I-215/SR-60 Moreno Valley Freeway Expansion Project

In recent years, a significant amount of population growth has occurred in Western Riverside County, particularly in the communities along State Route 60 (SR-60) and Interstate 215 (I-215). Along with this population growth, came a concomitant increase of traffic along the I-215/SR-60 shared freeway section that extends from State Route 91 (SR-91) to where SR-60 and I-215 split just west of Moreno Valley. This section of freeway currently has three mixed-flow lanes in both directions and has a significant grade (approximately 3%), climbing nearly 760 feet over 5 miles from west to east. In response to the increase of traffic along the corridor, this section of freeway has recently been widened; however the additional lanes have yet to be designated to any specific lane type.

The primary objective of this case study was to estimate the relative traffic flow and emission benefits for different lane designation scenarios along the I-215/SR-60 shared section of the Moreno Valley Freeway. Three choices exist for a fourth lane in each direction: 1) a high-occupancy vehicle (HOV) lane; 2) a truck climbing lane going uphill (eastbound); or 3) another mixed-flow lane. For this study, estimates of traffic flow and emission benefits were accomplished by modeling the corridor initially in CORSIM, followed by post-processing vehicle trajectories for determining emissions and fuel consumption. Later, the same analysis was carried out using PARAMICS with the CMEM plug-in module. Both the current and proposed future geometries of the freeway were determined, including grade information measured by CE-CERT’s instrumented vehicle. In addition, vehicle classification counts were performed along the freeway section and connecting ramps, which also included vehicle occupancy estimates.