

Executive Summary

Milestones and Background

On July 21, 2010, the Federal Highway Administration certified that the Houston- Galveston area's *2035 Regional Transportation Plan (RTP)* and the *2008-2011 Transportation Improvement Program (TIP)* conformed to the requirements of the State Implementation Plan for the Houston-Galveston ozone nonattainment area.

The July 21, 2010 conformity finding was established with the *revisions of The Houston-Galveston-Brazoria 1997 Eight-Hour Nonattainment Area Reasonable Further Progress State Implementation Plan* (hereafter referred to as the "RFP SIP"). This SIP did not have an Attainment Demonstration for the 1997 8-hour Ozone standard; it had a Reasonable Further Progress portion to which it was conformed using its 2008 Motor Vehicle Emission Budgets (MVEBs). The EPA found these MVEBs adequate on March 21 2008 (effective by April 7, 2008) and approved them on April 22 2009 (effective by June 22, 2009).

On October 29, 2010, the policy board for the metropolitan planning organization adopted the 2035 RTP Update. The financial plan for the Update reflects a significantly reduced revenue forecast for transportation plans and programs. As a result of the new forecast, the Update reflects a much smaller, in scope and dollar amount, program of short-range and long-range strategies. This conformity determination is necessary to demonstrate air quality conformity for the new regional transportation plan. The projects that were removed from the plan are listed in Appendix 18.

Conformity Requirements

The Clean Air Act Amendments of 1990 (CAAA) require transportation plans, programs, and projects in nonattainment areas, which are funded or approved by the FHWA or the Federal Transit Administration (FTA), to conform to the MVEBs established in the SIP. This ensures that transportation plans, programs, and projects do not produce new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). Conformity analysis requirements include:

- Use of the latest planning assumptions
- Analysis based on the latest emission estimation model available
- Interagency consultation, as well as a public involvement process, must be conducted during the analysis (found in Sections 7 and 8, respectively)
- Timely implementation of Transportation Control Measures (TCMs)
- An RTP and TIP that are consistent with the MVEBs established in the applicable SIP
- Include all regionally significant projects expected in the nonattainment area in the RTP and TIP

Regional Inventory

H-GAC conducts regional emission analyses of transportation plans to ensure that these activities are consistent with the air quality goals identified in the RFP SIP. This conformity analysis of the

Houston-Galveston-Brazoria (HGB) nonattainment area accounts for emissions resulting from the nonattainment area’s transportation plans, including all regionally significant projects and the effects of emission control programs.

Motor Vehicle Emission Budgets

The budgets established in the RFP SIP are as follows:

Table 1: RFP Motor Vehicle Emission Budgets

Reasonable Further Progress Budget (tpd)		
<i>Year</i>	<i>NOx</i>	<i>VOC</i>
2008	186.13	86.77

Source: RFP SIP, TCEQ

These MVEBs represent the maximum allowable amount of emissions that may be produced by on-road sources as a result of the implementation of the RTP and TIP. These budgets are developed based on the emission inventories and the analysis conducted for the development of the RFP SIP and include emission reduction benefits from federal and state control programs.

Conformity Tests

As specified by the Code of Federal Regulations (40 CFR §93.109[c], as amended by 62 FR 43807, Aug. 15, 1997) all ozone nonattainment areas designated moderate and above must pass a motor vehicle emissions budget test if an approved SIP budget exists. The HGB area has been designated as “Severe” for the 1997 eight-hour standard with an attainment date of June 15, 2019. Since to show attainment, data from a whole ozone season is needed, then the year 2018 is being modeled to show attainment. As noted earlier, the budget test must be satisfied using the MVEBs established in the RFP SIP. Specifically, this test is satisfied when emissions of the ozone pollutant’s precursors (VOC and NOx) for each analysis year are less than or equal to the MVEBs established in the SIP. For the test, the regional emission analysis may be performed for any years within the timeframe of the transportation plan, provided they are not more than ten years apart, the attainment year (2018) and the plan horizon year (2035). To meet this analysis requirement then, the years 2011, 2018, 2025 and 2035 were selected.

Modeling

Two modeling suites were used in this process in order to obtain total emissions. The Travel Demand Modeling at H-GAC used the Cube Voyager model with a special post-mode choice speed model in order to establish the region’s total vehicle miles traveled (VMT). The TTI suite of emissions software was used in conjunction with the latest version of EPA’s MOBILE6 model to replicate the on-road modeling performed in the SIP and obtain the appropriate emissions factors. The data used in this conformity analysis is consistent with what was used in the SIP, except where more recent planning assumptions have been developed. Total emissions were then calculated by multiplying the VMT by the emission factors for each of the analysis years.

Conformity Analysis Results

The results of this conformity determination show that the *2035 Regional Transportation Plan* and the *2011-2014 Transportation Improvement Program* for the HGB Transportation Management Area meet the requirements of the SIP for the Houston-Galveston ozone nonattainment area, approved by EPA on April 22, 2009, and in accordance with the Clean Air Act (42 U.S.C. 7504, 7506 (c) and (d)), as amended on November 15, 1990, and the final conformity rule (40 CFR Parts 51 and 93).

