



Caltrans Division of Research,
Innovation and System Information

Research



Results

Planning, Policy
&
Programming

APRIL 2019

Project Title:
MAP - 21 Competitont

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UCCONNECT, Region IX

UCCONNECT addressed the United States Department of Transportation's (US DOT) strategic goal to promote economic competitiveness by enhancing multi-modal transport for California and Region

WHAT WAS THE NEED?

UCCONNECT is dedicated to the proposition that economic competitiveness comes by mobilizing society in general, and the workforce in particular; and by delivering goods and services in the most efficient ways possible. UCCONNECT leads a consortium of five universities: the University of California at Riverside, the University of California at Irvine, the University of California at Los Angeles, the University of California at Santa Barbara and California Polytechnic, Pomona.

WHAT WAS OUR GOAL?

UCCONNECT led by the University of California, Berkeley primarily supports the activities of Caltrans' Division of Transportation Planning, Rail and Mass Transportation and Traffic Operations. UCCONNECT's primary strategic goal is Economic Competitiveness, and pursued projects related to reducing congestion, improving highway operations and enhancing freight productivity.

WHAT DID WE DO?

The UCCONNECT Parent Agreement was written as a Task-Order based contract, wherein the one-year projects were related to reducing congestion, improving highway operations and enhancing freight productivity. However, at times, research conducted through the UCCONNECT went beyond the Center's primary strategic goal of economic competitiveness to include and advance the US DOT's identified goals of Livable Communities and Environmental Sustainability.



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

WHAT WAS THE OUTCOME?

This research benefited not only Caltrans but the State of California, as a whole. Below is a list of some of the research UCCONNECT conducted on behalf of Caltrans:

- Bicycle Infrastructure and Business District Change
- Investigation of Multimodal Crashes using Full Bayesian Multivariate Spatial-Temporal Models
- Analysis of Comprehensive Multi-modal Shared Travel Systems with Transit, Ridership, Carshare and Bikeshare Options
- Control and Management of Urban Traffic Networks with Mixed Autonomy
- Travel Demand Nowcasting
- Safe Operations of Automated Vehicles at Intersections
- Coordinated Arterial Signal-Ramp Metering Queue Management
- Strategic Charging Infrastructure Deployment for Electric Vehicles
- Modeling and Control of HOT Lanes
- Control Strategies for Corridor Management
- The Impacts and Future of the California Fuel Tax Swap 2010
- Grassroots 'Lean' Continuous Improvements in Caltrans
- Potential Impacts of VMT Taxes on California Travel Behavior
- Bicycle Crash Risk: How Does it Vary, and Why?

WHAT IS THE BENEFIT

The benefits resulting from these research tasks are expected to help Caltrans and the State of California be more competitive in the areas of multi-modal transport, congestion reduction, improvement of highway operations and freight productivity.

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