APPENDIX 10

2020 TEXAS STATEWIDE LOCOMOTIVE AND RAIL YARD EMISSIONS INVENTORY AND 2011 THROUGH 2050 TREND INVENTORIES

Dallas-Fort Worth and Houston-Galveston-Brazoria Moderate Areas Reasonable Further Progress State Implementation Plan Revision for the 2015 Eight-Hour Ozone National Ambient Air Quality Standard

Project Number 2022-023-SIP-NR

2020 Texas Statewide Locomotive and Rail Yard Emissions Inventory and 2011 through 2050 Trend Inventories

FINAL REPORT

Prepared for the Texas Commission on Environmental Quality

October 2021

Texas A&M Transportation Institute

FINAL REPORT

TCEQ Grant Number: 582-16-61286
TCEQ Proposal for Grant Activity No: 582-21-11027-017
TTI Contract No. 615641

TASK 8.2 Final Report

DATE: October 15, 2021

TO: Cody McLain
Palak Paul
Texas Commission on Environmental Quality (TCEQ)

COPY TO: Brenda Fritz, TCEQ
Julie Vandenberg, TCEQ
Mathew Southard, TCEQ

FROM: Madhusudhan Venugopal, P.E.
Apoorba Bibeka, P.E.
Marty Boardman
Robert Huch, P.G., CPESC
Chaoyi Gu, P.E.
Texas A&M Transportation Institute

FOR MORE INFORMATION:
Madhusudhan Venugopal
972-994-2213
m-venugopal@tti.tamu.edu

TABLE OF CONTENTS

List of Figures v
List of Tables v
List of Acronyms And Abbreviations vi
Executive Summary 1
1.0 Introduction 3
1.1 Objective 3
1.2 Organization 4
2.0 Scope of Emissions Inventory Development 5
2.1 Emissions Sources and SCCs 5
2.2 Pollutants 6
2.3 Geographic and Temporal Levels of Coverage 8
2.4 Control Programs 8
3.0 Background 9
3.1 Railroad Carriers 10
3.2 Railyards 11
3.3 Passenger Trains and Regional Commuter Rail 12
4.0 Data Sources and Emissions Methodology 16
4.1 Prior Studies 16
4.1.1 Specification Sheet: Rail 2017 NEI 16
4.1.2 2014 Texas Statewide Locomotive Emissions Inventory and 2008 through 2040 Trend Inventories 18
4.1.3 Revised Inventory Guidance for Locomotive Emissions 18
4.1.4 2019 Texas Rail Plan 19
4.2 Other Data Sources 20
4.2.1 STB 20
4.2.2 BTS 20
4.2.3 Eastern Regional Technical Advisory Committee (ERTAC) 21
4.3 Emissions Estimation 21
5.0 Development of Projection Factors 22
5.1 Input Data 22
5.2 Class I Line-Haul and Yard Projection Factors 23
5.3 Passenger Rail 25
5.4 Class III Line-Haul and Yard 26

6.0 Development of Texas County Specific Emissions 27
6.1 Finalizing Baseline Fuel Usage Data 27
6.2 Development of Locomotive Emission Factors 29
6.3 Development of Forecasting Factors to Project 2019 Baseline EI to the Calendar Years 2011 Through 2050 30
6.4 Estimation of Line-Haul and Yard EIs 31
7.0 Emissions Reporting 33
8.0 Quality Assurance and Quality CONTROL 34
8.1 Projection Factors 34
8.2 Emission Factors 35
8.3 Fuel Usage 36
8.4 Emissions Inventories 36
9.0 Conclusions and Recommendations 37
References 38
Appendix A: Texas Rail Yards 40
Appendix B: Emission Rates (Electronic Only) 47
Appendix C: Texas Low-Emission Diesel Program Factors (Electronic Only) 48
Appendix D: DERI Emission Quantities (Electronic Only) 49
Appendix E: Uncontrolled 2020 Annual and Daily County-Level Emissions for Texas 50
Appendix F: Controlled 2020 Annual and Daily County-Level Emissions for Texas 67
Appendix G: Detailed Emissions inventory Results (Electronic Only) 84
Appendix H: Quality Assurance and Quality Control Results (Electronic Only) 85

LIST OF FIGURES

Figure 1. Texas Railroad Map. 9
Figure 2. Map of Major Railroad Carriers in Texas. 11
Figure 3. Map of Class I and Class III Switching Yards in Texas. 12
Figure 4. Map of Amtrak Operating Network in Texas. 13
Figure 5. Map of DCTA A-train Operating Network in Texas. 14
Figure 6. Map of TRE Operating Network in Texas. 15
Figure 7. AEO's Passenger and Freight Rail Projections from 2010-2050. 22
Figure 8. 2019 and 2020 AEO Rail Freight Travel for Years 2011-2050. 24
Figure 9. Class I Line-haul and Yard Projection Factors for Years 2011-2050. 25
Figure 10. Passenger Rail Projection Factors for Years 2011-2050. 26
Figure 11. Comparison of TTI's Class I and Class III Line-haul and Yard projection Factors with ERTAC and ERG's Factors. 35

LIST OF TABLES

Table 1. 2020 Annual Emissions by Criteria Pollutant[1,2] (tons/year). 2
Table 2. 2020 Summer Weekday Emissions by Criteria Pollutant (tons/day). 2
Table 3. Mobile – Locomotives Sector Emissions Sources by SCC and Data Category. 5
Table 4. Criteria Air Pollutants and Precursors. 6
Table 5. Mobile – Hazardous Air Pollutants. 6
Table 6. Texas-specific Line-haul Fuel Consumption (gallons). 23
Table 7. Texas-specific Yard Switching Fuel Consumption (gallons). 23
Table 8. TTI Grouping of NARL Rail Network Links. 28
Table 9. Total Estimated 2019 Annual Fuel Usage. 29
Table 10. Projection Factors for Class I/III line-haul, Switching Yard, and Passenger Rail Activity. 30
Table 11. 2016 TTI and ERTAC Emission Factor Comparison. 35

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AAR	Association of American Railroads
AEO	Annual Energy Outlook
AEO	Annual Energy Outlook
AERR	Air Emissions Reporting Requirements
ASLRRA	American Short Line and Regional Railroad Association
ASQ/ANSI	American Society for Quality, American National Standard Institute
BNSF	Burlington Northern Sante Fe Corp. Railway
BTS	Bureau of Transportation Statistics
CAP	Criteria Air Pollutant
CERS	Consolidated Emissions Reporting Schema
CFR	Code of Federal Regulation
CN	Canadian National Railway
CO	Carbon Monoxide
CP	Canadian Pacific
CSX	CSX Transportation
DART	Dallas Area Rapid Transit
DCTA	Denton County Transit Authority
DERI	Diesel Emissions Reduction Incentive
DOT	Department of Transportation
EI	Emissions Inventory
EIA	Energy Information Administration
EIS	Emission Inventory System
EPA	Environmental Protection Agency
ERG	Eastern Research Group
ERTAC	Eastern Regional Technical Advisory Committee
FAF	Freight Analysis Framework
Form R-1	Class I Railroad Annual Report
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HAP	Hazardous Air Pollutant
HC	Hydrocarbons
KCS	Kansas City Southern Railway
LADCO	Lake Michigan Air Directors Consortium
MGT	Million Gallon-Ton
MS	Microsoft
NARL	North American Rail Lines
NEI	National Emissions Inventory

Acronym	Definition
NH_3	Ammonia
NIS	Not in Service
NO_X	Oxides of Nitrogen
NS	Norfolk Southern
NTAD	National Transportation Atlas Database
Pb	Lead
PM	Particulate Matter
PM_{10} Primary	Primary (filterable + condensable) particulate matter with an aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$ Primary	Primary (filterable + condensable) particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
QA/QC	Quality Assurance and Quality Control
QAPP	Quality Assurance Project Pla
SCC	Source Classification Code
SIP	State Implementation Plans
SO_2	Sulfur Dioxide
STB	Surface Transportation Board
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emission Reduction Plan
TexAER	Texas Air Emissions Repository
TRE	Trinity Railway Express
TTI	Texas A&M Transportation Institute
TxDOT	Texas Department of Transportation
TxLED	Texas Low Emission Diesel
ULSD	Ultra-Low-Sulfur Diesel
UP	Union Pacific Railroad
U.S.	United States
XML	Extensible Markup Language

EXECUTIVE SUMMARY

The Texas Commission on Environmental Quality (TCEQ) is required to submit periodic emissions inventories for all 254 Texas counties under the Air Emissions Reporting Requirements (AERR) to support the Environmental Protection Agency's (EPA) comprehensive three-year cycle National Emissions Inventory (NEI). Deliverables for this project included the development of the 2020 analysis year locomotive and rail yard nonroad mobile source emissions inventory (EI) data. It is required to be submitted to the EPA per the AERR. In addition to the 2020 AERR EI, statewide controlled and uncontrolled trend EIs were developed by projecting baseline emissions for all locomotive and rail yard source categories to calendar years 2011 through 2050. Annual and average summer weekday EI estimates were developed for criteria air pollutants (CAPs), CAP precursors (i.e., ozone precursors), and hazardous air pollutants (HAPs). These inventories and relevant activity data at the county level were used to develop Extensible Markup Language (XML) data summary files suitable for uploading to the TCEQ's Texas Air Emissions Repository (TexAER) and/or EPA's Emission Inventory System (EIS).

To estimate the county-level inventories, the Texas A&M Transportation Institute (TTI) used information collected from the Phase 1 project (PGA 582-20-11174-016, results submitted to TCEQ in August 2020). The 2019 annual and summer fuel usage for each Texas county developed in the Phase 1 study were used as the baseline from which other year's emissions were estimated by applying the appropriate projection factors. The projection factors for freight[1] and passenger locomotive activity were developed using annual energy outlook (AEO) data and national level fuel usage for Class I operators. This data is available from the Class I Railroad Annual Report (Form R-1) submitted annually by each Class I railroad operator to the Surface Transportation Board (STB).

The EPA-established emission factors for the years 2006 to 2040 for oxides of nitrogen (NO_X), and hydrocarbons (HC), carbon monoxide (CO), and particulate matter (PM) are used for estimating emissions; sulfur dioxide (SO_2) emissions are calculated based on the locomotive fuel-specific properties; ammonia (NH_3) emissions are calculated based on EPA recommended emission factors for nonroad engines; lead (Pb) emissions are computed by speciating PM based on speciation factors from NEI 2011. For all future years, 2040 and later, the 2040 emission factors were used. The HAP emission factors were estimated based on the augmentation factors provided by the EPA. The baseline fuel estimates along with projection factors and EPA's aggregated emission factors were used to estimate the carriers and county-specific locomotive emissions. These

[1] The freight category includes Class I, Class III, and associated yard activities.

locomotive EIs include Class I and III railroad activity and emissions for all counties in the state. Currently, there are no Class II operators in Texas. In addition, to estimate the uncontrolled and controlled emissions, TTI reviewed and considered EPA rulemakings and TCEQ programs such as the Texas low emission diesel (TxLED) program and Texas emission reduction plan (TERP).

Table 1 and Table 2 summarize the 2020 estimates of annual and summer weekday CAP emissions.

Table 1. 2020 Annual Emissions by Criteria Pollutant[1,2] (tons/year).

Category[3]	VOC	CO	NOX	SO2	NH3	PM_{10}	$PM_{2.5}$
Class I	1,067.54	7,497.68	26,938.66	26.26	23.38	647.71	628.28
Class III	74.48	140.83	1,345.44	0.56	0.50	32.04	31.08
Passenger (Amtrak)	10.06	82.01	275.24	0.29	0.26	6.47	6.27
Commuter	2.76	22.49	73.69	0.08	0.07	1.77	1.72
Class I and Class III Switching Yards	215.63	542.48	3,460.67	1.82	1.62	79.96	77.56
Total	1,370.46	8,285.49	32,093.69	29.01	25.82	767.95	744.92

[1] VOC = volatile organic compounds, SO_2 = sulfur dioxide, NH_3 = ammonia, PM_{10} = particulate matter,
[2] Lead (Pb) emissions were less than 1 ton/ year,
[3] Currently, there are no Class II operators in Texas.

Table 2. 2020 Summer Weekday Emissions by Criteria Pollutant (tons/day).

Category[1]	VOC	CO	NO_X	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Class I	2.925	20.542	73.805	0.072	0.064	1.775	1.721
Class III	0.204	0.386	3.686	0.002	0.001	0.088	0.085
Passenger (Amtrak)	0.028	0.225	0.754	0.001	0.001	0.018	0.017
Commuter	0.008	0.062	0.202	0.000	0.000	0.005	0.005
Class I and Class III Switching Yards	0.591	1.486	9.481	0.005	0.004	0.219	0.212
Total	3.755	22.700	87.928	0.079	0.071	2.104	2.041

[1] Currently, there are no Class II operators in Texas.

This EI improved upon the previous EIs by incorporating the estimation of the passenger train (Amtrak) and regional commuter lines (TRE and DCTA) to the EI. The following are some areas where future estimation can be further refined.

- A detailed survey of the switching yards in Texas could improve the existing yard inventory.
- Fuel consumption per ton-mile data is available through FRA; however, this data is difficult to obtain. Using freight analysis framework (FAF) data to develop a tonnage assignment model for railroads would improve fuel consumption estimates without using the FRA tonnage data.

1.0 INTRODUCTION

The TCEQ works with local planning districts, the Texas Department of Transportation (TxDOT), and the TTI to develop emissions inventories of air pollutants for meeting various regulatory requirements. Per the EPA's AERR, the state of Texas is required to prepare and submit a comprehensive statewide periodic EI to support the EPA's NEI every three years. The three-year cycle inventory year for this work was 2020 and is due to the EPA by January 15, 2022.

This report describes work conducted by TTI on behalf of the TCEQ. Tasks involved the development of a comprehensive, statewide, nonroad mobile 2020 analysis year locomotive and rail yard source category EI. It is required to be submitted to the EPA per the AERR and to support revisions to various State Implementation Plans (SIP). In addition to the AERR EI, statewide controlled and uncontrolled trend EIs were also required within the project's scope. These were developed by projecting baseline emissions for all locomotive and rail yard source categories to calendar years 2011 through 2050. TTI developed annual (tons per year) and average summer weekday (tons per day) controlled and uncontrolled EI estimates of CAPs, CAP precursors (i.e., ozone precursors), and HAPs.

1.1 OBJECTIVE

The purpose of this document is to describe the methods and data used in the development of locomotive and rail yard source EIs for all 254 counties in Texas. The EI development methods described in this document were based on the EPA guidance for estimating locomotive-based EIs. The EIs were developed for each of the analysis years from 2011 through 2050. Annual and average summer weekday controlled and uncontrolled EIs were developed for each of these analysis years.

This project involved the development of electronic deliverables that were post-processed from each county EI into formats described below.

- Statewide 2020 AERR controlled EI for all locomotive and rail yard sources and all other associated data developed in the Consolidated Emissions Reporting Schema (CERS) XML format suitable for loading into the EPA EIS as nonpoint source-ready for locomotive line-haul sources (i.e., the movement of freight between terminals) and point source-ready for rail yard sources.
- Statewide 2020 AERR controlled and uncontrolled EIs for all locomotive and rail yard sources and all other associated data developed in the CERS XML format suitable for loading into TexAER as nonroad sources.

- Statewide 2011 through 2050 controlled and uncontrolled trend EI summary data provided in Microsoft (MS) Excel spreadsheets.
- Statewide 2011 through 2050 controlled and uncontrolled annual and ozone season daily EIs for all locomotive and rail yard source categories and all other associated data developed in the CERS XML format suitable for loading into TexAER as nonroad mobile sources.

1.2 ORGANIZATION

This report is organized as follows.

- **Section 2** details the scope of the EIs to include emissions sources and associated source classification codes (SCCs), pollutants, geographic coverage, temporal details, and control programs.
- **Section 3** provides the background information on the rail carriers operating in Texas and different locomotive emission sources.
- **Section 4** details the methodology and inputs used in developing the activity projection factors for passenger rail and Class I and Class III line-haul and yard sources.
- **Section 5** provides details on emissions projection factor development. Projection factors were developed from 2011 to 2050 and were developed with respect to 2019 activity.
- **Section 6** provides details on finalized activity data, emissions factors, forecasting factors, and emissions estimation.
- **Section 7** provides information on the development and preparation of the reporting files per appropriate guidance, including guidance from the TCEQ project manager:
  - 2020 AERR electronic activity data reporting files for all source categories in accordance with guidance provided by EPA.
  - AERR electronic EI reporting files of the locomotive line-haul component of the EI for nonpoint sources and the rail yard component of the EI for point sources for submission to EPA per the AERR.
  - Both locomotive line-haul and rail yard EI components for nonpoint sources are in a format ready to upload to the TCEQ's TexAER database.
- **Section 8** provides information on the quality assurance and quality control (QA/QC) procedures and project management processes employed in developing locomotive and rail yard EIs.
- **Section 9** concludes this report and provides recommendations for future work.

2.0 SCOPE OF EMISSIONS INVENTORY DEVELOPMENT

The scope of the EIs was framed in terms of the emissions sources, their SCCs, pollutants, geographic coverage, temporal details, control programs, and the basic emissions estimation methodology, as described below.

2.1 EMISSIONS SOURCES AND SCCS

The emissions sources for this EI include six SCCs: four for line-haul locomotives source categories and two for yard locomotives source categories. The line-haul SCCs are all reported under the nonpoint data category. Yard locomotives may be reported using either the SCC nonpoint or point data category, depending on the applicable reporting requirement.

Table 3 summarizes the SCCs, their descriptions, and associated EPA EIS data categories.

Table 3. Mobile – Locomotives Sector Emissions Sources by SCC and Data Category.

SCC[1]	SCC Description (Levels 1 through 4)	Data Category
2285002006	Mobile Sources; Railroad Equipment; Diesel; Line-Haul Locomotives: Class I Operations	Nonpoint
2285002007	Mobile Sources; Railroad Equipment; Diesel; Line-Haul Locomotives: Class II / III Operations	Nonpoint
2285002008	Mobile Sources; Railroad Equipment; Diesel; Line-Haul Locomotives: Passenger Trains (Amtrak)	Nonpoint
2285002009	Mobile Sources; Railroad Equipment; Diesel; Line-Haul Locomotives: Commuter Lines	Nonpoint
2285002010	Mobile Sources; Railroad Equipment; Diesel; Yard Locomotives	Nonpoint
28500201	Internal Combustion Engines; Railroad Equipment; Diesel; Yard Locomotives	Point

[1] These are the active SCCs for reporting locomotive and rail yard emissions (source: https://ofmpub.epa.gov/sccwebservices/sccsearch/. January 3, 2021).

Railroad equipment operations are categorized as line-haul and yard (or switching) operations. Line-haul is primarily the transport of cargo and/or passengers over long distances within a rail network, excluding switching. Based on their operating revenues and geographic coverage, railroad carriers are classified as Class I, II, or III. Class I railroad carriers generate most of the industry's revenues. Class II operators are mid-sized in terms of operating revenues. Currently, there are no Class II operators in Texas. Class III operators are considered local, short-line railroads and are relatively small in

terms of operating revenues. Switcher locomotives are used for maneuvering railroad cars inside rail yards in the process known as switching.[2]

2.2 POLLUTANTS

Railroad line-haul and yard EIs were estimated for the following CAPs and their precursors (Table 4) and the following HAPs (Table 5).

Table 4. Criteria Air Pollutants and Precursors.

Pollutant	Description
VOC	Volatile organic compounds
NO_X	Nitrogen oxides
CO	Carbon monoxide
PM_{10} Primary	Primary (filterable + condensable) particulate matter with an aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$ Primary	Primary (filterable + condensable) particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
Pb and Pb compounds	Lead and lead compounds
NH_3	Ammonia
SO_2	Sulfur dioxide

HAP emissions were estimated by applying speciation profiles (or HAP fractions) to the VOC or $PM_{2.5}$ estimates. The latest available HAP fractions were applied[3] to produce EI estimates for the HAPs.

Table 5. Mobile – Hazardous Air Pollutants.

Pollutant*	Pollutant Code	Base Pollutant (Fraction of)
1,3-Butadiene	106990	VOC
2,2,4-Trimethylpentane	540841	VOC
Acenaphthene	83329	VOC
Acenaphthylene	208968	VOC
Acetaldehyde	75070	VOC
Acrolein	107028	VOC
Benzene	71432	VOC
Ethyl Benzene	100414	VOC

[2] For more detailed information on the types and categories of locomotive operations and specifically on rail operators in Texas, see Development of Statewide Locomotive and Rail Yard Activity Data Set (TTI, August 2020).

[3] Currently, the latest HAP fractions are available in the spreadsheet supplement "2017Rail_HAP_AugmentationProfileAssignmentFactors_20200128.xlsx" to the 2017 National Emissions Inventory Complete Release Technical Support Document (EPA, April 2020) (See Section 4.22.3.1).

Pollutant*	Pollutant Code	Base Pollutant (Fraction of)
Formaldehyde	50000	VOC
Hexane	110543	VOC
Naphthalene	91203	VOC
Propionaldehyde	123386	VOC
Toluene	108883	VOC
Xylenes (Mixed Isomers)	1330207	VOC
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562394	$PM_{2.5}$ Primary
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	35822469	$PM_{2.5}$ Primary
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	$PM_{2.5}$ Primary
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	$PM_{2.5}$ Primary
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	57653857	$PM_{2.5}$ Primary
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	$PM_{2.5}$ Primary
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	19408743	$PM_{2.5}$ Primary
1,2,3,7,8-Pentachlorodibenzofuran	57117416	$PM_{2.5}$ Primary
2,3,4,7,8-Pentachlorodibenzofuran	57117314	$PM_{2.5}$ Primary
2,3,7,8-Tetrachlorodibenzofuran	51207319	$PM_{2.5}$ Primary
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1746016	$PM_{2.5}$ Primary
Anthracene	120127	$PM_{2.5}$ Primary
Arsenic	7440382	$PM_{2.5}$ Primary
Benz[a]Anthracene	56553	$PM_{2.5}$ Primary
Benzo[a]Pyrene	50328	$PM_{2.5}$ Primary
Benzo[b]Fluoranthene	205992	$PM_{2.5}$ Primary
Benzo[g,h,i,]Perylene	191242	$PM_{2.5}$ Primary
Benzo[k]Fluoranthene	207089	$PM_{2.5}$ Primary
Chromium (VI)	18540299	$PM_{2.5}$ Primary
Chrysene	218019	$PM_{2.5}$ Primary
Dibenzo[a,h]Anthracene	53703	$PM_{2.5}$ Primary
Fluoranthene	206440	$PM_{2.5}$ Primary
Fluorene	86737	$PM_{2.5}$ Primary
Indeno[1,2,3-c,d]Pyrene	193395	$PM_{2.5}$ Primary
Manganese	7439965	$PM_{2.5}$ Primary
Mercury	7439976	$PM_{2.5}$ Primary
Nickel	7440020	$PM_{2.5}$ Primary
Octachlorodibenzofuran	39001020	$PM_{2.5}$ Primary
Octachlorodibenzo-p-Dioxin	3268879	$PM_{2.5}$ Primary
Phenanthrene	85018	$PM_{2.5}$ Primary
Pyrene	129000	$PM_{2.5}$ Primary

* Source: Spreadsheet supplement "2017Rail_HAP_AugmentationProfileAssignmentFactors_20200128.xlsx" to the 2017 National Emissions Inventory Complete Release Technical Support Document (EPA, April 2020) (See Section 4.22.3.1).

2.3 Geographic and Temporal Levels of Coverage

The EI for the 2020 AERR and 2011 through 2050 trend EIs were produced at a county level for all 254 Texas counties. The temporal levels of coverage were average summer weekday (in units of tons per day) and annual calendar year (in units of tons per year). Since the variations in the activity do not vary in different seasons, the average daily estimates were used as the average summer weekday.

2.4 Control Programs

Emissions reductions were applied for locomotive and yard emissions estimates for the following control programs.

- EPA fleet average emission factors for fleet turnover by calendar year and locomotive type.
- EPA fleet average emission factors for cleaner locomotive diesel fuel.
- TCEQ's TERP grants utilization (for repowering or replacing engines) under the Diesel Emissions Reduction Incentive (DERI) Program.
- TxLED Program credits.

3.0 BACKGROUND

Texas has led the nation in terms of the total length of railroad miles within a state since 1911. Currently, the regulation of state railroads is with TxDOT. Rail networks play a major role in the state and national economy by helping to connect people and goods without congesting highways. The state railroad map is shown in Figure 1. *(1)* The Texas railroad system provides access to every region in the United States and to Mexico and Canada. In terms of economic impact for 2019, Texas railroads provided $219.5 billion in annual economic income, $71 billion in wages, and almost $26 billion in tax revenue. *(2)* This section describes the railroad carriers and railyard operations in Texas.

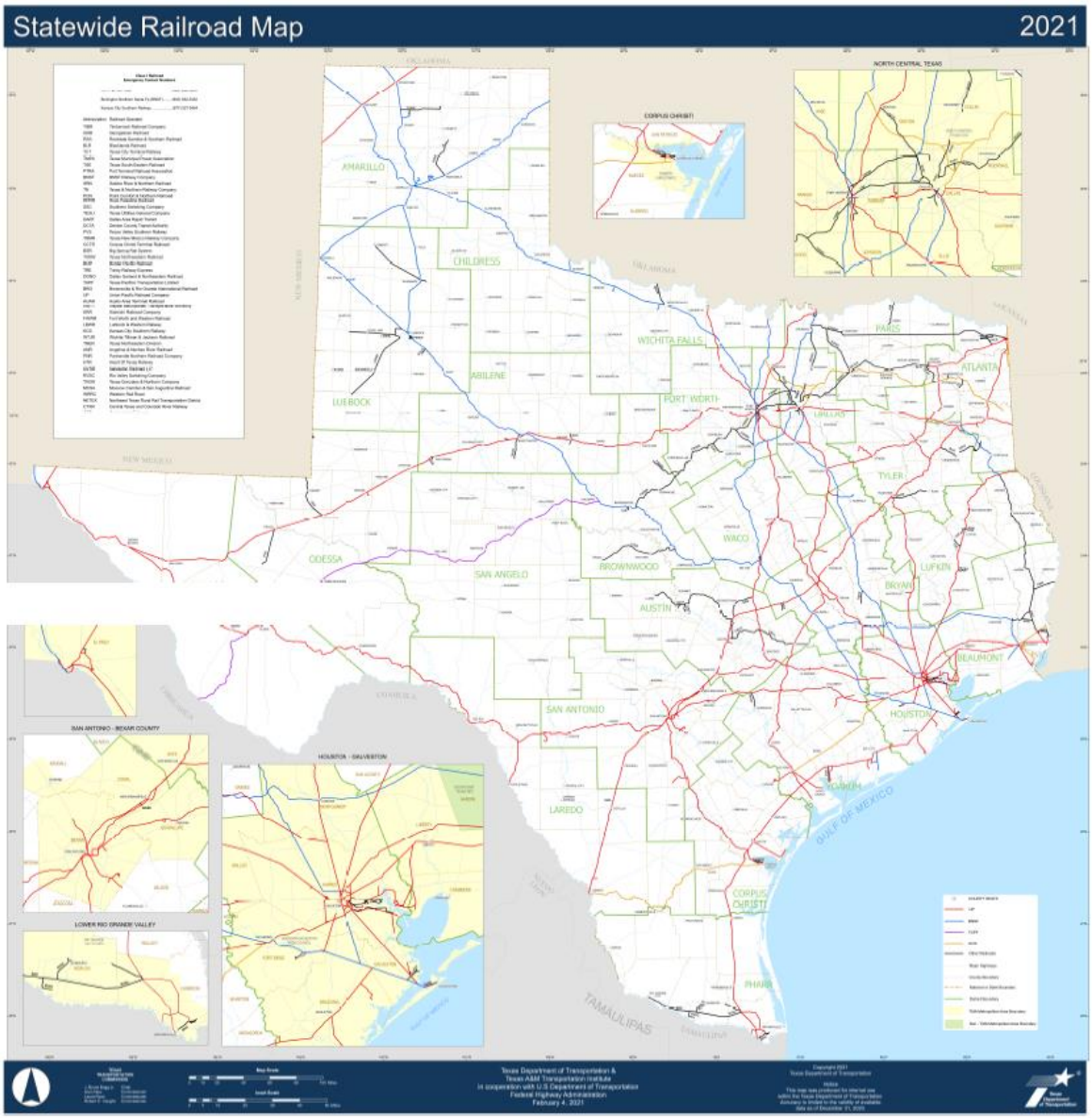

Figure 1. Texas Railroad Map.

3.1 Railroad Carriers

Rail operations or line-haul refers to freight movement by a carrier over its line, excluding switching or pick-up and delivery. Railroad carriers can be broadly classified into Class I, II, and III based on their operations, operating revenues, and geographic extent of coverage. Class I carriers cover major national and international networks and are more efficient than road transport in terms of moving cargo at an average rate of 10 pounds of freight over 500 miles with each gallon of diesel fuel *(3)* and operate at the highest level in terms of operating revenues amongst the three classes. The major Class I rail carriers operating in Texas consist of these three listed below. *(4)*

- Burlington Northern Sante Fe Corp. Railway (BNSF) – headquartered in Fort Worth, Texas.
- Kansas City Southern Railway (KCS) – headquartered in Kansas City, Missouri.
- Union Pacific Railroad (UP) – headquartered in Omaha, Nebraska.

These Class I operators also connect freight rail traffic with other Class I carriers and Class III carriers at interchange point locations throughout the state. Class II operators are mid-sized in terms of freight-hauling capacities and operating revenues. Currently, there are no Class II operators in Texas.

Class III operators are considered local short-line railroads operating within the state and are considered small in terms of operating revenues. These operators are used for specialized operations and are privately owned. There are approximately 55 Class III operators in Texas. *(4)*

A map of the major railroad carriers in Texas (BNSF, KCS, and UP) is shown in Figure 2. *(2)* The map legend lists all Class I carriers that operate in the United States, which is a total of seven.[4]

[4] The seven Class I freight railroads operating in the United States are BNSF, Canadian National (CN) Railway, Canadian Pacific (CP), CSX Transportation, KCS, Norfolk Southern (NS) Combined Railroad Subsidiaries, and UP. (Federal Railway Administration [FRA]).

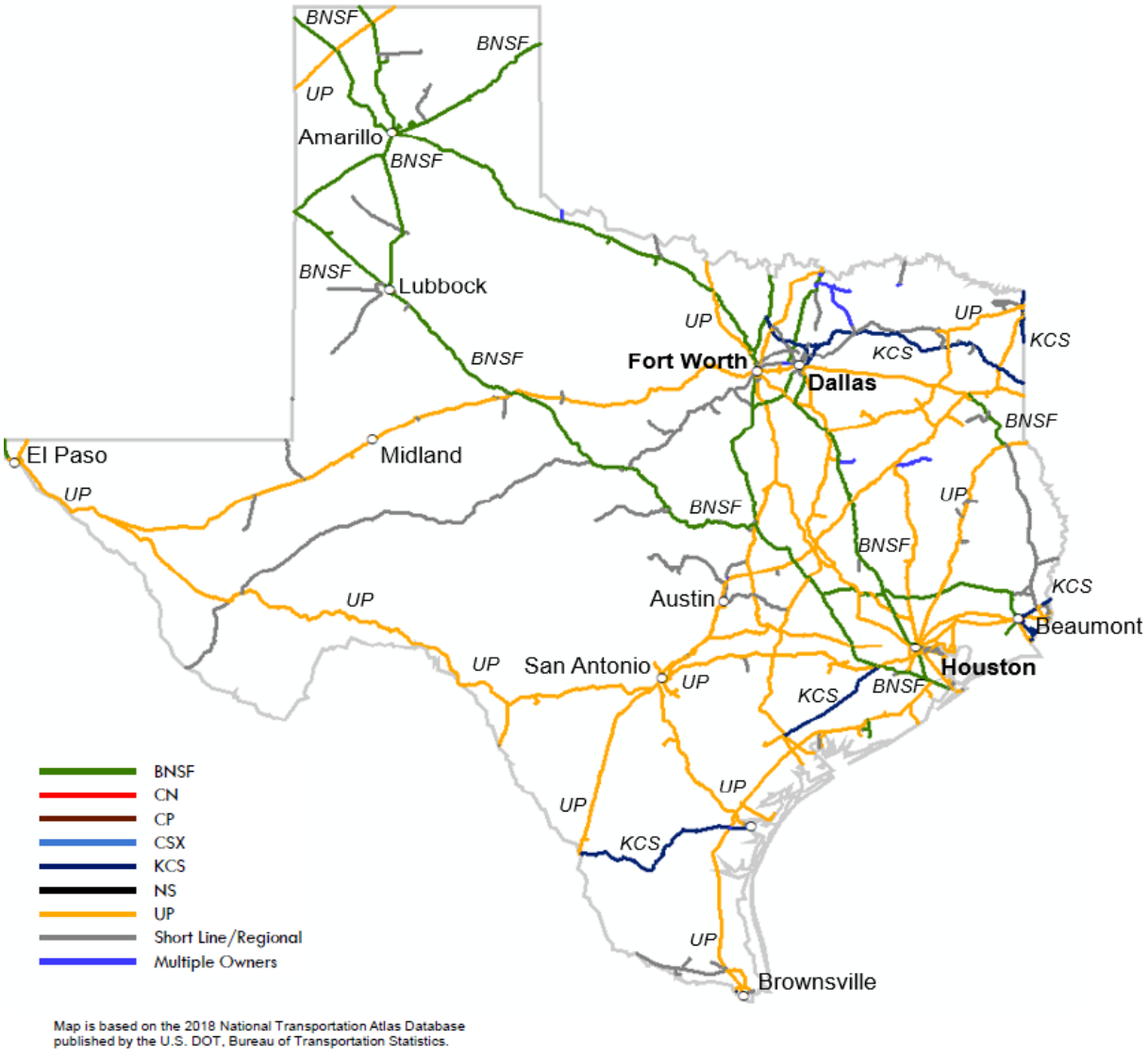

Figure 2. Map of Major Railroad Carriers in Texas.

3.2 RAILYARDS

Railyards are located at strategic points along railroad corridors for performing activities related to the sorting, storing, loading, and unloading of freight. Railyards are classified into different types, such as switching, marshaling, shunting, freight, and other classifications depending on the type of activity performed. Compared to line-haul operations, yard switching operations generally include more idling activity and involve older locomotives. *(5)* This study includes a total of 292 yards. The list of these yards with their corresponding locations is presented in appendix A.

A map of the railyards in Texas is shown in Figure 3.

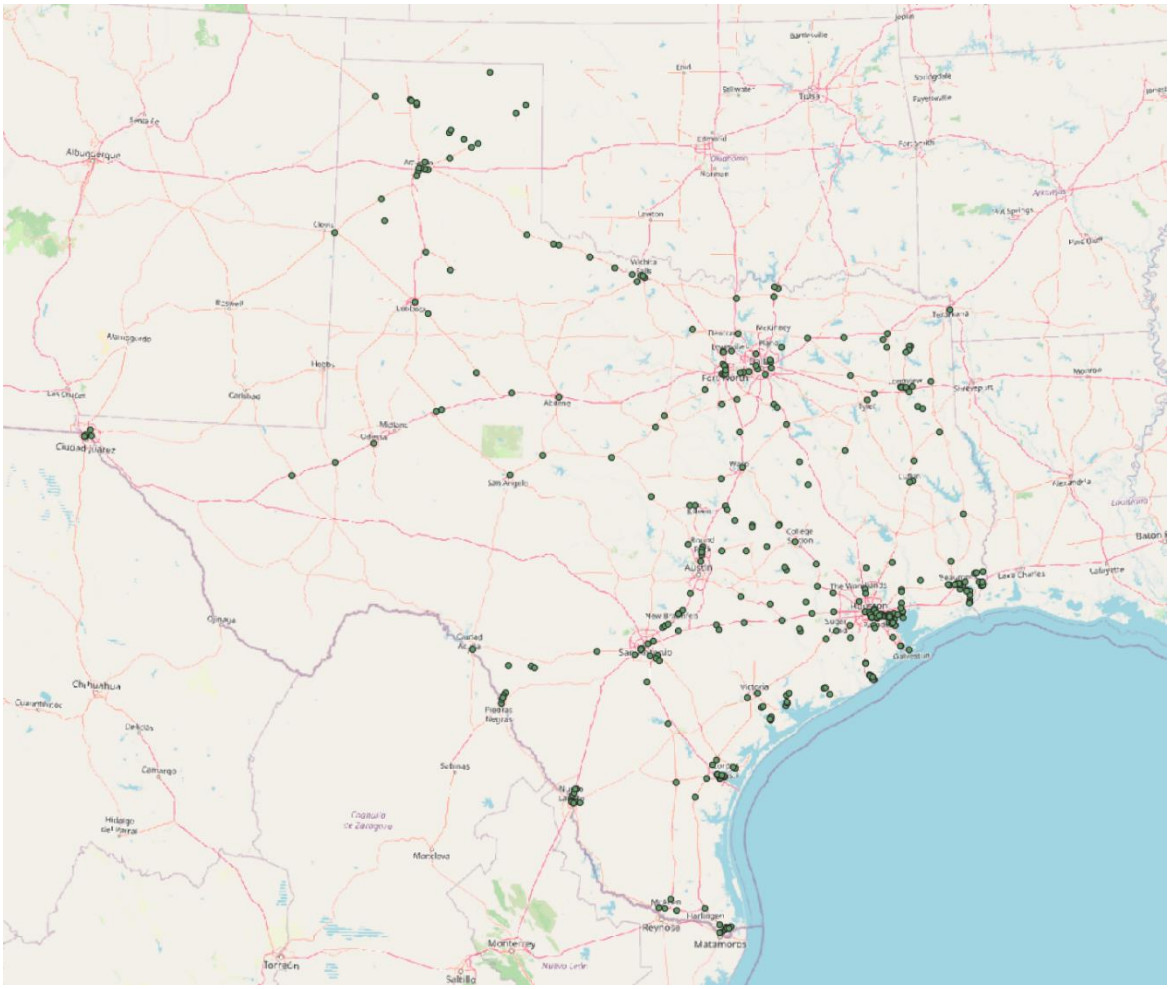

Figure 3. Map of Class I and Class III Switching Yards in Texas.

