

TO: James L. App, City Manager
FROM: Ron Whisenand, Community Development Director
SUBJECT: Airport Road-HWY 46E Traffic Signal Analysis
DATE: May 1, 2007

NEEDS: For the City Council to authorize a contract with Fehr and Peers Transportation Consultants for traffic engineering services.

- FACTS:**
1. Airport area businesses rely on the safe and efficient operation of the Airport Road-Highway 46E intersection for access.
 2. In 2004, the City retained OMNI-MEANS to prepare a Project Study Report (PSR) for improvements to the intersection of Airport Road and Highway 46E. At that time, Caltrans agreed to include consideration of a four-way traffic signal (with a southerly connection to 46E) in the context of the PSR.
 3. At a meeting to discuss PSR alternatives in January, 2007, Caltrans denounced the viability of the four-way traffic signal and directed that the PSR traffic study be amended accordingly.
 4. In a meeting on April 2, 2007, Caltrans stated they would consider a three-way traffic signal, at the existing Airport Road-46E intersection, as an operational improvement outside the purview of the on-going PSR, if warrants are met and a reasonable design can be proposed.
 5. Caltrans is scheduled to begin construction of the Highway 46E four-lane widening project this November. Any traffic signal design must be consistent with the four-lane widening plan.
 6. The City has received a proposal from Fehr and Peers Transportation Consultants to perform a warrant analysis and to prepare schematic plans for a traffic signal at Airport Road and Highway 46E.

**ANALYSIS &
CONCLUSION:**

Fehr and Peers Transportation Consultants proposes to analyze traffic signal warrants, measure sight distance and report on the viability of installation of a three-way traffic signal at the Airport Road-46E intersection. The analysis will include a comparison of advantages and disadvantages of installing a four-way signal at Union Road in lieu of Airport Road. The proposal also includes meeting time to present their findings to Caltrans.

If a traffic signal is proven to be viable, the City will have the option of proceeding with design and seeking support of Caltrans. Options for funding of design and construction of the traffic signal include the establishment of an area-wide assessment district. Many developed properties in the area have entered into agreements to participate in improvements to the intersection.

Additionally, the report may be the beginning of a comprehensive study of the 46E corridor. The Fehr and Peers report will provide background for consideration of parallel routes to 46E and for alternative routes to the Airport.

POLICY

REFERENCE: Adopted Circulation Element of the General Plan.

FISCAL

IMPACT: The Fehr and Peers Study is estimated at \$15,000.

- OPTIONS:**
- a. Adopt Resolution No. 07-xx authorizing the City Council to enter into an agreement with Fehr and Peers Transportation Consultants for traffic engineering services and approving a one-time budget appropriation from the general fund in an amount not to exceed \$15,000 to budget account 200-910-5452-545 for fiscal year 2007.
 - b. Amend, modify, or reject the above option.

Attachments (2)

- 1) Proposal from Fehr and Peers Transportation Consultants
- 2) Resolution



April 25, 2007

Mr. John Falkenstien
City Engineer
City of Paso Robles
Community Development
Paso Robles, CA 93446

Subject: Traffic Engineering Design Services – Airport Road & State Route 46

Dear John:

We are pleased to submit this proposal to conduct a signal warrant analysis at Airport Road and State Route 46 in Paso Robles, California. A signal warrant analysis will also be conducted at SR 46/Union Road to determine if a signal could alternatively be provided at this location. As an optional task, this proposal contains the scope of work and fee estimate to prepare construction documents for the traffic signal installation at either SR 46/Airport Road or SR 46/Union Road. We have retained the services of WRG Design, Inc. on an as-needed basis for the optional task to assist with the preparation of the signal plans.

All work as described in the attached scope of work (Attachment A) is included as part of this project. Our estimated fixed fee for the signal warrant analysis is \$12,500. The fixed fee for the optional task, preparation of signal plans plus fees for our subconsultant, is \$27,500. This proposal is valid for 90 days.

Please contact us if you have any questions about this proposal. Otherwise please send us a contract for our review. We look forward to working with you on this project.

