

Excerpt from the
 Eight-hour Ozone Attainment Demonstration SIP Revision for the DFW Area
 Chapter 4: Required Control Strategy Elements
 Adopted May 23, 2007

4.2.3 Transportation Control Measures

Transportation control measures (TCM) are transportation projects and related activities that are designed to reduce on-road mobile source emissions and are included as control measures in the SIP. Allowable types of TCM are listed in §7408 (Air Quality Criteria and Control Techniques) of the FCAA, 42 USC, 1970, as amended, and defined in the federal transportation conformity rule found in Title 40 CFR, Part 93 (Determining Conformity of Federal Actions to State or Federal Implementation Plans). In general, TCM are transportation-related projects that attempt to reduce vehicle use, change traffic flow, or reduce congestion conditions. Projects that add single-occupancy-vehicle roadway capacity or are based on improvements in vehicle technology or fuels are not eligible as TCM.

The NCTCOG has identified TCM that have been or will be implemented in the nine-county nonattainment area. By the start of the 2009 ozone season, these TCM will reduce NO_x emissions in the DFW nonattainment area by 1.53 tpd and VOC emissions by 1.61 tpd. Table 4-4: *Total 2009 Estimated Emission Reductions by TCM Program* summarizes the 2009 emission reductions by type of TCM. The description in Table 4-2: *Summary of Control Strategies NO_x Reduction Estimates for the DFW Attainment Demonstration* shows how each program improves air quality. The region's transportation policy body (the Regional Transportation Council) approved and identified funding for these local commitments. In addition to the information provided in the SIP about TCM commitments, the federal transportation conformity rule requires that timely implementation of TCM be demonstrated.

Table 4-4: Total 2009 Estimated Emission Reductions by TCM Program

TCM Program	Commitments (Jan 2000–March 2009)		March 2009 NO _x Benefits		March 2009 VOC Benefits	
	Modeled	Post-Processed	Modeled	Post-Processed	Modeled	Post-Processed
			<i>lbs/day</i>	<i>lbs/day</i>	<i>lbs/day</i>	<i>lbs/day</i>
Bicycle/Pedestrian Projects	0.0 miles	15.4 miles	0.00	14.98	0.00	9.51
Grade Separation Projects	82 locations	2 locations	350.35	4.26	898.44	51.40
HOV/Managed Lane Projects	70.0 miles	0.0 miles	1,584.92	0.00	881.50	0.00
Intersection Improvement Projects	0 locations	655 locations	0.00	293.76	0.00	786.87
Park and Ride Projects	1,465 spaces	820 spaces	55.30	30.95	35.11	19.65
Rail Transit Projects	70.2 miles	0.0 miles	568.55	0.00	419.17	0.00
Vanpool Projects	0 vanpools	216 vanpools	0.00	168.99	0.00	113.11
Total Pounds/Day			2,559.12	512.94	2,234.22	980.54
Total Tons/Day			1.27	0.26	1.12	0.49

**All of the listed projects are commitments, have been approved by the transportation policy body (Regional Transportation Council), and are funded.*

***The project listing for each program area; with associated emission reductions and methodology will be accounted for in the subsequent Transportation Conformity Document(s).*

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To avoid double counting emission reductions, the NCTCOG provided separately the reductions accounted for in the photochemical model and the reductions that are calculated after the photochemical modeling work is complete, i.e., post-processed. Reductions accounted for in photochemical modeling are reflected in the on-road emissions inventory. Post-processed reductions are not reflected in the emissions inventory but are subtracted from the inventory to establish the motor vehicle emissions budget. For more information about the calculation of motor vehicle emissions budget figures, see Table 4-27 in Appendix B: *Emissions Inventory (EI) Development*.

4.2.3.1 TCM Project Descriptions

Bicycle/Pedestrian Projects

Projects that create and/or enhance bicycle/pedestrian pathways throughout the region serve to link individuals to alternative methods of transportation, other than driving a single occupancy vehicle. By doing so, the automobile emissions that would otherwise be released from the automobile are removed completely. In the North Central Texas region, a veloweb has been designed for use primarily by fast-moving bicyclists. The veloweb is also designed to encourage concurrent pedestrian transportation use. NCTCOG has identified 15.4 miles of veloweb projects that will be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

Grade Separation Projects

By separating a road or railroad track from a crossroad, idling time that would otherwise be created by intersection blockage is eliminated. With this elimination of idling, grade separations increase the efficiency of traffic flow thereby improving travel time and minimizing delay. Thus, vehicle emissions and fuel consumption are reduced. NCTCOG has identified 84 project locations to be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

High Occupancy Vehicle (HOV) Projects

High occupancy vehicle projects promote carpooling thereby removing single occupancy vehicles and the associated vehicle emissions released from the roadway. The increase in flow of HOV lanes offers incentive for drivers to carpool. NCTCOG has identified 70.0 lane miles of HOV projects that will be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

Intersection Improvement Projects

Improvements to intersections including left and/or right hand turn lanes decrease the amount of time automobiles are left idling at intersections. This decrease in idling reduces fuel consumption and vehicle emissions. NCTCOG has identified 655 intersection improvement locations that will be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

Park and Ride Projects

Park and ride facilities promote carpooling and vanpooling. With each occupied parking space at these locations, the emissions from the parked vehicle are reduced. Park and ride lots that also serve as transit stations are not accounted for in the analysis as it is assumed the majority of these park and ride lots contain transit riders that are then captured in Rail Transit Projects. NCTCOG

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has identified new locations to provide 2,285 additional new parking spaces in Park and Ride projects. These projects will be implemented by the start of the 2009 ozone season.