3.3 Passenger Trains and Regional Commuter Rail

Passenger trains, such as Amtrak, are considered cross-country passenger carriers. Amtrak relies on other railroads in Texas to operate routes using tracks not owned or controlled by Amtrak. Host railroads are statutorily required to provide Amtrak train "preference" over freight transportation. A map of the Amtrak operating network in Texas is shown in Figure 4. *(6)*

Amtrak operates two national network trains through Texas:

- The Sunset Limited (tri-weekly New Orleans-Los Angeles via Houston, San Antonio, and El Paso).
- The Texas Eagle (daily Chicago-Dallas-San Antonio with tri-weekly car service via the Sunset Limited to Los Angeles).

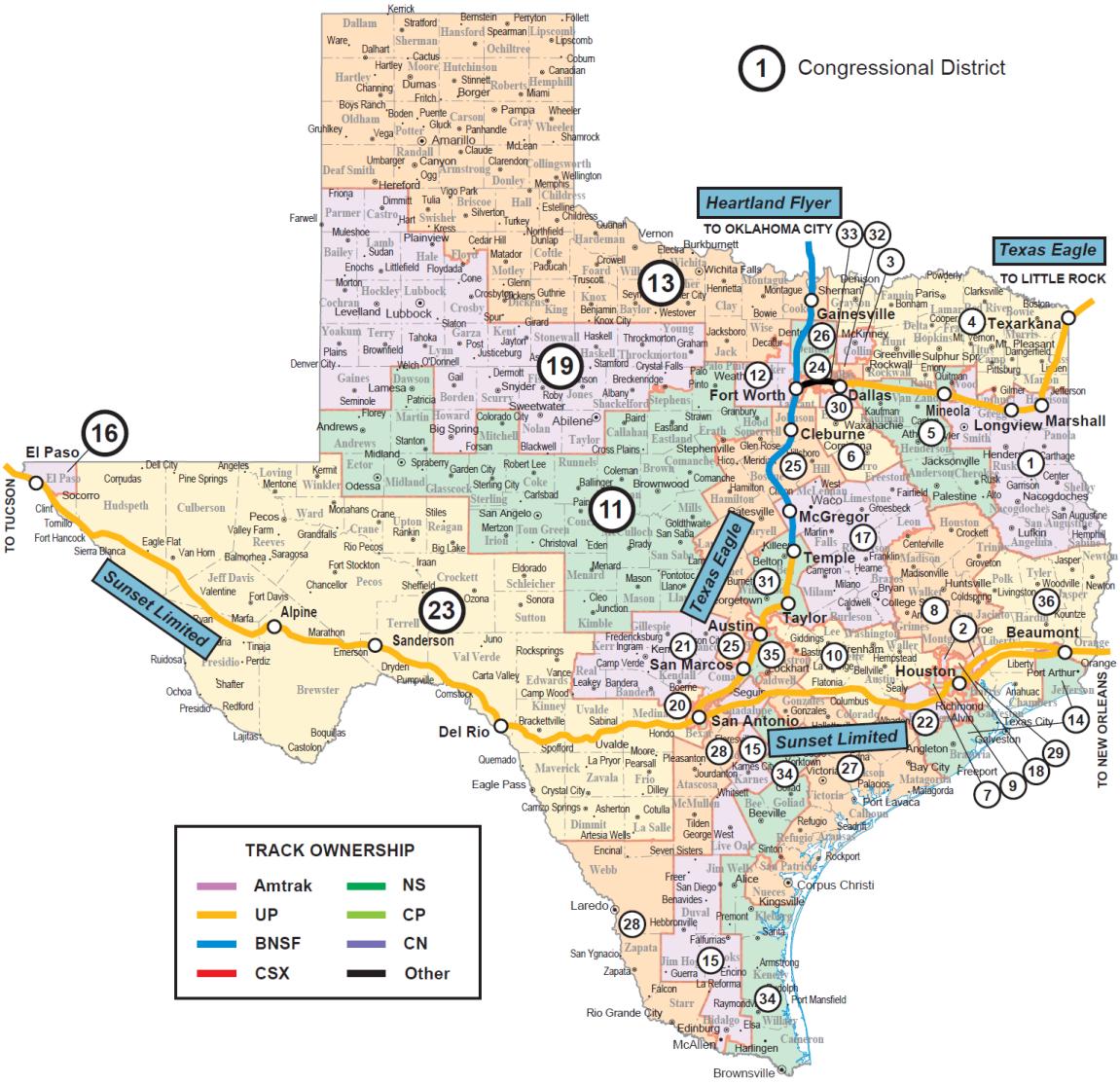

Figure 4. Map of Amtrak Operating Network in Texas.

On the other hand, regional commuter lines operate in smaller geographic areas transferring daily commuters from home and work and serving other local trip purposes. These include Dallas Area Rapid Transit (DART), Trinity Railway Express (TRE), Denton County Transit Authority (DCTA), Capital Metro, El Paso Streetcar, and METRORail. TRE and DCTA are the two regional commuter rail operators that use diesel locomotive engines and reported the fuel usage. Emissions are assumed to be zero for locomotives powered with electric engines; the activity of these locomotives is ignored for developing the EIs.

The A-train is DCTA's 21-mile commuter rail line connecting Denton and Dallas Counties. The A-train connects with the DART Green Line at the Trinity Mills Station in

Carrollton, Texas. Passengers can transfer to DART's Green Line, which provides access to DART's Red, Orange, and Blue Lines and the TRE. The A-train operates at 30-minute headways on weekdays, with 34 train round-trips per day. A map of the DCTA operating commuter lines is shown in Figure 5. *(7)*

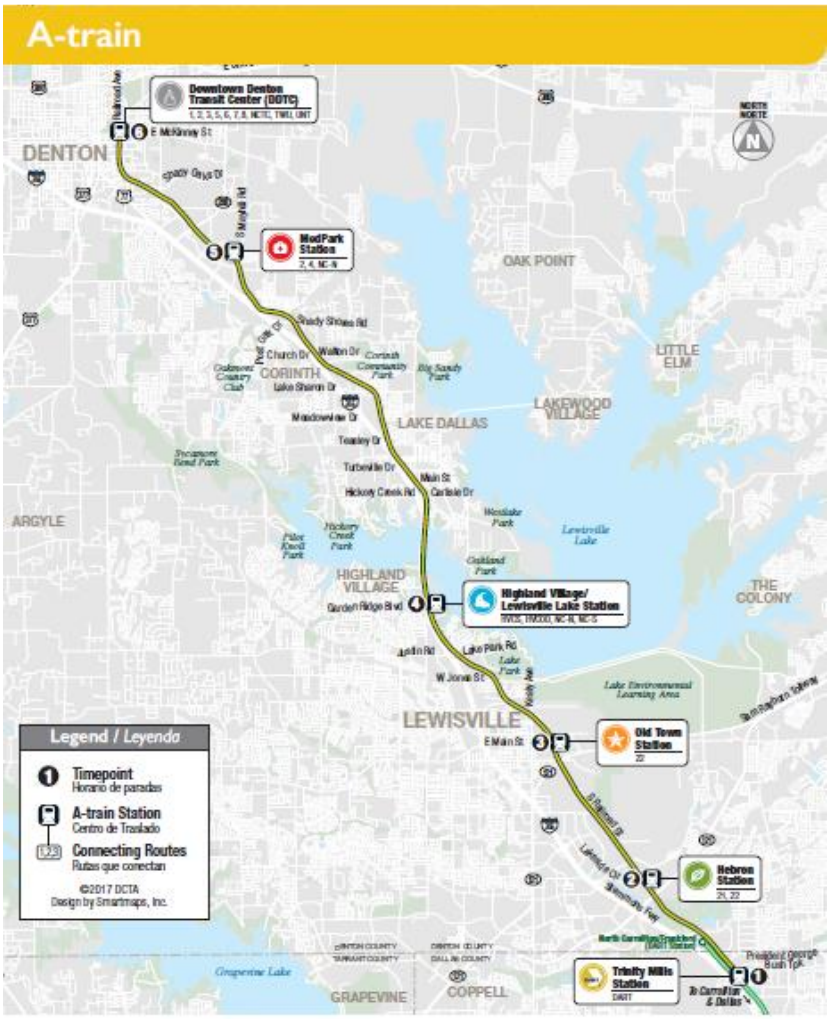

Figure 5. Map of DCTA A-train Operating Network in Texas.

The TRE is a 34-mile commuter rail corridor in the Dallas–Fort Worth Metroplex established by an interlocal agreement between DART and Trinity Metro. The corridor is a mix of single track and double track and has limited sidings. Rail traffic on the TRE is bidirectional, with an average daily operation of approximately 70 passenger trains. A map of the TRE operating commuter lines is shown in Figure 6. *(8)*

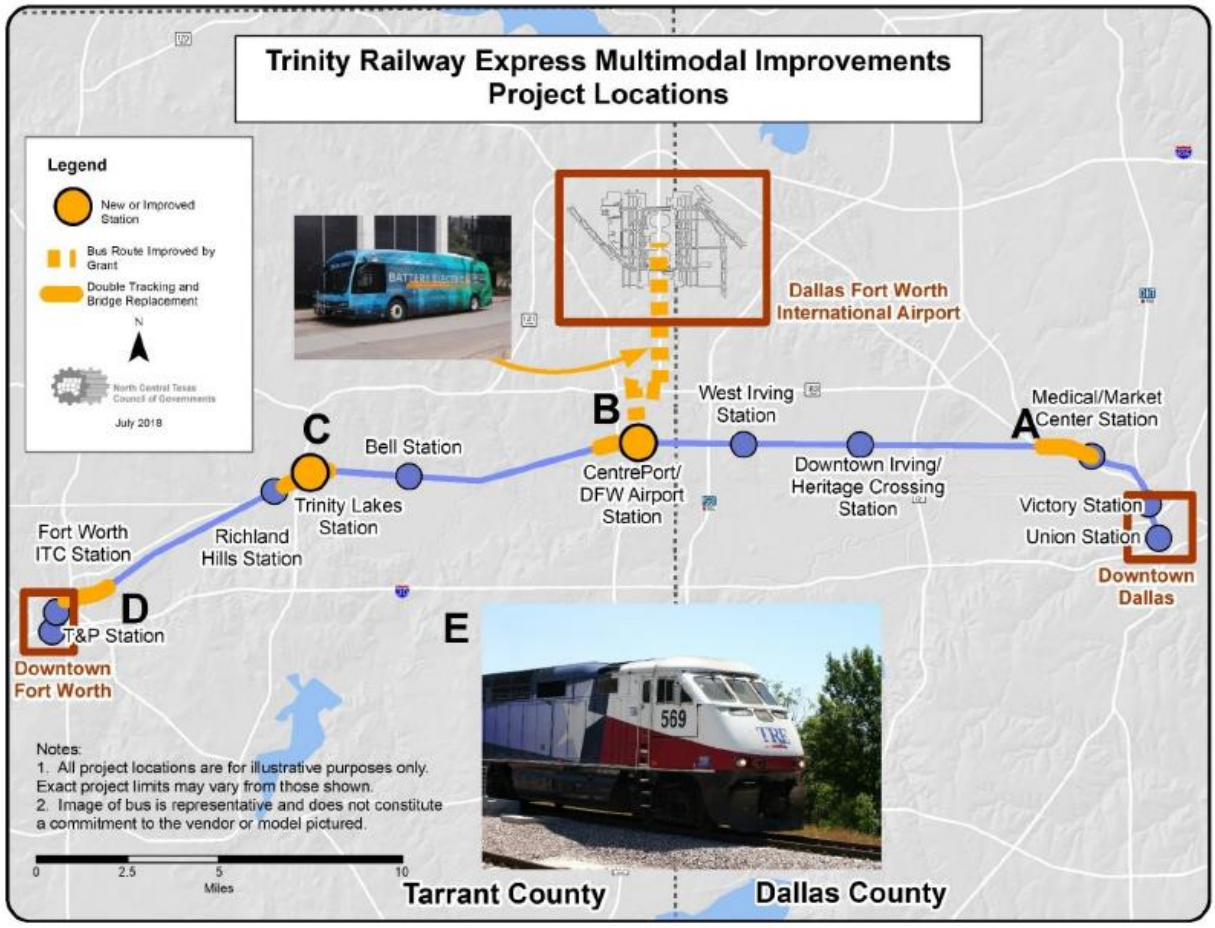

Figure 6. Map of TRE Operating Network in Texas.

4.0 DATA SOURCES AND EMISSIONS METHODOLOGY

This section describes the different activity datasets that TTI used in developing the emissions methodology. These datasets also assisted in identifying data gaps and in QA/QC. The following are brief descriptions of each dataset. All the data sources were reviewed and analyzed by TTI.

4.1 PRIOR STUDIES

The following sections provide details for previous locomotive EI and planning studies conducted at the national level and for Texas. TTI reviewed four studies for this initiative as documented in the following reports.

- "Specification Sheet: Rail 2017 National Emission Inventory", by the Illinois EPA and Lake Michigan Air Directors Consortium (LADCO) for the U.S. EPA, August 2019. *(9)*
- "2014 Texas Statewide Locomotive Emissions Inventory and 2008 through 2040 Trend Inventories", by the Eastern Research Group (ERG) for TCEQ, August 2015. *(10)*
- "Revised Inventory Guidance for Locomotive Emissions," by Sierra Research for the Southeastern States Air Resource Managers, Inc., June 2004. *(11)*
- "2019 Texas Rail Plan", TxDOT, December 2019. *(12)*

The four studies are described below.

4.1.1 Specification Sheet: Rail 2017 NEI

The Illinois EPA and LADCO prepared the Rail 2017 NEI report (for the U.S. EPA, August 2019). This report details the methodologies and data sources used to develop locomotive emissions estimates for the nonpoint locomotive (rail line-haul) and point locomotive (railyard) sectors. Five distinct components were included in the 2017 NEI rail inventory.

- Class I Line-Haul
- Class I Yard Switching Engines
- Class III Yard Switching Engines
- Class II and III Line-Haul
- Commuter Railroads

The Class I line-haul emission calculations were updated based on the 2016 million gallon-ton (MGT) per route mile data, an updated locomotive fleet mix provided by the Association of American Railroads (AAR), and 2017 Class I line-haul fuel use data. This is a link-level (each rail segment) inventory that can be aggregated at either state or county level. The Class I yard switching emissions were computed based on the average fuel usage per switcher and the number of switchers operational in a yard. Average fuel usage per switcher is estimated from 2017 fuel usage and switcher count data from the 14 largest railyards operated by BNSF, UP, KCS, and CSX. The average fuel use per switcher value was calculated by dividing the total fuel use by the number of switchers. The fuel usage rate per switcher was then used to allocate fuel use to all yards based on the number of switchers at each location. The age-based emission factors were from the EPA. Emissions calculations for Class III yard switching used the same methodology and data from the 2014 NEI[5].

The Class II and Class III line-haul and yard emissions were calculated based on:

- The nationwide Class II and III fuel use data reported by American Short Line and Regional Railroad Association (ASLRRA),
- The spatial location from the Bureau of Transportation Statistics' (BTS') National Transportation Atlas Database (NTAD),
- The national fleet mix by AAR for 2016, and
- Age-based emission factors from the EPA.

A national fuel use factor of 2,941.5 gallons per mile, which was derived from Delaware, Maryland, Michigan, New Jersey, and the Indiana Harbor Belt Railroad, was applied by the number of route miles operated in the United States to calculate the link-level fuel use of each Class II and III railroads. The emissions were estimated by multiplying fuel

[5] The 2017 NEI rail report (three-page) section entitled "Railyard Methodology" focuses almost entirely on Class I yards but does state for the non-Class I yards: "data… was carried forward from the 2014 NEI." Also the report's executive summary states that Class I line-haul and Class I yard switching were updated using 2017 fuel use data, while the data for the remaining sectors are based on data collected for the 2016v1 rail inventory (see: http://views.cira.colostate.edu/wiki/Attachments/Inventory%20Collaborative/Documentation/2016v1/after_comments/National-Emissions-Collaborative_2016v1_mobile-nonroad-rail_06May2020.pdf.) A note for Table 1 of the introduction in both 2016v1 and 2017 NEI rail inventory reports states "2012 estimated and 2017 reported fuel use data used for Class II/III railroads". As in the 2017 NEI report, the 2016v1 report also states "data… was carried forward from the 2014 NEI." The 2014 NEI rail sector documentation ("2014 ERTAC Rail Locomotive Emission Inventories for the United States" (Matthew Harrell and Mark Janssen, December 2017)) reports data sources for Class II and III Locomotives in Appendix A, as: Annual Total Fuel Use for 2012 (ASLRRA Annual Report [2014]), 2014 Track length and railroad (FRA confidential database), 2014 estimated fleet mix for emission factors (ASLRRA).

usage and age-based emission factors. The commuter rail emissions were calculated similarly to the Class II and Class III railroads except using the Federal Transit Administration (FTA) data from the National Transit Database. The intercity passenger rail emissions were calculated based on Amtrak's 2016 reported average fuel use of 2.2 gallons per passenger train mile, fleet mix information, and company-specific weighted emission factors. Amtrak's emission rates were 25 percent lower than the default Class II and III and commuter railroad emission rates.

4.1.2 2014 Texas Statewide Locomotive Emissions Inventory and 2008 through 2040 Trend Inventories

ERG developed the 2014 AERR and 2008 through 2040 trend statewide locomotive and rail yard EIs for annual and average summer weekday emissions (for TCEQ, August 2015). Data was developed for all criteria pollutants, ozone precursors, and HAPs and included controlled and uncontrolled emissions totals. ERG developed these inventories and relevant activity data by SCC for all Texas counties, summing emissions to the county level. During project development, activity data for 2014 were not available; therefore, ERG obtained activity data from 2013, as this represented the most recently available data when the project began. ERG collected activity data for 2013, including receiving line-haul and yard data directly from UP and KCS. BNSF did not provide updated data for 2013; however, they did respond to a previous data request for the 2011 inventory effort. This 2011 county-level fuel usage was extrapolated to 2013. Class II and III railroad companies did not provide line-haul data. As a result, ERG used other locally based data sources to estimate 2014 activity levels. The report associated with this project further describes the inventory approach, including an initial collection of local data, emission calculations, and spatial allocations used to develop the statewide locomotive inventories.

4.1.3 Revised Inventory Guidance for Locomotive Emissions

Sierra Research prepared this guide to illustrate how a state or local agency can calculate emissions from diesel-electric locomotives within an inventory area (prepared for Southeastern States Air Resource Managers, Inc., June 2004). Techniques from this 2004 study have been adapted for use in the EPA's subsequent NEIs, for the locomotive sector, and most recently in the 2017 NEI.

The main difference between this document and previous guidance is revised emission factors to account for locomotive emission standards phased in between 2000 and 2005. In addition, estimated adjustment factors to systemwide fuel use were included in this revision. The inventory methodology recommended in this guidance is described in four steps. First, the railroad operations need to be separated into Class I – line-haul, Class II

and Class III line-haul, and yard operations. Second, separate operating information needs to be obtained for each railroad operating in the inventory area. Third, emissions for each pollutant need to be calculated for each railroad by two sources, line-haul and yard. Finally, the total emissions in the inventory area are the sum of emissions for each railroad. Key findings from the study are listed below.

For Class I line-haul locomotives, emissions were calculated by multiplying annual railroad fuel use and appropriate emission factors for the inventory area. The annual railroad fuel use can be derived by dividing railroad traffic with the railroad fuel consumption index. The railroad fuel consumption index is the quotient of systemwide gross ton-miles and the system fuel consumption. Adjustment factor tables were also provided in terms of grade and bulk freight. The EPA provided the emission factors. The basic algorithm for Class II and III line-haul locomotives was the same as for Class I line-haul locomotives, except for Class II and III annual fuel consumption being obtained directly through interviews with each Class II and III railroads. Two different methods were recommended for yard emission calculations considering different data availabilities. The first method was to multiply fuel usage by the yard emission factor to calculate the total. The second method was to multiply the number of locomotives of yard operations by the annual emissions per locomotive.

4.1.4 2019 Texas Rail Plan

TxDOT prepared the 2019 Texas Rail Plan report to document the state's vision for rail operations, including reviewing the existing Texas rail system and identifying potential passenger rail and freight rail improvements, investments, and opportunities for the Future Rail Service and Investment Program (TxDOT, December 2019). Key findings from the report are listed below.

The state's 2019 Texas Rail Plan effort was integrated with, and expanded upon, the 2017 Texas Freight Mobility Plan and Texas Transportation Plan 2040. The main goals and objectives were safety, asset preservation and utilization, mobility and reliability, multimodal connectivity, and economic competitiveness. The report provided an overview and inventories of Texas's existing rail system as a baseline for planning and decision-making in the state. The overview provided three aspects: a description of the services and physical characteristics of the state's railroad network as they are today; rail service trends and forecasts; and needs and opportunities. The report also described ongoing, proposed, and potential initiatives to develop or expand the state's high-speed rail, intercity passenger rail, and commuter rail services. The related information presented included the potential changes to existing intercity passenger rail services in Texas that have been studied or considered, the passenger route alternative studies, service development plans, and related federal environmental requirements toward

expanding intercity passenger rail operations in the state and regional studies conducted by TxDOT.

Planned improvements to existing commuter rail services in Texas and potential new commuter rail services were summarized. The report identified the types of improvements and investments in freight rail focused on enhancing access to the state's rail network for shippers; enhancements to the multimodal connectivity; fixing rail service gaps; options for improvements to infrastructure, capacity, safety, and efficiency of rail service and operations, and economic development. The goals and objectives over the next 20 years and how these are to guide TxDOT to collaborate with regional and private stakeholders in future rail projects were described. A compendium of outreach activities that were conducted during the preparation of the Texas Rail Plan was also illustrated in this report.

4.2 Other Data Sources

4.2.1 STB

The STB collects Class I economic data on an annual basis for regulatory purposes and to monitor the financial health of the freight railroad industry. The data sources include the following.

- Annual R-1 Reports.
- Revenues & Earnings.
- Carloads & Volumes.
- Employment & Wage.
- Fuel Surcharges.

The Annual R-1 Reports contain information about finances and operating statistics, including the fuel usage and locomotive operations for each Class I railroad operator.

4.2.2 BTS

The BTS, a unit under the Department of Transportation (DOT), is a source of information on commercial aviation, multimodal freight activity, and transportation economics. Various spatial data sets, surveys, and reports pertaining to railroad activities were downloaded and analyzed. *(13)*

4.2.3 Eastern Regional Technical Advisory Committee (ERTAC)

The inventory development methods for locomotive emissions estimates vary dramatically from state to state. State air agencies from twenty-seven states coordinated by the ERTAC identified a need to better characterize and quantify rail-related emissions inventories. The ERTAC Rail Subcommittee was established with active representatives from twelve-member states, three regional planning offices, and the United States (U.S.) EPA. *(14)* The committee's goals are to:

- Standardize agencies' inventory development methods through a collaborative effort,
- Improve the quality of data received and the resulting emission inventories, and
- Reduce the administrative burden on railroad companies of providing data.

4.3 Emissions Estimation

Emission estimation for the locomotive sector uses the annual composite emission rates. These rates depend on the engine models and tier levels[6]. EPA provided composite emission factors by factoring in the engine fleet mix for different years. Aggregated emission factors can be combined with activity (fuel usage) to estimate the locomotive emissions specific to the railroad operator. The EI method estimates emissions by multiplying locomotive fleet activity, in terms of fuel usage, by emission rates per unit of fuel used.

The basic equation for calculating emissions from locomotives is shown in Equation 1.

$$E = A * EF \qquad \text{Equation 1}$$

Where:

E = emissions (grams [g])
A = activity of fuel usage (gallons [gal])
EF = emission factor (g/gal)

[6] Tier levels refer to standards that are dependent on the date a locomotive is first manufactured as codified at 40 CFR part 1033. Additional information can be found in Section 5.2 of this report.

5.0 DEVELOPMENT OF PROJECTION FACTORS

This section describes the inputs and methodology followed by TTI in developing the projection factors for Class I line-haul, Class III line-haul, yard, and passenger rail operations. The projection factors were used to develop the trend emissions inventories for the years 2011 through 2050. In addition, validation of these factors with other datasets is also described in this section.

5.1 INPUT DATA

TTI used the 2020 and 2021 Annual Energy Outlook (AEO) projections *(15)* to develop the projection factors used in the trend analysis. The AEO makes projections and analyses of the United States energy supply, demand, and prices through the projection period of 2050. The projections are based on the Energy Information Administration's (EIA's) National Energy Modeling System, existing legislation, technological advancements, etc. The latest AEO projections for passenger rail and freight rail are shown in Figure 7.

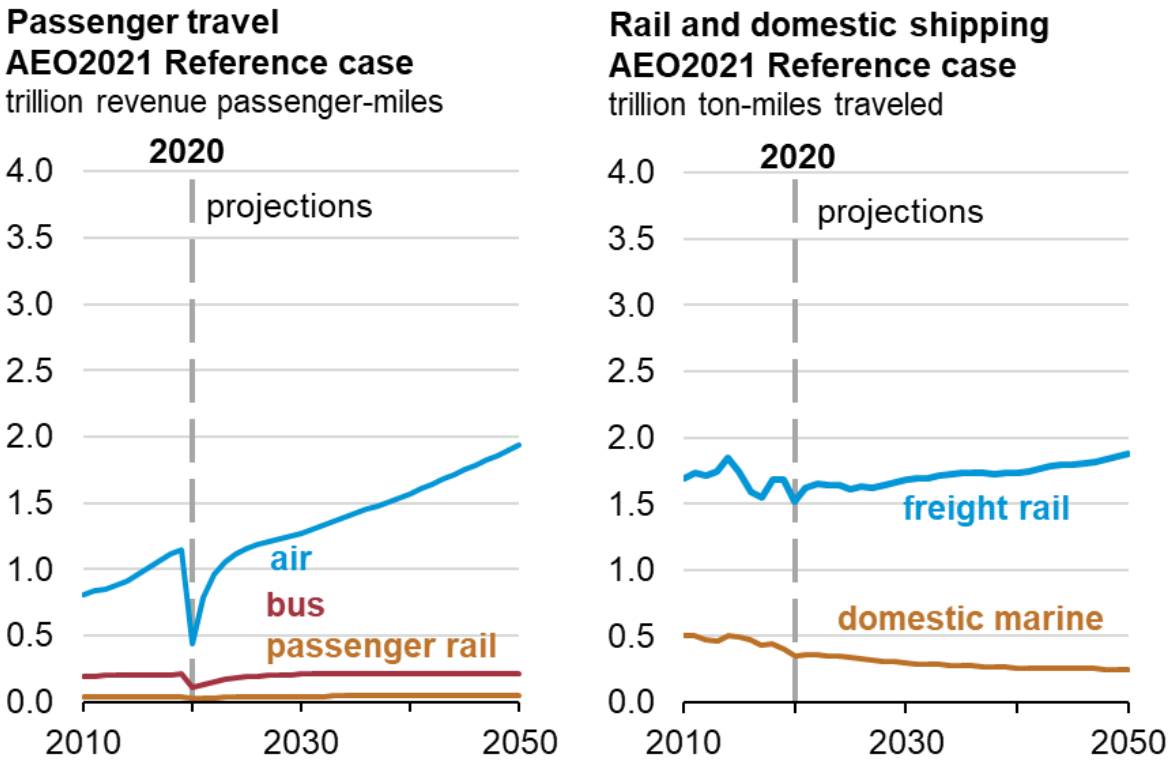

Figure 7. AEO's Passenger and Freight Rail Projections from 2010-2050.

In addition to the AEO, TTI used national-level fuel usage for Class I operators from the publicly available Form R-1 submitted to the STB annually. *(16)* TTI obtained the Form R-1 data for UP, BNSF, and KCS for 2011 through 2020. The Class I railroad operators' actual fuel usage was used along with AEO projections to estimate the projection factors needed for this study.

The following sections describe the process of estimating projection factors for Class I, and Class III line-haul and yard, and passenger rail sectors.

5.2 Class I Line-Haul and Yard Projection Factors

The key parameters extracted from the Form R-1 annual reports corresponded to freight, work train, and yard switching fuel consumption at the national level. The freight and work train (abbreviated as line-haul) national fuel usage values were multiplied by national freight commodity flows percent (extracted from the BTS) for Texas to develop line-haul fuel consumption for Texas (as shown in Table 6).

Table 6. Texas-specific Line-haul Fuel Consumption (gallons).

Year	Railroad	National Usage (Line-haul)	Texas Consumption Factor	Texas Usage (Line-haul)
2020	BNSF	1,153,804,129.00	13.57%	156,575,079.26
2020	KCS	56,241,874.00	13.57%	7,632,210.41
2020	UP	783,196,774.47	13.57%	106,282,421.73
2019	BNSF	1,333,534,997.00	13.20%	177,626,861.60
2019	KCS	63,249,190.00	13.20%	8,424,792.11
2019	UP	881,700,708.32	13.20%	117,442,534.35

For estimating yard switching fuel consumption for Texas, the ratios between the national-level yard and line-haul fuel usage (national consumption factor) were applied to Texas-specific line-haul consumption to develop Texas-specific yard fuel consumption, as shown in Table 7.

Table 7. Texas-specific Yard Switching Fuel Consumption (gallons).

Year	Railroad	Texas Usage (Line-haul)	National Consumption Factor	Texas Usage (Yard)
2020	BNSF	177,626,861.60	3.31%	5,182,786.88
2020	KCS	8,424,792.11	5.80%	443,019.72
2020	UP	117,442,534.35	9.79%	10,400,229.15
2019	BNSF	181,738,259.72	3.52%	6,258,086.71
2019	KCS	8,264,179.12	5.30%	446,591.05
2019	UP	128,839,533.69	9.50%	11,159,132.43

Based on the recommendation from the TCEQ project manager to include the impacts from the COVID-19 pandemic in estimating project factors, TTI staff explored the 2019 and 2020 AEO rail freight travel outlook data. It was confirmed that 2021 AEO data considered the COVID-19 pandemic impacts in their projections (Figure 8); therefore, the 2021 AEO data was used in estimating the projection factors.

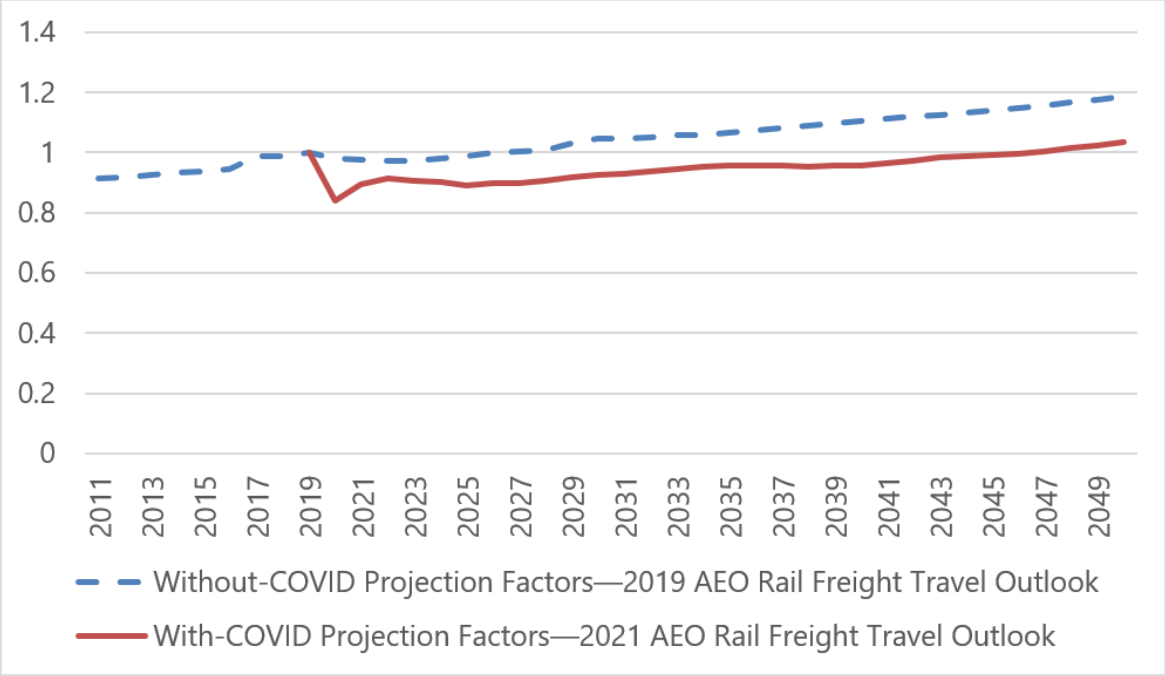

Figure 8. 2019 and 2020 AEO Rail Freight Travel for Years 2011-2050.

As stated previously, projection factors were estimated using two data sets. For 2011 through 2020, actual national fuel usage data reported by individual carriers scaled to Texas was used. For years 2021 through 2050, AEO 2021 data was used. The projection factors were developed using 2019 as the baseline (Figure 9). Additional details on the projection factors can be found below in Section 6.3.

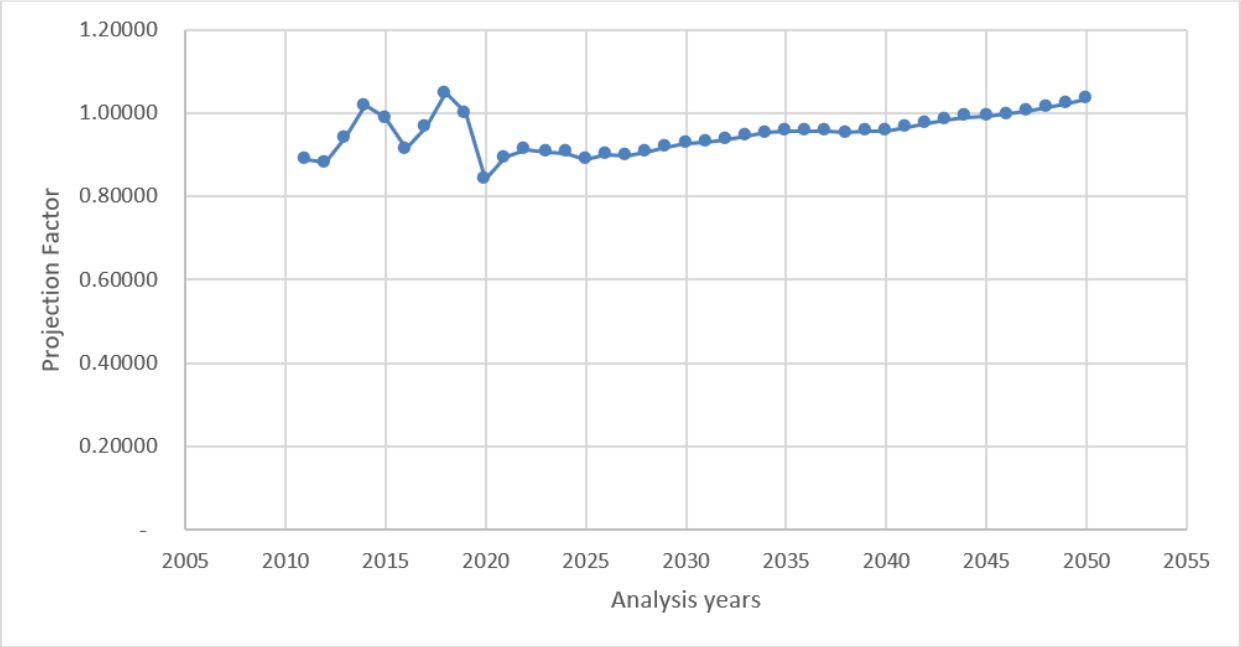

Figure 9. Class I Line-haul and Yard Projection Factors for Years 2011-2050.

5.3 Passenger Rail

Projection factors for passenger rail were developed using passenger rail travel data extracted from the 2021 AEO Rail Passenger Travel. The projection factors developed are shown in Figure 10. Although there was a drop in 2020 activity, the trend shows that it may bounce back to 2019 levels by 2025.

