16544	3.06959	0.67308	0.89980	2.23549	4.15093
23	1.31483	1.50835	2.08943	2.93009	0.64980	0.86868	2.15817	4.07550
24	1.27110	1.46144	2.01905	2.80201	0.62788	0.83937	2.08536	4.00488
25	1.23054	1.41783	1.95362	2.68428	0.60723	0.81177	2.01678	3.93830
26	1.19280	1.37718	1.89258	2.57596	0.58777	0.78576	1.95217	3.87521
27	1.15758	1.33918	1.83549	2.47619	0.56944	0.76126	1.89130	3.81521
28	1.12460	1.30359	1.78198	2.38421	0.55217	0.73817	1.83393	3.75802
29	1.09366	1.27018	1.73174	2.29933	0.53590	0.71641	1.77987	3.70346
30	1.06455	1.23879	1.68451	2.22095	0.52056	0.69591	1.72893	3.65141
31	1.03710	1.20926	1.64007	2.14850	0.50610	0.67658	1.68092	3.60185
32	1.01117	1.18146	1.59825	2.08149	0.49248	0.65838	1.63568	3.55477
33	0.98663	1.15525	1.55888	2.01948	0.47965	0.64122	1.59307	3.51021
34	0.96336	1.13055	1.52181	1.96206	0.46757	0.62506	1.55293	3.46819
35	0.94127	1.10724	1.48692	1.90886	0.45619	0.60985	1.51513	3.42881
36	0.92025	1.08525	1.45408	1.85957	0.44547	0.59553	1.47955	3.39209
37	0.90024	1.06449	1.42319	1.81388	0.43540	0.58206	1.44609	3.35809
38	0.88114	1.04488	1.39414	1.77152	0.42592	0.56940	1.41462	3.32683
39	0.86291	1.02636	1.36683	1.73226	0.41702	0.55750	1.38506	3.29834
40	0.84546	1.00885	1.34114	1.69588	0.40867	0.54633	1.35731	3.27260
41	0.82876	0.99228	1.31700	1.66217	0.40083	0.53585	1.33128	3.24960
42	0.81275	0.97660	1.29429	1.63097	0.39349	0.52604	1.30690	3.22925
43	0.79737	0.96173	1.27291	1.60210	0.38663	0.51686	1.28410	3.21140
44	0.78258	0.94762	1.25277	1.57543	0.38022	0.50829	1.26281	3.19597
45	0.76835	0.93419	1.23374	1.55082	0.37424	0.50030	1.24297	3.18273
46	0.75462	0.92137	1.21571	1.52816	0.36868	0.49287	1.22451	3.17144
47	0.74136	0.90910	1.19856	1.50734	0.36353	0.48598	1.20739	3.16176
48	0.72875	0.89736	1.18219	1.48832	0.35876	0.47961	1.19156	3.15330
49	0.72732	0.89582	1.17987	1.47159	0.35437	0.47374	1.17697	3.15330
50	0.72597	0.89436	1.17769	1.45659	0.35034	0.46835	1.16358	3.15330
51	0.72469	0.89298	1.17562	1.44323	0.34666	0.46343	1.15136	3.15330
52	0.72348	0.89168	1.17367	1.43145	0.34332	0.45897	1.14027	3.15330
53	0.72234	0.89045	1.17183	1.42119	0.34031	0.45494	1.13028	3.15330
54	0.72125	0.88928	1.17008	1.41241	0.33763	0.45136	1.12136	3.15330
55	0.72022	0.88817	1.16843	1.40506	0.33526	0.44819	1.11349	3.15330
56	0.74432	0.92336	1.22369	1.39910	0.33320	0.44544	1.10665	3.26115
57	0.76847	0.95861	1.27903	1.39452	0.33144	0.44309	1.10083	3.36901
58	0.79267	0.99390	1.33444	1.39128	0.32999	0.44115	1.09599	3.47687
59	0.81690	1.02924	1.38993	1.38938	0.32883	0.43960	1.09214	3.58473
60	0.84117	1.06462	1.44547	1.38881	0.32796	0.43844	1.08926	3.69259
61	0.86548	1.10004	1.50108	1.38957	0.32739	0.43766	1.08735	3.80044
62	0.88983	1.13549	1.55675	1.39167	0.32710	0.43728	1.08639	3.90830
63	0.91420	1.17099	1.61246	1.39513	0.32710	0.43728	1.08639	4.01616
64	0.93861	1.20651	1.66823	1.39995	0.32739	0.43767	1.08735	4.12402
65	0.96305	1.24207	1.72404	1.40618	0.32796	0.43844	1.08926	4.23188

**Table A-4-50**  
**El Paso 1999 Summer Time Period 1 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	NDGV	LDDV	LDDT	HDDV	MC
3	60.61292	77.69426	116.44936	151.90173	5.20904	5.78382	37.16547	153.99066
4	46.84143	59.96344	89.93524	138.78612	4.80072	5.33045	34.25215	122.81093
5	38.54416	49.16151	73.29962	127.08212	4.43246	4.92156	31.62476	100.30652
6	33.00166	41.90805	61.93843	116.62155	4.09991	4.55231	29.25208	83.70009
7	29.04073	36.71718	53.73807	107.25764	3.79922	4.21844	27.10669	71.19595
8	26.07121	32.82996	47.57790	98.86285	3.52699	3.91617	25.16441	61.60466
9	23.76392	29.81741	42.80536	91.32584	3.28024	3.64219	23.40385	54.12119
10	21.92044	27.41862	39.01459	84.54916	3.05630	3.39355	21.80612	48.18875
11	20.41422	25.46597	35.94028	78.44785	2.85284	3.16763	20.35468	43.41525
12	19.16074	23.84668	33.40228	72.94708	2.66778	2.96215	19.03407	39.51945
13	18.10129	22.48236	31.27426	67.98141	2.49926	2.77504	17.83177	36.29637
14	17.19400	21.31668	29.46524	63.49323	2.34565	2.60449	16.73582	33.59430
15	16.40808	20.30826	27.90825	59.43207	2.20550	2.44887	15.73586	31.29948
16	15.72041	19.42601	26.55315	55.75307	2.07750	2.30674	14.82259	29.32573
17	15.11337	18.64616	25.36163	52.41714	1.96049	2.17682	13.98776	27.60689
18	14.57322	17.95042	24.30406	49.38931	1.85344	2.05796	13.22400	26.09200
19	14.08917	17.32436	23.35750	46.63878	1.75543	1.94913	12.52469	24.74129
20	13.52980	16.73270	22.47888	44.13853	1.66563	1.84942	11.88400	23.52399
21	12.89940	16.03815	21.49681	41.86430	1.58330	1.75801	11.29660	22.41586
22	12.32527	15.40183	20.60016	39.79465	1.50779	1.67417	10.75781	21.39819
23	11.80004	14.81593	19.77725	37.91063	1.43849	1.59722	10.26338	20.45628
24	11.31760	14.27418	19.01854	36.19539	1.37488	1.52659	9.80951	19.57887
25	10.87284	13.77145	18.31627	34.63385	1.31647	1.46174	9.39279	18.75742
26	10.46149	13.30359	17.66406	33.21274	1.26284	1.40219	9.01016	17.98524
27	10.07994	12.86715	17.05673	31.92000	1.21360	1.34752	8.65885	17.25755
28	9.72510	12.45932	16.48988	30.74515	1.16841	1.29734	8.33640	16.57059
29	9.39433	12.07771	15.95996	29.67877	1.12695	1.25130	8.04059	15.92184
30	9.08535	11.72030	15.46386	28.71249	1.08894	1.20910	7.76939	15.30945
31	8.79619	11.38538	14.99900	27.83881	1.05413	1.17045	7.52102	14.73190
32	8.52510	11.07142	14.56312	27.05121	1.02229	1.13510	7.29385	14.18816
33	8.27057	10.77707	14.15432	26.34372	0.99322	1.10282	7.08644	13.67779
34	8.03123	10.50112	13.77081	25.71130	0.96673	1.07341	6.89744	13.19974
35	7.80590	10.24248	13.41108	25.14932	0.94267	1.04668	6.72573	12.75383
36	7.59348	10.00010	13.07369	24.65379	0.92087	1.02249	6.57025	12.33901
37	7.39301	9.77304	12.75737	24.22124	0.90122	1.00067	6.43004	11.95513
38	7.20362	9.56041	12.46087	23.84875	0.88360	0.98110	6.30429	11.60097
39	7.02450	9.36135	12.18301	23.53363	0.86790	0.96366	6.19227	11.27576
40	6.85491	9.17504	11.92271	23.27386	0.85403	0.94826	6.09331	10.97847
41	6.69421	9.00067	11.67890	23.06763	0.84191	0.93481	6.00685	10.70789
42	6.54175	8.83747	11.45042	22.91360	0.83148	0.92322	5.93241	10.46234
43	6.39697	8.68460	11.23628	22.81073	0.82267	0.91344	5.86957	10.24029
44	6.25931	8.54128	11.03533	22.75833	0.81544	0.90541	5.81797	10.03952
45	6.12825	8.40660	10.84650	22.75609	0.80974	0.89909	5.77733	9.85794
46	6.00326	8.27956	10.66852	22.80388	0.80555	0.89444	5.74742	9.69293
47	5.88385	8.15914	10.50011	22.90216	0.80284	0.89143	5.72808	9.54124
48	5.76950	8.04415	10.33994	23.05151	0.80159	0.89005	5.71921	9.39969
49	5.76950	8.04415	10.33994	23.25296	0.80181	0.89029	5.72076	9.39969
50	5.76950	8.04415	10.33994	23.50777	0.80349	0.89215	5.73273	9.39969
51	5.76950	8.04415	10.33994	23.81773	0.80664	0.89564	5.75518	9.39969
52	5.76950	8.04415	10.33994	24.18498	0.81127	0.90079	5.78825	9.39969
53	5.76950	8.04415	10.33994	24.61191	0.81742	0.90762	5.83212	9.39969
54	5.76950	8.04415	10.33994	25.10159	0.82511	0.91616	5.88702	9.39969
55	5.76950	8.04415	10.33994	25.65738	0.83440	0.92647	5.95327	9.39969
56	6.51074	9.29467	12.07914	26.28322	0.84533	0.93860	6.03123	11.66341
57	7.25199	10.54519	13.81835	26.98363	0.85796	0.95263	6.12134	13.92713
58	7.99324	11.79570	15.55756	27.76375	0.87236	0.96862	6.22411	16.19084
59	8.73448	13.04623	17.29674	28.62930	0.88862	0.98668	6.34014	18.45454
60	9.47573	14.29675	19.03592	29.58687	0.90684	1.00690	6.47009	20.71826
61	10.21698	15.54725	20.77510	30.64380	0.92711	1.02941	6.61475	22.98198
62	10.95823	16.79776	22.51430	31.80843	0.94956	1.05434	6.77494	25.24564
63	11.69948	18.04825	24.25351	33.09001	0.97433	1.08184	6.95166	27.50937
64	12.44072	19.29877	25.99269	34.49902	1.00157	1.11208	7.14599	29.77309
65	13.18197	20.54927	27.73190	36.04718	1.03144	1.14525	7.35913	32.03682

**Table A-4-51  
El Paso 1999 Summer Time Period 1 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGGV	LDDV	LDDT	HDDV	MC
3	1.99885	2.17121	2.58310	4.08692	2.55550	2.82024	20.77422	0.90848
4	1.83293	1.99329	2.39258	4.12921	2.44787	2.70146	19.89926	0.86895
5	1.73276	1.88599	2.27890	4.17151	2.34811	2.59136	19.08824	0.83614
6	1.66558	1.81428	2.20388	4.21380	2.25561	2.48928	18.33630	0.80955
7	1.61731	1.76313	2.15113	4.25609	2.16983	2.39462	17.63901	0.78867
8	1.58093	1.72498	2.11242	4.29838	2.09028	2.30683	16.99236	0.77302
9	1.55252	1.69562	2.08317	4.34067	2.01651	2.22541	16.39265	0.76214
10	1.52974	1.67251	2.06061	4.38297	1.94811	2.14992	15.83660	0.75560
11	1.51106	1.65401	2.04294	4.42526	1.88470	2.07995	15.32115	0.75296
12	1.49551	1.63901	2.02899	4.46755	1.82595	2.01511	14.84353	0.75382
13	1.48236	1.62676	2.01790	4.50984	1.77154	1.95506	14.40123	0.75778
14	1.47113	1.61668	2.00907	4.55213	1.72120	1.89950	13.99197	0.76449
15	1.46143	1.60834	2.00203	4.59442	1.67466	1.84815	13.61366	0.77357
16	1.45300	1.60144	1.99645	4.63672	1.63169	1.80073	13.26441	0.78471
17	1.44562	1.59571	1.99205	4.67901	1.59209	1.75702	12.94247	0.79758
18	1.43911	1.59096	1.98861	4.72130	1.55566	1.71682	12.64629	0.81189
19	1.43335	1.58701	1.98596	4.76359	1.52222	1.67992	12.37445	0.82735
20	1.43482	1.58523	1.98534	4.80588	1.49161	1.64614	12.12566	0.84370
21	1.44329	1.59522	1.99758	4.84817	1.46370	1.61534	11.89876	0.86071
22	1.45105	1.60452	2.00901	4.89046	1.43835	1.58736	11.69269	0.87813
23	1.45819	1.61321	2.01972	4.93276	1.41545	1.56209	11.50653	0.89577
24	1.46478	1.62135	2.02977	4.97505	1.39489	1.53940	11.33941	0.91344
25	1.47090	1.62899	2.03922	5.01734	1.37659	1.51920	11.19059	0.93095
26	1.47660	1.63616	2.04812	5.05963	1.36045	1.50139	11.05944	0.94817
27	1.48193	1.64289	2.05651	5.10192	1.34642	1.48590	10.94534	0.96495
28	1.48692	1.64924	2.06444	5.14421	1.33442	1.47266	10.84782	0.98118
29	1.49161	1.65520	2.07194	5.18651	1.32441	1.46162	10.76645	0.99675
30	1.49604	1.66082	2.07904	5.22880	1.31634	1.45271	10.70086	1.01159
31	1.50022	1.66611	2.08578	5.27109	1.31019	1.44592	10.65079	1.02563
32	1.50419	1.67110	2.09219	5.31338	1.30591	1.44120	10.61602	1.03883
33	1.50796	1.67580	2.09829	5.35568	1.30350	1.43853	10.59640	1.05116
34	1.51156	1.68023	2.10412	5.39796	1.30294	1.43791	10.59184	1.06261
35	1.51500	1.68442	2.10972	5.44026	1.30422	1.43934	10.60233	1.07320
36	1.51830	1.68838	2.11510	5.48255	1.30737	1.44281	10.62791	1.08294
37	1.52148	1.69214	2.12031	5.52484	1.31239	1.44835	10.66870	1.09189
38	1.52454	1.69572	2.12538	5.56713	1.31930	1.45597	10.72486	1.10010
39	1.52752	1.69914	2.13035	5.60942	1.32813	1.46572	10.79662	1.10767
40	1.53041	1.70243	2.13524	5.65172	1.33891	1.47762	10.88433	1.11468
41	1.53323	1.70561	2.14011	5.69401	1.35171	1.49174	10.98832	1.12126
42	1.53600	1.70870	2.14498	5.73630	1.36656	1.50813	11.10909	1.12755
43	1.53873	1.71175	2.14991	5.77859	1.38354	1.52687	11.24715	1.13369
44	1.54143	1.71476	2.15493	5.82089	1.40273	1.54805	11.40308	1.13986
45	1.54411	1.71778	2.16009	5.86318	1.42420	1.57174	11.57762	1.14625
46	1.54679	1.72084	2.16545	5.90547	1.44805	1.59807	11.77153	1.15307
47	1.54948	1.72397	2.17105	5.94776	1.47440	1.62714	11.98570	1.16054
48	1.55220	1.72721	2.17694	5.99006	1.50335	1.65910	12.22110	1.16892
49	1.60683	1.79554	2.26566	6.03234	1.53506	1.69409	12.47885	1.20698
50	1.66146	1.86388	2.35439	6.07464	1.56966	1.73227	12.76011	1.24504
51	1.71609	1.93222	2.44312	6.11693	1.60732	1.77383	13.06626	1.28311
52	1.77072	2.00056	2.53185	6.15922	1.64822	1.81897	13.39879	1.32117
53	1.82535	2.06890	2.62057	6.20151	1.69257	1.86791	13.75928	1.35923
54	1.87998	2.13724	2.70930	6.24380	1.74058	1.92090	14.14956	1.39729
55	1.93461	2.20557	2.79803	6.28609	1.79249	1.97819	14.57161	1.43536
56	1.98924	2.27391	2.88676	6.32839	1.84858	2.04009	15.02753	1.47342
57	2.04387	2.34225	2.97549	6.37068	1.90913	2.10691	15.51977	1.51148
58	2.09851	2.41059	3.06421	6.41297	1.97447	2.17901	16.05087	1.54955
59	2.15314	2.47893	3.15294	6.45526	2.04494	2.25679	16.62376	1.58761
60	2.20777	2.54727	3.24167	6.49755	2.12094	2.34066	17.24158	1.62567
61	2.26240	2.61561	3.33040	6.53985	2.20289	2.43110	17.90773	1.66373
62	2.31703	2.68394	3.41913	6.58214	2.29125	2.52862	18.62607	1.70180
63	2.37166	2.75228	3.50786	6.62443	2.38655	2.63379	19.40076	1.73986
64	2.42629	2.82062	3.59658	6.66672	2.48934	2.74723	20.23640	1.77792
65	2.48092	2.88896	3.68531	6.70901	2.60026	2.86963	21.13800	1.81598

**Table A-4-52**  
**El Paso 1999 Summer Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	IDGV	LDDV	LDDT	HDDV	MC
3	9.80179	10.77907	16.30701	20.15642	1.55287	2.07594	5.15755	16.13817
4	7.05175	7.79153	11.70419	15.78194	1.47430	1.97091	4.89660	13.97550
5	5.54965	6.14476	9.14271	13.32148	1.40094	1.87284	4.65295	12.37373
6	4.60993	5.10785	7.51945	11.67357	1.33240	1.78121	4.42531	11.16471
7	3.96919	4.39821	6.40505	10.44985	1.26833	1.69556	4.21252	10.23637
8	3.59011	3.95525	5.69900	9.64146	1.20841	1.61545	4.01349	9.51233
9	3.29624	3.61450	5.15770	8.95066	1.15233	1.54048	3.82723	8.93951
10	3.05363	3.33854	4.72285	8.33714	1.09982	1.47028	3.65282	8.48029
11	2.84833	3.10986	4.36590	7.78839	1.05062	1.40452	3.48944	8.10756
12	2.67101	2.91661	4.06742	7.29485	1.00452	1.34288	3.33629	7.80143
13	2.51520	2.75055	3.81375	6.84896	0.96128	1.28508	3.19268	7.54713
14	2.37626	2.60570	3.59504	6.44458	0.92071	1.23084	3.05794	7.33346
15	2.25078	2.47771	3.40401	6.07661	0.88263	1.17993	2.93146	7.15190
16	2.13621	2.36328	3.23519	5.74076	0.84686	1.13213	2.81269	6.99585
17	2.03060	2.25988	3.08441	5.43339	0.81327	1.08721	2.70110	6.86014
18	1.93243	2.16558	2.94844	5.15135	0.78169	1.04500	2.59623	6.74074
19	1.84050	2.07885	2.82474	4.89191	0.75200	1.00531	2.49763	6.63443
20	1.75704	2.00336	2.71656	4.66308	0.72408	0.96798	2.40488	6.53868
21	1.69219	1.93377	2.61465	4.46798	0.69781	0.93286	2.31762	6.45148
22	1.63262	1.86980	2.52125	4.28922	0.67308	0.89980	2.23549	6.37124
23	1.57763	1.81070	2.43519	4.12519	0.64980	0.86868	2.15817	6.29670
24	1.52667	1.75587	2.35551	3.97445	0.62788	0.83937	2.08536	6.22691
25	1.47924	1.70479	2.28146	3.83575	0.60723	0.81177	2.01678	6.16112
26	1.43495	1.65708	2.21240	3.70796	0.58777	0.78576	1.95217	6.09878
27	1.39346	1.61239	2.14780	3.59008	0.56944	0.76126	1.89130	6.03948
28	1.35447	1.57045	2.08725	3.48122	0.55217	0.73817	1.83393	5.98297
29	1.31774	1.53101	2.03039	3.38058	0.53590	0.71641	1.77987	5.92905
30	1.28305	1.49389	1.97691	3.28743	0.52056	0.69591	1.72893	5.87761
31	1.25023	1.45890	1.92657	3.20114	0.50610	0.67658	1.68092	5.82864
32	1.21910	1.42590	1.87914	3.12113	0.49248	0.65838	1.63568	5.78211
33	1.18952	1.39476	1.83444	3.04689	0.47965	0.64122	1.59307	5.73808
34	1.16137	1.36536	1.79230	2.97793	0.46757	0.62506	1.55293	5.69656
35	1.13453	1.33759	1.75256	2.91385	0.45619	0.60985	1.51513	5.65764
36	1.10891	1.31135	1.71509	2.85426	0.44547	0.59553	1.47955	5.62136
37	1.08440	1.28656	1.67974	2.79883	0.43540	0.58206	1.44609	5.58775
38	1.06094	1.26312	1.64642	2.74723	0.42592	0.56940	1.41462	5.55686
39	1.03844	1.24094	1.61499	2.69919	0.41702	0.55750	1.38506	5.52871
40	1.01683	1.21996	1.58534	2.65447	0.40867	0.54633	1.35731	5.50327
41	0.99606	1.20010	1.55737	2.61283	0.40083	0.53585	1.33128	5.48055
42	0.97605	1.18127	1.53096	2.57406	0.39349	0.52604	1.30690	5.46043
43	0.95677	1.16340	1.50600	2.53799	0.38663	0.51686	1.28410	5.44279
44	0.93816	1.14642	1.48238	2.50443	0.38022	0.50829	1.26281	5.42755
45	0.92016	1.13024	1.45998	2.47325	0.37424	0.50030	1.24297	5.41447
46	0.90273	1.11477	1.43868	2.44431	0.36868	0.49287	1.22451	5.40331
47	0.88582	1.09994	1.41835	2.41748	0.36353	0.48598	1.20739	5.39374
48	0.86978	1.08573	1.39884	2.39268	0.35876	0.47961	1.19156	5.38538
49	0.86675	1.08240	1.39362	2.37021	0.35437	0.47374	1.17697	5.38538
50	0.86388	1.07927	1.38870	2.34988	0.35034	0.46835	1.16358	5.38538
51	0.86118	1.07631	1.38406	2.33157	0.34666	0.46343	1.15136	5.38538
52	0.85863	1.07351	1.37968	2.31521	0.34332	0.45897	1.14027	5.38538
53	0.85622	1.07087	1.37555	2.30070	0.34031	0.45494	1.13028	5.38538
54	0.85393	1.06837	1.37163	2.28798	0.33763	0.45136	1.12136	5.38538
55	0.85177	1.06600	1.36793	2.27700	0.33526	0.44819	1.11349	5.38538
56	0.87609	1.10350	1.42397	2.26769	0.33320	0.44544	1.10665	5.49196
57	0.90052	1.14112	1.48019	2.26003	0.33144	0.44309	1.10083	5.59855
58	0.92505	1.17884	1.53658	2.25398	0.32999	0.44115	1.09599	5.70513
59	0.94967	1.21666	1.59312	2.24952	0.32883	0.43960	1.09214	5.81172
60	0.97437	1.25457	1.64982	2.24663	0.32796	0.43844	1.08926	5.91830
61	0.99915	1.29257	1.70664	2.24530	0.32739	0.43766	1.08735	6.02489
62	1.02401	1.33065	1.76360	2.24554	0.32710	0.43728	1.08639	6.13148
63	1.04893	1.36881	1.82067	2.24736	0.32710	0.43728	1.08639	6.23806
64	1.07392	1.40703	1.87786	2.25076	0.32739	0.43767	1.08735	6.34465
65	1.09897	1.44533	1.93516	2.25578	0.32796	0.43844	1.08926	6.45123

**Table A-4-53**  
**El Paso 1999 Summer Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	65.47032	88.03741	135.67963	198.71858	5.20904	5.78382	37.16547	197.78737
4	50.52803	67.94365	104.64516	181.56073	4.80072	5.33045	34.25215	157.73976
5	41.50352	55.61316	85.07562	166.24950	4.43246	4.92156	31.62476	128.83488
6	35.46831	47.30525	71.67589	152.56494	4.09991	4.55231	29.25208	107.50539
7	31.15393	41.35458	61.99345	140.31503	3.79922	4.21844	27.10669	91.44495
8	27.92027	36.90152	54.71870	129.33290	3.52699	3.91617	25.16441	79.12579
9	25.40913	33.45622	49.08495	119.47293	3.28024	3.64219	23.40385	69.51389
10	23.40431	30.71887	44.61349	110.60770	3.05630	3.39355	21.80612	61.89418
11	21.76756	28.49597	40.99062	102.62590	2.85284	3.16763	20.35448	55.76305
12	20.40654	26.65686	38.00276	95.42976	2.66778	2.96215	19.03407	50.75923
13	19.25694	25.11049	35.50005	88.93365	2.49926	2.77504	17.83177	46.61948
14	18.27298	23.79129	33.37445	83.06215	2.34565	2.60449	16.73582	43.14891
15	17.42087	22.65108	31.54636	77.74937	2.20550	2.44887	15.73586	40.20143
16	16.67531	21.65356	29.95628	72.93646	2.07750	2.30674	14.82259	37.66632
17	16.01697	20.77112	28.55869	68.57239	1.96049	2.17682	13.98776	35.45862
18	15.43085	19.98241	27.31844	64.61136	1.85344	2.05796	13.22400	33.51286
19	14.90514	19.27075	26.20830	61.01314	1.75543	1.94913	12.52469	31.77802
20	14.30849	18.61378	25.21033	57.74231	1.66563	1.84942	11.88400	30.21448
21	13.64486	17.85434	24.11467	54.76711	1.58330	1.75801	11.29660	28.79117
22	13.03979	17.15570	23.11363	52.05959	1.50779	1.67417	10.75781	27.48407
23	12.48556	16.50958	22.19409	49.59492	1.43849	1.59722	10.26338	26.27426
24	11.97583	15.90946	21.34549	47.35103	1.37488	1.52659	9.80951	25.14731
25	11.50531	15.35011	20.55920	45.30824	1.31647	1.46174	9.39279	24.09221
26	11.06961	14.82739	19.82826	43.44905	1.26284	1.40219	9.01016	23.10045
27	10.66502	14.33797	19.14697	41.75793	1.21360	1.34752	8.65885	22.16579
28	10.28840	13.87920	18.51056	40.22098	1.16841	1.29734	8.33640	21.28340
29	9.93706	13.44887	17.91518	38.82590	1.12695	1.25130	8.04059	20.45016
30	9.60870	13.04516	17.35756	37.56183	1.08894	1.20910	7.76939	19.66360
31	9.30132	12.66653	16.83490	36.41885	1.05413	1.17045	7.52102	18.92178
32	9.01315	12.31161	16.34483	35.38849	1.02229	1.13510	7.29385	18.22340
33	8.74267	11.97918	15.88533	34.46301	0.99322	1.10282	7.08644	17.56790
34	8.48848	11.66814	15.45448	33.63570	0.96673	1.07341	6.89744	16.95389
35	8.24938	11.37744	15.05067	32.90047	0.94267	1.04668	6.72573	16.38116
36	8.02425	11.10607	14.67237	32.25221	0.92087	1.02249	6.57025	15.84837
37	7.81208	10.85309	14.31820	31.68637	0.90122	1.00067	6.43004	15.35530
38	7.61198	10.61758	13.98683	31.19902	0.88360	0.98110	6.30429	14.90042
39	7.42311	10.39862	13.67694	30.78679	0.86790	0.96366	6.19227	14.48271
40	7.24469	10.19530	13.38732	30.44695	0.85403	0.94826	6.09331	14.10087
41	7.07600	10.00670	13.11677	30.17722	0.84191	0.93481	6.00685	13.75334
42	6.91638	9.83187	12.86397	29.97569	0.83148	0.92322	5.93241	13.43795
43	6.76518	9.66979	12.62777	29.84109	0.82267	0.91344	5.86957	13.15275
44	6.62179	9.51942	12.40682	29.77254	0.81544	0.90541	5.81797	12.89487
45	6.48560	9.37954	12.19983	29.76961	0.80974	0.89909	5.77733	12.66165
46	6.35597	9.24876	12.00531	29.83212	0.80555	0.89444	5.74742	12.44971
47	6.23230	9.12557	11.82166	29.96072	0.80284	0.89143	5.72808	12.25488
48	6.11393	9.00820	11.64726	30.15607	0.80159	0.89005	5.71921	12.07307
49	6.11393	9.00820	11.64726	30.41959	0.80181	0.89029	5.72076	12.07307
50	6.11393	9.00820	11.64726	30.75298	0.80349	0.89215	5.73273	12.07307
51	6.11393	9.00820	11.64726	31.15848	0.80664	0.89564	5.75518	12.07307
52	6.11393	9.00820	11.64726	31.63889	0.81127	0.90079	5.78825	12.07307
53	6.11393	9.00820	11.64726	32.19743	0.81742	0.90762	5.83212	12.07307
54	6.11393	9.00820	11.64726	32.83804	0.82511	0.91616	5.88702	12.07307
55	6.11393	9.00820	11.64726	33.56511	0.83440	0.92647	5.95327	12.07307
56	6.93653	10.49302	13.70636	34.38387	0.84533	0.93860	6.03123	14.98061
57	7.75913	11.97784	15.76546	35.30016	0.85796	0.95263	6.12134	17.88814
58	8.58173	13.46266	17.82454	36.32063	0.87236	0.96862	6.22411	20.79568
59	9.40434	14.94749	19.88359	37.45299	0.88862	0.98668	6.34014	23.70322
60	10.22694	16.43228	21.94269	38.70570	0.90684	1.00690	6.47009	26.61075
61	11.04954	17.91707	24.00179	40.08841	0.92711	1.02941	6.61475	29.51831
62	11.87214	19.40189	26.06088	41.61195	0.94956	1.05434	6.77494	32.42581
63	12.69475	20.88669	28.12000	43.28853	0.97433	1.08184	6.95166	35.33339
64	13.51735	22.37152	30.17908	45.13187	1.00157	1.11208	7.14599	38.24089
65	14.33995	23.85632	32.23817	47.15712	1.03144	1.14525	7.35913	41.14845

