

CHAPTER 3: CONFORMITY

3.1 What is Transportation Conformity?

Transportation conformity is a way to ensure federal funding and approval goes to transportation activities consistent with air quality goals. Before the metropolitan transportation plans (MTP) and transportation improvement programs (TIP) can be adopted, approved, or accepted in nonattainment areas, Metropolitan Planning Organizations (MPO) and the US Department of Transportation must make conformity determinations on these documents. Per Section 176(c) (1) (A) of the Clean Air Act Amendments of 1990 conformity is granted when the following conditions are met:

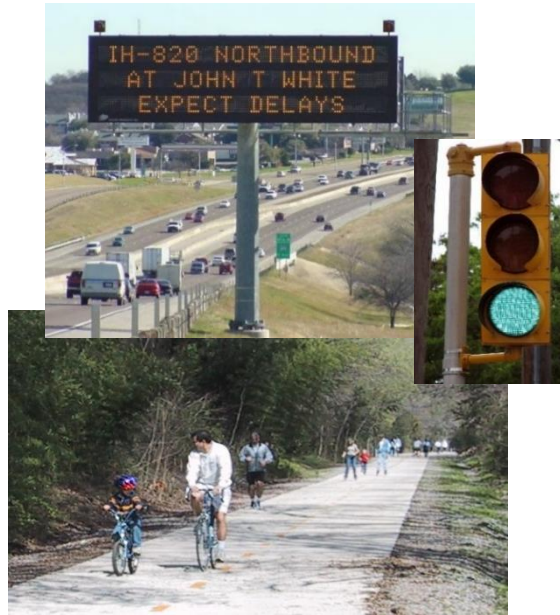
(A) conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and (B) that such activities will not (i) cause or contribute to any new violation of any standards in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

A regional emissions analysis is the key analytic component of the transportation conformity process. It is conducted to demonstrate regional emissions from on-road sources do not exceed the established Motor Vehicle Emission Budgets (MVEB), causing or contributing to violations of the Environmental Protection Agency's (EPA) National Ambient Air Quality Standards (NAAQS), and ensures transportation activities are consistent with air quality goals identified in the State Implementation Plan (SIP).

The determination of the analysis is a two-step process in metropolitan areas. The first step is for the MPO to make the initial transportation conformity determination at the local level. For the North Central Texas (NCT) nonattainment area, this responsibility falls with the Regional Transportation Council (RTC), the MPO's policy body. The second step is for the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to make a joint transportation conformity determination at the federal level. Upon federal approval, a four-year window begins during which projects, programs, and policies identified in the MTP and TIP may move toward implementation.

Another important goal of conformity is to demonstrate the timely implementation of Transportation Control Measures (TCM). TCMs are specific projects and programs designed to reduce emissions from transportation sources by reducing or relieving congestion. TCMs in the SIP are contained and funded in the MTP and the TIP. The TCMs are selected through the comprehensive transportation planning process during the development of these documents. Examples, pictured in Exhibit 3.1-1, include Intelligent Transportation System projects and traffic signal progression to help relieve congestion, as well as bike/pedestrian pathways offering alternate commute strategies.

Exhibit 3.1-1: Intelligent Transportation System Message Sign/Traffic Signal/Bike Pedestrian Path



Federal law also requires the State, working with the nonattainment area, to develop additional control measures to meet the Reasonable Further Progress (RFP) and Attainment Demonstration (AD) SIPs. Examples of these programs are included in Chapter 4 in the AD and RFP SIP. In addition, Appendix H of the AD SIP includes locally implemented control strategies adopted by the RTC.¹⁶

The first transportation conformity for NCT occurred in 1998. Exhibit 3.1-2 provides a historical summary of conformity-related activities in NCT.