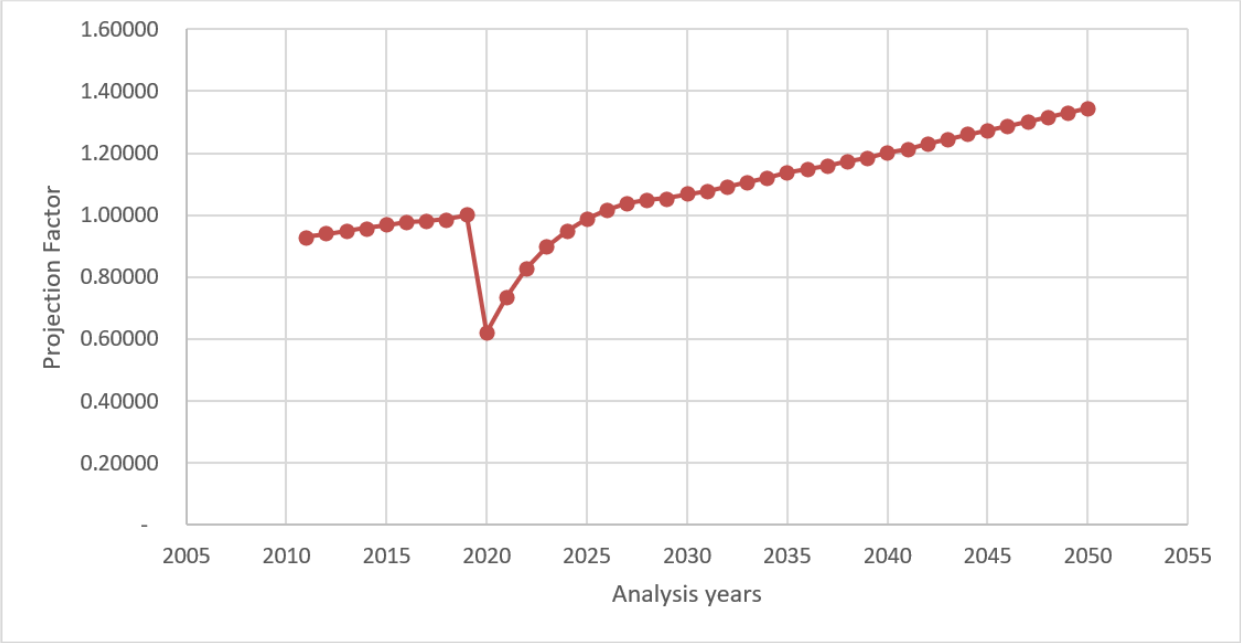

Figure 10. Passenger Rail Projection Factors for Years 2011-2050.

5.4 Class III Line-Haul and Yard

Class III railway operations are typical "short-line" critical connectors connecting Class I freight to local industries. They typically serve as the last-mile connection between Class I and the respective destination. As the operation of Class III rail is dependent on the operation of Class I, it is assumed that Class III projection rates would be the same as the Class I projection factors.

6.0 DEVELOPMENT OF TEXAS COUNTY SPECIFIC EMISSIONS

This section describes how the following EI elements—such as fuel usage, EPA aggregated emission rates, and emission control programs—were used in the development of Texas statewide 2011 through 2050 controlled and uncontrolled annual and average daily EIs. The following sections provide detailed information on each step.

6.1 FINALIZING BASELINE FUEL USAGE DATA

The Phase 1 deliverables of the project (submitted to TCEQ in August 2020) provide the 2019 fuel usage data for locomotive and rail yard sources collected by TTI. The 2019 annual and daily fuel usage for each county for all locomotive and rail yard sources was extracted from the appendices of the final Phase 1 report. The datasets used, sources of each dataset, and methodology employed by TTI in estimating the 2019 county-level annual and average daily fuel estimates for locomotive and rail yard operations are also described in the final Phase 1 report (Section 5.2 of the Phase 1 report).

The methodology involved identifying rail network links owned and operated in Texas for individual carriers (by track rights). The identified rail networks were grouped by line-haul/freight (main sub-network + major industrial lead + passing sidings)[7], industrial (minor industrial leads), and yard (yard tracks). Minor industrial and yard categories were grouped under yard operations. All abandoned rail lines were excluded from the analysis and grouped as "not in service" (NIS). Table 8 shows the grouping TTI used for the North American Rail Lines (NARL) rail network links spatial data.

[7] It was assumed that most of the Class I freight operations occur on the main sub network, passing sidings, and major industrial lead. Class I freight operations were grouped as line-haul. Most of the yard operations are limited to yard tracks and minor industrial leads.

Table 8. TTI Grouping of NARL Rail Network Links.

Rail Network Link Description	Network Group
Abandoned line that has been physically removed	NIS
Abandoned rail line	NIS
Main subnetwork	Line-haul/freight
Major Industrial Lead	Line-haul/freight
Other track (minor industrial leads)	Industrial
Out of service line	NIS
Passing sidings over 4000 feet long	Line-haul/freight
Rail ferry connection	Ferry Slip
Trail on a former rail right-of-way	NIS
Transit-only rail line or museum/tourist operation	NIS
Yard Tracks	Yard Switching

The following are the steps that were used to estimate baseline fuel usage for all 254 Texas counties for Class I, Class III, passenger, commuter, and yard operations.

Class I: Statewide 2019 estimated fuel consumption data for the line-haul/freight category were mapped to each county using the county percent contribution. The county percent contribution was estimated using the 2017 ERTAC supplied Class I operations emissions data for each county in Texas, which was first converted to fuel usage before estimating county percentages. The county percentages were applied to the statewide 2019 fuel estimates to calculate the 2019 total Class I railroad carrier fuel consumption by county.

Class III: For each of the ten railroad carriers that reported their fuel usage, the reported fuel usage was used in the EI. For companies that did not report the fuel usage data, an annual fuel consumption rate of 2,420.38 gallons per mile was used. This rate was obtained by dividing the statewide annual Class III fuel usage by the total carrier freight miles operated by the companies in Texas. The average annual fuel consumption rate was multiplied by the total Class III railroad carrier county-level freight miles to estimate the Class III carrier line-haul fuel consumption by county. Fuel usage for different carriers operating in a county was summed to get the Class III county-level fuel usage.

Passenger Train: All United States rail network links owned and operated by track rights for Amtrak were extracted from NARL data. The mile-mix (Amtrak link miles to line-haul link miles) for each Amtrak-operated rail network link was calculated by dividing each link's miles by the sum of all Amtrak link miles. The fuel consumption for each link was estimated by multiplying 2019 national Amtrak fuel usage by the estimated mile-mix. The county-level fuel consumption was obtained by summing the fuel consumption across all the links in the county.

Commuter: The county- and link-level estimation process is identical to the technique described above for passenger trains. Using the link-level mile-mix (link mile/total miles) for each commuter operator, the total 2019 fuel consumption was distributed to the individual links and counties.

Class I and III Switching Yards: Statewide yard fuel consumption was obtained from the R-1 report for Class I carriers. For each of the ten Class III railroad carriers that reported Texas fuel usage, statewide annual yard fuel usage was divided by the total yard and industrial carrier miles operated by the companies in Texas to estimate the average annual fuel consumption rate (gallons per mile). An annual fuel consumption rate of 5,160.48 gallons per mile was used for Class III companies that did not report the fuel usage data. The Class III annual fuel consumption rate is based on the combined statewide fuel consumption and miles of the ten Class III carriers that provided the fuel usage data. The average annual fuel consumption rate was multiplied by the statewide railroad carrier yard-level and industrial miles in Texas to estimate the switching yard fuel consumption by the individual carrier. The statewide yard fuel consumption by the individual carrier was summed across carriers to get the statewide yard fuel consumption. This statewide yard fuel consumption was distributed across different yards in Texas based on yard fuel distribution obtained from the 2017 ERTAC fuel consumption by the yard.

The 2019 finalized total fuel usage estimates for different railroad sectors are presented in Table 9.

Table 9. Total Estimated 2019 Annual Fuel Usage.

Railroad Carrier	2019 Annual Fuel Usage (gallons)
Class I	303,494,188
Class III	6,514,925
Passenger (Amtrak)	4,489,675
Commuter	1,231,283
Class I and Class III switching yards	21,039,860

6.2 Development of Locomotive Emission Factors

The EPA has established emission standards for newly manufactured and remanufactured locomotives (EPA, April 2009)[8]. These standards include several sets of emission standards with applicability dependent on the date a locomotive is first

[8] Emission Factors for Locomotives, EPA Office of Transportation and Air Quality, EPA-420-F-09-025, April 2009.

manufactured and codified at 40 code of federal regulation (CFR) part 1033. The first set of standards (Tier 0) applies to most locomotives originally manufactured before 2001, and the most stringent set of standards (Tier 4) applies to locomotives originally manufactured in 2015 and later. The steady decline due to the penetration of the various tiers of locomotives into the fleet over time has been included in estimating locomotive emission factors for large line-haul, large switch, small railroads, and passenger/commuter. The EPA-established emission factors are available for 2006 to 2040 for NO_X, HC, CO, and PM. These were used for estimating emissions. SO_2 emissions are calculated based on the locomotive fuel-specific properties. NH_3 emissions are calculated based on EPA recommended emission factors for nonroad engines. Pb emissions are computed by speciating PM_{10} based on speciation factors from NEI 2011.

For all future years 2040 and later, the 2040 emission factors were used. The HAP emission factors were estimated based on the augmentation factors provided by EPA. Appendix B (Electronic only) provides the emission rates for all CAP, greenhouse gases, and HAPs for 2011 through 2050.

6.3 Development of Forecasting Factors to Project 2019 Baseline EI to the Calendar Years 2011 Through 2050

Section 4 of this report provided the details on the datasets used, sources of each dataset, and methodology employed by TTI to estimate the projection factors for freight and passenger locomotive categories. As per the TCEQ project manager's recommendation, the projection factors were updated to include the impacts to future activity due to the COVID-19 pandemic using the 2021 AEO projections. The projection factors developed are listed in Table 10.

Table 10. Projection Factors for Class I/III line-haul, Switching Yard, and Passenger Rail Activity.

Year	Class I/III Line-haul & Switching Yard	Passenger
2011	0.88782	0.93010
2012	0.88087	0.93963
2013	0.94162	0.94916
2014	1.01886	0.95869
2015	0.98850	0.96822
2016	0.91398	0.97774
2017	0.96586	0.98051
2018	1.04953	0.98673
2019	1.00000	1.00000
2020	0.84178	0.62241
2021	0.89304	0.73614

Year	Class I/III Line-haul & Switching Yard	Passenger
2022	0.91270	0.82849
2023	0.90444	0.89994
2024	0.90411	0.94978
2025	0.88924	0.98893
2026	0.89903	1.01671
2027	0.89655	1.03772
2028	0.90623	1.04798
2029	0.91876	1.05425
2030	0.92712	1.06773
2031	0.93114	1.07728
2032	0.93640	1.09270
2033	0.94414	1.10659
2034	0.95198	1.12184
2035	0.95552	1.13628
2036	0.95643	1.14910
2037	0.95646	1.16095
2038	0.95342	1.17355
2039	0.95581	1.18515
2040	0.95770	1.20096
2041	0.96444	1.21438
2042	0.97440	1.22890
2043	0.98239	1.24458
2044	0.98987	1.25973
2045	0.99177	1.27311
2046	0.99741	1.28871
2047	1.00455	1.30228
2048	1.01398	1.31720
2049	1.02276	1.33144
2050	1.03361	1.34571

6.4 Estimation of Line-Haul and Yard EIs

After finalizing the 2019 fuel estimates, Equation 1 was used to estimate the carriers and county-specific locomotive emissions using EPA's aggregated emission factors.

To estimate the uncontrolled and controlled emissions, TTI reviewed various published resources, including EPA rulemaking and TCEQ programs such as the TxLED program and TERP. The details of these rulemakings and programs are provided in the Phase 1 report.

The TTI team used a sulfur content of 500 ppm to obtain an SO_2 emission rate for 2011 and a sulfur content of 15 ppm to obtain SO_2 emission rates for the years 2012 to 2050

for controlled and uncontrolled emissions. The sulfur content of the fuel was determined based on EPA's 2004 "Clean Air Nonroad Diesel Ruel."[9] This rule requires the sulfur levels for locomotives to be under 500 ppm starting in 2007 and under 15 ppm starting in 2012. TTI considered uncontrolled and controlled emissions in terms of the plans and programs implemented by TCEQ. Emission reductions due to EPA rules were accounted for in both controlled and uncontrolled emissions.

The NO_X emissions were reduced by 6.2 percent for the 110 counties applicable to the TxLED program to develop the controlled EIs.[10] Appendix C provides the list of Texas counties and their TxLED factors. A county has a TxLED adjustment factor of 0.9380 if the TxLED program is applicable in that county.

The TERP program provided funding through the DERI program for retrofitting, repowering, and replacing switchers to reduce NO_X emissions. Appendix D provides the DERI emission quantities for different years, quantities, and source types. These reductions were obtained by uniformly distributing the total emission reductions for different DERI projects in a region, equally across all yards and project life. TTI considered these reductions to be reflected in the fuel consumption data obtained from different carriers; thus, NO_X emissions were increased by the projected DERI benefits to obtain the uncontrolled EIs. Projected TERP (or DERI) benefits were obtained from the TCEQ website.[11]

The projection factors discussed previously were applied to the 2019 county-level emissions to estimate statewide 2011 through 2050 controlled and uncontrolled trend EI county-level emissions for Class I and III line-haul and yard sources, passenger, and commuter operations.

[9] Clean Air Nonroad Diesel Rule (2004). EPA420-F-04–032. United States Environmental Protection Agency, Office of Transportation and Air Quality, p. 5. Available at: https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P10001RN.txt (Accessed: 3 May 2021).

[10] Texas Administrative Code. Available at: https://texreg.sos.state.tx.us/public/readtac%24ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=30&pt=1&ch=114&rl=318 (Accessed: 1 May 2021).

[11] TERP Project Summary Reports and Publications. Texas Commission on Environmental Quality. Available at: https://www.tceq.texas.gov/airquality/terp/leg.html (Accessed: 1 May 2021).

7.0 EMISSIONS REPORTING

Based on the methodology described in previous sections, the emissions summary and TexAER XML format output were prepared for the following sources.

- Class I Operations (SCC 2285002006)
- Class II / III Operations (SCC 2285002007)
- Passenger Trains-Amtrak (SCC 2285002008)
- Commuter Lines (SCC 2285002009)
- Yard Locomotives (SCC 2285002010).[12]

Appendix E provides the 2020 uncontrolled annual and daily county-level emissions for line-haul and yard switching operations. Appendix F provides the 2020 controlled annual and daily county-level emissions for line-haul and yard switching operations. The detailed emissions inventory results in a comma-delimited file format are also provided in Appendix G.

[12] These are the active SCCs for reporting Locomotive and Rail Yard emissions in EPA's NEI and AERR.

8.0 QUALITY ASSURANCE AND QUALITY CONTROL

TTI completed QA/QC of the gathered datasets and estimated activity as outlined in the quality assurance project plan (QAPP). All resulting EIs developed during this project were subjected to internal review and QA/QC procedures outlined in the QAPP, consistent with the requirements of American Society for Quality, American National Standard Institute ASQ/ANSI: E4:2014: Quality Management Systems for Environmental Information and Technology Programs – Requirements with Guidance for Use, February 2014, and the TCEQ's Quality Management Plan. All analyses and results obtained were subjected to appropriate internal review and QA/QC procedures, including independent verification and reasonableness checks. Any deficiencies found during development and end-product quality checks were noted and corrected. The QA/QC results are provided in Appendix H (electronic only). Some of the protocols that TTI followed are outlined below.

8.1 PROJECTION FACTORS

Projection factors developed by TTI were compared with the following two sets of data.

- **ERTAC**: Growth factors obtained from ERTAC for 2016 through 2032 were further extrapolated to 2050 and normalized to the 2019 baseline year to compare with TTI's projection factors.
- **ERG**: Projection factors developed by ERG for the years 2008 to 2040 were further extrapolated to 2050 and normalized to the 2019 baseline year to compare with TTI's projection factors.

Based on the comparison, TTI's projection factors (Figure 11) for line-haul and yard activity were similar to the ERG projection factors. The dip around the calendar year 2020 in TTI's curve represents the impact of the COVID-19 pandemic.

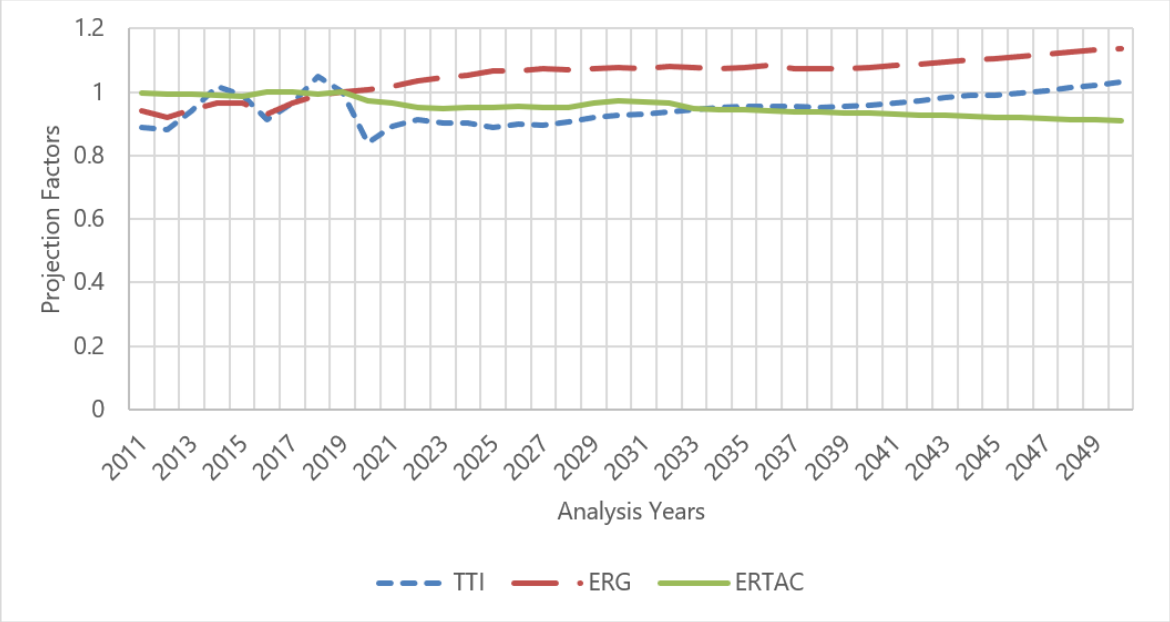

Figure 11. Comparison of TTI's Class I and Class III Line-haul and Yard projection Factors with ERTAC and ERG's Factors.

8.2 Emission Factors

Emission factors from TTI (based on EPA technical document) were compared with ERTAC's 2016 data for reasonableness. *(17)* The difference in factors is due to different sources used by TTI and ERTAC. TTI used the EPA's emission factors, whereas ERTAC used national-level information such as AAR fleet mixes and Amtrak's fleet mix to develop their emission factors. Table 11 shows the difference between the TTI and ERTAC emission factors.

Table 11. 2016 TTI and ERTAC Emission Factor Comparison.

Source Classification Code Description	Pollutant	TTI Emission Factor (grams/gallon)	ERTAC Emission Factor (grams/gallon)	Percent Difference TTI vs. ERTAC
Class I	CO	26.624	26.624	0.00%
Class I	NH3	0.083	0.083	-0.35%
Class I	SO2	0.093	0.094	-0.67%
Class I	NOX	121.000	138.631	-12.72%
Class I	PM10	3.100	4.117	-24.70%
Class I	PM2.5	3.007	3.993	-24.70%
Class I	VOC	5.370	6.479	-17.11%
Class III	CO	23.296	26.624	-12.50%
Class III	NH3	0.083	0.083	-0.35%
Class III	SO2	0.093	0.094	-0.67%
Class III	NOX	239.000	216.401	10.44%
Class III	PM10	5.500	6.314	-12.90%

Source Classification Code Description	Pollutant	TTI Emission Factor (grams/gallon)	ERTAC Emission Factor (grams/gallon)	Percent Difference TTI vs. ERTAC
Class III	PM2.5	5.335	6.125	-12.90%
Class III	VOC	12.320	9.977	23.48%
Passenger (Amtrak)	CO	26.624	26.624	0.00%
Passenger (Amtrak)	NH3	0.083	0.083	-0.35%
Passenger (Amtrak)	SO2	0.093	0.094	-0.67%
Passenger (Amtrak)	NOX	119.000	183.191	-35.04%
Passenger (Amtrak)	PM10	3.100	6.469	-52.08%
Passenger (Amtrak)	PM2.5	3.007	6.275	-52.08%
Passenger (Amtrak)	VOC	5.476	10.218	-46.41%
Class I and III Yard	CO	27.816	27.816	0.00%
Class I and III Yard	NH3	0.083	0.083	-0.35%
Class I and III Yard	SO2	0.093	0.094	-0.67%
Class I and III Yard	NOX	208.000	178.120	16.78%
Class I and III Yard	PM10	4.600	4.668	-1.46%
Class I and III Yard	PM2.5	4.462	4.528	-1.46%
Class I and III Yard	VOC	12.636	11.665	8.32%

8.3 Fuel Usage

The Class I fuel usage data was compared with ERTAC data to ensure the distribution for fuel usage was applied appropriately to each county. The fuel usage distribution by county was the same between the two datasets.

8.4 Emissions Inventories

Aggregate emission checks were performed using previous EIs. The TTI-developed 2020 emissions were compared with the projected 2020 ERG inventories. As expected, the 2020 TTI inventory is lower than 2020 ERG estimates; this can most likely be attributed to the decrease in 2020 operations due to impacts from the COVID-19 pandemic.

The trend EIs were plotted for all the years to analyze variations. Yearly emission trends for constant emission factor pollutants such as CO, NH_3, and CO_2 were similar to the projection factors trend. SO_2 emissions dropped sharply after 2011 due to regulatory requirements to use ultra-low-sulfur diesel (ULSD) with 15 ppm sulfur content from 2012; this limit was 500 ppm before 2012. NO_x, PM, VOC, and HAP emissions decreased over time due to fleet turnover, which reduces the emission rates. The TTI team verified that the TexAER XML reporting data matches the raw data. Additionally, the final EI data was tested to ensure that it was imported into TCEQ's TexAER format.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The 2020 total annual emissions estimate for NO_x indicates that Class I line-haul accounted for approximately 90.5 percent of the total locomotive emissions in Texas, followed by switching yards (both Class I and Class III), Class III line-haul, passenger, and regional commuter at 6.5, 1.7 percent, 1 percent, and 0.3 percent respectively. The 2020 total annual VOC estimate indicates that Class I line-haul accounted for approximately 77.9 percent of the total locomotive emissions in Texas, followed by switching yards (both Class I and Class III), Class III line-haul, passenger, and regional commuter at 15.7, 5.4 percent, 0.7 percent, and 0.2 percent respectively. When comparing the projected 2020 EIs developed by ERG from the previous 2015 study with current 2020 TTI estimates, all emissions developed by TTI are lower; this can likely be attributed to the decrease in 2020 operations due to the COVID-19 pandemic. TTI suggests that these emissions estimates can be further improved by additional data collection and refining activity estimation methods.

This EI improved upon previous efforts by incorporating the estimation of the passenger train (Amtrak) and regional commuter lines (TRE and DCTA) to the EI. However, the lack of response or detailed activity data from Class I operators curtailed TTI's ability to distribute the fuel estimates based on Class I railroad activity on each railway network link. Many railroad operators that TTI communicated with felt that the data being requested were proprietary. The yard location and associated fuel usage data need to be improved due to the lack of information from local operators in Texas.

A detailed survey of the switching yards in Texas could improve the existing yard inventory. ERTAC data for Texas indicates 292 yards with non-zero emissions, whereas NARL identifies 178 yards. Based on exploratory data analysis TTI performed during this project, only 34 yards were found to be common between the two datasets. There is a need to investigate the discrepancies between the two datasets and develop a unified dataset to reconcile the differences between the ERTAC and NARL data.

Fuel consumption per ton-mile data is available through FRA; however, this data is difficult to obtain. It would be beneficial to explore other open-source datasets such as freight analysis framework (FAF) data to develop a tonnage assignment model for railroads, thus allowing to improve fuel consumption estimates without using the FRA tonnage data.

REFERENCES

1. Texas Department of Transportation (2016). State Roadway Map. Accessed at https://ftp.dot.state.tx.us/pub/txdot-info/tpp/maps/2016-railroad.pdf
2. American Association of Railroads (2019). Freight railroads in Texas. Accessed at https://www.aar.org/wp-content/uploads/2019/01/AAR-Texas-State-Fact-Sheet.pdf
3. Warren Buffett (2016). "Berkshire Hathaway 2016 letter to shareholders", accessed at https://www.berkshirehathaway.com/letters/2016ltr.pdf
4. Texas Department of Transportation (2019) 2019 Texas State Rail Plan. Appendix A. Profile of the Texas Railroad Network.
5. Environmental Protection Agency, Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emission Inventories, February 2020.
6. Amtrak, State Fact Sheets, Accessed at: https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/TEXAS18.pdf
7. Denton County Transit Authority , A-TRAIN, Accessed at https://www.dcta.net/schedules-maps/a-train-rail
8. North Central Texas Council of Governments, Accessed at: https://www.nctcog.org/nctcg/media/Transportation/DocsMaps/Fund/TIP/BUILD_Grant/TRE-Submitted-BUILD-Grant-Application-Package-2018.pdf
9. Environmental Protection Agency, RAIL 2017 National Emissions Inventory, Accessed at: https://gaftp.epa.gov/air_quality_data/nei/2017/doc/supporting_data/point/2017Rail_main_21aug2019.pdf
10. Eastern Research Group, 2014 Texas Statewide Locomotive Emissions Inventory and 2008 Through 2040 Trend Inventories, 2015, Accessed at: https://www.tceq.texas.gov/assets/public/implementation/air/sip/dfw/AppendixG_TX_LOCOMOTIVE_EI.pdf
11. Sierra Research, Inc., Revised Inventory Guidance For Locomotive Emissions, 2004, Accessed at: http://www.csun.edu/~lcaretto/paper/railroadInventoryGuidanceFinal.pdf

12. Texas department of Transportation, 2019 Texas Rail Plan, 2019, Accessed at http://ftp.dot.state.tx.us/pub/txdot-info/rail/texas-rail-plan-2019-draft-chapters.pdf and http://ftp.dot.state.tx.us/pub/txdot-info/rail/texas-rail-plan-2019-draft-appendices.pdf

13. Bureau of Transportation Statistics, accessed at: https://www.bts.gov/topics/rail

14 Michelle S. Bergin, GA Environmental Protection, Matthew Harrell Illinois EPA, Mark Janssen, LADCO, Locomotive Emission Inventories for the United States from ERTAC Rail, 2009, Accessed at: https://www3.epa.gov/ttnchie1/conference/ei20/session8/mbergin.pdf

15. Annual Energy Outlook, 2020 & 2021. Accessed at https://www.eia.gov/outlooks/aeo/tables_ref.php

16. Surface Transportation Board, 2019 Annual Financial Data, Accessed at: https://prod.stb.gov/reports-data/economic-data/annual-report-financial-data/

17. National Emissions Inventory Collaborative (2019). Specification Sheet - Rail 2016v1 Platform. (2020). Accessed at: http://views.cira.colostate.edu/wiki/Attachments/Inventory%20Collaborative/Documentation/2016v1/after_comments/National-Emissions-Collaborative_2016v1_mobile-nonroad-rail_06May2020.pdf

APPENDIX A: TEXAS RAIL YARDS

Texas Rail Yards.

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48001	Anderson	14461911	PALESTINE	31.75769	-95.6358
48005	Angelina	16912511	Herty	31.35547	-94.679
48005	Angelina	16923311	Lufkin	31.34436	-94.7283
48013	Atascosa	16924611	Pleasanton	28.97427	-98.4813
48015	Austin	16914411	Bellville	29.92235	-96.2406
48015	Austin	16918211	Sealy1	29.7818	-96.1671
48021	Bastrop	16917811	Smithville	30.00359	-97.1575
48027	Bell	14462111	TEMPLE	31.11474	-97.3488
48027	Bell	16917611	Rogers	30.93157	-97.2253
48027	Bell	16933211	Fort Hood	31.12551	-97.7805
48029	Bexar	14462211	SAN ANTONIO EAST YARD	29.43578	-98.4579
48029	Bexar	16914711	Calaveras Lake	29.29981	-98.3221
48029	Bexar	16918311	San Antonio2	29.37695	-98.5569
48029	Bexar	16922611	Mitchell Lake	29.30887	-98.6406
48029	Bexar	16926311	ALAMO Junction	29.26126	-98.3463
48029	Bexar	16928511	San Antonio Central	29.37842	-98.5413
48029	Bexar	17872311	SOUTH SAN ANTONIO	29.37035	-98.5628
48039	Brazoria	14462411	Angleton 1	29.15718	-95.4338
48039	Brazoria	16913911	Brazosport	28.94955	-95.3215
48039	Brazoria	16916811	Clute3	28.99836	-95.3599
48039	Brazoria	16916911	Clute1	29.01099	-95.3872
48039	Brazoria	16922211	Oyster Creek2	28.97251	-95.3406
48039	Brazoria	16925111	Pearland	29.57753	-95.2917
48039	Brazoria	16930111	Angleton 2	29.15206	-95.4335
48039	Brazoria	16931511	Clute2	28.99696	-95.3758
48039	Brazoria	16933311	Freeport2	28.9528	-95.3384
48039	Brazoria	16934211	Oyster Creek1	28.98326	-95.3429
48041	Brazos	17861911	BRYAN	30.66182	-96.3743
48051	Burleson	16917011	Chriesman	30.60618	-96.7753
48057	Calhoun	16921011	Point Comfort1	28.66104	-96.5537
48057	Calhoun	17869511	NORTH SEADRIFT	28.50735	-96.778
48061	Cameron	14462711	HARLINGEN	26.20422	-97.7068
48061	Cameron	16914911	Cameron Park1	25.94146	-97.439
48061	Cameron	16919111	Reid Hope King5	25.96909	-97.4177
48061	Cameron	16919211	Reid Hope King4	25.97543	-97.3522
48061	Cameron	16934011	Olmito 1	25.99966	-97.5078
48061	Cameron	16934511	Reid Hope King2	25.95851	-97.3862
48061	Cameron	16934911	Reid Hope King1	25.9538	-97.4112
48061	Cameron	16935011	Reid Hope King3	25.95436	-97.3819
48065	Carson	16918011	Skellytown 1	35.58068	-101.171
48065	Carson	16925311	Panhandle	35.34161	-101.376

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48067	Cass	15528811	HUGHES SPRINGS	32.99944	-94.6389
48069	Castro	16926011	Dimmitt	34.55685	-102.311
48071	Chambers	16913711	Beach City	29.69695	-94.8928
48071	Chambers	16915011	Baytown2	29.7586	-94.8995
48071	Chambers	16915611	Mont Belvieu	29.87164	-94.9091
48071	Chambers	16930611	Baytown3	29.7726	-94.8949
48085	Collin	15528911	WYLIE	33.03164	-96.5017
48089	Colorado	16932911	Eagle Lake2	29.60191	-96.3473
48091	Comal	14463211	JAMA1	29.8067	-98.024
48091	Comal	16910211	Garden Ridge	29.6362	-98.2581
48091	Comal	16912011	Hunter	29.80336	-98.0366
48091	Comal	16919911	Northcliff	29.65388	-98.2279
48091	Comal	16921111	New Braunfels3	29.67864	-98.1817
48099	Coryell	16916711	Copperas Cove	31.12766	-97.86
48111	Dallam	16925811	Dalhart	36.07067	-102.515
48113	Dallas	14463411	BROWDER	32.77498	-96.8566
48113	Dallas	16913611	Garland 2	32.88803	-96.6737
48113	Dallas	16917211	Carrollton 2	32.95916	-96.8788
48113	Dallas	16927111	Irving	32.81345	-96.8812
48113	Dallas	16927411	MILLER YARD	32.71074	-96.7485
48113	Dallas	16927611	MESQUITE	32.78322	-96.6616
48113	Dallas	17865311	GRAND PRAIRIE	32.74551	-96.9872
48117	Deaf Smith	16926611	Hereford 2	34.82508	-102.37
48121	Denton	16910711	Denton	33.21336	-97.127
48121	Denton	16911711	Justin	32.99691	-97.3541
48121	Denton	16919011	Roanoke	33.00007	-97.2304
48121	Denton	18343511	HASLET (ALLIANCE)	32.99066	-97.3482
48135	Ector	14488911	ODESSA	31.84181	-102.372
48139	Ellis	16926411	ENNIS	32.30099	-96.5893
48141	El Paso	14463611	ALFALFA	31.7642	-106.393
48141	El Paso	16926111	El Paso 1	31.75331	-106.493
48141	El Paso	16929411	Fort Bliss	31.83636	-106.415
48141	El Paso	16930911	El Paso 2	31.76565	-106.48
48141	El Paso	16935211	EL PASO SOUTH/INTERNATIONAL	31.74995	-106.479
48141	El Paso	18343411	EL PASO	31.7519	-106.489
48143	Erath	16910411	Dublin	32.08706	-98.3372
48143	Erath	16922011	Stephenville	32.22311	-98.2094
48149	Fayette	16912911	Halsted	29.90784	-96.7492
48149	Fayette	17864811	FLATONIA	29.68709	-97.1159
48157	Fort Bend	16919811	Rosenberg	29.56041	-95.8286
48157	Fort Bend	16920911	Thompsons	29.47294	-95.6349
48157	Fort Bend	16921911	Sugar Land	29.62031	-95.6405
48157	Fort Bend	16927811	Kendleton_Intermodal	29.46353	-95.9743
48161	Freestone	16929011	Teague	31.63	-96.2878
48167	Galveston	14463711	GALVESTON	29.30052	-94.8237

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48167	Galveston	16910611	Dickinson	29.45997	-95.0446
48177	Gonzales	16912611	Harwood2	29.66648	-97.5015
48177	Gonzales	16912711	Harwood1	29.60512	-97.4681
48179	Gray	16914511	Pampa 1	35.48265	-101.052
48179	Gray	16927911	Pampa 2	35.52939	-100.963
48181	Grayson	16910811	Denison 1	33.7537	-96.5341
48181	Grayson	16925911	RAY YARD	33.77155	-96.5841
48183	Gregg	16933611	Greggton 2	32.50171	-94.7886
48183	Gregg	17867911	LONGVIEW_2	32.49455	-94.7269
48185	Grimes	16921511	Navasot	30.38124	-96.0865
48187	Guadalupe	17869111	NOLTE SPUR	29.59392	-98.0341
48189	Hale	16928111	Plainview	34.19269	-101.697
48197	Hardeman	16913311	Goodlett 2	34.31763	-99.8242
48197	Hardeman	16928211	Quanah	34.30422	-99.738
48199	Hardin	14464111	SILSBEE	30.35854	-94.189
48201	Harris	14464311	BOOTH	29.73578	-95.2815
48201	Harris	14464611	ENGLEWOOD	29.7877	-95.3153
48201	Harris	14464911	STRANG	29.68066	-95.0397
48201	Harris	14487911	East 1	29.79756	-95.2922
48201	Harris	14488111	EUREKA	29.78273	-95.4217
48201	Harris	14488511	MARKET STREET	29.71777	-95.2864
48201	Harris	14488811	NORTH YARD	29.76418	-95.293
48201	Harris	14489111	SETTEGAST	29.82028	-95.2896
48201	Harris	14489211	SOUTH	29.75061	-95.3456
48201	Harris	16911111	Deer Park9	29.7132	-95.1112
48201	Harris	16911211	Deer Park7	29.72755	-95.0842
48201	Harris	16912111	Houston3	29.70115	-95.2524
48201	Harris	16912311	Hockley	30.02364	-95.8636
48201	Harris	16913211	Greens Port	29.75234	-95.1968
48201	Harris	16915111	Bayport North Industrial Park	29.63986	-95.09
48201	Harris	16920011	Woodgate	29.91347	-95.5021
48201	Harris	16921411	Taylor Lake Village	29.60348	-95.0108
48201	Harris	16922111	Spring	30.05954	-95.4094
48201	Harris	16924311	La Porte2	29.62428	-95.0562
48201	Harris	16924411	La Porte1	29.67599	-95.013
48201	Harris	16925211	CHEVRON PHILLIPS PASEDENA	29.72267	-95.1811
48201	Harris	16926811	STORAGE YARD	29.74472	-95.2765
48201	Harris	16926911	Houston2	29.71513	-95.2623
48201	Harris	16929811	Erinwilde	30.0104	-95.4004
48201	Harris	16931011	Pasadena1	29.72268	-95.1994
48201	Harris	16931811	Deer Park1	29.72573	-95.1539
48201	Harris	16932011	Deer Park10	29.70499	-95.0853
48201	Harris	16932111	Deer Park11	29.70539	-95.0625
48201	Harris	16932211	Deer Park12	29.69927	-95.0629
48201	Harris	16932311	Deer Park3	29.72054	-95.1246