**Table A-4-54**  
**El Paso 1999 Summer Time Period 2 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HQGV	LDDV	LDDT	HDDV	MC
3	2.01096	2.16782	2.50840	3.97143	2.55550	2.82024	20.77422	0.80643
4	1.84254	1.98869	2.31701	4.01253	2.44787	2.70146	19.89926	0.77133
5	1.74105	1.88079	2.20272	4.05363	2.34811	2.59136	19.08824	0.74221
6	1.67309	1.80874	2.12716	4.09472	2.25561	2.48928	18.33630	0.71861
7	1.62436	1.75738	2.07387	4.13582	2.16983	2.39462	17.63901	0.70007
8	1.58770	1.71907	2.03460	4.17692	2.09028	2.30683	16.99236	0.68618
9	1.55912	1.68957	2.00474	4.21801	2.01651	2.22541	16.39265	0.67653
10	1.53623	1.66632	1.98152	4.25911	1.94811	2.14992	15.83660	0.67072
11	1.51750	1.64767	1.96317	4.30020	1.88470	2.07995	15.32115	0.66838
12	1.50191	1.63252	1.94847	4.34130	1.82595	2.01511	14.84353	0.66914
13	1.48875	1.62008	1.93661	4.38240	1.77154	1.95506	14.40123	0.67266
14	1.47751	1.60980	1.92698	4.42350	1.72120	1.89950	13.99197	0.67861
15	1.46782	1.60126	1.91911	4.46459	1.67466	1.84815	13.61366	0.68667
16	1.45939	1.59413	1.91269	4.50569	1.63169	1.80073	13.26441	0.69656
17	1.45200	1.58816	1.90743	4.54679	1.59209	1.75702	12.94247	0.70799
18	1.44549	1.58315	1.90313	4.58788	1.55566	1.71682	12.64629	0.72068
19	1.43972	1.57895	1.89961	4.62898	1.52222	1.67992	12.37445	0.73441
20	1.44130	1.57678	1.89789	4.67008	1.49161	1.64614	12.12566	0.74893
21	1.44999	1.58646	1.90909	4.71117	1.46370	1.61534	11.89876	0.76402
22	1.45795	1.59546	1.91951	4.75226	1.43835	1.58736	11.69269	0.77949
23	1.46525	1.60386	1.92924	4.79336	1.41545	1.56209	11.50653	0.79514
24	1.47200	1.61170	1.93833	4.83446	1.39489	1.53940	11.33941	0.81082
25	1.47824	1.61904	1.94686	4.87556	1.37659	1.51920	11.19059	0.82637
26	1.48405	1.62593	1.95487	4.91665	1.36045	1.50139	11.05944	0.84166
27	1.48946	1.63239	1.96240	4.95775	1.34642	1.48590	10.94534	0.85655
28	1.49452	1.63845	1.96950	4.99885	1.33442	1.47266	10.84782	0.87096
29	1.49927	1.64416	1.97619	5.03995	1.32441	1.46162	10.76645	0.88478
30	1.50373	1.64952	1.98251	5.08104	1.31634	1.45271	10.70086	0.89795
31	1.50794	1.65456	1.98850	5.12214	1.31019	1.44592	10.65079	0.91042
32	1.51192	1.65930	1.99418	5.16323	1.30591	1.44120	10.61602	0.92213
33	1.51568	1.66376	1.99958	5.20433	1.30350	1.43853	10.59640	0.93308
34	1.51926	1.66797	2.00472	5.24543	1.30294	1.43791	10.59184	0.94325
35	1.52267	1.67194	2.00964	5.28653	1.30422	1.43934	10.60233	0.95264
36	1.52593	1.67569	2.01436	5.32762	1.30737	1.44281	10.62791	0.96129
37	1.52904	1.67924	2.01891	5.36872	1.31239	1.44835	10.66870	0.96923
38	1.53204	1.68261	2.02331	5.40981	1.31930	1.45597	10.72486	0.97652
39	1.53492	1.68583	2.02761	5.45091	1.32813	1.46572	10.79662	0.98324
40	1.53771	1.68891	2.03183	5.49201	1.33891	1.47762	10.88433	0.98946
41	1.54042	1.69188	2.03600	5.53310	1.35171	1.49174	10.98832	0.99531
42	1.54305	1.69476	2.04015	5.57420	1.36656	1.50813	11.10909	1.00088
43	1.54563	1.69757	2.04432	5.61530	1.38354	1.52687	11.24715	1.00634
44	1.54816	1.70035	2.04854	5.65640	1.40273	1.54805	11.40308	1.01181
45	1.55065	1.70312	2.05286	5.69749	1.42420	1.57174	11.57762	1.01749
46	1.55313	1.70591	2.05730	5.73859	1.44805	1.59807	11.77153	1.02354
47	1.55559	1.70875	2.06191	5.77969	1.47440	1.62714	11.98570	1.03018
48	1.55805	1.71167	2.06673	5.82078	1.50335	1.65910	12.22110	1.03761
49	1.61262	1.77932	2.15039	5.86188	1.53506	1.69409	12.47885	1.07140
50	1.66718	1.84697	2.23406	5.90298	1.56966	1.73227	12.76011	1.10518
51	1.72174	1.91462	2.31772	5.94407	1.60732	1.77383	13.06626	1.13897
52	1.77630	1.98227	2.40138	5.98517	1.64822	1.81897	13.39879	1.17276
53	1.83086	2.04992	2.48505	6.02627	1.69257	1.86791	13.75928	1.20654
54	1.88542	2.11756	2.56871	6.06736	1.74058	1.92090	14.14956	1.24033
55	1.93998	2.18521	2.65237	6.10846	1.79249	1.97819	14.57161	1.27412
56	1.99454	2.25286	2.73603	6.14955	1.84858	2.04009	15.02753	1.30790
57	2.04910	2.32051	2.81969	6.19065	1.90913	2.10691	15.51977	1.34169
58	2.10366	2.38816	2.90336	6.23175	1.97447	2.17901	16.05087	1.37548
59	2.15822	2.45581	2.98702	6.27285	2.04494	2.25679	16.62376	1.40926
60	2.21279	2.52346	3.07068	6.31394	2.12094	2.34066	17.24158	1.44305
61	2.26735	2.59110	3.15434	6.35504	2.20289	2.43110	17.90773	1.47684
62	2.32191	2.65875	3.23801	6.39613	2.29125	2.52862	18.62607	1.51062
63	2.37647	2.72640	3.32167	6.43723	2.38655	2.63379	19.40076	1.54441
64	2.43103	2.79405	3.40533	6.47833	2.48934	2.74723	20.23640	1.57820
65	2.48559	2.86170	3.48899	6.51943	2.60026	2.86963	21.13800	1.61199

**Table A-4-55**  
**El Paso 1999 Summer Time Period 3 VOC Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HDGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	10.11615	11.08039	16.75389	20.99872	1.55287	2.07594	5.15755	16.36209
4	7.25128	7.97894	11.97140	16.34128	1.47430	1.97091	4.89660	14.20063
5	5.69264	6.27699	9.32500	13.74370	1.40094	1.87284	4.65295	12.59975
6	4.72037	5.20881	7.65466	12.01720	1.33240	1.78121	4.42531	11.39142
7	4.05890	4.47953	6.51130	10.74313	1.26833	1.69556	4.21252	10.46359
8	3.67105	4.02801	5.79332	9.91179	1.20841	1.61545	4.01349	9.73996
9	3.37055	3.68124	5.24368	9.20335	1.15233	1.54048	3.82723	9.16746
10	3.12228	3.40062	4.80227	8.57485	1.09982	1.47028	3.65282	8.70850
11	2.91204	3.16824	4.44006	8.01314	1.05062	1.40452	3.48944	8.33598
12	2.73030	2.97205	4.13729	7.50822	1.00452	1.34288	3.33629	8.03003
13	2.57048	2.80360	3.88009	7.05224	0.96128	1.28508	3.19268	7.77586
14	2.42785	2.65681	3.65842	6.63880	0.92071	1.23084	3.05794	7.56232
15	2.29893	2.52722	3.46492	6.26264	0.88263	1.17993	2.93146	7.38085
16	2.18113	2.41147	3.29401	5.91935	0.84686	1.13213	2.81269	7.22489
17	2.07246	2.30699	3.14145	5.60516	0.81327	1.08721	2.70110	7.08926
18	1.97136	2.21178	3.00396	5.31683	0.78169	1.04500	2.59623	6.96992
19	1.87662	2.12429	2.87896	5.05158	0.75200	1.00531	2.49763	6.86368
20	1.79107	2.04787	2.76948	4.81785	0.72408	0.96798	2.40488	6.76798
21	1.72515	1.97688	2.66581	4.61895	0.69781	0.93286	2.31762	6.68083
22	1.66458	1.91159	2.57079	4.43671	0.67308	0.89980	2.23549	6.60063
23	1.60867	1.85125	2.48323	4.26947	0.64980	0.86868	2.15817	6.52614
24	1.55682	1.79523	2.40216	4.11578	0.62788	0.83937	2.08536	6.45638
25	1.50856	1.74305	2.32680	3.97436	0.60723	0.81177	2.01678	6.39063
26	1.46348	1.69429	2.25652	3.84404	0.58777	0.78576	1.95217	6.32832
27	1.42124	1.64859	2.19078	3.72382	0.56944	0.76126	1.89130	6.26906
28	1.38154	1.60569	2.12914	3.61278	0.55217	0.73817	1.83393	6.21257
29	1.34413	1.56533	2.07126	3.51011	0.53590	0.71641	1.77987	6.15869
30	1.30879	1.52733	2.01681	3.41507	0.52056	0.69591	1.72893	6.10728
31	1.27534	1.49151	1.96555	3.32700	0.50610	0.67658	1.68092	6.05834
32	1.24360	1.45771	1.91724	3.24533	0.49248	0.65838	1.63568	6.01183
33	1.21345	1.42580	1.87170	3.16952	0.47965	0.64122	1.59307	5.96783
34	1.18474	1.39567	1.82875	3.09910	0.46757	0.62506	1.55293	5.92633
35	1.15736	1.36719	1.78824	3.03364	0.45619	0.60985	1.51513	5.88743
36	1.13121	1.34028	1.75002	2.97275	0.44547	0.59553	1.47955	5.85117
37	1.10620	1.31483	1.71396	2.91608	0.43540	0.58206	1.44609	5.81758
38	1.08225	1.29077	1.67994	2.86333	0.42592	0.56940	1.41462	5.78671
39	1.05927	1.26800	1.64784	2.81419	0.41702	0.55750	1.38506	5.75858
40	1.03720	1.24644	1.61755	2.76842	0.40867	0.54633	1.35731	5.73315
41	1.01598	1.22602	1.58895	2.72579	0.40083	0.53585	1.33128	5.71044
42	0.99554	1.20666	1.56192	2.68609	0.39349	0.52604	1.30690	5.69034
43	0.97583	1.18828	1.53637	2.64912	0.38663	0.51686	1.28410	5.67271
44	0.95680	1.17081	1.51217	2.61472	0.38022	0.50829	1.26281	5.65747
45	0.93839	1.15414	1.48921	2.58273	0.37424	0.50030	1.24297	5.64439
46	0.92056	1.13822	1.46736	2.55302	0.36868	0.49287	1.22451	5.63324
47	0.90326	1.12292	1.44650	2.52546	0.36353	0.48598	1.20739	5.62368
48	0.88685	1.10828	1.42647	2.49995	0.35876	0.47961	1.19156	5.61532
49	0.88359	1.10471	1.42084	2.47669	0.35437	0.47374	1.17697	5.61532
50	0.88052	1.10134	1.41553	2.45563	0.35034	0.46835	1.16358	5.61532
51	0.87762	1.09816	1.41054	2.43664	0.34666	0.46343	1.15136	5.61532
52	0.87488	1.09516	1.40582	2.41964	0.34332	0.45897	1.14027	5.61532
53	0.87230	1.09233	1.40137	2.40455	0.34031	0.45494	1.13028	5.61532
54	0.86984	1.08964	1.39715	2.39128	0.33763	0.45136	1.12136	5.61532
55	0.86752	1.08710	1.39316	2.37980	0.33526	0.44819	1.11349	5.61532
56	0.89187	1.12488	1.44931	2.37003	0.33320	0.44544	1.10665	5.72184
57	0.91632	1.16280	1.50565	2.36194	0.33144	0.44309	1.10083	5.82837
58	0.94088	1.20082	1.56217	2.35550	0.32999	0.44115	1.09599	5.93490
59	0.96554	1.23895	1.61887	2.35068	0.32883	0.43960	1.09214	6.04142
60	0.99028	1.27718	1.67571	2.34746	0.32796	0.43844	1.08926	6.14795
61	1.01512	1.31551	1.73271	2.34584	0.32739	0.43766	1.08735	6.25447
62	1.04003	1.35392	1.78984	2.34581	0.32710	0.43728	1.08639	6.36100
63	1.06501	1.39241	1.84711	2.34739	0.32710	0.43728	1.08639	6.46753
64	1.09007	1.43098	1.90449	2.35059	0.32739	0.43767	1.08735	6.57405
65	1.11519	1.46963	1.96199	2.35543	0.32796	0.43844	1.08926	6.68058

**Table A-4-56**  
**El Paso 1999 Summer Time Period 3 CO Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	66.20036	89.62875	138.38330	204.83904	5.20904	5.78382	37.16547	203.36868
4	51.08202	69.16913	106.70778	187.15269	4.80072	5.33045	34.25215	162.19099
5	41.94835	56.60315	86.72594	171.36995	4.43246	4.92156	31.62476	132.47043
6	35.83920	48.13313	73.04097	157.26387	4.09991	4.55231	29.25208	110.53906
7	31.47182	42.06572	63.15157	144.63664	3.79922	4.21844	27.10669	94.02539
8	28.19852	37.52568	55.72119	133.31633	3.52699	3.91617	25.16441	81.35860
9	25.65678	34.01379	49.96713	123.15263	3.28024	3.64219	23.40385	71.47549
10	23.62772	31.22429	45.40047	114.01437	3.05630	3.39355	21.80612	63.64073
11	21.97139	28.95964	41.70071	105.78674	2.85284	3.16763	20.35448	57.33659
12	20.59419	27.08658	38.64970	98.36894	2.66778	2.96215	19.03407	52.19160
13	19.43105	25.51199	36.09433	91.67279	2.49926	2.77504	17.83177	47.93498
14	18.43555	24.16902	33.92413	85.62045	2.34565	2.60449	16.73582	44.36650
15	17.57347	23.00836	32.05783	80.14403	2.20550	2.44887	15.73586	41.33588
16	16.81920	21.99298	30.43457	75.18291	2.07750	2.30674	14.82259	38.72922
17	16.15315	21.09462	29.00786	70.68436	1.96049	2.17682	13.98776	36.45921
18	15.56013	20.29152	27.74181	66.60136	1.85344	2.05796	13.22400	34.45854
19	15.02815	19.56664	26.60854	62.89233	1.75543	1.94913	12.52469	32.67473
20	14.42593	18.89978	25.59418	59.52071	1.66563	1.84942	11.88400	31.09708
21	13.75732	18.13063	24.48302	56.45392	1.58330	1.75801	11.29660	29.60359
22	13.14762	17.42270	23.46771	53.66301	1.50779	1.67417	10.75781	28.25964
23	12.58905	16.76761	22.53500	51.12242	1.43849	1.59722	10.26338	27.01569
24	12.07524	16.15880	21.67413	48.80940	1.37488	1.52659	9.80951	25.85695
25	11.60088	15.59104	20.87645	46.70369	1.31647	1.46174	9.39279	24.77208
26	11.16155	15.06020	20.13480	44.78729	1.26284	1.40219	9.01016	23.75230
27	10.75353	14.56294	19.44345	43.04407	1.21360	1.34752	8.65885	22.79126
28	10.37366	14.09663	18.79762	41.45973	1.16841	1.29734	8.33640	21.88474
29	10.01926	13.65909	18.19337	40.02174	1.12695	1.25130	8.04059	21.02724
30	9.68801	13.24854	17.62741	38.71872	1.08894	1.20910	7.76939	20.21849
31	9.37792	12.86346	17.09692	37.54057	1.05413	1.17045	7.52102	19.45572
32	9.08722	12.50249	16.59953	36.47845	1.02229	1.13510	7.29385	18.73766
33	8.81436	12.16442	16.13315	35.52449	0.99322	1.10282	7.08644	18.06361
34	8.55796	11.84819	15.69590	34.67165	0.96673	1.07341	6.89744	17.43231
35	8.31681	11.55275	15.28611	33.91379	0.94267	1.04668	6.72573	16.84341
36	8.08978	11.27708	14.90225	33.24557	0.92087	1.02249	6.57025	16.29558
37	7.87587	11.02026	14.54294	32.66229	0.90122	1.00067	6.43004	15.78861
38	7.67417	10.78135	14.20682	32.15997	0.88360	0.98110	6.30429	15.32089
39	7.48384	10.55942	13.89254	31.73506	0.86790	0.96366	6.19227	14.89139
40	7.30409	10.35355	13.59890	31.38472	0.85403	0.94826	6.09331	14.49878
41	7.13421	10.16281	13.32466	31.10666	0.84191	0.93481	6.00685	14.14144
42	6.97351	9.98622	13.06851	30.89888	0.83148	0.92322	5.93241	13.81715
43	6.82134	9.82273	12.82924	30.76019	0.82267	0.91344	5.86957	13.52390
44	6.67708	9.67127	12.60549	30.68953	0.81544	0.90541	5.81797	13.25875
45	6.54010	9.53057	12.39595	30.68649	0.80974	0.89909	5.77733	13.01895
46	6.40977	9.39918	12.19910	30.75099	0.80555	0.89444	5.74742	12.80102
47	6.28545	9.27552	12.01328	30.88347	0.80284	0.89143	5.72808	12.60070
48	6.16646	9.15774	11.83686	31.08485	0.80159	0.89005	5.71921	12.41376
49	6.16646	9.15774	11.83686	31.35654	0.80181	0.89029	5.72076	12.41376
50	6.16646	9.15774	11.83686	31.70015	0.80349	0.89215	5.73273	12.41376
51	6.16646	9.15774	11.83686	32.11816	0.80664	0.89564	5.75518	12.41376
52	6.16646	9.15774	11.83686	32.61336	0.81127	0.90079	5.78825	12.41376
53	6.16646	9.15774	11.83686	33.18906	0.81742	0.90762	5.83212	12.41376
54	6.16646	9.15774	11.83686	33.84943	0.82511	0.91616	5.88702	12.41376
55	6.16646	9.15774	11.83686	34.59889	0.83440	0.92647	5.95327	12.41376
56	7.00141	10.67863	13.94190	35.44286	0.84533	0.93860	6.03123	15.40335
57	7.83635	12.19952	16.04694	36.38734	0.85796	0.95263	6.12134	18.39291
58	8.67130	13.72042	18.15198	37.43930	0.87236	0.96862	6.22411	21.38249
59	9.50626	15.24131	20.25697	38.60655	0.88862	0.98668	6.34014	24.37210
60	10.34120	16.76216	22.36200	39.89783	0.90684	1.00690	6.47009	27.36165
61	11.17616	18.28302	24.46704	41.32314	0.92711	1.02941	6.61475	30.35127
62	12.01110	19.80391	26.57208	42.89359	0.94956	1.05434	6.77494	33.34081
63	12.84606	21.32478	28.67712	44.62180	0.97433	1.08184	6.95166	36.33043
64	13.68100	22.84569	30.78215	46.52187	1.00157	1.11208	7.14599	39.31999
65	14.51595	24.36656	32.88719	48.60953	1.03144	1.14525	7.35913	42.30962



**Table A-4-57**  
**El Paso 1999 Summer Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	HC
3	2.01249	2.16803	2.50294	3.96301	2.55550	2.82024	20.77422	0.79750
4	1.84382	1.98876	2.31143	4.00402	2.44787	2.70146	19.89926	0.76280
5	1.74219	1.88078	2.19705	4.04503	2.34811	2.59136	19.08824	0.73400
6	1.67415	1.80869	2.12143	4.08604	2.25561	2.48928	18.33630	0.71065
7	1.62538	1.75729	2.06808	4.12705	2.16983	2.39462	17.63901	0.69232
8	1.58868	1.71896	2.02875	4.16806	2.09028	2.30683	16.99236	0.67859
9	1.56008	1.68944	1.99883	4.20907	2.01651	2.22541	16.39265	0.66904
10	1.53717	1.66617	1.97555	4.25008	1.94811	2.14992	15.83660	0.66330
11	1.51843	1.64750	1.95713	4.29109	1.88470	2.07995	15.32115	0.66098
12	1.50284	1.63233	1.94237	4.33210	1.82595	2.01511	14.84353	0.66173
13	1.48967	1.61988	1.93044	4.37311	1.77154	1.95506	14.40123	0.66521
14	1.47843	1.60958	1.92073	4.41412	1.72120	1.89950	13.99197	0.67110
15	1.46873	1.60101	1.91280	4.45513	1.67466	1.84815	13.61366	0.67907
16	1.46030	1.59386	1.90630	4.49614	1.63169	1.80073	13.26441	0.68885
17	1.45291	1.58786	1.90096	4.53715	1.59209	1.75702	12.94247	0.70015
18	1.44639	1.58284	1.89659	4.57816	1.55566	1.71682	12.64629	0.71271
19	1.44062	1.57861	1.89301	4.61917	1.52222	1.67992	12.37445	0.72628
20	1.44221	1.57640	1.89119	4.66018	1.49161	1.64614	12.12566	0.74064
21	1.45092	1.58606	1.90231	4.70118	1.46370	1.61534	11.89876	0.75556
22	1.45889	1.59503	1.91265	4.74219	1.43835	1.58736	11.69269	0.77086
23	1.46621	1.60340	1.92229	4.78320	1.41545	1.56209	11.50653	0.78634
24	1.47297	1.61122	1.93131	4.82421	1.39489	1.53940	11.33941	0.80185
25	1.47923	1.61854	1.93976	4.86522	1.37659	1.51920	11.19059	0.81723
26	1.48504	1.62540	1.94770	4.90623	1.36045	1.50139	11.05944	0.83234
27	1.49046	1.63183	1.95516	4.94724	1.34642	1.48590	10.94534	0.84707
28	1.49553	1.63788	1.96219	4.98825	1.33442	1.47266	10.84782	0.86131
29	1.50028	1.64356	1.96882	5.02926	1.32441	1.46162	10.76645	0.87498
30	1.50475	1.64890	1.97508	5.07027	1.31634	1.45271	10.70086	0.88801
31	1.50896	1.65392	1.98101	5.11128	1.31019	1.44592	10.65079	0.90034
32	1.51293	1.65864	1.98663	5.15229	1.30591	1.44120	10.61602	0.91193
33	1.51670	1.66309	1.99197	5.19330	1.30350	1.43853	10.59640	0.92275
34	1.52028	1.66727	1.99706	5.23431	1.30294	1.43791	10.59184	0.93280
35	1.52369	1.67123	2.00192	5.27532	1.30422	1.43934	10.60233	0.94210
36	1.52694	1.67496	2.00658	5.31633	1.30737	1.44281	10.62791	0.95065
37	1.53005	1.67849	2.01108	5.35733	1.31239	1.44835	10.66870	0.95850
38	1.53304	1.68185	2.01544	5.39835	1.31930	1.45597	10.72486	0.96571
39	1.53592	1.68504	2.01968	5.43935	1.32813	1.46572	10.79662	0.97236
40	1.53870	1.68811	2.02384	5.48036	1.33891	1.47762	10.88433	0.97851
41	1.54140	1.69106	2.02796	5.52137	1.35171	1.49174	10.98832	0.98429
42	1.54402	1.69392	2.03205	5.56238	1.36656	1.50813	11.10909	0.98980
43	1.54659	1.69672	2.03616	5.60339	1.38354	1.52687	11.24715	0.99520
44	1.54910	1.69948	2.04032	5.64440	1.40273	1.54805	11.40308	1.00061
45	1.55159	1.70223	2.04456	5.68541	1.42420	1.57174	11.57762	1.00622
46	1.55404	1.70499	2.04893	5.72642	1.44805	1.59807	11.77153	1.01221
47	1.55649	1.70781	2.05346	5.76743	1.47440	1.62714	11.98570	1.01877
48	1.55894	1.71071	2.05820	5.80844	1.50335	1.65910	12.22110	1.02612
49	1.61350	1.77831	2.14147	5.84945	1.53506	1.69409	12.47885	1.05954
50	1.66807	1.84592	2.22474	5.89046	1.56966	1.73227	12.76011	1.09295
51	1.72264	1.91352	2.30800	5.93147	1.60732	1.77383	13.06626	1.12636
52	1.77721	1.98113	2.39127	5.97248	1.64822	1.81897	13.39879	1.15977
53	1.83178	2.04873	2.47454	6.01349	1.69257	1.86791	13.75928	1.19319
54	1.88635	2.11634	2.55781	6.05450	1.74058	1.92090	14.14956	1.22660
55	1.94092	2.18395	2.64108	6.09551	1.79249	1.97819	14.57161	1.26001
56	1.99549	2.25155	2.72435	6.13652	1.84858	2.04009	15.02753	1.29343
57	2.05006	2.31916	2.80761	6.17753	1.90913	2.10691	15.51977	1.32684
58	2.10463	2.38676	2.89088	6.21854	1.97447	2.17901	16.05087	1.36025
59	2.15920	2.45437	2.97415	6.25955	2.04494	2.25679	16.62376	1.39367
60	2.21377	2.52198	3.05742	6.30056	2.12094	2.34066	17.24158	1.42708
61	2.26834	2.58958	3.14069	6.34157	2.20289	2.43110	17.90773	1.46049
62	2.32291	2.65719	3.22396	6.38258	2.29125	2.52862	18.62607	1.49390
63	2.37748	2.72479	3.30722	6.42359	2.38655	2.63379	19.40076	1.52732
64	2.43205	2.79240	3.39049	6.46459	2.48934	2.74723	20.23640	1.56073
65	2.48662	2.86000	3.47376	6.50561	2.60026	2.86963	21.13800	1.59414

