

## **Appendix B**

### **Air Quality Conformity Analysis**

#### **Under Development 04/15/02**

Emissions from vehicle engines have significant impacts on air quality, particularly in urban areas. Vehicle emissions include a variety of pollutants such as carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>) and particulate matter. Nationwide mobile sources accounted for nearly 37 percent of all VOC emissions in 1994.<sup>1</sup> Ground-level ozone, the major component of smog, is formed when VOCs and NO<sub>x</sub> react to sunlight. The Houston-Galveston Transportation Management Area (TMA) is designated as a 'severe' non-attainment area because the pollutant ozone exceeds the safe limits defined by the National Ambient Air Quality Standards (NAAQS).

#### **Transportation Conformity**

The Clean Air Act requires that transportation plans and programs demonstrate timely attainment of air quality goals in areas failing to attain federal air quality standards. The requirement, known as transportation conformity, has been consistently met by this region's Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP). Transportation conformity must be periodically revised based on changing requirements of the State's air quality Implementation Plan (SIP) and revisions to the MTP.

Transportation conformity is an analytical process that establishes the major connection between transportation planning and emission reductions from transportation sources.<sup>2</sup> The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) links compliance with the conformity requirements of the Clean Air Act Amendments of 1990 (CAAA) to continued Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding of transportation plans, programs and projects. The TEA-21 requires that projects must be in a fiscally-constrained and conforming transportation plan and transportation improvement program in order to be approved, funded, advanced through the planning process or implemented. States and Metropolitan Planning Organizations (MPOs) must demonstrate, through the conformity process, that the transportation investments, strategies and programs contained in the MTP have air quality impacts consistent with those contained in State Implementation Plans (SIPs) for achieving the NAAQS. Emissions may not exceed SIP targets for emissions from mobile sources.

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<sup>1</sup> "Transportation Statistics Annual Report 1996," Bureau of Transportation Statistics, U.S. Department of Transportation.

<sup>2</sup> "Transportation Conformity: A Basic Guide for State & Local Officials," U.S. Department of Transportation, Publication No. FHWA-PD-97-035.

On October 15, 2001, the Environmental Protection Agency (EPA) published an “adequacy” finding for the on-road mobile source budgets for Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOCs) contained in the SIP submitted by then Governor Bush in December 2000. Our area must demonstrate compliance with emissions budgets for on-road vehicles by June of this year.

H-GAC is currently revising its emissions analysis of the Update of the 2022 MTP. This work, including documentation and interagency consultation, will be completed by the end of January. Results to date suggest that on-road mobile emissions meet the mobile vehicle emission budget (MVEB) requirements in the SIP by the 2007 attainment date. Therefore, the Update of the *MTP 2022* will not increase the number or severity of ozone exceedances in the eight-county region.<sup>3</sup>

Year/source	NOx	VOC
<b>2007 MVEB</b>	<b>156.6 tpd</b>	<b>79.5 tpd</b>
<i>2007 conformity analysis to Update of the 2022 MTP</i>	<i>151.74 tpd</i>	<i>72.66 tpd</i>

The conformity analysis also demonstrates the MTP supports timely implementation of transportation control measures (TCMs) designed to reduce traffic congestion and vehicle emissions. The estimated vehicle emissions incorporate the expected impact of an aggressive commitment to implementation of TCMs and other emission reduction measures found in the *MTP 2022* update.

Air quality is monitored continuously to track changes in ozone levels throughout the region. According to data provided by the Texas Natural Resource Conservation Commission (TNRCC), there are several air monitoring sites in the Houston-Galveston area that have historically exceeded the NAAQs for ozone.<sup>4</sup> While the majority of those sites, as expected, are located near the industrial areas close to the Houston Ship Channel and Texas City, there are also other high-incidence sites in non-industrial parts of southwest and northwest Houston. This pattern seems to indicate that the ozone exceedance areas are not necessarily associated with industrial sites, but may be related to other factors such as traffic congestion, air conditioning systems, heavy home electrical consumption and meteorology.

<sup>3</sup> For details of the conformity analysis refer to “Conformity Determinations for *MTP 2022*, Metropolitan Transportation Plan and the 2000-2002 Transportation Improvement Program,” H-GAC.

<sup>4</sup> Data is from the Texas Criteria Pollutant Summary, Percentage of NAAQS 1993-1995, based on design values for 1993-1995, TNRCC, Dec. 6, 1996.