

APPENDIX 16

Pre-Analysis Consensus Document

PRE-ANALYSIS CONSENSUS PLAN

1. INTRODUCTION

Table 1: Reasons for the Transportation Conformity Regional Emissions Analysis (40 CFR 93.104) Beginning 11/24/2015.

	New Metropolitan Transportation Plan (demographics, horizon year, etc.)
X	Modify Existing Metropolitan Transportation Plan (interim year adjustments)
X	New or Amended Transportation Improvement Program
	State Implementation Plan (SIP) Requirement
	Newly Designated Nonattainment Area
	Other

Conformity Rule link: <http://www.gpo.gov/fdsys/pkg/FR-2012-03-14/pdf/2012-6207.pdf>

This conformity determination is being prepared to support amendments to the 2040 RTP and 2015-2018 TIP and adoption of a new 2017-2020 TIP. The proposed changes include the advancement and addition of projects using reasonably available Proposition 1, Proposition 7 and federal funds. Federal approval of this conformity determination is needed to allow actions on environmental documents, permits and construction funding authorizations. The following is a summary of proposed revisions to regionally significant projects to be included in this conformity determination:

- New funding commitments from H-GAC's 2015 Call for Projects
 - IH 45 S Reconstruct and Widen from S of NASA 1 Bypass to 61st St
 - SH 36/SP 10 Widening from IH 69/US 59 to N of Brazos River
 - etc.
- New discretionary funding commitments from TxDOT/Transportation Commission
 - IH 10 W, Widening from FM 359 to Brazos River
- Additional schedule changes from project sponsors (HCTRA, etc.)
 - BW 8 Widen from IH 10 to SH 225 (Ship Channel Bridge)
 - SH 99 Seg. B Direct Connector at SH 35
 - etc.

A complete listing of the projects in the amended RTP and TIP that affect this conformity analysis will be included in Appendix 3 of the conformity report.

2015-2016 Draft Timeline

November

- Kickoff meeting with consultation partners
- H-GAC updates TAC/TPC

December

- H-GAC presents the pre-consensus plan to consultation partners
- H-GAC to update TDM networks

January

- Approval of pre-analysis consensus plan by consultation partners
- H-GAC to update TDM
- Consultation partners begin review of TDM networks

February

- H-GAC to complete air quality emission analysis
- H-GAC to complete documentation

March

- Thirty-day public comment period opens for conformity, TIP and RTP
- Consultation partners to complete preliminary agency reviews

April

- Public comment period closes
- H-GAC presents conformity results for approval to TAC/TPC
- Additional inter-agency comment period (if needed)

May

- TPC adopts amended 2040 RTP
- TPC adopts amended 2015-2018 TIP
- TPC adopts draft 2017-2020 TIP

June

- Consultation partners prepare and issue concurrence letters

2. PLANNING DETAIL

[40 CFR 93.110, 40 CFR 93.106]

Table 2: Metropolitan Transportation Plan/Transportation Improvement Program

Plan or Program names	Years covered	Fiscally Constrained	Website
2040 Regional Transportation Plan	2015-2040	Yes	http://www.h-gac.com/taq/plan/2040/default.aspx
Transportation Improvement Program	2015-2018 2017-2020	Yes Yes	http://www.h-gac.com/taq/tip/default.aspx

Table 3: Projects

Project Element	Description
Regionally Significant Definition	Please see description below
Projects that trigger conformity	Please see Appendix 3

[23 CFR 450.322(b)(6), 23 CFR 450.324(f)(5), 40 CFR 93.126, 40 CFR 93.127, 40 CFR 93.105(c)]

Regionally Significant Definition:

Regionally Significant Roadway Projects

Non-exempt projects¹ on regionally significant roadways will be treated as regionally significant projects if they:

- provide additional through traffic lanes greater than 1 mile in length;
- construct a bypass to a principal arterial/interstate along on a new alignment;
- add or extend freeway auxiliary/weaving lanes from one interchange to a point beyond the next interchange;
- construct a new interchange that provides access from or allows movement between facilities that was not previously possible; and/or
- remove an existing interchange and result in the elimination of access from or movement between facilities which previously existed.