**Table A-4-58**  
**El Paso 1999 Summer Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HLDGV	LDDV	LDDT	HDDV	HC
3	7.08138	8.45365	12.95521	13.22254	1.55287	2.07594	5.15755	13.73854
4	5.27860	6.32901	9.69776	11.05173	1.47430	1.97091	4.89660	11.53504
5	4.25200	5.10134	7.76981	9.66983	1.40094	1.87284	4.65295	9.90303
6	3.59058	4.30268	6.49654	8.64614	1.33240	1.78121	4.42531	8.67119
7	3.12959	3.74276	5.59679	7.82563	1.26833	1.69556	4.21252	7.72533
8	2.82617	3.36646	4.97861	7.20257	1.20841	1.61545	4.01349	6.98762
9	2.59077	3.07319	4.49914	6.65564	1.15233	1.54048	3.82723	6.40398
10	2.39949	2.83460	4.11333	6.16572	1.09982	1.47028	3.65282	5.93610
11	2.24032	2.63589	3.79613	5.72506	1.05062	1.40452	3.48944	5.55633
12	2.10523	2.46708	3.53044	5.32740	1.00452	1.34288	3.33629	5.24443
13	1.98865	2.32120	3.30420	4.96754	0.96128	1.28508	3.19268	4.98532
14	1.88659	2.19325	3.10869	4.64109	0.92071	1.23084	3.05794	4.76762
15	1.79613	2.07954	2.93749	4.34428	0.88263	1.17993	2.93146	4.58263
16	1.71507	1.97730	2.78574	4.07389	0.84686	1.13213	2.81269	4.42363
17	1.64172	1.88442	2.64976	3.82707	0.81327	1.08721	2.70110	4.28537
18	1.57479	1.79925	2.52668	3.60137	0.78169	1.04500	2.59623	4.16371
19	1.51325	1.72050	2.41427	3.39460	0.75200	1.00531	2.49763	4.05540
20	1.45129	1.65298	2.31628	3.20882	0.72408	0.96798	2.40488	3.95784
21	1.39518	1.59322	2.22634	3.04430	0.69781	0.93286	2.31762	3.86899
22	1.34383	1.53841	2.14391	2.89362	0.67308	0.89980	2.23549	3.78723
23	1.29663	1.48790	2.06796	2.75545	0.64980	0.86868	2.15817	3.71129
24	1.25305	1.44114	1.99763	2.62862	0.62788	0.83937	2.08536	3.64018
25	1.21266	1.39770	1.93227	2.51205	0.60723	0.81177	2.01678	3.57314
26	1.17510	1.35722	1.87129	2.40481	0.58777	0.78576	1.95217	3.50963
27	1.14006	1.31939	1.81427	2.30606	0.56944	0.76126	1.89130	3.44922
28	1.10727	1.28397	1.76083	2.21503	0.55217	0.73817	1.83393	3.39163
29	1.07652	1.25073	1.71065	2.13106	0.53590	0.71641	1.77987	3.33669
30	1.04761	1.21952	1.66349	2.05352	0.52056	0.69591	1.72893	3.28429
31	1.02037	1.19016	1.61913	1.98187	0.50610	0.67658	1.68092	3.23439
32	0.99464	1.16252	1.57738	1.91562	0.49248	0.65838	1.63568	3.18698
33	0.97031	1.13648	1.53809	1.85433	0.47965	0.64122	1.59307	3.14212
34	0.94726	1.11194	1.50111	1.79760	0.46757	0.62506	1.55293	3.09982
35	0.92537	1.08880	1.46630	1.74506	0.45619	0.60985	1.51513	3.06016
36	0.90457	1.06697	1.43356	1.69639	0.44547	0.59553	1.47955	3.02320
37	0.88477	1.04636	1.40276	1.65130	0.43540	0.58206	1.44609	2.98896
38	0.86589	1.02691	1.37381	1.60951	0.42592	0.56940	1.41462	2.95749
39	0.84788	1.00853	1.34660	1.57080	0.41702	0.55750	1.38506	2.92880
40	0.83065	0.99116	1.32103	1.53494	0.40867	0.54633	1.35731	2.90288
41	0.81417	0.97474	1.29699	1.50175	0.40083	0.53585	1.33128	2.87973
42	0.79838	0.95919	1.27440	1.47103	0.39349	0.52604	1.30690	2.85924
43	0.78322	0.94446	1.25314	1.44263	0.38663	0.51686	1.28410	2.84127
44	0.76866	0.93047	1.23312	1.41642	0.38022	0.50829	1.26281	2.82573
45	0.75464	0.91717	1.21421	1.39225	0.37424	0.50030	1.24297	2.81240
46	0.74114	0.90448	1.19631	1.37001	0.36868	0.49287	1.22451	2.80103
47	0.72810	0.89234	1.17929	1.34961	0.36353	0.48598	1.20739	2.79128
48	0.71570	0.88073	1.16304	1.33099	0.35876	0.47961	1.19156	2.78276
49	0.71438	0.87930	1.16091	1.31459	0.35437	0.47374	1.17697	2.78276
50	0.71314	0.87796	1.15890	1.29989	0.35034	0.46835	1.16358	2.78276
51	0.71197	0.87669	1.15700	1.28682	0.34666	0.46343	1.15136	2.78276
52	0.71086	0.87549	1.15520	1.27531	0.34332	0.45897	1.14027	2.78276
53	0.70980	0.87436	1.15351	1.26530	0.34031	0.45494	1.13028	2.78276
54	0.70880	0.87328	1.15190	1.25675	0.33763	0.45136	1.12136	2.78276
55	0.70785	0.87226	1.15038	1.24961	0.33526	0.44819	1.11349	2.78276
56	0.73218	0.90761	1.20603	1.24386	0.33320	0.44544	1.10665	2.89136
57	0.75655	0.94301	1.26176	1.23946	0.33144	0.44309	1.10083	2.99996
58	0.78096	0.97845	1.31756	1.23639	0.32999	0.44115	1.09599	3.10855
59	0.80542	1.01394	1.37341	1.23465	0.32883	0.43960	1.09214	3.21715
60	0.82990	1.04946	1.42933	1.23423	0.32796	0.43844	1.08926	3.32575
61	0.85442	1.08502	1.48531	1.23513	0.32739	0.43766	1.08735	3.43435
62	0.87897	1.12061	1.54133	1.23735	0.32710	0.43728	1.08639	3.54294
63	0.90355	1.15624	1.59740	1.24091	0.32710	0.43728	1.08639	3.65154
64	0.92816	1.19190	1.65353	1.24584	0.32739	0.43767	1.08735	3.76014
65	0.95280	1.22758	1.70969	1.25215	0.32796	0.43844	1.08926	3.86874

**Table A-4-59**  
**El Paso 1999 Summer Time Period 4 CO Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HDGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	61.16443	78.01097	116.18782	147.69481	5.20904	5.78382	37.16547	151.21286
4	47.27490	60.21341	89.74590	134.94243	4.80072	5.33045	34.25215	120.59557
5	38.90845	49.37830	73.16885	123.56264	4.43246	4.92156	31.62476	98.49716
6	33.32036	42.10486	61.85237	113.39174	4.09991	4.55231	29.25208	82.19026
7	29.32687	36.90018	53.68576	104.28714	3.79922	4.21844	27.10669	69.91170
8	26.33295	33.00233	47.55110	96.12486	3.52699	3.91617	25.16441	60.49342
9	24.00652	29.98108	42.79796	88.79655	3.28024	3.64219	23.40385	53.14493
10	22.14766	27.57486	39.02217	82.20761	3.05630	3.39355	21.80612	47.31947
11	20.62874	25.61568	35.95955	76.27525	2.85284	3.16763	20.35448	42.63206
12	19.36459	23.99062	33.43085	70.92682	2.66778	2.96215	19.03407	38.80658
13	18.29610	22.62120	31.31021	66.09869	2.49926	2.77504	17.83177	35.64163
14	17.38100	21.45099	29.50723	61.73477	2.34565	2.60449	16.73582	32.98830
15	16.58827	20.43851	27.95526	57.78612	2.20550	2.44887	15.73586	30.73489
16	15.89467	19.55275	26.60435	54.20903	2.07750	2.30674	14.82259	28.79677
17	15.28239	18.76990	25.41647	50.96547	1.96049	2.17682	13.98776	27.10892
18	14.73762	18.07152	24.36217	48.02147	1.85344	2.05796	13.22400	25.62134
19	14.24947	17.44328	23.41843	45.34712	1.75543	1.94913	12.52469	24.29500
20	13.68409	16.84721	22.53891	42.91614	1.66563	1.84942	11.88400	23.09966
21	13.04591	16.14601	21.55321	40.70483	1.58330	1.75801	11.29660	22.01151
22	12.46476	15.50384	20.65335	38.69254	1.50779	1.67417	10.75781	21.01221
23	11.93316	14.91282	19.82758	36.86072	1.43849	1.59722	10.26338	20.08727
24	11.44493	14.36655	19.06636	35.19298	1.37488	1.52659	9.80951	19.22569
25	10.99489	13.85986	18.36186	33.67470	1.31647	1.46174	9.39279	18.41905
26	10.57870	13.38849	17.70769	32.29288	1.26284	1.40219	9.01016	17.66083
27	10.19269	12.94895	17.09860	31.03598	1.21360	1.34752	8.65885	16.94624
28	9.83374	12.53834	16.53020	29.89365	1.16841	1.29734	8.33640	16.27168
29	9.49917	12.15423	15.99885	28.85686	1.12695	1.25130	8.04059	15.63463
30	9.18665	11.79453	15.50146	27.91731	1.08894	1.20910	7.76939	15.03329
31	8.89418	11.45750	15.03541	27.06783	1.05413	1.17045	7.52102	14.46615
32	8.61999	11.14156	14.59842	26.30202	1.02229	1.13510	7.29385	13.93223
33	8.36254	10.84532	14.18856	25.61418	0.99322	1.10282	7.08644	13.43106
34	8.12045	10.56756	13.80403	24.99927	0.96673	1.07341	6.89744	12.96164
35	7.89250	10.30713	13.44329	24.45282	0.94267	1.04668	6.72573	12.52377
36	7.67759	10.06299	13.10490	23.97101	0.92087	1.02249	6.57025	12.11643
37	7.47475	9.83417	12.78758	23.55046	0.90122	1.00067	6.43004	11.73948
38	7.28808	9.61977	12.49006	23.18825	0.88360	0.98110	6.30429	11.39171
39	7.10178	9.41891	12.21117	22.88188	0.86790	0.96366	6.19227	11.07236
40	6.93009	9.23077	11.94981	22.62929	0.85403	0.94826	6.09331	10.78043
41	6.76736	9.05455	11.70490	22.42879	0.84191	0.93481	6.00685	10.51474
42	6.61295	8.88946	11.47532	22.27902	0.83148	0.92322	5.93241	10.27362
43	6.46628	8.73469	11.26004	22.17900	0.82267	0.91344	5.86957	10.05557
44	6.32678	8.58943	11.05793	22.12804	0.81544	0.90541	5.81797	9.85842
45	6.19395	8.45280	10.86791	22.12587	0.80974	0.89909	5.77733	9.68012
46	6.06725	8.32383	10.68876	22.17235	0.80555	0.89444	5.74742	9.51808
47	5.94619	8.20151	10.51917	22.26790	0.80284	0.89143	5.72808	9.36913
48	5.83024	8.08467	10.35785	22.41312	0.80159	0.89005	5.71921	9.23014
49	5.83024	8.08467	10.35785	22.60898	0.80181	0.89029	5.72076	9.23014
50	5.83024	8.08467	10.35785	22.85670	0.80349	0.89215	5.73273	9.23014
51	5.83024	8.08467	10.35785	23.15811	0.80664	0.89564	5.75518	9.23014
52	5.83024	8.08467	10.35785	23.51520	0.81127	0.90079	5.78825	9.23014
53	5.83024	8.08467	10.35785	23.93030	0.81742	0.90762	5.83212	9.23014
54	5.83024	8.08467	10.35785	24.40640	0.82511	0.91616	5.88702	9.23014
55	5.83024	8.08467	10.35785	24.94679	0.83440	0.92647	5.95327	9.23014
56	6.57578	9.33274	12.08877	25.55530	0.84533	0.93860	6.03123	11.45301
57	7.32132	10.58081	13.81968	26.23631	0.85796	0.95263	6.12134	13.67591
58	8.06687	11.82889	15.55061	26.99481	0.87236	0.96862	6.22411	15.89879
59	8.81241	13.07696	17.28148	27.83641	0.88862	0.98668	6.34014	18.12167
60	9.55795	14.32504	19.01239	28.76747	0.90684	1.00690	6.47009	20.34453
61	10.30349	15.57310	20.74327	29.79515	0.92711	1.02941	6.61475	22.56741
62	11.04903	16.82115	22.47418	30.92749	0.94956	1.05434	6.77494	24.79025
63	11.79457	18.06918	24.20509	32.17358	0.97433	1.08184	6.95166	27.01315
64	12.54011	19.31728	25.93599	33.54359	1.00157	1.11208	7.14599	29.23604
65	13.28565	20.56532	27.66692	35.04886	1.03144	1.14525	7.35913	31.45892

**Table A-4-60**  
**El Paso 1999 Summer Time Period 4 NOX Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	2.04126	2.20944	2.63529	3.96126	2.55550	2.82024	20.77422	0.92604
4	1.87194	2.02846	2.44141	4.00225	2.44787	2.70146	19.89926	0.88574
5	1.76970	1.91931	2.32572	4.04325	2.34811	2.59136	19.08824	0.85230
6	1.70111	1.84636	2.24937	4.08424	2.25561	2.48928	18.33630	0.82519
7	1.65183	1.79431	2.19569	4.12523	2.16983	2.39462	17.63901	0.80391
8	1.61468	1.75549	2.15631	4.16622	2.09028	2.30683	16.99236	0.78796
9	1.58566	1.72561	2.12656	4.20721	2.01651	2.22541	16.39265	0.77688
10	1.56238	1.70208	2.10362	4.24820	1.94811	2.14992	15.83660	0.77021
11	1.54330	1.68324	2.08567	4.28920	1.88470	2.07995	15.32115	0.76751
12	1.52740	1.66798	2.07150	4.33018	1.82595	2.01511	14.84353	0.76839
13	1.51396	1.65549	2.06025	4.37118	1.77154	1.95506	14.40123	0.77243
14	1.50247	1.64522	2.05130	4.41217	1.72120	1.89950	13.99197	0.77926
15	1.49256	1.63673	2.04418	4.45316	1.67466	1.84815	13.61366	0.78853
16	1.48394	1.62970	2.03854	4.49415	1.63169	1.80073	13.26441	0.79988
17	1.47638	1.62385	2.03411	4.53514	1.59209	1.75702	12.94247	0.81300
18	1.46972	1.61901	2.03066	4.57613	1.55566	1.71682	12.64629	0.82758
19	1.46383	1.61499	2.02801	4.61713	1.52222	1.67992	12.37445	0.84334
20	1.46533	1.61312	2.02738	4.65812	1.49161	1.64614	12.12566	0.86001
21	1.47397	1.62317	2.03979	4.69911	1.46370	1.61534	11.89876	0.87734
22	1.48188	1.63253	2.05139	4.74010	1.43835	1.58736	11.69269	0.89511
23	1.48917	1.64128	2.06225	4.78109	1.41545	1.56209	11.50653	0.91309
24	1.49589	1.64948	2.07246	4.82208	1.39489	1.53940	11.33941	0.93109
25	1.50214	1.65718	2.08206	4.86307	1.37659	1.51920	11.19059	0.94895
26	1.50795	1.66440	2.09110	4.90406	1.36045	1.50139	11.05944	0.96650
27	1.51339	1.67120	2.09964	4.94506	1.34642	1.48590	10.94534	0.98360
28	1.51848	1.67759	2.10770	4.98604	1.33442	1.47266	10.84782	1.00014
29	1.52327	1.68361	2.11533	5.02704	1.32441	1.46162	10.76645	1.01601
30	1.52779	1.68927	2.12256	5.06803	1.31634	1.45271	10.70086	1.03114
31	1.53206	1.69461	2.12942	5.10902	1.31019	1.44592	10.65079	1.04546
32	1.53611	1.69964	2.13594	5.15001	1.30591	1.44120	10.61602	1.05891
33	1.53997	1.70438	2.14216	5.19101	1.30350	1.43853	10.59640	1.07148
34	1.54365	1.70886	2.14810	5.23200	1.30294	1.43791	10.59184	1.08315
35	1.54717	1.71309	2.15380	5.27299	1.30422	1.43934	10.60233	1.09394
36	1.55054	1.71709	2.15930	5.31398	1.30737	1.44281	10.62791	1.10387
37	1.55380	1.72089	2.16461	5.35497	1.31239	1.44835	10.66870	1.11300
38	1.55694	1.72451	2.16979	5.39596	1.31930	1.45597	10.72486	1.12137
39	1.55998	1.72797	2.17486	5.43695	1.32813	1.46572	10.79662	1.12908
40	1.56295	1.73130	2.17987	5.47795	1.33891	1.47762	10.88433	1.13623
41	1.56584	1.73451	2.18485	5.51894	1.35171	1.49174	10.98832	1.14294
42	1.56868	1.73765	2.18984	5.55993	1.36656	1.50813	11.10909	1.14934
43	1.57148	1.74073	2.19489	5.60092	1.38354	1.52687	11.24715	1.15560
44	1.57426	1.74378	2.20004	5.64191	1.40273	1.54805	11.40308	1.16189
45	1.57701	1.74685	2.20534	5.68290	1.42420	1.57174	11.57762	1.16841
46	1.57977	1.74996	2.21084	5.72390	1.44805	1.59807	11.77153	1.17536
47	1.58254	1.75313	2.21659	5.76488	1.47440	1.62714	11.98570	1.18298
48	1.58534	1.75643	2.22265	5.80588	1.50335	1.65910	12.22110	1.19151
49	1.64111	1.82589	2.31324	5.84687	1.53506	1.69409	12.47885	1.23031
50	1.69687	1.89535	2.40383	5.88786	1.56966	1.73227	12.76011	1.26911
51	1.75264	1.96482	2.49442	5.92885	1.60732	1.77383	13.06626	1.30791
52	1.80840	2.03428	2.58501	5.96985	1.64822	1.81897	13.39879	1.34671
53	1.86417	2.10375	2.67559	6.01083	1.69257	1.86791	13.75928	1.38551
54	1.91993	2.17321	2.76618	6.05182	1.74058	1.92090	14.14956	1.42430
55	1.97570	2.24268	2.85677	6.09282	1.79249	1.97819	14.57161	1.46310
56	2.03146	2.31214	2.94736	6.13381	1.84858	2.04009	15.02753	1.50190
57	2.08723	2.38160	3.03795	6.17480	1.90913	2.10691	15.51977	1.54070
58	2.14299	2.45107	3.12854	6.21579	1.97447	2.17901	16.05087	1.57950
59	2.19876	2.52053	3.21913	6.25678	2.04494	2.25679	16.62376	1.61830
60	2.25453	2.59000	3.30971	6.29777	2.12094	2.34066	17.24158	1.65709
61	2.31029	2.65946	3.40030	6.33877	2.20289	2.43110	17.90773	1.69589
62	2.36606	2.72892	3.49089	6.37976	2.29125	2.52862	18.62607	1.73469
63	2.42182	2.79839	3.58148	6.42075	2.38655	2.63379	19.40076	1.77349
64	2.47759	2.86785	3.67207	6.46174	2.48934	2.74723	20.23640	1.81229
65	2.53335	2.93731	3.76266	6.50273	2.60026	2.86963	21.13800	1.85108

**Table A-4-61**  
**El Paso 1999 Winter Time Period 1 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	9.77409	12.07733	17.29942	13.00677	1.58374	2.12362	5.24770	16.50023
4	7.55692	9.37299	13.44731	11.87415	1.50361	2.01617	4.98219	13.58642
5	6.21863	7.71500	11.01550	10.85826	1.42879	1.91585	4.73428	11.42831
6	5.32318	6.59522	9.34554	9.94583	1.35889	1.82212	4.50267	9.79937
7	4.68234	5.78990	8.13452	9.12528	1.29355	1.73450	4.28616	8.54859
8	4.20135	5.18431	7.22126	8.58640	1.23243	1.65255	4.08364	7.57307
9	3.82726	4.71337	6.51149	7.72020	1.17523	1.57586	3.89413	6.80129
10	3.52814	4.33728	5.94629	7.11878	1.12168	1.50405	3.71668	6.18258
11	3.28359	4.03039	5.48697	6.57518	1.07151	1.43678	3.55043	5.68039
12	3.07996	3.77536	5.10714	6.08322	1.02448	1.37372	3.39461	5.26794
13	2.90778	3.56012	4.78819	5.63747	0.98038	1.31459	3.24849	4.92531
14	2.76027	3.37596	4.51669	5.23310	0.93901	1.25911	3.11139	4.63743
15	2.63246	3.21648	4.28273	4.86585	0.90017	1.20703	2.98270	4.39280
16	2.52061	3.07687	4.07884	4.53192	0.86370	1.15813	2.86185	4.18255
17	2.42187	2.95345	3.89932	4.22796	0.82943	1.11218	2.74832	3.99971
18	2.33401	2.84338	3.73977	3.95098	0.79723	1.06900	2.64161	3.83883
19	2.25530	2.74442	3.59674	3.69830	0.76695	1.02840	2.54129	3.69561
20	2.16740	2.65060	3.46217	3.46757	0.73847	0.99021	2.44692	3.56660
21	2.07668	2.54884	3.32238	3.25665	0.71168	0.95428	2.35813	3.44911
22	1.99407	2.45571	3.19451	3.06367	0.68646	0.92047	2.27457	3.34100
23	1.91850	2.37006	3.07691	2.88694	0.66271	0.88863	2.19590	3.24057
24	1.84910	2.29096	2.96826	2.72494	0.64036	0.85865	2.12181	3.14654
25	1.78512	2.21764	2.86748	2.57632	0.61930	0.83041	2.05203	3.05790
26	1.72596	2.14948	2.77368	2.43987	0.59946	0.80381	1.98629	2.97390
27	1.67109	2.08595	2.68614	2.31450	0.58076	0.77874	1.92436	2.89402
28	1.62006	2.02662	2.60428	2.19923	0.56315	0.75512	1.86599	2.81787
29	1.57249	1.97112	2.52759	2.09318	0.54655	0.73286	1.81099	2.74522
30	1.52805	1.91915	2.45568	1.99556	0.53091	0.71189	1.75915	2.67592
31	1.48645	1.87043	2.38818	1.90566	0.51616	0.69212	1.71030	2.60994
32	1.44746	1.82473	2.32480	1.82285	0.50227	0.67350	1.66428	2.54725
33	1.41083	1.78185	2.26528	1.74653	0.48919	0.65595	1.62092	2.48793
34	1.37638	1.74159	2.20938	1.67618	0.47686	0.63942	1.58007	2.43199
35	1.34394	1.70380	2.15691	1.61134	0.46525	0.62386	1.54162	2.37955
36	1.31335	1.66831	2.10767	1.55159	0.45433	0.60921	1.50542	2.33066
37	1.28446	1.63499	2.06146	1.49652	0.44405	0.59543	1.47137	2.28539
38	1.25716	1.60370	2.01814	1.44581	0.43439	0.58247	1.43935	2.24377
39	1.23133	1.57431	1.97753	1.39912	0.42531	0.57030	1.40927	2.20584
40	1.20686	1.54671	1.93947	1.35619	0.41679	0.55887	1.38103	2.17156
41	1.18365	1.52078	1.90381	1.31676	0.40880	0.54816	1.35455	2.14094
42	1.16162	1.49639	1.87040	1.28058	0.40131	0.53812	1.32975	2.11385
43	1.14069	1.47345	1.83906	1.24745	0.39431	0.52873	1.30655	2.09008
44	1.12077	1.45183	1.80965	1.21719	0.38777	0.51996	1.28489	2.06954
45	1.10179	1.43142	1.78198	1.18963	0.38168	0.51179	1.26470	2.05191
46	1.08368	1.41209	1.75588	1.16460	0.37601	0.50419	1.24592	2.03688
47	1.06637	1.39370	1.73116	1.14198	0.37076	0.49714	1.22850	2.02399
48	1.04979	1.37612	1.70763	1.12165	0.36589	0.49063	1.21239	2.01272
49	1.04979	1.37612	1.70763	1.10350	0.36141	0.48462	1.19754	2.01272
50	1.04979	1.37612	1.70763	1.08743	0.35730	0.47911	1.18392	2.01272
51	1.04979	1.37612	1.70763	1.07335	0.35355	0.47407	1.17148	2.01272
52	1.04979	1.37612	1.70763	1.06120	0.35014	0.46951	1.16020	2.01272
53	1.04979	1.37612	1.70763	1.05091	0.34708	0.46539	1.15003	2.01272
54	1.04979	1.37612	1.70763	1.04243	0.34434	0.46172	1.14096	2.01272
55	1.04979	1.37612	1.70763	1.03573	0.34192	0.45848	1.13296	2.01272
56	1.09686	1.44471	1.80236	1.03075	0.33982	0.45567	1.12600	2.15632
57	1.14392	1.51331	1.89709	1.02748	0.33803	0.45327	1.12007	2.29993
58	1.19099	1.58189	1.99183	1.02591	0.33655	0.45128	1.11515	2.44354
59	1.23806	1.65049	2.08656	1.02602	0.33537	0.44969	1.11123	2.58714
60	1.28513	1.71908	2.18129	1.02782	0.33448	0.44851	1.10830	2.73075
61	1.33220	1.78767	2.27603	1.03131	0.33389	0.44772	1.10635	2.87435
62	1.37927	1.85626	2.37076	1.03651	0.33360	0.44732	1.10538	3.01796
63	1.42634	1.92485	2.46550	1.04346	0.33360	0.44732	1.10538	3.16156
64	1.47340	1.99344	2.56023	1.05217	0.33389	0.44772	1.10636	3.30517
65	1.52047	2.06203	2.65496	1.06270	0.33448	0.44851	1.10830	3.44878

**Table A-4-62**  
**El Paso 1999 Winter Time Period 1 CO Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HDGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	117.22063	144.32500	195.42569	183.31433	5.26306	5.84962	37.41069	218.33461
4	90.62111	111.62682	151.16652	167.48647	4.85051	5.39109	34.47813	174.12663
5	74.59886	91.71069	123.46744	153.36217	4.47843	4.97755	31.83342	142.21893
6	63.89732	78.33835	104.57535	140.73840	4.14243	4.60410	29.44508	118.67366
7	56.24965	68.76888	90.94701	129.43803	3.83862	4.26643	27.28554	100.94473
8	50.51619	61.60254	80.71011	119.30728	3.56357	3.96073	25.33043	87.34579
9	46.06091	56.04846	72.77760	110.21162	3.31425	3.68363	23.55826	76.73538
10	42.50108	51.62563	66.47437	102.03362	3.08800	3.43215	21.95000	68.32408
11	39.59229	48.02512	61.36005	94.67052	2.88243	3.20367	20.48877	61.55602
12	37.17130	45.03912	57.13577	88.03218	2.69545	2.99585	19.15965	56.03244
13	35.12503	42.52309	53.59207	82.03970	2.52518	2.79661	17.94942	51.46255
14	33.37250	40.37332	50.57819	76.62335	2.36998	2.63412	16.84625	47.63147
15	31.85435	38.51350	47.98322	71.72240	2.22837	2.47672	15.83968	44.37781
16	30.52603	36.88635	45.72398	67.28261	2.09905	2.33298	14.92039	41.57927
17	29.35342	35.44818	43.73712	63.25677	1.98082	2.20158	14.08005	39.14224
18	28.31015	34.16513	41.97351	59.60280	1.87267	2.08137	13.31125	36.99432
19	27.37532	33.01060	40.39496	56.28352	1.77363	1.97131	12.60732	35.07928
20	26.28931	31.87096	38.86336	53.26625	1.68291	1.87046	11.96240	33.35330
21	25.06227	30.51399	37.12888	50.52168	1.59972	1.77801	11.37113	31.78217
22	23.94492	29.27148	35.54594	48.02400	1.52343	1.69321	10.82879	30.33928
23	22.92282	28.12816	34.09406	45.75043	1.45341	1.61539	10.33109	29.00380
24	21.98413	27.07158	32.75627	43.68047	1.38914	1.54395	9.87423	27.75975
25	21.11887	26.09164	31.51880	41.79604	1.33012	1.47837	9.45476	26.59502
26	20.31874	25.18021	30.37035	40.08096	1.27594	1.41814	9.06960	25.50023
27	19.57663	24.33038	29.30150	38.52095	1.22619	1.36285	8.71598	24.46846
28	18.88654	23.53659	28.30450	37.10310	1.18053	1.31210	8.39140	23.49448
29	18.24332	22.79411	27.37277	35.81627	1.13864	1.26554	8.09364	22.57463
30	17.64250	22.09885	26.50079	34.65012	1.10024	1.22286	7.82065	21.70634
31	17.08022	21.44740	25.68394	33.59578	1.06506	1.18376	7.57064	20.88748
32	16.55312	20.83675	24.91800	32.64529	1.03289	1.14801	7.34197	20.11656
33	16.05817	20.26413	24.19951	31.79153	1.00352	1.11536	7.13319	19.39293
34	15.59276	19.72720	23.52527	31.02831	0.97676	1.08562	6.94295	18.71513
35	15.15452	19.22374	22.89247	30.35008	0.95244	1.05859	6.77010	18.08290
36	14.74135	18.75171	22.29849	29.75211	0.93042	1.03412	6.61360	17.49477
37	14.35136	18.30920	21.74112	29.23010	0.91057	1.01205	6.47246	16.95047
38	13.98285	17.89450	21.21808	28.78055	0.89276	0.99226	6.34589	16.44835
39	13.63426	17.50589	20.72723	28.40031	0.87690	0.97463	6.23312	15.98726
40	13.30416	17.14182	20.26671	28.08679	0.86288	0.95905	6.13351	15.56575
41	12.99127	16.80070	19.83464	27.83795	0.85064	0.94544	6.04648	15.18212
42	12.69436	16.48102	19.42897	27.65202	0.84010	0.93373	5.97155	14.83396
43	12.41232	16.18123	19.04802	27.52788	0.83120	0.92384	5.90829	14.51913
44	12.14409	15.89975	18.68980	27.46465	0.82389	0.91571	5.85635	14.23446
45	11.88866	15.63492	18.35252	27.46193	0.81814	0.90932	5.81545	13.97701
46	11.64501	15.38486	18.03409	27.51964	0.81390	0.90461	5.78534	13.74305
47	11.41219	15.14764	17.73235	27.63824	0.81116	0.90157	5.76587	13.52799
48	11.18924	14.92105	17.44508	27.81850	0.80991	0.90017	5.75694	13.32729
49	11.18924	14.92105	17.44508	28.06154	0.81013	0.90041	5.75850	13.32729
50	11.18924	14.92105	17.44508	28.36909	0.81182	0.90230	5.77055	13.32729
51	11.18924	14.92105	17.44508	28.74315	0.81500	0.90583	5.79315	13.32729
52	11.18924	14.92105	17.44508	29.18631	0.81969	0.91104	5.82644	13.32729
53	11.18924	14.92105	17.44508	29.70157	0.82590	0.91794	5.87060	13.32729
54	11.18924	14.92105	17.44508	30.29251	0.83367	0.92658	5.92587	13.32729
55	11.18924	14.92105	17.44508	30.96317	0.84305	0.93701	5.99255	13.32729
56	12.61373	17.16251	20.26183	31.71848	0.85409	0.94928	6.07102	16.53688
57	14.03823	19.40399	23.07860	32.56374	0.86685	0.96346	6.16173	19.74646
58	15.46273	21.64548	25.89534	33.50510	0.88141	0.97964	6.26518	22.95604
59	16.88718	23.88695	28.71214	34.54976	0.89784	0.99790	6.38197	26.16563
60	18.31169	26.12843	31.52896	35.70532	0.91624	1.01836	6.51278	29.37520
61	19.73618	28.36992	34.34569	36.98082	0.93673	1.04112	6.65839	32.58481
62	21.16069	30.61140	37.16252	38.38628	0.95941	1.06634	6.81964	35.79437
63	22.58516	32.85294	39.97931	39.93289	0.98444	1.09415	6.99752	39.00400
64	24.00967	35.09439	42.79605	41.63330	1.01196	1.12474	7.19313	42.21359
65	25.43416	37.33591	45.61284	43.50160	1.04214	1.15828	7.40768	45.42317

