

AIR QUALITY CONFORMITY RESULTS

Background

H-GAC is required to ensure that the Regional Transportation Plan (RTP), Transportation Improvement Program (TIP) and amendments thereto are consistent with the region's air quality goals. This determination is referred to as conformity and involves the modeling of emissions produced by vehicles within the 8-county Houston-Galveston-Brazoria Non-attainment Area.

All regionally significant projects, regardless of funding source, must be considered in this analysis and found to conform before federal actions related to the projects can be made. These actions include but are not limited to funding obligations, releases for rights-of-way acquisition or final design, and approvals of environmental documents and permits.

In addition, recipients of federal-aid highway and federal transit funds, including local governments and other public agencies, are required to ensure regionally significant projects which do not use federal funds satisfy conformity requirements (40 CFR § 93.121).

To accommodate changes to project scopes and schedules, new conformity analyses are periodically performed.

Current Situation

The transportation conformity determination for the 2045 Regional Transportation Plan (RTP) and 2019-2021 Transportation Improvement Program (TIP) received federal approval on August 2, 2019. Since that time H-GAC has taken action to amend the 2045 RTP and 2021-2024 (TIP). These significant project changes will require a new demonstration of air quality conformity and will increase the total expenditure of the 2045 RTP by approximately \$9 Billion.

1. TxDOT is requesting RTP amendments to add few new projects to the RTP
 - a. Construct Express lanes on IH 610 between IH 10 and IH 69
 - b. Construct 2-way HOV lanes on IH 10 W between IH 610 west loop and IH 45 N
 - c. Construct SH 35 6 lane freeway between Dixie Dr and City of Alvin.
 - d. Change the Scope of Hempstead highway (US 290) between IH 610 to Grand Parkway (SH 99)
 - e. Reconstruct and widen San Jacinto river bridge on IH 10 E
 - f. Reconstruct Houston Ship Channel Bridge on IH 610 E
 - g. Reconstruct IH 610 S between SH 35 (Mykawa Rd/SS 5) and SH 288 and IH 610 direct connectors at SH 35 (Mykawa Rd/SS 5)
 - h. Widen Grand Parkway (SH 99) by adding Segments E and F.
 - i. Reconstruct and Widen Beltway 8 (BW 8) frontage roads between E of Hardy Toll Rd to E of Aldine Westfield Rd
 - j. Convert SH 288 to Freeway between future SH 99 to FM 1452

- k. Advance the IH 45 N interchange change at IH 10 W reconstruction and addition of IH 10 express lanes and IH 45 managed lanes part of the North Houston Highway Improvement Project (NHHIP) Segment 3 project to FY 2022.

In accordance with [23 CFR§450.324](#) all projects are constrained by the financial resources estimated to be reasonably available within the RTP timeframe. A complete listing of the projects in the RTP and TIP that affect this conformity analysis will be included in Appendix 3 of the conformity report.

Currently, our region is in non-attainment for two ozone standards:

- 2008 8-hr ozone standard (75 ppb) with classification of “serious”
- 2015 8-hr ozone standard (70 ppb) with classification of “marginal”

Due to the timing of this conformity determination and the U.S. Environmental Protection Agency’s (EPA) pending approval of a new Reasonable Further Progress (RFP) State Implementation Plan (SIP) for the Houston-Galveston-Brazoria (HGB) area, this conformity will demonstrate compliance to Motor Vehicle Emission Budgets (MVEB) under two different SIPs as an either-or scenario as shown in tables below. This approach to demonstrating conformity is intended to address uncertainty in the timing of EPA’s pending approval of the new HGB serious RFP SIP MVEBs. By demonstrating that the RTP and TIP are able to conform to MVEBs under both the moderate and serious RFP SIPs, we ensure that conformity documentation reflects the applicable MVEBs for transportation conformity purposes as of the date of FHWA’s final approval of this conformity determination. The tables below show that the NOx and VOC emissions are under both Moderate and Serious budget scenarios.

Air Quality Analysis Results

Conformity Analysis Results in Comparison to Moderate Classification Budgets

| Year | NOx Budget (tpd) | NOx Emissions (tpd) | VOC Budget (tpd) | VOC Emissions (tpd) | VMT |
|------|------------------|---------------------|------------------|---------------------|-------------|
| 2020 | 121.81 | 77.03 ✓ | 68.04 | 51.04 ✓ | 188,200,352 |
| 2030 | 121.81 | 43.54 ✓ | 68.04 | 33.01 ✓ | 228,967,318 |
| 2040 | 121.81 | 37.96 ✓ | 68.04 | 24.84 ✓ | 267,995,566 |
| 2045 | 121.81 | 40.25 ✓ | 68.04 | 25.32 ✓ | 286,876,227 |

tpd- tons/day

VMT- Vehicle miles travel

Nox- Nitrogen Oxides

VOC- Volatile Organic Compounds

Conformity Analysis Results in Comparison to Serious Classification Budgets

| Year | NO _x Budget (tpd) | NO _x Emissions (tpd) | VOC Budget (tpd) | VOC Emissions (tpd) | VMT |
|------|------------------------------|---------------------------------|------------------|---------------------|-------------|
| 2020 | 87.69 | 77.03 ✓ | 57.7 | 51.04 ✓ | 188,200,352 |
| 2030 | 87.69 | 43.54 ✓ | 57.7 | 33.01 ✓ | 228,967,318 |
| 2040 | 87.69 | 37.96 ✓ | 57.7 | 24.84 ✓ | 267,995,566 |
| 2045 | 87.69 | 40.25 ✓ | 57.7 | 25.32 ✓ | 286,876,227 |

tpd- tons/day

VMT- Vehicle miles travel

Nox- Nitrogen Oxides

VOC- Volatile Organic Compounds

Conformity Timeline

- March 2020: First conference call with agency partners/TAC and TPC announcement.
- October 2020: Review for model networks and Pre-Analysis Consensus document.
- December 2020: Travel demand model runs.
- January 2020: Air quality model runs.
- March 2021: TAC and TPC preview.
- March 2021: Public comment period from March 26 to April 26
- April 2021: Virtual public meetings – April 8th, 2 p.m. and 6 p.m.
- May 2021: TAC and TPC recommends approval of conformity determination and RTP and TIP amendments
- Receive Federal Approval – 3 months later.

Action Requested

Information only.