

CHAPTER 8: MOBILE SOURCE EMISSION REDUCTION STRATEGIES (MoSERS)

Mobile Source Emission Reduction Strategies (MoSERS) are a collection of transportation projects identified as having emission reduction benefits. These MoSERS are classified as Transportation Control Measures (TCMs), Local Initiatives, or Transportation Emission Reduction Measures (TERM) in the recently submitted Dallas-Fort Worth Attainment Demonstration State Implementation Plan (SIP).²⁶ Previous SIPs included an additional MoSERS category, Voluntary Mobile Emissions Reduction Program (VMEP); however, on October 14, 2010, the Regional Transportation Council approved the North Central Texas Council of Governments' (NCTCOG) staff recommendations to include all control strategies (TCMs, VMEPs, and TERMS) under the Local Initiatives section in future SIPs to allow greatest flexibility and minimize legal risks towards Transportation Conformity.

8.1 Transportation Control Measures

TCMs are projects, programs, and related activities designed to achieve on-road mobile source emission reductions and are included as control measures in an applicable SIP. TCMs are strategies to reduce vehicle use or change traffic flow and/or congestion conditions to decrease vehicular emissions. The North Central Texas region implements a wide range of TCMs to reduce on-road mobile source emissions, improve air quality, and increase quality of life. The number of TCMs implemented in the region since 1990 is evidence of local governments' commitment to achieve the goals and objectives of the Clean Air Act Amendments of 1990. This commitment is further strengthened by the efforts made to ensure timely and complete implementation of all TCMs.

8.1.1 Timely Implementation of Transportation Control Measures

Section 93.113 of the conformity rule requires the Metropolitan Planning Organization verify the Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) provide for timely implementation of TCMs in the applicable SIP. The MTP was reviewed to confirm the goals, directives, recommendations, and projects do not negatively contradict specific requirements or commitments of the applicable SIP. The TIP was reviewed to confirm implementation and expected implementation of projects through federal, state, and local funding sources are on schedule.

The emission reduction calculations for all TCMs are based on the most recent information regarding the effectiveness of TCMs following the *Texas Guide to Accepted Mobile Source Emission Reduction Strategies*. Methodologies used to calculate TCM emission reduction benefits are included in Appendix 12.18.

8.1.2 Project Slippage

Timely implementation of TCMs is of prime importance; in some cases, their delay is inevitable. The delays, also termed as 'project slippage,' occur for several reasons: problems with engineering contracts, changes in regulations that impact engineering completed or underway, renegotiations of contracts due to cost overruns, redesign, delays in right-of-way acquisition due to discovery of discrepancies, delays in utility adjustments, high personnel turnover on part of both engineering staff and Texas Department of Transportation staff, funding flow slow down and/or revised cost estimates that require pursuit of additional funding. After a review of all TCMs in the applicable Dallas-Fort Worth SIP, it was determined no project slippage has occurred. TCMs have been completed in a timely manner.

8.2 Local Initiatives

Programs included in the Local Initiatives chapter of the SIP complement existing regulatory programs through voluntary changes in transportation choices and activities. These alternatives to traditional

²⁶ https://www.tceq.texas.gov/assets/public/implementation/air/sip/sipdocs/2016-AD-DFW/DFWAD_2016_archive.pdf

emission reduction strategies reduce mobile source emissions by engaging communities, employers, and residents in air quality initiatives. Several Local Initiative programs are included in the SIP as on-road emission reduction measures: Electric Vehicle Program, Employer Trip Reduction Program (ETR), and Texas Emission Reduction Program. For this conformity analysis, the emissions benefits from the ETR Program are included in the modeled emission reductions. The other Local Initiative measures, usually post-processed, were not quantified since the additional emission reductions were not needed for this conformity analysis. On October 14, 2010, the Regional Transportation Council approved NCTCOG's staff recommendations to include all control strategies under the Local Initiative section in future SIPs to allow greatest flexibility and minimize legal risks towards Transportation Conformity.