**Table A-4-63  
El Paso 1999 Winter Time Period 1 NOX Emission Rates (grams/mile)**

<b>Speed</b>	<b>LDGV</b>	<b>LDGT1</b>	<b>LDGT2</b>	<b>HJGV</b>	<b>LDDV</b>	<b>LDDT</b>	<b>HDDV</b>	<b>MC</b>
3	2.68888	2.86847	3.30432	4.31730	2.60223	2.88516	21.40353	1.11001
4	2.46647	2.63308	3.05976	4.36197	2.49263	2.76365	20.50208	1.06171
5	2.33208	2.49110	2.91355	4.40665	2.39104	2.65101	19.66647	1.02163
6	2.24185	2.39617	2.81684	4.45133	2.29685	2.54658	18.89177	0.98913
7	2.17696	2.32839	2.74863	4.49600	2.20950	2.44974	18.17336	0.96362
8	2.12799	2.27778	2.69839	4.54068	2.12850	2.35993	17.50711	0.94450
9	2.08969	2.23876	2.66027	4.58535	2.05338	2.27664	16.88924	0.93122
10	2.05893	2.20797	2.63071	4.63003	1.98373	2.19941	16.31633	0.92322
11	2.03368	2.18326	2.60743	4.67470	1.91916	2.12783	15.78526	0.91999
12	2.01261	2.16315	2.58890	4.71938	1.85933	2.06149	15.29318	0.92104
13	1.99478	2.14665	2.57405	4.76406	1.80393	2.00006	14.83748	0.92589
14	1.97951	2.13300	2.56210	4.80873	1.75267	1.94323	14.41583	0.93408
15	1.96632	2.12165	2.55246	4.85341	1.70528	1.89069	14.02606	0.94518
16	1.95482	2.11218	2.54470	4.89808	1.66153	1.84218	13.66622	0.95879
17	1.94474	2.10426	2.53847	4.94276	1.62120	1.79747	13.33453	0.97452
18	1.93584	2.09762	2.53349	4.98744	1.58410	1.75634	13.02938	0.99200
19	1.92795	2.09205	2.52955	5.03211	1.55005	1.71859	12.74930	1.01089
20	1.92979	2.08948	2.52808	5.07679	1.51889	1.68403	12.49298	1.03087
21	1.94118	2.10271	2.54312	5.12146	1.49046	1.65252	12.25920	1.05164
22	1.95161	2.11500	2.55716	5.16613	1.46465	1.62390	12.04689	1.07293
23	1.96121	2.12647	2.57031	5.21081	1.44133	1.59804	11.85509	1.09449
24	1.97007	2.13719	2.58264	5.25548	1.42040	1.57483	11.68291	1.11607
25	1.97830	2.14724	2.59425	5.30016	1.40176	1.55417	11.52959	1.13747
26	1.98596	2.15666	2.60518	5.34484	1.38533	1.53595	11.39446	1.15851
27	1.99313	2.16551	2.61550	5.38951	1.37104	1.52011	11.27691	1.17901
28	1.99985	2.17384	2.62526	5.43419	1.35882	1.50656	11.17643	1.19884
29	2.00618	2.18167	2.63449	5.47887	1.34863	1.49526	11.09259	1.21786
30	2.01215	2.18904	2.64325	5.52354	1.34041	1.48615	11.02502	1.23599
31	2.01780	2.19599	2.65158	5.56822	1.33414	1.47920	10.97343	1.25315
32	2.02317	2.20253	2.65950	5.61289	1.32979	1.47437	10.93761	1.26928
33	2.02829	2.20871	2.66707	5.65757	1.32733	1.47164	10.91739	1.28435
34	2.03318	2.21455	2.67432	5.70225	1.32676	1.47101	10.91269	1.29834
35	2.03787	2.22007	2.68128	5.74692	1.32807	1.47247	10.92351	1.31127
36	2.04238	2.22530	2.68801	5.79160	1.33127	1.47602	10.94986	1.32318
37	2.04673	2.23028	2.69452	5.83627	1.33638	1.48168	10.99189	1.33411
38	2.05094	2.23501	2.70088	5.88095	1.34342	1.48948	11.04974	1.34415
39	2.05503	2.23955	2.70713	5.92562	1.35241	1.49945	11.12368	1.35339
40	2.05902	2.24392	2.71330	5.97030	1.36339	1.51163	11.21404	1.36196
41	2.06294	2.24814	2.71945	6.01497	1.37642	1.52608	11.32119	1.37000
42	2.06678	2.25226	2.72562	6.05965	1.39155	1.54285	11.44561	1.37768
43	2.07059	2.25630	2.73187	6.10433	1.40884	1.56202	11.58785	1.38518
44	2.07435	2.26031	2.73825	6.14900	1.42837	1.58368	11.74851	1.39272
45	2.07811	2.26432	2.74481	6.19368	1.45024	1.60792	11.92834	1.40053
46	2.08187	2.26838	2.75163	6.23835	1.47453	1.63485	12.12812	1.40887
47	2.08566	2.27252	2.75874	6.28303	1.50136	1.66459	12.34878	1.41800
48	2.08949	2.27678	2.76623	6.32771	1.53084	1.69728	12.59131	1.42823
49	2.16417	2.36725	2.87910	6.37238	1.56312	1.73308	12.85686	1.47474
50	2.23884	2.45772	2.99198	6.41706	1.59836	1.77214	13.14665	1.52124
51	2.31351	2.54820	3.10487	6.46174	1.63671	1.81466	13.46207	1.56775
52	2.38819	2.63867	3.21775	6.50641	1.67836	1.86084	13.80468	1.61425
53	2.46286	2.72914	3.33063	6.55109	1.72352	1.91091	14.17609	1.66076
54	2.53753	2.81961	3.44351	6.59576	1.77240	1.96511	14.57819	1.70727
55	2.61221	2.91008	3.55639	6.64044	1.82527	2.02373	15.01302	1.75377
56	2.68688	3.00055	3.66927	6.68511	1.88238	2.08705	15.48275	1.80028
57	2.76156	3.09102	3.78216	6.72979	1.94404	2.15541	15.98991	1.84679
58	2.83624	3.18149	3.89503	6.77446	2.01057	2.22917	16.53709	1.89329
59	2.91091	3.27197	4.00792	6.81914	2.08233	2.30874	17.12735	1.93980
60	2.98558	3.36244	4.12080	6.86381	2.15971	2.39454	17.76387	1.98631
61	3.06026	3.45291	4.23368	6.90849	2.24317	2.48706	18.45021	2.03281
62	3.13493	3.54338	4.34656	6.95316	2.33315	2.58682	19.19029	2.07932
63	3.20961	3.63385	4.45944	6.99784	2.43019	2.69441	19.98846	2.12582
64	3.28428	3.72432	4.57232	7.04252	2.53486	2.81047	20.84943	2.17233
65	3.35896	3.81479	4.68520	7.08720	2.64780	2.93569	21.77834	2.21884

**Table A-4-64**  
**El Paso 1999 Winter Time Period 2 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HQGV	LDDV	LDDT	HDDV	MC
3	13.19899	13.44658	19.82297	21.67047	1.58374	2.12362	5.24770	14.51358
4	9.58595	9.76824	14.30461	16.71100	1.50361	2.01617	4.98219	12.06850
5	7.58287	7.72311	11.20407	13.91921	1.42879	1.91585	4.73428	10.25756
6	6.31617	6.42735	9.22599	12.05122	1.35889	1.82212	4.50267	8.89067
7	5.44531	5.53618	7.86142	10.66654	1.29355	1.73450	4.28616	7.84111
8	4.91605	4.96015	6.97616	9.75890	1.23243	1.65255	4.08364	7.02252
9	4.50192	4.51501	6.29531	8.98213	1.17523	1.57586	3.89413	6.37490
10	4.15787	4.15458	5.74839	8.29033	1.12168	1.50405	3.71668	5.85572
11	3.86481	3.85591	5.29949	7.66972	1.07151	1.43678	3.55043	5.43432
12	3.60999	3.60354	4.92416	7.10978	1.02448	1.37372	3.39461	5.08822
13	3.38457	3.38670	4.60521	6.60219	0.98038	1.31459	3.24849	4.80071
14	3.18221	3.19764	4.33024	6.14019	0.93901	1.25911	3.11139	4.55914
15	2.99828	3.03065	4.09009	5.71817	0.90017	1.20703	2.98270	4.35387
16	2.82928	2.88147	3.87789	5.33144	0.86370	1.15813	2.86185	4.17744
17	2.67255	2.74681	3.68835	4.97597	0.82943	1.11218	2.74832	4.02402
18	2.52603	2.62415	3.51743	4.64830	0.79723	1.06900	2.64161	3.88902
19	2.38806	2.51147	3.36192	4.34546	0.76695	1.02840	2.54129	3.76883
20	2.26656	2.41315	3.22365	4.08331	0.73847	0.99021	2.44692	3.66058
21	2.17817	2.32325	3.09565	3.86883	0.71168	0.95428	2.35813	3.56199
22	2.09711	2.24094	2.97853	3.67228	0.68646	0.92047	2.27457	3.47127
23	2.02241	2.16523	2.87080	3.49190	0.66271	0.88863	2.19590	3.38700
24	1.95329	2.09529	2.77125	3.32611	0.64036	0.85865	2.12181	3.30809
25	1.88908	2.03044	2.67890	3.17354	0.61930	0.83041	2.05203	3.23371
26	1.82921	1.97013	2.59293	3.03294	0.59946	0.80381	1.98629	3.16323
27	1.77322	1.91388	2.51269	2.90322	0.58076	0.77874	1.92436	3.09620
28	1.72070	1.86132	2.43762	2.78339	0.56315	0.75512	1.86599	3.03229
29	1.67130	1.81212	2.36727	2.67259	0.54655	0.73286	1.81099	2.97134
30	1.62472	1.76598	2.30126	2.57001	0.53091	0.71189	1.75915	2.91319
31	1.58071	1.72269	2.23925	2.47496	0.51616	0.69212	1.71030	2.85782
32	1.53903	1.68201	2.18098	2.38680	0.50227	0.67350	1.66428	2.80521
33	1.49949	1.64377	2.12620	2.30497	0.48919	0.65595	1.62092	2.75543
34	1.46191	1.60780	2.07470	2.22894	0.47686	0.63942	1.58007	2.70849
35	1.42612	1.57395	2.02627	2.15826	0.46525	0.62386	1.54162	2.66449
36	1.39199	1.54209	1.98073	2.09252	0.45433	0.60921	1.50542	2.62347
37	1.35940	1.51207	1.93793	2.03132	0.44405	0.59543	1.47137	2.58548
38	1.32822	1.48380	1.89771	1.97435	0.43439	0.58247	1.43935	2.55055
39	1.29836	1.45715	1.85991	1.92128	0.42531	0.57030	1.40927	2.51873
40	1.26971	1.43203	1.82439	1.87185	0.41679	0.55887	1.38103	2.48996
41	1.24220	1.40833	1.79102	1.82580	0.40880	0.54816	1.35455	2.46427
42	1.21574	1.38595	1.75965	1.78290	0.40131	0.53812	1.32975	2.44153
43	1.19026	1.36480	1.73013	1.74296	0.39431	0.52873	1.30655	2.42159
44	1.16568	1.34478	1.70233	1.70578	0.38777	0.51996	1.28489	2.40435
45	1.14195	1.32578	1.67609	1.67122	0.38168	0.51179	1.26470	2.38956
46	1.11900	1.30773	1.65125	1.63910	0.37601	0.50419	1.24592	2.37695
47	1.09677	1.29048	1.62766	1.60930	0.37076	0.49714	1.22850	2.36613
48	1.07568	1.27387	1.60494	1.58178	0.36589	0.49063	1.21239	2.35667
49	1.07251	1.27038	1.59929	1.55723	0.36141	0.48462	1.19754	2.35667
50	1.06952	1.26710	1.59397	1.53503	0.35730	0.47911	1.18392	2.35667
51	1.06671	1.26401	1.58896	1.51504	0.35355	0.47407	1.17148	2.35667
52	1.06405	1.26109	1.58423	1.49718	0.35014	0.46951	1.16020	2.35667
53	1.06155	1.25834	1.57977	1.48135	0.34708	0.46539	1.15003	2.35667
54	1.05917	1.25573	1.57555	1.46749	0.34434	0.46172	1.14096	2.35667
55	1.05693	1.25326	1.57156	1.45552	0.34192	0.45848	1.13296	2.35667
56	1.09224	1.30372	1.64299	1.44540	0.33982	0.45567	1.12600	2.47718
57	1.12765	1.35431	1.71463	1.43707	0.33803	0.45327	1.12007	2.59768
58	1.16317	1.40500	1.78644	1.43051	0.33655	0.45128	1.11515	2.71818
59	1.19879	1.45580	1.85843	1.42569	0.33537	0.44969	1.11123	2.83869
60	1.23449	1.50670	1.93057	1.42259	0.33448	0.44851	1.10830	2.95919
61	1.27028	1.55768	2.00287	1.42121	0.33389	0.44772	1.10635	3.07970
62	1.30615	1.60876	2.07530	1.42153	0.33360	0.44732	1.10538	3.20020
63	1.34208	1.65991	2.14787	1.42359	0.33360	0.44732	1.10538	3.32070
64	1.37809	1.71114	2.22055	1.42739	0.33389	0.44772	1.10636	3.44121
65	1.41416	1.76244	2.29335	1.43295	0.33448	0.44851	1.10830	3.56171



**Table A-4-65**  
**El Paso 1999 Winter Time Period 2 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	106.42792	127.44464	170.98697	177.36943	5.26306	5.84962	37.41069	175.20731
4	82.27844	98.52223	132.26646	162.05489	4.85051	5.39109	34.47813	139.73164
5	67.74013	80.94006	108.10760	148.38863	4.47843	4.97755	31.83342	114.12666
6	58.03235	69.14546	91.65659	136.17424	4.14243	4.60410	29.44508	95.23218
7	51.09532	60.70711	79.79726	125.24034	3.83862	4.26643	27.28554	81.00528
8	45.89430	54.38661	70.89009	115.43811	3.56357	3.96073	25.33043	70.09251
9	41.85231	49.48587	63.98618	106.63744	3.31425	3.68363	23.55826	61.57796
10	38.62210	45.58101	58.49776	98.72461	3.08800	3.43215	21.95000	54.82809
11	35.98212	42.40007	54.04198	91.60031	2.88243	3.20367	20.48877	49.39693
12	33.78450	39.76041	50.35931	85.17734	2.69545	2.99585	19.15965	44.96440
13	31.92676	37.53505	47.26807	79.37912	2.52518	2.80661	17.94942	41.29723
14	30.33546	35.63280	44.63754	74.13846	2.36998	2.63412	16.84625	38.22282
15	28.95691	33.98677	42.37155	69.39641	2.22837	2.47672	15.83968	35.61192
16	27.75073	32.54662	40.39807	65.10056	2.09905	2.33298	14.92039	33.36621
17	26.68604	31.27403	38.66202	61.20537	1.98082	2.20158	14.08005	31.41055
18	25.73885	30.13921	37.12091	57.66985	1.87267	2.08137	13.31125	29.68690
19	24.89032	29.11887	35.74153	54.45822	1.77363	1.97131	12.60732	28.15012
20	23.90622	28.11807	34.40016	51.53882	1.68291	1.87046	11.96240	26.76508
21	22.79639	26.92450	32.87038	48.88321	1.59972	1.77801	11.37113	25.50426
22	21.78607	25.83260	31.47479	46.46661	1.52343	1.69321	10.82879	24.34639
23	20.86211	24.82880	30.19513	44.26675	1.45341	1.61539	10.33109	23.27472
24	20.01376	23.90205	29.01656	42.26389	1.38914	1.54395	9.87423	22.27640
25	19.23203	23.04349	27.92682	40.44058	1.33012	1.47837	9.45476	21.34177
26	18.50925	22.24557	26.91591	38.78114	1.27594	1.41814	9.06960	20.46324
27	17.83905	21.50224	25.97548	37.27170	1.22619	1.36285	8.71598	19.63525
28	17.21597	20.80844	25.09854	35.89983	1.18053	1.31210	8.39140	18.85365
29	16.63531	20.15981	24.27930	34.65469	1.13864	1.26554	8.09364	18.11551
30	16.09299	19.55269	23.51273	33.52643	1.10024	1.22286	7.82065	17.41873
31	15.58549	18.98395	22.79469	32.50626	1.06506	1.18376	7.57064	16.76161
32	15.10970	18.45078	22.12143	31.58658	1.03289	1.14801	7.34197	16.14297
33	14.66292	17.95071	21.48981	30.76054	1.00352	1.11536	7.13319	15.56230
34	14.24274	17.48161	20.89693	30.02208	0.97676	1.08562	6.94295	15.01839
35	13.84704	17.04149	20.34029	29.36584	0.95244	1.05859	6.77010	14.51104
36	13.47388	16.62846	19.81758	28.78722	0.93042	1.03412	6.61360	14.03907
37	13.12155	16.24086	19.32674	28.28220	0.91057	1.01205	6.47246	13.60229
38	12.78850	15.87714	18.86580	27.84723	0.89276	0.99226	6.34589	13.19934
39	12.47333	15.53577	18.43286	27.47929	0.87690	0.97463	6.23312	12.82932
40	12.17474	15.21539	18.02625	27.17593	0.86288	0.95905	6.13351	12.49107
41	11.89157	14.91465	17.64427	26.93513	0.85064	0.94544	6.04648	12.18321
42	11.62274	14.63222	17.28523	26.75528	0.84010	0.93373	5.97155	11.90383
43	11.36723	14.36678	16.94766	26.63516	0.83120	0.92384	5.90829	11.65119
44	11.12410	14.11703	16.62981	26.57393	0.82389	0.91571	5.85635	11.42275
45	10.89246	13.88156	16.33015	26.57133	0.81814	0.90932	5.81545	11.21615
46	10.67142	13.65884	16.04691	26.62717	0.81390	0.90461	5.78534	11.02841
47	10.46014	13.44729	15.77823	26.74193	0.81116	0.90157	5.76587	10.85582
48	10.25780	13.24513	15.52232	26.91629	0.80991	0.90017	5.75694	10.69477
49	10.25780	13.24513	15.52232	27.15150	0.81013	0.90041	5.75850	10.69477
50	10.25780	13.24513	15.52232	27.44905	0.81182	0.90230	5.77055	10.69477
51	10.25780	13.24513	15.52232	27.81102	0.81500	0.90583	5.79315	10.69477
52	10.25780	13.24513	15.52232	28.23978	0.81969	0.91104	5.82644	10.69477
53	10.25780	13.24513	15.52232	28.73830	0.82590	0.91794	5.87060	10.69477
54	10.25780	13.24513	15.52232	29.31010	0.83367	0.92658	5.92587	10.69477
55	10.25780	13.24513	15.52232	29.95906	0.84305	0.93701	5.99255	10.69477
56	11.55003	15.21476	17.98546	30.68987	0.85409	0.94928	6.07102	13.27038
57	12.84226	17.18437	20.44862	31.50769	0.86685	0.96346	6.16173	15.84599
58	14.13449	19.15399	22.91177	32.41859	0.88141	0.97964	6.26518	18.42159
59	15.42672	21.12363	25.37495	33.42928	0.89784	0.99790	6.38197	20.99721
60	16.71893	23.09326	27.83813	34.54741	0.91624	1.01836	6.51278	23.57278
61	18.01115	25.06285	30.30130	35.78154	0.93673	1.04112	6.65839	26.14838
62	19.30336	27.03252	32.76448	37.14137	0.95941	1.06634	6.81964	28.72397
63	20.59560	29.00217	35.22768	38.63785	0.98444	1.09415	6.99752	31.29961
64	21.88780	30.97177	37.69083	40.28314	1.01196	1.12474	7.19313	33.87521
65	23.18001	32.94142	40.15404	42.09081	1.04214	1.15828	7.40768	36.45078

**Table A-4-66**  
**El Paso 1999 Winter Time Period 2 NOX Emission Rates (grams/mile)**

<u>Speed</u>	<u>LDGV</u>	<u>LDGT1</u>	<u>LDGT2</u>	<u>HDGV</u>	<u>LDDV</u>	<u>LDDT</u>	<u>HDDV</u>	<u>MC</u>
3	2.37935	2.53159	2.94109	4.01991	2.60223	2.88516	21.40353	1.00083
4	2.18261	2.32453	2.72609	4.06151	2.49263	2.76365	20.50208	0.95728
5	2.06375	2.19962	2.59775	4.10311	2.39104	2.65101	19.66647	0.92114
6	1.98395	2.11612	2.51302	4.14471	2.29685	2.54658	18.89177	0.89184
7	1.92657	2.05654	2.45344	4.18631	2.20950	2.44974	18.17336	0.86884
8	1.88328	2.01210	2.40972	4.22791	2.12850	2.35993	17.50711	0.85160
9	1.84945	1.97789	2.37669	4.26950	2.05338	2.27664	16.88924	0.83962
10	1.82229	1.95097	2.35123	4.31110	1.98373	2.19941	16.31633	0.83241
11	1.80001	1.92941	2.33131	4.35270	1.91916	2.12783	15.78526	0.82950
12	1.78144	1.91196	2.31561	4.39430	1.85933	2.06149	15.29318	0.83045
13	1.76573	1.89769	2.30315	4.43590	1.80393	2.00006	14.83748	0.83482
14	1.75230	1.88596	2.29325	4.47750	1.75267	1.94323	14.41583	0.84220
15	1.74071	1.87627	2.28539	4.51909	1.70528	1.89069	14.02606	0.85221
16	1.73062	1.86825	2.27918	4.56069	1.66153	1.84218	13.66622	0.86448
17	1.72178	1.86160	2.27432	4.60229	1.62120	1.79747	13.33453	0.87866
18	1.71399	1.85610	2.27055	4.64389	1.58410	1.75634	13.02938	0.89442
19	1.70709	1.85154	2.26769	4.68549	1.55005	1.71859	12.74930	0.91146
20	1.70881	1.84954	2.26691	4.72709	1.51889	1.68403	12.49298	0.92947
21	1.71892	1.86137	2.28061	4.76868	1.49046	1.65252	12.25920	0.94820
22	1.72818	1.87240	2.29341	4.81028	1.46465	1.62390	12.04689	0.96740
23	1.73671	1.88270	2.30542	4.85188	1.44133	1.59804	11.85509	0.98683
24	1.74460	1.89234	2.31671	4.89348	1.42040	1.57483	11.68291	1.00629
25	1.75192	1.90139	2.32734	4.93508	1.40176	1.55417	11.52959	1.02559
26	1.75874	1.90989	2.33737	4.97667	1.38533	1.53595	11.39446	1.04456
27	1.76511	1.91788	2.34684	5.01827	1.37104	1.52011	11.27691	1.06304
28	1.77110	1.92541	2.35580	5.05987	1.35882	1.50656	11.17643	1.08092
29	1.77673	1.93248	2.36428	5.10147	1.34863	1.49526	11.09259	1.09807
30	1.78204	1.93915	2.37232	5.14307	1.34041	1.48615	11.02502	1.11442
31	1.78708	1.94543	2.37996	5.18467	1.33414	1.47920	10.97343	1.12989
32	1.79185	1.95135	2.38724	5.22626	1.32979	1.47437	10.93761	1.14444
33	1.79641	1.95693	2.39418	5.26786	1.32733	1.47164	10.91739	1.15802
34	1.80075	1.96220	2.40083	5.30946	1.32676	1.47101	10.91269	1.17064
35	1.80492	1.96718	2.40721	5.35106	1.32807	1.47247	10.92351	1.18230
36	1.80892	1.97190	2.41337	5.39266	1.33127	1.47602	10.94986	1.19303
37	1.81278	1.97637	2.41934	5.43426	1.33638	1.48168	10.99189	1.20289
38	1.81652	1.98064	2.42517	5.47586	1.34342	1.48948	11.04974	1.21194
39	1.82015	1.98472	2.43088	5.51745	1.35241	1.49945	11.12368	1.22027
40	1.82368	1.98864	2.43654	5.55905	1.36339	1.51163	11.21404	1.22800
41	1.82715	1.99243	2.44217	5.60065	1.37642	1.52608	11.32119	1.23525
42	1.83055	1.99613	2.44783	5.64225	1.39155	1.54285	11.44561	1.24217
43	1.83392	1.99977	2.45357	5.68384	1.40884	1.56202	11.58785	1.24893
44	1.83726	2.00338	2.45944	5.72545	1.42837	1.58368	11.74851	1.25573
45	1.84059	2.00699	2.46548	5.76704	1.45024	1.60792	11.92834	1.26278
46	1.84392	2.01066	2.47177	5.80864	1.47453	1.63485	12.12812	1.27029
47	1.84728	2.01441	2.47836	5.85024	1.50136	1.66459	12.34878	1.27852
48	1.85067	2.01830	2.48530	5.89184	1.53084	1.69728	12.59131	1.28775
49	1.91656	2.09829	2.58674	5.93344	1.56312	1.73308	12.85686	1.32968
50	1.98244	2.17828	2.68818	5.97504	1.59836	1.77214	13.14665	1.37161
51	2.04832	2.25827	2.78962	6.01664	1.63671	1.81466	13.46207	1.41354
52	2.11421	2.33827	2.89106	6.05823	1.67836	1.86084	13.80468	1.45548
53	2.18009	2.41826	2.99250	6.09983	1.72352	1.91091	14.17609	1.49741
54	2.24597	2.49825	3.09395	6.14143	1.77240	1.96511	14.57819	1.53934
55	2.31186	2.57825	3.19538	6.18303	1.82527	2.02373	15.01302	1.58127
56	2.37774	2.65823	3.29683	6.22462	1.88238	2.08705	15.48275	1.62320
57	2.44362	2.73823	3.39827	6.26623	1.94404	2.15541	15.98991	1.66514
58	2.50951	2.81822	3.49971	6.30782	2.01057	2.22917	16.53709	1.70707
59	2.57539	2.89821	3.60115	6.34942	2.08233	2.30874	17.12735	1.74900
60	2.64128	2.97821	3.70259	6.39102	2.15971	2.39454	17.76387	1.79093
61	2.70716	3.05820	3.80403	6.43262	2.24317	2.48706	18.45021	1.83286
62	2.77304	3.13820	3.90547	6.47422	2.33315	2.58682	19.19029	1.87479
63	2.83893	3.21819	4.00691	6.51582	2.43019	2.69441	19.98846	1.91673
64	2.90481	3.29818	4.10835	6.55741	2.53486	2.81047	20.84943	1.95866
65	2.97069	3.37817	4.20979	6.59901	2.64780	2.93569	21.77834	2.00059

