AQRP Monthly Technical Report

PROJECT TITLE	MOVES-Based NO$_x$ Analyses for Urban Case Studies in Texas	PROJECT #	16-010
PROJECT PARTICIPANTS	Sonoma Technology, Inc. (STI)	DATE SUBMITTED	April 7, 2017
REPORTING PERIOD	From: March 1, 2017 To: March 31, 2017	REPORT #	6

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15th of the month following the reporting period shown above.

Detailed Accomplishments by Task

During this reporting period, the STI team continued work to summarize the ambient and MOVES emission-based CO/NO$_x$ ratios for three monitoring sites in Houston, Fort Worth, and El Paso. The team also started Task 2 MOVES Sensitivity Analyses with identification of key testing parameters and preparation of MOVES modeling runs.

Preliminary Analysis

The project team continued work to use the approach described in the February monthly report for developing ambient and emission-based CO/NO$_x$ ratios (e.g., in data tables and plots) across all monitoring sites. The team also started preparation of the MOVES modeling runs to test sensitivities of NO$_x$ emissions against key input data. The following MOVES input parameters and testing scenarios were identified to be examined in the sensitivity analysis.

Key Input	Description	MOVES Data Table	Planned Scenario Design
Fleet mix	Percentage of trucks (i.e., proportion of VMT associated with Single Unit Truck and Combination Truck in MOVES)	HPMSVTypeYear	1. MOVES default (base case) 2. Local inputs (data from TCEQ, NCTCOG, HGAC, and TxDOT) 3. Designed truck percentage testing levels: e.g., 0%, 10%, 20%, 30%
Vehicle speed	VMT distribution by avereage speed bin for each sourceType, roadType, and hourDayID	Avgspeeddistribution	1. MOVES default (base case) 2. Local inputs (data from TCEQ, NCTCOG, HGAC, and TxDOT) 3. Designed scenarios with various speed distributions: e.g., low speed, medium speed, and high speed ranges

Age	VMT distribution by age for each sourceType	Sourcetypeagedistribution	1. MOVES default (base case) 2. Local inputs (data from TCEQ, NCTCOG, and HGAC) 3. Designed scenarios with various age distributions: e.g., new fleet, average, old fleet
Meteorology	Hourly temperature and relative humidity by month	Zonemonthhour	1. MOVES default (base case) 2. Local inputs (data from TCEQ, NCTCOG, and HGAC) 3. Designed scenarios with various met data: e.g., 10 deg temperature and 10% relative humidity (RH) increments within the range of county-specific historical temperature and RH historical data

Data Collected

No new data were collected during this reporting period. The team is using the following data to set up MOVES sensitivity runs: default input data from the MOVES County Data Manager, MOVES input data included in the TCEQ dataset, local travel activity data from Texas Department of Transportation (TxDOT), and other local MOVES input data obtained from NCTCOG and HGAC.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

The team continued to follow the analysis strategy described in previous monthly technical reports; no additional problems or issues were encountered during the reporting period.

Goals and Anticipated Issues for the Succeeding Reporting Period

The STI team continued work on the planned emissions reconciliation analysis and MOVES sensitivity analyses. No significant issues are expected in the next reporting period.

Detailed Analysis of the Progress of the Task Order to Date

The completion of each project task and the project deliverables are expected to follow the schedule from the work plan and quality assurance project plan.

Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.

___Yes   _x_No

Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQRP Project Manager and your TCEQ Liaison?

___Yes   _x_No

Do you have any bibliographic publications related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.

___Yes   _x_No

Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRP Workshop).
___Yes   _x_No

Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.

___Yes   _x_No

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