



February 20, 2023

Brad Brophy, PE  
Traffic Engineer  
City of Lake Elsinore  
130 S Main St  
Lake Elsinore, CA 92530

RE: Main St Interchange Signal Timing and Coordination

Dear Mr. Brophy,

STC Traffic is pleased to provide the City of Lake Elsinore the following proposal to develop and implement signal coordination timing plans associated with the Main Street Interchange Project. The project includes installation of three new signalized intersections:

- Main Street & I-15 SB Ramps (Caltrans)
- Main Street & I-15 NB Ramps (Caltrans)
- Main Street & Camino Del Norte (City)

The close proximity of the City (Main Street/ Camino Del Norte) and Caltrans (Main Street/ I-15 NB Ramps) requires special operational design development and coordination with Caltrans. The operation design development will address system functionality between the two signals to address the unique conditions. The two closely spaced intersections will drive coordination operation between all three signals. The operations design is subject to Caltrans approval. The following reflects our understanding of services to be performed and the estimated fee.

**Review Plans and Develop Phase Based Interconnect:** STC will review design plans and have a preliminary meeting with Caltrans to discuss operations. STC anticipates development of a signal interconnect circuit for phase-based coordination between the two closely spaced intersections. The interconnect circuit will include input and output diagrams between traffic signal cabinets and associated controller program assignments. The circuit operation will be based on specific intersection conditions and analysis including geometry, phasing, and time-of-day/ day-of-week traffic demand. The interconnect circuit concept will be prepared by STC and submitted to Caltrans for review. A traffic signal operations technical report will be prepared that includes the circuit design and concept for corridor operation with supporting analysis. The technical report will support understanding of the recommended operation and expedite reviews and approval.

**Signal Timing and Coordination Plans:** STC will prepare signal timing coordination plans and include in the traffic signal operations report. The efforts include:

- CA MUTCD compliant base timing parameters for the three traffic signal locations.
- Synchro model development and analysis based on geometry, phasing, and volumes. The City will provide traffic counts. The Synchro model will consist of four time of day plans (Weekday AM, Midday, PM, and Weekend).
- Analysis results will be reported for three alternative coordination plans for review and to validate the optimal approach. Intersection approach delay, Level-of-Service, and queues will be reported.
- Timing values for Caltrans signals will be transposed on Caltrans timing sheets.
- STC will coordinate with Caltrans to bench test and demonstrate the signal timing and coordination plans.



**Implementation, Observation, and Fine Tuning:** STC will implement new timing plans on-site during the signal turn-on dates. STC will coordinate with Caltrans to implement City and Caltrans operation together. STC will observe signal operations and recommend/ perform field adjustments for optimal operation.

STC will develop the operations design and process the documentation including analysis, concept, and timing program with Caltrans. This scope and fee estimates the level of effort expected to perform this work however the processing to achieve Caltrans approval may be more than expected.

STC Traffic will perform these services for a Not-to-Exceed fees of \$35,000 including expenses. The schedule will be coordinated with the City and driven by construction progress. By signing below and returning a copy of this letter, you will have authorized STC to proceed. I appreciate the opportunity to provide these services to the City of Lake Elsinore. If you have any questions regarding the scope of work or fee, please contact me, (714) 315-4640.

Sincerely,

A handwritten signature in black ink that reads "Jason Stack".

Jason Stack, TE, PTOE  
President/ CEO

Accepted by:

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Signature

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Print Name

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Date