Table 2: Conformity Analysis Summary

Analysis Year	VOC Emissions (tons/day)	VOC Budget (tons/day)	NOx Emissions (tons/day)	NOx Budget (tons/day)
2011	75.05	86.77	129.42	186.13
2018	49.95	86.77	56.76	186.13
2025	44.86	86.77	38.74	186.13
2035	54.70	86.77	42.89	186.13

Figure 1: VOC Emissions Summary

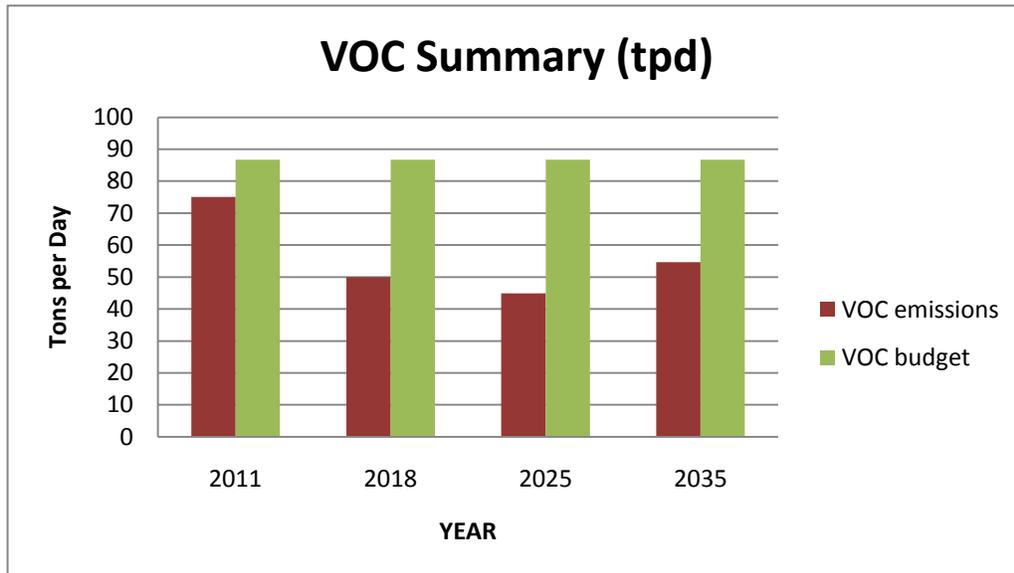
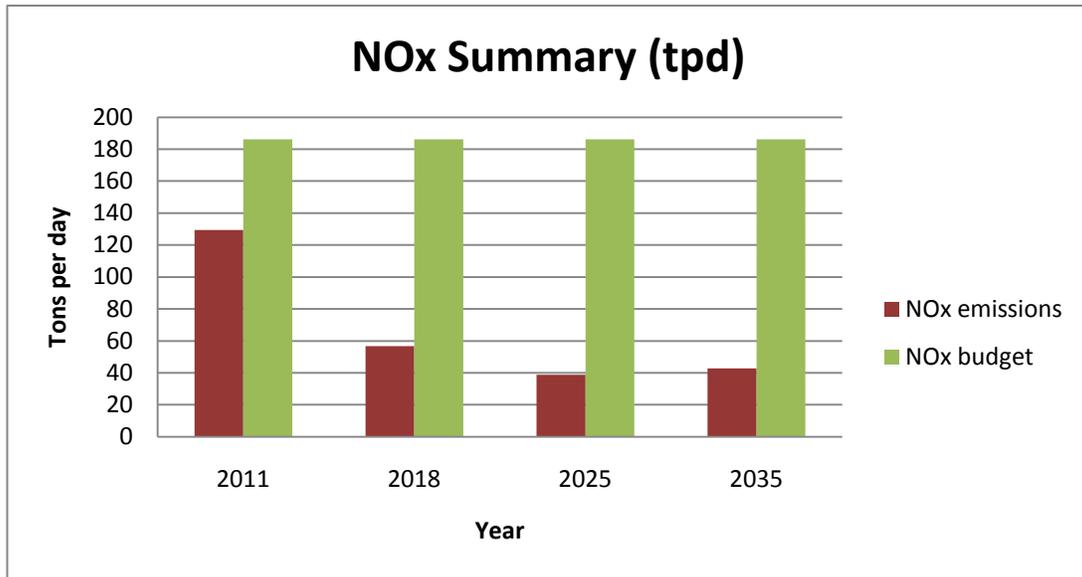


Figure 2: NOx Emission Summary



Background Information on Conformity

More information on what conformity is and the regulations that apply to it can be found at: <http://www.fhwa.dot.gov/environment/conform.htm>. This conformity determination involved a pre-analysis review discussion with the review agencies (Section 7) and a public comment period (Section 8).