**Table A-4-67**  
**El Paso 1999 Winter Time Period 3 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	12.74832	13.17164	19.40089	20.75343	1.58374	2.12362	5.24770	14.62819
4	9.29871	9.62072	14.08612	16.17834	1.50361	2.01617	4.98219	12.15429
5	7.37674	7.63293	11.07577	13.56706	1.42879	1.91585	4.73428	10.32200
6	6.15705	6.36746	9.14450	11.79781	1.35889	1.82212	4.50267	8.93899
7	5.31633	5.49405	7.80690	10.47266	1.29355	1.73450	4.28616	7.87705
8	4.79738	4.92209	6.92774	9.58497	1.23243	1.65255	4.08364	7.04881
9	4.39152	4.47985	6.25093	8.82206	1.17523	1.57586	3.89413	6.39355
10	4.05536	4.12223	5.70771	8.14185	1.12168	1.50405	3.71668	5.86825
11	3.76993	3.82630	5.26227	7.53125	1.07151	1.43678	3.55043	5.44188
12	3.52254	3.57663	4.89022	6.98019	1.02448	1.37372	3.39461	5.09170
13	3.30439	3.36245	4.57442	6.48068	0.98038	1.31459	3.24849	4.80080
14	3.10918	3.17601	4.30247	6.02616	0.93901	1.25911	3.11139	4.55638
15	2.93230	3.01163	4.06526	5.61118	0.90017	1.20703	2.98270	4.34869
16	2.77027	2.86502	3.85589	5.23115	0.86370	1.15813	2.86185	4.17018
17	2.62044	2.73292	3.66914	4.88212	0.82943	1.11218	2.74832	4.01495
18	2.48075	2.61278	3.50093	4.56069	0.79723	1.06900	2.64161	3.87836
19	2.34958	2.50262	3.34808	4.26393	0.76695	1.02840	2.54129	3.75675
20	2.23242	2.40585	3.21154	4.00591	0.73847	0.99021	2.44692	3.64722
21	2.14483	2.31596	3.08380	3.79270	0.71168	0.95428	2.35813	3.54747
22	2.06455	2.23367	2.96691	3.59734	0.68646	0.92047	2.27457	3.45568
23	1.99062	2.15796	2.85941	3.41809	0.66271	0.88863	2.19590	3.37042
24	1.92226	2.08803	2.76006	3.25338	0.64036	0.85865	2.12181	3.29058
25	1.85879	2.02319	2.66789	3.10184	0.61930	0.83041	2.05203	3.21532
26	1.79967	1.96289	2.58209	2.96225	0.59946	0.80381	1.98629	3.14401
27	1.74441	1.90666	2.50200	2.83351	0.58076	0.77874	1.92436	3.07618
28	1.69261	1.85411	2.42708	2.71464	0.56315	0.75512	1.86599	3.01153
29	1.64393	1.80492	2.35687	2.60477	0.54655	0.73286	1.81099	2.94985
30	1.59807	1.75881	2.29099	2.50311	0.53091	0.71189	1.75915	2.89102
31	1.55477	1.71554	2.22911	2.40896	0.51616	0.69212	1.71030	2.83500
32	1.51380	1.67489	2.17097	2.32169	0.50227	0.67350	1.66428	2.78177
33	1.47496	1.63668	2.11631	2.24074	0.48919	0.65595	1.62092	2.73140
34	1.43808	1.60075	2.06492	2.16558	0.47686	0.63942	1.58007	2.68391
35	1.40299	1.56695	2.01661	2.09576	0.46525	0.62386	1.54162	2.63939
36	1.36956	1.53513	1.97121	2.03087	0.45433	0.60921	1.50542	2.59789
37	1.33766	1.50517	1.92853	1.97053	0.44405	0.59543	1.47137	2.55944
38	1.30718	1.47696	1.88844	1.91439	0.43439	0.58247	1.43935	2.52411
39	1.27801	1.45039	1.85077	1.86216	0.42531	0.57030	1.40927	2.49191
40	1.25006	1.42534	1.81539	1.81356	0.41679	0.55887	1.38103	2.46281
41	1.22324	1.40172	1.78216	1.76834	0.40880	0.54816	1.35455	2.43681
42	1.19747	1.37943	1.75093	1.72627	0.40131	0.53812	1.32975	2.41380
43	1.17268	1.35837	1.72155	1.68714	0.39431	0.52873	1.30655	2.39362
44	1.14879	1.33844	1.69390	1.65079	0.38777	0.51996	1.28489	2.37618
45	1.12574	1.31955	1.66781	1.61704	0.38168	0.51179	1.26470	2.36122
46	1.10348	1.30160	1.64313	1.58573	0.37601	0.50419	1.24592	2.34846
47	1.08193	1.28446	1.61969	1.55674	0.37076	0.49714	1.22850	2.33751
48	1.06148	1.26796	1.59714	1.53003	0.36589	0.49063	1.21239	2.32794
49	1.05862	1.26482	1.59204	1.50620	0.36141	0.48462	1.19754	2.32794
50	1.05593	1.26186	1.58725	1.48466	0.35730	0.47911	1.18392	2.32794
51	1.05340	1.25907	1.58274	1.46532	0.35355	0.47407	1.17148	2.32794
52	1.05100	1.25644	1.57848	1.44808	0.35014	0.46951	1.16020	2.32794
53	1.04874	1.25395	1.57446	1.43285	0.34708	0.46539	1.15003	2.32794
54	1.04660	1.25160	1.57065	1.41956	0.34434	0.46172	1.14096	2.32794
55	1.04458	1.24938	1.56706	1.40814	0.34192	0.45848	1.13296	2.32794
56	1.08050	1.30084	1.63987	1.39855	0.33982	0.45567	1.12600	2.44987
57	1.11653	1.35242	1.71286	1.39074	0.33803	0.45327	1.12007	2.57179
58	1.15265	1.40409	1.78601	1.38468	0.33655	0.45128	1.11515	2.69372
59	1.18885	1.45586	1.85931	1.38035	0.33537	0.44969	1.11123	2.81564
60	1.22513	1.50771	1.93276	1.37773	0.33448	0.44851	1.10830	2.93756
61	1.26149	1.55965	2.00635	1.37681	0.33389	0.44772	1.10635	3.05949
62	1.29791	1.61167	2.08006	1.37760	0.33360	0.44732	1.10538	3.18141
63	1.33441	1.66376	2.15388	1.38011	0.33360	0.44732	1.10538	3.30334
64	1.37096	1.71592	2.22782	1.38435	0.33389	0.44772	1.10636	3.42526
65	1.40757	1.76814	2.30186	1.39037	0.33448	0.44851	1.10830	3.54719

**Table A-4-68**  
**El Paso 1999 Winter Time Period 3 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	106.46307	127.85492	171.82547	177.37273	5.26306	5.84962	37.41069	177.96858
4	82.30525	98.84265	132.91476	162.05786	4.85051	5.39109	34.47813	141.93385
5	67.76108	81.20268	108.62781	148.39134	4.47843	4.97755	31.83342	115.92531
6	58.04919	69.36823	92.08617	136.17671	4.14243	4.60410	29.44508	96.73306
7	51.10918	60.90115	80.16040	125.24269	3.83862	4.26643	27.28554	82.28194
8	45.90594	54.55939	71.20328	115.44025	3.56357	3.96073	25.33043	71.19717
9	41.86223	49.64220	64.26085	106.63940	3.31425	3.68363	23.55826	62.54842
10	38.63071	45.72456	58.74214	98.72647	3.08800	3.43215	21.95000	55.69220
11	35.98976	42.53337	54.26212	91.60208	2.88243	3.20367	20.48877	50.17548
12	33.79138	39.88539	50.55965	85.17888	2.69545	2.99585	19.15965	45.67305
13	31.93295	37.65306	47.45212	79.38062	2.52518	2.80661	17.94942	41.94806
14	30.34114	35.74504	44.80783	74.13980	2.36998	2.63412	16.84625	38.82524
15	28.96214	34.09389	42.53020	69.39772	2.22837	2.47672	15.83968	36.17314
16	27.75555	32.64940	40.54662	65.10179	2.09905	2.33298	14.92039	33.89204
17	26.69051	31.37291	38.80179	61.20648	1.98082	2.20158	14.08005	31.90556
18	25.74297	30.23456	37.25288	57.67091	1.87267	2.08137	13.31125	30.15477
19	24.89417	29.21094	35.86653	54.45926	1.77363	1.97131	12.60732	28.59378
20	23.90955	28.20656	34.51897	51.53973	1.68291	1.87046	11.96240	27.18690
21	22.79907	27.00908	32.98351	48.88412	1.59972	1.77801	11.37113	25.90622
22	21.78807	25.91351	31.58272	46.46742	1.52343	1.69321	10.82879	24.73012
23	20.86351	24.90623	30.29822	44.26759	1.45341	1.61539	10.33109	23.64153
24	20.01457	23.97626	29.11510	42.26469	1.38914	1.54395	9.87423	22.62750
25	19.23224	23.11452	28.02113	40.44136	1.33012	1.47837	9.45476	21.67813
26	18.50893	22.31361	27.00621	38.78186	1.27594	1.41814	9.06960	20.78574
27	17.83821	21.56749	26.06207	37.27240	1.22619	1.36285	8.71598	19.94470
28	17.21468	20.87097	25.18153	35.90047	1.18053	1.31210	8.39140	19.15079
29	16.63351	20.21979	24.35895	34.65536	1.13864	1.26554	8.09364	18.40102
30	16.09076	19.61021	23.58925	33.52701	1.10024	1.22286	7.82065	17.69327
31	15.58284	19.03923	22.86819	32.50687	1.06506	1.18376	7.57064	17.02579
32	15.10666	18.50392	22.19217	31.58717	1.03289	1.14801	7.34197	16.39740
33	14.65951	18.00189	21.55797	30.76114	1.00352	1.11536	7.13319	15.80756
34	14.23900	17.53096	20.96268	30.02261	0.97676	1.08562	6.94295	15.25508
35	13.84298	17.08911	20.40378	29.36639	0.95244	1.05859	6.77010	14.73973
36	13.46954	16.67451	19.87900	28.78777	0.93042	1.03412	6.61360	14.26032
37	13.11695	16.28548	19.38628	28.28271	0.91057	1.01205	6.47246	13.81666
38	12.78368	15.92047	18.92354	27.84772	0.89276	0.99226	6.34589	13.40736
39	12.46829	15.57794	18.48901	27.47978	0.87690	0.97463	6.23312	13.03151
40	12.16952	15.25653	18.08096	27.17644	0.86288	0.95905	6.13351	12.68793
41	11.88620	14.95487	17.69768	26.93565	0.85064	0.94544	6.04648	12.37522
42	11.61722	14.67164	17.33751	26.75575	0.84010	0.93373	5.97155	12.09143
43	11.36160	14.40550	16.99887	26.63567	0.83120	0.92384	5.90829	11.83481
44	11.11837	14.15515	16.68008	26.57448	0.82389	0.91571	5.85635	11.60277
45	10.88664	13.91915	16.37961	26.57184	0.81814	0.90932	5.81545	11.39292
46	10.66553	13.69598	16.09563	26.62766	0.81390	0.90461	5.78534	11.20222
47	10.45419	13.48401	15.82630	26.74242	0.81116	0.90157	5.76587	11.02691
48	10.25178	13.28147	15.56977	26.91679	0.80991	0.90017	5.75694	10.86332
49	10.25178	13.28147	15.56977	27.15201	0.81013	0.90041	5.75850	10.86332
50	10.25178	13.28147	15.56977	27.44958	0.81182	0.90230	5.77055	10.86332
51	10.25178	13.28147	15.56977	27.81157	0.81500	0.90583	5.79315	10.86332
52	10.25178	13.28147	15.56977	28.24034	0.81969	0.91104	5.82644	10.86332
53	10.25178	13.28147	15.56977	28.73885	0.82590	0.91794	5.87060	10.86332
54	10.25178	13.28147	15.56977	29.31065	0.83367	0.92658	5.92587	10.86332
55	10.25178	13.28147	15.56977	29.95961	0.84305	0.93701	5.99255	10.86332
56	11.54465	15.25885	18.04575	30.69043	0.85409	0.94928	6.07102	13.47952
57	12.83753	17.23622	20.52174	31.50827	0.86685	0.96346	6.16173	16.09572
58	14.13040	19.21359	22.99776	32.41917	0.88141	0.97964	6.26518	18.71191
59	15.42327	21.19095	25.47375	33.42990	0.89784	0.99790	6.38197	21.32811
60	16.71611	23.16833	27.94978	34.54805	0.91624	1.01836	6.51278	23.94429
61	18.00897	25.14572	30.42577	35.78220	0.93673	1.04112	6.65839	26.56050
62	19.30183	27.12309	32.90176	37.14212	0.95941	1.06634	6.81964	29.17665
63	20.59468	29.10048	35.37784	38.63863	0.98444	1.09415	6.99752	31.79289
64	21.88757	31.07787	37.85378	40.28391	1.01196	1.12474	7.19313	34.40906
65	23.18045	33.05524	40.32979	42.09161	1.04214	1.15828	7.40768	37.02527

**Table A-4-69**  
**El Paso 1999 Winter Time Period 3 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGGV	LDDV	LDDT	HDDV	MC
3	2.39984	2.55436	2.96565	4.04794	2.60223	2.88516	21.40353	1.00867
4	2.20141	2.34539	2.74866	4.08983	2.49263	2.76365	20.50208	0.96478
5	2.08151	2.21932	2.61911	4.13172	2.39104	2.65101	19.66647	0.92836
6	2.00103	2.13505	2.53358	4.17361	2.29685	2.54658	18.89177	0.89883
7	1.94315	2.07492	2.47341	4.21550	2.20950	2.44974	18.17336	0.87564
8	1.89949	2.03006	2.42925	4.25739	2.12850	2.35993	17.50711	0.85827
9	1.86536	1.99553	2.39588	4.29927	2.05338	2.27664	16.88924	0.84620
10	1.83796	1.96834	2.37014	4.34116	1.98373	2.19941	16.31633	0.83893
11	1.81549	1.94658	2.35000	4.38305	1.91916	2.12783	15.78526	0.83600
12	1.79674	1.92894	2.33410	4.42494	1.85933	2.06149	15.29318	0.83695
13	1.78090	1.91452	2.32148	4.46683	1.80393	2.00006	14.83748	0.84135
14	1.76735	1.90266	2.31144	4.50872	1.75267	1.94323	14.41583	0.84880
15	1.75565	1.89286	2.30346	4.55060	1.70528	1.89069	14.02606	0.85889
16	1.74546	1.88474	2.29715	4.59249	1.66153	1.84218	13.66622	0.87125
17	1.73654	1.87801	2.29219	4.63438	1.62120	1.79747	13.33453	0.88554
18	1.72868	1.87243	2.28835	4.67627	1.58410	1.75634	13.02938	0.90143
19	1.72171	1.86780	2.28541	4.71815	1.55005	1.71859	12.74930	0.91859
20	1.72343	1.86577	2.28459	4.76005	1.51889	1.68403	12.49298	0.93675
21	1.73363	1.87770	2.29838	4.80193	1.49046	1.65252	12.25920	0.95563
22	1.74297	1.88881	2.31127	4.84382	1.46465	1.62390	12.04689	0.97498
23	1.75157	1.89920	2.32337	4.88571	1.44133	1.59804	11.85509	0.99456
24	1.75952	1.90892	2.33473	4.92760	1.42040	1.57483	11.68291	1.01417
25	1.76690	1.91804	2.34543	4.96949	1.40176	1.55417	11.52959	1.03362
26	1.77377	1.92661	2.35552	5.01137	1.38533	1.53595	11.39446	1.05274
27	1.78020	1.93466	2.36505	5.05326	1.37104	1.52011	11.27691	1.07137
28	1.78624	1.94224	2.37406	5.09515	1.35882	1.50656	11.17643	1.08938
29	1.79191	1.94937	2.38260	5.13704	1.34863	1.49526	11.09259	1.10667
30	1.79727	1.95609	2.39069	5.17893	1.34041	1.48615	11.02502	1.12315
31	1.80234	1.96242	2.39838	5.22082	1.33414	1.47920	10.97343	1.13874
32	1.80716	1.96838	2.40571	5.26270	1.32979	1.47437	10.93761	1.15340
33	1.81175	1.97400	2.41269	5.30460	1.32733	1.47164	10.91739	1.16709
34	1.81613	1.97931	2.41938	5.34648	1.32676	1.47101	10.91269	1.17980
35	1.82033	1.98433	2.42581	5.38837	1.32807	1.47247	10.92351	1.19156
36	1.82437	1.98909	2.43201	5.43026	1.33127	1.47602	10.94986	1.20237
37	1.82826	1.99360	2.43802	5.47215	1.33638	1.48168	10.99189	1.21231
38	1.83203	1.99790	2.44388	5.51404	1.34342	1.48948	11.04974	1.22143
39	1.83569	2.00201	2.44963	5.55592	1.35241	1.49945	11.12368	1.22983
40	1.83926	2.00597	2.45533	5.59781	1.36339	1.51163	11.21404	1.23761
41	1.84275	2.00979	2.46099	5.63970	1.37642	1.52608	11.32119	1.24492
42	1.84619	2.01352	2.46669	5.68159	1.39155	1.54285	11.44561	1.25190
43	1.84958	2.01718	2.47247	5.72348	1.40884	1.56202	11.58785	1.25872
44	1.85295	2.02082	2.47837	5.76537	1.42837	1.58368	11.74851	1.26557
45	1.85631	2.02447	2.48446	5.80725	1.45024	1.60792	11.92834	1.27267
46	1.85967	2.02816	2.49078	5.84915	1.47453	1.63485	12.12812	1.28024
47	1.86306	2.03194	2.49740	5.89103	1.50136	1.66459	12.34878	1.28853
48	1.86648	2.03585	2.50439	5.93292	1.53084	1.69728	12.59131	1.29783
49	1.93295	2.11656	2.60661	5.97481	1.56312	1.73308	12.85686	1.34009
50	1.99942	2.19726	2.70883	6.01670	1.59836	1.77214	13.14665	1.38235
51	2.06589	2.27797	2.81105	6.05859	1.63671	1.81466	13.46207	1.42461
52	2.13236	2.35868	2.91327	6.10048	1.67836	1.86084	13.80468	1.46687
53	2.19883	2.43939	3.01549	6.14236	1.72352	1.91091	14.17609	1.50914
54	2.26530	2.52009	3.11771	6.18425	1.77240	1.96511	14.57819	1.55139
55	2.33177	2.60080	3.21994	6.22614	1.82527	2.02373	15.01302	1.59365
56	2.39824	2.68151	3.32216	6.26803	1.88238	2.08705	15.48275	1.63591
57	2.46470	2.76221	3.42438	6.30992	1.94404	2.15541	15.98991	1.67818
58	2.53117	2.84292	3.52660	6.35180	2.01057	2.22917	16.53709	1.72044
59	2.59764	2.92363	3.62882	6.39369	2.08233	2.30874	17.12735	1.76270
60	2.66411	3.00433	3.73104	6.43558	2.15971	2.39454	17.76387	1.80496
61	2.73058	3.08504	3.83327	6.47747	2.24317	2.48706	18.45021	1.84722
62	2.79705	3.16575	3.93549	6.51936	2.33315	2.58682	19.19029	1.88948
63	2.86352	3.24646	4.03771	6.56125	2.43019	2.69441	19.98846	1.93174
64	2.92999	3.32716	4.13993	6.60314	2.53486	2.81047	20.84943	1.97400
65	2.99646	3.40787	4.24215	6.64503	2.64780	2.93569	21.77834	2.01626

**Table A-4-70**  
**El Paso 1999 Winter Time Period 4 VOC Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	9.92459	12.27106	17.53888	13.09426	1.58374	2.12362	5.24770	16.64258
4	7.67314	9.52316	13.63285	11.95402	1.50361	2.01617	4.98219	13.70363
5	6.31419	7.83857	11.16765	10.93128	1.42879	1.91585	4.73428	11.52690
6	5.40492	6.70087	9.47499	10.01271	1.35889	1.82212	4.50267	9.88390
7	4.75419	5.88267	8.24761	9.18664	1.29355	1.73450	4.28616	8.62234
8	4.26578	5.26742	7.32204	8.44278	1.23243	1.65255	4.08364	7.63840
9	3.88592	4.78894	6.60270	7.77209	1.17523	1.57586	3.89413	6.85997
10	3.58219	4.40685	6.02987	7.16663	1.12168	1.50405	3.71668	6.23591
11	3.33386	4.09505	5.56433	6.61937	1.07151	1.43678	3.55043	5.72939
12	3.12709	3.83595	5.17934	6.12410	1.02448	1.37372	3.39461	5.31339
13	2.95225	3.61726	4.85604	5.67535	0.98038	1.31459	3.24849	4.96780
14	2.80247	3.43015	4.58084	5.26825	0.93901	1.25911	3.11139	4.67743
15	2.67268	3.26811	4.34368	4.89853	0.90017	1.20703	2.98270	4.43070
16	2.55911	3.12627	4.13699	4.56236	0.86370	1.15813	2.86185	4.21863
17	2.45884	3.00088	3.95502	4.25635	0.82943	1.11218	2.74832	4.03422
18	2.36963	2.88905	3.79328	3.97750	0.79723	1.06900	2.64161	3.87195
19	2.28970	2.78850	3.64828	3.72313	0.76695	1.02840	2.54129	3.72749
20	2.20047	2.69317	3.51184	3.49083	0.73847	0.99021	2.44692	3.59737
21	2.10837	2.58978	3.37008	3.27850	0.71168	0.95428	2.35813	3.47887
22	2.02451	2.49517	3.24041	3.08422	0.68646	0.92047	2.27457	3.36982
23	1.94779	2.40815	3.12117	2.90630	0.66271	0.88863	2.19590	3.26853
24	1.87733	2.32779	3.01100	2.74321	0.64036	0.85865	2.12181	3.17368
25	1.81239	2.25330	2.90882	2.59359	0.61930	0.83041	2.05203	3.08428
26	1.75233	2.18406	2.81371	2.45622	0.59946	0.80381	1.98629	2.99956
27	1.69663	2.11952	2.72497	2.33000	0.58076	0.77874	1.92436	2.91898
28	1.64482	2.05925	2.64197	2.21396	0.56315	0.75512	1.86599	2.84217
29	1.59653	2.00288	2.56423	2.10719	0.54655	0.73286	1.81099	2.76890
30	1.55142	1.95008	2.49133	2.00892	0.53091	0.71189	1.75915	2.69901
31	1.50920	1.90059	2.42290	1.91842	0.51616	0.69212	1.71030	2.63246
32	1.46961	1.85417	2.35865	1.83504	0.50227	0.67350	1.66428	2.56922
33	1.43243	1.81061	2.29832	1.75821	0.48919	0.65595	1.62092	2.50939
34	1.39746	1.76971	2.24165	1.68739	0.47686	0.63942	1.58007	2.45297
35	1.36453	1.73132	2.18846	1.62212	0.46525	0.62386	1.54162	2.40008
36	1.33347	1.69527	2.13854	1.56195	0.45433	0.60921	1.50542	2.35077
37	1.30415	1.66142	2.09169	1.50652	0.44405	0.59543	1.47137	2.30510
38	1.27643	1.62963	2.04776	1.45546	0.43439	0.58247	1.43935	2.26313
39	1.25021	1.59977	2.00659	1.40847	0.42531	0.57030	1.40927	2.22487
40	1.22537	1.57173	1.96800	1.36524	0.41679	0.55887	1.38103	2.19030
41	1.20181	1.54538	1.93184	1.32554	0.40880	0.54816	1.35455	2.15942
42	1.17945	1.52061	1.89795	1.28912	0.40131	0.53812	1.32975	2.13208
43	1.15819	1.49730	1.86616	1.25577	0.39431	0.52873	1.30655	2.10811
44	1.13797	1.47533	1.83633	1.22531	0.38777	0.51996	1.28489	2.08739
45	1.11870	1.45458	1.80826	1.19756	0.38168	0.51179	1.26470	2.06962
46	1.10032	1.43494	1.78178	1.17237	0.37601	0.50419	1.24592	2.05445
47	1.08274	1.41625	1.75670	1.14960	0.37076	0.49714	1.22850	2.04145
48	1.06591	1.39839	1.73282	1.12913	0.36589	0.49063	1.21239	2.03008
49	1.06591	1.39839	1.73282	1.11085	0.36141	0.48462	1.19754	2.03008
50	1.06591	1.39839	1.73282	1.09467	0.35730	0.47911	1.18392	2.03008
51	1.06591	1.39839	1.73282	1.08050	0.35355	0.47407	1.17148	2.03008
52	1.06591	1.39839	1.73282	1.06827	0.35014	0.46951	1.16020	2.03008
53	1.06591	1.39839	1.73282	1.05791	0.34708	0.46539	1.15003	2.03008
54	1.06591	1.39839	1.73282	1.04937	0.34434	0.46172	1.14096	2.03008
55	1.06591	1.39839	1.73282	1.04262	0.34192	0.45848	1.13296	2.03008
56	1.11371	1.46808	1.82885	1.03761	0.33982	0.45567	1.12600	2.17493
57	1.16152	1.53777	1.92488	1.03432	0.33803	0.45327	1.12007	2.31977
58	1.20932	1.60746	2.02092	1.03274	0.33655	0.45128	1.11515	2.46461
59	1.25712	1.67714	2.11695	1.03285	0.33537	0.44969	1.11123	2.60946
60	1.30493	1.74684	2.21298	1.03466	0.33448	0.44851	1.10830	2.75430
61	1.35273	1.81652	2.30901	1.03817	0.33389	0.44772	1.10635	2.89915
62	1.40053	1.88621	2.40504	1.04341	0.33360	0.44732	1.10538	3.04399
63	1.44834	1.95590	2.50108	1.05040	0.33360	0.44732	1.10538	3.18884
64	1.49614	2.02559	2.59711	1.05918	0.33389	0.44772	1.10636	3.33368
65	1.54394	2.09527	2.69314	1.06978	0.33448	0.44851	1.10830	3.47853