Exhibit 3.1-2 North Central Texas Ozone Nonattainment Area Conformity History

DATE	MILESTONE	COMMENTS/SOURCE
November 18, 1998	Texas Natural Resource Conservation Commission (TNRCC) adopted Transportation Conformity SIP and Rule Revision	Transportation Conformity SIP Transportation Conformity Rule
December 10, 1998	TNRCC submitted Transportation Conformity SIP to EPA	Transportation Conformity SIP Transportation Conformity Rule
February 25, 1999	Favorable Air Quality Conformity Determination on Mobility 2020 Plan and 1999-2001 TIP	FHWA/FTA joint determination letter
April 20, 1999	NO _x Waiver Rescinded	Requires conformity conducted on NO _x emissions Effective Date: June 21, 1999 (64 FR 19283)

¹⁶ <https://www.tceq.texas.gov/airquality/sip/siplans.html>

Exhibit 3.1-2 North Central Texas Ozone Nonattainment Area Conformity History (continued)

DATE	MILESTONE	COMMENTS/SOURCE
July 8, 1999	EPA approved Implementation Plan for Texas: Transportation Conformity Rule	Effective Date: September 7, 1999 (64 FR 36790)
January 12, 2000	EPA declared 9% Rate of Progress MVEB adequate	MVEBs: NO _x = 284.14 tpd and VOC = 147.22 tpd Effective Date: January 27, 2000 (65 FR 1862)
May 8, 2000	Adequacy Review of AD SIP submissions for Conformity	90-day MVEB review
July 13, 2000	Favorable Air Quality Conformity Determination on Mobility 2025 Plan & 2000-2002 TIP	FHWA/FTA joint determination letter
October 20, 2000	EPA declared AD SIP MVEB adequate	Requires conformity analysis within 18 months on the new MVEBs: NO _x = 164.30 tpd and VOC = 107.60 tpd Effective Date: November 6, 2000 (65 FR 63074)
October 19, 2001	Favorable Air Quality Conformity Determination on Mobility 2025 Plan Update & 2002-2004 TIP	FHWA/FTA joint determination letter
January 27, 2003	Favorable Air Quality Conformity Determination on Mobility 2025 Plan & amended 2002-2004 TIP	FHWA/FTA joint determination letter
April 8, 2004	Favorable Air Quality Conformity Determination on Mobility 2025 Plan Update & 2004-2006 TIP	FHWA/FTA joint determination letter
July 1, 2004	EPA published final Transportation Conformity Rule Amendments for the new 8-hour ozone and Particulate Matter (PM) _{2.5} NAAQS and miscellaneous revisions for existing areas	Amended to include criteria and procedures for the new 8-hour ozone and PM _{2.5} NAAQS Effective Date: August 2, 2004 (69 FR 40004)
March 8, 2005	Guidance for determining the “attainment year” for Transportation Conformity in new 8-hour ozone and PM _{2.5} nonattainment areas	EPA Memorandum
June 1, 2005	EPA declared 5% Increment of Progress MVEB adequate	MVEBs: NO _x = 201.32 tpd and VOC = 104.14 tpd Effective Date: June 16, 2005 (70 FR 31441)
June 3, 2005	Anticipation of a 24-hour Transportation Conformity lapse	US DOT Letter

Exhibit 3.1-2 North Central Texas Ozone Nonattainment Area Conformity History (continued)

