

Measuring Cross-Border Travel Times for Freight Otay Mesa-Tijuana International Border Crossing

The U.S. Department of Transportation, Federal Highway Administration (USDOT/FHWA) is conducting several projects to measure truck crossing and delay time at major U.S. land ports of entry. The projects will identify and evaluate technologies that 1) can easily and precisely measure commercial vehicle crossing time, 2) are readily transferable to other ports of entry, and 3) can measure passenger-vehicle crossing time.

Project Description

FHWA's Office of Freight Management and Operations is measuring the time required for trucks to cross the Otay Mesa-Tijuana border and to establish a baseline dataset. The first phase of the project, now completed, identified Automatic License Plate Recognition (ALPR) and Global Positioning System (GPS) technologies for evaluation.

The second phase of the project is now underway and focuses on six tasks.

- Task 1. Contact project stakeholders
- Task 2. Evaluate technologies
- Task 3. Develop implementation plan
- Task 4. Demonstrate technology effectiveness
- Task 5. Evaluate results
- Task 6. Prepare final report

Task 1

The project team identified stakeholders from the San Diego/Otay Mesa area, discussed their needs, and assessed impediments to collecting cross-border travel time data successfully. Stakeholders included representatives from motor carriers, state and local transportation planning and operations agencies, U.S. and Mexico customs, and FHWA. Together, the project team and stakeholders identified the intersection of Calle 12 and Bellas Artes as the beginning of the queue for trucks. This inter-

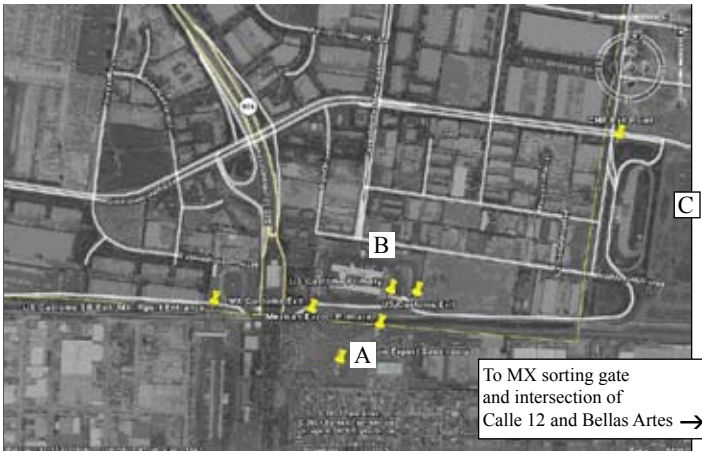


Otay Mesa-Tijuana International Border Crossing

Source: Joe Vega, RTX Transport

section is located southeast of the MX export lot (A in figure). The exit at the California Highway Patrol facility was identified as the end of the cross-border journey (C in figure). During peak season, which is from October to December, U.S. Customs and Border Patrol processes,

on average, approximately 3,000 loaded trucks per day, and approximately 2,500 trucks per day from January through September.



Travel-time Measurement Sites, Otay Mesa-Tijuana International Border Crossing

Sources: Google Earth and Delcan

A is MX export lot, B is U.S. Federal inspection facilities, and C is CA Highway Patrol facility. The push pins in the figure represent measurement points along the border-crossing journey. Although FHWA is most interested in measuring travel time from point A to point C, the use of GPS technology enables measurement between any points represented by the push pins.

Task 2

The project team matched stakeholder needs identified in Task 1 with the proposed technologies. Key considerations in evaluating the technologies included:

- FHWA needs,
- data collection and deployment requirements,
- the potential to measure travel time and delay at additional locations,
- the safety and security of the technology after deployment, and
- deployment sustainability.

Based on these considerations, GPS was selected as the preferred technology. The *Outreach/User Needs Summary* and the *Technology Evaluation* reports have been completed and are available at www.bordertraveltime.com.

Task 3

The project team developed a data collection and test plan that describes the data capture and processing methodology, including the high-level calculations that will be used to estimate travel times. This methodology is based on the elapsed time for vehicles to travel within and between key areas on the Otay Mesa-Tijuana border. The plan and other project documents are available at the Web site noted in Task 2.

Next Steps (Tasks 4, 5, and 6)

The GPS measurement system is in place, and data collection and analysis will continue through Summer 2009 (Tasks 4 and 5). A final report (Task 6) will be released in early 2010.

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