Sincerely,

FEHR & PEERS

A handwritten signature in black ink, appearing to read 'N Wong'.

Norman Wong
Senior Engineer

A handwritten signature in black ink, appearing to read 'D Sohrab Rashid'.

D. Sohrab Rashid, P.E.
Principal

P07-1434

Attachment A

SCOPE OF WORK
State Route 46 at Union Road and Airport Road
Traffic Engineering Design Services

The following scope of work outlines the anticipated work effort to prepare a traffic signal warrant analysis for the intersections of SR 46 at Union Road and at Airport Road in the City of Paso Robles, California.

We understand that the City has concerns regarding the safety at the intersection of Airport Road and State Route 46, especially with traffic from a proposal recreational water park that is expected to open at this location in May. Based upon input from the City and our experience in area, we propose to perform the following tasks.

Phase I - Traffic Signal Location Study

Task I-A – Project Initiation and Data Collection

A detailed field reconnaissance of the project site (SR 46 at Union Road and Airport Road) will be conducted noting pertinent features such as existing street lighting equipment, pavement markings, roadway signs, utilities, adjacent land uses, driveways, pedestrian/bicycle facilities, bus stops, and landscaping. Photographs of the project site will be taken for design reference. We will measure sight distance at these two intersections and also request accident history from City or Caltrans staff.

AM and PM peak-hour intersection volumes at SR 46/Airport Road and SR 46/Union Road will be obtained from traffic studies currently being prepared for the Golden Hill Retail Center and the Links projects. To supplement these peak-hour counts, a 24-hour traffic count will be collected for all approaches at these two intersections. This proposal includes \$1,600 in traffic counts.

We will also request the following information from City or Caltrans staff:

- “As-built” striping plans.
- Proposed State Route 46 widening improvement plans in CAD format.
- Topographic survey map of the project area in CAD format.
- Aerial photos of the project area, if available.
- Utility and right-of-way data for existing and proposed conditions.
- Existing and proposed utility plans.

Task I-B – Signal Warrant Analysis

The eight traffic signal warrants from the Manual on Uniform Traffic Control Devices (2003 Edition) will be analyzed to determine if any of the warrants are satisfied at the SR 46/Airport Road intersection.

Task I-C – Feasibility of SR 46/Union Road Traffic Signal

A qualitative analysis will be conducted to determine if a traffic could alternatively be provided at SR 46/Union Road instead of SR 46/Airport Road. This task will discuss the benefits and disadvantages of a signal at Union Road instead of at Airport Road. The full set of signal warrants will also be conducted at the SR 46/Union Road intersection.

Task I-D – Coordination with Caltrans & Prepare Preliminary Cost Estimates/Schedule

This task includes up to six (6) hours of staff time to coordinate with Caltrans in terms of providing intersection level of service (LOS) calculations at SR 46/Union Road and SR 46/Airport Road. These calculations and volume projections will be obtained from current on-going traffic studies. Additional LOS analyses that are not contained in the current studies or requiring more than 6 staff hours will be conducted as an additional service.

A preliminary cost estimate for a future traffic signal at SR 46/Union Road or SR 46/Airport Road will be prepared based on the information obtained from the field visit. A preliminary project schedule will also be prepared that outlines the major milestones including time to obtain an encroachment permit and to construct the signal. Four (4) staff hours are included to prepare the preliminary cost estimate and project schedule.

Task I-E – Documentation

The results of the signal warrant analyses will be presented in a memorandum. This proposal includes up to six (6) hours of staff time to respond to comments on the draft memorandum. Responses to comments will be incorporated into a final memorandum.

Task 1-F – Meeting (1)

Attendance at one project meeting with City and/or Caltrans staff is included for the Phase I analysis.

OPTIONAL TASK: Phase II - Traffic Signal Design

As an optional task, we will prepare construction documents (plans, specifications, and construction cost estimates) for the traffic signal installation at one of these two intersections based upon the results of the signal warrant analyses. This scope provides for project initiation, data collection, design, review, construction support, Caltrans Encroachment Permit processing, and attendance at two (2) meetings. Since these locations are within the Caltrans right-of-way, this scope includes the Caltrans Encroachment Permit application review process.