Regionally significant roadways are limited to:

- all freeways, tollways and other highways classified as principal arterial or higher; and
- select highways currently designated as minor arterials that serve significant interregional and intraregional travel, and connect rural population centers not already served by a principal arterial, or

¹ Non-exempt projects include all projects that are not identified under 40 CFR § 93.126 and 40 CFR § 93.127 as exempt or exempt from regional emissions analysis.

connect with intermodal transportation terminals not already served by a principal arterial (identified in Figure 1).

Regionally Significant Transit Projects

Any transit facility within an exclusive right-of-way (“fixed guideway”) that offers an alternative to regional highway travel including light rail, commuter rail, bus rapid transit, and barrier separated HOV lanes will be considered regionally significant.

Other Projects

The regional significance of non-exempt projects not addressed in the above statements will be decided on a case-by-case basis through the interagency consultation process. The consultation will occur before taking the plan to TPC (either plan or TIP revision), and prior to the environmental determination.



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Regionally Significant Transportation Facilities (Conformity Network)

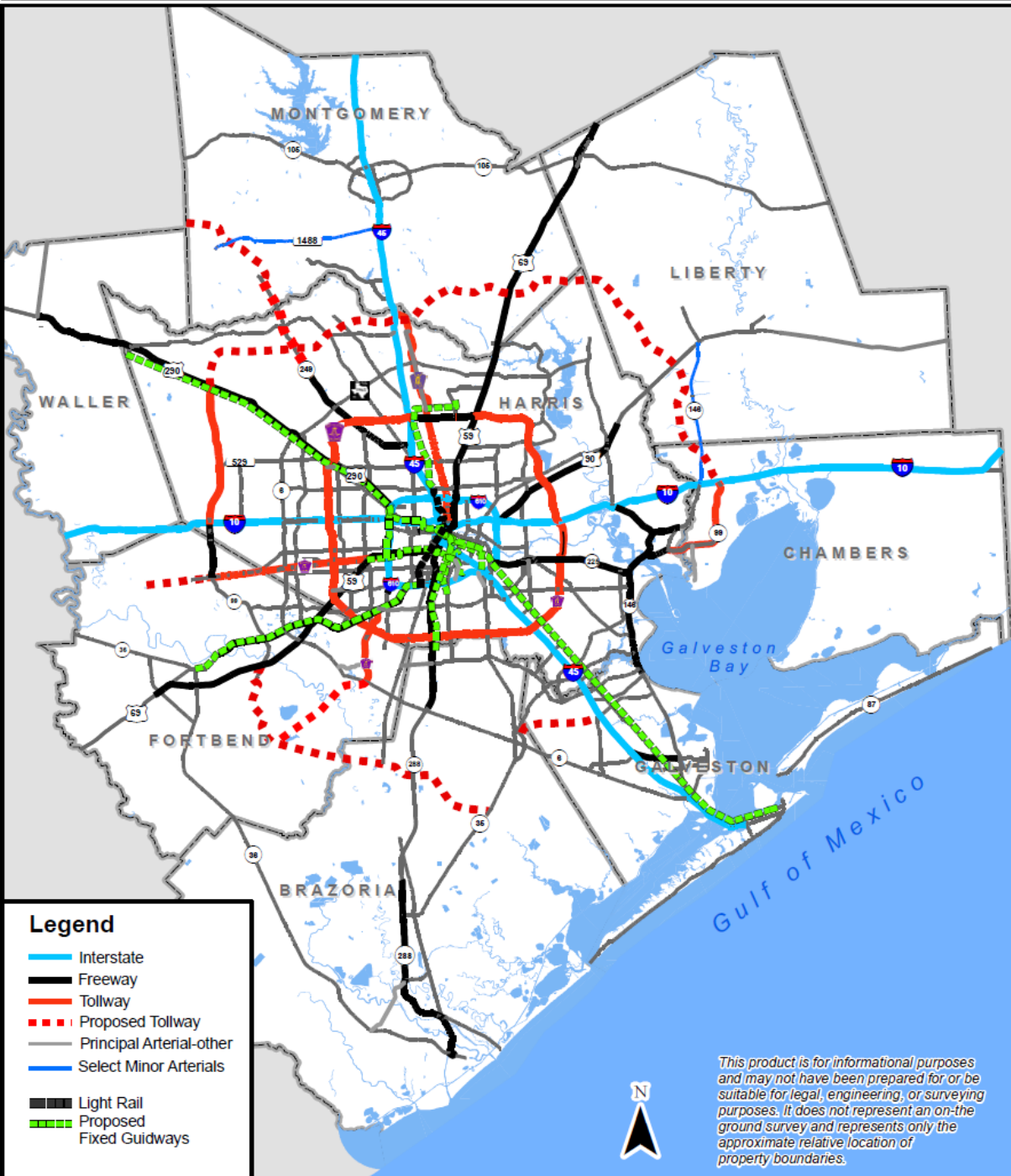


Figure 1: Regionally Significant Transportation Facilities (Conformity Network)

Table 4: State Implementation Plan

SIP Element	Description
<p>Title of Applicable SIP(s)</p>	<p>Houston-Galveston-Brazoria Attainment Demonstration and Reasonable Further Progress State Implementation Plan Revisions for the 1997 Eight-Hour Ozone Standard</p> <p>MVEB were found adequate by EPA 8/2/2013 (effective 8/19/2013)</p> <p>2013 HGB MVEB Update SIP Revision for the 1997 Eight-Hour Ozone Standard (Project No. 2012-002-SIP-NR) http://www.tceq.texas.gov/airquality/sip/HGB_eight_hour.html#MVEB</p>
<p>Motor Vehicle Emissions Budgets</p>	<p>RFP SIP 2014: NOx= 171.63 tpd VOC= 71.56 tpd* 2017: NOx= 130.00 tpd VOC= 59.76 tpd</p> <p>AD SIP 2018: NOx= 103.34 tpd VOC= 50.13 tpd</p>
<p>Transportation Control Measures</p>	<ol style="list-style-type: none"> 1. 2000 HGB RFP and AD SIP, Approved Nov. 2001 ID#2000-0826-SIP 2. 2004 HGB Mid Course Review SIP, Approved Dec. 2004 ID# 2004-42-NR 3. TCM Substitution for HGB 2006 4. 2010 HGB AD SIP for the 1997 8-hr Ozone Standard (2009-017-SIP-NR)

