Air Quality Conformity Determination
For Amendments to the 2045 Regional Transportation Plan

Graciela Lubertino, PhD
June 23, 2021
What is the Houston - Galveston Area Council?

H-GAC is the Metropolitan Planning Organization for the 8 county Transportation Management Area

- More than 6 million people
- 8 counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller
- 134 cities
Transportation Plans

• **Regional Transportation Plan**: is the long-term transportation plan for the region ~ 20 years.

• **Transportation Improvement Program**: is the short-term transportation plan for the region, first 4 years.

Both need to be fiscally constrained

- The amendments to 2045 RTP and 2021-2024 TIP reflect changes in fiscally constrained and in regional significant projects.
Air Quality Status

- Our region is in nonattainment for the 8-hr Ozone Standard.

Classification:

- Serious for the 2008 8-hr Ozone standard (75 ppb)
- Marginal for the 2015 8-hr Ozone standard (70 ppb)
Air Quality in Houston Region

8-Hour Ozone Design Values for HGB (parts per billion)

2008 NAAQS: 75 ppb
2015 NAAQS: 70 ppb
What is Conformity?

- Process that links the air quality State Implementation Plan with the regional roadway planning.
- Ensures that transportation plans do not delay attainment of National Ambient Air Quality Standard

The SIP (State Air Quality Plan) and Transportation Plan, and Transportation Improvement Program (TIP)
Emission Budgets

- The emissions of transportation plans must conform to the emission budgets from the Air Quality State Implementation Plan.
- Latest approved emission budgets:

  Reasonable Further Progress budget for mobile sources found adequate by EPA June 6, 2017 – Moderate classification

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>121.81</td>
<td>68.04</td>
</tr>
</tbody>
</table>

NOx – Nitrogen Oxides
VOC – Volatile Organic Compounds
Emission Budgets

Reasonable Further Progress budget for mobile sources in process of being approved by EPA - Serious classification

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>87.69</td>
<td>57.70</td>
</tr>
</tbody>
</table>

NOx – Nitrogen Oxides
VOC – Volatile Organic Compounds
Conformity Requirements

- Use of the latest planning assumptions
- Latest emission model approved by EPA
- Interagency consultation (EPA, FHWA, TCEQ, TxDOT, METRO)
- Public comment period
- Timely implementation of control measures
- Demonstrated if projected regional emissions from the RTP do not exceed the region's motor vehicle emissions budgets stated in the Air Quality State Implementation Plan.
Calculations

Years selected:
- 2020 – attainment year for 2008 and 2015 8 hr. Ozone Standard
- 2030, and 2040 – intermediate years
- 2045 – horizon year

- Latest Planning available data: new vehicle registration, adjustment factors and fuel data.
- Latest air quality model: EPA MOVES2014b
## Draft Air Quality Conformity Results

### Conformity Analysis Results versus Moderate Emission Budgets

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx Budget (tons/day)</th>
<th>NOx Emissions (tons/day)</th>
<th>VOC Budget (tons/day)</th>
<th>VOC Emissions (tons/day)</th>
<th>VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>121.81</td>
<td>77.03</td>
<td>68.04</td>
<td>51.04</td>
<td>188,200,352</td>
</tr>
<tr>
<td>2030</td>
<td>121.81</td>
<td>43.54</td>
<td>68.04</td>
<td>37.01</td>
<td>228,967,318</td>
</tr>
<tr>
<td>2040</td>
<td>121.81</td>
<td>37.96</td>
<td>68.04</td>
<td>24.84</td>
<td>267,995,566</td>
</tr>
<tr>
<td>2045</td>
<td>121.81</td>
<td>40.25</td>
<td>68.04</td>
<td>25.32</td>
<td>286,876,227</td>
</tr>
</tbody>
</table>

NOx- Nitrogen Oxides  
VOC-Volatile Organic Compounds  
VMT-Vehicle Miles Traveled
# Draft Air Quality Conformity Results

## Conformity Analysis Results versus Serious Emission Budgets

<table>
<thead>
<tr>
<th>Year</th>
<th>NOx Budget (tons/day)</th>
<th>NOx Emissions (tons/day)</th>
<th>VOC Budget (tons/day)</th>
<th>VOC Emissions (tons/day)</th>
<th>VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>87.69</td>
<td>77.13</td>
<td>57.70</td>
<td>51.04</td>
<td>188,200,352</td>
</tr>
<tr>
<td>2030</td>
<td>87.69</td>
<td>43.54</td>
<td>57.70</td>
<td>33.01</td>
<td>228,967,318</td>
</tr>
<tr>
<td>2040</td>
<td>87.69</td>
<td>37.96</td>
<td>57.70</td>
<td>24.84</td>
<td>267,995,566</td>
</tr>
<tr>
<td>2045</td>
<td>87.69</td>
<td>40.25</td>
<td>57.70</td>
<td>25.32</td>
<td>286,876,227</td>
</tr>
</tbody>
</table>

- NOx – Nitrogen Oxides
- VOC – Volatile Organic Compounds
- VMT – Vehicle Miles Traveled
Proposed Timeline

- **March 2020**: Coordination 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 28
- **April 2021**: Virtual public meetings – April 8, 2pm and 6 pm
- **June 2021**: TAC and TPC recommends approval of conformity determination & RTP/TIP amendments.
- Receive Federal Approval – 3 months later.

Questions

- Questions
- Contact
  - Graciela Lubertino (Graciela.Lubertino@h-gac.com)