The plans will be prepared in the Caltrans format using Microstation. The traffic signal plans will be submitted to the City and Caltrans for review at the 65%, 95%, and 100% levels.

Our scope assumes that no civil engineering improvements are required with this project. These improvements include wheelchair ramps, sidewalk, curb, gutter, or utility modifications. All civil improvements at or adjacent to this location are to be included as part of a separate project and review process.

Subconsultant

Fehr & Peers has retained the services of WRG Design Inc. on an as-needed basis to provide civil engineering assistance. Duties may include, but are not limited to, preparation of base map plans and coordination with City and Caltrans staff on the proposed SR 46 widening plans. This proposal assumes that WRG Design Inc. will bill their services on a time-and-materials basis and the total cost, including a 10% markup, will not exceed \$7,500. During the course of this project, should the subconsultant fee need to be increased, a budget amendment will be requested before additional work is completed.

Optional Task II-A – 65% Preliminary Design

Using the data obtained in Task I-A, we will develop 20-scale preliminary traffic signal plans. Our design work will be limited to the traffic signal and intersection lighting improvements for the project intersection. The preliminary plans will depict the following conditions:

- Location and type of the proposed traffic signal poles, signal heads, detectors, pull boxes, conduits, conductors, and traffic signal cabinets.
- Proposed signal phasing diagram.
- Proposed signal interconnect.
- Existing and proposed pedestrian and bicycle facilities.
- Existing and proposed intersection safety lighting.
- Existing and proposed intersection/crosswalk pavement striping.

Technical special provisions for the traffic signal equipment will be prepared in the City's format based on the City's, Caltrans, and MUTCD design standards.

We will prepare and submit an engineer's estimate for the construction costs of the traffic signal system improvements as shown on the preliminary plans.

We will calculate and submit the electrical load requirements based on the preliminary signal plans to PG&E to confirm the location of the 120/240 Volt electrical service point and its capacity to handle the new load.

Caltrans Encroachment Permit application will be completed and submitted to the City with the complete 65% PS&E submittal. The City shall review and sign the application, then forward the application along with the appropriate number of PS&E sets to Caltrans. Fehr & Peers will provide the City with the required sets of PS&E documents.

Optional Task II-B – 95% Design

Following concurrence on the preliminary plan review comments, we will prepare a memorandum with a summary of our response to comments. We will incorporate the appropriate review comments from the City into the 95% final design plans, specs, and estimates.

We will submit the 95% signal plans, specs, estimates and responses to the 65% comments to the City. At the City's request, Fehr & Peers can submit the 95% PS&E to Caltrans for their review concurrent with the City, or we will provide the City with the required sets of PS&E for their submittal to Caltrans.

Optional Task II-C – 100% Final Design

Upon receipt of all 95% review comments, we will prepare the 100% final plans, specs, and estimates for the traffic signal system incorporating the appropriate review comments from the City and Caltrans. All 100% final design traffic plans and documents will be reviewed and signed by a California registered civil engineer and submitted to the City and Caltrans. All electronic drawing files of the final plans and specs can be provided to the City upon request.

Optional Task II-D – Construction Support Services

We will provide a total of eight (8) staff hours for the following services during construction:

- Answer any inquiries from the Contractor.
- Review shop drawings and vendor submittals of the traffic signal and lighting equipment, roadway signs and pavement striping materials as submitted by the Contractor.
- Evaluate any proposed change orders to the traffic plans made by the Contractor.
- Prepare the “As-built” traffic signal plans at the end of construction.

Optional Task II-E – Attend Meetings (2)

Fehr & Peers is available to attend two meetings in conjunction with the Phase II analysis. One meeting can be used to initiate the project and the other meeting can be conducted to address comments from the preliminary design submittal.