**Table A-4-71  
El Paso 1999 Winter Time Period 4 CO Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
3	118.73010	146.16562	197.72835	184.05339	5.26306	5.84962	37.41069	220.56311
4	91.78908	113.05469	152.94954	168.16174	4.85051	5.39109	34.47813	175.90390
5	75.56105	92.88699	124.92752	153.98048	4.47843	4.97755	31.83342	143.67056
6	64.72208	79.34550	105.81610	141.30582	4.14243	4.60410	29.44508	119.88492
7	56.97620	69.65500	92.02975	129.95993	3.83862	4.26643	27.28554	101.97505
8	51.16910	62.39809	81.67418	119.78831	3.56357	3.96073	25.33043	88.23735
9	46.65665	56.77373	73.64961	110.65599	3.31425	3.68363	23.55826	77.51862
10	43.05110	52.29507	67.27321	102.44496	3.08800	3.43215	21.95000	69.02144
11	40.10493	48.64903	62.09940	95.05225	2.88243	3.20367	20.48877	62.18431
12	37.65283	45.62537	57.82597	88.38710	2.69545	2.99585	19.15965	56.60434
13	35.58032	43.07759	54.24095	82.37045	2.52518	2.80661	17.94942	51.98785
14	33.80530	40.90068	51.19186	76.93225	2.36998	2.63412	16.84625	48.11761
15	32.26768	39.01743	48.56653	72.01155	2.22837	2.47672	15.83968	44.83075
16	30.92227	37.36974	46.28090	67.55383	2.09905	2.33298	14.92039	42.00371
17	29.73460	35.91342	44.27075	63.51181	1.98082	2.20158	14.08005	39.54176
18	28.67796	34.61415	42.48653	59.84309	1.87267	2.08137	13.31125	37.37190
19	27.73112	33.44510	40.88948	56.51038	1.77363	1.97131	12.60732	35.43732
20	26.63097	32.29025	39.33922	53.48100	1.68291	1.87046	11.96240	33.69374
21	25.38779	30.91487	37.58290	50.72536	1.59972	1.77801	11.37113	32.10651
22	24.25569	29.65553	35.98018	48.21764	1.52343	1.69321	10.82879	30.64896
23	23.22018	28.49658	34.51013	45.93492	1.45341	1.61539	10.33109	29.29984
24	22.26917	27.42564	33.15558	43.85660	1.38914	1.54395	9.87423	28.04309
25	21.39250	26.43243	31.90268	41.96451	1.33012	1.47837	9.45476	26.86652
26	20.58185	25.50856	30.73984	40.24258	1.27594	1.41814	9.06960	25.76053
27	19.82999	24.64720	29.65770	38.67625	1.22619	1.36285	8.71598	24.71822
28	19.13078	23.84262	28.64828	37.25267	1.18053	1.31210	8.39140	23.73425
29	18.47911	23.09004	27.70497	35.96065	1.13864	1.26554	8.09364	22.80505
30	17.87041	22.38533	26.82219	34.78978	1.10024	1.22286	7.82065	21.92790
31	17.30074	21.72505	25.99513	33.73120	1.06506	1.18376	7.57064	21.10068
32	16.76668	21.10609	25.21968	32.77692	1.03289	1.14801	7.34197	20.32188
33	16.26523	20.52570	24.49226	31.91972	1.00352	1.11536	7.13319	19.59087
34	15.79369	19.98146	23.80960	31.15340	0.97676	1.08562	6.94295	18.90617
35	15.34968	19.47116	23.16895	30.47246	0.95244	1.05859	6.77010	18.26747
36	14.93108	18.99269	22.56758	29.87207	0.93042	1.03412	6.61360	17.67334
37	14.53596	18.54416	22.00322	29.34799	0.91057	1.01205	6.47246	17.12349
38	14.16260	18.12386	21.47360	28.89658	0.89276	0.99226	6.34589	16.61624
39	13.80943	17.72998	20.97664	28.51479	0.87690	0.97463	6.23312	16.15044
40	13.47499	17.36092	20.51031	28.20001	0.86288	0.95905	6.13351	15.72462
41	13.15798	17.01520	20.07275	27.95018	0.85064	0.94544	6.04648	15.33708
42	12.85717	16.69115	19.66199	27.76353	0.84010	0.93373	5.97155	14.98537
43	12.57142	16.38730	19.27617	27.63890	0.83120	0.92384	5.90829	14.66732
44	12.29966	16.10199	18.91339	27.57542	0.82389	0.91571	5.85635	14.37975
45	12.04086	15.83357	18.57178	27.57263	0.81814	0.90932	5.81545	14.11967
46	11.79401	15.58012	18.24928	27.63062	0.81390	0.90461	5.78534	13.88332
47	11.55813	15.33968	17.94363	27.74965	0.81116	0.90157	5.76587	13.66606
48	11.33224	15.11001	17.65266	27.93063	0.80991	0.90017	5.75694	13.46332
49	11.33224	15.11001	17.65266	28.17468	0.81013	0.90041	5.75850	13.46332
50	11.33224	15.11001	17.65266	28.48349	0.81182	0.90230	5.77055	13.46332
51	11.33224	15.11001	17.65266	28.85901	0.81500	0.90583	5.79315	13.46332
52	11.33224	15.11001	17.65266	29.30402	0.81969	0.91104	5.82644	13.46332
53	11.33224	15.11001	17.65266	29.82129	0.82590	0.91794	5.87060	13.46332
54	11.33224	15.11001	17.65266	30.41464	0.83367	0.92658	5.92587	13.46332
55	11.33224	15.11001	17.65266	31.08804	0.84305	0.93701	5.99255	13.46332
56	12.77474	17.37880	20.50113	31.84641	0.85409	0.94928	6.07102	16.70566
57	14.21725	19.64760	23.34961	32.69502	0.86685	0.96346	6.16173	19.94801
58	15.65976	21.91641	26.19809	33.64023	0.88141	0.97964	6.26518	23.19035
59	17.10222	24.18521	29.04666	34.68903	0.89784	0.99790	6.38197	26.43272
60	18.54472	26.45407	31.89514	35.84927	0.91624	1.01836	6.51278	29.67502
61	19.98721	28.72290	34.74364	37.12991	0.93673	1.04112	6.65839	32.91739
62	21.42972	30.99173	37.59212	38.54106	0.95941	1.06634	6.81964	36.15971
63	22.87222	33.26054	40.44066	40.09390	0.98444	1.09415	6.99752	39.40210
64	24.31470	35.52934	43.28918	41.80118	1.01196	1.12474	7.19313	42.64444
65	25.75720	37.79817	46.13768	43.67694	1.04214	1.15828	7.40768	45.88681

**Table A-4-72**  
**El Paso 1999 Winter Time Period 4 NOX Emission Rates (grams/mile)**

Speed	LDGV	LDGT1	LDGT2	HGTV	LDDV	LDDT	HDDV	MC
3	2.70487	2.88535	3.32250	4.32461	2.60223	2.88516	21.40353	1.11501
4	2.48112	2.64853	3.07645	4.36937	2.49263	2.76365	20.50208	1.06649
5	2.34594	2.50570	2.92935	4.41412	2.39104	2.65101	19.66647	1.02623
6	2.25517	2.41019	2.83203	4.45887	2.29685	2.54658	18.89177	0.99359
7	2.18989	2.34201	2.76339	4.50362	2.20950	2.44974	18.17336	0.96796
8	2.14062	2.29109	2.71283	4.54837	2.12850	2.35993	17.50711	0.94875
9	2.10209	2.25183	2.67445	4.59312	2.05338	2.27664	16.88924	0.93541
10	2.07114	2.22085	2.64468	4.63788	1.98373	2.19941	16.31633	0.92738
11	2.04574	2.19597	2.62123	4.68263	1.91916	2.12783	15.78526	0.92414
12	2.02454	2.17574	2.60256	4.72738	1.85933	2.06149	15.29318	0.92519
13	2.00660	2.15912	2.58759	4.77213	1.80393	2.00006	14.83748	0.93005
14	1.99124	2.14537	2.57554	4.81688	1.75267	1.94323	14.41583	0.93828
15	1.97797	2.13394	2.56582	4.86163	1.70528	1.89069	14.02606	0.94944
16	1.96640	2.12440	2.55798	4.90638	1.66153	1.84218	13.66622	0.96311
17	1.95625	2.11641	2.55167	4.95114	1.62120	1.79747	13.33453	0.97890
18	1.94730	2.10971	2.54664	4.99589	1.58410	1.75634	13.02938	0.99646
19	1.93935	2.10410	2.54264	5.04064	1.55005	1.71859	12.74930	1.01544
20	1.94120	2.10149	2.54113	5.08539	1.51889	1.68403	12.49298	1.03551
21	1.95266	2.11478	2.55623	5.13014	1.49046	1.65252	12.25920	1.05638
22	1.96315	2.12714	2.57033	5.17489	1.46465	1.62390	12.04689	1.07776
23	1.97280	2.13866	2.58353	5.21964	1.44133	1.59804	11.85509	1.09941
24	1.98172	2.14943	2.59591	5.26439	1.42040	1.57483	11.68291	1.12109
25	1.99000	2.15952	2.60756	5.30915	1.40176	1.55417	11.52959	1.14259
26	1.99771	2.16899	2.61854	5.35390	1.38533	1.53595	11.39446	1.16372
27	2.00491	2.17788	2.62890	5.39865	1.37104	1.52011	11.27691	1.18432
28	2.01167	2.18624	2.63869	5.44340	1.35882	1.50656	11.17643	1.20423
29	2.01803	2.19410	2.64796	5.48815	1.34863	1.49526	11.09259	1.22334
30	2.02404	2.20151	2.65675	5.53290	1.34041	1.48615	11.02502	1.24156
31	2.02973	2.20849	2.66511	5.57766	1.33414	1.47920	10.97343	1.25879
32	2.03513	2.21506	2.67306	5.62241	1.32979	1.47437	10.93761	1.27500
33	2.04028	2.22127	2.68066	5.66716	1.32733	1.47164	10.91739	1.29013
34	2.04519	2.22713	2.68793	5.71191	1.32676	1.47101	10.91269	1.30418
35	2.04991	2.23268	2.69493	5.75666	1.32807	1.47247	10.92351	1.31718
36	2.05444	2.23793	2.70167	5.80141	1.33127	1.47602	10.94986	1.32913
37	2.05882	2.24293	2.70822	5.84616	1.33638	1.48168	10.99189	1.34012
38	2.06305	2.24769	2.71460	5.89091	1.34342	1.48948	11.04974	1.35020
39	2.06717	2.25225	2.72087	5.93566	1.35241	1.49945	11.12368	1.35948
40	2.07119	2.25663	2.72707	5.98042	1.36339	1.51163	11.21404	1.36809
41	2.07512	2.26088	2.73324	6.02517	1.37642	1.52608	11.32119	1.37617
42	2.07899	2.26501	2.73944	6.06992	1.39155	1.54285	11.44561	1.38388
43	2.08281	2.26908	2.74571	6.11467	1.40884	1.56202	11.58785	1.39142
44	2.08660	2.27310	2.75211	6.15942	1.42837	1.58368	11.74851	1.39899
45	2.09038	2.27713	2.75870	6.20417	1.45024	1.60792	11.92834	1.40684
46	2.09417	2.28120	2.76553	6.24893	1.47453	1.63485	12.12812	1.41521
47	2.09798	2.28536	2.77267	6.29368	1.50136	1.66459	12.34878	1.42438
48	2.10183	2.28964	2.78018	6.33843	1.53084	1.69728	12.59131	1.43466
49	2.17695	2.38063	2.89363	6.38318	1.56312	1.73308	12.85686	1.48137
50	2.25207	2.47162	3.00707	6.42793	1.59836	1.77214	13.14665	1.52809
51	2.32720	2.56261	3.12052	6.47268	1.63671	1.81466	13.46207	1.57480
52	2.40232	2.65360	3.23397	6.51744	1.67836	1.86084	13.80468	1.62152
53	2.47744	2.74459	3.34741	6.56219	1.72352	1.91091	14.17609	1.66823
54	2.55257	2.83558	3.46086	6.60694	1.77240	1.96511	14.57819	1.71495
55	2.62769	2.92657	3.57431	6.65169	1.82527	2.02373	15.01302	1.76167
56	2.70282	3.01756	3.68775	6.69644	1.88238	2.08705	15.48275	1.80838
57	2.77794	3.10855	3.80120	6.74119	1.94404	2.15541	15.98991	1.85510
58	2.85306	3.19954	3.91464	6.78594	2.01057	2.22917	16.53709	1.90182
59	2.92819	3.29053	4.02809	6.83069	2.08233	2.30874	17.12735	1.94853
60	3.00331	3.38151	4.14153	6.87545	2.15971	2.39454	17.76387	1.99525
61	3.07843	3.47250	4.25498	6.92020	2.24317	2.48706	18.45021	2.04196
62	3.15356	3.56349	4.36842	6.96495	2.33315	2.58682	19.19029	2.08868
63	3.22868	3.65448	4.48187	7.00970	2.43019	2.69441	19.98846	2.13539
64	3.30381	3.74547	4.59531	7.05445	2.53486	2.81047	20.84943	2.18211
65	3.37893	3.83646	4.70876	7.09921	2.64780	2.93569	21.77834	2.22882



## **APPENDIX B**

### **"PREPIN, POLFAC5A, COADJ, IMPSUM, AND SUMALL USER'S GUIDE"**

The technical note presented here as Appendix B was prepared as a part of TxDOT-sponsored project 0-1279. Original page numbers are used to retain the integrity of the note.



Technical Note

**PREPIN, POLFAC5A, COADJ, IMPSUM, AND SUMALL USER'S GUIDE**

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# PREPIN

## PURPOSE

The PREPIN program was developed for use in urban areas which do not have time-of-day assignments available for air quality analyses. The PREPIN program allows the analyst to factor a 24-hour assignment (produced by the Texas Large Network Assignment Package) to estimate the vehicle miles of travel (VMT) and speeds for a subject time period. For example, a 24-hour assignments can be factored to represent time periods: the morning peak hour, the afternoon peak hour, the mid-day travel (i.e., the travel between the morning and afternoon peak hours), and the overnight travel (i.e., the typical portion of the daily travel occurring between the afternoon peak hour and the morning peak hour). This example would require four applications of PREPIN (i.e., an application for each time period).

The factors which may be applied by the analyst using PREPIN are:

- HPMS Factors: The analyst may input HPMS factors (stratified by county and functional classification) which are applied to the link volumes to force the 24-hour assignment VMT to correspond to the HPMS estimate of VMT.
- Seasonal Adjustment Factors: The analyst may input seasonal adjustment factors (stratified by area type and functional classification) which are applied to the link volumes to adjust for seasonal fluctuations in VMT.
- Time-of-day Volume Factors: These analyst-supplied factors (stratified by area type and functional classification) specify the portion of the 24-hour volume expected to occur in the subject time-of-day period.
- Time-of-day Directional Split Factors: These analyst-supplied factors (stratified by area type and functional classification) specify the directional split for the link volumes in the subject time period. For example, if a 60-40 split is expected for a given functional classification within a given area type, the analyst can input a split factor of 60.0; and PREPIN will split the time-of-day volume, setting 60 percent in one direction and 40 percent in the other direction. PREPIN produces two link records for the link, one representing the 60 percent direction and the other representing the 40 percent direction. These directional volumes are used to estimate directional volume to capacity (v/c) ratios for estimating directional speeds.
- Time-of-day Capacity Factors: These analyst-supplied factors (stratified by area type and functional classification) are applied to the 24-hour nondirectional link capacities to estimate the nondirectional capacity for the

subject time period. For the computation of the directional v/c ratio, the capacity is split 50-50.

- Optional VMT Factors: These optional analyst-supplied factors (stratified by county and functional classification) are applied to the link volumes. These factors are generally not used and default to 1.0. These factors can be used in lieu of the time-of-day volume factors if the user prefers to specify the time-of-day volume factors stratified by county and functional classification rather than area type and functional classification.
- Free-flow Speed Factors: These analyst-supplied factors (stratified by area type and functional classification) are applied to the 24-hour nondirectional link speeds to estimate the free-flow speed for the subject time period. The free-flow speed is assumed to be the same in each direction.

Using the directional v/c estimates and free-flow speed estimates, the directional congested speeds are estimated. The Dallas-Fort Worth (D-FW) peak speed model (developed by the North Central Texas Council Of Governments) is used to estimate the directional time-of-day speeds. The PREPIN program produces two link records containing the directional VMT and speed estimates for each link. The link records produced by PREPIN are subsequently used as input to the IMPSUM program.

The PREPIN program produces summaries of the unscaled 24-hour VMT and the final factored VMT. Summaries of the weighted average speeds (weighted by time-of-day VMT) are produced for the input link speeds, the estimated free-flow speeds, and the estimated congested speeds. A summary of the congested vehicle hours of travel is also produced.

## PROGRAM STRUCTURE

The PREPIN program prepares link records for the IMPSUM program. The program runs in two load modules. The first load module is Z1OUTA. This load module is also used in the Z1BUILD program for IMPACT. The input to this program is a network data set from LARGENET (not LARGENETII). This load module builds a minimum distance tree in which all zones, simultaneously, are origins of the tree. The paths in this tree determine which zone is closest by distance along the network of each node in the network. The closest zone is called the associated zone. This load module writes a record to Unit 3 containing the paths and another record containing the minimum distances. The Z1OUTA load module has no card input.

The second load module is PREPIN. The inputs to the PREPIN program are a network data set from LARGENET (not LARGENETII) with an assignment and various factor card images, a table of equals of zones to counties, a table of equals of zones to area type, and a data card specifying the assignment number to use for assigned link volume. This load module reads the two records written by Z1BUILD and uses these to find the associated zones for each node. This program also accepts the following input record types:



Parameter, END, EQUAL, AREA, HDR1, HDR2, HPMFAC, SEAFAC, PERFAC, SPLIT, VMTFAC, CAPFAC, SPDFAC, and DELAY. The parameter card specifies the assignment number for the assigned link volumes. The END card marks the beginning of the county EQUAL cards. The table of equals between zones and area types is specified using AREA records. The SPDFAC cards provide for factoring speeds to free-flow speeds. The PERFAC card provides for a single time period factor to adjust VMT for the time period. The CAPFAC provides a factor to adjust link capacities to time period capacities by county and functional classification. The HPMFAC provides a set of factors to adjust link VMT to HPMS values by county and functional classification. The VMTFAC provides a factor to adjust VMT to the time period by county and functional classification. The DELAY cards specify the parameters for the delay equation used for estimating the congested speeds.

### THE TIME-OF-DAY VOLUME AND VMT ESTIMATION PROCEDURE

The directional volumes and VMT for each link are calculated as follows:

$$\begin{aligned} \text{VOL1(A,B)} &= \text{VOL24(A,B)} * \text{HPMFAC(CNTY,FC)} * \text{SEAFAC(AT,CNTY)} * \\ &\quad \text{PERFAC(AT,FC)} * \text{VMTFAC(CNTY,FC)} * (\text{SPLIT(AT,FC)}/100.0) \\ \text{VOL2(A,B)} &= \text{VOL24(A,B)} * \text{HPMFAC(CNTY,FC)} * \text{SEAFAC(AT,CNTY)} * \\ &\quad \text{PERFAC(AT,FC)} * \text{VMTFAC(CNTY,FC)} * ((100-\text{SPLIT(AT,FC)})/100.0) \\ \text{VMT1(A,B)} &= \text{VOL1(A,B)} * \text{DIST(A,B)} \\ \text{VMT2(A,B)} &= \text{VOL2(A,B)} * \text{DIST(A,B)} \end{aligned}$$

Where:

A,B	=	The A-node and B-node of the link.
CNTY	=	The county index obtained from the associated zone and the county EQUAL cards. PREPIN allows up to 10 counties.
AT	=	The area type index for the link obtained from the associated zone and the area type EQUAL cards. Prepin allows up to 99 area types.
FC	=	The functional classification index; the functional classification code from the link data plus 1. The functional classification codes in the link data vary from 0 to 15.
DIST(A,B)	=	The link distance for link A,B in miles.

VOL24(A,B)	=	The link's 24-hour nondirectional assigned volume for link A,B.
VOL1(A,B)	=	The estimated time-of-day volume in one direction.
VOL2(A,B)	=	The estimated time-of-day volume in the other direction.
VMT1(A,B)	=	The estimated time-of-day VMT in one direction.
VMT2(A,B)	=	The estimated time-of-day VMT in the other direction.
HPMFAC(CNTY,FC)=		The HPMS scaling factor which can be used to force the assigned VMT to correspond with the HPMS VMT. The default value for these factors is 1.0.
SEAFAC(AT,CNTY)=		The seasonal adjustment factor. The default value for these factors is 1.0.
PERFAC(AT,FC)	=	The time-of-day factor applied to the 24-hour nondirectional volume to estimate the nondirectional volume for the time period.
SPLIT(AT,FC)	=	The directional split parameter specifies the percent of the nondirectional time-of-day volume expected to occur in one direction.
100-SPLIT(AT,FC)	=	The directional split parameter specifies the percent of the nondirectional time-of-day volume expected to occur in the other direction.
VMTFAC(CNTY,FC)=		The VMTFAC are optional factors stratified by county and functional classification. They will not be used for most applications and have a default value of 1.0. They can, however, be used in place of the PERFAC if the user would prefer to specify the time-of-day factors by county and functional classification rather than area type and functional classification.

## THE CONGESTED SPEED ESTIMATION MODELS

The D-FW peak speed model developed by the NCTCOG is used to estimate the

directional time-of-day speeds. Using the D-FW model, the directional v/c ratio on a link is used to compute the average delay per mile (in minutes) due to the level of congestion reflected in the v/c ratio. The congested directional speed is computed using the using the estimated directional delay and the estimated free-flow speed. For links without capacities, the free-flow speed is used. For centroid connectors, the input speed on the centroid connector is used. The following provides a more detailed description of the congested speed estimation process.

The directional volume-to-capacity ratios and free-flow speeds are computed as follows:

$$\begin{aligned}
 VC1(A,B) &= VOL1(A,B) / (CAP24(A,B) * CAPFAC(AT,FC) * 0.5) \\
 VC2(A,B) &= VOL2(A,B) / (CAP24(A,B) * CAPFAC(AT,FC) * 0.5) \\
 FSPD(A,B) &= SPD24 * SPDFAC(AT,FC)
 \end{aligned}$$

Where:

A,B	=	The A-node and B-node of the link.
AT	=	The area type index for the link obtained from the associated zone and the area type EQUAL cards. PREPIN allows up to 99 area types.
FC	=	The functional classification index; the functional classification code from the link data plus 1. The functional classification codes in the link data vary from 0 to 15.
VC1(A,B)	=	The estimated time-of-day v/c ratio in one direction.
VC2(A,B)	=	The estimated time-of-day v/c ratio in the other direction.
VOL1(A,B)	=	The estimated time-of-day volume in one direction.
VOL2(A,B)	=	The estimated time-of-day volume in the other direction.
CAP24(A,B)	=	The link's 24-hour nondirectional capacity from the assignment data set.
CAPFAC(AT,FC)	=	The user-supplied factor used to estimated time-

of-day nondirectional capacity from the 24-hour nondirectional capacity. Half of the nondirectional time-of-day capacity is used for each direction.

- FSPD(A,B) = Estimated free-flow speed on link A,B. The free-flow speed is assumed to be the same in both directions.
- SPD24(A,B) = The input speed for the link data (i.e., the 24-hour input link data speed).
- SPDFAC(AT,FC) = The user-supplied factor used to estimated time-of-day free-flow speed from the input link data speed.

The directional delay (in minutes per mile) due to congestion is computed using a volume-delay equation. The following is the general form of the volume-delay equation used in the model:

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

Where:

- Delay = Congestion delay (in minutes/mile).
- A & B = Volume-Delay Equation Coefficients (input via DELAY records).
- M = Maximum minutes of delay per mile, read from the DELAY cards.
- V/C = Time-of-day directional v/c ratio.

Two sets of coefficients and constraints were developed by the NCTCOG for the D-FW model: one for high-capacity facilities and one for low-capacity facilities. High-capacity facilities (usually freeways) are defined as those having a capacity exceeding 3,400 vehicles per hour (one way). The volume-delay equation parameters which were developed by the NCTCOG in late 1992 for use in the D-FW air quality analyses are presented in Table P-1.

**Table P-1: Volume-Delay Equation Parameters**

Parameters	Parameter Values	
	High-capacity Facilities	Low-capacity Facilities
A	0.015	0.050
B	3.5	3.0
M	5.0	10.0

Since the functional classification codes used in the link data may vary from study area to study area, PREPIN requires that the user specify the desired delay equation parameters by county and functional classification.

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

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

Tables P-1 and P-2 summarize the estimated hourly capacities used in the D-FW models. Similar hourly capacity estimates should be developed for the urban areas where PREPIN is being applied. One-hour capacity factors for input to PREPIN may be estimated by dividing the hourly capacities per lane by the 24-hour capacities per lane used in the 24-hour network. In the current applications of PREPIN, the capacity factors for multi-hour time periods are computed by simply multiplying the hourly capacity factors times the number of hours in the subject time period.

**Table P-2\***  
**D-FW HOURLY SERVICE VOLUMES PER LANE \*\***  
**(Divided or One-Way Roads)**

Area Type	Functional Classification						
	Freeway	Principal Arterial	Minor Arterial	Collector	Local	Ramp	Frontage Road
CBD	1,800	550	550	450	450	1,100	550
Fringe	1,850	600	600	475	475	1,200	600
Urban Residential	1,875	650	625	500	500	1,250	625
Suburban Residential	1,950	725	700	550	550	1,400	700
Rural	2,000	800	750	575	575	1,500	750

\*\* Source: Multimodal Transportation Analysis Process (MTAP): A Travel Demand Forecasting Model;  
North Central Texas Council of Governments; January 1990.

\* Service Volumes at Level of Service E (The model requires level of service E service volumes or capacities).

**Table P-3\***  
**D-FW HOURLY SERVICE VOLUMES PER LANE \*\***  
**(Undivided Roads)**

Area Type	Functional Classification						
	Freeway	Principal Arterial	Minor Arterial	Collector	Local	Ramp	Frontage Road
CBD	N/A	500	500	400	400	1,100	500
Fringe	N/A	550	550	425	425	1,200	550
Urban Residential	N/A	600	575	450	450	1,250	575
Suburban Residential	N/A	675	625	500	500	1,400	625
Rural	N/A	725	675	525	525	1,500	675

N/A - Not Applicable

\*\* Source: Multimodal Transportation Analysis Process (MTAP): A Travel Demand Forecasting Model;  
North Central Texas Council of Governments; January 1990.

\* Service Volumes at Level of Service E (The model requires level of service E service volumes or capacities).

## ESTIMATION OF INTRAZONAL TRAVEL AND SPEEDS

Intrazonal travel cannot be estimated from an assignment, since intrazonal trips are not assigned to the network. The procedure developed for IMPACT for estimating intrazonal travel was also incorporated into PREPIN. Under this approach, the following estimates are used:

INTRA = Number of Intrazonal trips for the subject zone for the subject time-of-day and season. The total number of intrazonal trips for the zone is read from the assignment trip table. The HPMS factor, Seasonal Adjustment factor, and time-of-day factor are applied.

SPD = The average speed for intrazonal trips. The average speed for intrazonal trips is estimated by simply averaging the speeds on the zone's centroid connectors.

ATL1 = Average trip length (in minutes). This average trip length in minutes is assumed to be equal to the zone's radii value used in the trip distribution. The radii values are read from the user-supplied radii cards.

ATL2 = Average trip length (in miles). This average trip length is computed using the speed and average trip length in minutes as follows:

$$ATL2 = (SPD/60) * ATL1$$

VMT = Vehicle miles of travel for the intrazonal trips for the subject zone. The estimate of the intrazonal VMT is computed as follows:

$$VMT = INTRA * ATL2$$

The PREPIN program outputs a link record (for subsequent input to IMPSUM) for the intrazonal trips for each zone. On the records, the zone number is used for both the A-node and B-node. The method to estimate the intrazonal speed and VMT is described above. Since a speed model is not applied to intrazonal travel, it is not necessary to apply directional splits.

In the Speed and VMT summaries produced by PREPIN, the intrazonal travel is summarized as a separate functional classification code (i.e., functional classification code 16 which cannot be used in the link data). This separates these results from the results obtained for travel on centroid connectors. On the link records, the intrazonal records are given a functional classification code of 0 (i.e., the assumed code for centroid connectors).

## Z1OUTA JCL REQUIREMENTS

The Z1OUTA program requires 2000K of region size.

<u>DDname</u>	<u>Use</u>
FT01F001	Network data set containing an assignment.
FT03F001	Data set output by Z1OUTA containing the path from the all-zone tree and the times from this tree.
FT06F001	Printed output data set.

## EXAMPLE Z1OUTA JCL

```
//JOB LIB DD DSN=USR.W150.CB.LOADMOD,DISP=OLD
//Z1OUTA EXEC PGM=Z1OUTA,REGION=2000K
//FT01F001 DD DISP=OLD,DSN=USR.W150.CB.JORT.NETWFILE
//FT03F001 DD UNIT=SYSDA,DISP=(NEW,PASS),DSN=&&ASZ,
//          SPACE=(TRK,(5,5)),DCB=(RECFM=VBS,LRECL=6228,BLKSIZE=6232)
//FT06F001 DD SYSOUT=A
```

## PREPIN JCL REQUIREMENTS

The PREPIN program requires a region size of 3000K.

<u>DDname</u>	<u>Use</u>
FT01F001	Network data set containing an assignment.
FT03F001	Data set output by Z1OUTA containing the path from the all-zone tree and the times from this tree.
FT06F001	Printed output data set.
FT05F001	Input parameter cards, table of equals, etc.
FT08F001	The trip matrix used for the assignment in the format used by the Texas Large Network Assignment Models
FT09F001	Radii cards in the same format as the Texas Trip Distribution Models.
FT19F001	File containing a header record for SIGNON.
FT20F001	Temporary data set used to copy input from Unit 19.



FT21F001 UTPS log file.

FT40F001 Output links containing VMT, link length, and congested speed.

