AGENDA
KERN COUNCIL OF GOVERNMENTS
February 15, 2024
6:30 P.M.

PRIMARY MEETING LOCATION

AVAILABLE

Kern Council of Governments
Board Room
1401 19th Street, Suite 300
Bakersfield, CA 93301

SECONDARY MEETING LOCATION
TELECONFERENCING

Ridgecrest City Hall
Conference Room B
100 W. California Avenue
Ridgecrest, CA 93555

TPPC/Kern COG Board

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DISCLAIMER: This agenda includes the proposed actions and activities, with respect to each agenda item, as of the date of posting. As such, it does not preclude the Committee from taking other actions on items on the agenda which are different or in addition to those recommended.

I. **ROLL CALL:** Ayon, Couch, Blades, Creighton, Crump, Krier, Prout, Reyna, Scrivner, B. Smith, P. Smith, Trujillo, Vasquez

Congestion Management Agency Ex-Officio Members: Helton, Navarro, Parra, Warney

II. **PUBLIC COMMENTS:** This portion of the meeting is reserved for persons to address the Council on any matter not on this agenda but under the jurisdiction of the Council. Council members may respond briefly to statements made or questions posed. They may ask a question for clarification; make a referral to staff for factual information or request staff to report back to the Council at a later meeting. SPEAKERS ARE LIMITED TO TWO MINUTES. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD PRIOR TO MAKING A PRESENTATION.

Disabled individuals who need special assistance to attend or participate in a meeting of the Kern Council of Governments may request assistance at 1401 19th Street Suite 300: Bakersfield CA 93301 or by calling (661) 635-2900. Every effort will be made to reasonably accommodate individuals with disabilities by making meeting materials available in alternative formats. Requests for assistance should be made at least three (3) working days in advance whenever possible.

III. **CONSENT AGENDA/OPPORTUNITY FOR PUBLIC COMMENT:** All items on the consent

agenda are considered to be routine and non-controversial by Kern COG staff and will be approved by one motion if no member of the Council or public wishes to comment or ask questions. If comment or discussion is desired by anyone, the item will be removed from the consent agenda and will be considered in the listed sequence with an opportunity for any member of the public to address the Council concerning the item before action is taken. **ROLL CALL VOTE.**

A. **Approval of Minutes – January 18, 2024.** ROLL CALL VOTE.

B. **Concurrence in Actions of TPPC**

C. **Response to Public Comments**

D. **Kern Area Regional Goods-Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) Consultant Contract Approval** (Davisson)

Comment: Requests for Qualifications for the KERN AREA REGIONAL GOODS-MOVEMENT OPERATIONS (KARGO) CLIMATE-CHANGE ADAPTATION MITIGATION STUDY (C-CAMS) was advertised and widely distributed. The consultant reviewing team selected MARK THOMAS. A contract was prepared with a total budget not to exceed $2,900,000. County Counsel is reviewing this contract.

Action Approve the consultant selection of Mark Thomas to develop the Kern Area Regional Goods-Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) and authorize Chair to sign the contract. ROLL CALL VOTE.

E. **Local Clearinghouse:**

Applicant: Carlos Herrera D.B.A. Regulus Solutions
Address: 12317 Champlin Place
Bakersfield, CA 93311-8406
Contact: Carlos Scinta Herrera

Federal Agency: United States Department of Agriculture (USDA)
Catalog Number: 10.618
Title: 2024 Regional Agricultural Promotion Program

Federal Funds: $750,000.00
Total Funds: $850,000.00

***** END CONSENT CALENDAR - ROLL CALL VOTE *****

IV. STAFF REFERRAL: KERN SELF-HELP TRANSPORTATION FUNDING MEASURE (Ball)

Comment: In response to a board member referral at the January Kern COG Board meeting, staff has prepared a report on a Kern countywide voter-approved Self-Help transportation funding ballot measure.

Action: Provide Staff Direction, Approach 1, Approach 2 or Other. ROLL CALL VOTE.

V. CONGESTION MANAGEMENT AGENCY: (None)

VI. KERN MOTORIST AID AUTHORITY: (None)

VII. MEETING REPORTS: (None)

VIII. EXECUTIVE DIRECTOR'S REPORT: (Report on Programs and Projects in Progress)

A. Warrant Register
B. Timeline

IX. MEMBER STATEMENTS: On their own initiative, Council members may make a brief announcement or brief report on their own activities. In addition, Council members may ask a question of staff or the public for clarification on any matter, provide a reference to staff or other resources for factual information, or request staff to report back to the Council at a later meeting concerning any matter. Furthermore, the Council, or any member thereof, may take action to direct staff to place a matter of business on a future agenda.

X. CLOSED SESSION: None.

XI. ADJOURNMENT: NEXT MEETING – The meeting is adjourned in memory of former Board Member Cherylee Wegman. The next scheduled meeting will be March 21, 2024.

KERN COUNCIL OF GOVERNMENTS

Minutes of the Meeting of January 18, 2024

KERN COG BOARD ROOM
1401 19TH STREET, THIRD FLOOR
BAKERSFIELD, CALIFORNIA

THURSDAY
January 18, 2024
6:30 P.M.

The meeting was called to order by Chairman Smith at 6:50 p.m.

I. **ROLL CALL:**
Members Present: Ayon, Couch, Crump, Krier, Creighton, Prout, Reyna, Flores, B. Smith, P. Smith
Congestion Management Agency Ex-Officio Members: Navarro, Parra, Peacock, Warney
Members Absent: Blades, Trujillo, Vasquez
Others: Andrae Gonzalez, Maggie Ritter, Alissa Reed, Tony Renteria, Rick Franz, Juli Dean Alley Moyers, Ollie Darner
Staff: Hakimi, Napier Pacheco, Enriquez, Snoddy, Campbell, Ball, Invina-Jayasiri, Valle, Plank, Banuelos

II. **PUBLIC COMMENTS:** This portion of the meeting is reserved for persons to address the Council on any matter not on this agenda but under the jurisdiction of the Council. Council members may respond briefly to statements made or questions posed. They may ask a question for clarification; make a referral to staff for factual information or request staff to report back to the Council at a later meeting. SPEAKERS ARE LIMITED TO TWO MINUTES. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD PRIOR TO MAKING A PRESENTATION.

Chairman Smith asked if there were any public comments. There were none.

III. **CONSENT AGENDA/OPPORTUNITY FOR PUBLIC COMMENT:** All items on the consent agenda are considered to be routine and non-controversial by Kern COG staff and will be approved by one motion if no member of the Council or public wishes to comment or ask questions. If comment or discussion is desired by anyone, the item will be removed from the consent agenda and will be considered in the listed sequence with an opportunity for any member of the public to address the Council concerning the item before action is taken. **ROLL CALL VOTE.**

A. **Approval of Minutes – November 16, 2023**

B. **Concurrence in Actions of TPPC**

C. **Response to Public Comments**

D. **Memorandum of Understanding – Kern Council of Governments and Golden Empire Transit District** (Enriquez)

Action: Review MOU with the Golden Empire Transit District and authorize the Chairman and Executive Director to sign. ROLL CALL VOTE.

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E. **Kern COG's 2023 Regional Award of Merit Ceremony** (Campbell)

Action: Announcement of the 2023 Regional Award of Merit recipients.

F. **EV Ready Communities Agreement Between Kern COG and Project Clean Air, Inc. As Funded by the California Energy Commission ARV-20-0101** (Enriquez)

Action: Approve the Agreement between Kern Council of Governments and PCA Inc.; authorize Chair to sign. ROLL CALL VOTE.

G. Local Clearinghouse:

Applicant: Spice It Up Market, Inc.
Address: 3601 Stockdale Hwy.
Bakersfield, CA 93309
Contact: Rani Alhabroun

Federal Agency: USDA Rural Development
Funding Opportunity No.: RBCS-22-01-HBIIP
Title: Higher Blends Infrastructure Incentive Program
Description: Fueling Station Project

Federal Funds: $200,000.00
Total Funds: $1,600,000.00

***** END CONSENT CALENDAR - ROLL CALL VOTE *****

MOTION BY DIRECTOR COUCH TO APPROVE CONSENT AGENDA ITEMS A THROUGH G, SECOND BY DIRECTOR REYNA, MOTION CARRIED WITH A UNANIMOUS ROLL CALL VOTE.

IV. CONGESTION MANAGEMENT AGENCY: (None)

V. KERN MOTORIST AID AUTHORITY: (None)

VI. MEETING REPORTS: (None)

VII. EXECUTIVE DIRECTOR'S REPORT:

Executive Director made the following comments:

- Cheryl Wegman passed away on December 25, 2023. Cheryl served on the Kern COG Board beginning in 2001 where she served for many years. Cheryl was recognized by Rudy Salas in 2018 as Assembly District 32 Woman of the Year.

VIII. MEMBER STATEMENTS:

Mayor Saul Ayon, McFarland, made a proposal for Kern Council of Governments: Kern County Transportation Sales Tax Initiative. Please see attachment provided.

IX. CLOSED SESSION:

None.

X. ADJOURNMENT: Seeing no other comments, the meeting adjourned at 7:01 p.m. **NEXT MEETING – FEBRUARY 15, 2024.**

Respectfully submitted,

_____
Ahron Hakimi, Executive Director

ATTEST:

_____
Bob Smith, Chairman

DATE: _____

To: Kern Council of Governments
From: Mayor Saul Ayon, City of McFarland
Subject: Proposal for Implementing a Countywide Transportation Sales Tax in Kern County

Date: January 18, 2024

Introduction

As Mayor of McFarland, I propose the implementation of a half-cent sales tax in Kern County, akin to the measures in 24 self-help counties across California. This initiative is pivotal for generating funds for vital transportation projects, benefiting both our smaller communities and larger cities throughout Kern County.

Rationale for a Transportation Sales Tax

1. **Consistent and Predictable Revenue**: A half-cent sales tax will provide cities with a reliable source of revenue to repair local streets, thus addressing some of our most pressing infrastructure needs.
2. **Matching Funds for State and Federal Projects**: This tax will also enable Kern County to provide necessary matching funds for state and federal transportation projects, enhancing our ability to secure and leverage additional funding sources.
3. **Model of Success in Tulare County**: To our north, Tulare County's Measure R dedicates 50% of its revenue to regional projects, 35% to local projects, and 15% to bike, transit, and environmental projects. Their measure has funded significant improvements along Highway 99, including 13 widenings, 4 interchanges, and 3 bridges.
4. **Current Challenges in Kern County**: In contrast, Kern County, particularly in areas like Delano, McFarland, and unincorporated regions, faces challenges with interchanges not meeting current standards and struggling to keep up with growth. This situation is mirrored in East Kern and other areas along state highways.

The Self-Help Counties Coalition (SHCC) Model

1. **Stable and Reliable Funding**: The SHCC model, currently adopted by 24 counties, illustrates the success of local sales tax measures in funding transportation projects. These counties are projected to fund approximately $194 billion in transportation infrastructure, showcasing the effectiveness of such initiatives.
2. **Accountability and Local Involvement**: The SHCC offers a framework for accountability and public participation, ensuring that funds are used effectively and transparently.

Anticipated Benefits

1. **Job Creation and Economic Boost**: The introduction of a local sales tax for transportation will lead to job creation and an economic boost. Funds will be injected back into the local economy, supporting businesses and attracting new investment.

2. **Community Vitality and Inclusivity**: Reinvesting local tax dollars into transportation projects will enhance community vitality. This approach ensures that projects cater to the needs of people at all income levels, supporting transit-oriented development and public transit services.

Conclusion and Recommendation

The proposed half-cent sales tax in Kern County will not only address immediate infrastructure challenges but will also lay the groundwork for sustainable economic growth and community development. This measure will particularly benefit our smaller cities and disadvantaged communities, ensuring equitable progress across the county.

I strongly urge the Kern Council of Governments to support this proposal and to assist in advancing this initiative to a ballot for voter consideration.

Mayor Saul Ayon
City of McFarland

Kern Council of Governments

III. D.
COG

February 15, 2024

TO: Kern Council of Governments Board

FROM: Ahron Hakimi
Executive Director

By: Karl Davisson, Regional Planner

SUBJECT: Kern Council of Governments Consent Agenda Item: III. D.
KERN AREA REGIONAL GOODS-MOVEMENT OPERATIONS (KARGO) CLIMATE-CHANGE ADAPTATION MITIGATION STUDY (C-CAMS) CONSULTANT CONTRACT APPROVAL

DESCRIPTION:

Requests for Qualifications for the KERN AREA REGIONAL GOODS-MOVEMENT OPERATIONS (KARGO) CLIMATE-CHANGE ADAPTATION MITIGATION STUDY (C-CAMS) was advertised and widely distributed. The consultant reviewing team selected MARK THOMAS. A contract was prepared with a total budget not to exceed $2,900,000. County Counsel is reviewing this contract.