DATE	MILESTONE	COMMENTS/SOURCE
June 15, 2005	Conformity Determination due for the nine-county ozone nonattainment area	Favorable conformity determination received on June 16, 2005
June 16, 2005	Favorable Air Quality Conformity Determination on Mobility 2025 Plan Update and 2006-2008 TIP	One day lapse in conformity FHWA/FTA joint determination letter FHWA/FTA joint determination letter (correction)
August 10, 2005	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)	Extends three-year clock on long-range plans to four years.
June 8, 2007	TCEQ adopted a rule revision to align state transportation conformity requirements with SAFETEA-LU	TCEQ Rule Revision
June 12, 2007	Favorable Air Quality Conformity Determination of Mobility 2030 and Amended FY 2006-2008 TIP	FHWA/FTA joint determination letter
January 24, 2008	Transportation Conformity Rule Amendments to Implement SAFETEA-LU Provisions	EPA updates the Transportation Conformity Rule to make it consistent with the Clean Air Act as amended by SAFETEA-LU. (73 FR 4420)
March 21, 2008	EPA declared 2009 AD SIP MVEB adequate for Transportation Conformity purposes	MVEBs: NO _x = 186.81 tpd and VOC = 99.09 tpd Effective Date: April 7, 2008 (73 FR 15152)
March 2, 2010	Official release of the Motor Vehicle Emission Simulator (MOVES) 2010 Motor Vehicle Emissions Model for Emissions Inventories in SIPs and Transportation Conformity	Effective Date: March 2, 2010 (75 FR 9411)
May 21, 2012	EPA published final rule revoking the 1997 8-hour ozone NAAQS for Transportation Conformity purposes	Effective Date: July 20, 2012 (77 FR 30160)
July 6, 2012	Moving Ahead For Progress in the 21st Century Act (MAP-21) signed into law	Funds surface transportation programs and creates a streamlined and performance-based surface transportation program

Exhibit 3.1-2 North Central Texas Ozone Nonattainment Area Conformity History (continued)

DATE	MILESTONE	COMMENTS/SOURCE
February 1, 2013	EPA declared 2011 and 2012 RFP SIP MVEB adequate for Transportation Conformity purposes	2011 MVEBs: NO _x = 197.05 tpd and VOC = 89.54 tpd 2012 MVEBs: NO _x = 195.39 tpd and VOC = 82.20 tpd Effective Date: February 19, 2013 (78 FR 7429)
July 19, 2013	Favorable Air Quality Conformity Determination on Mobility 2035 Plan - 2013 Update & 2013 - 2016 TIP	FHWA/FTA joint determination letter
July 31, 2014	Initial release of the MOVES2014 for Emissions Inventories in SIPs and Transportation Conformity	http://www.epa.gov/otag/models/moves/
October 7, 2014	Official release of MOVES2014 for use outside of California. Update to the July version of MOVES2014 to fix user-reported issues	(79 FR 60343)
December 23, 2014	DC Court of Appeals published consent decree reversing EPA's final rule revoking the 1997 8-hour ozone NAAQS for the purpose of transportation conformity	DC Court of Appeals Consent Decree
May 29, 2015	Favorable Air Quality Conformity Determination on Mobility 2035 Plan - 2014 Amendment and 2015 - 2018 TIP	FHWA/FTA joint determination letter
November 4, 2015	MOVES2014a released	
December 2015	MOVES2014a update released	
December 4, 2015	Fixing America's Surface Transportation Act, (FAST Act) signed into law	Provides long-term funding for surface transportation and streamlines approval process for new transportation projects
January 11, 2016	EPA declared 2017 RFP SIP MVEB adequate for Transportation Conformity purposes	2017 MVEBs: NO _x = 148.36 tpd and VOC = 77.18 tpd Effective Date: January 26, 2016 (81 FR 1184)
September 7, 2016	Favorable Air Quality Conformity Determination on Mobility 2040 Plan and 2015 - 2018 TIP	FHWA/FTA joint determination letter
November 8, 2016	EPA declared 2017 AD SIP MVEB adequate for Transportation Conformity purposes	2017 MVEBs: NO _x = 130.77 tpd and VOC = 64.91 tpd Effective Date: November 23, 2016 (81 FR 78591)
November 17, 2016	MOVES2014a update released	
December 11, 2017	MOVES2014a update released	

This report contains conformity determinations conducted for [Mobility 2045](#), with supporting [2019-2022 TIP](#), with both documents meeting the requirements of the CAA (United States Code, Title 42 §7504, 7506 (c) and (d)) as amended on November 15, 1990, the applicable SIP, and the conformity rule (40 CFR Part 93). This conformity determination was conducted with the support the North Central Texas Council of Governments’ RTC.

3.2 Conformity Criteria

Specific criteria must be met in order for an MTP, TIP, or regionally significant projects to be found to conform. The criteria, listed in Exhibit 3.2-1, vary based upon the action under review, the pollutant of concern, and the status of the SIP. Further information on each criteria may be found within the text of this document.

