

CHAPTER 9: DETERMINATION OF REGIONAL TRANSPORTATION EMISSIONS

9.1 Procedure

In order to report final emission analysis results, modeled link level emission inventories, model adjustments, and Mobile Source Emission Reduction Strategies (MoSERS) emission benefits must be combined. To simplify results, the following sections will provide summaries of previous chapters.

9.2 Modeled Emissions

Emissions for analysis years 2018, 2020, 2028, 2037, and 2045 are listed in Exhibit 9.2-1. These emissions consist of link level roadway-based modeled emissions for Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties using TransCAD and MOVESUTL. Emissions were calculated using the Texas Mobile Source Emission Software developed by the Texas A&M Transportation Institute (TTI) and the Environmental Protection Agency's Motor Vehicle Emissions Simulator version 2014a model.

Exhibit 9.2-1: Modeled Emissions

Analysis Year	Nitrogen Oxides (NO _x) (tons/day)	Volatile Organic Compounds (VOC) (tons/day)
	Modeled	Modeled
2018	115.11	60.31
2020	94.70	54.20
2028	57.16	38.47
2037	44.62	27.27
2045	46.03	26.70

9.3 Adjustments to Emission Factors

Post-processing adjustments are applied to the emission factor post-process utility developed by TTI. These adjustments are applied either prior to or simultaneously with the emission calculation procedures to establish the model results shown in Exhibit 9.2-1. This process is described in detail in Section 7.3.

9.4 Mobile Source Emission Reduction Strategies

MoSERS results are identified below in Exhibit 9.4-1. Chapter 8 has detailed information regarding the strategies used for emission reduction benefits. Benefits have been quantified for the 2018 analysis year. The benefits for the 2020, 2028, 2037, and 2045 analysis years were not credited in order for the Metropolitan Planning Organization to take a conservative approach to the application of emission reductions.

Exhibit 9.4-1: Sum of MoSERS

Analysis Year	Post-Processed Total (tons/day)	
	Nitrogen Oxides (tons/day)	Volatile Organic Compounds (tons/day)
2018	2.12	0.56
2020	-	-
2028	-	-
2037	-	-
2045		

9.5 Final Emission Analysis Results

Exhibit 9.5-1 shows the final mobile emission results of this conformity analysis. These final emissions are below the maximum allowable level set forth by the 2017 Motor Vehicle Emissions Budgets (MVEB) for NO_x and VOC in the *8-Hour Attainment Demonstration State Implementation Plan*³⁵.

Exhibit 9.5-1: Final Emission Analysis Results

	Nitrogen Oxides (tons/day)	Volatile Organic Compounds (tons/day)
2017 10-County MVEBs (2008 8-hour Ozone NAAQS)	130.77	64.91
2018	112.99	59.75
2020	94.70	54.20
2028	57.16	38.47
2037	44.62	27.27
2045	46.03	26.70

³⁵ [81 FR 78591](#)