DISCUSSION:

This contract is funded through a Climate Adaptation and Mitigation grant from the California Department of Transportation (Caltrans). The objective of this project is to assess the climate change vulnerabilities of the Tehachapi Pass and Tejon Pass corridors and their resiliency connectors, and to leverage and advance critical projects that implement adaptive climate mitigation measures while maximizing co-benefits countywide. The project will focus on three main components:

1. Vulnerability/Resiliency Assessment Report: This component will assess the current and future vulnerability of the corridor and connecting resiliency routes to the impacts of climate change and identify critical infrastructure.

2. Adaptation Mitigation/Co-Benefit Analysis Report: This component will develop a comprehensive climate adaptation Analysis for the Corridor, incorporating the results of the vulnerability assessment. The analysis will identify and rank short- and long-term adaptation mitigation measures, such as the construction of mudslide barriers, retaining walls, drainage structures, wildlife crossing infrastructure improvements, vegetation management/restoration to reduce the impacts of climate change on the corridor while prioritizing co-benefits for safety, community, economy, and habitat.

3. Expedite Implementation Conceptual Design Effort: Leverage planned projects in the corridor including the truck lane and the High-Speed Rail projects to focus on early implementation of the identified adaptation measures, including 30% design/cost estimates drainage culverts, wildlife crossing infrastructure, retaining walls, vegetation management and restoration, resiliency connectors and other safety, community, economic and habitat co-benefits.

Kern COG solicited proposals and advertised a request for proposal for the update to Kern COG's growth forecast. The consultant reviewing team was made up of staff from the City of Tehachapi along with Kern COG staff. The team selected Mark Thomas from the submitted proposals with project completion by June 30th, 2026. Kern COG staff recommend approval of this contract.

ACTION:

Approve the consultant selection of Mark Thomas to develop the KERN AREA REGIONAL GOODS-MOVEMENT OPERATIONS (KARGO) CLIMATE-CHANGE ADAPTATION MITIGATION STUDY (C-CAMS) and authorize Chair to sign the contract. ROLL CALL VOTE.

CONTRACT BETWEEN THE KERN COUNCIL OF GOVERNMENTS

AND

MARK THOMAS

Kern Area Regional Goods-movement (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) Consultant Services

THIS CONTRACT, made and entered into on February 15th, by and between the Kern Council of Governments, hereinafter referred to as "Kern COG," and, MARK THOMAS & COMPANY INC., a California corporation, hereinafter referred to as "Consultant."

RECITALS:

WHEREAS, pursuant to the Joint Powers Agreement of November 4, 1970, creating Kern COG and the amended Joint Powers Agreement of May 1, 1982, Kern COG is authorized and empowered to employ consultants and specialists in the performance of its duties and functions;

WHEREAS, Kern COG issued a Request for Qualifications and CONSULTANT submitted a proposal concerning Consultant Services as needed and as specified in the attached **Exhibit "A"** and incorporated herein by reference; and

WHEREAS, CONSULTANT has submitted a cost proposal in response to Kern COG's Request for Qualifications, and said proposal is attached as **Exhibit "C"** and incorporated herein by reference; and

WHEREAS, CONSULTANT has represented that they have the qualifications, experience, and facilities for doing the type of work herein contemplated and has offered to provide the required services on the terms set forth herein; and

WHEREAS, Kern COG desires to engage CONSULTANT to provide the services described in **Exhibit "A"** on the terms set forth herein; and

WHEREAS, Consultant represents it is qualified and willing to provide such services pursuant to the terms and conditions of this contract;

AGREEMENT:

I. Contract Organization and Content

This contract is fully comprised of these terms and the attached exhibits: Scope of Work and Cost Proposal, all of which are incorporated herein by this reference.

II. Statement of Work

The work to be conducted by Consultant is specified for the delivery of products as specified in the Scope of Work, Appendix B of **Exhibit "A,"** (pages 95-109) and Cost Proposal, attached hereto as **Exhibit "C".** During the performance of this contract, the representative project managers for Kern COG and Consultant will be:

Kern COG: Karl Davisson
Consultant: Ed Noriega

III. Term

Time is of the essence in this contract. The term of this contract is February 15, 2024 through June 30, 2026 unless an extension of time is granted in writing by Kern COG.

Brian Van Wyk

IV. Assignability

Consultant shall not assign any interest in this contract, and shall not transfer the same, without the prior written consent of Kern COG.

V. Contract Changes

No alteration or deviation of the terms of this contract shall be valid unless made in writing and signed by the parties. No oral understanding or agreement not incorporated herein, shall be binding on any of the parties.

Kern COG may request, at any time, amendments to this contract and will notify Consultant in writing regarding changes. Upon a minimum of ten (10) days' notice, Consultant shall determine the impact on both time and compensation of such changes and notify Kern COG in writing. Upon agreement between Kern COG and Consultant as to the extent of these impacts on time and compensation, an amendment to this contract shall be prepared describing such changes. Such amendments shall be binding on the parties if signed by Kern COG and Consultant, and shall be effective as of the date of the amending document, unless otherwise indicated.

VI. Contract Costs and Reimbursements

A. Maximum Contract Amount/Budget Amendments:

CONSULTANT will be reimbursed for hours worked at the hourly rates specified in CONSULTANT's Cost Proposal **(Exhibit "C"**). These rates are not adjustable for the performance period set forth in this Contract.

Reimbursement for transportation and subsistence costs shall not exceed the rates as specified in the approved Cost Proposal.

When milestone cost estimates are included in the approved Cost Proposal, CONSULTANT shall obtain prior written approval for a revised milestone cost estimate from the Contract Administrator before exceeding such estimate.

CONSULTANT shall not commence performance of work or services until this contract has been approved by KERN COG, and notification to proceed has been issued by Kern COG'S Contract Administrator. No payment will be made prior to approval or for any work performed prior to approval of this contract.

Consultant may bill and receive up to Two million eight hundred ninety-nine thousand four hundred eighty-five dollars ($2,899,485), to be billed in accordance with **Exhibit "C,"** Costs. The total sum billed under this contract may not exceed including all costs, overhead, and fixed fee expenses. Such billings, up to the specified amount, shall constitute full and complete compensation for Consultant's services. Any amendments to the individual categories within the budget must be approved in writing in advance by Kern COG.

B. Progress Payments and Reports:

Progress payments are authorized under this contract. Progress billings in arrears may be submitted as often as monthly. Written progress reports shall accompany each billing and shall specify, by task, the percentage of contract work completed to date and since the date of the preceding billing, if any. Consultant shall be paid within 30 days following the receipt and approval of each billing by Kern COG. If Kern COG disputes any portion of a request for payment, Kern COG shall pay the undisputed portion of such request as provided herein and shall promptly notify Consultant of the amount in dispute and the reason therefore.

C. Billing Format and Content:

KERN COUNTY CALIFORNIA
Brian Van Wyk

Requisitions for payment shall refer to Work Element number 605.2 as identified on the FY 2023-2024 Overall Work Program, or as may be specified in a written notice by Kern COG. Specific budget category detail is given below:

Consultant shall submit two copies of each invoice with adequate supporting documentation of work billed and costs charged by Task as defined in **Exhibit "A",** to Kern COG, specifying those services which Consultant believes have been completed. The invoice shall specify: (1) hours worked multiplied times the billing rates authorized in **Exhibit "C",** (2) an itemization of Other direct cost and/or subcontractor fees as agreed to in **Exhibit "C";** (3) the total amount billed for the current period, (4) the total amount billed to-date for the project. (5) the retention amount withheld. The invoice shall include a written progress report adequately describing the services billed and provided, and summarizing the status of the PROJECT in regard to task completion, timelines, and budget.

Other Direct Costs: All direct costs billed must be specifically identified. Any travel costs may not exceed the per diem ($65/day meals; $225/day accommodations) and mileage rates shall be reimbursed at the IRS established standard mileage rate. Any other direct costs not specifically identified in the contract budget cannot be reimbursed.

D. Contract Completion Retainer:

Five (5) percent shall be retained from each contract billing until the completion of a milestone task. This retention will be released to Consultant upon completion of a milestone task and contract deliverables to the reasonable satisfaction of Kern COG.

E. Allowable Costs and Documentation:

All costs charged to this contract by Consultant shall be supported by properly executed payrolls, time records, invoices, and vouchers, evidencing in proper detail the nature and propriety of the charges, and shall be costs allowable as determined by Title 48 Code of Federal Regulations, Chapter 1, Part 31 (Contract Cost Principles and Procedures), Subpart 31.2 (Contracts with Commercial Organizations), as modified by Subpart 31.103. Consultant shall also comply with Title 49, Code of Federal Regulations, Part 18, (Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments) in the procurement of services, supplies or equipment.

VII. Progress Reports

Consultant shall submit progress reports, as described in **Exhibit "A"** and **Paragraph VI-B.** above. The purpose of the reports is to allow Kern COG to determine if Consultant is completing the activities identified in the Work Program in accordance with the agreed upon schedule, and to afford occasions for airing difficulties or special problems encountered so remedies can be developed.

Consultant's Project Manager shall meet with Kern COG's Project Manager, as identified under **Section II,** as needed to discuss work progress.

VIII. Inspection of Work

Consultant, and any subcontractors, shall permit Kern COG, Caltrans and the Federal Highway Administration (FHWA), and other participating agencies, the opportunity to review and inspect the project activities at all reasonable times during the performance period of this contract, including review and inspection on a daily basis.

IX. Staffing

There shall be no change in Consultant's Project Manager, or members of the project team, without prior written approval by Executive Director of Kern COG. The Project Manager shall be responsible for keeping Kern COG informed of the progress of the work and shall be available for no less than four (4) meetings with Kern COG.

KERN COUNTY CALIFORNIA
Brian Van Wyk

X. Subcontracting

Consultant shall perform the work with resources available within its own organization, unless otherwise specified in this contract. No portion of the work included in this contract shall be subcontracted without written authorization by Kern COG. In no event shall Consultant subcontract for work in excess of fifty (50) percent of the contract amount, excluding specialized services. Specialized services are those items not ordinarily furnished by a consultant performing this particular type of work. All authorized subcontracts shall contain the same applicable provisions specified in this contract.

XI. Termination of Contract

A. Termination for Convenience of Kern COG:

Kern COG may terminate this contract at any time by giving notice to Consultant of such termination, and the effective termination date, at least thirty (30) days before the effective date of such termination. In such event, all finished or unfinished documents and other materials shall, at the option of Kern COG, become its property. If this contract is terminated by Kern COG, as provided herein, Consultant shall be reimbursed for expenses incurred prior to the termination date, in accordance with the cost provisions of this contract. Consultant will also be allowed a proportion of any fixed fee that is equal to the same proportion of the project completed by Consultant on the date of termination of this contract.

B. Termination for Cause:

If through any cause, Consultant shall fail to fulfill in a timely and proper manner its obligations under this contract, or if Consultant violates any of the covenants, agreements, or stipulations of this contract, Kern COG shall thereupon have the right to immediately terminate the contract by giving written notice to Consultant of the intent to terminate and specifying the effective date thereof. Kern COG shall provide an opportunity for consultation with Consultant and a ten-day cure period prior to termination. In such an event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, reports or other materials prepared by Consultant under this contract shall, at the option of Kern COG, become the property of Kern COG. Consultant shall be entitled to receive compensation for all satisfactory work completed prior to the effective date of termination.

XII. Compliance with Laws, Rules and Regulations

All services performed by the Consultant pursuant to this contract shall be performed in accordance and full compliance with all applicable federal, state or local statutes, rules, and regulations.

XIII. Conflict of Interest

A. Consultant, and the agents and employees of Consultant, shall act in an independent capacity in the performance of this contract, and not as officers, employees or agents of Kern COG.

B. No officer, member, or employee of Kern COG or other public official of the governing body of the locality or localities in which the work pursuant to this contract is being carried out, who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of the aforesaid work shall:

1. Participate in any decision relating to this contract which affects his personal interest or the interest of any corporation, partnership, or association in which he has, directly or indirectly, any interest; or

2. Have any interest, direct or indirect, in this contract or the proceeds thereof during his tenure or for one year thereafter.

Brian Van Wyk

C. Consultant hereby covenants that it has, at the time of the execution of this contract, no interest, and that it shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed pursuant to this contract. Consultant further covenants that in the performance of this work, no person having any such interest shall be employed.

XIV. Contingency Fees

Consultant warrants, by execution of this contract, that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingency fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by Consultant for the purpose of securing business. For breach or violation of this warranty, Kern COG has the right to terminate this contract without liability, allowing payment only for the value of the work actually performed, or to deduct from the contract price, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingency fee.

XV. Copyrights

Consultant shall be free to copyright material developed under this contract with the provision that Kern COG reserve a royalty-free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use, distribute, and to authorize others to use, and distribute for fee or otherwise, the work for any purpose. Consultant is subject to the duties of agency relating to rights in data and copyrights as set forth in 48 CFR 52.227-14.

XVI. Publication

A. No report, information, or other data given to or prepared or assembled by Consultant pursuant to this contract, shall be made available to any individual or organization by Consultant without the prior written approval of Kern COG.

B. The following acknowledgment of FHWA's participation must appear on the cover or title page of all final products:

"The preparation of this report has been financed, in part, through a grant from the U.S. Department of Transportation, Federal Highway Administration, under the authority of Section 148 of Title 23, United States Code (23 U.S.C §148)."

