

Transportation
Safety and
Mobility

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

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Evaluation of Different Coordinated Ramp Metering Systems in Caltrans

Evaluate the different CRM used in Caltrans, determine the best performing system, and provide a CRM recommendation to the Districts that have ramp meters.

WHAT IS THE NEED?

Coordinated Ramp Metering (CRM) has the 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, and also there is no guidance on which CRM should be recommended for implementation in other Caltrans districts.

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 research team at the University of California at Berkeley (UCB) will conduct an evaluation of the performance of CRM systems currently implemented in two Caltrans districts. Using field data from "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.



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WHAT IS OUR GOAL?

The end-product of the project will be evaluation reports on algorithm performance for each Caltrans District, and recommendations for CRM implementations in Caltrans Districts.

WHAT IS THE BENEFIT?

The research team will recommend the best CRM Caltrans should 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 continued work on the final report contents. Expected to close project soon.