*Per EPA guidance, the 2014 MVEB will be used for the 2015 conformity analysis year.
<http://www3.epa.gov/otaq/stateresources/transconf/regs/420b12045.pdf>

Table 5: Conformity Analysis Years

Requirement	Years
Conformity Base Year	2012
Attainment Year	2015
Motor Vehicle Emissions Budget Years	2014, 2017, 2018
First Analysis Year	2015
Intermediate Analysis Years	2025, 2035
Last Year of RTP	2040
Interpolation Years*	2017, 2018

*The 2017 and 2018 analysis years can be interpolated per 40 CFR §93.118(d)(2). The scenario under which H-GAC is interpolating analysis years is provided as an example scenario in EPA's [Transportation Conformity Guidance for 2008 Ozone Nonattainment Areas](#) (Example 1 on pages 17 and 18) <http://www3.epa.gov/otaq/stateresources/transconf/regs/420b12045.pdf>

3. TRAVEL DEMAND MODELING

Table 6: Demographics Used in Conformity Analysis

Data Element	Detail and Source of Data
Population	H-GAC uses an in-house model for regional econometric forecasting and feeds it into the UrbanSim model for local area forecasts. The base year demographic was developed on the basis of 2010 Census and American Community Survey (ACS) PUM. The base year demographic is fed into an in-house demographic evolution model to simulate future population mix.
Employment	H-GAC uses an in-house model for regional econometric forecast-supplied data as baseline and feeds this into the UrbanSim model for local area forecasts. H-GAC forecasts regional employment according to multiple sources such as Texas Workforce Commission, ACS PUM, and Woods & Poole.
Socio-economic	H-GAC's socio-economic model uses a 2010 base year. The forecast uses the following external data as input: Texas Workforce Commission, ACS PUM, and Woods & Poole.

(§93.122(b)(3))

Table 7: Travel Demand Model

Model Factor	Detail and Methodology
Model Validation Year	2012
Software	Cube Voyager
Mode Split/Mode Choice	Updated and simplified model with help from Houston METRO
Vehicle Miles Travel (VMT) HPMS Adjustment	H-GAC will adjust the forecasted VMT to TxDOT's HPMS for all roadway facilities. The HPMS adjustment factor is calculated below and will be discussed in detail in Appendix 4 of the final report.
VMT adjustment -Seasonal Correction Factor	Refer to Table 8 for factors.

