

Abstract

The three California cities of San Jose, Fresno and west Los Angeles (LA) were visited during March 2008 to remotely collect on-road emission measurements of carbon monoxide (CO), carbon dioxide, hydrocarbons (HC), nitric oxide (NO), sulfur dioxide, ammonia (NH₃) and nitrogen dioxide (NO₂) from light-duty vehicles. A database for each site was compiled and contains 24,978 records in San Jose, 13,365 records in Fresno and 17,953 records in LA for which the State of California provided registration information. At the San Jose and LA sites repeat measurements of CO, HC and NO show large fuel specific emissions reductions between 1999 and 2008. In Fresno a small fleet of 2007 diesel ambulances was found to have more than 60% of the emitted oxides of nitrogen as NO₂. NH₃ emissions are again shown to have a strong dependence on model year with NH₃ means of 0.49 ± 0.02 , 0.49 ± 0.01 and 0.79 ± 0.02 gm/kg of fuel for San Jose, Fresno and LA respectively with the larger in emissions at the LA site likely a result of the more aggressive driving mode.