EXHIBIT 3.2-1: North Central Texas Nonattainment Area Applicable Conformity Criteria

All Actions at All Times	40 CFR 93	Chapter
Latest Planning Assumptions	93.110	4/5
Latest Emissions Model	93.111	7
Consultation	93.112	10
Metropolitan Transportation Plan		
Timely Implementation of TCMs	93.113(b)	8.1.1
Emissions Budget or Emissions Reduction	93.118	8
Transportation Improvement Program		
Timely Implementation of TCMs	93.113(c)	8.1.1
Emissions Budget or Emissions Reduction	93.118	8
Project (from a Conforming Plan or TIP)		
Currently Conforming Plan and TIP	93.114	4
Project from a Conforming Plan or TIP	93.115	4
Carbon Monoxide (CO) and PM ₁₀ Hot Spots	93.116	Not Applicable
PM ₁₀ Control Measures	93.117	Not Applicable
Project (not from a Conforming Plan or TIP)		
Timely Implementation of TCMs	93.113(d)	8.1.1
Currently Conforming Plan and TIP	93.114	4
CO and PM ₁₀ Hot Spots	93.116	Not Applicable
PM ₁₀ Control Measures	93.117	Not Applicable

3.3 Checklist

In an effort to improve the efficiency of the conformity determination review process for Texas, a checklist was developed as a guideline for preparing and reviewing transportation conformity documents. Exhibit 3.3-1 is the checklist detailing information relevant to this conformity document.

EXHIBIT 3.3-1: Information Required for Transportation Conformity Review

Item	Regulation Reference	Format	Report Location
Documents			
<u>Mobility 2045: The Metropolitan Transportation Plan for North Central Texas (Mobility 2045)</u>	Part 93 Subpart A	Independent Self-Supporting Document (Electronic File)	Appendix 12.4
<u>2019 – 2022 Transportation Improvement Program (2019 – 2022 TIP)</u>	Part 93 Subpart A	Independent Self-Supporting Document (Electronic File)	Appendix 12.5
Conformity Document for Mobility 2045 and the 2019 – 2022 TIP	Part 93 Subpart A	Independent Self-Supporting Document (Electronic File)	See Conformity Document
MOVES			
Guidance Supporting MOVES Input Development (SIP Consistency, EPA's Information Sheets, etc.)		Discussion Contained in Conformity Document and Appropriate Appendices	Section 7.2 Appendix 12.6 Appendix 12.13
Description of Version of MOVES Model Being Used (MOVES2014a, updated December 2017)		Discussion Contained in Conformity Document	Section 7.2
MOVES Input and Output Files		Electronic (ASCII or txt file format)	Appendix 12.14
MOVES Input Parameters		Electronic (ASCII or txt file format)	Appendix 12.15
MOVES Emission Factors		Electronic (ASCII or txt file format)	Appendix 12.16
MOVES External Reference Files		Electronic (ASCII or txt file format)	Appendix 12.21
Mobile Source Emissions Reduction Strategies (MoSERS)			
MoSERS Methodology and Calculation Descriptions		Electronic File	Appendix 12.18
MoSERS Project Listing		Electronic File	Appendix 12.19