### EXAMPLE PREPIN STEP JCL

```
//ZB1 EXEC PGM=PREPIN4A,REGION=3000K
//STEPLIB DD DISP=OLD,DSN=USR.W104.CB.LOADMOD5
//FT06F001 DD SYSOUT=A
//FT05F001 DD *
//FT19F001 DD *
//FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6320)
//FT21F001 DD DISP=OLD,DSN=USR.W104.CB.IMPCTLOG
//FT01F001 DD DISP=OLD,DSN=USR.W150.CB.JORTS620.NETWFILE.S99931
//FT03F001 DD UNIT=SYSDA,DISP=(OLD,PASS),DSN=&&ASZ,
// SPACE=(TRK,(5,5)),
// DCB=(RECFM=VBS,LRECL=6228,BLKSIZE=6232)
//FT40F001 DD DISP=(NEW,CATLG),UNIT=DISK,SPACE=(TRK,(20,10)),
// DSN=USR.W150.CB.JR9993S1,DCB=(RECFM=FB,LRECL=50,BLKSIZE=6300)
//FT09F001 DD DISP=SHR,DSN=USR.W150.CB.JORTS620.JORRADII
//FT08F001 DD DISP=OLD,DSN=USR.W150.CB.JORTS620.TOT24HR.F95991
```

## PARAMETER RECORD

The PARAMETER record is the first record input to PREPIN on Unit FT05.

Name	Columns	Format	Description
	1-10	2I5	Columns 1-10 should be blank on the PARAMETER Record
Iteration Number	11-15	I5	For weighted iteration, this field left blank. Otherwise, specify the desired iteration volumes to be used.
Assignment Type	16-20	L5	Logical Variable: F = ASSIGN SELF-BALANCING T = PEAK CAPACITY RESTRAINT
Default Time-of-day Factor	21-30	F10.0	Specifies the default value for the PERFAC time-of-day factors. The default value must be in the range of 0.01 to 10.0. If this parameter is not specified, the PERFAC default values are set to 1.0. The PERFAC factors are stratified by area type and functional classification. If a single PERFAC factor is to be used for all area types and functional classifications, the value can be simply entered as the default value and the PERFAC records will not be needed.

## COUNTY EQUAL RECORDS

The EQUAL records define a table of equals of associated zones to county numbers. The associated zones are found by the program Z1OUTA.

Name	Columns	Format	Description
County	1-3	I3	County number
Record Type	5-9	A5	Character constant of 'EQUAL'
	11-15	I5	Centroid number <sup>1</sup>
	16-20	I5	Centroid number
	21-25	I5	Centroid number
	26-30	I5	Centroid number
	31-35	I5	Centroid number
	36-40	I5	Centroid number
	41-45	I5	Centroid number
	46-50	I5	Centroid number
	51-55	I5	Centroid number
	56-60	I5	Centroid number
	61-65	I5	Centroid number
	66-70	I5	Centroid number
	71-75	I5	Centroid number
	76-80	I5	Centroid number

---

<sup>1</sup> Within any EQUAL card a range may be formed by entering the centroid number of the smallest zone number in the range followed by the centroid number (the high end of the range) with a minus sign.

## AREA RECORDS

The AREA records define a table of equals of associated zones to area type numbers. The associated zones are found by the program ZIOUTA.

Name	Columns	Format	Description
Area Type	1-3	I3	Area type number
Record Type	5-9	A5	Character constant of 'AREA '
	11-15	I5	Centroid number <sup>2</sup>
	16-20	I5	Centroid number
	21-25	I5	Centroid number
	26-30	I5	Centroid number
	31-35	I5	Centroid number
	36-40	I5	Centroid number
	41-45	I5	Centroid number
	46-50	I5	Centroid number
	51-55	I5	Centroid number
	56-60	I5	Centroid number
	61-65	I5	Centroid number
	66-70	I5	Centroid number
	71-75	I5	Centroid number
	76-80	I5	Centroid number

---

<sup>2</sup> Within any EQUAL card a range may be formed by entering the centroid number of the smallest zone number in the range followed by the centroid number (the high end of the range) with a minus sign.

## HEADER RECORDS

The two header records provide two lines of header information which is printed at the top of pages of the tabular summaries produces by PREPIN.

Name	Columns	Format	Description
Record Type	1-4	A4	Character constant of 'HDR1'
Header	4-80	A76	First line of header information

Name	Columns	Format	Description
Record Type	1-4	A4	Character constant of 'HDR2'
Header	4-80	A76	Second line of header information

## HPMS SCALE FACTORS (HPMFAC RECORDS)

The HPMFAC records provide a method of adjusting link volumes and VMT to correspond with the HPMS estimate of VMT by county and functional classification.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'HPMFAC '
County	11-13	I3	County number
Functional Classification	14-16	I3	Functional classification number
Scale Factor	21-30	F10.4	Scale factor applied to link volumes and VMT by county number and functional classification. If not provided by the user, the default value is set to 1.0.

### SEASONAL ADJUSTMENT FACTORS (SEAFAC RECORDS)

The SEAFAC records provide a method of adjusting link volumes and VMT for seasonal fluctuations by county and area type.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'SEAFAC '
County	11-13	I3	County number
Area Type	14-16	I3	Area type number
Scale Factor	21-30	F10.4	Scale factor applied to link volumes and VMT by county number and area type. If not provided by the user, the default value is set to 1.0.

### VMT SCALE FACTORS (VMTFAC RECORDS)

The VMTFAC records provide an alternate method of adjusting VMT by county and functional classification. The factor is applied to adjust the link volumes and, hence, the VMT on the links.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'VMTFAC '
County	11-13	I3	County number
Functional Classification	14-16	I3	Functional classification number
Scale Factor	21-30	F10.4	Scale factor applied to link volumes and VMT by county number and functional classification. If not provided by the user, the default factors are set to 1.0

### TIME PERIOD VOLUME FACTORS (PERFAC RECORDS)

The PERFAC records specify the time period volume factors (stratified by area type and functional classification) which is applied to 24-hour assigned link volumes and VMT. These factors specify the portion of the 24-hour travel expected to occur in the subject time period.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'PERFAC '
Area Type	11-13	I3	Area type number
Functional Classification	14-16	I3	Functional classification number
Scale Factor	21-30	F10.4	Time-of-day scale factor for area type number and functional classification. Default value is 1.0.

### TIME PERIOD DIRECTIONAL SPLIT ESTIMATES (SPLIT RECORDS)

The SPLIT records provide for the input of the typical directional splits for two-way traffic by area type and functional classification. The split factor specifies the portion of the two-way traffic on the link expected to be traveling in the peak direction.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'SPLIT '
Area Type	11-13	I3	Area type number
Functional Classification	14-16	I3	Functional classification number
Split Factor	21-30	F10.4	Specifies the portion of the link volume and VMT expected to be traveling in the peak direction. The portion of travel in the off-peak direction is estimated by 1.0-split. The split is input and applied to link volumes and VMT by area type and functional classification. If not provided by the user, the default factors are set to 0.5

### TIME PERIOD CAPACITY SCALE FACTORS (CAPFAC RECORDS)

The CAPFAC records provide a method of adjusting 24-hour capacities to time-of-day capacities for each area type and functional classification.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'CAPFAC '
Area Type	11-13	I3	Area type number
Functional Classification	14-16	I3	Functional classification number
Capacity Factor	21-30	F10.4	Capacity scale factor for area type and functional classification number

### FREE-FLOW SPEED FACTORS (SPDFAC RECORDS)

The SPDFAC records provide a method of adjusting link data input speeds to estimate the free-flow speed area type and functional classification.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'SPDFAC '
Area Type	11-13	I3	Area type number
Functional Classification	14-16	I3	Functional classification number
Scale Factor	21-30	F10.4	Link speed to free-flow speed scale factor for area type number and functional classification number



## DELAY EQUATION PARAMETERS (DELAY RECORDS)

The DELAY records provide constants for a model to calculate congested speed from the v/c ratio.

Name	Columns	Format	Description
Record Type	1-10	A10	Character constant of 'DELAY'
County	11-13	I3	County number
Functional Classification	14-16	I3	Functional classification number
A coefficient	21-30	F10.4	A coefficient
B coefficient	31-40	F10.4	B coefficient
M Factor	41-50	F10.4	Delay upper limit

## LINK RECORD OUTPUT RECORDS

The link record output contains Anode, Bnode, county number, functional classification number, link distance in miles, congested speed, and time period for vehicle miles of travel. The format of these records is (I5,1X,I5,1X,I1,1X,I2,1X,F10.2,1X,F6.2,1X,F15.2).

Name	Columns	Format	Description
Anode	1-5	I5	Anode of link
Bnode	7-11	I5	Bnode of link
County	13	I1	County number
Link Group	15-16	I2	Link group number
Link Length	18-27	F10.2	Link length in miles
Congested Speed	29-34	F6.2	Congested speed in mph
Link VMT	36-50	F15.2	Link time period VMT

# EXAMPLE SETUP FOR PREPIN

```
//JR9993 JOB ( ,60A,3,30,CB),'BELL JORTS 99 93'
//JOB LIB DD DSN=USR.W104.CB.LOADMOD,DISP=OLD
//*****
//*          JORTS 99 93 TIME PERIOD 1          *
//*****
//ZA1 EXEC PGM=Z1OUTA,REGION=2000K
//FT01F001 DD DISP=OLD,DSN=USR.W150.CB.JORTS620.NETWFILE.S99931
//FT03F001 DD UNIT=SYSDA,DISP=(NEW,PASS),DSN=&&ASZ,
//          SPACE=(TRK,(5,5)),DCB=(RECFM=VBS,LRECL=6228,BLKSIZE=6232)
//FT06F001 DD SYSOUT=A
//*
//*
//ZB1 EXEC PGM=PREPIN4A,REGION=3000K
//STEPLIB DD DISP=OLD,DSN=USR.W104.CB.LOADMOD5
//FT06F001 DD SYSOUT=A
//FT19F001 DD *
HEADER Z1OUT 1999 JORTS ASSOCIATED ZONE FILE
//FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6320)
//FT21F001 DD DISP=OLD,DSN=USR.W104.CB.IMPCTLOG
//FT01F001 DD DISP=OLD,DSN=USR.W150.CB.JORTS620.NETWFILE.S99931
//FT03F001 DD UNIT=SYSDA,DISP=(OLD,PASS),DSN=&&ASZ,
//          SPACE=(TRK,(5,5)),
//          DCB=(RECFM=VBS,LRECL=6228,BLKSIZE=6232)
//FT40F001 DD DISP=(NEW,CATLG),UNIT=DISK,SPACE=(TRK,(20,10)),
//          DSN=USR.W150.CB.JR9993S1,DCB=(RECFM=FB,LRECL=50,BLKSIZE=6300)
//FT09F001 DD DISP=SHR,DSN=USR.W150.CB.JORTS620.JORRADI I
//FT08F001 DD DISP=OLD,DSN=USR.W150.CB.JORTS620.TOT24HR.F95991
//FT05F001 DD *
```

T 0.1069 MORNING PK HOUR

END

1	EQUALS	8	-464	658	-660	663	-672								
2	EQUALS	465	-657	661	-662	677	-681								
3	EQUALS	1	-7	673	-676										
1	AREA	113	114	129											
2	AREA	109	112	127	128										
3	AREA	41	-48	50	51	54	55	73	81	-85	89	93	95	98	

.

2	AREA	103	106	-108	110	111	115	-120	659						
5	AREA	675	676												
6	AREA	662	-674	677	-681										

HDR1 JORTS 1999 NETWORK AND 1993 TRIPS

HDR2	MORNING PEAK HOUR (7:15AM TO 8:15AM)	DELAY	1	0	.050	3.0	10.0	LOW CAP FAC
DELAY	1 1			.015	3.5	5.0	HIGH CAP FAC	
DELAY	1 2			.015	3.5	5.0	HIGH CAP FAC	
DELAY	1 3			.050	3.0	10.0	LOW CAP FAC	

.

DELAY	3 12			.050	3.0	10.0	LOW CAP FAC
DELAY	3 13			.050	3.0	10.0	LOW CAP FAC
DELAY	3 14			.050	3.0	10.0	LOW CAP FAC
DELAY	3 15			.050	3.0	10.0	LOW CAP FAC
SEAFAC	1 1	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	1 2	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	1 3	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	1 4	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	1 5	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	1 6	1.06500	SUMMER 03	JEFFERSON			
SEAFAC	2 1	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 2	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 3	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 4	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 5	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 6	1.06500	SUMMER 03	ORANGE			
SEAFAC	2 1	1.08400	SUMMER 03	HARDIN			
SEAFAC	2 2	1.08400	SUMMER 03	HARDIN			

SEAFAC	2 3	1.08400	SUMMER 03 HARDIN				
SEAFAC	2 4	1.08400	SUMMER 03 HARDIN				
SEAFAC	2 5	1.08400	SUMMER 03 HARDIN				
SEAFAC	2 6	1.08400	SUMMER 03 HARDIN				
SPLIT	1 0	54.00	AM_PK CBD	CENT CONN	CBD	LOCAL	
SPLIT	1 1	50.00	AM_PK CBD	IH & FRWY	CBD	INTERSTATE	
SPLIT	1 2	65.00	AM_PK CBD	MUL LN HWY	CBD	OTHER PRIN AR	
.	.	.	.	.	.	.	.
SPLIT	6 11	50.00	AM_PK RURAL	NOT USED	RURAL	DEFAULT 50-50	
SPLIT	6 12	50.00	AM_PK RURAL	NOT USED	RURAL	DEFAULT 50-50	
SPLIT	6 13	50.00	AM_PK RURAL	NOT USED	RURAL	DEFAULT 50-50	
SPLIT	6 14	50.00	AM_PK RURAL	NOT USED	RURAL	DEFAULT 50-50	
SPLIT	6 15	50.00	AM_PK RURAL	NOT USED	RURAL	DEFAULT 50-50	
CAPFAC	1 0	.10000	PK HOUR		1 HRS		
CAPFAC	2 0	.10000	PK HOUR		1 HRS		
CAPFAC	3 0	.10000	PK HOUR		1 HRS		
CAPFAC	4 0	.10000	PK HOUR		1 HRS		
CAPFAC	5 0	.10000	PK HOUR		1 HRS		
CAPFAC	6 0	.10000	PK HOUR		1 HRS		
CAPFAC	1 1	.09048	PK HOUR		1 HRS		
CAPFAC	2 1	.09299	PK HOUR		1 HRS		
CAPFAC	3 1	.11896	PK HOUR		1 HRS		
CAPFAC	4 1	.11057	PK HOUR		1 HRS		
CAPFAC	5 1	.15175	PK HOUR		1 HRS		
CAPFAC	6 1	.17524	PK HOUR		1 HRS		
.	.	.	.	.	.	.	.
CAPFAC	4 15	.10000	PK HOUR		1 HRS		
CAPFAC	5 15	.10000	PK HOUR		1 HRS		
CAPFAC	6 15	.10000	PK HOUR		1 HRS		
SPDFAC	1 0	1.00000	JORTS 6/24/93				
SPDFAC	2 0	1.00000	JORTS 6/24/93				
SPDFAC	3 0	1.00000	JORTS 6/24/93				
SPDFAC	4 0	.99005	JORTS 6/24/93				
SPDFAC	5 0	.98760	JORTS 6/24/93				
SPDFAC	6 0	1.00345	JORTS 6/24/93				
SPDFAC	1 1	1.44737	JORTS 6/24/93				
SPDFAC	2 1	1.44737	JORTS 6/24/93				
SPDFAC	3 1	1.44670	JORTS 6/24/93				
SPDFAC	4 1	1.30137	JORTS 6/24/93				
SPDFAC	5 1	1.06542	JORTS 6/24/93				
SPDFAC	6 1	1.22744	JORTS 6/24/93				
SPDFAC	1 2	.46730	JORTS 6/24/93				
.	.	.	.	.	.	.	.
SPDFAC	2 15	1.12000	JORTS 6/24/93				
SPDFAC	3 15	1.12000	JORTS 6/24/93				
SPDFAC	4 15	1.12000	JORTS 6/24/93				
SPDFAC	5 15	1.12000	JORTS 6/24/93				
SPDFAC	6 15	1.12000	JORTS 6/24/93				

# POLFAC5A

## PURPOSE

The POLFAC5A program is one of a series of programs developed by the Texas Transportation Institute to facilitate the computation of emissions. The POLFAC5A program is used to apply MOBILE5a to obtain emissions factors. It provides the user the option of computing emissions factors from two different years and averaging them. The emissions factors are obtained for eight vehicle types and 63 speeds (i.e., 3 mph through 65 mph) for each vehicle type. Hence, there are 504 factors (i.e.,  $8 \times 63 = 504$ ) for each pollution type for each county. There are three pollution types being computed: VOC<sup>3</sup>, CO, and NOX. Hence, for each county there are 1,512 emissions factors. These emissions factors are output to an ASCII file for subsequent input to either the IMPSUM program or the COADJ program. The POLFAC5A program can be applied for a 24-hour period or for each time-of-day time period for which VMT and speed estimates are available. The emissions factors from POLFAC5A (or the combined emissions factors from COADJ) are applied using the IMPSUM program to estimate emissions.

To apply MOBILE5a, the POLFAC5A program reads a set of MOBILE5a data cards with either one or two scenarios. If there is one scenario card, then it runs the MOBILE5a subroutine with the scenario card modified for speeds from 3 to 65 mph in 1 mile/hour increments. POLFAC5A then writes a set of emissions factor card images to Unit 25. If there are two scenarios, it runs both scenarios with speeds of 3 to 65 mph and averages the runs of the two scenarios with the same speed. The averaged emissions factors are then written to Unit 25. The output from MOBILE5a is sent to Unit 9; in the example JCL, Unit 9, is set to a dummy unit with a DCB. If the printed output is desired, the dummy option is removed and SYSOUT=A and DCB = (RECFM=FBA, LRECL=133, BLKSIZE=1330) is added. The PRTFLG must be 4 if all emissions factors are desired, since MOBILE5a calculates only the emissions factors that it prints.

---

<sup>3</sup>The user may select any of the five hydrocarbon types with the NMHFLG. The program will label the resulting hydrocarbon emissions rates as either THC, TOG, NMHC, VOC, or NMOG. The IMPSUM program will accept only the VOC hydrocarbon type.

## DATA SETS REFERENCES

The data sets used by this program are:

DDNAME	Description of data set
STEPLIB	The load module library. The program name is POLFAC.
FT05F001	MOBILE5 data cards including one or two scenarios
FT06F001	Printed output from POLFAC5A
IMDATA <sup>4</sup>	IMDATA data supplied by EPA. Read if an inspection maintenance program is used.
TECH12 <sup>5</sup>	TECH12 data supplied by EPA. Read if an inspection maintenance program is used.
INLEV	LEVIMP data supplied by user if PROMPT flag is 5
FT09F001	Printed output from MOBILE5
FT25F001	Emissions factor card image output
FT10F001	Temporary data set used to pass MOBILE5 a set of data cards

## OUTPUT DATA SET

The POLFAC5A program produces 63 emissions factors card images on Unit 25 which provide the emissions factors for speeds from 3 to 65 mph. The format of the emissions factor card images is:

<u>Columns</u>	<u>Format</u>	<u>Contents</u>
1-3	I3	Speed (these speeds will be integer values from 3 to 65)

---

<sup>4</sup>The user can optionally input a DDname. The DDname must begin with an alphabetic character and can be from 1 to 7 characters long including only alphabetic characters and numbers. The name can not start with FT.

<sup>5</sup>The user can optionally input a DDname. The DDname must begin with an alphabetic character and can be from 1 to 7 characters long including only alphabetic characters and numbers. The name can not start with FT.

5-7	A3	Type of emissions, either THC, NMHC, VOC, TOG, NMOG <sup>6</sup> , NOX, or CO
9-80	8F9.5	Eight emissions factors for vehicle types LDGV, LDGT1, LDGT2, HDGV, LDDV, LDDT, HDDV, and MC

These emissions factor data are subsequently input to the program IMPSUM.

### EXAMPLE JCL

```
//IM3BLK JOB ( ,60A,S59,5,CB),'BELL POL FACTORS'
//POL EXEC PGM=POLFAC5A,REGION=1400K
//STEPLIB DD DISP=OLD,DSN=USR.W150.CB.JB.IMP SUM
//FT06F001 DD SYSOUT=A
//TECH12 DD DISP=OLD,DSN=USR.W104.CB.TECH12.MOB5A
//IMDATA DD DISP=OLD,DSN=USR.W104.CB.IMDATA.MOB5A
//FT09F001 DD DUMMY,DCB=(RECFM=FB,LRECL=223,BLKSIZE=2230)
//FT25F001 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=80,BLKSIZE=800)
;RATES
//FT10F001 DD UNIT=SYSDA,SPACE=(TRK,(5,2)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6320)
//FT05F001 DD DISP=OLD,DSN=USR.W150.CB.IM3BLK.PLF2
```

### EXAMPLE MOBILE5A INPUT DATA

The data set JEF90BAS.POL is shown below:

```
1          PROMPT
1 JEFFERSON COUNTY - Base Year Ozone Season 1990
1          TAMFLG - Default: Tampering Rates
1          SPDFLG - User input: one speed for all vehicle types
3          VMFLAG - User input: single VMT mix for all scenario
3          MYMRFG - User input: Reg. Distributions
1          NEWFLG - Default: Basic exhaust emission rates
1          IMFLAG - no I/M
1          ALHFLG - No additional correction factors
1          ATPFLG - no atp
5          RLFLAG - Zero-out refueling emissions
2          LOCFLG - User input: one LAP record for all scenarios
1          TEMFLG - MOBILE5.0 calculates exhaust temperatures
4          OUTFMT - 80-column descriptive format
4          PRNFLG - Print all three pollutant emissions factors
1          IDLFLG - No idle emissions calculated or printed
3          NMHFLG - Print HC = volatile organic compounds (VOC)
1          HCFLAG - Print total HC
.584.237.065.036.008.004.063.003 - LDGV,LDGT1,LDGT2,HDGV,LDDV,LDDT,HDDV,MC
.060 .081 .076 .074 .074 .077 .079 .054 .053 .057 July,1990 .LDGV..MY AGES 1-10
.051 .058 .051 .042 .026 .015 .012 .011 .008 .007 Vehicle 11-20
```

<sup>6</sup> Only one type of hydrocarbon is allowed per run. The hydrocarbon type of THC, NMHC, VOC, TOG, or NMOG is specified by the NMHFLG.

.009	.006	.006	.005	.005							Registrations	21-25
.070	.097	.077	.064	.071	.071	.077	.048	.060	.055		.LDGT1.MY AGES	1-10
.038	.048	.044	.039	.027	.014	.016	.014	.012	.010			11-20
.014	.009	.009	.007	.007								21-25
.059	.089	.080	.036	.072	.087	.095	.062	.060	.044		.LDGT2.MY AGES	1-10
.037	.060	.044	.050	.039	.023	.017	.014	.006	.006			11-20
.006	.004	.004	.003	.003								21-25
.036	.055	.052	.025	.040	.047	.059	.042	.054	.069		.HDGV..MY AGES	1-10
.058	.078	.071	.044	.030	.046	.043	.031	.023	.012			11-20
.026	.017	.016	.014	.014								21-25
.060	.081	.076	.074	.074	.077	.079	.054	.053	.057		.LDDV..MY AGES	1-10
.051	.058	.051	.042	.026	.015	.012	.011	.008	.007			11-20
.009	.006	.006	.005	.005								21-25
.070	.097	.077	.064	.071	.071	.077	.048	.060	.055		.LDDT..MY AGES	1-10
.038	.048	.044	.039	.027	.014	.016	.014	.012	.010			11-20
.014	.009	.009	.007	.007								21-25
.022	.028	.040	.023	.062	.050	.043	.030	.056	.122		.HDDV..MY AGES	1-10
.118	.097	.067	.045	.028	.047	.028	.028	.013	.013			11-20
.011	.007	.007	.006	.007								21-25
.017	.041	.049	.055	.100	.088	.055	.078	.118	.085		.MC...MY AGES	1-10
.080	.231	.000	.000	.000	.000	.000	.000	.000	.000			11-20
.000	.000	.000	.000	.000								21-25

Jefferson BY Run 70. 093. 08.0 08.0 90      LAP rec: SCNME,MNTMP,MXTMP,RVP1,RVP2,RVP2SY  
1 90 XXXX 85.6 20.6 27.3 20.6 7            SCN rec: RGN,CY,SPD,AMBTMP,PCCN,PCHC,PCCC,JULY

## MICROCOMPUTER USAGE

The POLFAC5A program must be run on a 386, 486, or Pentium microcomputer with a math coprocessor. The computer should have at least 2 megabytes of memory. The inspection/maintenance files IMDATA.D and TECH12.D must be in the logged drive and directory or in an APPEND statement for the IMDATA.D and TECH12.D directory and in the path for the POLFAC5A.EKE file. Run time will vary by equipment, complexity of the MOBILE5a data, and output options chosen. The above example ran 95 seconds on a 486DX 33 megahertz machine. If two scenarios are used, the time will double. If ATP and I/M programs are included, the time will be longer. If a TECH12 ATP program is included, the time will be still longer.

## EXAMPLE POLFAC5A MICROCOMPUTER RUN

c:\mob5a>pol fac5a

```
32-bit Power for Lahey Computer Systems
Phar Lap's 386|DOS-Extender(tm) Version 4.1L
Copyright (C) 1986-92 Phar Lap Software, Inc.
Available Memory = 5484 Kb
```

POLFAC5A INPUT DATA SET=jef90bas.pol

POLFAC5A RATES FILE=jef90bas.rat

POLFAC5A STARTED AT: 06/30/93 15:56:09

Scenario 1 Speed 3 Started: 15:56:09.5

Scenario 1 Speed 4 Started: 15:56:10.6

Scenario 1 Speed 5 Started: 15:56:11.8

Scenario 1 Speed 6 Started: 15:56:13.0

Scenario 1 Speed 7 Started: 15:56:14.1

.

.

Scenario 1 Speed 63 Started: 15:57:30.2

Scenario 1 Speed 64 Started: 15:57:41.2

Scenario 1 Speed 65 Started: 15:57:42.8

POLFAC5A ENDED AT: 06/30/93 15:57:44 RUN TIME = 95 SECONDS

## EXAMPLE OUTPUT

```
3 VOC 20.52074 22.31578 30.19042 46.98459 1.54198 2.21365 7.34906 22.64065
4 VOC 14.76799 16.29338 21.75100 36.37848 1.46396 2.10165 6.97724 19.76731
5 VOC 11.58599 12.90062 17.01745 30.55119 1.39111 1.99708 6.63005 17.64391
```

.

.

```
63 VOC 2.46092 3.27929 3.90254 5.69563 0.32480 0.46629 1.54801 9.54342
64 VOC 2.53424 3.38639 4.03280 5.70232 0.32509 0.46670 1.54938 9.68090
65 VOC 2.60769 3.49362 4.16326 5.71272 0.32566 0.46752 1.55211 9.81838
3 CO 178.61035212.24690288.48853483.49680 5.16276 6.06064 44.96612179.99255
4 CO 135.92184162.48410220.87981441.75018 4.75807 5.58556 41.44136143.54373
5 CO 109.54968131.04698177.41107404.49713 4.39308 5.15710 38.26247117.21025
```

.

.

```
63 CO 37.67552 55.06861 65.01883105.32437 0.96567 1.13362 8.41074 31.90504
64 CO 40.56795 59.46175 70.25137109.80925 0.99267 1.16531 8.64585 34.53033
65 CO 43.46038 63.85488 75.48392114.73725 1.02228 1.20006 8.90372 37.15561
3 NOX 2.31466 2.57152 2.83812 4.90207 2.81461 3.29356 37.40145 0.82612
4 NOX 2.15549 2.38542 2.65918 4.95280 2.69607 3.15484 35.82620 0.79017
5 NOX 2.05603 2.27158 2.55188 5.00352 2.58618 3.02626 34.36606 0.76034
```

.

.

```
63 NOX 3.17528 3.85953 4.51484 7.94569 2.62853 3.07581 34.92872 1.58214
64 NOX 3.26006 3.95826 4.63412 7.99641 2.74174 3.20829 36.43316 1.61675
65 NOX 3.34484 4.05698 4.75341 8.04714 2.86390 3.35124 38.05640 1.65136
```

## FILES PRODUCED OR USED BY THE EXAMPLE RUN

```
----- 709,587 5-06-93 8:41a c:\pol fac5a.eke
--a--- 62,551 3-26-93 12:00p c:\tech12.d
--a--- 569,424 3-26-93 12:00p c:\imdata.d
--a--- 3,328 6-18-93 4:00p c:\jef90bas.pol
```



```
--a---      15,498   6-30-93   3:57p   c:jef90bas.rat
--a---     134,694   6-30-93   3:57p   c:m4out
--a---       3,690   6-30-93   3:57p   c:temp4in
--a---       3,989   6-30-93   3:57p   c:tstout
```

The file "m4out" is the output from MOBILE5a for the 63 different speed runs. The file "tstout" is the POLFAC5A printed output. The file "jef90bas.rat" is the rate output which is partially listed above. The file "tempin" is the last input to MOBILE5a. The user can scratch the files "m4out", "temp4in", and "tstout" after a run. These files will be overwritten by the next POLFAC5A run. The file "jef90bas.pol" is the input file to POLFAC5A in the above example run.

