

Redding, CA

Cypress Avenue Signal Coordination Project



PROJECT DESCRIPTION:

The City of Redding has an interconnected system on Cypress Avenue from Hartnell Avenue-Hemsted Drive, through the I-5 Interchange to Churn Creek Road, then north on Churn Creek Road (involving seven intersections). This route has several complications, which increases the difficulty in developing signal coordination plans including:

- Signals on Cypress Avenue spaced between 300 and 700 feet;
- Very high turning volumes with very short left turn storage, especially at the I-5 interchange signals and between Hilltop and the northbound I-5 on/off ramps;
- Major recreational (hotels), dining and retail uses dominating Hilltop Drive, Larkspur Lane, and Churn Creek Road with high turning volumes at driveways and signalized intersections and potentially unpredictable traffic patterns;
- Large losses and additions of traffic at major unsignalized driveways;
- Very wide intersections that imply long pedestrian clearances and long resulting cycle lengths;
- High retail that implies a need for weekend coordination; and
- Uneven lane utilization with excessive queuing in one of several lanes on an approach due to interchange ramps, and the need to get the left to turn, etc.

TJKM assisted City of Redding and Caltrans to develop optimized timing plans, implement, and fine-tune the optimized timing plans for seven peak periods including weekends. The project also involved extensive data collection and before and after studies. A critical challenge encountered on the project was the multi-jurisdictional nature of the project. Our proposed team members successfully built consensus among different jurisdictions and developed optimized timing plans.

The project resulted in approximately an average reduction of 63% in stops per vehicle, 40% in travel time, and 72% in average stop delay and an increase in speed by 72% along Cypress Avenue for all peak periods in both the eastbound and westbound directions with the implementation of the proposed timing plans. The project was delivered on schedule and within budget.

PROJECT OWNER:
Redding, CA

PROJECT DATE(S):
2015

TJKM CLIENT REFERENCE:

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