XVII. Disputes

Except as otherwise provided in this contract, any dispute concerning a question of fact which is not disposed of by mutual agreement, shall be decided by a court of competent jurisdiction.

XVIII. Hold Harmless

Consultant agrees to indemnify and hold harmless Kern COG and Kern COG's agents, board members, elected and appointed officials and officers, authorized volunteers and representatives, employees, from any and all losses, charges, liabilities, damages, claims, liens, causes of action, awards, judgments, costs, and expenses (including, but not limited to reasonable attorneys' fees of County Counsel and other counsel retained by Kern COG, expert fees, costs of staff time, and investigation costs) of whatever kind of nature ("Claims") to the extent such Claims result from the the negligent, reckless, or willful act or omission of, or breach of contract by, or violation of any applicable law by Consultant or Consultant's officers, agents, employees, independent contractors, sub-contractors of any tier, or authorized representatives, or breach of this Agreement. Without limiting the generality of the foregoing, the same shall include bodily and personal injury or death to any person or persons; damage to any property, regardless of where located, including the property of Kern COG; and any workers' compensation claim or suit arising from or connected with any services performed pursuant to this Agreement on behalf of Consultant by any person or entity.

XIX. Insurance

Brian Van Wyk

Consultant, in order to protect Kern COG and its board members, officials, agents, officers, and employees against all claims and liability for death, injury, loss and damage as a result of Consultant's actions in connection with the performance of Consultant's obligations, as required in this Agreement, shall secure and maintain insurance as described below. Consultant shall not perform any work under this Agreement until Consultant has obtained all insurance required under this section and the required certificates of insurance and all required endorsements have been filed with Kern COG's authorized insurance representative. Receipt of evidence of insurance that does not comply with all applicable insurance requirements shall not constitute a waiver of the insurance requirements set forth herein. The required documents must be signed by the authorized representative of the insurance company shown on the certificate**.** Upon request, Consultant shall supply proof that such person is an authorized representative thereof, and is authorized to bind the named underwriter(s) and their company to the coverage, limits and termination provisions shown thereon. Consultant shall promptly deliver Kern COG a certificate of insurance, and all required endorsements, with respect to each renewal policy, as necessary to demonstrate the maintenance of the required insurance coverage for the term specified herein. Such certificates and endorsements shall be delivered to Kern COG not less than 30 days prior to the expiration date of any policy and bear a notation evidencing payment of the premium thereof if so requested. Consultant shall immediately pay any deductibles and self-insured retentions under all required insurance policies upon the submission of any claim by Consultant or Kern COG as an additional insured.

Without limiting Kern COG's right to obtain indemnification from the consultant or any third parties, the consultant, at its sole expense, shall maintain in full force and affect the following insurance policies throughout the term of the contract:

A. Comprehensive general liability insurance with coverage of not less than $2,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage. Comprehensive general liability insurance policies shall name Kern COG, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under the terms of the contract are concerned. Such coverage for additional insured shall apply as primary insurance or self-insurance and any other insurance, maintained by Kern COG, its officers, agents, and employees, shall be given excess only and not contributing with insurance provided under the consultant's policies herein.

B. Comprehensive automobile liability insurance against claims of Personal Injury (including bodily injury and death) and Property Damage covering any vehicle and/or all owned, leased, hired, and non-owned vehicles used in the performance of services pursuant to this Agreement with coverage equal to the policy limits, which shall be at least one million dollars ($1,000,000) each occurrence.

C. Professional liability insurance of at least one million dollars ($1,000,000) per occurrence and two million dollars ($2,000,000) aggregate.

D. Worker's compensation insurance as required by law.

This insurance shall not be canceled or changed without a minimum of thirty (30) days advance written notice given to Kern COG. The consultant shall provide certification of said insurance to Kern COG within twenty-one (21) days of the date of the execution of the contract. Such certification shall show, to Kern COG's satisfaction, that such insurance coverages have been obtained and are in full force; that Kern COG, its officers, agents, and employees will not be responsible for any premiums on the policies; that as and if required such insurance names Kern COG, its officers agents, and employees individually and collectively as additional insured (comprehensive and general liability only), but only insofar as the operations under the contract are concerned; that such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by Kern COG, its officers, agents, and employees, shall be excess only and not contributing with insurance provided under the consultant's policies herein; and that this

Brian Van Wyk

insurance shall not be canceled or changed without a minimum of thirty (days) advance, written notice given to Kern COG.

In the event the consultant fails to keep in effect at all times insurance coverage as herein provided, Kern COG may, in addition to other remedies it may have, suspend or terminate the contract upon the occurrence of such event.

Consultant shall require any sub-contractors to provide workers' compensation for all of the sub-contractors' employees, unless the sub-contractors' employees are covered by the insurance afforded by Consultant. If any class of employees engaged in work or services performed under this Agreement is not covered by Labor Code section 3700, Consultant shall provide and/or require each sub-contractor to provide adequate insurance for the coverage of employees not otherwise covered.

A. The Commercial General Liability and Automobile Liability Insurance required in sub-paragraph A and B. shall include an endorsement naming Kern COG and Kern COG's board members, officials, officers, agents and employees as additional insureds for liability arising out of this Agreement and any operations related thereto. Said endorsement shall be provided on ISO form CG 20 10 Edition date 11/85 or such other forms which provide coverage at least equal to or better than form CG 20 10 11 85.

B. Any self-insured retentions in excess of $10,000 must be declared on the Certificate of Insurance or other documentation provided to Kern COG and must be approved by Kern COG.

C. If any of the insurance coverages required under this Agreement is written on a claims-made basis, Consultant, at Consultant's option, shall either (i) maintain said coverage for at least three (3) years following the termination of this Agreement with coverage extending back to the effective date of this Agreement; (ii) purchase an extended reporting period of not less than three (3) years following the termination of this Agreement; or (iii) acquire a full prior acts provision on any renewal or replacement policy.

D. Cancellation of Insurance -- The above stated insurance coverages required to be maintained by Consultant shall be maintained until the completion of all of Consultant's obligations under this Agreement except as otherwise indicated herein. Each insurance policy supplied by the Consultant must be endorsed to provide that the coverage shall not be suspended, voided, cancelled or reduced in coverage or in limits except after ten (10) days written notice in the case of non-payment of premiums, or thirty (30) days written notice in all other cases. Such notice shall be by certified mail, return receipt requested. This notice requirement does not waive the insurance requirements stated herein. Consultant shall immediately obtain replacement coverage for any insurance policy that is terminated, canceled, non-renewed, or whose policy limits have been exhausted or upon insolvency of the insurer that issued the policy.

E. All insurance shall be issued by a company or companies admitted to do business in California and listed in the current "Best's Key Rating Guide" publication with a minimum of a "A-;VII" rating. Any exception to these requirements must be approved by the Kern COG.

F. If Consultant is, or becomes during the term of this Agreement, self-insured or a member of a self-insurance pool, Consultant shall provide coverage equivalent to the insurance coverages and endorsements required above. The Kern COG will not accept such coverage unless Kern COG determines, in its sole discretion and by written acceptance, that the coverage proposed to be provided by Consultant is equivalent to the above-required coverages.

KERN COUNTY CALIFORNIA
Brian Van Wyk

G. All insurance afforded by Consultant pursuant to this Agreement shall be primary to and not contributing to all insurance or self-insurance maintained by Kern COG. An endorsement shall be provided on all policies, except professional liability/errors and omissions, which shall waive any right of recovery (waiver of subrogation) against Kern COG.

H. Insurance coverages in the minimum amounts set forth herein shall not be construed to relieve Consultant for any liability, whether within, outside, or in excess of such coverage, and regardless of solvency or insolvency of the insurer that issues the coverage; nor shall it preclude Kern COG from taking such other actions as are available to it under any other provision of this Agreement or otherwise in law.

I. Failure by Consultant to maintain all such insurance in effect at all times required by this Agreement shall be a material breach of this Agreement by Consultant. Kern COG, at its sole option, may terminate this Agreement and obtain damages from Consultant resulting from said breach. Alternatively, Kern COG may purchase such required insurance coverage, and without further notice to Consultant, Kern COG shall deduct from sums due to Consultant any premiums and associated costs advanced or paid by Kern COG for such insurance. If the balance of monies obligated to Consultant pursuant to this Agreement are insufficient to reimburse Kern COG for the premiums and any associated costs, Consultant agrees to reimburse Kern COG for the premiums and pay for all costs associated with the purchase of said insurance. Any failure by Kern COG to take this alternative action shall not relieve Consultant of its obligation to obtain and maintain the insurance coverages required by this Agreement.

XX. Equal Employment Opportunity/Nondiscrimination

Consultant shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with the provisions contained in 49 CFR 21 through Appendix C and 23 CFR 170.405(b). During the performance of this contract, Consultant, for itself, its assignees and successors in interest, agrees as follows:

A. Compliance with Regulations: Consultant shall comply with the regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter DOT) Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

Prior to any performance under this agreement, Consultant must review, sign and return to Kern COG a copy of the Title 49, Code of Federal Regulations, Part 29 Debarment and Suspension Certifications ("**Certifications**") attached and incorporated here as **Exhibit "B", "**Debarment and Suspension Certification.**"** The signed copy of the Certifications shall be incorporated by this reference into the Agreement as if set forth in full herein.

B. Nondiscrimination: Consultant, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, religion, color, sex, age or national origin in the selection or retention of subcontractors, including the procurement of materials and leases of equipment. Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontractors, including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiations made by Consultant for work to be performed under a subcontract, including the procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by Consultant of Consultant's obligations under this contract, and the Regulations relative to nondiscrimination on the grounds of race, religion, color, sex, age or national origin.

Brian Van Wyk

D. Information and Reports: Consultant shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by Kern COG, Caltrans, FTA, or FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of Consultant is in the exclusive possession of another who fails or refuses to furnish this information, Consultant shall so certify to Kern COG, Caltrans, FTA, or FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of Consultant's noncompliance with the nondiscrimination provisions of this contract, Kern COG shall impose such contract sanctions as it, Caltrans, FTA, or FHWA may determine to be appropriate, including, but not limited to:

1) Withholding of payments to Consultant under this contract until Consultant complies; and/or 2) Cancellation, termination or suspension of the contract, in whole or in part.

F. Incorporation of Provisions: Consultant shall include the provisions of Paragraphs A through F of this Section XX in every subcontract, including procurements of materials and leases of equipment, unless exempt from the regulations, or directives issued pursuant thereto. Consultant shall take such action with respect to any subcontract or procurement as Kern COG, Caltrans, FTA, or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. However, in the event Consultant becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, Consultant may request Kern COG to enter into such litigation to protect the interests of Kern COG, and in addition, Consultant may request the United States to enter into such litigation to protect the interests of the United States.

XXI. Disadvantaged Business Enterprise (DBE)

It is the policy of Kern COG, the California State Department of Transportation and the U.S. Department of Transportation, that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 23, shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with local, state or federal funds.

Consultant shall ensure that DBEs, as defined in 49 CFR Part 23, have the maximum opportunity to participate in the performance of this contract. In this regard, Consultant shall take all necessary and reasonable steps to ensure that DBEs have the maximum opportunity to compete for and to perform subcontracts arising out of this contract. Failure to carry out the requirements of this paragraph shall constitute a breach of contract and may result in termination of this contract or such other remedy Kern COG may deem appropriate.

During the period of this contract, the Consultant shall maintain records of all applicable subcontracts advertised and entered into germane to this contract, documenting the opportunity given to DBEs to participate in this contract, actual DBE participation, and records of materials purchased from DBE suppliers. Such documentation shall show the name and business address of each DBE subcontractor or vendor, and the total dollar amount actually paid each DBE subcontractor or vendor. Upon completion of the contract, a summary of these records shall be prepared and certified correct by the Consultant, and shall be furnished to Kern COG.

XXII. Audits

At any time during normal business hours, and as often as Kern COG, Kern COG's participating agencies, the California Department of Transportation, the Federal Transit Administration, the Federal Highway Administration, the Department of Labor, the Comptroller General of the United States, or other appropriate state and federal agencies, or any duly authorized representatives may deem necessary, Consultant shall make available for examination all of its records with respect to all matters covered by this contract for purposes of audit, examination, or to make copies or transcripts of such records, including, but not limited to, contracts, invoices, payrolls, personnel records, conditions of employment and other data relating to all matters covered by this contract.

KERN COUNTY CALIFORNIA
Brian Van Wyk

Project costs are subject to audit and approval for payment according to the eligibility requirements of the funding agencies. However, Kern COG shall not have the right to audit Consultant's fixed rates or fees, percentage multipliers, or standard charges. All project records shall be retained and access to the facilities and premises of Consultant shall be made available during the period of performance of this contract, and for three years after Kern COG makes final payment under this contract.

XXIII. Clean Air Act/Clean Water Act Requirements

Consultant, in carrying out the requirements of this contract, shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 USC 1857[h]), Section 508 of the Clean Water Act (33 USC 1368), Presidential Executive Order 11738, and those Environmental Protection Agency regulations contained in 40 CFR Part 15.