Model Factor	Detail and Methodology
Time Periods Designation	Refer to Table 9 for designations.
Counties Covered by Model	Harris, Galveston, Brazoria, Fort Bend, Montgomery, Liberty, Chambers and Waller.

HPMS Adjustment Factor

The factor used to reconcile model estimated regional VMT to HPMS estimated regional VMT is calculated by dividing the HPMS estimated average non-summer weekday VMT as follows:

HPMS Adjustment Factor Calculation

$$\begin{aligned}
 &= (\text{HPMS estimated ANSWT}) / (\text{Model estimated ANSWT}) \\
 &= (152,958,024) / (168,168,738) \\
 &= 0.90955
 \end{aligned}$$

Table 8: Seasonal Adjustment Factors

	County	Factors (Midweek)
Weekday Non-summer June to August	Harris, Brazoria, Fort Bend, Galveston, Montgomery, and Waller	0.99847
	Liberty, Chambers	1.03501

Texas A&M Transportation Institute communication

Seasonal adjustment factors are used to adjust the Travel Demand Model (TDM) and estimated intrazonal VMT to summer weekday VMT. The adjustment factors were developed using aggregated Automated Traffic Recorder (ATR) data for the years 2005-2014. These factors, provided in Table 8, were calculated by dividing the average day-of-week (weekday) count for the June – August episode by the Annual Non-Summer Weekday Traffic (ANSWT) count.

Two seasonal factors are needed because there are two different sources for data. The counties of Liberty and Chambers belong to the Beaumont TxDOT District while the counties of Harris, Brazoria, Ft. Bend, Galveston, Montgomery and Waller belong to the Houston TxDOT District

Table 9: Time Period Designations

Hours	Designations
12:00 a.m. – 12:59 a.m.	Overnight
1:00 a.m. – 1:59 a.m.	Overnight
2:00 a.m. – 2:59 a.m.	Overnight
3:00 a.m. – 3:59 a.m.	Overnight
4:00 a.m. – 4:59 a.m.	Overnight
5:00 a.m. – 5:59 a.m.	Overnight
6:00 a.m. – 6:59 a.m.	AM Peak
7:00 a.m. – 7:59 a.m.	AM Peak
8:00 a.m. – 8:59 a.m.	AM Peak
9:00 a.m. – 9:59 a.m.	Midday
10:00 a.m. – 10:59 a.m.	Midday
11:00 a.m. – 11:59 a.m.	Midday
12:00 p.m. – 12:59 p.m.	Midday
1:00 p.m. – 1:59 p.m.	Midday
2:00 p.m. – 2:59 p.m.	Midday
3:00 p.m. – 3:59 p.m.	PM Peak
4:00 p.m. – 4:59 p.m.	PM Peak
5:00 p.m. – 5:59 p.m.	PM Peak
6:00 p.m. – 6:59 p.m.	PM Peak
7:00 p.m. – 7:59 p.m.	Overnight
8:00 p.m. – 8:59 p.m.	Overnight
9:00 p.m. – 9:59 p.m.	Overnight
10:00 p.m. – 10:59 p.m.	Overnight
11:00 p.m. – 11:59 p.m.	Overnight

4. REGIONAL TRANSPORTATION EMISSIONS

Emissions input detail (MOVES Air Quality Emission Model Information)

Table 10: Model External Conditions

Utility used	Spatial Emission Estimator (SEE) developed by ERG*
Emission Model Version	MOVES2014a
Analysis Year Runs	2015, 2025, 2035, 2040
Time Periods	AM, MD, PM, OV
Pollutants Reported	NO _x , VOC
Evaluation Month	July
Inputs to SEE for activity data to run MOVES at project level	Hourly VMT per link and speeds, link definitions, time period designation, road type and speed, VMT mix. Inputs will be provided in Appendix 9 of the final report.
Speed bins	1mph for years 2015 and 2025 5mph for years 2035 and 2040

*Detailed information concerning SEE will be included in Appendix 8 of the final report.