# COADJ

## PURPOSE

COADJ, a special utility program, produces a new set of emissions factors by combining the emissions factors from three applications of the POLFAC5A program. The program reads the emissions factors from three data sets (i.e., FT01F001, FT02F001, and FT03F001) produced by the three applications of POLFAC5A. In the typical application of COADJ, the three data sets would contain the following emissions factors:

- FT01F001: Emissions factors from the POLFAC5A application which specified no Anti-Tampering Program and no Inspection and Maintenance Program.
- FT02F001: Emissions factors from the POLFAC5A application which specified an Anti-Tampering Program for model years 1968 to 1979 and Inspection and Maintenance Program.
- FT03F001: Emissions factors from the POLFAC5A application which specified an Anti-Tampering Program for model years 1980 to present and no Inspection and Maintenance Program.

The corresponding emissions factors from FT02F001 and FT03F001 are summed, and the corresponding emissions factors from FT01F001 are subtracted from the sums. The resulting set of emissions factors are output on the FT04F001 data set.

To apply the program, the three input data sets (i.e., on Units 1, 2 and 3) and the output data set (on Unit 4) are specified. No other data are needed.

## MICROCOMPUTER USAGE

The microcomputer version of this program is similar to the mainframe version, except there is no JCL. The program must be in the path or the current directory. The file F77L.EER must be in same directory as the program. The program asks for the names of the input and output data sets. The user can enter up to 80 characters for the drive, path, and name for each data set.

The following is the microcomputer console output from an example run of COADJ. The lower case characters were typed by the user.

```
C:\ELPASO>coadj
```

```
COADJ STARTED AT:01/06/93 09:24:16.0  
INPUT POLLUTION FACTORS FILE F1 =el-col.fac
```

INPUT POLLUTION FACTORS FILE F2 =el-co2.fac

INPUT POLLUTION FACTORS FILE F3 =el-co3.fac

OUTPUT POLLUTION FACTORS =el-co.f

COADJ ENDED AT: 01/06/93 09:24:46 RUN TIME = 30 SECONDS

C:\ELPASO>dir

VOLUME IN DRIVE C IS STACVOL\_DSK  
DIRECTORY OF C:\ELPASO\\*.\*

. <DIR> 10-14-92 4:01P  
.. <DIR> 10-14-92 4:01P

.  
.  
.  
EL-CO1.FAC 15498 10-20-92 10:56A  
EL-CO2.FAC 15498 10-20-92 10:58A  
EL-CO3.FAC 15498 10-20-92 11:00A  
EL-CO.F 15498 1-06-93 9:24A

1,441,853 BYTES IN 91 FILE(S) 1,851,392 BYTES ALLOCATED  
5,816,320 BYTES FREE

C:\ELPASO>

# IMPSUM

## PURPOSE

The IMPSUM program is one of a series of programs developed by the Texas Transportation Institute to facilitate the computation of emissions. The IMPSUM program uses emissions factors obtained from POLFAC5A or COADJ, the user-estimated VMT mixes, and the VMT/speed estimates to compute the emissions by county.

The basic inputs to IMPSUM are:

1. Data specifying the number of counties in the region and their names.
2. The names of the road types used in the study. These road types are used to summarize the emissions results.
3. VMT mix by county and road type.
4. Emissions factors from POLFAC5A or COADJ by county.
5. Specification of the units for reporting emissions (grams, pounds or tons).
6. Link records providing the estimated VMT and speeds. For each link record, the following information must be provided: county number, road type number, VMT estimate, operational speed estimate, and center line miles.

The input data are reported.

To calculate the emissions estimates, VMT for a link record is disaggregated by vehicle type applying the user-supplied VMT mixes. The software was designed to allow the user to input the VMT mix data by county and by roadway type within a county. The IMPSUM program uses these data to disaggregate the VMT for each link by the eight vehicle types based on the user-supplied estimate of the VMT mix for that link's county and roadway type.

The emissions estimates are computed for each link by multiplying the appropriate emissions factors corresponding to the link's roadway type and the link's estimated speed. For non-integer speed estimates, the emissions factors are computed by interpolating between the emissions factors for the integer speeds on either side of the subject speed. The interpolation is performed using the reciprocals of the corresponding speeds rather than the speeds themselves. The emissions results are accumulated for each county by vehicle type and roadway type.

The emissions are reported either by gram, by pound, or by ton. The limits of the program are eight counties, 21 roadway types (codes 0 to 20), and eight vehicle types. The program reads data from Units 5 and 1. The Unit 5 input contains emissions factors, VMT mixes, roadway type names, county names, and a 'UNITS' record. The Unit 1 input contains the VMT and speed estimates. All data card name fields are upper case characters.

## **DATA SET REFERENCES**

- 1 = Link Records.
- 5 = Data card types UNITS, ROADTYPE, COUNTY, VMTMX, VOC, CO, and NOX.
- 9 = Binary results data set for input to SUMALL.

## **OPERATION**

### **Initialization**

The input data arrays for VMT mix are set to zero. The emissions factor cells are set to -1.0 to indicate missing values. Summation arrays for VHR and VMT by county, roadway type, and vehicle type are set to zero. A summation array for emissions by county, roadway type, and emission type is set to zero. A storage array for average speed by county, roadway type, and vehicle type is set to zero. The number of errors is set to zero. The county ID number is set to 1.

### **Reading Unit 5 Input Data**

A data card is read from Unit 5 as a character variable. A comparison is made to the data card types of UNITS, COUNTY, ROADTYPE, VMTMX, VOC, CO, or NOX. If the data card matches one of these, it is read from the character variable with the appropriate format; and it is checked. If the data card type is COUNTY, then a new county ID number is saved. If the data card type is VMTMX, VOC, CO, or NOX, then the last county ID number will be used as an index for saving the data.

### **Error Checking of Unit 5 Input Data**

The county number of the county ID card is checked for a range of 1 to 8. The roadway type of the roadway type name card and the VMT mix data cards are checked for a range of 0 to 20. The speed read from the VOC, CO, and NOX data cards is checked for a range of 3 to 65. The number of emissions constants for each county which are not missing values are summed. The number must be either 1,512 or zero. Each VMT mix is summed. Each VMT mix is then scaled to 1.0, and a warning message is written if the mix sum is less than 0.99 or greater than 1.01 before scaling. If any errors are found in the input data from Unit 5, the program prints these messages and terminates with a Stop Code of 1.

### **Error Checking of Unit 1 Data and Reports**

The links records from Unit 1 are then processed. A check is made for a speed between 1.0 and 99. A check of the roadway type and county number is made to see if they are valid. A sum of links missing VMT mixes are kept. A sum of links missing emissions factors is also kept. After all links are processed, reports are printed for VMT mix, VMT, vehicle hours of travel, VOC emission, CO emission, and NOX emission. If data were

missing for VMT mixes or emissions factors, error reports summing the number of links by county for missing emissions factors and by county and roadway type for missing VMT mixes are made. If errors in the links records were found, the program stops with a Stop 9.

### UNIT 5 DATA CARDS

The ordering of data on the Unit 5 input is important. The only county number input is from the county ID card. The VMTMX, VOC, NOX, and CO data cards do not contain a county number. The data from these four data cards are stored using the county number from the last county ID card as an index.

### UNITS CARD

Columns	Format	Contents
1-5	A5	'UNITS'
7	I1	Report units code: 1 = Grams 2 = Pounds 3 = Tons

### ROADWAY TYPE NAME CARD

Columns	Format	Contents
1-8	A8	'ROADTYPE'
10-11	I2	Roadway type number (values from 0 to 20 are valid)
13-32	A20	Roadway type name

## COUNTY ID CARD

Columns	Format	Contents
1-6	A6	'COUNTY'
8-9	I2	County number (values from 1 to 8 are valid)
11-22	A12	County name

## VEHICLE MILES OF TRAVEL MIX CARD<sup>7</sup>

Columns	Format	Contents
1-5	A5	'VMTMX'
7-8	I2	Roadway type number (valid values are from 0 to 20)
9-17	F9.5	LDGV fraction of VMT
18-26	F9.5	LDGT1 fraction of VMT
27-35	F9.5	LDGT2 fraction of VMT
36-44	F9.5	HDGV fraction of VMT
45-53	F9.5	LDDV fraction of VMT
54-62	F9.5	LDDT fraction of VMT
63-71	F9.5	HDDV fraction of VMT
72-80	F9.5	MC fraction of VMT

<sup>7</sup>The county number from the last county ID card is used.

**VOC EMISSION FACTOR CARD<sup>8</sup>**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-7	A3	'VOC'
8	A1	blank
9-17	F9.5	LDGV VOC emission factor in grams/mile
18-26	F9.5	LDGT1 VOC emission factor in grams/mile
27-35	F9.5	LDGT2 VOC emission factor in grams/mile
36-44	F9.5	HDGV VOC emission factor in grams/mile
45-53	F9.5	LDDV VOC emission factor in grams/mile
54-62	F9.5	LDDT VOC emission factor in grams/mile
63-71	F9.5	HDDV VOC emission factor in grams/mile
72-80	F9.5	MC VOC emission factor in grams/mile

---

<sup>8</sup>The county number from the last county ID card is used.



**CO EMISSION FACTOR CARD<sup>9</sup>**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-6	A3	'CO'
7-8	A2	blank
9-17	F9.5	LDGV CO emission factor in grams/mile
18-26	F9.5	LDGT1 CO emission factor in grams/mile
27-35	F9.5	LDGT2 CO emission factor in grams/mile
36-44	F9.5	HDGV CO emission factor in grams/mile
45-53	F9.5	LDDV CO emission factor in grams/mile
54-62	F9.5	LDDT CO emission factor in grams/mile
63-71	F9.5	HDDV CO emission factor in grams/mile
72-80	F9.5	MC CO emission factor in grams/mile

---

<sup>9</sup>The county number from the last county ID card is used.

**NOX EMISSION FACTOR CARD<sup>10</sup>**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-7	A3	'NOX'
8	A1	blank
9-17	F9.5	LDGV NOX emission factor in grams/mile
18-26	F9.5	LDGT1 NOX emission factor in grams/mile
27-35	F9.5	LDGT2 NOX emission factor in grams/mile
36-44	F9.5	HDGV NOX emission factor in grams/mile
45-53	F9.5	LDDV NOX emission factor in grams/mile
54-62	F9.5	LDDT NOX emission factor in grams/mile
63-71	F9.5	HDDV NOX emission factor in grams/mile
72-80	F9.5	MC NOX emission factor in grams/mile

<sup>10</sup>The county number from the last county ID card is used.

The suggested order of the Unit 5 data cards is:

**UNIT 3 (tons)**

**ROADTYPE**

.  
. .

**COUNTY 1 -----**

**VMTMX**

.  
. .

**VOC**

.  
. .

**CO**

.  
. .

**NOX**

.  
. .

**COUNTY 2 -----**

**VMTMX**

.  
. .

**VOC**

.  
. .

**CO**

.  
. .

**NOX**

.  
. .

(repeat for additional counties)

## UNIT 1 DATA CARDS

### Links Cards

Columns	Format	Description
1-5	I5	Anode
7-11	I5	Bnode
13	I1	County number (1-10)
15-16	I2	Roadway type (0-20)
18-27	F10.2	Link distance in miles
29-34	F6.2	Congested speed
36-50	F15.2	VMT

The Anode and Bnode fields are not used by IMPSUM.

### EXAMPLE JCL

```
//IMPSUMT JOB (W150,60A,S5,5,JB),'BELL TEST IMPSUM'  
//IMPI EXEC PGM=IMPSUM,REGION=1024K  
//STEPLIB DD DISP=SHR,DSN=USR.W104.CB.JB.IMPSUM  
//FT06F001 DD SYSOUT=A  
//FT05F001 DD *  
//FT01F001 DD DISP=OLD,DSN=USR.W150.CB.JR9090S1  
//FT09F001 DD DISP=(NEW,CATLG),UNIT=DISK,SPACE=(TRK,(2,1)),  
// DSN=USR.W150.CB.JRT90901.SAV,  
// DCB=(RECFM=VBS,LRECL=6316,BLKSIZE=6320)
```

### MICROCOMPUTER USAGE

The microcomputer version of this program is similar to the mainframe version, except there is no JCL. The program must be in the path or in the current directory. The file F77LEER must be in same directory as the program. The program asks for the name of the input and output data sets. The user can enter up to 80 characters for the drive, path, and name for each data set.

The following is the microcomputer console output from an example run of IMPSUM. The lower case characters were typed by the user.

```
C:\JORTS\TEST>impsum
```

32-bit Power for Lahey Computer Systems  
Phar Lap's 386 DOS-Extender(tm) Version 4.1L  
Copyright (C) 1986-92 Phar Lap Software, Inc.  
Available Memory = 5552 Kb

POLLUTION FACTOR FILE =s1

LINKS FILE =jr9693s1

OUTPUT FILE =jrt96931.out

SAVE FILE =jrt96931.sav

IMPSUM STARTED AT 07/16/93 08:17:28.8

C:\JORTS\TEST>dir

Volume in drive C is STACVOL\_DSK  
Directory of C:\JORTS\TEST

S1	50903	07-15-93	4:40p
JR9693S1	479284	07-15-93	4:06p
JRT96931 OUT	46061	07-16-93	8:17a
JRT96931 SAV	65485	07-16-93	8:17a

C:\ELPASO>cc < jrt96931.out > prn<sup>11</sup>

---

<sup>11</sup>The CC program reads a FORTRAN output file with carriage control characters and prints the file in landscape mode to an HP LaserJet II-compatible printer or to a character file. This program should not be used with printers that are not HP LaserJet II-compatible. The CC program is written in Turbo C.

# SUMALL

## PURPOSE

This program was written to sum the emissions results from two or more time periods plus diurnals. The SUMALL program sums the results from one or more IMPSUM runs and also calculates diurnal emissions and prints the summed results in the same formats as IMPSUM with the additional diurnals for HC output. This program reads all Unit 5 data read by IMPSUM. Additionally, this program reads a parameter card specifying the number of binary result data sets to sum, diurnal rates, and the number of vehicles by vehicle type.

The diurnal rates will come from either three MOBILE5a runs or one MOBILE5a run for each county. If one run is used, specify Run 2 for the DIUW and DIUM data cards. If three runs are used, the actual rates will be calculated by summing Run 2 and 3 data and subtracting Run 1. It is assumed that the IMPSUM runs to be summed have no diurnal emissions. This is accomplished by making the minimum temperature, the maximum temperature, and the ambient temperature the same in the POLFAC5A runs.

The basic inputs to SUMALL are:

1. Data specifying the number of IMPSUM runs to sum (NSAV).
2. Data specifying the number of counties in the region and their names.
3. The names of the road types used in the study. These road types are used to summarize the emissions results.
4. VMT mix by county and road type.
5. Emissions factors from POLFAC5A or COADJ by county.
6. Specification of the units for reporting emissions (grams, pounds, or tons).
7. Diurnal rates and the number of vehicles by county.
8. Binary data sets which saved the results from one or more IMPSUM runs.

## UNIT 5 DATA CARDS

The ordering of data on the Unit 5 input is important. The only county number input is from the county ID card. The VMTMX, VOC, NOX, and CO data cards do not contain a county number. The data from these four data cards are stored using the county number from the last county ID card as an index.

## UNITS CARD

Columns	Format	Contents
1-5	A5	'UNITS'
7	I1	Report units code: 1 = Grams 2 = Pounds 3 = Tons

## NSAV CARD

Columns	Format	Contents
1-4	A4	'NSAV'
11	I5	Number of save data sets to sum. The value can have a value of 1 to 89. The save data sets will be read from Units 11, 12, etc. The number of save data sets may be limited by the number of DD statements that can be used in a job or a jobstep.

**WEIGHTED DIURNAL EMISSION RATES CARD**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-4	A4	'DIUW'
5-6	I2	Run number
7-8	I2	County number
11-18	F8.2	Weighted diurnal rate for LDGV
19-26	F8.2	Weighted diurnal rate for LDGT1
27-34	F8.2	Weighted diurnal rate for LDGT2
35-42	F8.2	Weighted diurnal rate for HDGV
43-50	F8.2	Weighted diurnal rate for LDDV
51-58	F8.2	Weighted diurnal rate for LDDT
59-66	F8.2	Weighted diurnal rate for HDDV
67-76	F8.2	Weighted diurnal rate for MC

**MULTIPLE DIURNAL EMISSION RATES CARD**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-4	A4	'DIUM'
5-6	I2	Run number
7-8	I2	County number
11-18	F8.2	Multiple diurnal rate for LDGV
19-26	F8.2	Multiple diurnal rate for LDGT1
27-34	F8.2	Multiple diurnal rate for LDGT2
35-42	F8.2	Multiple diurnal rate for HDGV
43-50	F8.2	Multiple diurnal rate for LDDV
51-58	F8.2	Multiple diurnal rate for LDDT
59-66	F8.2	Multiple diurnal rate for HDDV
67-76	F8.2	Multiple diurnal rate for MC



## VEHICLES CARD

Columns	Format	Contents
1-4	A4	'VEH '
7-8	I2	County number
11-18	F8.2	Number of LDGV vehicles
19-26	F8.2	Number of LDGT1 vehicles
27-34	F8.2	Number of LDGT2 vehicles
35-42	F8.2	Number of HDGV vehicles
43-50	F8.2	Number of LDDV vehicles
51-58	F8.2	Number of LDDT vehicles
59-66	F8.2	Number of HDDV vehicles
67-76	F8.2	Number of MC vehicles

## ROADWAY TYPE NAME CARD

Columns	Format	Contents
1-8	A8	'ROADTYPE'
10-11	I2	Roadway type number (values from 0 to 20 are valid)
13-32	A20	Roadway type name

## COUNTY ID CARD

Columns	Format	Contents
1-6	A6	'COUNTY'
8-9	I2	County number (values from 1 to 8 are valid)
11-22	A12	County name

## VEHICLE MILES OF TRAVEL MIX CARD<sup>12</sup>

Columns	Format	Contents
1-5	A5	'VMTMX'
7-8	I2	Roadway type number (valid values are from 0 to 20)
9-17	F9.5	LDGV fraction of VMT
18-26	F9.5	LDGT1 fraction of VMT
27-35	F9.5	LDGT2 fraction of VMT
36-44	F9.5	HDGV fraction of VMT
45-53	F9.5	LDDV fraction of VMT
54-62	F9.5	LDDT fraction of VMT
63-71	F9.5	HDDV fraction of VMT
72-80	F9.5	MC fraction of VMT

---

<sup>12</sup>The county number from the last county ID card is used.

**VOC EMISSION FACTOR CARD<sup>13</sup>**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-7	A3	'VOC'
8	A1	blank
9-17	F9.5	LDGV VOC emission factor in grams/mile
18-26	F9.5	LDGT1 VOC emission factor in grams/mile
27-35	F9.5	LDGT2 VOC emission factor in grams/mile
36-44	F9.5	HDGV VOC emission factor in grams/mile
45-53	F9.5	LDDV VOC emission factor in grams/mile
54-62	F9.5	LDDT VOC emission factor in grams/mile
63-71	F9.5	HDDV VOC emission factor in grams/mile
72-80	F9.5	MC VOC emission factor in grams/mile

<sup>13</sup>The county number from the last county ID card is used.

**CO EMISSION FACTOR CARD<sup>14</sup>**

<b>Columns</b>	<b>Format</b>	<b>Contents</b>
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-6	A3	'CO'
7-8	A2	blank
9-17	F9.5	LDGV CO emission factor in grams/mile
18-26	F9.5	LDGT1 CO emission factor in grams/mile
27-35	F9.5	LDGT2 CO emission factor in grams/mile
36-44	F9.5	HDGV CO emission factor in grams/mile
45-53	F9.5	LDDV CO emission factor in grams/mile
54-62	F9.5	LDDT CO emission factor in grams/mile
63-71	F9.5	HDDV CO emission factor in grams/mile
72-80	F9.5	MC CO emission factor in grams/mile

<sup>14</sup>The county number from the last county ID card is used.

**NOX EMISSION FACTOR CARD<sup>15</sup>**

Columns	Format	Contents
1-3	I3	Speed (valid values are 3 to 65)
4	A1	blank
5-7	A3	'NOX'
8	A1	blank
9-17	F9.5	LDGV NOX emission factor in grams/mile
18-26	F9.5	LDGT1 NOX emission factor in grams/mile
27-35	F9.5	LDGT2 NOX emission factor in grams/mile
36-44	F9.5	HDGV NOX emission factor in grams/mile
45-53	F9.5	LDDV NOX emission factor in grams/mile
54-62	F9.5	LDDT NOX emission factor in grams/mile
63-71	F9.5	HDDV NOX emission factor in grams/mile
72-80	F9.5	MC NOX emission factor in grams/mile

The suggested order of the Unit 5 data cards is:

UNIT 3 (tons)  
 NSAV 4  
 DIUW 1 1  
 DIUW 2 1  
 DIUW 3 1  
 DIUM 1 1  
 DIUM 2 1  
 DIUM 3 1  
 VEH 1  
 ROADTYPE

.

.

.

COUNTY 1 -----  
 VMTMX

<sup>15</sup>The county number from the last county ID card is used.

```

.
.
VOC
.
.
.
CO
.
.
.
NOX
.
.
.
COUNTY 2 -----
VMTMX
.
.
.
VOC
.
.
.
CO
.
.
.
NOX
.
.
.
(repeat for additional counties)

```

**EXAMPLE JCL**

```

//SUMALL93 JOB (W150,60A,2,5,CB),'BELL JORTS 96 93'
//SUMALL EXEC PGM=SUMALL,REGION=256K
//STEPLIB DD DISP=OLD,DSN=USR.W104.CB.JB.IMPSUM
//FT05F001 DD *
//FT06F001 DD SYSOUT=A
//FT11F001 DD DISP=OLD,DSN=USR.W150.CB.JRT96931.SAV
//FT12F001 DD DISP=OLD,DSN=USR.W150.CB.JRT96932.SAV
//FT13F001 DD DISP=OLD,DSN=USR.W150.CB.JRT96933.SAV
//FT14F001 DD DISP=OLD,DSN=USR.W150.CB.JRT96934.SAV

```

**EXAMPLE UNIT 5 INPUT**

HDR1 JORTS 1996 TRIPS ON 1993 NETWORK

NSAV 4

HDR2 24 HOUR

UNITS 3

DIUW 2 3	1.67	2.81	4.83	26.81	0.00	0.00	0.00	11.77	HAR96
DIUM 2 3	6.86	8.57	10.11	33.63	0.00	0.00	0.00	0.00	HAR96
VEH 3	17946.	11785.	1119.	341.	366.	364.	121.	277.	HAR96
DIUW 2 1	1.79	2.74	5.16	21.57	0.00	0.00	0.00	11.77	JEF96
DIUM 2 1	6.99	8.50	10.35	30.34	0.00	0.00	0.00	0.00	JEF96
VEH 1	121635.	44956.	3580.	2108.	2482.	1390.	732.	2893.	JEF96
DIUW 2 2	1.72	2.84	5.02	25.77	0.00	0.00	0.00	11.77	ORA96
DIUM 2 2	6.92	8.63	10.25	33.00	0.00	0.00	0.00	0.00	ORA96
VEH 2	40056.	22205.	1730.	603.	817.	687.	253.	801.	ORA96

ROADTYPE 0 LOCAL

ROADTYPE 1 INTERSTATE HWYS & FWYS

ROADTYPE 2 MULTILANE HIGHWAYS

ROADTYPE 3 PRINCIPAL DIV. ART.

ROADTYPE 4 PRIN. UNDIV. ART.

ROADTYPE 5 MINOR DIV. ART.

ROADTYPE 6 MINOR UNDIV. ART.

ROADTYPE 7 COLLECTORS

ROADTYPE 8 FRONTAGE ROADS

ROADTYPE 9 RAMPS

COUNTY 1 JEFFERSON

VMTMX 00 0.590 0.240 0.065 0.037 0.002 0.001 0.062 0.003

VMTMX 16 0.590 0.240 0.065 0.037 0.002 0.001 0.062 0.003

3 VOC 10.19051 11.14644 14.16451 19.70721 1.65438 2.28766 5.47575 16.93929

65 VOC 1.21994 1.54062 1.84379 2.22498 0.34940 0.48315 1.15647 6.21601

3 CO 83.64868102.35202132.10094202.95169 5.39228 6.10980 38.25746182.97807

65 CO 18.80666 27.46329 33.29419 48.16167 1.06772 1.20980 7.57536 38.06747

3 NOX 2.21896 2.37885 2.61141 4.24928 2.76132 3.11727 23.65694 0.83962

65 NOX 2.81003 3.17711 3.61587 6.97554 2.80968 3.17185 24.07120 1.67833

COUNTY 2 ORANGE

VMTMX 00 0.590 0.240 0.065 0.037 0.002 0.001 0.062 0.003  
 .  
 .  
 VMTMX 16 0.590 0.240 0.065 0.037 0.002 0.001 0.062 0.003  
 3 VOC 9.59235 11.14629 13.61409 24.68542 1.63085 2.30749 6.08451 17.18773  
 .  
 .  
 65 VOC 1.13841 1.54358 1.76878 2.88477 0.34443 0.48734 1.28503 6.31517  
 3 CO 77.78996 103.22798 126.98114 271.09424 5.34957 6.15454 41.37212 183.84230  
 .  
 .  
 65 CO 17.40787 27.76924 31.93053 64.33250 1.05927 1.21866 8.19210 38.24724  
 3 NOX 2.07422 2.29800 2.51378 4.38235 2.74037 3.13502 27.83104 0.83962  
 .  
 .  
 65 NOX 2.62029 3.08953 3.47673 7.19399 2.78836 3.18992 28.31841 1.67834  
 COUNTY 3 HARDIN  
 VMTMX 00 0.604 0.348 0.030 0.010 0.002 0.002 0.003 0.001  
 .  
 .  
 VMTMX 16 0.604 0.348 0.030 0.010 0.002 0.002 0.003 0.001  
 3 VOC 9.57386 11.55715 13.06376 25.57549 1.62326 2.32586 6.52089 17.77747  
 .  
 .  
 65 VOC 1.13472 1.60077 1.69376 3.01910 0.34283 0.49122 1.37720 6.51326  
 3 CO 77.17125 106.30727 119.75487 275.50562 5.33607 6.16977 42.50887 186.61420  
 .  
 .  
 65 CO 17.19089 28.51173 29.76122 65.37944 1.05659 1.22167 8.41718 38.82393  
 3 NOX 2.10472 2.46660 2.49018 4.41810 2.72303 3.15332 29.79782 0.83962  
 .  
 .  
 65 NOX 2.64759 3.29341 3.41184 7.25267 2.77071 3.20854 30.31961 1.67833



## MICROCOMPUTER USAGE

The microcomputer version of this program is similar to the mainframe version, except there is no JCL. The program must be in the path or in the current directory. The file F77L.EER must be in same directory as the program. The program asks for the name of the input and output data sets. The user can enter up to 80 characters for the drive, path, and name for each data set.

The following is the microcomputer console output from an example run of SUMALL. The lower case characters were typed by the user.

```
C:\JORTS\TEST>sumall
```

```
32-bit Power for Lahey Computer Systems
Phar Lap's 386|DOS-Extender(tm) Version 4.1L
Copyright (C) 1986-92 Phar Lap Software, Inc.
Available Memory = 5552 Kb
```

```
SUMALL INPUT =sumall.ft5
```

```
SUMALL OUTPUT =sumall.out
```

```
SAVE 1 DATA SET =jrt96931.sav
```

```
SAVE 2 DATA SET =jrt96932.sav
```

```
SAVE 3 DATA SET =jrt96933.sav
```

```
SAVE 4 DATA SET =jrt96934.sav
```

```
C:\JORTS\TEST>dir
```

```
Volume in drive C is STACVOL_DSK
Directory of C:\JORTS\TEST
```

```
SUMALL  FT5      51621 07-15-93  9:22a
SUMALL  OUT      42310 07-16-93  8:18a
JRT96931 SAV     65485 07-16-93  8:17a
JRT96932 SAV     65485 07-15-93  4:58p
JRT96933 SAV     65485 07-15-93  4:59p
JRT96934 SAV     65485 07-15-93  5:00p
```

```
C:\ELPASO>cc < sumall.out > prn16
```

---

<sup>16</sup>The CC program reads a FORTRAN output file with carriage control characters and prints the file in landscape mode to an HP LaserJet II-compatible printer or to a character file. This program should not be used with printers that are not HP LaserJet II-compatible. The CC program is written in Turbo C.