XXIV. Notice

Any notice or notices required or permitted to be given pursuant to this contract may be personally served on the other party by the party giving such notice, or may be served by certified mail, return receipt requested, to the following addresses:

Mr. Ahron Hakimi,
Executive Director
Kern Council of Governments (Kern COG)
1401 19th Street, Suite 300
Bakersfield, California 93301

XXV. Venue

If any party to this contract initiates any legal or equitable action to enforce the terms of this contract, to declare the rights of the parties under this contract or which relates to this contract in any manner, Kern COG and Consultant agree that the proper venue for any such action is the Superior Court of the State of California of and for the County of Kern.

XXVI. California Law

Kern COG and Consultant agree that the provisions of this contract will be construed in accordance with the laws of the State of California.

XXVII. No Authority to Bind Kern COG

It is understood that Consultant, in its performance of any and all duties under this contract, has no authority to bind Kern COG to any agreements or undertakings with respect to any and all persons or entities with whom Consultant deals in the course of its business.

XXVIII. Nonwaiver

No covenant or condition of this contract to be performed by Consultant can be waived except by the written consent of Kern COG. Forbearance or indulgence by Kern COG in any regard whatsoever shall not constitute a waiver of any covenant or condition to be performed by Consultant. Kern COG shall be entitled to invoke any remedy available to it under this contract or by law or in equity despite any such forbearance or indulgence.

XXIX. Independent Contractor

Nothing in this contract shall be construed or interpreted to make Consultant, its officers, agents, employees or representatives anything but independent contractors and in all their activities and operations pursuant to this contract, Consultant, its officers, agents, employees and representatives shall for no purposes be considered employees or agents of Kern COG.

XXX. Partial Invalidity

Brian Van Wyk

Should any part, term, portion, or provision of this contract be finally decided to be in conflict with any law of the United States or the State of California, or otherwise be unenforceable or ineffectual, the validity of the remaining parts, terms, portions, or provisions shall be deemed severable and shall not be effected thereby, provided such remaining portions or provisions can be construed in substance to constitute the agreement which the parties intended to enter into in the first instance.

XXXI. Signature Authority

Each person executing this contract on behalf of Consultant represents and warrants that he or she is authorized by Consultant to execute and deliver this contract on behalf of Consultant and that this contract is binding on Consultant in accordance with the terms.

IN WITNESS WHEREOF, the Kern Council of Governments and MARK THOMAS have executed this agreement as of the date first above written.

RECOMMENDED AND APPROVED
AS TO CONTENT:

KERN COUNCIL OF GOVERNMENTS

_____
Ahron Hakimi, Executive Director
Kern Council of Governments

APPROVED AS TO FORM:

_____
Bob Smith, Chair
"Kern COG"

_____
Brian Van Wyk, Deputy
Kern County Counsel

CONSULTANT

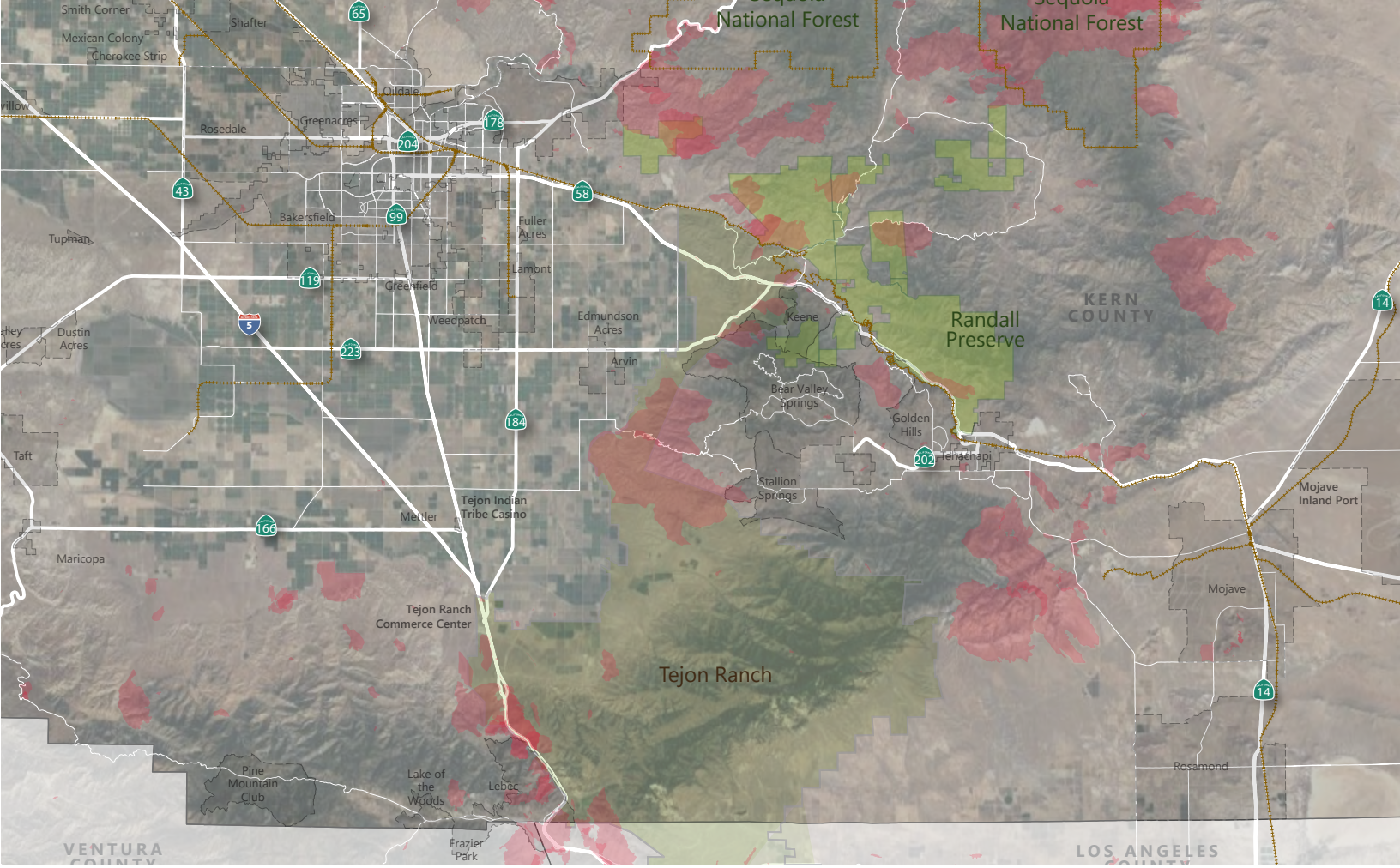
_____
Consultant

KERN COUNTY CALIFORNIA
Brian Van Wyk

Exhibit “A”

Scope of Work

Brian Van Wyk



Kern Council of Governments

Proposal for
Kern Council of Governments

SOQ FOR THE KARGO C-CAMS CONSULTANT SERVICES

MARK THOMAS

December 19, 2023

CONTENTS

MARK THOMAS

December 19, 2023

Attn: Karl Davisson
Project Manager
Kern Council of Governments
1401 19th Street
Suite 300
Bakersfield, CA 93301

Subject: Kern Area Regional Goods-Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) Statement of Qualifications

Dear Mr. Davisson:

Mark Thomas understands Kern Council of Government's (Kern COG) need for assessing the climate change vulnerabilities of the Twin Pass corridors and their resiliency connectors, and to leverage and advance critical projects that implement adaptive climate mitigation measures while maximizing co-benefits county-wide. We are the firm who can successfully deliver these needs.

Mark Thomas is a full-service professional design firm, specializing in transportation projects. We provide design, planning, and project funding services to local agencies throughout the Central Valley. We have been working within Kern County since 2010. In that time, we have completed various projects ranging from safety and feasibility studies through final design. We've completed several projects within the County, including conceptual design and estimating services for KARGO Phase 1 and Phase 2 studies for Kern COG. We've also prepared Kern County's and the City of McFarland's Systemic Safety Analysis Report and Local Roadway Safety Program and their corresponding identification and prioritization of high-risk projects. These projects demonstrated our technical capabilities, experience, and familiarity to continue to successfully provide services in Kern County.

I, Ed Noriega, will lead the team as Principal in Charge/Project Manager. I have more than 20 years of experience in the management of transportation and public works projects across California, a thorough understanding of the Caltrans Local Assistance process and procedures, and I am the division manager of our Central Valley Operations, with the authority to commit resources to Kern COG's project.

I will be supported by lead engineers who have extensive experience in climate-change adaptation mitigation, grant funding, roadway design, grade separation, and goods movement.

We have included subonconsultants to supplement our team. We have included:

» **EBP** for Economic Assessment, Oil Industry, and Goods Movement; **LSA** for Environmental/Risk Areas; **Fehr & Peers** for Traffic and Operations Analysis; **Fraser Schilling** for Wildlife Corridors; **Southwest Strategies** for Public Outreach; and **PGH Wong** for Rail.

By submitting this statement of qualifications, we commit to providing an experienced, available team whose time will be dedicated to serving Kern COG. I attest that all information submitted in this statement of qualification is true and correct. We look forward to continuing our work within the County and Kern COG. Please contact me with any questions about our qualification package. I can be reached at (530) 848-1222, enoriega@markthomas.com, or the mailing address at the bottom of this letter.

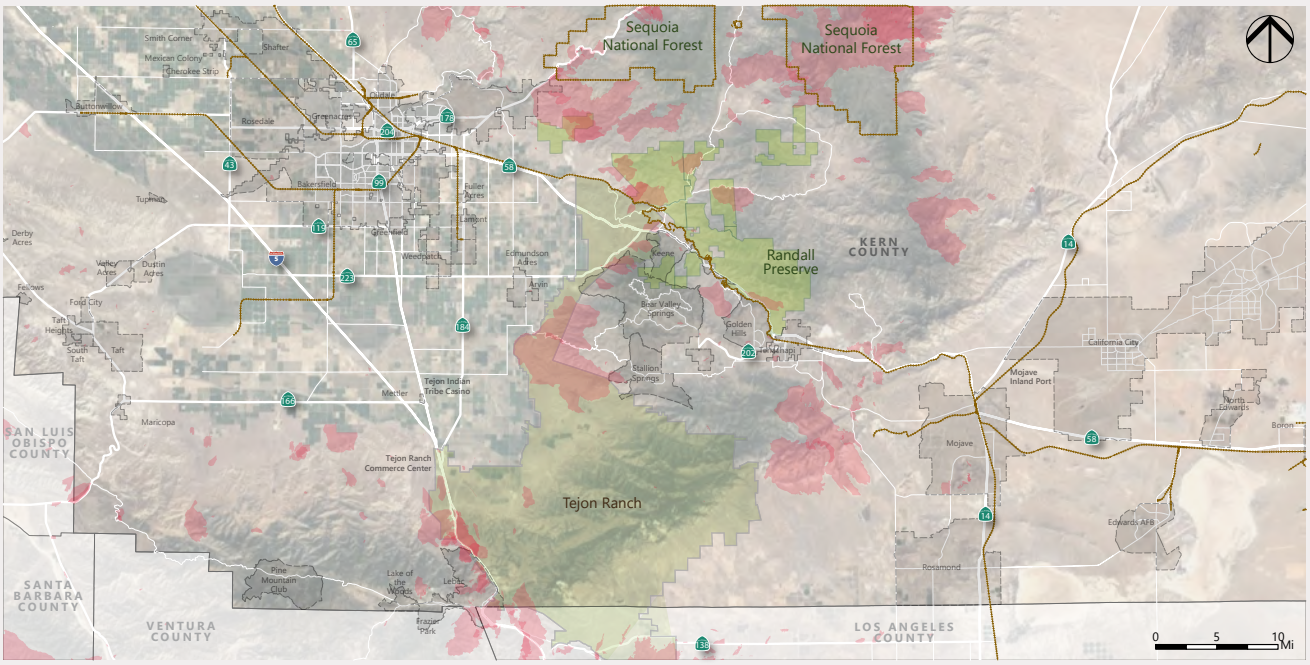
Sincerely,
MARK THOMAS

Ed Noriega, PE
Division Manager + Associate Principal

A. EXECUTIVE SUMMARY

Kern County, located in the southern end of the Central Valley (CV), is where a number of trans-national goods movements corridors (roadway and rail) converge connecting the CV with southern California (SoCal) and the rest of the country. For roadway goods movement corridors, Interstate 5 (I-5) and State Route 99 (SR 99) are the north-south arterials along the CV (I-5 connects the CV to SoCal via the Tejon Pass); SR 58 is the east-west corridor that connects the CV to I-40 (the primary east-west corridor in the country).

For rail, Union Pacific (UP) and Burlington-Northern Santa Fe (BNSF) railways run northerly to Stockton and Sacramento where they connect to Port of Oakland; then follow I-80 for an east-west connection to the rest of the country; the direct east-west rail route from Kern County is a shared UP/BNSF track along SR 58 over the Tehachapi Pass. The Tejon and Tehachapi Passes (Twin Passes) are geographic barriers that make east-west and southern goods movement connections to the CV vulnerable to extreme climate events.



