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 2023, 2026, 2036, 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 MOVES Utility. 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 3 model.

Exhibit 9.2-1: Modeled Emissions

Analysis Year	Nitrogen Oxides (tons/day)	Volatile Organic Compounds (tons/day)
	Modeled	Modeled
2023	78.81	40.84
2026	65.79	35.53
2036	52.24	27.26
2045	58.72	27.50

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 in Exhibit 9.4-1. Chapter 8 has detailed information regarding the strategies used for emission reduction benefits. Benefits have been quantified for the 2023 analysis year. The benefits for the 2026, 2036, 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)
2023	1.19	0.24
2026	-	-
2036	-	-
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 nitrogen oxides and volatile organic compounds in the *8-Hour Attainment Demonstration State Implementation Plan.*[30]

Exhibit 9.5-1: Final Emission Analysis Results

Analysis Year	Nitrogen Oxides (tons/day)	Volatile Organic Compounds (tons/day)
2017 10-County MVEBs (2008 8-Hour Ozone National Ambient Air Quality Standards)	130.77	64.91
2023	77.62	40.60
2026	65.79	35.53
2036	52.24	27.26
2045	58.72	27.50

[30] 81 FR 78591