8.3 Transportation Emission Reduction Measures

TERMs are transportation projects and related activities that are designed to achieve on-road mobile source emission reductions but are not included as control measures in the SIP. This conformity analysis includes emission reduction benefits generated by TERMs in the following program areas: grade separations, intersection improvements, Intelligent Transportation Systems (ITS), park-and-ride lots, and vanpool programs.

Grade separations and intersection improvements reduce vehicle idling delay.

The ITS Program incorporates technology and transportation through installation of loop detectors, closed circuit television cameras, dynamic messaging signs, and communication systems. ITS projects reduce emissions from recurring and reduce non-recurring congestion by organizing each individual project to operate as a system, in coordination with multiple technologies.

Park-and-ride facilities promote carpooling and vanpooling. With each occupied parking space at these locations, it can be assumed the otherwise additional "running" emissions from each parked vehicle are eliminated.

Methodologies used to quantify air quality benefits of the program areas used as TERMs is included in Appendix 12.18. Individual project listings and their associated benefits, accounted for in the 2018 analysis year, are included in Appendix 12.19.

8.4 Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement Program is a major funding source for most MoSERS. Several MoSERS and project modifications are listed with associated funding categories in Chapter 7 of the 2023-2026 TIP.

8.5 Summary

An overview of the commitments and emission reductions are outlined in Exhibit 8.5-1. Data is separated for modeled, post-processed, and expired projects for convenience of review. The "Expired" column ensures previously included TCMs, that are now expired, are not to be included as part of the claimed emissions benefits. Benefits are only quantified and applied for analysis year 2023.

**Exhibit 8.5-1: Conformity Analysis of the Mobility 2045 Metropolitan Transportation Plan – 2022
Update: Emission Reductions from On-Road Emission Reduction Control Strategies Analysis Year 2023**

Program Category	Project Type	Commitments				2023 Emission Reduction (lbs/day)	
		SIP	Modeled	Post- Processed	Expired	NO _x	VOC
						Post-Processed	Post-Processed
SIP TCMs	Bike/Pedestrian (Miles)	459.14	0	447.54	11.60	22.53	26.06
	Grade Separations (Locations)	69	55	0	0	All Modeled	All Modeled
	Rail-Grade Separations (Locations)		14	0	0	All Modeled	All Modeled
	HOV ²⁷ (Miles)	36.9	36.9	0	0	All Modeled	All Modeled
	Intersection Improvements (Locations)	547	0	413	134	89.20	47.78
	Park-and-Ride Lots (Parking Spaces)	3,398	0	0	3,398	0	0
	Rail Transit (Miles)	70.20	70.20	0	0	All Modeled	All Modeled
	Traffic Signal Improvements - ESL and HOV Substitution (Locations)	N/A	0	0	213	0	0
	Vanpool Programs (Vanpools)	216	0	0	216	0.00	0.00
SIP Local Initiatives	Employee Trip Reduction Program (Regional Benefit)	N/A	Regional Benefit	0	0	All Modeled	All Modeled
	Texas Emission Reduction Program	N/A	0	Regional Benefit	0	Emission reduction benefits not quantified for this program in this analysis year.	
	Electric Vehicle Program	N/A	0	Regional Benefit	0		
TERMS	Grade Separations (Locations)	N/A	0	7	0	7.25	3.89
	Intersection Improvements (Locations)	N/A	0	209	0	58.45	31.31
	ITS (Regional Benefit)	N/A	0	Regional Benefit	0	2,120.63	346.89
	Park-and-Ride Lots (Parking Spaces)	N/A	0	1,480	0	9.58	3.77
	Vanpool Programs (Vanpools)	N/A	0	181	0	69.27	24.69
Total (lbs./day)						2,376.91	484.39
Total (tons/day)						1.19	0.24
NO_x (tons/day)							VOC (tons/day)
Modeled Emissions						81.23	43.05
Post-Processed Emission Reductions						1.19	0.24
Final On-Road Emissions						80.04	42.81
2020 MVEBs (2008 8-Hour Ozone NAAQS)						107.25	64.21
Surplus Emission Reductions						27.21	21.40

Source: NCTCOG Transportation Department

²⁷ HOV lanes identified in the table are converted to HOV/Managed Lanes in future years.

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