In October 2015, an extreme climate event caused a mudslide at the Tehachapi Pass causing SR 58 and the shared UP/BNSF track to be closed; that same climate event closed I-5 at the Tejon Pass. With one extreme climate event, movement between the CV and SoCal as well as east-west connection was cut-off. As extreme climate events become more frequent, it is imperative to the CV to identify and deliver projects that will allow these goods-movement corridors to be resilient to extreme climate events.

In 2023, Kern COG was successful in securing Climate Adaption Planning funds to identify locations within Kern County that are vulnerable to extreme climate events. Kern COG's objective is to assess the climate change vulnerabilities of the Twin Passes corridors and to leverage critical projects that implement adaptive climate measures.

The goal is to identify locations within the county that are vulnerable to higher temperature, wildfire, flooding, and landslides. Within the RFP, Kern COG listed a number of critical (roadway and railway) projects around the Twin Passes. Kern COG would like these projects to be developed to a 30% concept design level and make them more resilient to extreme climate events. **These projects were identified in the KARGO 1 and KARGO 2 studies. Mark Thomas and Fehr & Peers worked with Kern COG in developing KARGO 1 and KARGO 2; our team has the history and background of Kern County's project needs.**

Beyond the design development of the critical projects, we provided a roadmap to guide Kern COG on a strategy on how to expedite project implementation while staying within the rules of the grant.

FIRM INTRODUCTION

Mark Thomas provides civil and structures engineering, transportation planning, strategic funding and grant writing, landscape architecture, surveying, and construction management services to clients throughout California. As a California corporation, our stability throughout the years is founded on our client service focus, and delivering projects with a tailored approach to meet our clients' goals. This reputation is realized through the efforts of more than 380 professionals within offices located throughout the state.

Mark Thomas is built on providing sound, innovative engineering solutions and high-quality customer service for transportation, rail, public works, and infrastructure improvement projects. Our solutions have benefited all types of transportation improvement projects, including Caltrans freeways and highways, interchanges, Class I railroad corridors, grade separations, truck climbing lanes, roadway widenings, and climate mitigation improvements.

Work for this contract will be **primarily staffed from our Fresno and Sacramento office**.

ROADWAY DESIGN EXPERTISE

We excel at the design of roadway widening and improvements. We are knowledgeable to Caltrans, AASHTO, and Kern COG design standards and requirements. We have designed several roadway and heavy rail projects minimize impacts to adjacent parcels and costs to agencies. These projects also include design for drainage improvements to provide for flows and increased impervious surfaces.

RAILROAD DESIGN EXPERIENCE

Mark Thomas has focused on the planning and implementation of mass transit and freight projects. We have developed a detailed understanding of requirements for Class I railroads. Mark Thomas has provided professional services for double tracking, roadway crossings, grade separations, bridges and culverts, drainage, and utilities for heavy rail and fixed guideway transit extensions. These projects required adherence to Union Pacific Railroad (UPRR), Burlington Northern Santa Fe Railway (BNSF), Amtrak, Caltrain as well as American Railway Engineering and Maintenance-of-Way Association (AREMA) standards.

These projects have required coordination and approvals from the railroads and the California Public Utilities Commission (CPUC), including preparation of General Order 88 (GO-88) Modification of an Existing Rail Crossing and Full Grade Separation Applications. We have worked with local agencies to prepare and gain approvals for new grade separation applications and Construction & Maintenance (C&M) agreements with UPRR and BNSF.

MARK THOMAS & COMPANY INC.

LEGAL ENTITY | CA Corporation

CORPORATE HEADQUARTERS
2290 North First Street, Suite 304
San Jose, CA 95131

ADDRESSES OF OFFICE(S) PERFORMING WORK

MARK THOMAS & COMPANY INC.
- 7571 North Remington Avenue, Suite 102
  Fresno, CA 93711
- 701 University Ave., Ste 200
  Sacramento, CA 95825

LSA
- 2565 Alluvial Avenue, Suite 172
  Clovis, CA 93611

FEHR & PEERS
- 343 East Main Street, Suite 608
  Stockton, CA 95202
- 100 Oceangate Suite 1425
  Long Beach, CA 90802

EBP
- 155 Federal Street
  Boston, MA 02110

PGH WONG
- 182 - 2nd Street
  San Francisco, CA 94105

FRASER SHILLING
- 1007 McCormick St NE
  Olympia, WA 98506

SOUTHWEST STRATEGIES
- 2491 Alluvial Ave PO Box 33
  Clovis, CA 93611
- 401 B Street, Suite 150
  San Diego, CA 92101

CONTACT INFORMATION

Ed Noriega, Division Manager

7571 North Remington Avenue, Suite 102
Fresno, CA 93711
Phone: (530) 848-1222
Fax: (559) 447-8586
Email: enoriega@markthomas.com

STRUCTURES EXPERIENCE

We have extensive experience delivering transportation, flood control, and wastewater structures projects. This includes the design of bridges, retaining walls, soundwalls, flood walls, water reservoirs, pump station housings, and other structures. Our retaining wall design experience encompasses standard cantilever retaining walls through more complex systems like MSE and tieback walls. We have also designed pre-fabricated bicycle/pedestrian bridges and abutments.

Through our work with Kern COG, Kern County, and other agencies, we have accumulated an expansive knowledge base specifically geared toward improving roadways and State Highways, traffic capacity, improving operations, and enhancing railroad capacity and operations, implementing climate resiliency mitigations. Our strong background in delivering transportation projects, coupled with an effective balance of creative innovations, allow us to develop practical design solutions.

LOCAL EXPERIENCE AND AGENCY COORDINATION

Mark Thomas has been delivering projects for local agencies throughout the Central Valley for the past 20 years, including recent work with the local agency. **We have managed and delivered nearly 20 local projects totaling $5.4M in fees for the design and implementation a variety of improvements to enhance the local communities in and around Kern County. This includes providing civil engineering and cost estimating support for the Kern Area Regional Goods-Movement Operations (KARGO) 1 and 2 contracts.**

We understand the needs of the Kern Council of Governments (Kern COG) and work as an extension of agency staff. This includes providing turnkey services which involve coordination with third party entities such as Caltrans, Union Pacific Railroad (UPRR), Burlington Northern Santa Fe Railway (BNSF), special districts, and property owners. Having managed many multi-disciplined, linear transportation projects, we bring proven leadership skills and a record of accomplishment to your project. Our team brings extensive experience working in neighboring communities to plan and design the Oakhurst Mid-Town Connector, SR 99/Veterans Boulevard Interchange, and Golden State Boulevard Improvements projects. Our team has developed a strong working relationships with key stakeholders, including Caltrans District 6, utility companies and local agencies within the County. **Mark Thomas planned and delivered over 100 projects in Caltrans District 6**. We have the expertise to effectively coordinate with Caltrans District 6 Planning and Local Assistance and relationships to minimize project delays.

MARK THOMAS IS COMMITTED TO PROVIDING THE COMPREHENSIVE SERVICES AND STAFF TO SUCCESSFULLY DELIVER KARGO CLIMATE-CHANGE ADAPTATION MITIGATION STUDY.

PROJECT EXPERIENCE

Mark Thomas has 96 years in the transportation infrastructure business and 13 years providing conceptual design and engineering services on projects similar in size and scope for Kern County, Mark Thomas has firsthand knowledge, experience, and resources to successfully deliver this project on time and within budget. Provided below are relevant project experience similar in nature completed within the last five years.

On the following pages we have outlined our relevant project experience, performed in the last 10 years.

PHASE I: KARGO SUSTAINABILITY STUDY: INTEGRATED CIRCULATION STUDY

KERN COUNTY

CLIENT
Fehr & Peers

AGENCY PROJECT MANAGER AND REFERENCE
Robert Ball
Deputy Director/Planning Director Kern COG
rball@kerncog.org
(661) 635-292

TYPE OF WORK PERFORMED
Roadway

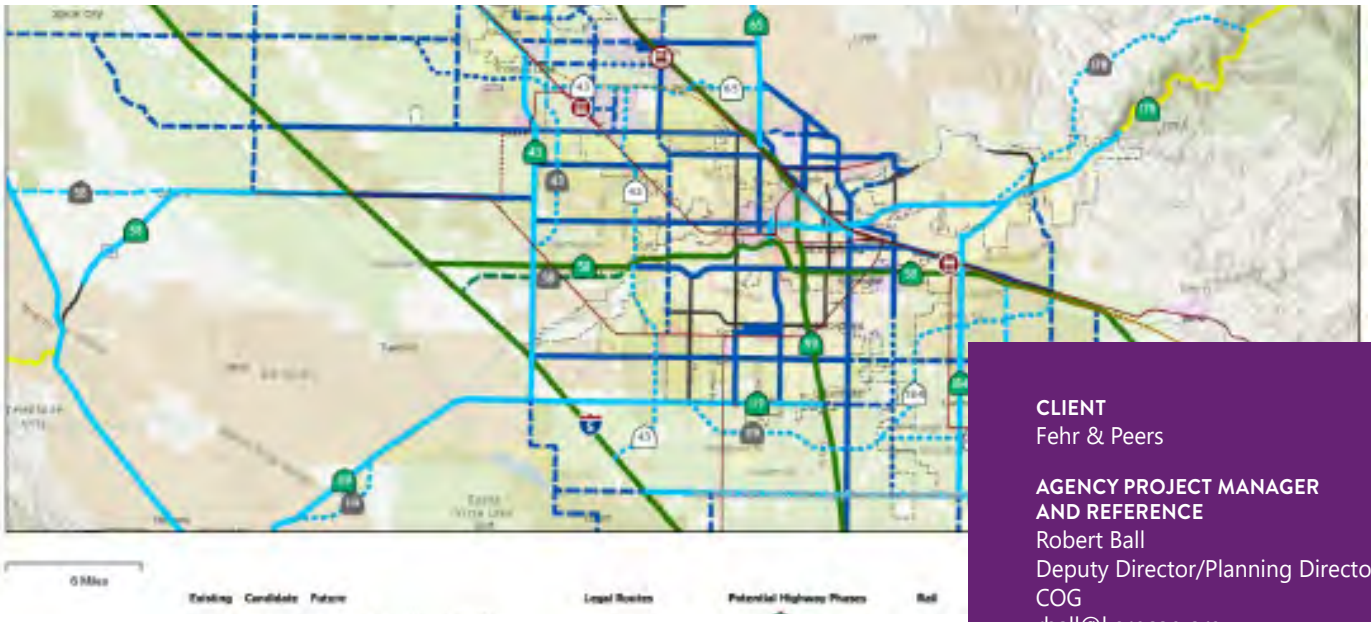
VALUE OF CONSULTING CONTRACT
$20,000

Serving as a subconsultant, Mark Thomas provided professional engineering services for the preparation of an integrated circulation study for the cities of Bakersfield, Shafter, and Kern County. The primary goal was to create an integrated circulation study that incorporates input from multiple agencies that could be used as a tool to assist the cities of Bakersfield and Shafter, and the County of Kern in updating their circulation elements, focusing on the importance of key corridors to the movement of goods in the region.

The KARGO Sustainability Study Phase I Project was the initial step in a broader goal to analyze strategies to address the growing industrial and warehousing industries occurring at the boarder of Bakersfield and Shafter along 7th Standard Road.

At that time, Bakersfield, Shafter and the County had circulation elements that lacked overall cohesion within their jurisdictions. The primary goal of phase I was to work collaboratively with Kern COG and these agencies to gather input from railroads, high-speed rail authority, Caltrans to develop a study that offers actionable ways (including but not limited to strategies identified in the AB 617 Shafter Program such as local truck only routes, roundabouts, multimodal freight corridors, etc.) for the agencies to incorporate changes to their circulation elements to make them more cohesive with one another, and to provide a framework for the analysis of added strategies to improve the sustainability of the growing trade hub in this region.

Based on traffic model provided by Fehr & Peers, Mark Thomas developed interchange configurations that accommodated the traffic demands of the intersecting arterials. Mark Thomas also provided a construction cost estimate for the proposed improvements.



CLIENT
Fehr & Peers

AGENCY PROJECT MANAGER AND REFERENCE
Robert Ball
Deputy Director/Planning Director Kern COG
rball@kerncog.org
(661) 635-292

TYPE OF WORK PERFORMED
Roadway

VALUE OF CONSULTING CONTRACT
$99,900

PHASE II: KARGO SUSTAINABILITY STUDY: INTEGRATED CIRCULATION STUDY

KERN COUNTY

Building upon Mark Thomas' previous work with funding secured for Phase II, the same team continued from Phase I of the project onto Phase II. Phase II addressed the strategies that were not able to be addressed by the Phase I Study (i.e., low and zero emission truck technology) that was incorporated in Phase II. Some of the major goals and tasks included the preparation for expected freight growth in the region, suggested changes to the General Plan Circulation Element and STAA Tuck Route Map to accommodate the long-range freight growth and developing funding options and a nexus study to account for the freight transportation needs (i.e., road maintenance, capacity, clean technology, etc.).