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48201	Harris	16932411	Deer Park2	29.72431	-95.1434
48201	Harris	16932511	Deer Park4	29.72113	-95.0999
48201	Harris	16932611	Deer Park5	29.73898	-95.093
48201	Harris	16932711	Deer Park6	29.73358	-95.0803
48201	Harris	16932811	Deer Park8	29.71564	-95.0822
48201	Harris	16935811	GALENA PARK	29.74805	-95.218
48201	Harris	17860911	Baytown 2	29.73514	-94.967
48201	Harris	17864111	ELDON	29.81315	-94.9196
48201	Harris	17865111	GLASS YARD	29.79134	-95.2885
48201	Harris	17872111	SINCO	29.70922	-95.252
48201	Harris	17874611	WEST BAYPORT	29.64678	-95.0387
48201	Harris	17876311	TOWER 87	29.79939	-95.2886
48201	Harris	18343611	HOUSTON SOUTH	29.71396	-95.3328
48201	Harris	18343711	MARKET STREET (UP)	29.76828	-95.2601
48201	Harris	18702111	BAYPORT	29.63832	-95.0383
48201	Harris	18702211	GALENA PARK (UP)	29.73014	-95.2224
48203	Harrison	16923411	Longview Heights	32.50389	-94.6396
48203	Harrison	16929611	Ferguson Creek Reservoir	32.44093	-94.6873
48209	Hays	16923511	Mountain City	30.05072	-97.8602
48211	Hemphill	16913411	Glazier	36.01184	-100.258
48211	Hemphill	16917411	Canadian	35.90649	-100.401
48215	Hidalgo	16910111	Edinburg1	26.31866	-98.164
48215	Hidalgo	16915911	Alamo	26.1778	-98.0883
48215	Hidalgo	16919711	Kane	26.20766	-98.2475
48215	Hidalgo	16922811	Mission	26.21456	-98.3292
48217	Hill	16912411	Hillsboro	32.0095	-97.1335
48221	Hood	16916311	Cresson	32.5351	-97.6218
48227	Howard	14465111	BIG SPRING	32.25336	-101.485
48227	Howard	16928311	ZILER	32.27286	-101.409
48233	Hutchinson	16914011	Borger 1	35.65681	-101.39
48233	Hutchinson	16924911	Phillips	35.68999	-101.368
48241	Jasper	16927211	Jasper	30.92576	-93.9844
48245	Jefferson	14465511	CHAISON	30.05485	-94.0748
48245	Jefferson	16914611	Beaumont2	30.07598	-94.0903
48245	Jefferson	16917111	Central Gardens2	29.99969	-93.9838
48245	Jefferson	16917911	Smith Island	30.06122	-94.0425
48245	Jefferson	16919611	Port Neches	29.98408	-93.9466
48245	Jefferson	16920311	PORT ARTHUR	29.85377	-93.9486
48245	Jefferson	16927311	Jefferson County1	30.07803	-94.2425
48245	Jefferson	16930711	Beaumont1	30.06882	-94.0764
48245	Jefferson	16930811	Beaumont3	30.08377	-94.095
48245	Jefferson	16931411	Central Gardens1	29.98618	-93.9913
48245	Jefferson	17861011	Beaumont 0	30.07332	-94.1493
48251	Johnson	16915711	Alvarado	32.41015	-97.1626
48289	Leon	16920811	Newby	31.34921	-96.1694

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48291	Liberty	16926711	Hightower	30.37232	-95.0162
48291	Liberty	16928811	DAYTON(BNSF)	30.01501	-94.9034
48291	Liberty	17863211	DAYTON	30.03904	-94.8995
48297	Live Oak	16922311	Three Rivers	28.46025	-98.1867
48303	Lubbock	14466411	LUBBOCK	33.58016	-101.837
48309	McLennan	16923111	McGregor	31.44275	-97.4054
48309	McLennan	16925611	BELLMEAD	31.58012	-97.1015
48321	Matagorda	16920511	Wadsworth	28.78965	-95.9416
48321	Matagorda	16923211	Matagorda County2	28.86291	-96.0232
48321	Matagorda	16934111	Matagorda County1	28.87115	-96.0039
48323	Maverick	14466611	EAGLE PASS	28.70259	-100.498
48323	Maverick	16911011	Elm Creek4	28.75816	-100.487
48323	Maverick	16911811	Elm Creek1	28.83521	-100.435
48323	Maverick	16933011	Elm Creek2	28.79926	-100.464
48323	Maverick	16933111	Elm Creek3	28.77227	-100.473
48325	Medina	16912211	Hondo	29.34458	-99.1762
48331	Milam	16915811	Alcoa Lake	30.5611	-97.0703
48331	Milam	16917511	Cameron2	30.87446	-96.9782
48331	Milam	16931311	Cameron1	30.8467	-96.9816
48339	Montgomery	16914811	Beach2	30.31531	-95.3849
48341	Moore	16913811	Cactus 1	36.04115	-101.995
48341	Moore	16921611	Sunray 2	35.98202	-101.891
48341	Moore	16931111	Sunray 1	36.00786	-101.891
48341	Moore	16931211	Cactus 2	36.02897	-101.975
48343	Morris	16916111	Daingerfield	32.99543	-94.6592
48343	Morris	16923611	Lone Star	32.95318	-94.6636
48343	Morris	16926211	TN	32.92491	-94.7122
48347	Nacogdoches	16921711	Nacogdoches	31.60338	-94.6592
48349	Navarro	17862911	CORSICANA	32.09059	-96.4621
48353	Nolan	16928911	Sweetwater	32.49416	-100.404
48355	Nueces	14487511	AGNESSTREETYARD	27.78563	-97.4848
48355	Nueces	16914211	Bishop1	27.56649	-97.8229
48355	Nueces	16916011	Corpus Christi2	27.80859	-97.4146
48355	Nueces	16916411	Corpus Christi9	27.8417	-97.5228
48355	Nueces	16916511	Corpus Christi4	27.82113	-97.4265
48355	Nueces	16918911	Robstown	27.78591	-97.6635
48355	Nueces	16931611	Corpus Christi6	27.81823	-97.4618
48355	Nueces	16931711	Corpus Christi7	27.81745	-97.4801
48355	Nueces	16931911	Corpus Christi8	27.83017	-97.5041
48355	Nueces	16934811	Corpus Christi1	27.824	-97.4518
48361	Orange	14489011	ORANGE	30.08892	-93.7662
48361	Orange	16918711	Rose City	30.08455	-94.0752
48361	Orange	16921811	Mule Island	30.04557	-93.7794
48361	Orange	16923811	Lemonville	30.20868	-93.8436
48361	Orange	16924511	Owens-Illinois Reservoir	30.21484	-93.7487

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48361	Orange	16924711	Plant Reservoir2	30.0564	-93.7623
48361	Orange	16930211	Vidor	30.09905	-94.0055
48361	Orange	16930411	West Orange	30.06885	-93.7686
48361	Orange	16934411	Plant Reservoir1	30.04928	-93.7586
48361	Orange	16935711	Orangefield	30.09387	-93.8084
48365	Panola	16925511	Beckville	32.23113	-94.5024
48369	Parmer	16929711	Farwell	34.3907	-103.039
48375	Potter	14466811	SOUTH AMARILLO	35.19268	-101.832
48375	Potter	16915311	Amarillo 5	35.19778	-101.693
48375	Potter	16915411	Amarillo 4	35.20428	-101.746
48375	Potter	16915511	Amarillo 3	35.21703	-101.8
48375	Potter	16930511	Amarillo 1	35.28602	-101.744
48375	Potter	18343311	AMARILLO (UP)	35.21252	-101.829
48381	Randall	16917311	Canyon	35.12128	-101.857
48389	Reeves	16928011	Pecos	31.41264	-103.519
48395	Robertson	14466911	HEARNE 1	30.87476	-96.5897
48399	Runnels	16915211	Ballinger	31.73824	-99.9503
48401	Rusk	16910511	Dirgin	32.26077	-94.566
48409	San Patricio	16910911	Del Sol-Loma Linda	28.01017	-97.5294
48409	San Patricio	16918111	Odem	27.95241	-97.5793
48409	San Patricio	16933711	Gregory1	27.92522	-97.2963
48419	Shelby	16929211	Tenaha 2	31.94053	-94.2781
48423	Smith	14489411	TYLER	32.36012	-95.2888
48423	Smith	16920111	Winona	32.44158	-95.1871
48439	Tarrant	14467111	CENTENNIAL	32.72521	-97.3768
48439	Tarrant	14467311	HODGE	32.80999	-97.3157
48439	Tarrant	14488711	NORTH	32.8244	-97.332
48439	Tarrant	16914311	Berkeley Place	32.71894	-97.3446
48439	Tarrant	17869011	NEY YARD	32.72438	-97.3228
48439	Tarrant	17876211	PEACH	32.76725	-97.3234
48441	Taylor	16911611	Abilene	32.44896	-99.728
48449	Titus	14467611	MOUNT PLEASANT	33.15944	-94.9661
48449	Titus	16924111	Lake Monticello	33.09195	-95.0337
48451	Tom Green	16918411	San Angelo 2	31.49679	-100.412
48453	Travis	16918811	Northtech Business Center	30.44478	-97.712
48463	Uvalde	16916211	Dabney	29.16328	-100.091
48463	Uvalde	16922911	Mine	29.14162	-100.04
48469	Victoria	16914111	Bloomington2	28.66192	-96.8714
48469	Victoria	16919411	Raisin	28.7712	-97.0903
48469	Victoria	16920611	Victoria2	28.82187	-96.9464
48473	Waller	16911311	Katy	29.79234	-95.8564
48473	Waller	17865711	HEMPSTEAD	30.10764	-96.082
48475	Ward	16922511	Monahans	31.59185	-102.906
48477	Washington	16919511	Quarry	30.31569	-96.5113
48479	Webb	14467911	LAREDO	27.52269	-99.5166

FIPS	County	EIS Facility Id	Yard Name	Latitude	Longitude
48479	Webb	16911411	El Cuatro	27.50614	-99.5167
48479	Webb	16921211	Tex-Mex Industrial Park	27.51163	-99.4521
48479	Webb	16921311	Tejas Industrial Park	27.58783	-99.5028
48479	Webb	16922711	Missouri Pacific Railyards	27.6661	-99.4456
48479	Webb	16923011	Milo Distribution Center	27.6137	-99.485
48479	Webb	16923911	LAX	27.49855	-99.4903
48479	Webb	16925411	Laredo_Yard	27.50113	-99.4027
48479	Webb	17870311	PORT LAREDO	27.67127	-99.4686
48485	Wichita	16911511	Electra	34.02956	-98.9216
48485	Wichita	16911911	Iowa Park	33.94985	-98.6639
48485	Wichita	16916611	Kay-Bub	33.86258	-98.5909
48485	Wichita	16920211	Wichita Falls 3	33.93106	-98.5411
48485	Wichita	16929311	Wichita Falls 2	33.90866	-98.4833
48485	Wichita	16935611	Wichita Falls 1	33.9298	-98.5023
48487	Wilbarger	16920711	Vernon	34.16147	-99.2838
48491	Williamson	14468011	TAYLOR	30.56739	-97.4145
48491	Williamson	16913511	Georgetown	30.62047	-97.6806
48491	Williamson	16918511	Round Rock4	30.57061	-97.6983
48491	Williamson	16918611	Soil Conservation Service Site 10a	30.58814	-97.6966
48491	Williamson	16923711	Liberty Hill	30.64779	-97.8858
48491	Williamson	16935111	Round Rock2	30.53806	-97.6992
48491	Williamson	16935311	Round Rock1	30.523	-97.6963
48491	Williamson	16935511	Round Rock3	30.55409	-97.6986
48493	Wilson	16928611	Mission Rail Elmendorf	29.2328	-98.3023
48497	Wise	16925711	Chico	33.27493	-97.7958
48499	Wood	16920411	West Mineola	32.66993	-95.523

APPENDIX B: EMISSION RATES (ELECTRONIC ONLY)

Available from the TCEQ upon request.

APPENDIX C:
TEXAS LOW-EMISSION DIESEL PROGRAM FACTORS (ELECTRONIC ONLY)

Available from the TCEQ upon request.

APPENDIX D: DERI EMISSION QUANTITIES (ELECTRONIC ONLY)

Available from the TCEQ upon request.

APPENDIX E:
UNCONTROLLED 2020 ANNUAL AND DAILY COUNTY-LEVEL EMISSIONS FOR TEXAS

Uncontrolled 2020 Annual County-Level Emissions by Criteria Pollutant (tons/year)[1].

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Anderson	2285002006	5.5108	38.7039	143.9187	0.1356	0.1207	3.3436	3.2433
Anderson	2285002007	0.8436	1.5951	15.8173	0.0064	0.0057	0.3629	0.3520
Anderson	2285002010	1.2922	3.2510	23.4615	0.0109	0.0097	0.4792	0.4648
Andrews	2285002007	0.1067	0.2017	2.0004	0.0008	0.0007	0.0459	0.0445
Angelina	2285002006	1.5084	10.5938	39.3924	0.0371	0.0330	0.9152	0.8877
Angelina	2285002007	0.0889	0.1681	1.6669	0.0007	0.0006	0.0382	0.0371
Angelina	2285002010	0.4381	1.1022	24.3672	0.0037	0.0033	0.1625	0.1576
Armstrong	2285002006	5.7425	40.3313	149.9700	0.1413	0.1257	3.4842	3.3796
Atascosa	2285002006	1.4953	10.5017	39.0502	0.0368	0.0327	0.9072	0.8800
Atascosa	2285002010	0.0074	0.0186	1.3910	0.0001	0.0001	0.0027	0.0027
Austin	2285002006	8.5045	59.7295	222.1011	0.2092	0.1862	5.1599	5.0051
Austin	2285002010	0.0148	0.0372	2.9934	0.0001	0.0001	0.0055	0.0053
Bailey	2285002006	1.0499	7.3739	27.4194	0.0258	0.0230	0.6370	0.6179
Bastrop	2285002006	4.6068	32.3548	120.3098	0.1133	0.1009	2.7951	2.7112
Bastrop	2285002007	0.5412	1.0234	10.1475	0.0041	0.0036	0.2328	0.2258
Bastrop	2285002010	0.8615	2.1673	14.5704	0.0073	0.0065	0.3195	0.3099
Bell	2285002006	13.3271	93.6008	348.0499	0.3279	0.2918	8.0860	7.8434
Bell	2285002007	0.3884	0.7344	7.2818	0.0029	0.0026	0.1671	0.1621
Bell	2285002008	0.2204	1.7980	6.2806	0.0063	0.0056	0.1418	0.1376
Bell	2285002010	1.8986	4.7766	32.1118	0.0160	0.0143	0.7041	0.6829
Bexar	2285002006	18.4055	129.2675	480.6746	0.4528	0.4030	11.1672	10.8322
Bexar	2285002007	0.3843	0.7267	7.2061	0.0029	0.0026	0.1653	0.1604
Bexar	2285002008	0.5106	4.1645	14.5471	0.0146	0.0130	0.3285	0.3186
Bexar	2285002010	6.6875	16.8245	121.9696	0.0564	0.0502	2.4799	2.4055
Bosque	2285002006	10.1039	70.9629	263.8719	0.2486	0.2212	6.1304	5.9464
Bosque	2285002008	0.2443	1.9926	6.9603	0.0070	0.0062	0.1572	0.1525
Bowie	2285002006	10.2246	71.8104	267.0232	0.2515	0.2239	6.2036	6.0175
Bowie	2285002007	2.6697	5.0482	50.0569	0.0202	0.0180	1.1485	1.1140
Bowie	2285002008	0.0549	0.4477	1.5640	0.0016	0.0014	0.0353	0.0343
Brazoria	2285002006	10.2604	72.0622	267.9596	0.2524	0.2247	6.2253	6.0386
Brazoria	2285002010	5.9116	14.8725	113.7012	0.0499	0.0444	2.1922	2.1264
Brazos	2285002006	7.7306	54.2948	201.8924	0.1902	0.1693	4.6904	4.5497
Brazos	2285002010	0.4307	1.0837	7.2852	0.0036	0.0032	0.1597	0.1549
Brewster	2285002006	6.4231	45.1112	167.7438	0.1580	0.1406	3.8971	3.7802
Brewster	2285002007	0.8678	1.6410	16.2718	0.0066	0.0058	0.3733	0.3621
Brewster	2285002008	0.5030	4.1027	14.3310	0.0144	0.0128	0.3236	0.3139
Brown	2285002006	3.4331	24.1120	89.6593	0.0845	0.0752	2.0830	2.0205
Brown	2285002007	0.8239	1.5579	15.4479	0.0062	0.0056	0.3544	0.3438
Burleson	2285002006	13.6541	95.8973	356.5893	0.3359	0.2990	8.2844	8.0359
Burleson	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Burnet	2285002007	0.8234	1.5569	15.4381	0.0062	0.0055	0.3542	0.3436
Caldwell	2285002006	4.7031	33.0315	122.8258	0.1157	0.1030	2.8535	2.7679
Caldwell	2285002008	0.0647	0.5281	1.8447	0.0018	0.0016	0.0417	0.0404
Calhoun	2285002007	0.0762	0.1441	1.4287	0.0006	0.0005	0.0328	0.0318
Calhoun	2285002010	0.4381	1.1022	7.4101	0.0037	0.0033	0.1625	0.1576
Callahan	2285002006	5.5219	38.7820	144.2089	0.1358	0.1209	3.3503	3.2498
Cameron	2285002006	0.8183	5.7470	21.3699	0.0201	0.0179	0.4965	0.4816
Cameron	2285002007	1.0160	1.9211	19.0498	0.0077	0.0068	0.4371	0.4240
Cameron	2285002010	0.9132	2.2974	15.4451	0.0077	0.0069	0.3386	0.3285
Camp	2285002006	2.8715	20.1676	74.9924	0.0706	0.0629	1.7422	1.6900
Camp	2285002007	0.2022	0.3824	3.7921	0.0015	0.0014	0.0870	0.0844
Carson	2285002006	23.6010	165.7575	616.3608	0.5806	0.5168	14.3195	13.8899
Carson	2285002007	0.9005	1.7027	16.8839	0.0068	0.0061	0.3874	0.3758

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Carson	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Cass	2285002006	11.0138	77.3533	287.6342	0.2710	0.2412	6.6824	6.4819
Cass	2285002008	0.2060	1.6803	5.8693	0.0059	0.0052	0.1325	0.1286
Cass	2285002010	0.3384	0.8514	7.3296	0.0029	0.0025	0.1255	0.1217
Castro	2285002006	1.7404	12.2232	45.4514	0.0428	0.0381	1.0559	1.0243
Castro	2285002007	0.5767	1.0904	10.8123	0.0044	0.0039	0.2481	0.2406
Castro	2285002010	1.0476	2.6355	17.7180	0.0088	0.0079	0.3885	0.3768
Chambers	2285002006	0.2697	1.8943	7.0438	0.0066	0.0059	0.1636	0.1587
Chambers	2285002010	0.8836	2.2231	20.4321	0.0075	0.0066	0.3277	0.3178
Cherokee	2285002006	4.7027	33.0284	122.8145	0.1157	0.1030	2.8533	2.7677
Cherokee	2285002007	0.7484	1.4151	14.0319	0.0057	0.0050	0.3219	0.3123
Childress	2285002006	4.9989	35.1090	130.5511	0.1230	0.1095	3.0330	2.9420
Clay	2285002006	5.5036	38.6533	143.7302	0.1354	0.1205	3.3392	3.2390
Cochran	2285002007	0.0271	0.0513	0.5082	0.0002	0.0002	0.0117	0.0113
Coleman	2285002006	4.5890	32.2302	119.8462	0.1129	0.1005	2.7843	2.7008
Coleman	2285002007	0.5284	0.9992	9.9075	0.0040	0.0036	0.2273	0.2205
Collin	2285002006	3.6222	25.4402	94.5981	0.0891	0.0793	2.1977	2.1318
Collin	2285002007	1.5616	2.9529	29.2803	0.0118	0.0105	0.6718	0.6516
Collin	2285002010	0.6768	1.7028	24.4682	0.0057	0.0051	0.2510	0.2435
Colorado	2285002006	5.9817	42.0113	156.2169	0.1472	0.1310	3.6293	3.5204
Colorado	2285002008	0.2362	1.9264	6.7292	0.0067	0.0060	0.1520	0.1474
Colorado	2285002010	0.8615	2.1673	15.9421	0.0073	0.0065	0.3195	0.3099
Comal	2285002006	3.7349	26.2316	97.5407	0.0919	0.0818	2.2661	2.1981
Comal	2285002007	0.0489	0.0925	0.9177	0.0004	0.0003	0.0211	0.0204
Comal	2285002008	0.3145	2.5647	8.9587	0.0090	0.0080	0.2023	0.1962
Comal	2285002010	1.7451	4.3904	35.8459	0.0147	0.0131	0.6471	0.6277
Comanche	2285002007	1.3358	2.5258	25.0456	0.0101	0.0090	0.5746	0.5574
Cooke	2285002006	4.8746	34.2361	127.3052	0.1199	0.1067	2.9576	2.8689
Cooke	2285002008	0.1369	1.1169	3.9016	0.0039	0.0035	0.0881	0.0855
Coryell	2285002006	1.1614	8.1572	30.3323	0.0286	0.0254	0.7047	0.6835
Coryell	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Crane	2285002006	0.1880	1.3204	4.9099	0.0046	0.0041	0.1141	0.1106
Crane	2285002007	0.0875	0.1654	1.6403	0.0007	0.0006	0.0376	0.0365
Crockett	2285002007	0.0125	0.0237	0.2346	0.0001	0.0001	0.0054	0.0052
Culberson	2285002006	7.4210	52.1203	193.8066	0.1826	0.1625	4.5026	4.3675
Culberson	2285002008	0.1173	0.9568	3.3423	0.0034	0.0030	0.0755	0.0732
Dallam	2285002006	7.8733	55.2965	205.6173	0.1937	0.1724	4.7770	4.6337
Dallam	2285002010	1.2922	3.2510	21.8556	0.0109	0.0097	0.4792	0.4648
Dallas	2285002006	9.8381	69.0959	256.9295	0.2420	0.2154	5.9691	5.7900
Dallas	2285002007	3.3104	6.2596	62.0693	0.0251	0.0223	1.4241	1.3814
Dallas	2285002008	0.2255	1.8391	6.4240	0.0064	0.0057	0.1451	0.1407
Dallas	2285002009	0.9239	7.5358	26.3231	0.0264	0.0235	0.5944	0.5766
Dallas	2285002010	7.1743	18.0491	212.4862	0.0605	0.0539	2.6604	2.5806
De Witt	2285002006	0.5570	3.9122	14.5472	0.0137	0.0122	0.3380	0.3278
Deaf Smith	2285002006	16.9825	119.2734	443.5122	0.4178	0.3719	10.3038	9.9947
Deaf Smith	2285002010	0.3492	0.8785	5.9060	0.0029	0.0026	0.1295	0.1256
Delta	2285002007	0.0162	0.0306	0.3035	0.0001	0.0001	0.0070	0.0068
Denton	2285002006	15.5560	109.2545	406.2575	0.3827	0.3406	9.4383	9.1552
Denton	2285002007	0.7447	1.4082	13.9639	0.0056	0.0050	0.3204	0.3108
Denton	2285002008	0.2062	1.6818	5.8746	0.0059	0.0052	0.1327	0.1287
Denton	2285002009	0.5372	4.3814	15.3047	0.0153	0.0137	0.3456	0.3352
Denton	2285002010	3.3881	8.5237	109.3866	0.0286	0.0254	1.2564	1.2187
Donley	2285002006	6.8016	47.7699	177.6301	0.1673	0.1489	4.1268	4.0030
Duval	2285002006	4.8671	34.1835	127.1095	0.1197	0.1066	2.9530	2.8645
Eastland	2285002006	5.6947	39.9960	148.7230	0.1401	0.1247	3.4552	3.3515
Eastland	2285002007	0.0190	0.0359	0.3559	0.0001	0.0001	0.0082	0.0079

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ector	2285002006	4.1156	28.9051	107.4823	0.1012	0.0901	2.4971	2.4222
Ector	2285002010	2.5844	6.5020	43.7111	0.0218	0.0194	0.9584	0.9296
El Paso	2285002006	15.9211	111.8189	415.7931	0.3917	0.3486	9.6598	9.3700
El Paso	2285002007	0.3001	0.5674	5.6262	0.0023	0.0020	0.1291	0.1252
El Paso	2285002008	0.3200	2.6101	9.1172	0.0091	0.0081	0.2059	0.1997
El Paso	2285002010	8.4930	21.3667	143.6428	0.0716	0.0638	3.1494	3.0549
Ellis	2285002006	7.5372	52.9365	196.8417	0.1854	0.1650	4.5731	4.4359
Ellis	2285002010	3.0152	7.5856	64.0172	0.0254	0.0226	1.1181	1.0846
Erath	2285002007	1.3079	2.4731	24.5234	0.0099	0.0088	0.5627	0.5458
Erath	2285002010	0.0148	0.0372	26.2918	0.0001	0.0001	0.0055	0.0053
Falls	2285002006	4.1730	29.3080	108.9803	0.1027	0.0914	2.5319	2.4559
Fannin	2285002007	1.4541	2.7495	27.2633	0.0110	0.0098	0.6255	0.6068
Fayette	2285002006	12.9114	90.6809	337.1922	0.3176	0.2827	7.8338	7.5987
Fayette	2285002008	0.1433	1.1691	4.0838	0.0041	0.0036	0.0922	0.0894
Fayette	2285002010	0.8689	2.1859	14.6953	0.0073	0.0065	0.3222	0.3125
Fisher	2285002006	1.7755	12.4701	46.3696	0.0437	0.0389	1.0773	1.0450
Fort Bend	2285002006	16.8164	118.1070	439.1748	0.4137	0.3682	10.2031	9.8970
Fort Bend	2285002007	0.0802	0.1516	1.5030	0.0006	0.0005	0.0345	0.0334
Fort Bend	2285002008	0.2119	1.7286	6.0382	0.0061	0.0054	0.1363	0.1323
Fort Bend	2285002010	0.5293	1.3316	14.4390	0.0045	0.0040	0.1963	0.1904
Franklin	2285002006	0.3628	2.5479	9.4743	0.0089	0.0079	0.2201	0.2135
Franklin	2285002007	0.1875	0.3546	3.5162	0.0014	0.0013	0.0807	0.0783
Freestone	2285002006	3.2033	22.4975	83.6558	0.0788	0.0701	1.9435	1.8852
Freestone	2285002010	0.6984	1.7570	11.8120	0.0059	0.0052	0.2590	0.2512
Frio	2285002006	4.7085	33.0692	122.9660	0.1158	0.1031	2.8568	2.7711
Gaines	2285002007	0.0955	0.1806	1.7906	0.0007	0.0006	0.0411	0.0398
Galveston	2285002006	4.1249	28.9704	107.7249	0.1015	0.0903	2.5027	2.4276
Galveston	2285002007	0.9418	1.7808	17.6577	0.0071	0.0063	0.4051	0.3930
Galveston	2285002010	1.2996	3.2696	24.7240	0.0110	0.0098	0.4819	0.4675
Garza	2285002006	3.6649	25.7400	95.7129	0.0902	0.0803	2.2236	2.1569
Goliad	2285002006	0.0363	0.2552	0.9490	0.0009	0.0008	0.0220	0.0214
Gonzales	2285002006	5.1988	36.5127	135.7705	0.1279	0.1138	3.1543	3.0596
Gonzales	2285002007	2.3709	4.4831	44.4537	0.0179	0.0160	1.0199	0.9893
Gonzales	2285002008	0.1407	1.1476	4.0087	0.0040	0.0036	0.0905	0.0878
Gonzales	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Gray	2285002006	12.5880	88.4099	328.7477	0.3097	0.2756	7.6376	7.4084
Gray	2285002010	0.7058	1.7756	11.9369	0.0060	0.0053	0.2617	0.2539
Grayson	2285002006	13.2947	93.3730	347.2026	0.3271	0.2911	8.0663	7.8243
Grayson	2285002007	3.4262	6.4785	64.2404	0.0259	0.0231	1.4739	1.4297
Grayson	2285002010	2.1611	5.4369	62.5928	0.0182	0.0162	0.8014	0.7773
Gregg	2285002006	4.7166	33.1262	123.1781	0.1160	0.1033	2.8617	2.7759
Gregg	2285002008	0.0996	0.8122	2.8369	0.0028	0.0025	0.0641	0.0621
Gregg	2285002010	3.4459	8.6693	61.4933	0.0291	0.0259	1.2778	1.2395
Grimes	2285002006	6.2781	44.0930	163.9577	0.1544	0.1375	3.8091	3.6948
Grimes	2285002007	0.2860	0.5407	5.3617	0.0022	0.0019	0.1230	0.1193
Grimes	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Guadalupe	2285002006	8.4570	59.3963	220.8623	0.2081	0.1852	5.1311	4.9772
Guadalupe	2285002008	0.2298	1.8746	6.5482	0.0066	0.0058	0.1479	0.1434
Guadalupe	2285002010	0.8615	2.1673	15.8364	0.0073	0.0065	0.3195	0.3099
Hale	2285002006	3.2646	22.9284	85.2582	0.0803	0.0715	1.9807	1.9213
Hale	2285002007	0.6698	1.2666	12.5590	0.0051	0.0045	0.2881	0.2795
Hale	2285002010	1.4235	3.5812	24.0755	0.0120	0.0107	0.5279	0.5120
Hall	2285002006	3.1160	21.8850	81.3782	0.0767	0.0682	1.8906	1.8339
Hansford	2285002007	0.0188	0.0355	0.3516	0.0001	0.0001	0.0081	0.0078
Hardeman	2285002006	5.6694	39.8179	148.0608	0.1395	0.1241	3.4398	3.3366
Hardeman	2285002007	0.2299	0.4347	4.3103	0.0017	0.0015	0.0989	0.0959

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Hardeman	2285002010	0.7058	1.7756	11.9369	0.0060	0.0053	0.2617	0.2539
Hardin	2285002006	3.0677	21.5454	80.1153	0.0755	0.0672	1.8613	1.8054
Hardin	2285002007	0.2662	0.5034	4.9918	0.0020	0.0018	0.1145	0.1111
Hardin	2285002010	2.5118	6.3192	50.9611	0.0212	0.0189	0.9314	0.9035
Harris	2285002006	32.7718	230.1671	855.8647	0.8062	0.7176	19.8837	19.2872
Harris	2285002007	3.4246	6.4755	64.2099	0.0259	0.0231	1.4732	1.4290
Harris	2285002008	0.2900	2.3652	8.2619	0.0083	0.0074	0.1866	0.1810
Harris	2285002010	64.4292	162.0913	1152.7988	0.5434	0.4837	23.8918	23.1751
Harrison	2285002006	12.1002	84.9834	316.0064	0.2977	0.2650	7.3416	7.1213
Harrison	2285002008	0.2035	1.6596	5.7971	0.0058	0.0052	0.1309	0.1270
Harrison	2285002010	0.4381	1.1022	10.6220	0.0037	0.0033	0.1625	0.1576
Hartley	2285002006	7.7217	54.2320	201.6588	0.1900	0.1691	4.6850	4.5445
Hays	2285002006	3.1153	21.8794	81.3575	0.0766	0.0682	1.8901	1.8334
Hays	2285002008	0.1578	1.2873	4.4968	0.0045	0.0040	0.1015	0.0985
Hays	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Hemphill	2285002006	20.5941	144.6390	537.8330	0.5066	0.4510	12.4951	12.1203
Hemphill	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Henderson	2285002006	2.9325	20.5962	76.5858	0.0721	0.0642	1.7793	1.7259
Hidalgo	2285002007	1.9882	3.7595	37.2791	0.0151	0.0134	0.8553	0.8297
Hidalgo	2285002010	0.0296	0.0743	0.4998	0.0002	0.0002	0.0110	0.0106
Hill	2285002006	6.7697	47.5456	176.7960	0.1665	0.1482	4.1074	3.9842
Hill	2285002008	0.0604	0.4930	1.7222	0.0017	0.0015	0.0389	0.0377
Hill	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Hockley	2285002006	0.4124	2.8962	10.7692	0.0101	0.0090	0.2502	0.2427
Hockley	2285002007	0.8917	1.6861	16.7194	0.0067	0.0060	0.3836	0.3721
Hood	2285002007	1.2322	2.3300	23.1042	0.0093	0.0083	0.5301	0.5142
Hood	2285002010	0.0074	0.0186	13.1459	0.0001	0.0001	0.0027	0.0027
Hopkins	2285002006	3.3225	23.3351	86.7704	0.0817	0.0728	2.0159	1.9554
Hopkins	2285002007	1.1102	2.0992	20.8153	0.0084	0.0075	0.4776	0.4633
Houston	2285002006	3.3428	23.4774	87.2994	0.0822	0.0732	2.0282	1.9673
Howard	2285002006	4.8003	33.7139	125.3635	0.1181	0.1051	2.9125	2.8251
Howard	2285002007	0.0587	0.1110	1.1007	0.0004	0.0004	0.0253	0.0245
Howard	2285002010	3.0152	7.5856	50.9963	0.0254	0.0226	1.1181	1.0846
Hudspeth	2285002006	16.1031	113.0970	420.5456	0.3962	0.3526	9.7703	9.4771
Hudspeth	2285002008	0.4893	3.9905	13.9393	0.0140	0.0124	0.3148	0.3053
Hunt	2285002006	1.9794	13.9019	51.6935	0.0487	0.0433	1.2010	1.1649
Hunt	2285002007	1.7686	3.3442	33.1609	0.0134	0.0119	0.7608	0.7380
Hutchinson	2285002007	0.5220	0.9871	9.7882	0.0040	0.0035	0.2246	0.2178
Hutchinson	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Irion	2285002007	1.0211	1.9309	19.1461	0.0077	0.0069	0.4393	0.4261
Jackson	2285002006	4.0898	28.7240	106.8088	0.1006	0.0896	2.4814	2.4070
Jackson	2285002007	0.2610	0.4934	4.8928	0.0020	0.0018	0.1123	0.1089
Jasper	2285002007	2.6741	5.0565	50.1393	0.0202	0.0180	1.1504	1.1159
Jasper	2285002010	0.6984	1.7570	20.2905	0.0059	0.0052	0.2590	0.2512
Jeff Davis	2285002006	2.5340	17.7970	66.1772	0.0623	0.0555	1.5375	1.4913
Jeff Davis	2285002008	0.1630	1.3292	4.6430	0.0047	0.0041	0.1048	0.1017
Jefferson	2285002006	6.8509	48.1162	178.9178	0.1685	0.1500	4.1567	4.0320
Jefferson	2285002008	0.1369	1.1165	3.9000	0.0039	0.0035	0.0881	0.0854
Jefferson	2285002010	8.2782	20.8264	233.2743	0.0698	0.0621	3.0697	2.9777
Jim Hogg	2285002006	1.3199	9.2704	34.4713	0.0325	0.0289	0.8008	0.7768
Jim Wells	2285002006	2.0389	14.3196	53.2467	0.0502	0.0446	1.2370	1.1999
Johnson	2285002006	10.2827	72.2187	268.5416	0.2530	0.2252	6.2388	6.0517
Johnson	2285002007	0.6249	1.1816	11.7165	0.0047	0.0042	0.2688	0.2608
Johnson	2285002008	0.1564	1.2756	4.4557	0.0045	0.0040	0.1006	0.0976
Johnson	2285002010	0.0074	0.0186	13.1459	0.0001	0.0001	0.0027	0.0027
Kaufman	2285002006	3.7031	26.0084	96.7109	0.0911	0.0811	2.2468	2.1794