**EXHIBIT 3.3-1: Information Required for Transportation Conformity Review Report Location
(continued)**

Item	Regulation Reference	Format	Report Location
Travel Demand Model			
Highway Performance Monitoring System Adjustment(s), Factors, Approach	40 CFR 93.122(b)(3)	Discussion Contained in Conformity Document (Electronic File)	Section 5.5.1
Description of Travel Demand Model Validation, Including Validation Year	40 CFR 93.106(a)(1)(ii)	Discussion Contained in Conformity Document (Electronic File)	Chapter 5 Appendix 12.7
Vehicle Miles of Travel (August Midweek 24- hour by Roadway Type)		Electronic File	Appendix 12.9
Average Loaded Speeds (August Midweek 24- hour by Roadway Type)		Electronic File	Appendix 12.10
Centerline Mile Summaries for Each Analysis Year		Electronic File	Appendix 12.11
Definition of Regionally Significant Roadway System		Electronic File	Appendix 12.22
Network Link Listing for Each Analysis Year		Discussion Contained in Conformity Document (Electronic File) (Electronic Files should include TransCAD Files, SHAPE Files, and Spreadsheet Files)	Exhibit 5.2-1 Appendix 12.8 Appendix 12.24
Files Containing Hourly Distribution By County, Roadway Type, and Vehicle Type for: <ul style="list-style-type: none"> - Vehicle Miles of Travel - Vehicle Hours - Average Operational Speed - Vehicle Population - NO_x Emissions - VOC Emissions 		Electronic Files in Tab Delimited Summary Tables	Appendix 12.23

**EXHIBIT 3.3-1: Information Required for Transportation Conformity Review Report Location
(continued)**

Item	Regulation Reference	Format	Report Location
SIP Requirements			
TCMs in SIP Including Emission Reductions, Methodologies, Implementation Dates, etc.		Electronic File	Appendix 12.17
Timely Implementation of TCMs (progress)	40 CFR 93.113	Discussion Contained In Conformity Document (Electronic File)	Section 8.1
Project Listings			
Congestion Mitigation and Air Quality Projects Containing: Emission Benefits, Methodologies, and Implementation Dates		Identified in TIP: Independent Self-Supporting Document (Electronic File)	Appendix 12.5
Roadway System (Capacity Staging)		Electronic File	Appendix 12.8
List of Non-federal Projects	In response to March 2, 1999, court ruling	Identified in TIP: Independent Self-Supporting Document	Appendix 12.5
List of Exempt Projects	40 CFR 93.105(c) 40 CFR 93.126 40 CFR 93.127 ¹⁷ 40 CFR 93.128	Identified in TIP: Independent Self-Supporting Document (Electronic File)	Appendix 12.5
Evidence of Fiscal Constraint	40 CFR 93.108	Identified in TIP: Independent Self-Supporting Document (Electronic File)	Appendix 12.5
Evidence of MTP Specifically Describing the Transportation System Envisioned for Each Analysis Year	40 CFR 93.106(a)	Included in MTP: Independent Self-Supporting Document (Electronic File)	Appendix 12.4
Public, State, and Federal Involvement			
Evidence of Public Participation and Response to Comments	40 CFR 93.105	Discussion Contained In Conformity Document (Electronic File)	Chapter 11 Appendix 12.20

**EXHIBIT 3.3-1: Information Required for Transportation Conformity Review Report Location
(continued)**

Item	Regulation Reference	Format	Report Location
General			
Glossary of Abbreviations		Discussion contained in Conformity Document	Preface
Endorsements and/or Resolutions		Electronic File	Appendix 12.1
Memorandum of Agreements		Electronic File	Appendix 12.2
Applicable Federal Register Notices and Related Documents		Electronic File	Appendix 12.3
Interagency Consultation		Electronic File	Appendix 12.12

3.4 Emissions Analysis

A regional emissions analysis is the key analytic component of the transportation conformity process. It is conducted to demonstrate regional emissions from on-road sources do not exceed the established MVEBs, causing or contributing to violations of EPA NAAQS, and ensures transportation activities are consistent with air quality goals identified in the SIP.

3.4.1 Regional Inventory

This conformity analysis of the NCT nonattainment area accounts for emissions resulting from the nonattainment area’s MTP (Mobility 2045), including all regionally significant projects located within the 10-county NCT nonattainment area, and the effects of emission control programs adopted by an enforcing jurisdiction; for example, an Inspection and Maintenance Program.