Table 11: MOVES2014a Input Parameters and Source

Input Parameter Name	Description	Source
Source Type Population	Input the number of vehicles in the geographic area which is to be modeled for each vehicle. A module is used to convert MOVES2014a based TXDMV registration data for each county into 13 MOVES SUT population.	TXDMV registration data for July 2014
Source Type Age Distribution	Input that provides the distribution of vehicle counts by age for each calendar year and vehicle type. TXDMV registration data is used to estimate the age distribution of vehicle types up to 30 years. The distribution of Age fractions should sum up to 1.0 for all vehicle types for each analysis year.	TXDMV registration data for July 2014; MOVES default used for buses
Vehicle Type VMT	County-specific VMT is distributed to 6 HPMS vehicle types.	Travel Model Output
Average Speed Distribution	Input average speed data specific to vehicle type, road type, and time of day/type of day into 16 speed bins. The sum of speed distribution to all speed bins for each road type, vehicle type, and time/day type would be 1.0.	Travel Model Output
Road Type Distribution (VMT Fractions)	Input county-specific VMT by road type. VMT fraction is distributed between the road types and must sum to 1.0 for each source type.	Travel Model Output
Ramp Fraction	Input county-specific fraction of ramp driving time on rural and urban restricted roadway type.	Travel Model Output
Fuel Supply	Input to assign existing fuels to counties, months, and years, and to assign the associated market share for each fuel.	TCEQ, EPA Fuel Surveys and default MOVES input where local data unavailable. (Refer to Table 12)

Input Parameter Name	Description	Source
Meteorology	County-specific data on temperature and humidity.	Regional data from TCEQ. RFP SIP for year 2015: https://www.tceq.texas.gov/assets/public/implementation/air/sip/hgb/hgb_mveb_2012/12002SIP_AppD_ado.pdf AD SIP for years 2025, 2035 and 2040: https://www.tceq.texas.gov/assets/public/implementation/air/sip/hgb/hgb_mveb_2012/12002SIP_AppA_ado.pdf
Fuel Formulation	Input county-specific fuel properties in the MOVES database.	TCEQ, EPA Fuel Surveys and default MOVES input where local data unavailable. (Refer to Table 13)
I/M Coverage	Input I/M coverage record for each combination of pollutants, process, county, fuel type, regulatory class and model year are specified using this input.	Refer to Tables 14, 15, 16, and 17
Fuel Engine Fraction / Diesel Fraction	Input fuel engine fractions (i.e. gasoline vs. diesel engine types in the vehicle population) for all vehicle types.	TXDMV registration data July 2014; MOVES default used for light-duty vehicles and buses; county regional data applied for heavy-duty vehicles.

Table 12: MOVES2014a Fuel Supply

Fuel Formulation ID	Market Share
10005 (gasoline)	1
30011 (diesel)	1

Table 13: MOVES2014a Fuel Properties

Fuel Type	2015 Gasoline¹	2015 Diesel	2017 and Later Gasoline²	2017 and Later Diesel
Fuel Formulation ID	10005	30011	10005	30011
Fuel Subtype ID	12	20	12	20
RVP	7.10	0	7.10	0
Sulfur Level	28.47 ³	11	10	11
ETOH Volume	9.70	0	9.70	0
MTBE Volume	0	0	0	0
ETBE Volume	0	0	0	0
TAME Volume	0	0	0	0
Aromatic Content	14.42	0	14.42	0
Olefin Content	13.36	0	13.36	0
Benzene Content	0.44	0	0.44	0
e200	49.00	0	49.00	0
e300	84.30	0	84.30	0
T50	203.60	0	203.60	0
T90	329.78	0	329.78	0
BioDieselEster Volume	0	0	0	0
Cetane Index	0	0	0	0
PAH Content	0	0	0	0

¹ Based on EPA Houston Summer 2014 retail outlet RFG survey data.

² Based on EPA Houston Summer 2014 retail outlet RFG survey data except sulfur content was set to 10 ppm for Tier 3 gasoline sulfur standard consistency.

³ “2014 On-road Mobile Source Annual, Summer Weekday and Winter Workday Emissions Inventories: HGB Area” (Texas A&M Transportation Institute, Revised October 2015), sponsored by the TCEQ (commonly referred to as an “AERR inventory”).