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Kaufman	2285002008	0.1669	1.3612	4.7547	0.0048	0.0042	0.1074	0.1041
Kenedy	2285002006	1.2184	8.5574	31.8203	0.0300	0.0267	0.7393	0.7171
Kinney	2285002006	7.5258	52.8561	196.5426	0.1851	0.1648	4.5661	4.4292
Kinney	2285002008	0.2819	2.2995	8.0323	0.0081	0.0072	0.1814	0.1759
Kleberg	2285002006	0.5575	3.9156	14.5600	0.0137	0.0122	0.3383	0.3281
La Salle	2285002006	4.8004	33.7150	125.3674	0.1181	0.1051	2.9126	2.8252
Lamar	2285002007	0.6421	1.2141	12.0388	0.0049	0.0043	0.2762	0.2679
Lamb	2285002006	1.7544	12.3215	45.8167	0.0432	0.0384	1.0644	1.0325
Lampasas	2285002006	4.7508	33.3665	124.0715	0.1169	0.1040	2.8825	2.7960
Lampasas	2285002007	0.3843	0.7268	7.2065	0.0029	0.0026	0.1653	0.1604
Lavaca	2285002006	0.4904	3.4443	12.8074	0.0121	0.0107	0.2975	0.2886
Lee	2285002006	5.2497	36.8704	137.1008	0.1291	0.1150	3.1852	3.0896
Lee	2285002007	0.1615	0.3054	3.0280	0.0012	0.0011	0.0695	0.0674
Leon	2285002006	5.1881	36.4379	135.4924	0.1276	0.1136	3.1478	3.0534
Leon	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Liberty	2285002006	12.3282	86.5848	321.9612	0.3033	0.2700	7.4799	7.2555
Liberty	2285002008	0.2212	1.8044	6.3029	0.0063	0.0056	0.1423	0.1381
Liberty	2285002010	13.4030	33.7193	230.8016	0.1131	0.1006	4.9701	4.8210
Limestone	2285002006	6.4390	45.2233	168.1605	0.1584	0.1410	3.9068	3.7896
Lipscomb	2285002006	7.2242	50.7380	188.6666	0.1777	0.1582	4.3832	4.2517
Live Oak	2285002006	1.4794	10.3906	38.6371	0.0364	0.0324	0.8976	0.8707
Live Oak	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Llano	2285002007	0.3718	0.7031	6.9721	0.0028	0.0025	0.1600	0.1552
Lubbock	2285002006	3.6799	25.8449	96.1030	0.0905	0.0806	2.2327	2.1657
Lubbock	2285002007	1.8891	3.5720	35.4195	0.0143	0.0127	0.8127	0.7883
Lubbock	2285002010	3.1398	7.8990	53.1032	0.0265	0.0236	1.1643	1.1294
Lynn	2285002006	0.1921	1.3493	5.0171	0.0047	0.0042	0.1166	0.1131
Lynn	2285002007	0.0483	0.0914	0.9059	0.0004	0.0003	0.0208	0.0202
Madison	2285002006	0.7944	5.5796	20.7473	0.0195	0.0174	0.4820	0.4675
Marion	2285002006	4.8818	34.2865	127.4927	0.1201	0.1069	2.9620	2.8731
Marion	2285002008	0.0851	0.6943	2.4252	0.0024	0.0022	0.0548	0.0531
Martin	2285002006	1.6765	11.7746	43.7832	0.0412	0.0367	1.0172	0.9867
Matagorda	2285002006	3.1576	22.1768	82.4634	0.0777	0.0691	1.9158	1.8583
Matagorda	2285002007	0.0587	0.1109	1.1002	0.0004	0.0004	0.0252	0.0245
Matagorda	2285002010	0.0222	0.0558	4.4900	0.0002	0.0002	0.0082	0.0080
Maverick	2285002006	3.7698	26.4765	98.4516	0.0927	0.0825	2.2873	2.2186
Maverick	2285002007	0.0234	0.0442	0.4378	0.0002	0.0002	0.0100	0.0097
Maverick	2285002010	0.4603	1.1580	7.7850	0.0039	0.0035	0.1707	0.1656
McCulloch	2285002007	0.5183	0.9800	9.7178	0.0039	0.0035	0.2230	0.2163
McLennan	2285002006	12.2449	85.9997	319.7857	0.3012	0.2681	7.4294	7.2065
McLennan	2285002008	0.1777	1.4496	5.0637	0.0051	0.0045	0.1143	0.1109
McLennan	2285002010	5.6070	14.1062	94.8324	0.0473	0.0421	2.0792	2.0168
Medina	2285002006	11.7872	82.7855	307.8337	0.2900	0.2581	7.1517	6.9371
Medina	2285002007	0.0485	0.0917	0.9092	0.0004	0.0003	0.0209	0.0202
Medina	2285002008	0.2677	2.1836	7.6273	0.0076	0.0068	0.1722	0.1671
Medina	2285002010	0.0074	0.0186	1.3910	0.0001	0.0001	0.0027	0.0027
Midland	2285002006	3.4554	24.2684	90.2407	0.0850	0.0757	2.0965	2.0336
Milam	2285002006	15.6683	110.0431	409.1898	0.3855	0.3431	9.5064	9.2212
Milam	2285002007	0.1782	0.3370	3.3413	0.0013	0.0012	0.0767	0.0744
Milam	2285002010	0.0222	0.0558	0.3749	0.0002	0.0002	0.0082	0.0080
Mills	2285002006	3.8618	27.1224	100.8532	0.0950	0.0846	2.3431	2.2728
Mills	2285002007	0.0163	0.0308	0.3053	0.0001	0.0001	0.0070	0.0068
Mitchell	2285002006	5.0170	35.2361	131.0235	0.1234	0.1099	3.0440	2.9527
Montague	2285002006	4.7643	33.4613	124.4241	0.1172	0.1043	2.8907	2.8039
Montgomery	2285002006	9.6112	67.5022	251.0035	0.2364	0.2105	5.8314	5.6565
Montgomery	2285002010	0.0074	0.0186	1.4967	0.0001	0.0001	0.0027	0.0027

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Moore	2285002006	6.9679	48.9378	181.9726	0.1714	0.1526	4.2276	4.1008
Moore	2285002007	0.9776	1.8485	18.3296	0.0074	0.0066	0.4205	0.4079
Moore	2285002010	0.7206	1.8128	12.1868	0.0061	0.0054	0.2672	0.2592
Morris	2285002006	2.3693	16.6405	61.8768	0.0583	0.0519	1.4375	1.3944
Morris	2285002007	0.1853	0.3504	3.4743	0.0014	0.0012	0.0797	0.0773
Morris	2285002010	0.0563	0.1416	5.7696	0.0005	0.0004	0.0209	0.0202
Nacogdoches	2285002006	2.5804	18.1232	67.3902	0.0635	0.0565	1.5656	1.5187
Nacogdoches	2285002010	0.8615	2.1673	23.0489	0.0073	0.0065	0.3195	0.3099
Navarro	2285002006	8.6079	60.4558	224.8017	0.2118	0.1885	5.2227	5.0660
Navarro	2285002010	0.8615	2.1673	27.5913	0.0073	0.0065	0.3195	0.3099
Newton	2285002006	0.8953	6.2878	23.3808	0.0220	0.0196	0.5432	0.5269
Newton	2285002007	0.5025	0.9502	9.4225	0.0038	0.0034	0.2162	0.2097
Nolan	2285002006	6.9225	48.6187	180.7862	0.1703	0.1516	4.2001	4.0741
Nolan	2285002007	0.3099	0.5861	5.8113	0.0023	0.0021	0.1333	0.1293
Nolan	2285002010	0.3492	0.8785	5.9060	0.0029	0.0026	0.1295	0.1256
Nueces	2285002006	3.6890	25.9092	96.3420	0.0908	0.0808	2.2382	2.1711
Nueces	2285002007	0.3600	0.6807	6.7502	0.0027	0.0024	0.1549	0.1502
Nueces	2285002010	3.3821	8.5087	57.2021	0.0285	0.0254	1.2542	1.2165
Oldham	2285002006	1.1937	8.3836	31.1738	0.0294	0.0261	0.7242	0.7025
Orange	2285002006	6.8040	47.7868	177.6929	0.1674	0.1490	4.1282	4.0044
Orange	2285002007	0.7008	1.3251	13.1392	0.0053	0.0047	0.3015	0.2924
Orange	2285002008	0.2045	1.6683	5.8276	0.0058	0.0052	0.1316	0.1276
Orange	2285002010	1.3587	3.4183	107.7654	0.0115	0.0102	0.5038	0.4887
Palo Pinto	2285002006	6.5907	46.2884	172.1210	0.1621	0.1443	3.9988	3.8788
Panola	2285002006	0.7308	5.1326	19.0851	0.0180	0.0160	0.4434	0.4301
Panola	2285002007	0.5331	1.0080	9.9951	0.0040	0.0036	0.2293	0.2224
Panola	2285002010	0.6984	1.7570	13.4179	0.0059	0.0052	0.2590	0.2512
Parker	2285002006	6.2693	44.0315	163.7287	0.1542	0.1373	3.8038	3.6897
Parker	2285002007	0.0118	0.0223	0.2215	0.0001	0.0001	0.0051	0.0049
Parmer	2285002006	30.0378	210.9648	784.4621	0.7390	0.6577	18.2249	17.6781
Parmer	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Pecos	2285002006	0.6783	4.7637	17.7136	0.0167	0.0149	0.4115	0.3992
Pecos	2285002007	1.6609	3.1406	31.1415	0.0126	0.0112	0.7145	0.6931
Pecos	2285002008	0.0531	0.4333	1.5137	0.0015	0.0014	0.0342	0.0332
Polk	2285002006	2.3383	16.4229	61.0678	0.0575	0.0512	1.4187	1.3762
Polk	2285002007	0.0650	0.1229	1.2191	0.0005	0.0004	0.0280	0.0271
Potter	2285002006	23.0568	161.9356	602.1492	0.5672	0.5049	13.9893	13.5696
Potter	2285002010	7.3967	18.6087	125.1013	0.0624	0.0555	2.7429	2.6606
Presidio	2285002006	3.5305	24.7959	92.2023	0.0869	0.0773	2.1421	2.0778
Presidio	2285002007	1.8668	3.5299	35.0018	0.0141	0.0126	0.8031	0.7790
Presidio	2285002008	0.2765	2.2553	7.8779	0.0079	0.0070	0.1779	0.1726
Randall	2285002006	24.4612	171.7986	638.8246	0.6018	0.5356	14.8414	14.3961
Randall	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Reagan	2285002007	0.7360	1.3916	13.7990	0.0056	0.0050	0.3166	0.3071
Reeves	2285002006	5.6424	39.6284	147.3561	0.1388	0.1236	3.4234	3.3207
Reeves	2285002007	0.8500	1.6072	15.9371	0.0064	0.0057	0.3657	0.3547
Reeves	2285002010	0.0103	0.0259	0.1738	0.0001	0.0001	0.0038	0.0037
Refugio	2285002006	4.5377	31.8697	118.5059	0.1116	0.0994	2.7532	2.6706
Roberts	2285002006	11.3532	79.7374	296.4994	0.2793	0.2486	6.8884	6.6817
Robertson	2285002006	14.6760	103.0743	383.2765	0.3610	0.3214	8.9044	8.6373
Robertson	2285002010	1.2922	3.2510	21.8556	0.0109	0.0097	0.4792	0.4648
Rockwall	2285002007	0.3966	0.7499	7.4361	0.0030	0.0027	0.1706	0.1655
Runnels	2285002007	0.8284	1.5664	15.5321	0.0063	0.0056	0.3564	0.3457
Runnels	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Rusk	2285002006	1.6420	11.5325	42.8831	0.0404	0.0360	0.9963	0.9664
Rusk	2285002007	0.3523	0.6663	6.6065	0.0027	0.0024	0.1516	0.1470

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Rusk	2285002010	0.0074	0.0186	1.7309	0.0001	0.0001	0.0027	0.0027
Sabine	2285002007	0.5400	1.0211	10.1254	0.0041	0.0036	0.2323	0.2253
San Augustine	2285002007	0.4914	0.9292	9.2136	0.0037	0.0033	0.2114	0.2051
San Jacinto	2285002006	0.7849	5.5129	20.4995	0.0193	0.0172	0.4763	0.4620
San Patricio	2285002006	3.4077	23.9335	88.9955	0.0838	0.0746	2.0676	2.0055
San Patricio	2285002010	0.8763	2.2045	14.8203	0.0074	0.0066	0.3249	0.3152
San Saba	2285002007	1.0771	2.0367	20.1953	0.0082	0.0073	0.4634	0.4495
Scurry	2285002006	3.4620	24.3151	90.4144	0.0852	0.0758	2.1005	2.0375
Shelby	2285002006	2.4752	17.3839	64.6410	0.0609	0.0542	1.5018	1.4567
Shelby	2285002007	0.8114	1.5342	15.2129	0.0061	0.0055	0.3490	0.3386
Shelby	2285002010	0.6984	1.7570	20.2905	0.0059	0.0052	0.2590	0.2512
Sherman	2285002006	9.7683	68.6056	255.1063	0.2403	0.2139	5.9267	5.7489
Smith	2285002006	4.6449	32.6224	121.3047	0.1143	0.1017	2.8182	2.7336
Smith	2285002008	0.0101	0.0820	0.2864	0.0003	0.0003	0.0065	0.0063
Smith	2285002010	1.7230	4.3346	32.3526	0.0145	0.0129	0.6389	0.6197
Somervell	2285002007	0.0550	0.1040	1.0308	0.0004	0.0004	0.0236	0.0229
Starr	2285002007	0.4666	0.8822	8.7478	0.0035	0.0031	0.2007	0.1947
Stephens	2285002006	1.0255	7.2025	26.7823	0.0252	0.0225	0.6222	0.6035
Swisher	2285002006	2.4680	17.3335	64.4537	0.0607	0.0540	1.4974	1.4525
Swisher	2285002007	0.0434	0.0820	0.8128	0.0003	0.0003	0.0186	0.0181
Tarrant	2285002006	29.1925	205.0285	762.3883	0.7182	0.6392	17.7121	17.1807
Tarrant	2285002007	2.3437	4.4316	43.9434	0.0177	0.0158	1.0082	0.9780
Tarrant	2285002008	0.3567	2.9091	10.1619	0.0102	0.0091	0.2295	0.2226
Tarrant	2285002009	1.2965	10.5741	36.9362	0.0370	0.0330	0.8340	0.8090
Tarrant	2285002010	15.0662	37.9036	332.9418	0.1271	0.1131	5.5869	5.4193
Taylor	2285002006	9.4412	66.3083	246.5639	0.2323	0.2067	5.7283	5.5564
Taylor	2285002007	0.2558	0.4836	4.7955	0.0019	0.0017	0.1100	0.1067
Taylor	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Terrell	2285002006	4.7217	33.1620	123.3113	0.1162	0.1034	2.8648	2.7789
Terrell	2285002008	0.3735	3.0462	10.6406	0.0107	0.0095	0.2403	0.2331
Terry	2285002007	0.8743	1.6533	16.3938	0.0066	0.0059	0.3761	0.3649
Titus	2285002006	2.2696	15.9405	59.2738	0.0558	0.0497	1.3771	1.3358
Titus	2285002007	0.7566	1.4307	14.1869	0.0057	0.0051	0.3255	0.3157
Titus	2285002010	0.8689	2.1859	17.9072	0.0073	0.0065	0.3222	0.3125
Tom Green	2285002007	0.8437	1.5953	15.8183	0.0064	0.0057	0.3629	0.3520
Tom Green	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Travis	2285002006	3.4020	23.8935	88.8468	0.0837	0.0745	2.0641	2.0022
Travis	2285002007	1.1701	2.2125	21.9392	0.0089	0.0079	0.5034	0.4883
Travis	2285002008	0.1648	1.3441	4.6951	0.0047	0.0042	0.1060	0.1028
Travis	2285002010	0.2004	0.5042	3.3898	0.0017	0.0015	0.0743	0.0721
Trinity	2285002006	1.4599	10.2532	38.1259	0.0359	0.0320	0.8858	0.8592
Upshur	2285002006	4.8475	34.0453	126.5958	0.1193	0.1061	2.9411	2.8529
Upshur	2285002008	0.0733	0.5979	2.0884	0.0021	0.0019	0.0472	0.0457
Upton	2285002007	0.8098	1.5313	15.1838	0.0061	0.0055	0.3484	0.3379
Uvalde	2285002006	10.5859	74.3481	276.4598	0.2604	0.2318	6.4228	6.2301
Uvalde	2285002008	0.2829	2.3077	8.0609	0.0081	0.0072	0.1820	0.1766
Uvalde	2285002010	0.8689	2.1859	17.2274	0.0073	0.0065	0.3222	0.3125
Val Verde	2285002006	7.2269	50.7565	188.7356	0.1778	0.1582	4.3848	4.2532
Val Verde	2285002008	0.5665	4.6201	16.1384	0.0162	0.0144	0.3644	0.3535
Van Zandt	2285002006	3.9404	27.6749	102.9078	0.0969	0.0863	2.3908	2.3191
Van Zandt	2285002008	0.1776	1.4489	5.0611	0.0051	0.0045	0.1143	0.1109
Victoria	2285002006	5.5914	39.2702	146.0243	0.1376	0.1224	3.3925	3.2907
Victoria	2285002010	2.1685	5.4555	36.6758	0.0183	0.0163	0.8041	0.7800
Walker	2285002006	2.4414	17.1469	63.7599	0.0601	0.0535	1.4813	1.4369
Waller	2285002006	0.5089	3.5743	13.2908	0.0125	0.0111	0.3088	0.2995
Waller	2285002010	0.8689	2.1859	17.4388	0.0073	0.0065	0.3222	0.3125

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ward	2285002006	5.6356	39.5803	147.1775	0.1386	0.1234	3.4193	3.3167
Ward	2285002007	0.2038	0.3853	3.8205	0.0015	0.0014	0.0877	0.0850
Ward	2285002010	0.8615	2.1673	14.5704	0.0073	0.0065	0.3195	0.3099
Washington	2285002006	3.3182	23.3051	86.6587	0.0816	0.0727	2.0133	1.9529
Washington	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Webb	2285002006	9.5566	67.1191	249.5788	0.2351	0.2093	5.7983	5.6243
Webb	2285002010	3.1210	7.8517	52.7851	0.0263	0.0234	1.1573	1.1226
Wharton	2285002006	6.3766	44.7848	166.5301	0.1569	0.1396	3.8689	3.7528
Wharton	2285002008	0.0769	0.6274	2.1916	0.0022	0.0020	0.0495	0.0480
Wichita	2285002006	5.8517	41.0983	152.8218	0.1440	0.1281	3.5504	3.4439
Wichita	2285002007	0.5187	0.9808	9.7253	0.0039	0.0035	0.2231	0.2164
Wichita	2285002010	0.3861	0.9714	6.5308	0.0033	0.0029	0.1432	0.1389
Wilbarger	2285002006	6.0373	42.4016	157.6681	0.1485	0.1322	3.6630	3.5531
Wilbarger	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Willacy	2285002006	0.4699	3.3005	12.2728	0.0116	0.0103	0.2851	0.2766
Williamson	2285002006	5.7328	40.2635	149.7179	0.1410	0.1255	3.4783	3.3739
Williamson	2285002007	1.8277	3.4560	34.2697	0.0138	0.0123	0.7863	0.7627
Williamson	2285002008	0.2356	1.9216	6.7123	0.0067	0.0060	0.1516	0.1470
Williamson	2285002010	0.9132	2.2974	15.4451	0.0077	0.0069	0.3386	0.3285
Wilson	2285002010	1.2922	3.2510	23.1216	0.0109	0.0097	0.4792	0.4648
Winkler	2285002007	0.7495	1.4172	14.0529	0.0057	0.0050	0.3224	0.3128
Wise	2285002006	8.4642	59.4468	221.0499	0.2082	0.1853	5.1355	4.9814
Wise	2285002010	1.2922	3.2510	34.8765	0.0109	0.0097	0.4792	0.4648
Wood	2285002006	4.0335	28.3286	105.3385	0.0992	0.0883	2.4473	2.3738
Wood	2285002008	0.1591	1.2975	4.5323	0.0045	0.0040	0.1023	0.0993
Wood	2285002010	1.7230	4.3346	30.7467	0.0145	0.0129	0.6389	0.6197

[1] Pb emissions were less than 1 ton/ year,

[2] SCC represents the following categories: 2285002006: Line Haul Locomotives: Class I Operations, 2285002007: Line Haul Locomotives: Class II / III Operations, 2285002008: Line Haul Locomotives: Passenger Trains (Amtrak), 2285002009: Line Haul Locomotives: Commuter Lines, and 2285002010: Yard Locomotives.

Uncontrolled 2020 Summer Weekday County-Level Emissions by Criteria Pollutant (tons/day).

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Anderson	2285002006	0.0151	0.1060	0.3943	0.0004	0.0003	0.0092	0.0089
Anderson	2285002007	0.0023	0.0044	0.0433	0.0000	0.0000	0.0010	0.0010
Anderson	2285002010	0.0035	0.0089	0.0643	0.0000	0.0000	0.0013	0.0013
Andrews	2285002007	0.0003	0.0006	0.0055	0.0000	0.0000	0.0001	0.0001
Angelina	2285002006	0.0041	0.0290	0.1079	0.0001	0.0001	0.0025	0.0024
Angelina	2285002007	0.0002	0.0005	0.0046	0.0000	0.0000	0.0001	0.0001
Angelina	2285002010	0.0012	0.0030	0.0668	0.0000	0.0000	0.0004	0.0004
Armstrong	2285002006	0.0157	0.1105	0.4109	0.0004	0.0003	0.0095	0.0093
Atascosa	2285002006	0.0041	0.0288	0.1070	0.0001	0.0001	0.0025	0.0024
Atascosa	2285002010	0.0000	0.0001	0.0038	0.0000	0.0000	0.0000	0.0000
Austin	2285002006	0.0233	0.1636	0.6085	0.0006	0.0005	0.0141	0.0137
Austin	2285002010	0.0000	0.0001	0.0082	0.0000	0.0000	0.0000	0.0000
Bailey	2285002006	0.0029	0.0202	0.0751	0.0001	0.0001	0.0017	0.0017
Bastrop	2285002006	0.0126	0.0886	0.3296	0.0003	0.0003	0.0077	0.0074
Bastrop	2285002007	0.0015	0.0028	0.0278	0.0000	0.0000	0.0006	0.0006
Bastrop	2285002010	0.0024	0.0059	0.0399	0.0000	0.0000	0.0009	0.0008
Bell	2285002006	0.0365	0.2564	0.9536	0.0009	0.0008	0.0222	0.0215
Bell	2285002007	0.0011	0.0020	0.0200	0.0000	0.0000	0.0005	0.0004
Bell	2285002008	0.0006	0.0049	0.0172	0.0000	0.0000	0.0004	0.0004
Bell	2285002010	0.0052	0.0131	0.0880	0.0000	0.0000	0.0019	0.0019
Bexar	2285002006	0.0504	0.3542	1.3169	0.0012	0.0011	0.0306	0.0297
Bexar	2285002007	0.0011	0.0020	0.0197	0.0000	0.0000	0.0005	0.0004
Bexar	2285002008	0.0014	0.0114	0.0399	0.0000	0.0000	0.0009	0.0009
Bexar	2285002010	0.0183	0.0461	0.3342	0.0002	0.0001	0.0068	0.0066
Bosque	2285002006	0.0277	0.1944	0.7229	0.0007	0.0006	0.0168	0.0163
Bosque	2285002008	0.0007	0.0055	0.0191	0.0000	0.0000	0.0004	0.0004
Bowie	2285002006	0.0280	0.1967	0.7316	0.0007	0.0006	0.0170	0.0165
Bowie	2285002007	0.0073	0.0138	0.1371	0.0001	0.0000	0.0031	0.0031
Bowie	2285002008	0.0002	0.0012	0.0043	0.0000	0.0000	0.0001	0.0001
Brazoria	2285002006	0.0281	0.1974	0.7341	0.0007	0.0006	0.0171	0.0165
Brazoria	2285002010	0.0162	0.0407	0.3115	0.0001	0.0001	0.0060	0.0058
Brazos	2285002006	0.0212	0.1488	0.5531	0.0005	0.0005	0.0129	0.0125
Brazos	2285002010	0.0012	0.0030	0.0200	0.0000	0.0000	0.0004	0.0004
Brewster	2285002006	0.0176	0.1236	0.4596	0.0004	0.0004	0.0107	0.0104
Brewster	2285002007	0.0024	0.0045	0.0446	0.0000	0.0000	0.0010	0.0010
Brewster	2285002008	0.0014	0.0112	0.0393	0.0000	0.0000	0.0009	0.0009
Brown	2285002006	0.0094	0.0661	0.2456	0.0002	0.0002	0.0057	0.0055
Brown	2285002007	0.0023	0.0043	0.0423	0.0000	0.0000	0.0010	0.0009
Burleson	2285002006	0.0374	0.2627	0.9770	0.0009	0.0008	0.0227	0.0220
Burleson	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Burnet	2285002007	0.0023	0.0043	0.0423	0.0000	0.0000	0.0010	0.0009
Caldwell	2285002006	0.0129	0.0905	0.3365	0.0003	0.0003	0.0078	0.0076
Caldwell	2285002008	0.0002	0.0014	0.0051	0.0000	0.0000	0.0001	0.0001
Calhoun	2285002007	0.0002	0.0004	0.0039	0.0000	0.0000	0.0001	0.0001
Calhoun	2285002010	0.0012	0.0030	0.0203	0.0000	0.0000	0.0004	0.0004
Callahan	2285002006	0.0151	0.1063	0.3951	0.0004	0.0003	0.0092	0.0089
Cameron	2285002006	0.0022	0.0157	0.0585	0.0001	0.0000	0.0014	0.0013
Cameron	2285002007	0.0028	0.0053	0.0522	0.0000	0.0000	0.0012	0.0012
Cameron	2285002010	0.0025	0.0063	0.0423	0.0000	0.0000	0.0009	0.0009
Camp	2285002006	0.0079	0.0553	0.2055	0.0002	0.0002	0.0048	0.0046
Camp	2285002007	0.0006	0.0010	0.0104	0.0000	0.0000	0.0002	0.0002
Carson	2285002006	0.0647	0.4541	1.6887	0.0016	0.0014	0.0392	0.0381
Carson	2285002007	0.0025	0.0047	0.0463	0.0000	0.0000	0.0011	0.0010

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Carson	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Cass	2285002006	0.0302	0.2119	0.7880	0.0007	0.0007	0.0183	0.0178
Cass	2285002008	0.0006	0.0046	0.0161	0.0000	0.0000	0.0004	0.0004
Cass	2285002010	0.0009	0.0023	0.0201	0.0000	0.0000	0.0003	0.0003
Castro	2285002006	0.0048	0.0335	0.1245	0.0001	0.0001	0.0029	0.0028
Castro	2285002007	0.0016	0.0030	0.0296	0.0000	0.0000	0.0007	0.0007
Castro	2285002010	0.0029	0.0072	0.0485	0.0000	0.0000	0.0011	0.0010
Chambers	2285002006	0.0007	0.0052	0.0193	0.0000	0.0000	0.0004	0.0004
Chambers	2285002010	0.0024	0.0061	0.0560	0.0000	0.0000	0.0009	0.0009
Cherokee	2285002006	0.0129	0.0905	0.3365	0.0003	0.0003	0.0078	0.0076
Cherokee	2285002007	0.0021	0.0039	0.0384	0.0000	0.0000	0.0009	0.0009
Childress	2285002006	0.0137	0.0962	0.3577	0.0003	0.0003	0.0083	0.0081
Clay	2285002006	0.0151	0.1059	0.3938	0.0004	0.0003	0.0091	0.0089
Cochran	2285002007	0.0001	0.0001	0.0014	0.0000	0.0000	0.0000	0.0000
Coleman	2285002006	0.0126	0.0883	0.3283	0.0003	0.0003	0.0076	0.0074
Coleman	2285002007	0.0014	0.0027	0.0271	0.0000	0.0000	0.0006	0.0006
Collin	2285002006	0.0099	0.0697	0.2592	0.0002	0.0002	0.0060	0.0058
Collin	2285002007	0.0043	0.0081	0.0802	0.0000	0.0000	0.0018	0.0018
Collin	2285002010	0.0019	0.0047	0.0670	0.0000	0.0000	0.0007	0.0007
Colorado	2285002006	0.0164	0.1151	0.4280	0.0004	0.0004	0.0099	0.0096
Colorado	2285002008	0.0006	0.0053	0.0184	0.0000	0.0000	0.0004	0.0004
Colorado	2285002010	0.0024	0.0059	0.0437	0.0000	0.0000	0.0009	0.0008
Comal	2285002006	0.0102	0.0719	0.2672	0.0003	0.0002	0.0062	0.0060
Comal	2285002007	0.0001	0.0003	0.0025	0.0000	0.0000	0.0001	0.0001
Comal	2285002008	0.0009	0.0070	0.0245	0.0000	0.0000	0.0006	0.0005
Comal	2285002010	0.0048	0.0120	0.0982	0.0000	0.0000	0.0018	0.0017
Comanche	2285002007	0.0037	0.0069	0.0686	0.0000	0.0000	0.0016	0.0015
Cooke	2285002006	0.0134	0.0938	0.3488	0.0003	0.0003	0.0081	0.0079
Cooke	2285002008	0.0004	0.0031	0.0107	0.0000	0.0000	0.0002	0.0002
Coryell	2285002006	0.0032	0.0223	0.0831	0.0001	0.0001	0.0019	0.0019
Coryell	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Crane	2285002006	0.0005	0.0036	0.0135	0.0000	0.0000	0.0003	0.0003
Crane	2285002007	0.0002	0.0005	0.0045	0.0000	0.0000	0.0001	0.0001
Crockett	2285002007	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Culberson	2285002006	0.0203	0.1428	0.5310	0.0005	0.0004	0.0123	0.0120
Culberson	2285002008	0.0003	0.0026	0.0092	0.0000	0.0000	0.0002	0.0002
Dallam	2285002006	0.0216	0.1515	0.5633	0.0005	0.0005	0.0131	0.0127
Dallam	2285002010	0.0035	0.0089	0.0599	0.0000	0.0000	0.0013	0.0013
Dallas	2285002006	0.0270	0.1893	0.7039	0.0007	0.0006	0.0164	0.0159
Dallas	2285002007	0.0091	0.0171	0.1701	0.0001	0.0001	0.0039	0.0038
Dallas	2285002008	0.0006	0.0050	0.0176	0.0000	0.0000	0.0004	0.0004
Dallas	2285002009	0.0025	0.0206	0.0721	0.0001	0.0001	0.0016	0.0016
Dallas	2285002010	0.0197	0.0494	0.5822	0.0002	0.0001	0.0073	0.0071
De Witt	2285002006	0.0015	0.0107	0.0399	0.0000	0.0000	0.0009	0.0009
Deaf Smith	2285002006	0.0465	0.3268	1.2151	0.0011	0.0010	0.0282	0.0274
Deaf Smith	2285002010	0.0010	0.0024	0.0162	0.0000	0.0000	0.0004	0.0003
Delta	2285002007	0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000
Denton	2285002006	0.0426	0.2993	1.1130	0.0010	0.0009	0.0259	0.0251
Denton	2285002007	0.0020	0.0039	0.0383	0.0000	0.0000	0.0009	0.0009
Denton	2285002008	0.0006	0.0046	0.0161	0.0000	0.0000	0.0004	0.0004
Denton	2285002009	0.0015	0.0120	0.0419	0.0000	0.0000	0.0009	0.0009
Denton	2285002010	0.0093	0.0234	0.2997	0.0001	0.0001	0.0034	0.0033
Donley	2285002006	0.0186	0.1309	0.4867	0.0005	0.0004	0.0113	0.0110
Duval	2285002006	0.0133	0.0937	0.3482	0.0003	0.0003	0.0081	0.0078
Eastland	2285002006	0.0156	0.1096	0.4075	0.0004	0.0003	0.0095	0.0092
Eastland	2285002007	0.0001	0.0001	0.0010	0.0000	0.0000	0.0000	0.0000

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ector	2285002006	0.0113	0.0792	0.2945	0.0003	0.0002	0.0068	0.0066
Ector	2285002010	0.0071	0.0178	0.1198	0.0001	0.0001	0.0026	0.0025
El Paso	2285002006	0.0436	0.3064	1.1392	0.0011	0.0010	0.0265	0.0257
El Paso	2285002007	0.0008	0.0016	0.0154	0.0000	0.0000	0.0004	0.0003
El Paso	2285002008	0.0009	0.0072	0.0250	0.0000	0.0000	0.0006	0.0005
El Paso	2285002010	0.0233	0.0585	0.3935	0.0002	0.0002	0.0086	0.0084
Ellis	2285002006	0.0206	0.1450	0.5393	0.0005	0.0005	0.0125	0.0122
Ellis	2285002010	0.0083	0.0208	0.1754	0.0001	0.0001	0.0031	0.0030
Erath	2285002007	0.0036	0.0068	0.0672	0.0000	0.0000	0.0015	0.0015
Erath	2285002010	0.0000	0.0001	0.0720	0.0000	0.0000	0.0000	0.0000
Falls	2285002006	0.0114	0.0803	0.2986	0.0003	0.0003	0.0069	0.0067
Fannin	2285002007	0.0040	0.0075	0.0747	0.0000	0.0000	0.0017	0.0017
Fayette	2285002006	0.0354	0.2484	0.9238	0.0009	0.0008	0.0215	0.0208
Fayette	2285002008	0.0004	0.0032	0.0112	0.0000	0.0000	0.0003	0.0002
Fayette	2285002010	0.0024	0.0060	0.0403	0.0000	0.0000	0.0009	0.0009
Fisher	2285002006	0.0049	0.0342	0.1270	0.0001	0.0001	0.0030	0.0029
Fort Bend	2285002006	0.0461	0.3236	1.2032	0.0011	0.0010	0.0280	0.0271
Fort Bend	2285002007	0.0002	0.0004	0.0041	0.0000	0.0000	0.0001	0.0001
Fort Bend	2285002008	0.0006	0.0047	0.0165	0.0000	0.0000	0.0004	0.0004
Fort Bend	2285002010	0.0015	0.0036	0.0396	0.0000	0.0000	0.0005	0.0005
Franklin	2285002006	0.0010	0.0070	0.0260	0.0000	0.0000	0.0006	0.0006
Franklin	2285002007	0.0005	0.0010	0.0096	0.0000	0.0000	0.0002	0.0002
Freestone	2285002006	0.0088	0.0616	0.2292	0.0002	0.0002	0.0053	0.0052
Freestone	2285002010	0.0019	0.0048	0.0324	0.0000	0.0000	0.0007	0.0007
Frio	2285002006	0.0129	0.0906	0.3369	0.0003	0.0003	0.0078	0.0076
Gaines	2285002007	0.0003	0.0005	0.0049	0.0000	0.0000	0.0001	0.0001
Galveston	2285002006	0.0113	0.0794	0.2951	0.0003	0.0002	0.0069	0.0067
Galveston	2285002007	0.0026	0.0049	0.0484	0.0000	0.0000	0.0011	0.0011
Galveston	2285002010	0.0036	0.0090	0.0677	0.0000	0.0000	0.0013	0.0013
Garza	2285002006	0.0100	0.0705	0.2622	0.0002	0.0002	0.0061	0.0059
Goliad	2285002006	0.0001	0.0007	0.0026	0.0000	0.0000	0.0001	0.0001
Gonzales	2285002006	0.0142	0.1000	0.3720	0.0004	0.0003	0.0086	0.0084
Gonzales	2285002007	0.0065	0.0123	0.1218	0.0000	0.0000	0.0028	0.0027
Gonzales	2285002008	0.0004	0.0031	0.0110	0.0000	0.0000	0.0002	0.0002
Gonzales	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Gray	2285002006	0.0345	0.2422	0.9007	0.0008	0.0008	0.0209	0.0203
Gray	2285002010	0.0019	0.0049	0.0327	0.0000	0.0000	0.0007	0.0007
Grayson	2285002006	0.0364	0.2558	0.9512	0.0009	0.0008	0.0221	0.0214
Grayson	2285002007	0.0094	0.0177	0.1760	0.0001	0.0001	0.0040	0.0039
Grayson	2285002010	0.0059	0.0149	0.1715	0.0000	0.0000	0.0022	0.0021
Gregg	2285002006	0.0129	0.0908	0.3375	0.0003	0.0003	0.0078	0.0076
Gregg	2285002008	0.0003	0.0022	0.0078	0.0000	0.0000	0.0002	0.0002
Gregg	2285002010	0.0094	0.0238	0.1685	0.0001	0.0001	0.0035	0.0034
Grimes	2285002006	0.0172	0.1208	0.4492	0.0004	0.0004	0.0104	0.0101
Grimes	2285002007	0.0008	0.0015	0.0147	0.0000	0.0000	0.0003	0.0003
Grimes	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Guadalupe	2285002006	0.0232	0.1627	0.6051	0.0006	0.0005	0.0141	0.0136
Guadalupe	2285002008	0.0006	0.0051	0.0179	0.0000	0.0000	0.0004	0.0004
Guadalupe	2285002010	0.0024	0.0059	0.0434	0.0000	0.0000	0.0009	0.0008
Hale	2285002006	0.0089	0.0628	0.2336	0.0002	0.0002	0.0054	0.0053
Hale	2285002007	0.0018	0.0035	0.0344	0.0000	0.0000	0.0008	0.0008
Hale	2285002010	0.0039	0.0098	0.0660	0.0000	0.0000	0.0014	0.0014
Hall	2285002006	0.0085	0.0600	0.2230	0.0002	0.0002	0.0052	0.0050
Hansford	2285002007	0.0001	0.0001	0.0010	0.0000	0.0000	0.0000	0.0000
Hardeman	2285002006	0.0155	0.1091	0.4056	0.0004	0.0003	0.0094	0.0091
Hardeman	2285002007	0.0006	0.0012	0.0118	0.0000	0.0000	0.0003	0.0003

