

APPENDIX F

Scope of Services

HOUSTON/GALVESTON ATTAINMENT DEMONSTRATION - PART II

OCTOBER 1999 REVISION

SCOPE OF SERVICES

Transportation Air Quality Technical Support

The Federal Clean Air Act Amendments (CAAA) of 1990 and subsequent federal register rules require that states and Metropolitan Planning Organizations (MPOs) perform a variety of transportation planning activities directed toward improving air quality. The CAAA and Environmental Protection Agency (EPA) guidance documents contain time schedules by which specific activities must be performed and the authority for the EPA to impose sanctions for failure to perform the specified activities. The EPA's implementing regulations for most activities are developed; however the state and EPA continue to work together to define and revise some activities that will ultimately go through the rulemaking process. Not all local governments designated as nonattainment are able to perform the data collection and technical work required by the implementing regulations. Through this agreement, technical assistance will be provided by the Texas Transportation Institute to the TNRCC and affected MPO's to support development and evaluation of air emissions inventories.

This scope of services describes the work to be performed during the period May 1, 1998 to July 31, 1998. Additional related services may be requested by TNRCC's Project Manager if needed to support changing state and federal requirements or to further develop emission inventory related analysis procedures or applications.

Task 1: Prepare COAST 2007 Inventory Phase 1

In 1993 and 1994 TTI provided support for the development of gridded mobile source emissions inventories for the COAST project. Elements of this support included VMT mix data by functional classification, link VMT time-of-day distributions by functional classification, and forecasted VMT. This task provides for providing a near term update of the 2007 gridded on-road mobile source emission inventory.

This Phase 1 task provides for updating the 2007 VMT forecast, utilization of the H-GAC 2007 action scenario travel model, incorporation of RFG inputs to MOBILE5, and the incorporation of I&M effectiveness inputs into MOBILE5. All of these inputs have changed since preparation of the 1993 inventory. The task provides for preparing a September 2007, Monday through Saturday, gridded on-road mobile source inventory for the eight county Houston nonattainment area.

The following inputs will be used:

- VMT obtained from the H-GAC 2007 travel model (action network) adjusted for HPMS, month-of-year, and day-of-week.
- VMT mix that varies by functional classification and day-of-week
- 1997 vehicle registration distributions for each county.

- Default hot/cold start fractions and mileage accumulation rates.
- Temperature, provided by TNRCC, that vary for each of the six days.
- RVP, RFG, I&M, and MOBILE5, emission model version as specified by TNRCC.
- Compare 1990-1997 HPMS VMT trend data for each COAST projected to 2007 with the 2007 travel model VMT for the same counties. The adjusted travel model VMT will be used to prepare the inventory but these comparisons will be of interest. VMT per capita trend data will be computed for each COAST county using HPMS VMT and Texas State Data Center population estimates. These will be compared with the 2007 travel estimates of VMT capita.

Task 2: Update COAST Traffic Data

This task provides for enhancing or updating the traffic related data used to prepare the COAST 2007 on-road mobile source emission inventory. In the summer of 1993, time-of-day vehicle volume data and time-of-day vehicle classification data was collected in the eight county Houston nonattainment area.

As a part of this task, additional vehicle classification data will be collected to augment the 1993 data. Previously, sufficient data was collected so that VMT mix could be varied by the roadway functional classification and day-of-week. With the completion of this task, VMT mix data can be varied by roadway functional classification, by day-of-week, by county, and by hour-of-day.

In addition enhancements will be made to other traffic related data used for preparation of on-road mobile source emission inventories.

The work described below will be performed as a part of this task:

- **Evaluate TxDOT vehicle classification data.**
TTI has obtained from TxDOT a file of 1996 vehicle classification count data that can be evaluated by hour-of-day. A few locations are continuous counts but most are for a 24-hour weekday counts. For COAST a separate VMT mix is used for Monday-Thursday, Friday, Saturday, and Sunday. An analysis of the TxDOT data will be performed to see to what extent VMT mix varies by hour-of-day and day-of-week. This analysis will used select vehicle classification count locations for additional counts.
- **Perform vehicle classification counts**
Vehicle classification counts will be performed at approximately 30 locations. Counts will be made Thursday through Sunday. The counters will be placed on Wednesday and picked up on Monday providing for a full 24-hour count over the desired four day period.