Project Title: C-08-05: Highway Carbon Footprinting
PIN: R021.10.881
Responsible Unit: Engineering Division, Office of Environment
Project Manager: Zamurs, John

Project Goal:
To develop a new modeling and planning tool by merging the capabilities of TRANSIMS and real-time commercial vehicle data acquisition. By identifying areas of high commercial vehicle fuel consumption and emissions, the model will seek to provide designers with a new tool to evaluating the “performance” of new and existing roadway infrastructure. Problem areas can be readily defined and quantified, enabling the potential for improvement in subsequent rehabilitation and/or construction. Significant energy, environmental, and economic benefits would accrue from the identification and correction of “poorly designed” roadways.

Actions Proposed:
TRANSIMS is an existing agent-based simulation system capable of simulating the second-by-second movements of every person and every vehicle through the transportation network of a large metropolitan area. It consists of mutually supporting simulations, models, and databases. By employing advanced computational and analytical techniques, it creates an integrated environment for regional transportation system analysis. The Proposer intends to merge the real-time commercial vehicle telematics data and the simulation capabilities of TRANSIMS into a new modeling tool, capable of calculating the commercial vehicle emissions of the existing transportation infrastructure and determining the “Carbon Footprint” of the transportation infrastructure as constructed.

Anticipated Work Products and Accomplishments:
- Establishment of the Study Area Network
- Establishment of the Necessary Trip Tables
- Model Calibration
- Fuel Consumption and Emissions Calculations
- Problem Area Identification
- Training in the Use of the Model
- Final Report

Proposed Budget: $241,638