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Hardeman	2285002010	0.0019	0.0049	0.0327	0.0000	0.0000	0.0007	0.0007
Hardin	2285002006	0.0084	0.0590	0.2195	0.0002	0.0002	0.0051	0.0049
Hardin	2285002007	0.0007	0.0014	0.0137	0.0000	0.0000	0.0003	0.0003
Hardin	2285002010	0.0069	0.0173	0.1396	0.0001	0.0001	0.0026	0.0025
Harris	2285002006	0.0898	0.6306	2.3448	0.0022	0.0020	0.0545	0.0528
Harris	2285002007	0.0094	0.0177	0.1759	0.0001	0.0001	0.0040	0.0039
Harris	2285002008	0.0008	0.0065	0.0226	0.0000	0.0000	0.0005	0.0005
Harris	2285002010	0.1765	0.4441	3.1584	0.0015	0.0013	0.0655	0.0635
Harrison	2285002006	0.0332	0.2328	0.8658	0.0008	0.0007	0.0201	0.0195
Harrison	2285002008	0.0006	0.0045	0.0159	0.0000	0.0000	0.0004	0.0003
Harrison	2285002010	0.0012	0.0030	0.0291	0.0000	0.0000	0.0004	0.0004
Hartley	2285002006	0.0212	0.1486	0.5525	0.0005	0.0005	0.0128	0.0125
Hays	2285002006	0.0085	0.0599	0.2229	0.0002	0.0002	0.0052	0.0050
Hays	2285002008	0.0004	0.0035	0.0123	0.0000	0.0000	0.0003	0.0003
Hays	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Hemphill	2285002006	0.0564	0.3963	1.4735	0.0014	0.0012	0.0342	0.0332
Hemphill	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Henderson	2285002006	0.0080	0.0564	0.2098	0.0002	0.0002	0.0049	0.0047
Hidalgo	2285002007	0.0054	0.0103	0.1021	0.0000	0.0000	0.0023	0.0023
Hidalgo	2285002010	0.0001	0.0002	0.0014	0.0000	0.0000	0.0000	0.0000
Hill	2285002006	0.0185	0.1303	0.4844	0.0005	0.0004	0.0113	0.0109
Hill	2285002008	0.0002	0.0014	0.0047	0.0000	0.0000	0.0001	0.0001
Hill	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Hockley	2285002006	0.0011	0.0079	0.0295	0.0000	0.0000	0.0007	0.0007
Hockley	2285002007	0.0024	0.0046	0.0458	0.0000	0.0000	0.0011	0.0010
Hood	2285002007	0.0034	0.0064	0.0633	0.0000	0.0000	0.0015	0.0014
Hood	2285002010	0.0000	0.0001	0.0360	0.0000	0.0000	0.0000	0.0000
Hopkins	2285002006	0.0091	0.0639	0.2377	0.0002	0.0002	0.0055	0.0054
Hopkins	2285002007	0.0030	0.0058	0.0570	0.0000	0.0000	0.0013	0.0013
Houston	2285002006	0.0092	0.0643	0.2392	0.0002	0.0002	0.0056	0.0054
Howard	2285002006	0.0132	0.0924	0.3435	0.0003	0.0003	0.0080	0.0077
Howard	2285002007	0.0002	0.0003	0.0030	0.0000	0.0000	0.0001	0.0001
Howard	2285002010	0.0083	0.0208	0.1397	0.0001	0.0001	0.0031	0.0030
Hudspeth	2285002006	0.0441	0.3099	1.1522	0.0011	0.0010	0.0268	0.0260
Hudspeth	2285002008	0.0013	0.0109	0.0382	0.0000	0.0000	0.0009	0.0008
Hunt	2285002006	0.0054	0.0381	0.1416	0.0001	0.0001	0.0033	0.0032
Hunt	2285002007	0.0048	0.0092	0.0909	0.0000	0.0000	0.0021	0.0020
Hutchinson	2285002007	0.0014	0.0027	0.0268	0.0000	0.0000	0.0006	0.0006
Hutchinson	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Irion	2285002007	0.0028	0.0053	0.0525	0.0000	0.0000	0.0012	0.0012
Jackson	2285002006	0.0112	0.0787	0.2926	0.0003	0.0002	0.0068	0.0066
Jackson	2285002007	0.0007	0.0014	0.0134	0.0000	0.0000	0.0003	0.0003
Jasper	2285002007	0.0073	0.0139	0.1374	0.0001	0.0000	0.0032	0.0031
Jasper	2285002010	0.0019	0.0048	0.0556	0.0000	0.0000	0.0007	0.0007
Jeff Davis	2285002006	0.0069	0.0488	0.1813	0.0002	0.0002	0.0042	0.0041
Jeff Davis	2285002008	0.0004	0.0036	0.0127	0.0000	0.0000	0.0003	0.0003
Jefferson	2285002006	0.0188	0.1318	0.4902	0.0005	0.0004	0.0114	0.0110
Jefferson	2285002008	0.0004	0.0031	0.0107	0.0000	0.0000	0.0002	0.0002
Jefferson	2285002010	0.0227	0.0571	0.6391	0.0002	0.0002	0.0084	0.0082
Jim Hogg	2285002006	0.0036	0.0254	0.0944	0.0001	0.0001	0.0022	0.0021
Jim Wells	2285002006	0.0056	0.0392	0.1459	0.0001	0.0001	0.0034	0.0033
Johnson	2285002006	0.0282	0.1979	0.7357	0.0007	0.0006	0.0171	0.0166
Johnson	2285002007	0.0017	0.0032	0.0321	0.0000	0.0000	0.0007	0.0007
Johnson	2285002008	0.0004	0.0035	0.0122	0.0000	0.0000	0.0003	0.0003
Johnson	2285002010	0.0000	0.0001	0.0360	0.0000	0.0000	0.0000	0.0000
Kaufman	2285002006	0.0101	0.0713	0.2650	0.0002	0.0002	0.0062	0.0060

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Kaufman	2285002008	0.0005	0.0037	0.0130	0.0000	0.0000	0.0003	0.0003
Kenedy	2285002006	0.0033	0.0234	0.0872	0.0001	0.0001	0.0020	0.0020
Kinney	2285002006	0.0206	0.1448	0.5385	0.0005	0.0005	0.0125	0.0121
Kinney	2285002008	0.0008	0.0063	0.0220	0.0000	0.0000	0.0005	0.0005
Kleberg	2285002006	0.0015	0.0107	0.0399	0.0000	0.0000	0.0009	0.0009
La Salle	2285002006	0.0132	0.0924	0.3435	0.0003	0.0003	0.0080	0.0077
Lamar	2285002007	0.0018	0.0033	0.0330	0.0000	0.0000	0.0008	0.0007
Lamb	2285002006	0.0048	0.0338	0.1255	0.0001	0.0001	0.0029	0.0028
Lampasas	2285002006	0.0130	0.0914	0.3399	0.0003	0.0003	0.0079	0.0077
Lampasas	2285002007	0.0011	0.0020	0.0197	0.0000	0.0000	0.0005	0.0004
Lavaca	2285002006	0.0013	0.0094	0.0351	0.0000	0.0000	0.0008	0.0008
Lee	2285002006	0.0144	0.1010	0.3756	0.0004	0.0003	0.0087	0.0085
Lee	2285002007	0.0004	0.0008	0.0083	0.0000	0.0000	0.0002	0.0002
Leon	2285002006	0.0142	0.0998	0.3712	0.0003	0.0003	0.0086	0.0084
Leon	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Liberty	2285002006	0.0338	0.2372	0.8821	0.0008	0.0007	0.0205	0.0199
Liberty	2285002008	0.0006	0.0049	0.0173	0.0000	0.0000	0.0004	0.0004
Liberty	2285002010	0.0367	0.0924	0.6323	0.0003	0.0003	0.0136	0.0132
Limestone	2285002006	0.0176	0.1239	0.4607	0.0004	0.0004	0.0107	0.0104
Lipscomb	2285002006	0.0198	0.1390	0.5169	0.0005	0.0004	0.0120	0.0116
Live Oak	2285002006	0.0041	0.0285	0.1059	0.0001	0.0001	0.0025	0.0024
Live Oak	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Llano	2285002007	0.0010	0.0019	0.0191	0.0000	0.0000	0.0004	0.0004
Lubbock	2285002006	0.0101	0.0708	0.2633	0.0002	0.0002	0.0061	0.0059
Lubbock	2285002007	0.0052	0.0098	0.0970	0.0000	0.0000	0.0022	0.0022
Lubbock	2285002010	0.0086	0.0216	0.1455	0.0001	0.0001	0.0032	0.0031
Lynn	2285002006	0.0005	0.0037	0.0137	0.0000	0.0000	0.0003	0.0003
Lynn	2285002007	0.0001	0.0003	0.0025	0.0000	0.0000	0.0001	0.0001
Madison	2285002006	0.0022	0.0153	0.0568	0.0001	0.0000	0.0013	0.0013
Marion	2285002006	0.0134	0.0939	0.3493	0.0003	0.0003	0.0081	0.0079
Marion	2285002008	0.0002	0.0019	0.0066	0.0000	0.0000	0.0002	0.0001
Martin	2285002006	0.0046	0.0323	0.1200	0.0001	0.0001	0.0028	0.0027
Matagorda	2285002006	0.0087	0.0608	0.2259	0.0002	0.0002	0.0052	0.0051
Matagorda	2285002007	0.0002	0.0003	0.0030	0.0000	0.0000	0.0001	0.0001
Matagorda	2285002010	0.0001	0.0002	0.0123	0.0000	0.0000	0.0000	0.0000
Maverick	2285002006	0.0103	0.0725	0.2697	0.0003	0.0002	0.0063	0.0061
Maverick	2285002007	0.0001	0.0001	0.0012	0.0000	0.0000	0.0000	0.0000
Maverick	2285002010	0.0013	0.0032	0.0213	0.0000	0.0000	0.0005	0.0005
McCulloch	2285002007	0.0014	0.0027	0.0266	0.0000	0.0000	0.0006	0.0006
McLennan	2285002006	0.0335	0.2356	0.8761	0.0008	0.0007	0.0204	0.0197
McLennan	2285002008	0.0005	0.0040	0.0139	0.0000	0.0000	0.0003	0.0003
McLennan	2285002010	0.0154	0.0386	0.2598	0.0001	0.0001	0.0057	0.0055
Medina	2285002006	0.0323	0.2268	0.8434	0.0008	0.0007	0.0196	0.0190
Medina	2285002007	0.0001	0.0003	0.0025	0.0000	0.0000	0.0001	0.0001
Medina	2285002008	0.0007	0.0060	0.0209	0.0000	0.0000	0.0005	0.0005
Medina	2285002010	0.0000	0.0001	0.0038	0.0000	0.0000	0.0000	0.0000
Midland	2285002006	0.0095	0.0665	0.2472	0.0002	0.0002	0.0057	0.0056
Milam	2285002006	0.0429	0.3015	1.1211	0.0011	0.0009	0.0260	0.0253
Milam	2285002007	0.0005	0.0009	0.0092	0.0000	0.0000	0.0002	0.0002
Milam	2285002010	0.0001	0.0002	0.0010	0.0000	0.0000	0.0000	0.0000
Mills	2285002006	0.0106	0.0743	0.2763	0.0003	0.0002	0.0064	0.0062
Mills	2285002007	0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000
Mitchell	2285002006	0.0137	0.0965	0.3590	0.0003	0.0003	0.0083	0.0081
Montague	2285002006	0.0131	0.0917	0.3409	0.0003	0.0003	0.0079	0.0077
Montgomery	2285002006	0.0263	0.1849	0.6877	0.0006	0.0006	0.0160	0.0155
Montgomery	2285002010	0.0000	0.0001	0.0041	0.0000	0.0000	0.0000	0.0000

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Moore	2285002006	0.0191	0.1341	0.4986	0.0005	0.0004	0.0116	0.0112
Moore	2285002007	0.0027	0.0051	0.0502	0.0000	0.0000	0.0012	0.0011
Moore	2285002010	0.0020	0.0050	0.0334	0.0000	0.0000	0.0007	0.0007
Morris	2285002006	0.0065	0.0456	0.1695	0.0002	0.0001	0.0039	0.0038
Morris	2285002007	0.0005	0.0010	0.0095	0.0000	0.0000	0.0002	0.0002
Morris	2285002010	0.0002	0.0004	0.0158	0.0000	0.0000	0.0001	0.0001
Nacogdoches	2285002006	0.0071	0.0497	0.1846	0.0002	0.0002	0.0043	0.0042
Nacogdoches	2285002010	0.0024	0.0059	0.0631	0.0000	0.0000	0.0009	0.0008
Navarro	2285002006	0.0236	0.1656	0.6159	0.0006	0.0005	0.0143	0.0139
Navarro	2285002010	0.0024	0.0059	0.0756	0.0000	0.0000	0.0009	0.0008
Newton	2285002006	0.0025	0.0172	0.0641	0.0001	0.0001	0.0015	0.0014
Newton	2285002007	0.0014	0.0026	0.0258	0.0000	0.0000	0.0006	0.0006
Nolan	2285002006	0.0190	0.1332	0.4953	0.0005	0.0004	0.0115	0.0112
Nolan	2285002007	0.0008	0.0016	0.0159	0.0000	0.0000	0.0004	0.0004
Nolan	2285002010	0.0010	0.0024	0.0162	0.0000	0.0000	0.0004	0.0003
Nueces	2285002006	0.0101	0.0710	0.2640	0.0002	0.0002	0.0061	0.0059
Nueces	2285002007	0.0010	0.0019	0.0185	0.0000	0.0000	0.0004	0.0004
Nueces	2285002010	0.0093	0.0233	0.1567	0.0001	0.0001	0.0034	0.0033
Oldham	2285002006	0.0033	0.0230	0.0854	0.0001	0.0001	0.0020	0.0019
Orange	2285002006	0.0186	0.1309	0.4868	0.0005	0.0004	0.0113	0.0110
Orange	2285002007	0.0019	0.0036	0.0360	0.0000	0.0000	0.0008	0.0008
Orange	2285002008	0.0006	0.0046	0.0160	0.0000	0.0000	0.0004	0.0003
Orange	2285002010	0.0037	0.0094	0.2952	0.0000	0.0000	0.0014	0.0013
Palo Pinto	2285002006	0.0181	0.1268	0.4716	0.0004	0.0004	0.0110	0.0106
Panola	2285002006	0.0020	0.0141	0.0523	0.0000	0.0000	0.0012	0.0012
Panola	2285002007	0.0015	0.0028	0.0274	0.0000	0.0000	0.0006	0.0006
Panola	2285002010	0.0019	0.0048	0.0368	0.0000	0.0000	0.0007	0.0007
Parker	2285002006	0.0172	0.1206	0.4486	0.0004	0.0004	0.0104	0.0101
Parker	2285002007	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Parmer	2285002006	0.0823	0.5780	2.1492	0.0020	0.0018	0.0499	0.0484
Parmer	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Pecos	2285002006	0.0019	0.0131	0.0485	0.0000	0.0000	0.0011	0.0011
Pecos	2285002007	0.0046	0.0086	0.0853	0.0000	0.0000	0.0020	0.0019
Pecos	2285002008	0.0001	0.0012	0.0041	0.0000	0.0000	0.0001	0.0001
Polk	2285002006	0.0064	0.0450	0.1673	0.0002	0.0001	0.0039	0.0038
Polk	2285002007	0.0002	0.0003	0.0033	0.0000	0.0000	0.0001	0.0001
Potter	2285002006	0.0632	0.4437	1.6497	0.0016	0.0014	0.0383	0.0372
Potter	2285002010	0.0203	0.0510	0.3427	0.0002	0.0002	0.0075	0.0073
Presidio	2285002006	0.0097	0.0679	0.2526	0.0002	0.0002	0.0059	0.0057
Presidio	2285002007	0.0051	0.0097	0.0959	0.0000	0.0000	0.0022	0.0021
Presidio	2285002008	0.0008	0.0062	0.0216	0.0000	0.0000	0.0005	0.0005
Randall	2285002006	0.0670	0.4707	1.7502	0.0016	0.0015	0.0407	0.0394
Randall	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Reagan	2285002007	0.0020	0.0038	0.0378	0.0000	0.0000	0.0009	0.0008
Reeves	2285002006	0.0155	0.1086	0.4037	0.0004	0.0003	0.0094	0.0091
Reeves	2285002007	0.0023	0.0044	0.0437	0.0000	0.0000	0.0010	0.0010
Reeves	2285002010	0.0000	0.0001	0.0005	0.0000	0.0000	0.0000	0.0000
Refugio	2285002006	0.0124	0.0873	0.3247	0.0003	0.0003	0.0075	0.0073
Roberts	2285002006	0.0311	0.2185	0.8123	0.0008	0.0007	0.0189	0.0183
Robertson	2285002006	0.0402	0.2824	1.0501	0.0010	0.0009	0.0244	0.0237
Robertson	2285002010	0.0035	0.0089	0.0599	0.0000	0.0000	0.0013	0.0013
Rockwall	2285002007	0.0011	0.0021	0.0204	0.0000	0.0000	0.0005	0.0005
Runnels	2285002007	0.0023	0.0043	0.0426	0.0000	0.0000	0.0010	0.0009
Runnels	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Rusk	2285002006	0.0045	0.0316	0.1175	0.0001	0.0001	0.0027	0.0026
Rusk	2285002007	0.0010	0.0018	0.0181	0.0000	0.0000	0.0004	0.0004

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Rusk	2285002010	0.0000	0.0001	0.0047	0.0000	0.0000	0.0000	0.0000
Sabine	2285002007	0.0015	0.0028	0.0277	0.0000	0.0000	0.0006	0.0006
San Augustine	2285002007	0.0013	0.0025	0.0252	0.0000	0.0000	0.0006	0.0006
San Jacinto	2285002006	0.0022	0.0151	0.0562	0.0001	0.0000	0.0013	0.0013
San Patricio	2285002006	0.0093	0.0656	0.2438	0.0002	0.0002	0.0057	0.0055
San Patricio	2285002010	0.0024	0.0060	0.0406	0.0000	0.0000	0.0009	0.0009
San Saba	2285002007	0.0030	0.0056	0.0553	0.0000	0.0000	0.0013	0.0012
Scurry	2285002006	0.0095	0.0666	0.2477	0.0002	0.0002	0.0058	0.0056
Shelby	2285002006	0.0068	0.0476	0.1771	0.0002	0.0001	0.0041	0.0040
Shelby	2285002007	0.0022	0.0042	0.0417	0.0000	0.0000	0.0010	0.0009
Shelby	2285002010	0.0019	0.0048	0.0556	0.0000	0.0000	0.0007	0.0007
Sherman	2285002006	0.0268	0.1880	0.6989	0.0007	0.0006	0.0162	0.0158
Smith	2285002006	0.0127	0.0894	0.3323	0.0003	0.0003	0.0077	0.0075
Smith	2285002008	0.0000	0.0002	0.0008	0.0000	0.0000	0.0000	0.0000
Smith	2285002010	0.0047	0.0119	0.0886	0.0000	0.0000	0.0018	0.0017
Somervell	2285002007	0.0002	0.0003	0.0028	0.0000	0.0000	0.0001	0.0001
Starr	2285002007	0.0013	0.0024	0.0240	0.0000	0.0000	0.0005	0.0005
Stephens	2285002006	0.0028	0.0197	0.0734	0.0001	0.0001	0.0017	0.0017
Swisher	2285002006	0.0068	0.0475	0.1766	0.0002	0.0001	0.0041	0.0040
Swisher	2285002007	0.0001	0.0002	0.0022	0.0000	0.0000	0.0001	0.0000
Tarrant	2285002006	0.0800	0.5617	2.0887	0.0020	0.0018	0.0485	0.0471
Tarrant	2285002007	0.0064	0.0121	0.1204	0.0000	0.0000	0.0028	0.0027
Tarrant	2285002008	0.0010	0.0080	0.0278	0.0000	0.0000	0.0006	0.0006
Tarrant	2285002009	0.0036	0.0290	0.1012	0.0001	0.0001	0.0023	0.0022
Tarrant	2285002010	0.0413	0.1038	0.9122	0.0003	0.0003	0.0153	0.0148
Taylor	2285002006	0.0259	0.1817	0.6755	0.0006	0.0006	0.0157	0.0152
Taylor	2285002007	0.0007	0.0013	0.0131	0.0000	0.0000	0.0003	0.0003
Taylor	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Terrell	2285002006	0.0129	0.0909	0.3378	0.0003	0.0003	0.0078	0.0076
Terrell	2285002008	0.0010	0.0083	0.0292	0.0000	0.0000	0.0007	0.0006
Terry	2285002007	0.0024	0.0045	0.0449	0.0000	0.0000	0.0010	0.0010
Titus	2285002006	0.0062	0.0437	0.1624	0.0002	0.0001	0.0038	0.0037
Titus	2285002007	0.0021	0.0039	0.0389	0.0000	0.0000	0.0009	0.0009
Titus	2285002010	0.0024	0.0060	0.0491	0.0000	0.0000	0.0009	0.0009
Tom Green	2285002007	0.0023	0.0044	0.0433	0.0000	0.0000	0.0010	0.0010
Tom Green	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Travis	2285002006	0.0093	0.0655	0.2434	0.0002	0.0002	0.0057	0.0055
Travis	2285002007	0.0032	0.0061	0.0601	0.0000	0.0000	0.0014	0.0013
Travis	2285002008	0.0005	0.0037	0.0129	0.0000	0.0000	0.0003	0.0003
Travis	2285002010	0.0005	0.0014	0.0093	0.0000	0.0000	0.0002	0.0002
Trinity	2285002006	0.0040	0.0281	0.1045	0.0001	0.0001	0.0024	0.0024
Upshur	2285002006	0.0133	0.0933	0.3468	0.0003	0.0003	0.0081	0.0078
Upshur	2285002008	0.0002	0.0016	0.0057	0.0000	0.0000	0.0001	0.0001
Upton	2285002007	0.0022	0.0042	0.0416	0.0000	0.0000	0.0010	0.0009
Uvalde	2285002006	0.0290	0.2037	0.7574	0.0007	0.0006	0.0176	0.0171
Uvalde	2285002008	0.0008	0.0063	0.0221	0.0000	0.0000	0.0005	0.0005
Uvalde	2285002010	0.0024	0.0060	0.0472	0.0000	0.0000	0.0009	0.0009
Val Verde	2285002006	0.0198	0.1391	0.5171	0.0005	0.0004	0.0120	0.0117
Val Verde	2285002008	0.0016	0.0127	0.0442	0.0000	0.0000	0.0010	0.0010
Van Zandt	2285002006	0.0108	0.0758	0.2819	0.0003	0.0002	0.0066	0.0064
Van Zandt	2285002008	0.0005	0.0040	0.0139	0.0000	0.0000	0.0003	0.0003
Victoria	2285002006	0.0153	0.1076	0.4001	0.0004	0.0003	0.0093	0.0090
Victoria	2285002010	0.0059	0.0149	0.1005	0.0001	0.0000	0.0022	0.0021
Walker	2285002006	0.0067	0.0470	0.1747	0.0002	0.0001	0.0041	0.0039
Waller	2285002006	0.0014	0.0098	0.0364	0.0000	0.0000	0.0008	0.0008
Waller	2285002010	0.0024	0.0060	0.0478	0.0000	0.0000	0.0009	0.0009

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ward	2285002006	0.0154	0.1084	0.4032	0.0004	0.0003	0.0094	0.0091
Ward	2285002007	0.0006	0.0011	0.0105	0.0000	0.0000	0.0002	0.0002
Ward	2285002010	0.0024	0.0059	0.0399	0.0000	0.0000	0.0009	0.0008
Washington	2285002006	0.0091	0.0638	0.2374	0.0002	0.0002	0.0055	0.0054
Washington	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Webb	2285002006	0.0262	0.1839	0.6838	0.0006	0.0006	0.0159	0.0154
Webb	2285002010	0.0086	0.0215	0.1446	0.0001	0.0001	0.0032	0.0031
Wharton	2285002006	0.0175	0.1227	0.4562	0.0004	0.0004	0.0106	0.0103
Wharton	2285002008	0.0002	0.0017	0.0060	0.0000	0.0000	0.0001	0.0001
Wichita	2285002006	0.0160	0.1126	0.4187	0.0004	0.0004	0.0097	0.0094
Wichita	2285002007	0.0014	0.0027	0.0266	0.0000	0.0000	0.0006	0.0006
Wichita	2285002010	0.0011	0.0027	0.0179	0.0000	0.0000	0.0004	0.0004
Wilbarger	2285002006	0.0165	0.1162	0.4320	0.0004	0.0004	0.0100	0.0097
Wilbarger	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Willacy	2285002006	0.0013	0.0090	0.0336	0.0000	0.0000	0.0008	0.0008
Williamson	2285002006	0.0157	0.1103	0.4102	0.0004	0.0003	0.0095	0.0092
Williamson	2285002007	0.0050	0.0095	0.0939	0.0000	0.0000	0.0022	0.0021
Williamson	2285002008	0.0006	0.0053	0.0184	0.0000	0.0000	0.0004	0.0004
Williamson	2285002010	0.0025	0.0063	0.0423	0.0000	0.0000	0.0009	0.0009
Wilson	2285002010	0.0035	0.0089	0.0633	0.0000	0.0000	0.0013	0.0013
Winkler	2285002007	0.0021	0.0039	0.0385	0.0000	0.0000	0.0009	0.0009
Wise	2285002006	0.0232	0.1629	0.6056	0.0006	0.0005	0.0141	0.0136
Wise	2285002010	0.0035	0.0089	0.0956	0.0000	0.0000	0.0013	0.0013
Wood	2285002006	0.0111	0.0776	0.2886	0.0003	0.0002	0.0067	0.0065
Wood	2285002008	0.0004	0.0036	0.0124	0.0000	0.0000	0.0003	0.0003
Wood	2285002010	0.0047	0.0119	0.0842	0.0000	0.0000	0.0018	0.0017

APPENDIX F:
CONTROLLED 2020 ANNUAL AND DAILY COUNTY-LEVEL EMISSIONS FOR TEXAS

Controlled 2020 Annual County-Level Emissions by Criteria Pollutant (tons/year)[1].

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Anderson	2285002006	5.5108	38.7039	134.9957	0.1356	0.1207	3.3436	3.2433
Anderson	2285002007	0.8436	1.5951	14.8366	0.0064	0.0057	0.3629	0.3520
Anderson	2285002010	1.2922	3.2510	20.5005	0.0109	0.0097	0.4792	0.4648
Andrews	2285002007	0.1067	0.2017	2.0004	0.0008	0.0007	0.0459	0.0445
Angelina	2285002006	1.5084	10.5938	36.9500	0.0371	0.0330	0.9152	0.8877
Angelina	2285002007	0.0889	0.1681	1.5636	0.0007	0.0006	0.0382	0.0371
Angelina	2285002010	0.4381	1.1022	6.9507	0.0037	0.0033	0.1625	0.1576
Armstrong	2285002006	5.7425	40.3313	149.9700	0.1413	0.1257	3.4842	3.3796
Atascosa	2285002006	1.4953	10.5017	36.6290	0.0368	0.0327	0.9072	0.8800
Atascosa	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Austin	2285002006	8.5045	59.7295	208.3308	0.2092	0.1862	5.1599	5.0051
Austin	2285002010	0.0148	0.0372	0.2344	0.0001	0.0001	0.0055	0.0053
Bailey	2285002006	1.0499	7.3739	27.4194	0.0258	0.0230	0.6370	0.6179
Bastrop	2285002006	4.6068	32.3548	112.8506	0.1133	0.1009	2.7951	2.7112
Bastrop	2285002007	0.5412	1.0234	9.5184	0.0041	0.0036	0.2328	0.2258
Bastrop	2285002010	0.8615	2.1673	13.6670	0.0073	0.0065	0.3195	0.3099
Bell	2285002006	13.3271	93.6008	326.4708	0.3279	0.2918	8.0860	7.8434
Bell	2285002007	0.3884	0.7344	6.8304	0.0029	0.0026	0.1671	0.1621
Bell	2285002008	0.2204	1.7980	5.8912	0.0063	0.0056	0.1418	0.1376
Bell	2285002010	1.8986	4.7766	30.1209	0.0160	0.0143	0.7041	0.6829
Bexar	2285002006	18.4055	129.2675	450.8728	0.4528	0.4030	11.1672	10.8322
Bexar	2285002007	0.3843	0.7267	6.7593	0.0029	0.0026	0.1653	0.1604
Bexar	2285002008	0.5106	4.1645	13.6452	0.0146	0.0130	0.3285	0.3186
Bexar	2285002010	6.6875	16.8245	106.0946	0.0564	0.0502	2.4799	2.4055
Bosque	2285002006	10.1039	70.9629	247.5118	0.2486	0.2212	6.1304	5.9464
Bosque	2285002008	0.2443	1.9926	6.5288	0.0070	0.0062	0.1572	0.1525
Bowie	2285002006	10.2246	71.8104	250.4678	0.2515	0.2239	6.2036	6.0175
Bowie	2285002007	2.6697	5.0482	46.9534	0.0202	0.0180	1.1485	1.1140
Bowie	2285002008	0.0549	0.4477	1.4671	0.0016	0.0014	0.0353	0.0343
Brazoria	2285002006	10.2604	72.0622	251.3461	0.2524	0.2247	6.2253	6.0386
Brazoria	2285002010	5.9116	14.8725	93.7849	0.0499	0.0444	2.1922	2.1264
Brazos	2285002006	7.7306	54.2948	189.3751	0.1902	0.1693	4.6904	4.5497
Brazos	2285002010	0.4307	1.0837	6.8335	0.0036	0.0032	0.1597	0.1549
Brewster	2285002006	6.4231	45.1112	167.7438	0.1580	0.1406	3.8971	3.7802
Brewster	2285002007	0.8678	1.6410	16.2718	0.0066	0.0058	0.3733	0.3621
Brewster	2285002008	0.5030	4.1027	14.3310	0.0144	0.0128	0.3236	0.3139
Brown	2285002006	3.4331	24.1120	89.6593	0.0845	0.0752	2.0830	2.0205
Brown	2285002007	0.8239	1.5579	15.4479	0.0062	0.0056	0.3544	0.3438
Burleson	2285002006	13.6541	95.8973	334.4808	0.3359	0.2990	8.2844	8.0359
Burleson	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Burnet	2285002007	0.8234	1.5569	15.4381	0.0062	0.0055	0.3542	0.3436
Caldwell	2285002006	4.7031	33.0315	115.2106	0.1157	0.1030	2.8535	2.7679
Caldwell	2285002008	0.0647	0.5281	1.7304	0.0018	0.0016	0.0417	0.0404
Calhoun	2285002007	0.0762	0.1441	1.3401	0.0006	0.0005	0.0328	0.0318
Calhoun	2285002010	0.4381	1.1022	6.9507	0.0037	0.0033	0.1625	0.1576
Callahan	2285002006	5.5219	38.7820	144.2089	0.1358	0.1209	3.3503	3.2498
Cameron	2285002006	0.8183	5.7470	21.3699	0.0201	0.0179	0.4965	0.4816
Cameron	2285002007	1.0160	1.9211	19.0498	0.0077	0.0068	0.4371	0.4240
Cameron	2285002010	0.9132	2.2974	15.4451	0.0077	0.0069	0.3386	0.3285
Camp	2285002006	2.8715	20.1676	70.3428	0.0706	0.0629	1.7422	1.6900
Camp	2285002007	0.2022	0.3824	3.5570	0.0015	0.0014	0.0870	0.0844
Carson	2285002006	23.6010	165.7575	616.3608	0.5806	0.5168	14.3195	13.8899
Carson	2285002007	0.9005	1.7027	16.8839	0.0068	0.0061	0.3874	0.3758
Carson	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Cass	2285002006	11.0138	77.3533	269.8009	0.2710	0.2412	6.6824	6.4819
Cass	2285002008	0.2060	1.6803	5.5054	0.0059	0.0052	0.1325	0.1286
Cass	2285002010	0.3384	0.8514	5.3688	0.0029	0.0025	0.1255	0.1217
Castro	2285002006	1.7404	12.2232	45.4514	0.0428	0.0381	1.0559	1.0243
Castro	2285002007	0.5767	1.0904	10.8123	0.0044	0.0039	0.2481	0.2406
Castro	2285002010	1.0476	2.6355	17.7180	0.0088	0.0079	0.3885	0.3768
Chambers	2285002006	0.2697	1.8943	6.6071	0.0066	0.0059	0.1636	0.1587
Chambers	2285002010	0.8836	2.2231	14.0186	0.0075	0.0066	0.3277	0.3178
Cherokee	2285002006	4.7027	33.0284	115.2000	0.1157	0.1030	2.8533	2.7677
Cherokee	2285002007	0.7484	1.4151	13.1619	0.0057	0.0050	0.3219	0.3123
Childress	2285002006	4.9989	35.1090	130.5511	0.1230	0.1095	3.0330	2.9420
Clay	2285002006	5.5036	38.6533	143.7302	0.1354	0.1205	3.3392	3.2390
Cochran	2285002007	0.0271	0.0513	0.5082	0.0002	0.0002	0.0117	0.0113
Coleman	2285002006	4.5890	32.2302	119.8462	0.1129	0.1005	2.7843	2.7008
Coleman	2285002007	0.5284	0.9992	9.9075	0.0040	0.0036	0.2273	0.2205
Collin	2285002006	3.6222	25.4402	88.7330	0.0891	0.0793	2.1977	2.1318
Collin	2285002007	1.5616	2.9529	27.4649	0.0118	0.0105	0.6718	0.6516
Collin	2285002010	0.6768	1.7028	10.7376	0.0057	0.0051	0.2510	0.2435
Colorado	2285002006	5.9817	42.0113	146.5314	0.1472	0.1310	3.6293	3.5204
Colorado	2285002008	0.2362	1.9264	6.3120	0.0067	0.0060	0.1520	0.1474
Colorado	2285002010	0.8615	2.1673	13.6670	0.0073	0.0065	0.3195	0.3099
Comal	2285002006	3.7349	26.2316	91.4932	0.0919	0.0818	2.2661	2.1981
Comal	2285002007	0.0489	0.0925	0.8608	0.0004	0.0003	0.0211	0.0204
Comal	2285002008	0.3145	2.5647	8.4033	0.0090	0.0080	0.2023	0.1962
Comal	2285002010	1.7451	4.3904	27.6856	0.0147	0.0131	0.6471	0.6277
Comanche	2285002007	1.3358	2.5258	25.0456	0.0101	0.0090	0.5746	0.5574
Cooke	2285002006	4.8746	34.2361	119.4123	0.1199	0.1067	2.9576	2.8689
Cooke	2285002008	0.1369	1.1169	3.6597	0.0039	0.0035	0.0881	0.0855
Coryell	2285002006	1.1614	8.1572	28.4517	0.0286	0.0254	0.7047	0.6835
Coryell	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Crane	2285002006	0.1880	1.3204	4.9099	0.0046	0.0041	0.1141	0.1106
Crane	2285002007	0.0875	0.1654	1.6403	0.0007	0.0006	0.0376	0.0365
Crockett	2285002007	0.0125	0.0237	0.2346	0.0001	0.0001	0.0054	0.0052
Culberson	2285002006	7.4210	52.1203	193.8066	0.1826	0.1625	4.5026	4.3675
Culberson	2285002008	0.1173	0.9568	3.3423	0.0034	0.0030	0.0755	0.0732
Dallam	2285002006	7.8733	55.2965	205.6173	0.1937	0.1724	4.7770	4.6337
Dallam	2285002010	1.2922	3.2510	21.8556	0.0109	0.0097	0.4792	0.4648
Dallas	2285002006	9.8381	69.0959	240.9999	0.2420	0.2154	5.9691	5.7900
Dallas	2285002007	3.3104	6.2596	58.2210	0.0251	0.0223	1.4241	1.3814
Dallas	2285002008	0.2255	1.8391	6.0257	0.0064	0.0057	0.1451	0.1407
Dallas	2285002009	0.9239	7.5358	24.6911	0.0264	0.0235	0.5944	0.5766
Dallas	2285002010	7.1743	18.0491	113.8166	0.0605	0.0539	2.6604	2.5806
De Witt	2285002006	0.5570	3.9122	13.6453	0.0137	0.0122	0.3380	0.3278
Deaf Smith	2285002006	16.9825	119.2734	443.5122	0.4178	0.3719	10.3038	9.9947
Deaf Smith	2285002010	0.3492	0.8785	5.9060	0.0029	0.0026	0.1295	0.1256
Delta	2285002007	0.0162	0.0306	0.2847	0.0001	0.0001	0.0070	0.0068
Denton	2285002006	15.5560	109.2545	381.0695	0.3827	0.3406	9.4383	9.1552
Denton	2285002007	0.7447	1.4082	13.0981	0.0056	0.0050	0.3204	0.3108
Denton	2285002008	0.2062	1.6818	5.5104	0.0059	0.0052	0.1327	0.1287
Denton	2285002009	0.5372	4.3814	14.3558	0.0153	0.0137	0.3456	0.3352
Denton	2285002010	3.3881	8.5237	53.7500	0.0286	0.0254	1.2564	1.2187
Donley	2285002006	6.8016	47.7699	177.6301	0.1673	0.1489	4.1268	4.0030
Duval	2285002006	4.8671	34.1835	127.1095	0.1197	0.1066	2.9530	2.8645
Eastland	2285002006	5.6947	39.9960	148.7230	0.1401	0.1247	3.4552	3.3515
Eastland	2285002007	0.0190	0.0359	0.3559	0.0001	0.0001	0.0082	0.0079
Ector	2285002006	4.1156	28.9051	107.4823	0.1012	0.0901	2.4971	2.4222