3.4.2 Emissions Tests

Conformity determinations must demonstrate consistency between expected emissions from implementing the MTP and TIP with the MVEBs in the applicable implementation plan. To meet this requirement, conformity determinations in nonattainment areas with adequate MVEBs from an applicable SIP must perform an MVEB test. For the MVEB test, the emissions analysis must demonstrate the estimated emissions are less than the MVEBs in the applicable implementation plan. On November 8, 2016, EPA published the *Adequacy Status of the Dallas-Fort Worth, Texas Attainment Demonstration 8-Hour Ozone Motor Vehicle Emission Budgets for Transportation Conformity Purposes*, effective November 23, 2016¹⁸. This allowed for the establishment of the 2017 MVEBs for use in transportation conformity demonstrations. Applicable MVEBs for the NCT 10-county nonattainment area are shown in Exhibit 3.4.2-1. A copy of EPA’s Federal Register notice on MVEB adequacy can be found in Appendix 12.3.

¹⁷ Projects listed in 40 CFR 93.127 are exempt from regional emissions analysis, but not localized emissions (hot-spot) analysis.

¹⁸ [81 FR 78591](https://www.federalregister.gov/documents/2016/11/08/2016-23117/adequacy-status-of-the-dallas-fort-worth-texas-attainment-demonstration-8-hour-ozone-motor-vehicle-emission-budgets-for-transportation-conformity-purposes)

Exhibit 3.4.2-1: Motor Vehicle Emissions Budgets for the North Central Texas Nonattainment Area

DFW 10-County Nonattainment Area	NO _x (tons/day)	VOC (tons/day)
2017 Motor Vehicle Emission Budgets	130.77	64.91

3.4.3 Analysis Years

The regional emission analysis must be performed for the years for which MVEBs are established, the area's attainment year, if within the timeframe of the plan/conformity, the MTP horizon year, and interim years so that no interval is greater than 10 years. To meet this requirement, the selected analysis years for this conformity determination are 2018, 2020 (attainment year for the 2015 ozone NAAQS), 2028, 2037, and 2045 (the MTP horizon year).

The Dallas-Fort Worth Travel Model for the Expanded Area (DFX) and EPA's MOVES emissions models were used for this conformity analysis. EPA's MOVES model produces emission factors for mobile sources. The DFX predicts regional vehicle activity due to human behavior and EPA's emission model estimates vehicle emission rates. The DFX estimates vehicle activity in three time periods: AM Peak (6:30 am to 8:59 am), PM Peak (3:00 pm to 6:29 pm), and Off Peak (9:00 am to 2:59 pm and 6:30 pm to 6:29 am) to better account for human driving behavior as a result of capacity availability fluctuations throughout a day.