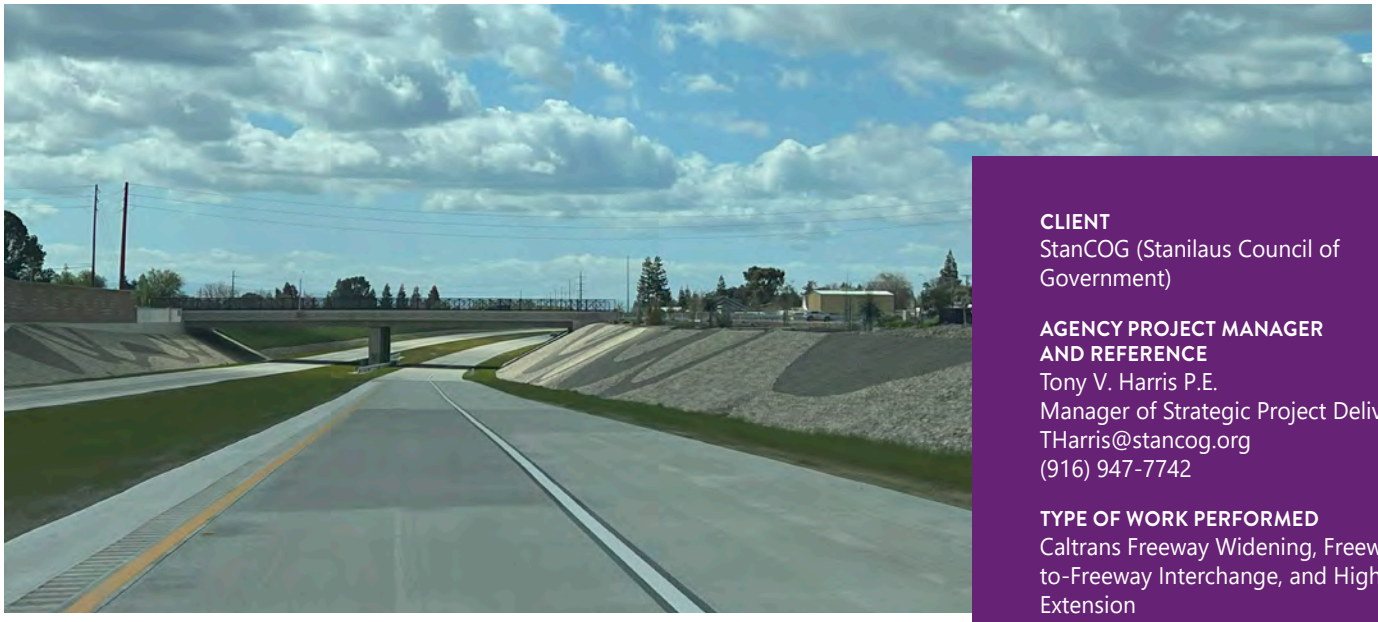
Phase II included studies that include suggested trucking routes, proposed right of way and circulation map updates; projected industrial land use growth; project truck traffic growth (2024-2046); prioritizing freight transportation improvements; analyzing potential projects to move truck traffic away from homes and schools on SR 43 and SR 184, providing spokes to planned intermodal rail hubs; analyzing rail vs. truck emission reductions; Analyzing impact fee program structures; and identifying other and potential local regional revenue options that explored enhanced infrastructure financing district formation, a pilot mobility fee program for autonomous/ZEV trucking zones, proposed sales and/or property tax measures, and state and federal funding sources.

The team took the earlier Phase I projects in the Draft NEXUS Study for funding options and addressed and further identified NEXUS study outcomes that included:

- Adoption of Clean Technology that addresses the need to incentivize a sooner move to zero emissions.
- Adding network capacity where truck volumes are anticipated to grow the most.
- Improved maintenance which identified a mechanism to safeguard the longevity of all capacity enhancing improvements that are made.
- Maintaining competitiveness and economic benefits to the region by attract high-paying/high-tech jobs in the industrial/logistics industries.

A summary of conclusions and "next step" considerations were determined based on the studies and analyses that were included in the Final KARGO Phase II Study Report that was prepared by our team. All of the studies and analyses, including the study reports that have been developed and finalized has perfectly positioned Kern COG for the next phases of this ongoing project effort.

Mark Thomas updated interchange geometrics from KARGO I and generated interchange configurations for additional locations in KARGO II.



CLIENT
StanCOG (Stanilaus Council of Government)

AGENCY PROJECT MANAGER AND REFERENCE
Tony V. Harris P.E.
Manager of Strategic Project Delivery
THarris@stancog.org
(916) 947-7742

TYPE OF WORK PERFORMED
Caltrans Freeway Widening, Freeway-to-Freeway Interchange, and Highway Extension

VALUE OF CONSULTING CONTRACT
$14.2 million

SR 132 PHASES 2 & 3

STANISLAUS COUNTY

The SR 132 Project, a total length of approximately 11 miles, will include connections at SR 99 in Modesto to Gates Road/Paradise Road in unincorporated Stanislaus County. The project is being cleared by two environmental documents, one for the segment from SR 99 to Dakota Avenue (Phases 1 and 2) and the other is for the segment from Dakota Avenue to Gates Road/Paradise Road ("Phase 3"). The environmental document from SR 99 to Dakota Avenue has been approved and construction on Phase 1 improvements are underway.

Mark Thomas is providing PS&E for phase 2 and 3, it consists in reconstructing the one-way couplets along SR 99, installing direct connector ramps from northbound SR 99 to westbound SR 132 from two to four lanes, and widening Dakota Avenue from three to five lanes, as well as replacing the Kansas Avenue overcrossing to remove the existing columns to make more space for new on-ramp and off-ramps. Phase 3, from Dakota Avenue to Gates Road/Paradise Road, had a separate environmental document that identified four different alternatives, Mark Thomas is working with the client on establishing the most suitable option.

Mark Thomas also provided a Climate Action Plan for Transportation Infrastructure (CAPTI) analysis for the project. We reviewed CAPTI policies and how the project aligned, including reviewing climate and disadvantaged communities information. We also provided recommendations for areas to increase competitiveness for future grant applications.

We recently supported StanCOG's Regional Transportation Improvement Program (RTIP) programming efforts for the project. We prepared a Cal-B/C life cycle cost analysis for the project leveraging information from the traffic study. We also prepared a project fact sheet complying with Senate Bill 1 grant program requirements.

CLIENT
City of Fresno

AGENCY PROJECT MANAGER AND REFERENCE
Randall Morrison, PE, PMP, MCE
Director Capital Projects
randall.morrison@fresno.gov
(559) 916-9025

TYPE OF WORK PERFORMED
Caltrans Interchange, Grade Separation, and Roadway Extension

VALUE OF CONSULTING CONTRACT
$6.5 million

VETERANS BOULEVARD INTERCHANGE AT STATE ROUTE 99 & UPRR/HSR GRADE SEPARATION

FRESNO

The Veterans Boulevard Interchange project constructs a new local roadway that accommodates future development and circulation needs in Northwest Fresno. The project includes the construction of a new interchange on SR 99; the Veterans Boulevard Extension, 2.5-mile long six-lane corridor from Shaw Avenue to Herndon Avenue, a connection to the existing Golden State Boulevard (GSB), a grade separation crossing over the UPRR and High-Speed Rail tracks, and a multi-purpose trail. Traffic operations, pedestrian friendliness, and controlled project costs are all imperative elements to properly serve planned development in the area.

Mark Thomas was hired to manage the CEQA/NEPA environmental process; obtain project approval from Caltrans; and prepare the PS&E package. The project includes coordination with High Speed Rail, UPRR, Caltrans, Fresno Irrigation District, and relocation of PG&E 230 kv transmission lines. To gain CTC approval, Mark Thomas worked closely with Caltrans, the City, and the County in the preparation of a revised Freeway Agreement and a New Public Road Connection report.

The City of Fresno and Caltrans selected Mark Thomas over the PSR consultant because of Mark Thomas's innovative solution to the project's challenges. During the PSR phase, the PDT found that the alternatives developed could not meet all of the important project elements that needed to be addressed to serve the area. This includes how to best accommodate a new interchange connection with the UPRR grade separated crossing while providing full access to local development within an extremely constrained area. Mark Thomas's double jug-handle alternative was added for study in the environmental document; this alternative was eventually selected as the project's preferred alternative. The preferred alternative accommodated local development and a grade separated Class I bicycle facility.

STATE ROUTE 58 (ROSEDALE HIGHWAY) WIDENING

BAKERSFIELD

CLIENT
City of Bakersfield

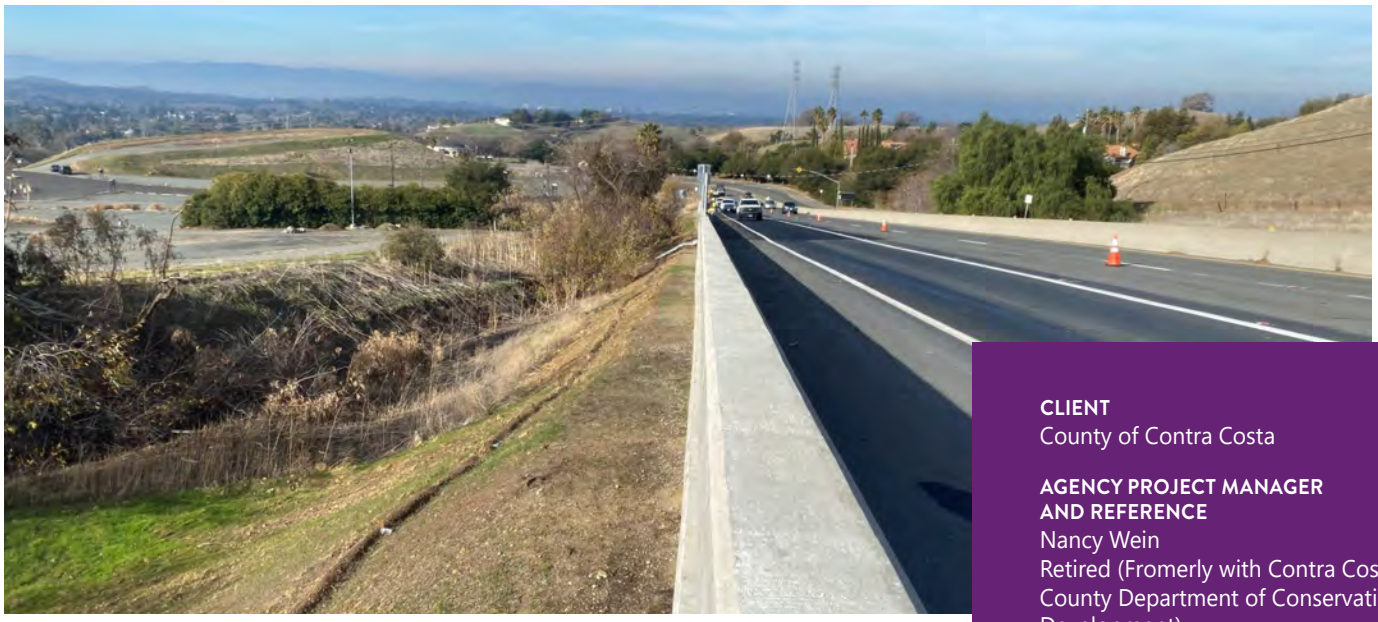
AGENCY PROJECT MANAGER AND REFERENCE
Roani Sandoval
City of Bakersfield
(661) 326-3433
rsandoval@ bakersfieldfreeways.us

TYPE OF WORK PERFORMED
Highway Widening

VALUE OF CONSULTING CONTRACT
$1.7 million

Mark Thomas provided final design and construction support services for the $1.7 million widening approximately 5.5 miles of SR 58/Rosedale Highway from SR 99 to Allen Road. This conventional highway is on the National Highway System within City of Bakersfield, County of Kern, and Caltrans District 6 right of way. The project will add one lane in each direction, and includes median improvements, and turn lanes at some intersections. Pavement is being fully reconstructed or rehabilitated through the entire project limits. New curb is being constructed along nearly the entire project length (both median and outside) and sidewalks are being provided throughout the project limits. Caltrans' latest ADA standards are being implemented within District 6's jurisdictional areas.

Rosedale Highway is an important conventional highway that has an ADT of 43,000 through the project limits. The roadway is lined with commercial sites, residences and home development access roads, and schools. This required Mark Thomas to develop a construction staging plan that will maintain sufficient thru-put capacity and access to private property including the Northwest Promenade, the area's largest commercial site. The project also included significant utility coordination and relocation. In total, this involved coordinating with more than 20 utilities including major petroleum lines, natural gas, local water and sanitary sewer, multiple irrigation districts, and telecommunications. Mark Thomas worked with each utility to relocate or protect-in-place their utilities and to minimize or eliminate service disruptions during construction.



KIRKER PASS ROAD NORTHBOUND TRUCK CLIMBING LANE

CONTRA COSTA COUNTY

Mark Thomas provided design services for the Kirker Pass Road Northbound Truck Climbing Lane Project. The project will improve the safety of Kirker Pass Road by constructing a 12-foot truck climbing lane in the northbound direction from Clearbrook Drive to the northern Hess Road intersection and an eight-foot Class II bike lane.