Additional Services

The following services, not outlined in the above scope of work, are available as additional services at our standard billing rates (Attachment C) at the time of service:

- Attendance at pre-bid, pre-construction, and project construction meetings.
- Attendance at more than three meetings.
- Prepare Level of Service analysis work that were not included in the Golden Hill Retail Center and the Links traffic studies
- Conduct additional traffic counts beyond those identified in Task I-A
- Redesign the traffic signal plan as required for contract change orders.
- Prepare isolated or coordinated traffic signal timing plans.
- Prepare separate street lighting plans.
- Prepare separate signing and striping plans.
- Prepare separate traffic signal communications system plans.
- Prepare interim or temporary signal plans.
- Prepare interim or temporary signing and striping plans.
- Prepare construction zone traffic handling plans.
- Provide construction services in addition to the eight (8) hours included in Traffic Signal Design, Task II-D.

Attachment B

**SCHEDULE AND BUDGET
Airport Road and State Route 46
Traffic Engineering Design Services**

Fehr & Peers recognizes the importance of the adherence to a set schedule for the Airport Road and State Route 46 project. Therefore we propose the following schedule, which may be adjusted to fit the client's need.

PROPOSED PROJECT SCHEDULE

Phase I - Traffic Signal Location Study

Signal Warrant Analysis

Two (2) weeks after receipt of all traffic count data including accident records

Feasibility Analysis for SR 46/Union Road

One (1) week after completion of signal warrant analysis

Documentation

Two (2) weeks after completion of signal warrant analysis

Optional Task: Phase II - Traffic Signal Design

65% Preliminary Design Submittal

Four (4) weeks after receipt of all base map data and approval on location of signal (at Airport or Union).

95% Design Submittal

Three (3) weeks after receipt of all review comments.

100% Final Design Submittal

Two (2) weeks after receipt of all review comments.

PROPOSED FEE

Fehr & Peers' fixed fee to complete the scope of work as presented in Attachment A is \$12,500 for the Phase I and \$27,500 for the optional task. This fee is broken down as follows:

Phase I - Traffic Signal Location Study (Includes 1 meeting)	\$12,500
Optional Task:	
Phase II - Traffic Signal Plans (Includes 2 meetings)	\$20,000
<u>Subconsultant – WRG Design Inc.</u>	<u>\$7,500</u>
Total Optional Task	\$27,500

Attachment C

Hourly Billing Rates

Classification Hourly Rate

Principal	\$170.00 - \$230.00
Senior Associate	\$160.00 - \$195.00
Associate	\$140.00 - \$180.00
Senior Engineer/Planner	\$110.00 - \$170.00
Engineer/Planner	\$90.00 - \$135.00
Senior Technical Support	\$95.00 - \$145.00
Administrative Support	\$85.00 - \$115.00
Technician	\$80.00 - \$110.00
Intern	\$60.00 - \$90.00

Notes: Reimbursable expenses are invoiced at cost plus 10% for handling, including personal auto mileage at IRS approved rate (48.5 cents per mile as of January 07).

The following reimbursable expenses are invoiced at cost:

- Reproduction work at \$.07 per sheet
- Plotter use at \$10 per Bond sheet/\$15 per premium sheet
- Communication Expense (Telephone, fax, E-mail, etc.)

RESOLUTION NO. 07-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES
TO AUTHORIZE A CONTRACT WITH FEHR AND PEERS TRANSPORTATION CONSULTANTS
FOR TRAFFIC ENGINEERING SERVICES

WHEREAS, airport area businesses rely on the safe and efficient operation of the Airport Road-Highway 46E intersection for access; and

WHEREAS, Fehr and Peers Transportation Consultants have provided a proposal to analyze warrants for a traffic signal at Airport Road-46E, assess viability and to compare advantages of placement of the signal at Union Road.

THEREFORE BE IT HEREBY RESOLVED by the City Council of the City of El Paso de Robles to approve a one-time budget appropriation from the general fund in an amount not to exceed \$15,000 to budget account 200-910-5452-545 for fiscal year 2007.

PASSED AND ADOPTED by the City Council of the City of Paso Robles this 1st day of May 2007 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

Frank R. Mecham, Mayor

ATTEST:

Deborah D. Robinson, Deputy City Clerk