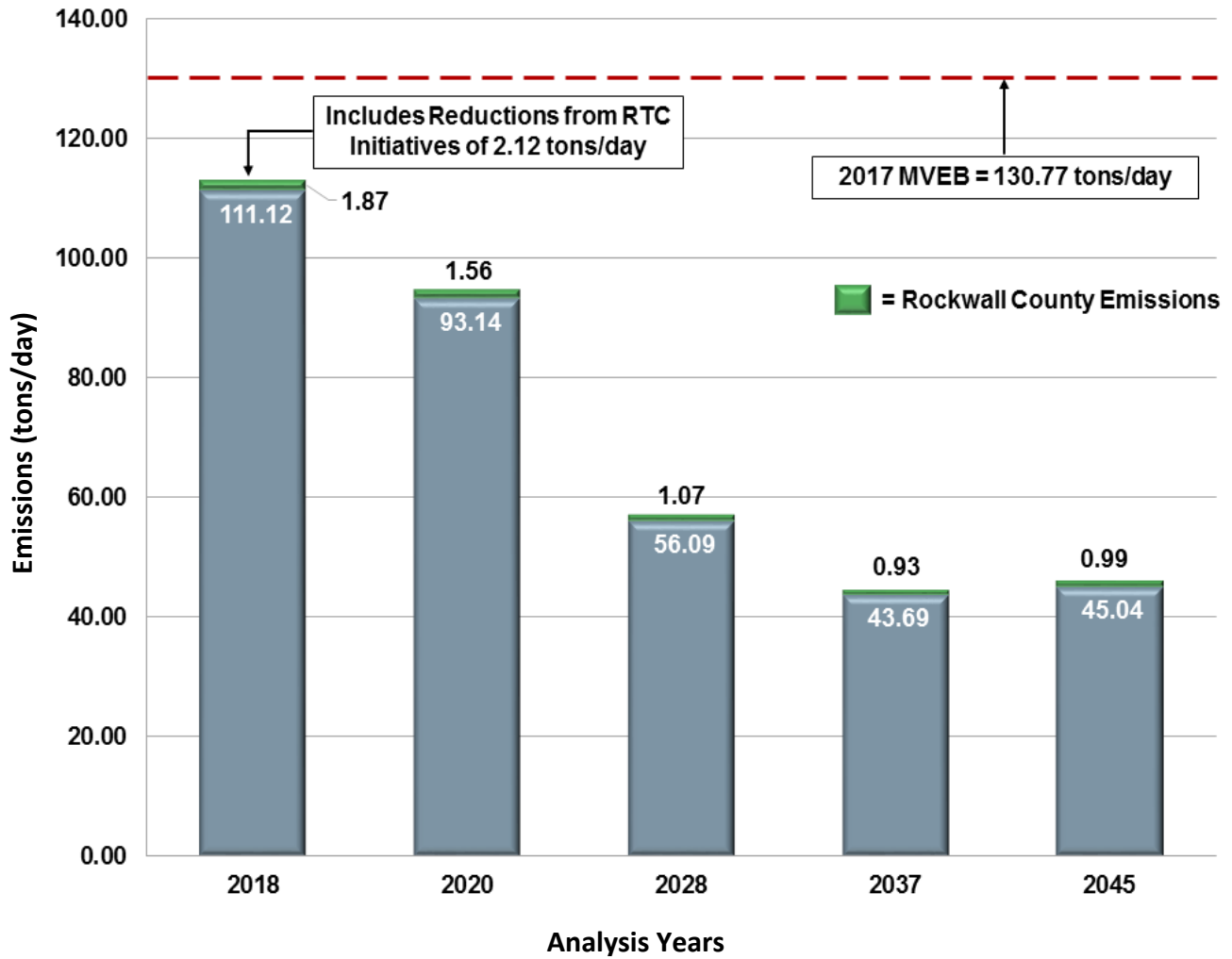
$$\text{Vehicle Emissions} = \text{Vehicle Activity} \times \text{Emission Rates}$$

3.4.4 Analysis Results

This emissions analysis for determining conformity was performed under the Code of Federal Regulations Title 40, Part §93.109(c)(2)(ii)(B). Since the 2015 8-hour ozone nonattainment area covers a smaller geographic area within the 2008 8-hour ozone nonattainment area, the approved 2017 AD SIP MVEBs, shown in Exhibit 3.4.2-1, may be used to determine conformity for the 2015 8-hour ozone NAAQS.

