



Caltrans Division of Research,
Innovation and System Information

Research

Notes

Transportation,
Safety and
Mobility

MAY 2016

Project Title:
UTC - Managing Pedestrian and
Car Interactions, (UCCONNECT)

Task Number: 2961

Start Date: May 1, 2016

Completion Date: April 30, 2017

Ms. Lee Provost
Senior Transportation Engineer, Specialist
lee.provost@dot.ca.gov

Managing Pedestrian and Car Interactions

To seek methods to optimize the number, location and operation of pedestrian crosswalks for the benefit of society

WHAT IS THE NEED?

This research is concerned with mobility and safety of the travelling public, walkers and vehicles alike. It will show the effect of improvements to pedestrian movement in crosswalks and car flows at unsignalized streets. The study will consider the number and location of crosswalks per street block, and the operation of crosswalks serving bus passenger transfers. It should help encourage use of non-auto modes by facilitating pedestrian movements while smoothing vehicle traffic and reducing vehicle hours travelled (VHT).

WHAT ARE WE DOING?

The research seeks methods to optimize the number, location and operation of pedestrian crosswalks for the benefit of society. It will also evaluate the benefits of the proposed actions. The focus will be on unsignalized environments where pedestrians have the right-of-way, typical of many "main streets" in California. Also examined will be crosswalks serving bus passenger transfers near signalized intersections, recognizing that time is critical for these type of pedestrian movements.



DRISI provides solutions and
knowledge that improves
California's transportation system

The scope of work will consist of working on the following tasks to be completed within one year:

- Task 1: Literature Review (Months 1-2, after start of project)
- Task 2: Analysis: model development, including inputs and outputs (Months 2-5)
- Task 3: Simulation: verification, extensions, consideration of analysis results (Months 4-7)
- Task 5: Field studies: model calibration, validation, and refinement (Months 6-10)
- Task 6: Reporting: summarize, document, and present results (Months 10-12)
- Deliverables and Dates:
- Deliverable 1: A journal paper (end of the 4th quarter)
- Deliverable 2: A conference presentation (UCConnect, end of the 4th quarter)

WHAT IS OUR GOAL?

The ultimate goal is facilitating pedestrian life with as little impact on car traffic as possible. This project seeks to facilitate pedestrian movements while smoothing traffic and even reducing vehicle hours traveled (VHT) by changing slightly the design and operation of the pedestrian infrastructure.

WHAT IS THE BENEFIT?

The greatest benefit of this research is improving pedestrian crosswalk safety and enhancing pedestrian movements without hindering car traffic. This should occur in areas where there are many pedestrians relative to the number of vehicles, such as university campuses, tourist areas, as well as local and "main" streets. An important benefit from enhancing pedestrian movements would be a shift toward the "walk" mode and other modes that rely on walking, which in itself would reduce greenhouse emissions and VHT.

WHAT IS THE PROGRESS TO DATE?

The contract was approved on March 22, 2016 with a start date of May 1, 2016.