The project is located within hilly terrain that required construction of embankment and cut slopes and a soil nail wall, tie-back wall, and three cast in place concrete retaining walls.

Kirker Pass Road is a four-lane roadway and an important route between central and eastern Contra Costa County. It connects the City of Concord at the west end through the Meridian Hills to the City of Pittsburg on the east end. It is heavily used by truck traffic, commuters and recreational bicyclists.

With sustained grades steeper than 10%, trucks are unable to match the speed of other vehicles on the roadway, causing significant congestion and creating a safety hazard along the roadway.

The scope also includes two miles of maintenance work - placement of rubberized open grade HMA on all lanes.

CLIENT
County of Contra Costa

AGENCY PROJECT MANAGER AND REFERENCE
Nancy Wein
Retired (Fromerly with Contra Costa County Department of Conservation and Development)
(925) 313-2275
nancy.wein@pw.cccounty.us

TYPE OF WORK PERFORMED
Roadway Widening and Retaining Walls

VALUE OF CONSULTING CONTRACT
$1.5 million

CLIENT
City of Laguna Niguel

AGENCY PROJECT MANAGER AND REFERENCE
Kathy Nguyen
Engineering Services Manager
(949) 362-4341
kanguyen@cityoflagunaniguel.org

TYPE OF WORK PERFORMED
City Engineering Services

VALUE OF CONSULTING CONTRACT
$45,000

LA PAZ ROAD RESILIENCY IMPROVEMENTS LTCAP GRANT APPLICATION

LAGUNA NIGUEL

La Paz Road is important north-south roadway through the City of Laguna Niguel. The corridor connects housing to shopping centers and the Laguna Niguel Regional Park. The roadway initially started to show signs of distress in 1997, and from that point on the City has actively monitored La Paz Road. Over time, the roadway has shown signs of earth movement including cracks in the pavement. In 2008, a series of caissons were installed. These shear pins and caissons have provided varying degrees of success throughout the years.

Since that time, the agency has continued to study the corridor and the underlying earth movements. Two solutions were identified: 1) Remove 20-feet earth from the top of the slope or 2) Install two rows of70-foot-deep shear pins or tie back walls. In 2023, the City observed more severe movement of the pavement and sidewalk within the Project limits than had been observed before. This movement caused significant damage to the roadbed and sidewalk on the westerly side of La Paz Road. Several attempts by the City to repair the damaged road were unsuccessful and the City made the decision to close the southbound number two (curb lane) to vehicular and non-vehicular traffic in May 2023.

Mark Thomas was hired by the City of Laguna Niguel to prepare the Local Transportation Climate Adaptation Program (LTCAP) grant application for improvement to La Paz Road. In addition to the slope mitigations, the scope of work also included installing a road diet on the corridor and installing Class IV protected bikeway. We prepared an updated cost estimate to reflect recent bid pricing and contingencies. We were successful at tying historical wet weather events, including Winter 2022/2023, to the slope stability experienced on the corridor. We used Cal-Adapt climate information and disadvantaged communities information to support the application. Mark Thomas also prepared a California-Benefit/Cost model to determine the life cycle cost analysis for the project using existing data and determining a vehicle miles traveled reduction through the protected bikeways on the corridor.

We were successful in obtaining $15.5 million (80% of project costs) for environmental, design, right of way, and construction.

PLACER-SACRAMENTO ACTION PLAN

PLACER AND SACRAMENTO COUNTIES

We also prepared a SCCP application for the Capitol Corridor Regional Transit Project. This application included an all transit bundle of projects including the Sacramento to Roseville Third Main Track to increase CCJPA round trips, Sacramento Valley Station Phase 1 Loop Track to relocate the Sacramento Regional Transit District light rail platform to facilitate redevelopment of the regional transit hub, and Sacramento to Roseville Third Track/Elvas Bridges Replacement to increase CCJPA round trips and facilitate the future installation of managed lanes on SR 51. Our team developed the narrative responses, prepared the BCA and supporting memorandum, prepared maps and graphics including video renderings, and coordination with stakeholders and Caltrans Headquarters. The application secured $50 million in funding.

CLIENT
Placer County Transportation Planning Agency (PCTPA)

AGENCY PROJECT MANAGER
David Melko
PCTPA
(530) 823-4030
dmelko@pctpa.net

REFERENCE
Rick Carter
Deputy Executive Director
(530) 823-4033
rcarter@pctpa.net

TYPE OF WORK PERFORMED
Transportation Planning
Project Prioritization
Funding Strategy
Video Simulations

VALUE OF CONSULTING CONTRACT
$625,000

CLIMATE ACTION AND ADAPTATION PLAN FOR MONTEREY ONE WATER

MONTEREY

Preparation of the agency's CAAP. The goal of the CAAP was to develop policies, programs, and measures to reduce reliance on fossil fuels with co-benefits of decreased air emissions, providing long term cost savings, and building resiliency into the agency's facilities and operations during climate change induced sea level rise, flooding, extreme heat events, wildfires, and other risks.

CLIMATE ACTION AND ADAPTATION PLAN

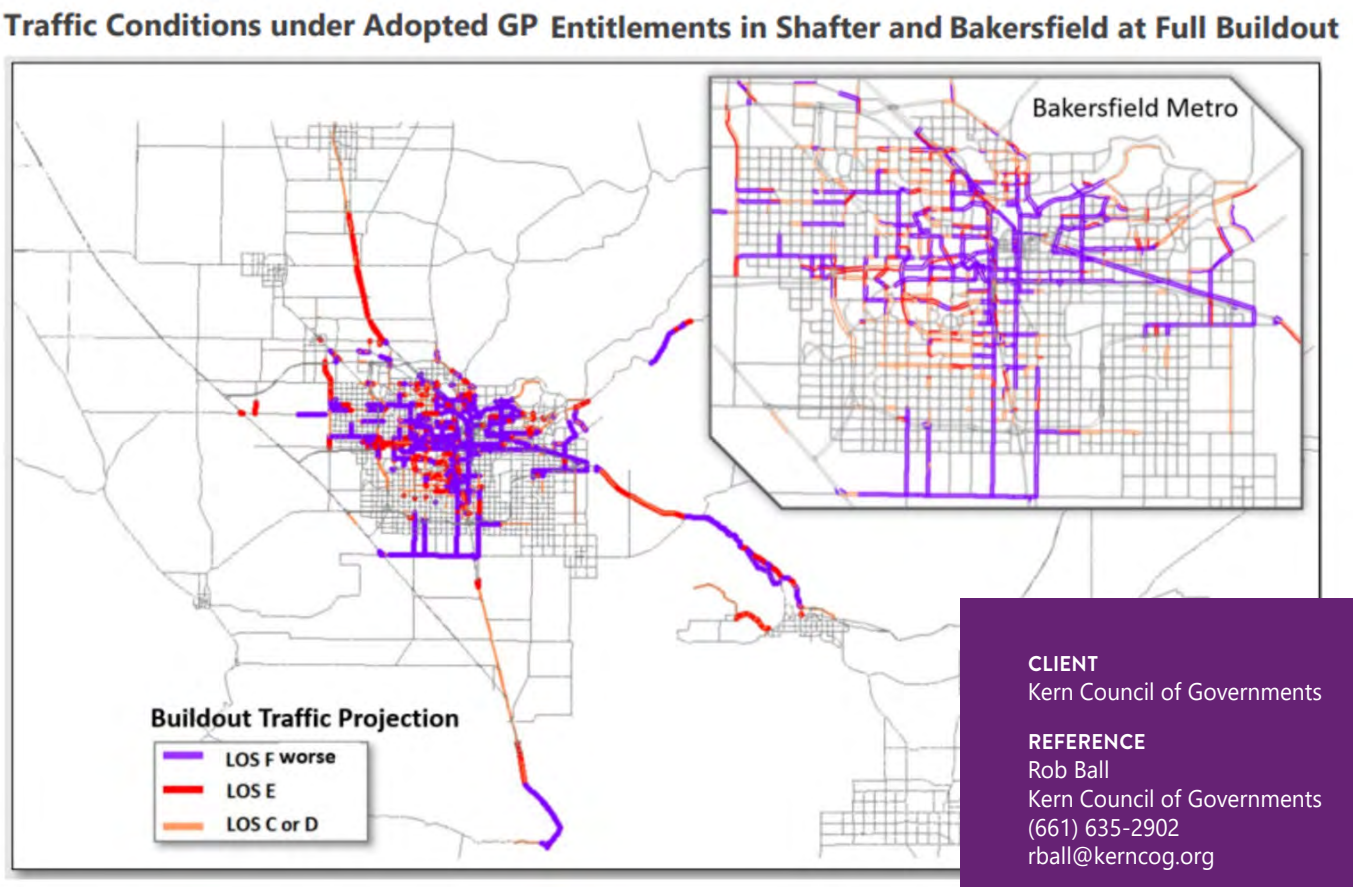
AGOURA HILLS

Worked with the City to develop its CAAP. The project was completed in two phases. The first phase involved community and stakeholder outreach to understand community priorities for a successful CAAP; development of the City baseline GHG inventory for the year 2018 and projections into 2020, 2030, and 2045; target setting and GHG reduction measures; and strategy development. The second phase performed future climate projections; analyzed climate related risks including drought, extreme heat, flooding, landside and evacuation route constraints; identified at-risk facilities that are potentially exposed to the climate hazards; and recommended climate adaptation strategies.

CLIMATE ACTION PLAN AND RISK ASSESSMENT

CHINO

Assisted the City with a CAP Update, which involved updating the City's GHG inventory and target setting to conform to SB 32. The project also provided a comprehensive analysis of climate change risks at the local level including adaptation strategies to address those risks. For assessing impacts of climate change on Chino, this analysis focused on identifying impacts on City's critical facilities and infrastructure due to extreme heat, precipitation, wildfire, and flooding.



KARGO SUSTAINABILITY STUDY PHASE I AND II

KERN COUNCIL OF GOVERNMENTS

CLIENT
Kern Council of Governments

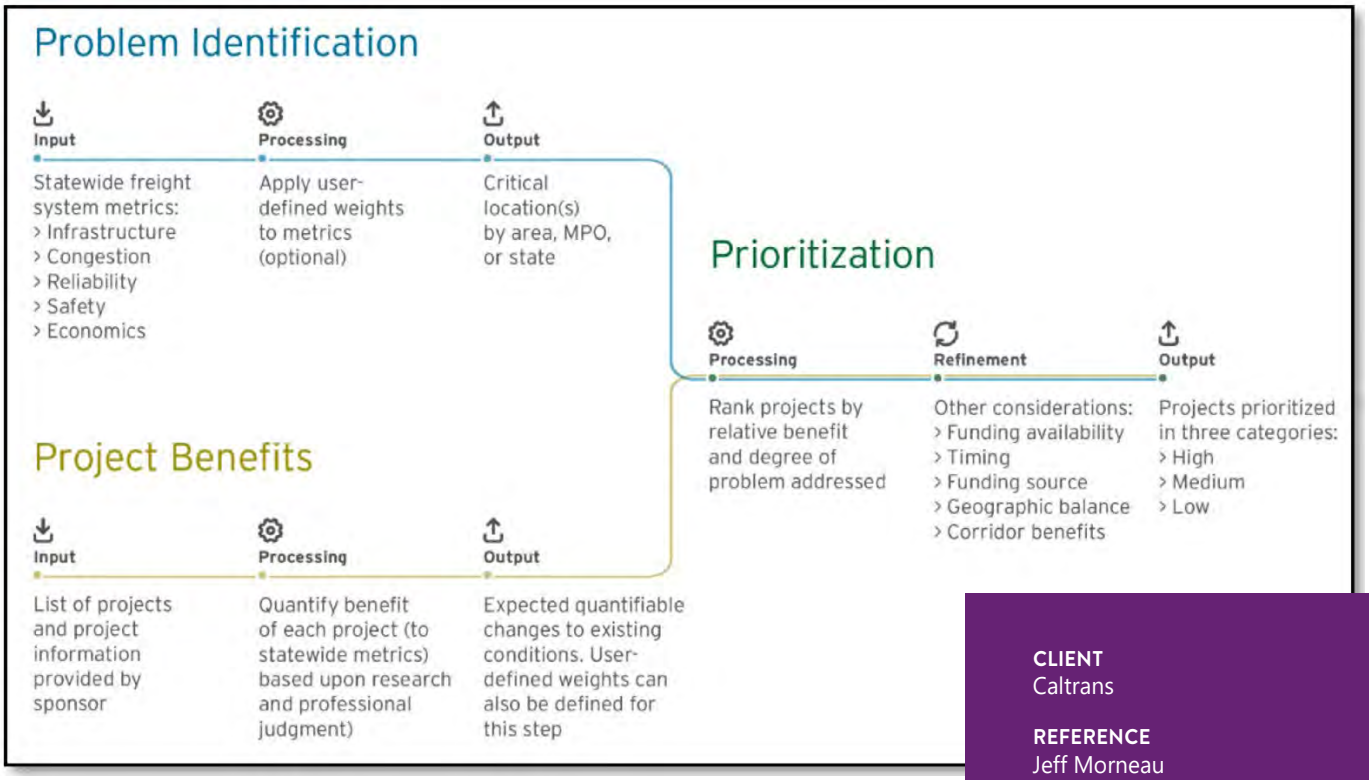
REFERENCE
Rob Ball
Kern Council of Governments
(661) 635-2902
rball@kerncog.org

TYPE OF WORK PERFORMED
Sustainability Study

VALUE OF CONSULTING CONTRACT
Phase 1: $99,984
Phase 2 : $305,692

Fehr & Peers successfully completed Phase I and Phase II. The purpose of the Phase I study was to prepare an integrated circulation plan to improve goods movement network in the cities of Bakersfield, Shafter, and Kern County in support of an Inland Port concept. To fully understand existing and future circulation conditions in the region, Fehr & Peers conducted a holistic literature review and compiled available data for traffic counts, origin-destination data, congestion and speed data, and collision history data to provide. Then Fehr & Peers worked closely with KernCOG and other industry stakeholders to develop and evaluate potential alternatives to improve the truck circulation in the study area while minimizing the impacts on sensitive receptors. Several metrics such as population exposure to truck emission, accessibility of logistic hubs to freeway network, CalEnviro Screen score, truck volume, delay, and so forth were used to rank these alternatives. A white paper was prepared discussing potential strategies and projects to reduce GHG and adopt new technologies to increase the economic competitiveness of the region.