Rail Transit Projects

Rail projects involve implementation of new or expanded transit services or facilities. The improvements may be accomplished for all transit modes such as buses, rail, and paratransit. The three main components of improved transit are: system/service expansion projects, system/service operational improvements, and inducements. By improving regional transit systems, an increased opportunity to attract new passengers is created as well as an increase in air quality benefits. NCTCOG has identified 70.2 miles of rail projects that will be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

Vanpool Projects

Vanpool projects include a group of six to fifteen commuters who travel to and from the same area, have similar work hours, share the costs of operating the van, and usually meet at a Park and Ride lot at a centralized location. These projects remove the extra vehicles that would otherwise be commuting by consolidating travelers into one automobile, thereby reducing air pollution, traffic congestion, and helping conserve fuel. NCTCOG has identified 216 vanpools that will be implemented in the DFW eight-hour ozone nonattainment area by the start of the 2009 ozone season.

Projects in this section are described and documented in Appendix F: *Transportation Control Measures for the DFW Eight-Hour Ozone SIP*. Appendix F, Table 1: *Completed Projects Without Applicable Benefits* covers projects that have been implemented but where the associated emission benefits are not applicable in this SIP revision. Appendix F, Table 2: *Completed Projects With Applicable Benefits* covers projects that have been implemented as well as their emission benefits. Appendix F, Table 3: *Projects with Applicable Benefits* is a summary table including the original commitments, completed commitments, and remaining commitments for each category with associated NO_x and VOC emission benefits.

4.2.4 Voluntary Mobile Source Emission Reduction Programs (VMEP)

The 1990 FCAA increased the states' responsibility to demonstrate progress toward attainment of the NAAQS. Voluntary mobile source measures have the potential to contribute, in a cost-effective manner, emission reductions needed for progress toward attainment and maintenance of the NAAQS.

Historically, federal mobile source control strategies have focused primarily on reducing emissions per mile through vehicle and fuel technology improvements. Tremendous strides have been made resulting in new light-duty vehicle emission rates that are 70 to 90 percent less than that for the 1970 model year. However, transportation emissions continue to be a significant cause of air pollution due to population and employment growth as well as an increase in daily vehicle miles traveled (VMT) per person. Therefore, mobile source strategies that attempt to complement existing regulatory programs through voluntary, nonregulatory changes in local transportation sector activity levels or changes in vehicle and engine fleet composition are being explored and developed.

A number of voluntary mobile source and transportation programs have already been initiated at

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the state and local level in response to increasing interest by the public and business sectors in creating alternatives to traditional emission reduction strategies. Some examples include economic and market-based incentive programs, trip reduction programs, growth management strategies, ozone action programs, and targeted public outreach. These programs attempt to gain additional emissions reductions beyond mandatory FCAA programs by engaging the public to make changes in activities that will result in reducing mobile source emissions.

Table 4-5: *NCTCOG Voluntary Mobile Emission Reductions* summarizes the new DFW voluntary commitments under this SIP revision. The estimated benefits listed are calculated for the year 2009 only and may not be forecasted to estimate emission reductions for any other year. VMEP strategies are limited to three percent or less of the total emissions reductions required.

NCTCOG identified seven voluntary programs that will aid in the improvement of the North Texas region's air quality. NCTCOG, as the regional metropolitan transportation planning agency for the DFW area, has committed to make a good faith effort to implement the projects and/or programs outlined in this document. NCTCOG will be responsible for monitoring and reporting the emission reductions to the TCEQ. Any VMEP shortfall (of the total 2.63 tpd NO_x committed) will be covered by supplementing additional Transportation Emission Reduction Measures (TERMs). The program areas that may be used to remedy this shortfall are traffic signal improvements; intelligent transportation systems (ITS); and/or freeway and/or arterial bottleneck removal. These programs would be surplus to those already credited in the SIP.

More information on each of the VMEP commitments can be found in Appendix H: *NCTCOG Final Submittal of On-Road and Non-Road Mobile Emissions Benefit*.

NCTCOG's refined estimate for modeled and post-processed NO_x reductions from VMEP is 2.63 tpd.

Table 4-5: NCTCOG Voluntary Mobile Emission Reductions

Program Type	2009 NO _x Benefits		2009 VOC Benefits	
	Modeled	Post-Processed	Modeled	Post-Processed
	<i>tpd</i>		<i>tpd</i>	
Clean Vehicle Program	0.00	0.24	0.00	0.05
Employee Trip Reduction	0.43	0.00	0.28	0.00
Locally Enforced Idling Restriction	0.00	0.62	0.00	0.02
Diesel Freight Idling Reduction Program	0.00	0.33	0.00	0.01
SmartWay Transport Demonstration Project	0.00	0.00	0.00	0.00
Public Agency Policy for Construction Equipment	0.00	0.06	0.00	0.01
Aviation Efficiencies	0.00	0.95	0.00	0.24
TOTAL BENEFITS	0.43	2.20	0.28	0.33
COMBINED BENEFITS	2.63		0.61	