

Caltrans Air Quality Research – Caltrans/UCD Air Quality Project

Overview

Air quality research became a Division of Environmental Analysis function during a 1994-7 transition period. An ongoing relationship was developed with the University of California, Davis (UCD). Work was done through the [Institute of Transportation Studies](#), and later a direct relationship with the Department of [Civil and Environmental Engineering](#). Most work after about 2000 was led by [Dr. Deb Niemeier](#) as the Principal Investigator, and [Sonoma Technology Inc.](#) subcontracted for portions of the work. This relationship became known as the Caltrans/UCD (or UCD/Caltrans) Air Quality Project ([UCD website](#)). Because the Project is no longer active, the UCD web site may not remain available; this site provides access to the key work products that were publicly released.

For a general keyword search of AQP reports and memos available here, use the [search box](#) below. Most work from about 1998 through 2007 should be accessible using the search function. Some key work is separately noted below, and reports done during the wind-down period may not be in the database used for the search function.

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Some highlights of Caltrans/UCD air quality studies include:

- CO Research and the [CO Protocol](#)
 - [CO Protocol Workbook](#) (1998)
 - Chang: [An Analysis of CO "Hotspot" Phenomena in Several California Air Basins](#) (1994)
 - CL4 user interface for CALINE4 model (1998) - [updated 2011](#)
 - [Users Guide for CL4](#) (1998)
 - [CTEMFAC](#) user interface for EMFAC model
- Assistance with the ["CAMP" Project](#) and follow-on studies
- Selected Early Caltrans' Division of Environmental Analysis (DEA)/University of California Davis (UCD) Work – Before 2000
 - [PM10 "Hot Spot" Emissions from California Roads](#) (1994)
 - PM10 hot spot data collection & analysis: [Sunrise/Greenback](#) (1998) and [Florin/Stockton](#) (1996)
 - [Review of reports related to possible toxics effects of SR 125 on Sweetwater Reservoir](#) (1999)
- Selected Work from the Busy Years - Contract 43A0067
 - [San Joaquin Valley Silt Loading Study](#) (2002)

- [Transportation Research Board \(TRB\) Transportation Control Measures' \(TCM\) Poster \(2004\)](#)
- [The Future Demand For Alternative Fuel Passenger Vehicles: A Diffusion of Innovation Approach \(2004\)](#)
- [Using “State Implementation Plan \(SIP\) Currency” Principles to Address Outdated Conformity Emission Budgets \(2006\)](#)
- [Isolated Rural Conformity Assessment - Ozone Areas \(2007\)](#)
 - [TRB Poster \(2007\)](#)
 - [Spreadsheet Tool \(2006\)](#) (older Excel format)
- [MOVES vs. EMFAC: A Comparative Assessment Based on a Los Angeles County Case Study \(2008\)](#)
- [Modeling Uncertainties and Near-Road PM2.5: A Comparison of CALINE4, CAL3QHC AND AERMOD \(2008\)](#)
- [Driving Cycles: A New Cycle-Building Method That Better Represents Real-World Emissions \(2008\)](#)
- **Winding Down - Planning Contracts in 2008-2010**
 These items may not be found when using the search box below. They were completed after most of the data collection for searching the air quality project reports was done.
 - [Barrio Logan Article \(TRB Research Record\)](#)
 - [MOVES v. EMFAC for Greenhouse Gases \(TRB Poster\)](#)
 - [Mobile Source Air Toxics \(MSAT\) Sensitivity Report \(TRB Poster\)](#)
 - [Particulate Matter Modeling of Near-Road Vegetation Environments \(AASHTO Poster\)](#)
 - *Developing Effective and Quantifiable Air Quality Mitigation Measures* (compendium project - some reports are updates of previous documents or were partially funded from sources other than Caltrans)
 - [Overview Report \(10/2009\)](#)
 - [Vol. 1 - Project-Level Mitigation: What Affects Diesel Particulate Matter Emissions \(11/2008\)](#)
 - [Vol. 2 - Near Roadway Air Quality: A Meta-Analysis \(1/2009\)](#)
 - [Vol. 3 - A Review of On-Road Vehicle Mitigation Measures \(9/2006\)](#)
 - [Vol. 4 - Mitigating Diesel Truck Impacts in Environmental Justice Communities: Transportation Planning and Air Quality in Barrio Logan, San Diego \(11/2008\)](#)
 - [Vol. 5 - Practical Mitigation Measures for Diesel Particulate Matter: Near-Road Vegetation Barriers \(7/2009\)](#)
 - [Vol. 6 - Particulate Matter Modeling in Near-Road Vegetation Environments \(9/2009\)](#)