Tables 14, 15, 16, and 17 contain the MOVES2014a I/M descriptive inputs, by analysis year, for the area counties subject to I/M. Brazoria, Fort Bend, Galveston, Harris, and Montgomery Counties are subject to I/M, but Chambers, Liberty, and Waller are not. Since budget years 2017 and 2018 will be interpolated, there are no inputs for those years.

Table 14: MOVES2014a I/M Descriptive Inputs for Analysis Year 2015

I/M Program ID (Identifies program number with MOVES database)	30	51	40	60
Pollutant Process ID (Identifies pollutant process with MOVES database)	101, 102, 201, 202, 301, 302	112	101, 102, 201, 202, 301, 302	112
Source Use Type (SUT)^{1,2} (Identifies vehicle type with MOVES database)	21, 31, 32	21, 31, 32	21, 31, 32	21, 31, 32
Begin Model Year (Calculated as YearID-24; OBD ³ required for 1996 and newer vehicles)	1991	1991	1996	1996
End Model Year (Calculated as YearID-2; ASM ⁴ /evaporative gas cap check required for 1995 and older vehicles)	1995	1995	2013	2013
Inspection Frequency (Annual testing per program specifications)	1	1	1	1
Test Standards Description (Describes test type)	ASM 2525/5015 phase-in cut points	Evaporative gas cap check	OBD check	Evaporative gas cap and OBD check
Test Standards ID (Identifies test with MOVES database)	23	41	51	45
I/M Compliance (Expected compliance percentage by SUT)	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%

¹ SUTs listed represent the following vehicle types: SUT 21 represents passenger cars; SUT 31 represents passenger trucks; and SUT 32 represents light commercial trucks.

² From TCEQ AERR, for heavy-duty gasoline vehicles (i.e., > 8,500 lbs. GVWR), MOVES does not contain any combinations of I/M factors and mean base rates that yield I/M effects, except for the evaporative tank venting process; for light-duty gasoline vehicles, MOVES includes both exhaust and evaporative I/M factors and mean base rates with I/M effects. Via the I/M compliance factor (note 1), the heavy-duty class I/M effects were not

included – only light-duty gasoline vehicles (SUTs 21, 31, and 32) were flagged for use in the user input I/M coverage records. The processes/pollutants affected by I/M are exhaust running and exhaust start THC, CO, NOx, and tank vapor venting THC.

³ On-board diagnostics

⁴ Acceleration simulation mode

Table 15: MOVES2014a I/M Descriptive Inputs for Analysis Year 2025¹

I/M Program ID (Identifies program number with MOVES database)	40	60
Pollutant Process ID (Identifies pollutant process with MOVES database)	101, 102, 201, 202, 301, 302	112
Source Use Type (SUT)^{2,3} (Identifies vehicle type with MOVES database)	21, 31, 32	21, 31, 32
Begin Model Year (Calculated as YearID-24)	2001	2001
End Model Year (Calculated as YearID-2)	2023	2023
Inspection Frequency (Annual testing per program specifications)	1	1
Test Standards Description (Describes test type)	OBD ⁴ check	Evaporative gas cap and OBD check
Test Standards ID (Identifies test with MOVES database)	51	45
I/M Compliance (Expected compliance percentage by SUT)	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%

¹ Acceleration simulation mode (ASM) and evaporative gas cap check tests are no longer required.

² SUTs listed represent the following vehicle types: SUT 21 represents passenger cars; SUT 31 represents passenger trucks; and SUT 32 represents light commercial trucks.

³ From TCEQ AERR, for heavy-duty gasoline vehicles (i.e., > 8,500 lbs. GVWR), MOVES does not contain any combinations of I/M factors and mean base rates that yield I/M effects, except for the evaporative tank venting process; for light-duty gasoline vehicles, MOVES includes both exhaust and evaporative I/M factors and mean base rates with I/M effects. Via the I/M compliance factor (note 2), the heavy-duty class I/M effects were not included – only light-duty gasoline vehicles (SUTs 21, 31, and 32) were flagged for use in the user input I/M coverage records. The processes/pollutants affected by I/M are exhaust running and exhaust start THC, CO, NOx, and tank vapor venting THC.