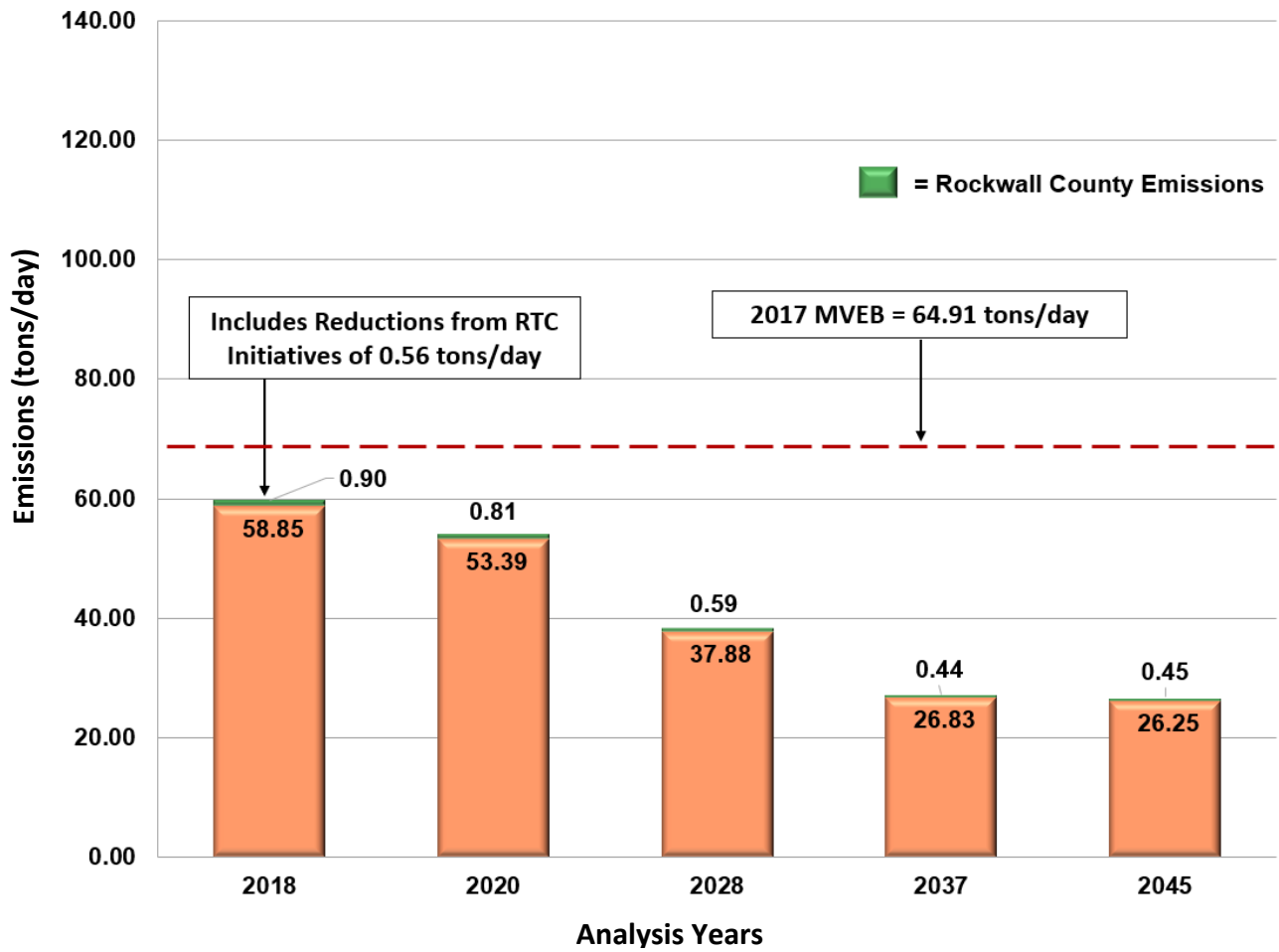
The vehicle emission results shown in Exhibits 3.4.4-1 and 3.4.4-2 demonstrate the NCT nonattainment area meets the regional air quality conformity requirements of the 2017 MVEBs test established for the 10-county nonattainment region. The Exhibits also show the emission results for the 2015 ozone nine-county (excluding Rockwall County) nonattainment region meets the conformity requirements for a newly designated nonattainment region. Exhibits 3.4.4-1 and 3.4.4-2 also depict RTC initiatives for NO_x and VOC for the analysis year 2018. These initiatives include projects and programs put in place to improve air quality. The magnitude of RTC initiatives demonstrates the region's commitment to reducing air pollution by minimizing vehicle emissions while improving mobility and the overall quality of life.

**Exhibit 3.4.4-1: 2018 Transportation Conformity for the North Central Texas Nonattainment Area
Emissions of Nitrogen Oxides**



¹⁹ Source: Adequacy Status of the Dallas-Fort Worth, Texas Attainment Demonstration 8-Hour Ozone Motor Vehicle Emission Budgets for Transportation Conformity Purposes, 81 FR 78591

**Exhibit 3.4.4-2: 2018 Transportation Conformity for the North Central Texas Nonattainment Area
Emissions of Volatile Organic Compounds**



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