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ector	2285002010	2.5844	6.5020	43.7111	0.0218	0.0194	0.9584	0.9296
El Paso	2285002006	15.9211	111.8189	415.7931	0.3917	0.3486	9.6598	9.3700
El Paso	2285002007	0.3001	0.5674	5.6262	0.0023	0.0020	0.1291	0.1252
El Paso	2285002008	0.3200	2.6101	9.1172	0.0091	0.0081	0.2059	0.1997
El Paso	2285002010	8.4930	21.3667	143.6428	0.0716	0.0638	3.1494	3.0549
Ellis	2285002006	7.5372	52.9365	184.6375	0.1854	0.1650	4.5731	4.4359
Ellis	2285002010	3.0152	7.5856	47.8345	0.0254	0.0226	1.1181	1.0846
Erath	2285002007	1.3079	2.4731	24.5234	0.0099	0.0088	0.5627	0.5458
Erath	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Falls	2285002006	4.1730	29.3080	102.2236	0.1027	0.0914	2.5319	2.4559
Fannin	2285002007	1.4541	2.7495	25.5729	0.0110	0.0098	0.6255	0.6068
Fayette	2285002006	12.9114	90.6809	316.2863	0.3176	0.2827	7.8338	7.5987
Fayette	2285002008	0.1433	1.1691	3.8306	0.0041	0.0036	0.0922	0.0894
Fayette	2285002010	0.8689	2.1859	13.7842	0.0073	0.0065	0.3222	0.3125
Fisher	2285002006	1.7755	12.4701	46.3696	0.0437	0.0389	1.0773	1.0450
Fort Bend	2285002006	16.8164	118.1070	411.9460	0.4137	0.3682	10.2031	9.8970
Fort Bend	2285002007	0.0802	0.1516	1.4098	0.0006	0.0005	0.0345	0.0334
Fort Bend	2285002008	0.2119	1.7286	5.6638	0.0061	0.0054	0.1363	0.1323
Fort Bend	2285002010	0.5293	1.3316	8.3971	0.0045	0.0040	0.1963	0.1904
Franklin	2285002006	0.3628	2.5479	8.8869	0.0089	0.0079	0.2201	0.2135
Franklin	2285002007	0.1875	0.3546	3.2982	0.0014	0.0013	0.0807	0.0783
Freestone	2285002006	3.2033	22.4975	78.4692	0.0788	0.0701	1.9435	1.8852
Freestone	2285002010	0.6984	1.7570	11.0796	0.0059	0.0052	0.2590	0.2512
Frio	2285002006	4.7085	33.0692	122.9660	0.1158	0.1031	2.8568	2.7711
Gaines	2285002007	0.0955	0.1806	1.7906	0.0007	0.0006	0.0411	0.0398
Galveston	2285002006	4.1249	28.9704	101.0460	0.1015	0.0903	2.5027	2.4276
Galveston	2285002007	0.9418	1.7808	16.5630	0.0071	0.0063	0.4051	0.3930
Galveston	2285002010	1.2996	3.2696	20.6177	0.0110	0.0098	0.4819	0.4675
Garza	2285002006	3.6649	25.7400	95.7129	0.0902	0.0803	2.2236	2.1569
Goliad	2285002006	0.0363	0.2552	0.8902	0.0009	0.0008	0.0220	0.0214
Gonzales	2285002006	5.1988	36.5127	127.3527	0.1279	0.1138	3.1543	3.0596
Gonzales	2285002007	2.3709	4.4831	41.6976	0.0179	0.0160	1.0199	0.9893
Gonzales	2285002008	0.1407	1.1476	3.7602	0.0040	0.0036	0.0905	0.0878
Gonzales	2285002010	0.0148	0.0372	0.2344	0.0001	0.0001	0.0055	0.0053
Gray	2285002006	12.5880	88.4099	328.7477	0.3097	0.2756	7.6376	7.4084
Gray	2285002010	0.7058	1.7756	11.9369	0.0060	0.0053	0.2617	0.2539
Grayson	2285002006	13.2947	93.3730	325.6760	0.3271	0.2911	8.0663	7.8243
Grayson	2285002007	3.4262	6.4785	60.2575	0.0259	0.0231	1.4739	1.4297
Grayson	2285002010	2.1611	5.4369	34.2847	0.0182	0.0162	0.8014	0.7773
Gregg	2285002006	4.7166	33.1262	115.5410	0.1160	0.1033	2.8617	2.7759
Gregg	2285002008	0.0996	0.8122	2.6611	0.0028	0.0025	0.0641	0.0621
Gregg	2285002010	3.4459	8.6693	54.6680	0.0291	0.0259	1.2778	1.2395
Grimes	2285002006	6.2781	44.0930	153.7923	0.1544	0.1375	3.8091	3.6948
Grimes	2285002007	0.2860	0.5407	5.0292	0.0022	0.0019	0.1230	0.1193
Grimes	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Guadalupe	2285002006	8.4570	59.3963	207.1688	0.2081	0.1852	5.1311	4.9772
Guadalupe	2285002008	0.2298	1.8746	6.1422	0.0066	0.0058	0.1479	0.1434
Guadalupe	2285002010	0.8615	2.1673	13.6670	0.0073	0.0065	0.3195	0.3099
Hale	2285002006	3.2646	22.9284	85.2582	0.0803	0.0715	1.9807	1.9213
Hale	2285002007	0.6698	1.2666	12.5590	0.0051	0.0045	0.2881	0.2795
Hale	2285002010	1.4235	3.5812	24.0755	0.0120	0.0107	0.5279	0.5120
Hall	2285002006	3.1160	21.8850	81.3782	0.0767	0.0682	1.8906	1.8339
Hansford	2285002007	0.0188	0.0355	0.3516	0.0001	0.0001	0.0081	0.0078
Hardeman	2285002006	5.6694	39.8179	148.0608	0.1395	0.1241	3.4398	3.3366
Hardeman	2285002007	0.2299	0.4347	4.3103	0.0017	0.0015	0.0989	0.0959
Hardeman	2285002010	0.7058	1.7756	11.9369	0.0060	0.0053	0.2617	0.2539

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Hardin	2285002006	3.0677	21.5454	75.1482	0.0755	0.0672	1.8613	1.8054
Hardin	2285002007	0.2662	0.5034	4.6823	0.0020	0.0018	0.1145	0.1111
Hardin	2285002010	2.5118	6.3192	39.8486	0.0212	0.0189	0.9314	0.9035
Harris	2285002006	32.7718	230.1671	802.8011	0.8062	0.7176	19.8837	19.2872
Harris	2285002007	3.4246	6.4755	60.2289	0.0259	0.0231	1.4732	1.4290
Harris	2285002008	0.2900	2.3652	7.7497	0.0083	0.0074	0.1866	0.1810
Harris	2285002010	64.4292	162.0913	1022.1381	0.5434	0.4837	23.8918	23.1751
Harrison	2285002006	12.1002	84.9834	296.4140	0.2977	0.2650	7.3416	7.1213
Harrison	2285002008	0.2035	1.6596	5.4377	0.0058	0.0052	0.1309	0.1270
Harrison	2285002010	0.4381	1.1022	6.9507	0.0037	0.0033	0.1625	0.1576
Hartley	2285002006	7.7217	54.2320	201.6588	0.1900	0.1691	4.6850	4.5445
Hays	2285002006	3.1153	21.8794	76.3133	0.0766	0.0682	1.8901	1.8334
Hays	2285002008	0.1578	1.2873	4.2180	0.0045	0.0040	0.1015	0.0985
Hays	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Hemphill	2285002006	20.5941	144.6390	537.8330	0.5066	0.4510	12.4951	12.1203
Hemphill	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Henderson	2285002006	2.9325	20.5962	71.8375	0.0721	0.0642	1.7793	1.7259
Hidalgo	2285002007	1.9882	3.7595	37.2791	0.0151	0.0134	0.8553	0.8297
Hidalgo	2285002010	0.0296	0.0743	0.4998	0.0002	0.0002	0.0110	0.0106
Hill	2285002006	6.7697	47.5456	165.8346	0.1665	0.1482	4.1074	3.9842
Hill	2285002008	0.0604	0.4930	1.6154	0.0017	0.0015	0.0389	0.0377
Hill	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Hockley	2285002006	0.4124	2.8962	10.7692	0.0101	0.0090	0.2502	0.2427
Hockley	2285002007	0.8917	1.6861	16.7194	0.0067	0.0060	0.3836	0.3721
Hood	2285002007	1.2322	2.3300	21.6718	0.0093	0.0083	0.5301	0.5142
Hood	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Hopkins	2285002006	3.3225	23.3351	81.3906	0.0817	0.0728	2.0159	1.9554
Hopkins	2285002007	1.1102	2.0992	19.5247	0.0084	0.0075	0.4776	0.4633
Houston	2285002006	3.3428	23.4774	81.8868	0.0822	0.0732	2.0282	1.9673
Howard	2285002006	4.8003	33.7139	125.3635	0.1181	0.1051	2.9125	2.8251
Howard	2285002007	0.0587	0.1110	1.1007	0.0004	0.0004	0.0253	0.0245
Howard	2285002010	3.0152	7.5856	50.9963	0.0254	0.0226	1.1181	1.0846
Hudspeth	2285002006	16.1031	113.0970	420.5456	0.3962	0.3526	9.7703	9.4771
Hudspeth	2285002008	0.4893	3.9905	13.9393	0.0140	0.0124	0.3148	0.3053
Hunt	2285002006	1.9794	13.9019	48.4885	0.0487	0.0433	1.2010	1.1649
Hunt	2285002007	1.7686	3.3442	31.1049	0.0134	0.0119	0.7608	0.7380
Hutchinson	2285002007	0.5220	0.9871	9.7882	0.0040	0.0035	0.2246	0.2178
Hutchinson	2285002010	0.0148	0.0372	0.2499	0.0001	0.0001	0.0055	0.0053
Irion	2285002007	1.0211	1.9309	19.1461	0.0077	0.0069	0.4393	0.4261
Jackson	2285002006	4.0898	28.7240	100.1866	0.1006	0.0896	2.4814	2.4070
Jackson	2285002007	0.2610	0.4934	4.5894	0.0020	0.0018	0.1123	0.1089
Jasper	2285002007	2.6741	5.0565	47.0307	0.0202	0.0180	1.1504	1.1159
Jasper	2285002010	0.6984	1.7570	11.0796	0.0059	0.0052	0.2590	0.2512
Jeff Davis	2285002006	2.5340	17.7970	66.1772	0.0623	0.0555	1.5375	1.4913
Jeff Davis	2285002008	0.1630	1.3292	4.6430	0.0047	0.0041	0.1048	0.1017
Jefferson	2285002006	6.8509	48.1162	167.8249	0.1685	0.1500	4.1567	4.0320
Jefferson	2285002008	0.1369	1.1165	3.6582	0.0039	0.0035	0.0881	0.0854
Jefferson	2285002010	8.2782	20.8264	131.3298	0.0698	0.0621	3.0697	2.9777
Jim Hogg	2285002006	1.3199	9.2704	34.4713	0.0325	0.0289	0.8008	0.7768
Jim Wells	2285002006	2.0389	14.3196	53.2467	0.0502	0.0446	1.2370	1.1999
Johnson	2285002006	10.2827	72.2187	251.8921	0.2530	0.2252	6.2388	6.0517
Johnson	2285002007	0.6249	1.1816	10.9901	0.0047	0.0042	0.2688	0.2608
Johnson	2285002008	0.1564	1.2756	4.1795	0.0045	0.0040	0.1006	0.0976
Johnson	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Kaufman	2285002006	3.7031	26.0084	90.7148	0.0911	0.0811	2.2468	2.1794
Kaufman	2285002008	0.1669	1.3612	4.4599	0.0048	0.0042	0.1074	0.1041

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Kenedy	2285002006	1.2184	8.5574	31.8203	0.0300	0.0267	0.7393	0.7171
Kinney	2285002006	7.5258	52.8561	196.5426	0.1851	0.1648	4.5661	4.4292
Kinney	2285002008	0.2819	2.2995	8.0323	0.0081	0.0072	0.1814	0.1759
Kleberg	2285002006	0.5575	3.9156	14.5600	0.0137	0.0122	0.3383	0.3281
La Salle	2285002006	4.8004	33.7150	125.3674	0.1181	0.1051	2.9126	2.8252
Lamar	2285002007	0.6421	1.2141	11.2924	0.0049	0.0043	0.2762	0.2679
Lamb	2285002006	1.7544	12.3215	45.8167	0.0432	0.0384	1.0644	1.0325
Lampasas	2285002006	4.7508	33.3665	124.0715	0.1169	0.1040	2.8825	2.7960
Lampasas	2285002007	0.3843	0.7268	7.2065	0.0029	0.0026	0.1653	0.1604
Lavaca	2285002006	0.4904	3.4443	12.0133	0.0121	0.0107	0.2975	0.2886
Lee	2285002006	5.2497	36.8704	128.6005	0.1291	0.1150	3.1852	3.0896
Lee	2285002007	0.1615	0.3054	2.8402	0.0012	0.0011	0.0695	0.0674
Leon	2285002006	5.1881	36.4379	127.0919	0.1276	0.1136	3.1478	3.0534
Leon	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Liberty	2285002006	12.3282	86.5848	301.9996	0.3033	0.2700	7.4799	7.2555
Liberty	2285002008	0.2212	1.8044	5.9122	0.0063	0.0056	0.1423	0.1381
Liberty	2285002010	13.4030	33.7193	212.6319	0.1131	0.1006	4.9701	4.8210
Limestone	2285002006	6.4390	45.2233	157.7345	0.1584	0.1410	3.9068	3.7896
Lipscomb	2285002006	7.2242	50.7380	188.6666	0.1777	0.1582	4.3832	4.2517
Live Oak	2285002006	1.4794	10.3906	36.2416	0.0364	0.0324	0.8976	0.8707
Live Oak	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Llano	2285002007	0.3718	0.7031	6.9721	0.0028	0.0025	0.1600	0.1552
Lubbock	2285002006	3.6799	25.8449	96.1030	0.0905	0.0806	2.2327	2.1657
Lubbock	2285002007	1.8891	3.5720	35.4195	0.0143	0.0127	0.8127	0.7883
Lubbock	2285002010	3.1398	7.8990	53.1032	0.0265	0.0236	1.1643	1.1294
Lynn	2285002006	0.1921	1.3493	5.0171	0.0047	0.0042	0.1166	0.1131
Lynn	2285002007	0.0483	0.0914	0.9059	0.0004	0.0003	0.0208	0.0202
Madison	2285002006	0.7944	5.5796	19.4610	0.0195	0.0174	0.4820	0.4675
Marion	2285002006	4.8818	34.2865	119.5882	0.1201	0.1069	2.9620	2.8731
Marion	2285002008	0.0851	0.6943	2.2748	0.0024	0.0022	0.0548	0.0531
Martin	2285002006	1.6765	11.7746	43.7832	0.0412	0.0367	1.0172	0.9867
Matagorda	2285002006	3.1576	22.1768	77.3507	0.0777	0.0691	1.9158	1.8583
Matagorda	2285002007	0.0587	0.1109	1.0320	0.0004	0.0004	0.0252	0.0245
Matagorda	2285002010	0.0222	0.0558	0.3516	0.0002	0.0002	0.0082	0.0080
Maverick	2285002006	3.7698	26.4765	98.4516	0.0927	0.0825	2.2873	2.2186
Maverick	2285002007	0.0234	0.0442	0.4378	0.0002	0.0002	0.0100	0.0097
Maverick	2285002010	0.4603	1.1580	7.7850	0.0039	0.0035	0.1707	0.1656
McCulloch	2285002007	0.5183	0.9800	9.7178	0.0039	0.0035	0.2230	0.2163
McLennan	2285002006	12.2449	85.9997	299.9590	0.3012	0.2681	7.4294	7.2065
McLennan	2285002008	0.1777	1.4496	4.7497	0.0051	0.0045	0.1143	0.1109
McLennan	2285002010	5.6070	14.1062	88.9528	0.0473	0.0421	2.0792	2.0168
Medina	2285002006	11.7872	82.7855	307.8337	0.2900	0.2581	7.1517	6.9371
Medina	2285002007	0.0485	0.0917	0.9092	0.0004	0.0003	0.0209	0.0202
Medina	2285002008	0.2677	2.1836	7.6273	0.0076	0.0068	0.1722	0.1671
Medina	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Midland	2285002006	3.4554	24.2684	90.2407	0.0850	0.0757	2.0965	2.0336
Milam	2285002006	15.6683	110.0431	383.8201	0.3855	0.3431	9.5064	9.2212
Milam	2285002007	0.1782	0.3370	3.1341	0.0013	0.0012	0.0767	0.0744
Milam	2285002010	0.0222	0.0558	0.3516	0.0002	0.0002	0.0082	0.0080
Mills	2285002006	3.8618	27.1224	100.8532	0.0950	0.0846	2.3431	2.2728
Mills	2285002007	0.0163	0.0308	0.3053	0.0001	0.0001	0.0070	0.0068
Mitchell	2285002006	5.0170	35.2361	131.0235	0.1234	0.1099	3.0440	2.9527
Montague	2285002006	4.7643	33.4613	124.4241	0.1172	0.1043	2.8907	2.8039
Montgomery	2285002006	9.6112	67.5022	235.4413	0.2364	0.2105	5.8314	5.6565
Montgomery	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Moore	2285002006	6.9679	48.9378	181.9726	0.1714	0.1526	4.2276	4.1008

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Moore	2285002007	0.9776	1.8485	18.3296	0.0074	0.0066	0.4205	0.4079
Moore	2285002010	0.7206	1.8128	12.1868	0.0061	0.0054	0.2672	0.2592
Morris	2285002006	2.3693	16.6405	58.0404	0.0583	0.0519	1.4375	1.3944
Morris	2285002007	0.1853	0.3504	3.2589	0.0014	0.0012	0.0797	0.0773
Morris	2285002010	0.0563	0.1416	0.8929	0.0005	0.0004	0.0209	0.0202
Nacogdoches	2285002006	2.5804	18.1232	63.2120	0.0635	0.0565	1.5656	1.5187
Nacogdoches	2285002010	0.8615	2.1673	13.6670	0.0073	0.0065	0.3195	0.3099
Navarro	2285002006	8.6079	60.4558	210.8640	0.2118	0.1885	5.2227	5.0660
Navarro	2285002010	0.8615	2.1673	13.6670	0.0073	0.0065	0.3195	0.3099
Newton	2285002006	0.8953	6.2878	21.9312	0.0220	0.0196	0.5432	0.5269
Newton	2285002007	0.5025	0.9502	8.8383	0.0038	0.0034	0.2162	0.2097
Nolan	2285002006	6.9225	48.6187	180.7862	0.1703	0.1516	4.2001	4.0741
Nolan	2285002007	0.3099	0.5861	5.8113	0.0023	0.0021	0.1333	0.1293
Nolan	2285002010	0.3492	0.8785	5.9060	0.0029	0.0026	0.1295	0.1256
Nueces	2285002006	3.6890	25.9092	90.3688	0.0908	0.0808	2.2382	2.1711
Nueces	2285002007	0.3600	0.6807	6.3317	0.0027	0.0024	0.1549	0.1502
Nueces	2285002010	3.3821	8.5087	53.6555	0.0285	0.0254	1.2542	1.2165
Oldham	2285002006	1.1937	8.3836	31.1738	0.0294	0.0261	0.7242	0.7025
Orange	2285002006	6.8040	47.7868	166.6760	0.1674	0.1490	4.1282	4.0044
Orange	2285002007	0.7008	1.3251	12.3245	0.0053	0.0047	0.3015	0.2924
Orange	2285002008	0.2045	1.6683	5.4663	0.0058	0.0052	0.1316	0.1276
Orange	2285002010	1.3587	3.4183	21.5554	0.0115	0.0102	0.5038	0.4887
Palo Pinto	2285002006	6.5907	46.2884	172.1210	0.1621	0.1443	3.9988	3.8788
Panola	2285002006	0.7308	5.1326	17.9019	0.0180	0.0160	0.4434	0.4301
Panola	2285002007	0.5331	1.0080	9.3754	0.0040	0.0036	0.2293	0.2224
Panola	2285002010	0.6984	1.7570	11.0796	0.0059	0.0052	0.2590	0.2512
Parker	2285002006	6.2693	44.0315	153.5775	0.1542	0.1373	3.8038	3.6897
Parker	2285002007	0.0118	0.0223	0.2078	0.0001	0.0001	0.0051	0.0049
Parmer	2285002006	30.0378	210.9648	784.4621	0.7390	0.6577	18.2249	17.6781
Parmer	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Pecos	2285002006	0.6783	4.7637	17.7136	0.0167	0.0149	0.4115	0.3992
Pecos	2285002007	1.6609	3.1406	31.1415	0.0126	0.0112	0.7145	0.6931
Pecos	2285002008	0.0531	0.4333	1.5137	0.0015	0.0014	0.0342	0.0332
Polk	2285002006	2.3383	16.4229	57.2816	0.0575	0.0512	1.4187	1.3762
Polk	2285002007	0.0650	0.1229	1.1435	0.0005	0.0004	0.0280	0.0271
Potter	2285002006	23.0568	161.9356	602.1492	0.5672	0.5049	13.9893	13.5696
Potter	2285002010	7.3967	18.6087	125.1013	0.0624	0.0555	2.7429	2.6606
Presidio	2285002006	3.5305	24.7959	92.2023	0.0869	0.0773	2.1421	2.0778
Presidio	2285002007	1.8668	3.5299	35.0018	0.0141	0.0126	0.8031	0.7790
Presidio	2285002008	0.2765	2.2553	7.8779	0.0079	0.0070	0.1779	0.1726
Randall	2285002006	24.4612	171.7986	638.8246	0.6018	0.5356	14.8414	14.3961
Randall	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Reagan	2285002007	0.7360	1.3916	13.7990	0.0056	0.0050	0.3166	0.3071
Reeves	2285002006	5.6424	39.6284	147.3561	0.1388	0.1236	3.4234	3.3207
Reeves	2285002007	0.8500	1.6072	15.9371	0.0064	0.0057	0.3657	0.3547
Reeves	2285002010	0.0103	0.0259	0.1738	0.0001	0.0001	0.0038	0.0037
Refugio	2285002006	4.5377	31.8697	111.1585	0.1116	0.0994	2.7532	2.6706
Roberts	2285002006	11.3532	79.7374	296.4994	0.2793	0.2486	6.8884	6.6817
Robertson	2285002006	14.6760	103.0743	359.5134	0.3610	0.3214	8.9044	8.6373
Robertson	2285002010	1.2922	3.2510	20.5005	0.0109	0.0097	0.4792	0.4648
Rockwall	2285002007	0.3966	0.7499	6.9751	0.0030	0.0027	0.1706	0.1655
Runnels	2285002007	0.8284	1.5664	15.5321	0.0063	0.0056	0.3564	0.3457
Runnels	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Rusk	2285002006	1.6420	11.5325	40.2243	0.0404	0.0360	0.9963	0.9664
Rusk	2285002007	0.3523	0.6663	6.1969	0.0027	0.0024	0.1516	0.1470
Rusk	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Sabine	2285002007	0.5400	1.0211	9.4976	0.0041	0.0036	0.2323	0.2253
San Augustine	2285002007	0.4914	0.9292	8.6424	0.0037	0.0033	0.2114	0.2051
San Jacinto	2285002006	0.7849	5.5129	19.2285	0.0193	0.0172	0.4763	0.4620
San Patricio	2285002006	3.4077	23.9335	83.4778	0.0838	0.0746	2.0676	2.0055
San Patricio	2285002010	0.8763	2.2045	13.9014	0.0074	0.0066	0.3249	0.3152
San Saba	2285002007	1.0771	2.0367	20.1953	0.0082	0.0073	0.4634	0.4495
Scurry	2285002006	3.4620	24.3151	90.4144	0.0852	0.0758	2.1005	2.0375
Shelby	2285002006	2.4752	17.3839	60.6333	0.0609	0.0542	1.5018	1.4567
Shelby	2285002007	0.8114	1.5342	14.2697	0.0061	0.0055	0.3490	0.3386
Shelby	2285002010	0.6984	1.7570	11.0796	0.0059	0.0052	0.2590	0.2512
Sherman	2285002006	9.7683	68.6056	255.1063	0.2403	0.2139	5.9267	5.7489
Smith	2285002006	4.6449	32.6224	113.7838	0.1143	0.1017	2.8182	2.7336
Smith	2285002008	0.0101	0.0820	0.2687	0.0003	0.0003	0.0065	0.0063
Smith	2285002010	1.7230	4.3346	27.3340	0.0145	0.0129	0.6389	0.6197
Somervell	2285002007	0.0550	0.1040	0.9669	0.0004	0.0004	0.0236	0.0229
Starr	2285002007	0.4666	0.8822	8.7478	0.0035	0.0031	0.2007	0.1947
Stephens	2285002006	1.0255	7.2025	26.7823	0.0252	0.0225	0.6222	0.6035
Swisher	2285002006	2.4680	17.3335	64.4537	0.0607	0.0540	1.4974	1.4525
Swisher	2285002007	0.0434	0.0820	0.8128	0.0003	0.0003	0.0186	0.0181
Tarrant	2285002006	29.1925	205.0285	715.1202	0.7182	0.6392	17.7121	17.1807
Tarrant	2285002007	2.3437	4.4316	41.2189	0.0177	0.0158	1.0082	0.9780
Tarrant	2285002008	0.3567	2.9091	9.5319	0.0102	0.0091	0.2295	0.2226
Tarrant	2285002009	1.2965	10.5741	34.6461	0.0370	0.0330	0.8340	0.8090
Tarrant	2285002010	15.0662	37.9036	239.0176	0.1271	0.1131	5.5869	5.4193
Taylor	2285002006	9.4412	66.3083	246.5639	0.2323	0.2067	5.7283	5.5564
Taylor	2285002007	0.2558	0.4836	4.7955	0.0019	0.0017	0.1100	0.1067
Taylor	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Terrell	2285002006	4.7217	33.1620	123.3113	0.1162	0.1034	2.8648	2.7789
Terrell	2285002008	0.3735	3.0462	10.6406	0.0107	0.0095	0.2403	0.2331
Terry	2285002007	0.8743	1.6533	16.3938	0.0066	0.0059	0.3761	0.3649
Titus	2285002006	2.2696	15.9405	55.5988	0.0558	0.0497	1.3771	1.3358
Titus	2285002007	0.7566	1.4307	13.3074	0.0057	0.0051	0.3255	0.3157
Titus	2285002010	0.8689	2.1859	13.7842	0.0073	0.0065	0.3222	0.3125
Tom Green	2285002007	0.8437	1.5953	15.8183	0.0064	0.0057	0.3629	0.3520
Tom Green	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Travis	2285002006	3.4020	23.8935	83.3383	0.0837	0.0745	2.0641	2.0022
Travis	2285002007	1.1701	2.2125	20.5790	0.0089	0.0079	0.5034	0.4883
Travis	2285002008	0.1648	1.3441	4.4040	0.0047	0.0042	0.1060	0.1028
Travis	2285002010	0.2004	0.5042	3.1796	0.0017	0.0015	0.0743	0.0721
Trinity	2285002006	1.4599	10.2532	35.7621	0.0359	0.0320	0.8858	0.8592
Upshur	2285002006	4.8475	34.0453	118.7469	0.1193	0.1061	2.9411	2.8529
Upshur	2285002008	0.0733	0.5979	1.9590	0.0021	0.0019	0.0472	0.0457
Upton	2285002007	0.8098	1.5313	15.1838	0.0061	0.0055	0.3484	0.3379
Uvalde	2285002006	10.5859	74.3481	276.4598	0.2604	0.2318	6.4228	6.2301
Uvalde	2285002008	0.2829	2.3077	8.0609	0.0081	0.0072	0.1820	0.1766
Uvalde	2285002010	0.8689	2.1859	14.6953	0.0073	0.0065	0.3222	0.3125
Val Verde	2285002006	7.2269	50.7565	188.7356	0.1778	0.1582	4.3848	4.2532
Val Verde	2285002008	0.5665	4.6201	16.1384	0.0162	0.0144	0.3644	0.3535
Van Zandt	2285002006	3.9404	27.6749	96.5275	0.0969	0.0863	2.3908	2.3191
Van Zandt	2285002008	0.1776	1.4489	4.7473	0.0051	0.0045	0.1143	0.1109
Victoria	2285002006	5.5914	39.2702	136.9708	0.1376	0.1224	3.3925	3.2907
Victoria	2285002010	2.1685	5.4555	34.4019	0.0183	0.0163	0.8041	0.7800
Walker	2285002006	2.4414	17.1469	59.8068	0.0601	0.0535	1.4813	1.4369
Waller	2285002006	0.5089	3.5743	12.4668	0.0125	0.0111	0.3088	0.2995
Waller	2285002010	0.8689	2.1859	13.7842	0.0073	0.0065	0.3222	0.3125
Ward	2285002006	5.6356	39.5803	147.1775	0.1386	0.1234	3.4193	3.3167

County	SCC[2]	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ward	2285002007	0.2038	0.3853	3.8205	0.0015	0.0014	0.0877	0.0850
Ward	2285002010	0.8615	2.1673	14.5704	0.0073	0.0065	0.3195	0.3099
Washington	2285002006	3.3182	23.3051	81.2859	0.0816	0.0727	2.0133	1.9529
Washington	2285002010	0.0074	0.0186	0.1172	0.0001	0.0001	0.0027	0.0027
Webb	2285002006	9.5566	67.1191	249.5788	0.2351	0.2093	5.7983	5.6243
Webb	2285002010	3.1210	7.8517	52.7851	0.0263	0.0234	1.1573	1.1226
Wharton	2285002006	6.3766	44.7848	156.2053	0.1569	0.1396	3.8689	3.7528
Wharton	2285002008	0.0769	0.6274	2.0557	0.0022	0.0020	0.0495	0.0480
Wichita	2285002006	5.8517	41.0983	152.8218	0.1440	0.1281	3.5504	3.4439
Wichita	2285002007	0.5187	0.9808	9.7253	0.0039	0.0035	0.2231	0.2164
Wichita	2285002010	0.3861	0.9714	6.5308	0.0033	0.0029	0.1432	0.1389
Wilbarger	2285002006	6.0373	42.4016	157.6681	0.1485	0.1322	3.6630	3.5531
Wilbarger	2285002010	0.0074	0.0186	0.1250	0.0001	0.0001	0.0027	0.0027
Willacy	2285002006	0.4699	3.3005	12.2728	0.0116	0.0103	0.2851	0.2766
Williamson	2285002006	5.7328	40.2635	140.4354	0.1410	0.1255	3.4783	3.3739
Williamson	2285002007	1.8277	3.4560	32.1450	0.0138	0.0123	0.7863	0.7627
Williamson	2285002008	0.2356	1.9216	6.2961	0.0067	0.0060	0.1516	0.1470
Williamson	2285002010	0.9132	2.2974	14.4875	0.0077	0.0069	0.3386	0.3285
Wilson	2285002010	1.2922	3.2510	20.5005	0.0109	0.0097	0.4792	0.4648
Winkler	2285002007	0.7495	1.4172	14.0529	0.0057	0.0050	0.3224	0.3128
Wise	2285002006	8.4642	59.4468	207.3448	0.2082	0.1853	5.1355	4.9814
Wise	2285002010	1.2922	3.2510	20.5005	0.0109	0.0097	0.4792	0.4648
Wood	2285002006	4.0335	28.3286	98.8075	0.0992	0.0883	2.4473	2.3738
Wood	2285002008	0.1591	1.2975	4.2513	0.0045	0.0040	0.1023	0.0993
Wood	2285002010	1.7230	4.3346	27.3340	0.0145	0.0129	0.6389	0.6197

[1] Pb emissions were less than 1 ton/ year,

[2] SCC represents the following categories: 2285002006: Line Haul Locomotives: Class I Operations, 2285002007: Line Haul Locomotives: Class II / III Operations, 2285002008: Line Haul Locomotives: Passenger Trains (Amtrak), 2285002009: Line Haul Locomotives: Commuter Lines, and 2285002010: Yard Locomotives.

Controlled 2020 Summer Weekday County-Level Emissions by Criteria Pollutant (tons/day).

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Anderson	2285002006	0.0151	0.1060	0.3699	0.0004	0.0003	0.0092	0.0089
Anderson	2285002007	0.0023	0.0044	0.0406	0.0000	0.0000	0.0010	0.0010
Anderson	2285002010	0.0035	0.0089	0.0562	0.0000	0.0000	0.0013	0.0013
Andrews	2285002007	0.0003	0.0006	0.0055	0.0000	0.0000	0.0001	0.0001
Angelina	2285002006	0.0041	0.0290	0.1012	0.0001	0.0001	0.0025	0.0024
Angelina	2285002007	0.0002	0.0005	0.0043	0.0000	0.0000	0.0001	0.0001
Angelina	2285002010	0.0012	0.0030	0.0190	0.0000	0.0000	0.0004	0.0004
Armstrong	2285002006	0.0157	0.1105	0.4109	0.0004	0.0003	0.0095	0.0093
Atascosa	2285002006	0.0041	0.0288	0.1004	0.0001	0.0001	0.0025	0.0024
Atascosa	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Austin	2285002006	0.0233	0.1636	0.5708	0.0006	0.0005	0.0141	0.0137
Austin	2285002010	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Bailey	2285002006	0.0029	0.0202	0.0751	0.0001	0.0001	0.0017	0.0017
Bastrop	2285002006	0.0126	0.0886	0.3092	0.0003	0.0003	0.0077	0.0074
Bastrop	2285002007	0.0015	0.0028	0.0261	0.0000	0.0000	0.0006	0.0006
Bastrop	2285002010	0.0024	0.0059	0.0374	0.0000	0.0000	0.0009	0.0008
Bell	2285002006	0.0365	0.2564	0.8944	0.0009	0.0008	0.0222	0.0215
Bell	2285002007	0.0011	0.0020	0.0187	0.0000	0.0000	0.0005	0.0004
Bell	2285002008	0.0006	0.0049	0.0161	0.0000	0.0000	0.0004	0.0004
Bell	2285002010	0.0052	0.0131	0.0825	0.0000	0.0000	0.0019	0.0019
Bexar	2285002006	0.0504	0.3542	1.2353	0.0012	0.0011	0.0306	0.0297
Bexar	2285002007	0.0011	0.0020	0.0185	0.0000	0.0000	0.0005	0.0004
Bexar	2285002008	0.0014	0.0114	0.0374	0.0000	0.0000	0.0009	0.0009
Bexar	2285002010	0.0183	0.0461	0.2907	0.0002	0.0001	0.0068	0.0066
Bosque	2285002006	0.0277	0.1944	0.6781	0.0007	0.0006	0.0168	0.0163
Bosque	2285002008	0.0007	0.0055	0.0179	0.0000	0.0000	0.0004	0.0004
Bowie	2285002006	0.0280	0.1967	0.6862	0.0007	0.0006	0.0170	0.0165
Bowie	2285002007	0.0073	0.0138	0.1286	0.0001	0.0000	0.0031	0.0031
Bowie	2285002008	0.0002	0.0012	0.0040	0.0000	0.0000	0.0001	0.0001
Brazoria	2285002006	0.0281	0.1974	0.6886	0.0007	0.0006	0.0171	0.0165
Brazoria	2285002010	0.0162	0.0407	0.2569	0.0001	0.0001	0.0060	0.0058
Brazos	2285002006	0.0212	0.1488	0.5188	0.0005	0.0005	0.0129	0.0125
Brazos	2285002010	0.0012	0.0030	0.0187	0.0000	0.0000	0.0004	0.0004
Brewster	2285002006	0.0176	0.1236	0.4596	0.0004	0.0004	0.0107	0.0104
Brewster	2285002007	0.0024	0.0045	0.0446	0.0000	0.0000	0.0010	0.0010
Brewster	2285002008	0.0014	0.0112	0.0393	0.0000	0.0000	0.0009	0.0009
Brown	2285002006	0.0094	0.0661	0.2456	0.0002	0.0002	0.0057	0.0055
Brown	2285002007	0.0023	0.0043	0.0423	0.0000	0.0000	0.0010	0.0009
Burleson	2285002006	0.0374	0.2627	0.9164	0.0009	0.0008	0.0227	0.0220
Burleson	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Burnet	2285002007	0.0023	0.0043	0.0423	0.0000	0.0000	0.0010	0.0009
Caldwell	2285002006	0.0129	0.0905	0.3156	0.0003	0.0003	0.0078	0.0076
Caldwell	2285002008	0.0002	0.0014	0.0047	0.0000	0.0000	0.0001	0.0001
Calhoun	2285002007	0.0002	0.0004	0.0037	0.0000	0.0000	0.0001	0.0001
Calhoun	2285002010	0.0012	0.0030	0.0190	0.0000	0.0000	0.0004	0.0004
Callahan	2285002006	0.0151	0.1063	0.3951	0.0004	0.0003	0.0092	0.0089
Cameron	2285002006	0.0022	0.0157	0.0585	0.0001	0.0000	0.0014	0.0013
Cameron	2285002007	0.0028	0.0053	0.0522	0.0000	0.0000	0.0012	0.0012
Cameron	2285002010	0.0025	0.0063	0.0423	0.0000	0.0000	0.0009	0.0009
Camp	2285002006	0.0079	0.0553	0.1927	0.0002	0.0002	0.0048	0.0046
Camp	2285002007	0.0006	0.0010	0.0097	0.0000	0.0000	0.0002	0.0002
Carson	2285002006	0.0647	0.4541	1.6887	0.0016	0.0014	0.0392	0.0381
Carson	2285002007	0.0025	0.0047	0.0463	0.0000	0.0000	0.0011	0.0010

