



case studies

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Project

I-205/I-580 Corridor Study

Organization

Braidwood Associates

State of California Department of Transportation (Caltrans) District 10 (Stockton Office)

Sector

Traffic Management, Planning and Intelligent Transportation Systems (ITS).

Objective

Development of freeway model to evaluate and potentially implement various traffic management and ITS Strategies.

Highlights

- I-205/I-580 Freeway Corridor (involving steep gradients)
- 50 km freeway and interchange model
- Calibrated and validated to Caltrans microsimulation guidelines
- 7 hour modelled afternoon /evening PM period

Contact Point

Richard Braidwood
Braidwood Associates
77 Montgomery Street
Edinburgh EH7 5HZ
United Kingdom

richard@braidwoodassoc.com

www.braidwoodassoc.com

BRAIDWOOD
ASSOCIATES

I-205/I-580 Corridor Study, June 2005

Braidwood Associates, a leading microsimulation specialist, was appointed by State of California Department of Transportation to develop a freeway model of a section of I-205/580 corridor, located mostly within the boundaries of District 10 (and part of District 4). As the study area is part of the main corridor within San Joaquin and Alameda counties, highways in the immediate area are heavily congested with the primary cause being commuters travelling to work in the San Francisco Bay Area from the Central Valley. Morning (AM) commute period is congested in the westbound direction while the PM commute period is congested in the eastbound direction.



The study area covered a 50Km section of a highly congested freeway and included the modelling of 12 freeway interchanges including 3 major freeway-to-freeway interchanges, I 580/I 205 and I 5/ 205 and I 5/SR 120.

A major element of this project was the inclusion of link gradients particularly on the freeway section of the network as a combination of steep gradients and a high proportion of truck traffic has a significant impact of traffic flow.

Another element of this project was the calibration and validation of journey time statistics within the network for the peak period (all 7 hours) and the peak hour.

Matrix development was undertaken using Paramics Estimator for two matrices; cars and truck to cover the 7 hour modelled PM time period. A synthesised matrix was used as a starting point for matrix development after analysis of the regional travel demand model cordon was found not to be suitable.

The ability to generate quality 3D output is a major advantage of Quadstone Paramics as it enables project results to be communicated to non-transport professionals and was therefore applied in this model to create a visually realistic output.

