



Transportation
Safety & Mobility

MAY 2020

Project Title:
Testing of Combined Variable
Speed Advisory (VSA) and
Coordinated Ramp Metering (CRM)
for Freeway Traffic Control

Task Number: 3506

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Task Manager:
Jose Perez
Transportation Engineer
jose.perez@dot.ca.gov

Evaluation of Different Coordinated Ramp Metering (CRM) Systems, (MTI) TO 06

Evaluate the different coordinated ramp metering (CRM) systems used in Caltrans, determine the best performing system based on safety, efficiency, and reliability criteria.

WHAT IS THE NEED?

CRM has potential to further improve the freeway performance compared to existing ramp metering algorithms. CRM can be implemented in the Advanced Traffic Management System (ATMS) of most Caltrans districts but is currently operational on two corridors in two different Caltrans districts. Each of the implemented CRM systems has its own unique algorithm characteristics and implementation protocols. There is no current information based on field data on the performance of each system based on safety, efficiency, and reliability criteria.

There is a need to evaluate the different CRM systems to provide a better understanding for needed corridor/system wide improvements and strategies with the purpose of improving corridor safety, efficiency, and reliability.

WHAT ARE WE DOING?

The objective of this research is to have researchers conduct an evaluation of the performance of CRM systems currently implemented in two Caltrans districts. Using field data “before” and “after” the CRM implementations, the study will determine which CRM system provides the best overall performance based on safety, efficiency, and reliability criteria.

WHAT IS OUR GOAL?

The end-product of the project will be evaluation reports on algorithm performance for each CRM system, and recommendation on which CRM system performed the best



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

based on safety, efficiency, and reliability criteria.

WHAT IS THE BENEFIT?

This project will determine which CRM system performs the best based on safety, efficiency, and reliability criteria. This information may help Caltrans decide which CRM to use to reduce the amount of time the motoring public is on the roadway. The results of the research could lead to the implementation of standardized CRM in other districts that have ramp meters.

WHAT IS THE PROGRESS TO DATE?

Researchers completed this task and submitted the draft final report for Caltrans input. Comments were provided to the researchers and they are working on finalizing the final report.

The principal investigator completed the final report but is still working on revising it.