⁴ On-board diagnostics

Table 16: MOVES2014a I/M Descriptive Inputs for Analysis Year 2035¹

I/M Program ID (Identifies program number with MOVES database)	40	60
Pollutant Process ID (Identifies pollutant process with MOVES database)	101, 102, 201, 202, 301, 302	112
Source Use Type (SUT)^{2,3} (Identifies vehicle type with MOVES database)	21, 31, 32	21, 31, 32
Begin Model Year (Calculated as YearID-24)	2011	2011
End Model Year (Calculated as YearID-2)	2033	2033
Inspection Frequency (Annual testing per program specifications)	1	1
Test Standards Description (Describes test type)	OBD ⁴ check	Evaporative gas cap and OBD check
Test Standards ID (Identifies test with MOVES database)	51	45
I/M Compliance (Expected compliance percentage by SUT)	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%

¹ Acceleration simulation mode (ASM) and evaporative gas cap check tests are no longer required.

² SUTs listed represent the following vehicle types: SUT 21 represents passenger cars; SUT 31 represents passenger trucks; and SUT 32 represents light commercial trucks.

³ From TCEQ AERR, for heavy-duty gasoline vehicles (i.e., > 8,500 lbs. GVWR), MOVES does not contain any combinations of I/M factors and mean base rates that yield I/M effects, except for the evaporative tank venting process; for light-duty gasoline vehicles, MOVES includes both exhaust and evaporative I/M factors and mean base rates with I/M effects. Via the I/M compliance factor (note 2), the heavy-duty class I/M effects were not included – only light-duty gasoline vehicles (SUTs 21, 31, and 32) were flagged for use in the user input I/M coverage records. The processes/pollutants affected by I/M are exhaust running and exhaust start THC, CO, NOx, and tank vapor venting THC.

⁴ On-board diagnostics

Table 17: MOVES2014a I/M Descriptive Inputs for Analysis Year 2040¹

I/M Program ID (Identifies program number with MOVES database)	40	60
Pollutant Process ID (Identifies pollutant process with MOVES database)	101, 102, 201, 202, 301, 302	112
Source Use Type (SUT)^{2,3} (Identifies vehicle type with MOVES database)	21, 31, 32	21, 31, 32
Begin Model Year (Calculated as YearID-24)	2016	2016
End Model Year (Calculated as YearID-2)	2038	2038
Inspection Frequency (Annual testing per program specifications)	1	1
Test Standards Description (Describes test type)	OBD ⁴ check	Evaporative gas cap and OBD check
Test Standards ID (Identifies test with MOVES database)	51	45
I/M Compliance (Expected compliance percentage by SUT)	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%	SUT 21 = 93.12% SUT 31 = 91.26% SUT 32 = 86.60%

¹ Acceleration simulation mode (ASM) and evaporative gas cap check tests are no longer required.

² SUTs listed represent the following vehicle types: SUT 21 represents passenger cars; SUT 31 represents passenger trucks; and SUT 32 represents light commercial trucks.

³ From TCEQ AERR, for heavy-duty gasoline vehicles (i.e., > 8,500 lbs. GVWR), MOVES does not contain any combinations of I/M factors and mean base rates that yield I/M effects, except for the evaporative tank venting process; for light-duty gasoline vehicles, MOVES includes both exhaust and evaporative I/M factors and mean base rates with I/M effects. Via the I/M compliance factor (note 2), the heavy-duty class I/M effects were not included – only light-duty gasoline vehicles (SUTs 21, 31, and 32) were flagged for use in the user input I/M coverage records. The processes/pollutants affected by I/M are exhaust running and exhaust start THC, CO, NOx, and tank vapor venting THC.

⁴ On-board diagnostics

Table 18: MOVES2014a Emissions Factor Post-Processing to Be Performed by County and Year

Strategy and Post-Processing Result	Analysis Year	Counties
Texas Low Emission Diesel Fuel (TxLED)	2015,2025,2035,2040	Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, Waller

Source: TCEQ, Texas A&M Transportation Institute.

The following table provides the TxLED reduction and the adjustment factors for the years 2015, 2025, 2035, and 2040. These factors were calculated using MOVES2014 and the July 2014 TXDMV registration.

