Caltrans Air Quality Research – National Programs

Overview

The Transportation Research Board (TRB) and its various cooperative research programs carry out a great deal of transportation-related research. The National Cooperative Highway Research Program (NCHRP), in particular, has carried out many air quality-related projects. Caltrans staff members have sometimes been involved as research panel members or expert resources.

The American Association of State Highway and Transportation Officials (AASHTO) is the main national organization of state transportation departments. AASHTO has a Standing Committee on the Environment (SCOE) that tracks environmental issues related to transportation and funds/directs research through NCHRP targeted at smaller, more immediate questions than the general NCHRP program does. SCOE has an air quality subcommittee that has long included a Caltrans representative.

Caltrans and other AASHTO members have also been involved in "pooled-fund" projects, with the Federal Highway Administration (FHWA) and other states, to look at certain large-scale national issues. State participants who allocate research funds to these programs are actively involved in developing the research work program and receive advance results of the work.

Contents

- Selected major NCHRP projects that Caltrans air quality staff members have been involved with as panel members
  - 25-18 (Particulate-Matter (PM2.5 and PM10) Apportionment for On-Road Mobile Sources) [Completed; not published]
- AASHTO Committees related to air quality work
  - Standing Committee on the Environment (SCOE)
    - Air Quality Subcommittee
  - Standing Committee on Planning (SCOP)
- Selected "NCHRP 25-25" short research projects for AASHTO that Caltrans air quality staff members have been involved with in some capacity
  - Task 18 (Recommended Approaches to Communicating Air Toxics Issues and Transportation Project-Related Analyses in NEPA Documents) [Completed; Final Report]
  - Task 42 (Determine alternative calculations for fine particulate emission factors other than AP-42 applicable to calculate re-entrained dust on transportation projects) [Complete; not published]
  - Task 59 (Evaluate the Interactions between Transportation-Related Particulate Matter, Ozone, Air Toxics, Climate Change, and Other Air Pollutant Control Strategies) [Complete; Final Report]
  - Task 70 (Assessment of Quantitative Mobile Source Air Toxics in Environmental Documents) [Complete; Final Report]
  - Task 78 (Programmatic Agreements for Project-Level Air Quality Analyses Using MOVES, CAL3QHC/R and AERMOD) [Started in 2012]
Task 89 (Establishing Representative Background Concentrations for Quantitative Hot-spot Analyses for Particulate Matter) [Started in 2013]

- Pooled-Fund projects related to air quality
  - National Near-Road Study (FHWA air toxics [MSAT] study, required by a NEPA lawsuit settlement agreement for a Nevada project)
    - Field work complete; data collected in Las Vegas NV and near Detroit MI.
    - Final report (PDF) available for Las Vegas work
    - PooledFund.org listing
  - Near-Road Air Quality Studies (started in 2013; mainly addressing state issues but with FHWA participation)
    - Priorities drafted for initial work.
    - No reports available; project is in the formation and contracting process as of late 2013.

- Selected Other NCHRP studies of interest for air quality analysis
  - NCHRP 25-07 Improving Transportation Data for Mobile Source Emissions Estimates
  - NCHRP 25-08 Impact of Highway Capacity Improvements on Air Quality and Energy Consumption
  - NCHRP 25-11 Development of a Modal-Emissions Model
  - NCHRP 25-15 Short-Term Monitoring for Compliance with Air Quality Standards
  - NCHRP 25-21 Predicting Short-Term and Long-Term Air Quality Effects of Traffic-Flow Improvement Projects
  - NCHRP 25-25 Task 18 Recommended Approaches to Communicating Air Toxics Issues and Transportation Project-Related Analyses in NEPA Documents (Note: current NEPA Air Toxics analysis is governed by FHWA guidance.)