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Carson	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Cass	2285002006	0.0302	0.2119	0.7392	0.0007	0.0007	0.0183	0.0178
Cass	2285002008	0.0006	0.0046	0.0151	0.0000	0.0000	0.0004	0.0004
Cass	2285002010	0.0009	0.0023	0.0147	0.0000	0.0000	0.0003	0.0003
Castro	2285002006	0.0048	0.0335	0.1245	0.0001	0.0001	0.0029	0.0028
Castro	2285002007	0.0016	0.0030	0.0296	0.0000	0.0000	0.0007	0.0007
Castro	2285002010	0.0029	0.0072	0.0485	0.0000	0.0000	0.0011	0.0010
Chambers	2285002006	0.0007	0.0052	0.0181	0.0000	0.0000	0.0004	0.0004
Chambers	2285002010	0.0024	0.0061	0.0384	0.0000	0.0000	0.0009	0.0009
Cherokee	2285002006	0.0129	0.0905	0.3156	0.0003	0.0003	0.0078	0.0076
Cherokee	2285002007	0.0021	0.0039	0.0361	0.0000	0.0000	0.0009	0.0009
Childress	2285002006	0.0137	0.0962	0.3577	0.0003	0.0003	0.0083	0.0081
Clay	2285002006	0.0151	0.1059	0.3938	0.0004	0.0003	0.0091	0.0089
Cochran	2285002007	0.0001	0.0001	0.0014	0.0000	0.0000	0.0000	0.0000
Coleman	2285002006	0.0126	0.0883	0.3283	0.0003	0.0003	0.0076	0.0074
Coleman	2285002007	0.0014	0.0027	0.0271	0.0000	0.0000	0.0006	0.0006
Collin	2285002006	0.0099	0.0697	0.2431	0.0002	0.0002	0.0060	0.0058
Collin	2285002007	0.0043	0.0081	0.0752	0.0000	0.0000	0.0018	0.0018
Collin	2285002010	0.0019	0.0047	0.0294	0.0000	0.0000	0.0007	0.0007
Colorado	2285002006	0.0164	0.1151	0.4015	0.0004	0.0004	0.0099	0.0096
Colorado	2285002008	0.0006	0.0053	0.0173	0.0000	0.0000	0.0004	0.0004
Colorado	2285002010	0.0024	0.0059	0.0374	0.0000	0.0000	0.0009	0.0008
Comal	2285002006	0.0102	0.0719	0.2507	0.0003	0.0002	0.0062	0.0060
Comal	2285002007	0.0001	0.0003	0.0024	0.0000	0.0000	0.0001	0.0001
Comal	2285002008	0.0009	0.0070	0.0230	0.0000	0.0000	0.0006	0.0005
Comal	2285002010	0.0048	0.0120	0.0759	0.0000	0.0000	0.0018	0.0017
Comanche	2285002007	0.0037	0.0069	0.0686	0.0000	0.0000	0.0016	0.0015
Cooke	2285002006	0.0134	0.0938	0.3272	0.0003	0.0003	0.0081	0.0079
Cooke	2285002008	0.0004	0.0031	0.0100	0.0000	0.0000	0.0002	0.0002
Coryell	2285002006	0.0032	0.0223	0.0779	0.0001	0.0001	0.0019	0.0019
Coryell	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Crane	2285002006	0.0005	0.0036	0.0135	0.0000	0.0000	0.0003	0.0003
Crane	2285002007	0.0002	0.0005	0.0045	0.0000	0.0000	0.0001	0.0001
Crockett	2285002007	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Culberson	2285002006	0.0203	0.1428	0.5310	0.0005	0.0004	0.0123	0.0120
Culberson	2285002008	0.0003	0.0026	0.0092	0.0000	0.0000	0.0002	0.0002
Dallam	2285002006	0.0216	0.1515	0.5633	0.0005	0.0005	0.0131	0.0127
Dallam	2285002010	0.0035	0.0089	0.0599	0.0000	0.0000	0.0013	0.0013
Dallas	2285002006	0.0270	0.1893	0.6603	0.0007	0.0006	0.0164	0.0159
Dallas	2285002007	0.0091	0.0171	0.1595	0.0001	0.0001	0.0039	0.0038
Dallas	2285002008	0.0006	0.0050	0.0165	0.0000	0.0000	0.0004	0.0004
Dallas	2285002009	0.0025	0.0206	0.0676	0.0001	0.0001	0.0016	0.0016
Dallas	2285002010	0.0197	0.0494	0.3118	0.0002	0.0001	0.0073	0.0071
De Witt	2285002006	0.0015	0.0107	0.0374	0.0000	0.0000	0.0009	0.0009
Deaf Smith	2285002006	0.0465	0.3268	1.2151	0.0011	0.0010	0.0282	0.0274
Deaf Smith	2285002010	0.0010	0.0024	0.0162	0.0000	0.0000	0.0004	0.0003
Delta	2285002007	0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000
Denton	2285002006	0.0426	0.2993	1.0440	0.0010	0.0009	0.0259	0.0251
Denton	2285002007	0.0020	0.0039	0.0359	0.0000	0.0000	0.0009	0.0009
Denton	2285002008	0.0006	0.0046	0.0151	0.0000	0.0000	0.0004	0.0004
Denton	2285002009	0.0015	0.0120	0.0393	0.0000	0.0000	0.0009	0.0009
Denton	2285002010	0.0093	0.0234	0.1473	0.0001	0.0001	0.0034	0.0033
Donley	2285002006	0.0186	0.1309	0.4867	0.0005	0.0004	0.0113	0.0110
Duval	2285002006	0.0133	0.0937	0.3482	0.0003	0.0003	0.0081	0.0078
Eastland	2285002006	0.0156	0.1096	0.4075	0.0004	0.0003	0.0095	0.0092
Eastland	2285002007	0.0001	0.0001	0.0010	0.0000	0.0000	0.0000	0.0000

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ector	2285002006	0.0113	0.0792	0.2945	0.0003	0.0002	0.0068	0.0066
Ector	2285002010	0.0071	0.0178	0.1198	0.0001	0.0001	0.0026	0.0025
El Paso	2285002006	0.0436	0.3064	1.1392	0.0011	0.0010	0.0265	0.0257
El Paso	2285002007	0.0008	0.0016	0.0154	0.0000	0.0000	0.0004	0.0003
El Paso	2285002008	0.0009	0.0072	0.0250	0.0000	0.0000	0.0006	0.0005
El Paso	2285002010	0.0233	0.0585	0.3935	0.0002	0.0002	0.0086	0.0084
Ellis	2285002006	0.0206	0.1450	0.5059	0.0005	0.0005	0.0125	0.0122
Ellis	2285002010	0.0083	0.0208	0.1311	0.0001	0.0001	0.0031	0.0030
Erath	2285002007	0.0036	0.0068	0.0672	0.0000	0.0000	0.0015	0.0015
Erath	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Falls	2285002006	0.0114	0.0803	0.2801	0.0003	0.0003	0.0069	0.0067
Fannin	2285002007	0.0040	0.0075	0.0701	0.0000	0.0000	0.0017	0.0017
Fayette	2285002006	0.0354	0.2484	0.8665	0.0009	0.0008	0.0215	0.0208
Fayette	2285002008	0.0004	0.0032	0.0105	0.0000	0.0000	0.0003	0.0002
Fayette	2285002010	0.0024	0.0060	0.0378	0.0000	0.0000	0.0009	0.0009
Fisher	2285002006	0.0049	0.0342	0.1270	0.0001	0.0001	0.0030	0.0029
Fort Bend	2285002006	0.0461	0.3236	1.1286	0.0011	0.0010	0.0280	0.0271
Fort Bend	2285002007	0.0002	0.0004	0.0039	0.0000	0.0000	0.0001	0.0001
Fort Bend	2285002008	0.0006	0.0047	0.0155	0.0000	0.0000	0.0004	0.0004
Fort Bend	2285002010	0.0015	0.0036	0.0230	0.0000	0.0000	0.0005	0.0005
Franklin	2285002006	0.0010	0.0070	0.0243	0.0000	0.0000	0.0006	0.0006
Franklin	2285002007	0.0005	0.0010	0.0090	0.0000	0.0000	0.0002	0.0002
Freestone	2285002006	0.0088	0.0616	0.2150	0.0002	0.0002	0.0053	0.0052
Freestone	2285002010	0.0019	0.0048	0.0304	0.0000	0.0000	0.0007	0.0007
Frio	2285002006	0.0129	0.0906	0.3369	0.0003	0.0003	0.0078	0.0076
Gaines	2285002007	0.0003	0.0005	0.0049	0.0000	0.0000	0.0001	0.0001
Galveston	2285002006	0.0113	0.0794	0.2768	0.0003	0.0002	0.0069	0.0067
Galveston	2285002007	0.0026	0.0049	0.0454	0.0000	0.0000	0.0011	0.0011
Galveston	2285002010	0.0036	0.0090	0.0565	0.0000	0.0000	0.0013	0.0013
Garza	2285002006	0.0100	0.0705	0.2622	0.0002	0.0002	0.0061	0.0059
Goliad	2285002006	0.0001	0.0007	0.0024	0.0000	0.0000	0.0001	0.0001
Gonzales	2285002006	0.0142	0.1000	0.3489	0.0004	0.0003	0.0086	0.0084
Gonzales	2285002007	0.0065	0.0123	0.1142	0.0000	0.0000	0.0028	0.0027
Gonzales	2285002008	0.0004	0.0031	0.0103	0.0000	0.0000	0.0002	0.0002
Gonzales	2285002010	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Gray	2285002006	0.0345	0.2422	0.9007	0.0008	0.0008	0.0209	0.0203
Gray	2285002010	0.0019	0.0049	0.0327	0.0000	0.0000	0.0007	0.0007
Grayson	2285002006	0.0364	0.2558	0.8923	0.0009	0.0008	0.0221	0.0214
Grayson	2285002007	0.0094	0.0177	0.1651	0.0001	0.0001	0.0040	0.0039
Grayson	2285002010	0.0059	0.0149	0.0939	0.0000	0.0000	0.0022	0.0021
Gregg	2285002006	0.0129	0.0908	0.3166	0.0003	0.0003	0.0078	0.0076
Gregg	2285002008	0.0003	0.0022	0.0073	0.0000	0.0000	0.0002	0.0002
Gregg	2285002010	0.0094	0.0238	0.1498	0.0001	0.0001	0.0035	0.0034
Grimes	2285002006	0.0172	0.1208	0.4213	0.0004	0.0004	0.0104	0.0101
Grimes	2285002007	0.0008	0.0015	0.0138	0.0000	0.0000	0.0003	0.0003
Grimes	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Guadalupe	2285002006	0.0232	0.1627	0.5676	0.0006	0.0005	0.0141	0.0136
Guadalupe	2285002008	0.0006	0.0051	0.0168	0.0000	0.0000	0.0004	0.0004
Guadalupe	2285002010	0.0024	0.0059	0.0374	0.0000	0.0000	0.0009	0.0008
Hale	2285002006	0.0089	0.0628	0.2336	0.0002	0.0002	0.0054	0.0053
Hale	2285002007	0.0018	0.0035	0.0344	0.0000	0.0000	0.0008	0.0008
Hale	2285002010	0.0039	0.0098	0.0660	0.0000	0.0000	0.0014	0.0014
Hall	2285002006	0.0085	0.0600	0.2230	0.0002	0.0002	0.0052	0.0050
Hansford	2285002007	0.0001	0.0001	0.0010	0.0000	0.0000	0.0000	0.0000
Hardeman	2285002006	0.0155	0.1091	0.4056	0.0004	0.0003	0.0094	0.0091
Hardeman	2285002007	0.0006	0.0012	0.0118	0.0000	0.0000	0.0003	0.0003

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Hardeman	2285002010	0.0019	0.0049	0.0327	0.0000	0.0000	0.0007	0.0007
Hardin	2285002006	0.0084	0.0590	0.2059	0.0002	0.0002	0.0051	0.0049
Hardin	2285002007	0.0007	0.0014	0.0128	0.0000	0.0000	0.0003	0.0003
Hardin	2285002010	0.0069	0.0173	0.1092	0.0001	0.0001	0.0026	0.0025
Harris	2285002006	0.0898	0.6306	2.1995	0.0022	0.0020	0.0545	0.0528
Harris	2285002007	0.0094	0.0177	0.1650	0.0001	0.0001	0.0040	0.0039
Harris	2285002008	0.0008	0.0065	0.0212	0.0000	0.0000	0.0005	0.0005
Harris	2285002010	0.1765	0.4441	2.8004	0.0015	0.0013	0.0655	0.0635
Harrison	2285002006	0.0332	0.2328	0.8121	0.0008	0.0007	0.0201	0.0195
Harrison	2285002008	0.0006	0.0045	0.0149	0.0000	0.0000	0.0004	0.0003
Harrison	2285002010	0.0012	0.0030	0.0190	0.0000	0.0000	0.0004	0.0004
Hartley	2285002006	0.0212	0.1486	0.5525	0.0005	0.0005	0.0128	0.0125
Hays	2285002006	0.0085	0.0599	0.2091	0.0002	0.0002	0.0052	0.0050
Hays	2285002008	0.0004	0.0035	0.0116	0.0000	0.0000	0.0003	0.0003
Hays	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Hemphill	2285002006	0.0564	0.3963	1.4735	0.0014	0.0012	0.0342	0.0332
Hemphill	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Henderson	2285002006	0.0080	0.0564	0.1968	0.0002	0.0002	0.0049	0.0047
Hidalgo	2285002007	0.0054	0.0103	0.1021	0.0000	0.0000	0.0023	0.0023
Hidalgo	2285002010	0.0001	0.0002	0.0014	0.0000	0.0000	0.0000	0.0000
Hill	2285002006	0.0185	0.1303	0.4543	0.0005	0.0004	0.0113	0.0109
Hill	2285002008	0.0002	0.0014	0.0044	0.0000	0.0000	0.0001	0.0001
Hill	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Hockley	2285002006	0.0011	0.0079	0.0295	0.0000	0.0000	0.0007	0.0007
Hockley	2285002007	0.0024	0.0046	0.0458	0.0000	0.0000	0.0011	0.0010
Hood	2285002007	0.0034	0.0064	0.0594	0.0000	0.0000	0.0015	0.0014
Hood	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Hopkins	2285002006	0.0091	0.0639	0.2230	0.0002	0.0002	0.0055	0.0054
Hopkins	2285002007	0.0030	0.0058	0.0535	0.0000	0.0000	0.0013	0.0013
Houston	2285002006	0.0092	0.0643	0.2243	0.0002	0.0002	0.0056	0.0054
Howard	2285002006	0.0132	0.0924	0.3435	0.0003	0.0003	0.0080	0.0077
Howard	2285002007	0.0002	0.0003	0.0030	0.0000	0.0000	0.0001	0.0001
Howard	2285002010	0.0083	0.0208	0.1397	0.0001	0.0001	0.0031	0.0030
Hudspeth	2285002006	0.0441	0.3099	1.1522	0.0011	0.0010	0.0268	0.0260
Hudspeth	2285002008	0.0013	0.0109	0.0382	0.0000	0.0000	0.0009	0.0008
Hunt	2285002006	0.0054	0.0381	0.1328	0.0001	0.0001	0.0033	0.0032
Hunt	2285002007	0.0048	0.0092	0.0852	0.0000	0.0000	0.0021	0.0020
Hutchinson	2285002007	0.0014	0.0027	0.0268	0.0000	0.0000	0.0006	0.0006
Hutchinson	2285002010	0.0000	0.0001	0.0007	0.0000	0.0000	0.0000	0.0000
Irion	2285002007	0.0028	0.0053	0.0525	0.0000	0.0000	0.0012	0.0012
Jackson	2285002006	0.0112	0.0787	0.2745	0.0003	0.0002	0.0068	0.0066
Jackson	2285002007	0.0007	0.0014	0.0126	0.0000	0.0000	0.0003	0.0003
Jasper	2285002007	0.0073	0.0139	0.1289	0.0001	0.0000	0.0032	0.0031
Jasper	2285002010	0.0019	0.0048	0.0304	0.0000	0.0000	0.0007	0.0007
Jeff Davis	2285002006	0.0069	0.0488	0.1813	0.0002	0.0002	0.0042	0.0041
Jeff Davis	2285002008	0.0004	0.0036	0.0127	0.0000	0.0000	0.0003	0.0003
Jefferson	2285002006	0.0188	0.1318	0.4598	0.0005	0.0004	0.0114	0.0110
Jefferson	2285002008	0.0004	0.0031	0.0100	0.0000	0.0000	0.0002	0.0002
Jefferson	2285002010	0.0227	0.0571	0.3598	0.0002	0.0002	0.0084	0.0082
Jim Hogg	2285002006	0.0036	0.0254	0.0944	0.0001	0.0001	0.0022	0.0021
Jim Wells	2285002006	0.0056	0.0392	0.1459	0.0001	0.0001	0.0034	0.0033
Johnson	2285002006	0.0282	0.1979	0.6901	0.0007	0.0006	0.0171	0.0166
Johnson	2285002007	0.0017	0.0032	0.0301	0.0000	0.0000	0.0007	0.0007
Johnson	2285002008	0.0004	0.0035	0.0115	0.0000	0.0000	0.0003	0.0003
Johnson	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Kaufman	2285002006	0.0101	0.0713	0.2485	0.0002	0.0002	0.0062	0.0060

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Kaufman	2285002008	0.0005	0.0037	0.0122	0.0000	0.0000	0.0003	0.0003
Kenedy	2285002006	0.0033	0.0234	0.0872	0.0001	0.0001	0.0020	0.0020
Kinney	2285002006	0.0206	0.1448	0.5385	0.0005	0.0005	0.0125	0.0121
Kinney	2285002008	0.0008	0.0063	0.0220	0.0000	0.0000	0.0005	0.0005
Kleberg	2285002006	0.0015	0.0107	0.0399	0.0000	0.0000	0.0009	0.0009
La Salle	2285002006	0.0132	0.0924	0.3435	0.0003	0.0003	0.0080	0.0077
Lamar	2285002007	0.0018	0.0033	0.0309	0.0000	0.0000	0.0008	0.0007
Lamb	2285002006	0.0048	0.0338	0.1255	0.0001	0.0001	0.0029	0.0028
Lampasas	2285002006	0.0130	0.0914	0.3399	0.0003	0.0003	0.0079	0.0077
Lampasas	2285002007	0.0011	0.0020	0.0197	0.0000	0.0000	0.0005	0.0004
Lavaca	2285002006	0.0013	0.0094	0.0329	0.0000	0.0000	0.0008	0.0008
Lee	2285002006	0.0144	0.1010	0.3523	0.0004	0.0003	0.0087	0.0085
Lee	2285002007	0.0004	0.0008	0.0078	0.0000	0.0000	0.0002	0.0002
Leon	2285002006	0.0142	0.0998	0.3482	0.0003	0.0003	0.0086	0.0084
Leon	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Liberty	2285002006	0.0338	0.2372	0.8274	0.0008	0.0007	0.0205	0.0199
Liberty	2285002008	0.0006	0.0049	0.0162	0.0000	0.0000	0.0004	0.0004
Liberty	2285002010	0.0367	0.0924	0.5826	0.0003	0.0003	0.0136	0.0132
Limestone	2285002006	0.0176	0.1239	0.4321	0.0004	0.0004	0.0107	0.0104
Lipscomb	2285002006	0.0198	0.1390	0.5169	0.0005	0.0004	0.0120	0.0116
Live Oak	2285002006	0.0041	0.0285	0.0993	0.0001	0.0001	0.0025	0.0024
Live Oak	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Llano	2285002007	0.0010	0.0019	0.0191	0.0000	0.0000	0.0004	0.0004
Lubbock	2285002006	0.0101	0.0708	0.2633	0.0002	0.0002	0.0061	0.0059
Lubbock	2285002007	0.0052	0.0098	0.0970	0.0000	0.0000	0.0022	0.0022
Lubbock	2285002010	0.0086	0.0216	0.1455	0.0001	0.0001	0.0032	0.0031
Lynn	2285002006	0.0005	0.0037	0.0137	0.0000	0.0000	0.0003	0.0003
Lynn	2285002007	0.0001	0.0003	0.0025	0.0000	0.0000	0.0001	0.0001
Madison	2285002006	0.0022	0.0153	0.0533	0.0001	0.0000	0.0013	0.0013
Marion	2285002006	0.0134	0.0939	0.3276	0.0003	0.0003	0.0081	0.0079
Marion	2285002008	0.0002	0.0019	0.0062	0.0000	0.0000	0.0002	0.0001
Martin	2285002006	0.0046	0.0323	0.1200	0.0001	0.0001	0.0028	0.0027
Matagorda	2285002006	0.0087	0.0608	0.2119	0.0002	0.0002	0.0052	0.0051
Matagorda	2285002007	0.0002	0.0003	0.0028	0.0000	0.0000	0.0001	0.0001
Matagorda	2285002010	0.0001	0.0002	0.0010	0.0000	0.0000	0.0000	0.0000
Maverick	2285002006	0.0103	0.0725	0.2697	0.0003	0.0002	0.0063	0.0061
Maverick	2285002007	0.0001	0.0001	0.0012	0.0000	0.0000	0.0000	0.0000
Maverick	2285002010	0.0013	0.0032	0.0213	0.0000	0.0000	0.0005	0.0005
McCulloch	2285002007	0.0014	0.0027	0.0266	0.0000	0.0000	0.0006	0.0006
McLennan	2285002006	0.0335	0.2356	0.8218	0.0008	0.0007	0.0204	0.0197
McLennan	2285002008	0.0005	0.0040	0.0130	0.0000	0.0000	0.0003	0.0003
McLennan	2285002010	0.0154	0.0386	0.2437	0.0001	0.0001	0.0057	0.0055
Medina	2285002006	0.0323	0.2268	0.8434	0.0008	0.0007	0.0196	0.0190
Medina	2285002007	0.0001	0.0003	0.0025	0.0000	0.0000	0.0001	0.0001
Medina	2285002008	0.0007	0.0060	0.0209	0.0000	0.0000	0.0005	0.0005
Medina	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Midland	2285002006	0.0095	0.0665	0.2472	0.0002	0.0002	0.0057	0.0056
Milam	2285002006	0.0429	0.3015	1.0516	0.0011	0.0009	0.0260	0.0253
Milam	2285002007	0.0005	0.0009	0.0086	0.0000	0.0000	0.0002	0.0002
Milam	2285002010	0.0001	0.0002	0.0010	0.0000	0.0000	0.0000	0.0000
Mills	2285002006	0.0106	0.0743	0.2763	0.0003	0.0002	0.0064	0.0062
Mills	2285002007	0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000
Mitchell	2285002006	0.0137	0.0965	0.3590	0.0003	0.0003	0.0083	0.0081
Montague	2285002006	0.0131	0.0917	0.3409	0.0003	0.0003	0.0079	0.0077
Montgomery	2285002006	0.0263	0.1849	0.6450	0.0006	0.0006	0.0160	0.0155
Montgomery	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Moore	2285002006	0.0191	0.1341	0.4986	0.0005	0.0004	0.0116	0.0112
Moore	2285002007	0.0027	0.0051	0.0502	0.0000	0.0000	0.0012	0.0011
Moore	2285002010	0.0020	0.0050	0.0334	0.0000	0.0000	0.0007	0.0007
Morris	2285002006	0.0065	0.0456	0.1590	0.0002	0.0001	0.0039	0.0038
Morris	2285002007	0.0005	0.0010	0.0089	0.0000	0.0000	0.0002	0.0002
Morris	2285002010	0.0002	0.0004	0.0024	0.0000	0.0000	0.0001	0.0001
Nacogdoches	2285002006	0.0071	0.0497	0.1732	0.0002	0.0002	0.0043	0.0042
Nacogdoches	2285002010	0.0024	0.0059	0.0374	0.0000	0.0000	0.0009	0.0008
Navarro	2285002006	0.0236	0.1656	0.5777	0.0006	0.0005	0.0143	0.0139
Navarro	2285002010	0.0024	0.0059	0.0374	0.0000	0.0000	0.0009	0.0008
Newton	2285002006	0.0025	0.0172	0.0601	0.0001	0.0001	0.0015	0.0014
Newton	2285002007	0.0014	0.0026	0.0242	0.0000	0.0000	0.0006	0.0006
Nolan	2285002006	0.0190	0.1332	0.4953	0.0005	0.0004	0.0115	0.0112
Nolan	2285002007	0.0008	0.0016	0.0159	0.0000	0.0000	0.0004	0.0004
Nolan	2285002010	0.0010	0.0024	0.0162	0.0000	0.0000	0.0004	0.0003
Nueces	2285002006	0.0101	0.0710	0.2476	0.0002	0.0002	0.0061	0.0059
Nueces	2285002007	0.0010	0.0019	0.0173	0.0000	0.0000	0.0004	0.0004
Nueces	2285002010	0.0093	0.0233	0.1470	0.0001	0.0001	0.0034	0.0033
Oldham	2285002006	0.0033	0.0230	0.0854	0.0001	0.0001	0.0020	0.0019
Orange	2285002006	0.0186	0.1309	0.4566	0.0005	0.0004	0.0113	0.0110
Orange	2285002007	0.0019	0.0036	0.0338	0.0000	0.0000	0.0008	0.0008
Orange	2285002008	0.0006	0.0046	0.0150	0.0000	0.0000	0.0004	0.0003
Orange	2285002010	0.0037	0.0094	0.0591	0.0000	0.0000	0.0014	0.0013
Palo Pinto	2285002006	0.0181	0.1268	0.4716	0.0004	0.0004	0.0110	0.0106
Panola	2285002006	0.0020	0.0141	0.0490	0.0000	0.0000	0.0012	0.0012
Panola	2285002007	0.0015	0.0028	0.0257	0.0000	0.0000	0.0006	0.0006
Panola	2285002010	0.0019	0.0048	0.0304	0.0000	0.0000	0.0007	0.0007
Parker	2285002006	0.0172	0.1206	0.4208	0.0004	0.0004	0.0104	0.0101
Parker	2285002007	0.0000	0.0001	0.0006	0.0000	0.0000	0.0000	0.0000
Parmer	2285002006	0.0823	0.5780	2.1492	0.0020	0.0018	0.0499	0.0484
Parmer	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Pecos	2285002006	0.0019	0.0131	0.0485	0.0000	0.0000	0.0011	0.0011
Pecos	2285002007	0.0046	0.0086	0.0853	0.0000	0.0000	0.0020	0.0019
Pecos	2285002008	0.0001	0.0012	0.0041	0.0000	0.0000	0.0001	0.0001
Polk	2285002006	0.0064	0.0450	0.1569	0.0002	0.0001	0.0039	0.0038
Polk	2285002007	0.0002	0.0003	0.0031	0.0000	0.0000	0.0001	0.0001
Potter	2285002006	0.0632	0.4437	1.6497	0.0016	0.0014	0.0383	0.0372
Potter	2285002010	0.0203	0.0510	0.3427	0.0002	0.0002	0.0075	0.0073
Presidio	2285002006	0.0097	0.0679	0.2526	0.0002	0.0002	0.0059	0.0057
Presidio	2285002007	0.0051	0.0097	0.0959	0.0000	0.0000	0.0022	0.0021
Presidio	2285002008	0.0008	0.0062	0.0216	0.0000	0.0000	0.0005	0.0005
Randall	2285002006	0.0670	0.4707	1.7502	0.0016	0.0015	0.0407	0.0394
Randall	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Reagan	2285002007	0.0020	0.0038	0.0378	0.0000	0.0000	0.0009	0.0008
Reeves	2285002006	0.0155	0.1086	0.4037	0.0004	0.0003	0.0094	0.0091
Reeves	2285002007	0.0023	0.0044	0.0437	0.0000	0.0000	0.0010	0.0010
Reeves	2285002010	0.0000	0.0001	0.0005	0.0000	0.0000	0.0000	0.0000
Refugio	2285002006	0.0124	0.0873	0.3045	0.0003	0.0003	0.0075	0.0073
Roberts	2285002006	0.0311	0.2185	0.8123	0.0008	0.0007	0.0189	0.0183
Robertson	2285002006	0.0402	0.2824	0.9850	0.0010	0.0009	0.0244	0.0237
Robertson	2285002010	0.0035	0.0089	0.0562	0.0000	0.0000	0.0013	0.0013
Rockwall	2285002007	0.0011	0.0021	0.0191	0.0000	0.0000	0.0005	0.0005
Runnels	2285002007	0.0023	0.0043	0.0426	0.0000	0.0000	0.0010	0.0009
Runnels	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Rusk	2285002006	0.0045	0.0316	0.1102	0.0001	0.0001	0.0027	0.0026
Rusk	2285002007	0.0010	0.0018	0.0170	0.0000	0.0000	0.0004	0.0004

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Rusk	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Sabine	2285002007	0.0015	0.0028	0.0260	0.0000	0.0000	0.0006	0.0006
San Augustine	2285002007	0.0013	0.0025	0.0237	0.0000	0.0000	0.0006	0.0006
San Jacinto	2285002006	0.0022	0.0151	0.0527	0.0001	0.0000	0.0013	0.0013
San Patricio	2285002006	0.0093	0.0656	0.2287	0.0002	0.0002	0.0057	0.0055
San Patricio	2285002010	0.0024	0.0060	0.0381	0.0000	0.0000	0.0009	0.0009
San Saba	2285002007	0.0030	0.0056	0.0553	0.0000	0.0000	0.0013	0.0012
Scurry	2285002006	0.0095	0.0666	0.2477	0.0002	0.0002	0.0058	0.0056
Shelby	2285002006	0.0068	0.0476	0.1661	0.0002	0.0001	0.0041	0.0040
Shelby	2285002007	0.0022	0.0042	0.0391	0.0000	0.0000	0.0010	0.0009
Shelby	2285002010	0.0019	0.0048	0.0304	0.0000	0.0000	0.0007	0.0007
Sherman	2285002006	0.0268	0.1880	0.6989	0.0007	0.0006	0.0162	0.0158
Smith	2285002006	0.0127	0.0894	0.3117	0.0003	0.0003	0.0077	0.0075
Smith	2285002008	0.0000	0.0002	0.0007	0.0000	0.0000	0.0000	0.0000
Smith	2285002010	0.0047	0.0119	0.0749	0.0000	0.0000	0.0018	0.0017
Somervell	2285002007	0.0002	0.0003	0.0026	0.0000	0.0000	0.0001	0.0001
Starr	2285002007	0.0013	0.0024	0.0240	0.0000	0.0000	0.0005	0.0005
Stephens	2285002006	0.0028	0.0197	0.0734	0.0001	0.0001	0.0017	0.0017
Swisher	2285002006	0.0068	0.0475	0.1766	0.0002	0.0001	0.0041	0.0040
Swisher	2285002007	0.0001	0.0002	0.0022	0.0000	0.0000	0.0001	0.0000
Tarrant	2285002006	0.0800	0.5617	1.9592	0.0020	0.0018	0.0485	0.0471
Tarrant	2285002007	0.0064	0.0121	0.1129	0.0000	0.0000	0.0028	0.0027
Tarrant	2285002008	0.0010	0.0080	0.0261	0.0000	0.0000	0.0006	0.0006
Tarrant	2285002009	0.0036	0.0290	0.0949	0.0001	0.0001	0.0023	0.0022
Tarrant	2285002010	0.0413	0.1038	0.6548	0.0003	0.0003	0.0153	0.0148
Taylor	2285002006	0.0259	0.1817	0.6755	0.0006	0.0006	0.0157	0.0152
Taylor	2285002007	0.0007	0.0013	0.0131	0.0000	0.0000	0.0003	0.0003
Taylor	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Terrell	2285002006	0.0129	0.0909	0.3378	0.0003	0.0003	0.0078	0.0076
Terrell	2285002008	0.0010	0.0083	0.0292	0.0000	0.0000	0.0007	0.0006
Terry	2285002007	0.0024	0.0045	0.0449	0.0000	0.0000	0.0010	0.0010
Titus	2285002006	0.0062	0.0437	0.1523	0.0002	0.0001	0.0038	0.0037
Titus	2285002007	0.0021	0.0039	0.0365	0.0000	0.0000	0.0009	0.0009
Titus	2285002010	0.0024	0.0060	0.0378	0.0000	0.0000	0.0009	0.0009
Tom Green	2285002007	0.0023	0.0044	0.0433	0.0000	0.0000	0.0010	0.0010
Tom Green	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Travis	2285002006	0.0093	0.0655	0.2283	0.0002	0.0002	0.0057	0.0055
Travis	2285002007	0.0032	0.0061	0.0564	0.0000	0.0000	0.0014	0.0013
Travis	2285002008	0.0005	0.0037	0.0121	0.0000	0.0000	0.0003	0.0003
Travis	2285002010	0.0005	0.0014	0.0087	0.0000	0.0000	0.0002	0.0002
Trinity	2285002006	0.0040	0.0281	0.0980	0.0001	0.0001	0.0024	0.0024
Upshur	2285002006	0.0133	0.0933	0.3253	0.0003	0.0003	0.0081	0.0078
Upshur	2285002008	0.0002	0.0016	0.0054	0.0000	0.0000	0.0001	0.0001
Upton	2285002007	0.0022	0.0042	0.0416	0.0000	0.0000	0.0010	0.0009
Uvalde	2285002006	0.0290	0.2037	0.7574	0.0007	0.0006	0.0176	0.0171
Uvalde	2285002008	0.0008	0.0063	0.0221	0.0000	0.0000	0.0005	0.0005
Uvalde	2285002010	0.0024	0.0060	0.0403	0.0000	0.0000	0.0009	0.0009
Val Verde	2285002006	0.0198	0.1391	0.5171	0.0005	0.0004	0.0120	0.0117
Val Verde	2285002008	0.0016	0.0127	0.0442	0.0000	0.0000	0.0010	0.0010
Van Zandt	2285002006	0.0108	0.0758	0.2645	0.0003	0.0002	0.0066	0.0064
Van Zandt	2285002008	0.0005	0.0040	0.0130	0.0000	0.0000	0.0003	0.0003
Victoria	2285002006	0.0153	0.1076	0.3753	0.0004	0.0003	0.0093	0.0090
Victoria	2285002010	0.0059	0.0149	0.0943	0.0001	0.0000	0.0022	0.0021
Walker	2285002006	0.0067	0.0470	0.1639	0.0002	0.0001	0.0041	0.0039
Waller	2285002006	0.0014	0.0098	0.0342	0.0000	0.0000	0.0008	0.0008
Waller	2285002010	0.0024	0.0060	0.0378	0.0000	0.0000	0.0009	0.0009

County	SCC	VOC	CO	NO_x	SO_2	NH_3	PM_{10}	$PM_{2.5}$
Ward	2285002006	0.0154	0.1084	0.4032	0.0004	0.0003	0.0094	0.0091
Ward	2285002007	0.0006	0.0011	0.0105	0.0000	0.0000	0.0002	0.0002
Ward	2285002010	0.0024	0.0059	0.0399	0.0000	0.0000	0.0009	0.0008
Washington	2285002006	0.0091	0.0638	0.2227	0.0002	0.0002	0.0055	0.0054
Washington	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Webb	2285002006	0.0262	0.1839	0.6838	0.0006	0.0006	0.0159	0.0154
Webb	2285002010	0.0086	0.0215	0.1446	0.0001	0.0001	0.0032	0.0031
Wharton	2285002006	0.0175	0.1227	0.4280	0.0004	0.0004	0.0106	0.0103
Wharton	2285002008	0.0002	0.0017	0.0056	0.0000	0.0000	0.0001	0.0001
Wichita	2285002006	0.0160	0.1126	0.4187	0.0004	0.0004	0.0097	0.0094
Wichita	2285002007	0.0014	0.0027	0.0266	0.0000	0.0000	0.0006	0.0006
Wichita	2285002010	0.0011	0.0027	0.0179	0.0000	0.0000	0.0004	0.0004
Wilbarger	2285002006	0.0165	0.1162	0.4320	0.0004	0.0004	0.0100	0.0097
Wilbarger	2285002010	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000
Willacy	2285002006	0.0013	0.0090	0.0336	0.0000	0.0000	0.0008	0.0008
Williamson	2285002006	0.0157	0.1103	0.3848	0.0004	0.0003	0.0095	0.0092
Williamson	2285002007	0.0050	0.0095	0.0881	0.0000	0.0000	0.0022	0.0021
Williamson	2285002008	0.0006	0.0053	0.0172	0.0000	0.0000	0.0004	0.0004
Williamson	2285002010	0.0025	0.0063	0.0397	0.0000	0.0000	0.0009	0.0009
Wilson	2285002010	0.0035	0.0089	0.0562	0.0000	0.0000	0.0013	0.0013
Winkler	2285002007	0.0021	0.0039	0.0385	0.0000	0.0000	0.0009	0.0009
Wise	2285002006	0.0232	0.1629	0.5681	0.0006	0.0005	0.0141	0.0136
Wise	2285002010	0.0035	0.0089	0.0562	0.0000	0.0000	0.0013	0.0013
Wood	2285002006	0.0111	0.0776	0.2707	0.0003	0.0002	0.0067	0.0065
Wood	2285002008	0.0004	0.0036	0.0116	0.0000	0.0000	0.0003	0.0003
Wood	2285002010	0.0047	0.0119	0.0749	0.0000	0.0000	0.0018	0.0017

APPENDIX G:
DETAILED EMISSIONS INVENTORY RESULTS (ELECTRONIC ONLY)

Available from the TCEQ upon request.

APPENDIX H:
QUALITY ASSURANCE AND QUALITY CONTROL RESULTS (ELECTRONIC ONLY)

Available from the TCEQ upon request.