Table 19: TxLED NO_x Reduction and NO_x Adjustment Factors by Source Use Type

Source Use Type	2015 Reduction	2025 Reduction	2035 Reduction	2040 Reduction	2015 Factor	2025 Factor	2035 Factor	2040 Factor
Passenger Car	5.47%	4.84%	4.80%	4.80%	0.9453	0.9516	0.952	0.952
Passenger Truck	5.19%	4.90%	4.80%	4.80%	0.9481	0.9510	0.952	0.952
Light Commercial Truck	5.50%	5.09%	4.80%	4.80%	0.9450	0.9491	0.952	0.952
Intercity Bus	5.77%	5.45%	4.80%	4.80%	0.9423	0.9455	0.952	0.952
Transit Bus	5.72%	5.33%	4.80%	4.80%	0.9428	0.9467	0.952	0.952
School Bus	5.75%	5.37%	4.80%	4.80%	0.9425	0.9463	0.952	0.952
Refuse Truck	5.53%	4.96%	4.80%	4.80%	0.9447	0.9504	0.952	0.952
Single Unit Short-Haul Truck	4.97%	4.82%	4.80%	4.80%	0.9503	0.9518	0.952	0.952
Single Unit Long-Haul Truck	4.93%	4.82%	4.80%	4.80%	0.9507	0.9518	0.952	0.952
Motor Home	5.48%	5.19%	4.80%	4.80%	0.9452	0.9481	0.952	0.952
Combination Short-Haul Truck	5.32%	4.93%	4.80%	4.80%	0.9468	0.9507	0.952	0.952
Combination Long-Haul Truck	5.40%	4.91%	4.80%	4.80%	0.9460	0.9509	0.952	0.952

Emissions Controls Used for Conformity Credit

This conformity will not use any credits from voluntary mobile emission reduction programs since they are not needed to show conformity to the emission budgets.

Table 20: VMT Mix Year/Analysis Year Correlations

VMT Mix Year	Analysis Years
2005	2003 through 2007
2010	2008 through 2012
2015	2013 through 2017
2020	2018 through 2022
2025	2023 through 2027
2030	2028 through 2032
2035	2033 through 2040

The VMT mix designates the vehicle types included in the analysis, and specifies the fraction of on-road fleet VMT attributable to each vehicle type by MOVES road type.

The VMT mixes were estimated based on Texas A&M Transportation Institute’s 24-hour average VMT mix method (*Methodologies for Conversion of Data Sets for MOVES Model Compatibility*, Texas A&M Transportation Institute, August 2009) estimated for each TxDOT district associated with the eight-county HGB area (i.e., Houston and Beaumont districts). The 24-hour VMT mix was developed using vehicle classification counts (2001-2011), end-of-year registration data (2013), and MOVES defaults (where needed). This data will be included in Appendix 9 of final conformity report.

5. INTERAGENCY CONSULTATION

Interagency consultation is a required element of the transportation conformity process according to 40 CFR §93.105. Consultation partners include H-GAC, TxDOT, TCEQ, EPA, FHWA, METRO and Texas A&M Transportation Institute. Consultation regarding this Pre-Analysis Consensus Plan and the conformity process will be documented in Appendix 14 of the final conformity report.

6. PUBLIC PARTICIPATION

Public consultation is a required element of the transportation conformity process according to 40 CFR §93.105. The draft transportation conformity report, which will be based on this pre-analysis consensus plan, will undergo a 30-day public comment period. During the public comment period, H-GAC will hold two public meetings. Information concerning the public participation process will be documented in Appendix 15 of the final conformity report.

The following appendices will accompany the final transportation conformity report.

APPENDICES

- Appendix 1: Resolution from Transportation Policy Council
- Appendix 2: Applicable SIP Excerpts
- Appendix 3: Project Listing
- Appendix 4: Travel Model Validation
- Appendix 5: Final RTP Link Listing
- Appendix 6: MOVES information and Fact Sheets
- Appendix 7: MOVES input parameters
- Appendix 8: Suite of Programs
- Appendix 9: MOVES input and output files
- Appendix 10: Post Process (TxLED adjustment)
- Appendix 11: Final MOVES emission factors N/A
- Appendix 12: Transportation Control Measures in the State Implementation Plan N/A
- Appendix 13: VMETs N/A
- Appendix 14: Interagency Conformity Consultation Process
- Appendix 15: Public Comment process