The purpose of the Phase II study was to develop an impact fee nexus program to fund the projects identified in Phase I.



CALIFORNIA FREIGHT MOBILITY PLAN

STATEWIDE

CLIENT
Caltrans

REFERENCE
Jeff Morneau
Chief (Acting)
Office of Strategic Freight Planning
Division of Transportation Planning
(916) 494-3862
Jeffrey.morneau@dot.ca.gov

TYPE OF WORK PERFORMED
Freight Mobility Plan

VALUE OF CONSULTING CONTRACT
$475,766

Fehr & Peers led a team to help Caltrans develop the 2020 California Freight Mobility Plan (CFMP), creating a more powerful and effective instrument for freight mobility improvement. Our approach was based on effective public relationships and targeted, productive industry involvement to merge public and private visions and define implementable action steps for both. During the course of the project, we worked closely with the Caltrans Office of Freight Planning, California Freight Advisory Committee (CFAC), and California Transportation Commission. The following major issues were addressed in the plan:

- Using the freight system to strengthen economic development, efficiency, and competitiveness
- Reducing congestion on the freight system, and freight's contribution to passenger system congestion
- Improving freight system safety, security, and resilience
- Improving freight system maintenance and condition
- Incorporating advanced technology, performance management techniques, innovation, and accountability in system operation and maintenance
- Reducing freight's adverse community and environmental impacts
- Reducing freight's urban footprint in conjunction with increased passenger use of non-auto modes
- Merging freight transportation planning with Smart Growth, Complete Streets, and Transit Oriented Development initiatives.

SMART CIVIL/TRACK/PATHWAY DESIGN SERVICES

SONOMA

CLIENT
Sonoma-Marin Area Rail Transit (SMART)

REFERENCE
William Gamlen, PE
Chief Engineer
(707) 794-3330
bgamlen@sonomamarintrain.org

TYPE OF WORK PERFORMED
Conceptual Engineering, Preliminary Engineering, Final Design, Bid Support and Design Review and Oversight

VALUE OF CONSULTING CONTRACT
$7.3 million

As Prime Consultant, PGH Wong Engineering, Inc. (PGH Wong) provided conceptual engineering, preliminary engineering, final design, bid support and design review and oversight for the Design-Build (DB) Segment, and construction management services to the Sonoma-Marin Area Rail Transit (SMART) District for the Civil, Track, and Multi-Use Pathway Design of the $590-million (estimated) SMART Project. The SMART Project is a new 70-mile commuter rail system that extends from Larkspur in Marin County to Cloverdale in Sonoma County on the historic Northwestern Pacific Railroad alignment. The completed rail line will include 14 new passenger stations and an Operations and Maintenance Facility with Central Control. PGH Wong also designed the new bicycle/pedestrian pathway that runs parallel to the track.

Trackwork and Civil

The SMART Project provides rail passenger service along the former Northern Pacific Railroad right-of-way from Central San Rafael to Northern Santa Rosa using DMUs on standard gauge track. Although the existing track was standard gauge, new track, ties, and ballast were installed to replace track sections - some more than 50 years old, obsolete, or deteriorated beyond rehabilitation. As part of this work, SMART regraded the track bed as necessary for flood protection and correction of subgrade loss.

PGH Wong worked with SMART on the 40-mile Initial Operating Segment (IOS), developing the preliminary track design and preparing a DB contract for the civil and track portions of the IOS. SMART design criteria and track standards were updated. The track design included preparation of horizontal and vertical alignments as required for flood protection and optimization of site conditions, and preliminary track plans including special trackwork and passing sidings. PGH Wong also performed simulations to determine operations, headways, siding lengths, etc.

PGH Wong continued its involvement with the SMART IOS during final design and construction by providing design and construction management services including review of final track design for compliance with contract requirements and SMART standards; review of trackwork shop drawing submittals; and response to construction RFIs concerning track installation.

CLIENT
Sonoma-Marin Area Rail Transit (SMART)

REFERENCE
Ric Rattray, PE
Retired from SMART
(510) 368-5938
mrattray55@gmail.com

TYPE OF WORK PERFORMED
Preliminary Engineering

VALUE OF CONSULTING CONTRACT
$51.3 million

EAST CONTRA COSTA BART (EBART) EXTENSION PROJECT

CONTRA COSTA COUNTY

PGH Wong Engineering, Inc. is the prime consultant responsible for the engineering design and implementation of the new 10-mile (out of a total 21-mile planned alignment) eBART DMU Commuter Rail Line from the terminal at the existing BART Pittsburg/Bay Point Station located in the State Highway 4 Corridor (SR-4) on eastward into Contra Costa County.

PGH Wong's preliminary engineering responsibilities included the design of guideway, passenger stations, parking lots, and a maintenance facility to a level of detail allowing BART to receive committed funding from partner agencies, third party stakeholders, and the cities of Pittsburg and Antioch.

Design services have been focused on the preparation of conceptual, preliminary design, and final design documents for a 21-mile alignment that includes maintenance-of-way access tunnels, drainage, a transfer station, two passenger stations, alignment plan and profile, trackwork, 6 grade separations, small bridges, performance specifications of DMU vehicles, signaling, a variable width guideway, operating systems, and maintenance facilities. This transit corridor travels from the existing Pittsburg-Bay Point BART Station eastward approximately four miles in the SR-4 median. In one alternative, the alignment then transitions to an existing railroad corridor (UPRR Mococo Line) exiting the SR 4 median via a 3,000 ft. long flyover structure, imposing constraints on design and requiring application of both transit and highway design criteria. Shorter aerial structures have been designed by PGH Wong for five other grade separation structures proposed for the project.

As part of the eBART Next Segment Study, PGH Wong prepared conceptual designs and cost estimates to support the planning effort to evaluate eBART alignment options for a future Phase 2 of the eBART Project. Phase 2 of the eBART Project would extend eBART approximately 8.5 miles east of Antioch Station to Brentwood. This included the identification of potential obstacles that would preclude or increase the costs of construction of the next segment beyond Antioch Station, review and evaluation of Caltrans project design of the SR160 Interchange Project, designs to support alignment routing and station location selection, station and parking lot renderings, and cost estimates. PGH Wong also supported and attended various meetings, including public outreach meetings related to the Next Segment Study.

CLIENT
Tri-Valley - San Joaquin Valley Regional Rail Authority

REFERENCE
Bill O'Hair PE
Director of Rail Engineering and Construction
(925) 918-7472
bohair@valleylinkrail.com

TYPE OF WORK PERFORMED
General Engineering Services

VALUE OF CONSULTING CONTRACT
$20 million

VALLEY LINK RAIL GENERAL ENGINEERING CONSULTANT (GEC) SERVICES

LIVERMORE

PGH Wong Engineering, Inc. in a Joint Venture (JV) is providing General Engineering Consultant (GEC) Services on the Valley Link Rail Project. Valley Link is a new 42-mile, 7-station passenger rail project – that sits geographically at the center of one of the most economically significant megaregions in the world. It is a vital megaregional link that establishes rail connectivity between San Francisco Bay Area Rapid Transit (BART) system in the Bay Area's Tri-Valley and the Altamont Corridor Express (ACE) commuter service in Northern San Joaquin County – linking nearly 500 miles of commuter and intercity rail with more than 130 stations in the Northern California Megaregion. Phase 2 of the Valley Link Project will extend the rail line to Stockton.

The Project requires extensive collaboration with the FTA, Caltrans, ACTC, FHWA, CPUC, FHWA, UPRR, and other agency stakeholders.

The JV Team is currently advancing the Project through Preliminary Engineering, Caltrans Project Approval & Environmental Document (PA&ED), and the Federal Transit Administration's New Starts Program (Project Development), and National Environmental Policy Act (NEPA) approval. The GEC Services include multi-disciplinary engineering and architectural services including environmental impact assessments, feasibility studies, conceptual engineering, alternative analyses, preliminary design, final design, right-of-way, funding acquisition, public relations/advocacy groups at local, state and federal levels, vehicle procurement, and other services as required to complete the Project.

The GEC JV Team is well positioned and staffed, both locally and across the region, with the necessary expertise to plan, design, and deliver a cost-effective and responsive transit system between the Bay Area Rapid Transit District's Rapid Transit System in the Tri-Valley and the Altamont Corridor Express Commuter Rail Service to meet the goals and objectives of the communities it serves.

REGIONAL RAIL-FREIGHT FORECASTS

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG)

This case study demonstrates EBP's ability to assess the operations and forecast port regional trade and inland freight flows, as well as passenger service and personal travel. EBP demonstrated its ability to develop a customized plan for service expansion and capital improvements for future strategic planning efforts and grant applications.

EBP was responsible for working with the ports to produce a complementary forecast of rail activity within the SCAG region. Forecasts were created using a custom freight-economy model to drive forward expected growth in demand for rail freight using STB Waybill data as the base data set. The forecasts were used as part of the RTC model.

The SCAG Integrated Passenger and Freight Rail Forecast Study evaluated existing and future rail volumes. Using these forecasts, infrastructure needs were prepared, along with a strategic vision for implementation in the region. As background, the study was an initial approach for the region to assess both passenger and freight rail.

The study was developed during the COVID- 19 pandemic and utilized then-current assumptions about rail shipments and passenger service. Using this data, recommendations on service expansion and capital improvements were provided as a resource to apply for rail-related funding opportunities.

CLIENT
Southern California Association of Governments (SCAG)

REFERENCE
Scott Strelecki
Senior Regional Planner
(213) 236-1893
strelecki@scag.ca.gov

TYPE OF WORK PERFORMED
Data Analytics

VALUE OF CONSULTING CONTRACT
$53,009

CALTRANS CAL-B/C - TREDIS INTEGRATION

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

CLIENT
Caltrans

REFERENCE
Gilberto Chambers
Branch Chief, Transportation Economics
(916) 869-5070
Gilberto.Chambers@dot.ca.gov

TYPE OF WORK PERFORMED
Economic Impact Analysis

VALUE OF CONSULTING CONTRACT
$20,764

This case study demonstrates EBP's ability to successfully streamline the economic impact analysis and benefit cost analysis of highway, rail, and public transit investments. The time, government funding, and effort saved by integration of Caltrans' benefit cost analysis worksheet with TREDIS' travel-based economic impact analysis exemplifies the additional value provided by EBP.

The Caltrans Economics Branch requested the assistance of the EBP team to streamline their economic analysis processes by eliminating need for duplicative labor effort (for both project characteristics and fixed valuation factors) involved in setting up inputs for benefit-cost analysis using Cal-B/C Sketch and economic development impact analysis using TREDIS. They commissioned the team to develop a spreadsheet tool that could set up required inputs for both software tools at the same time.

Completion of the integration required an in-depth knowledge of the inputs and outputs used in Caltrans' standardized Cal-B/C Sketch tool for benefit cost analysis. These metrics were translated into inputs for TREDIS to allow for a deeper understanding of the potential direct, indirect, and induced effects of transportation investments by county-based custom region throughout the State of California. Through TREDIS, industry-specific estimates for job creation, increased household income, travel time savings, reduced emissions, and increased safety are considered.

In addition to a full integration, EBP also provided training and workshops on the new tool for California department of Transportation staff. Through constant communication during the project, EBP remains available for the planning, delivery, and implementation of the tool by Caltrans. TREDIS technical customer service for the client is included in any subscription.

CLIENT
Port of Long Beach
City of Long Beach

REFERENCE
Kimberly Ritter-Martinez
Manager Economics & Funding
(562) 283-7159
kimberly.ritter@polb.com

TYPE OF WORK PERFORMED
Trade forecasting, Port scenario analysis, Economic impact analysis

VALUE OF CONSULTING CONTRACT
$ 222,627

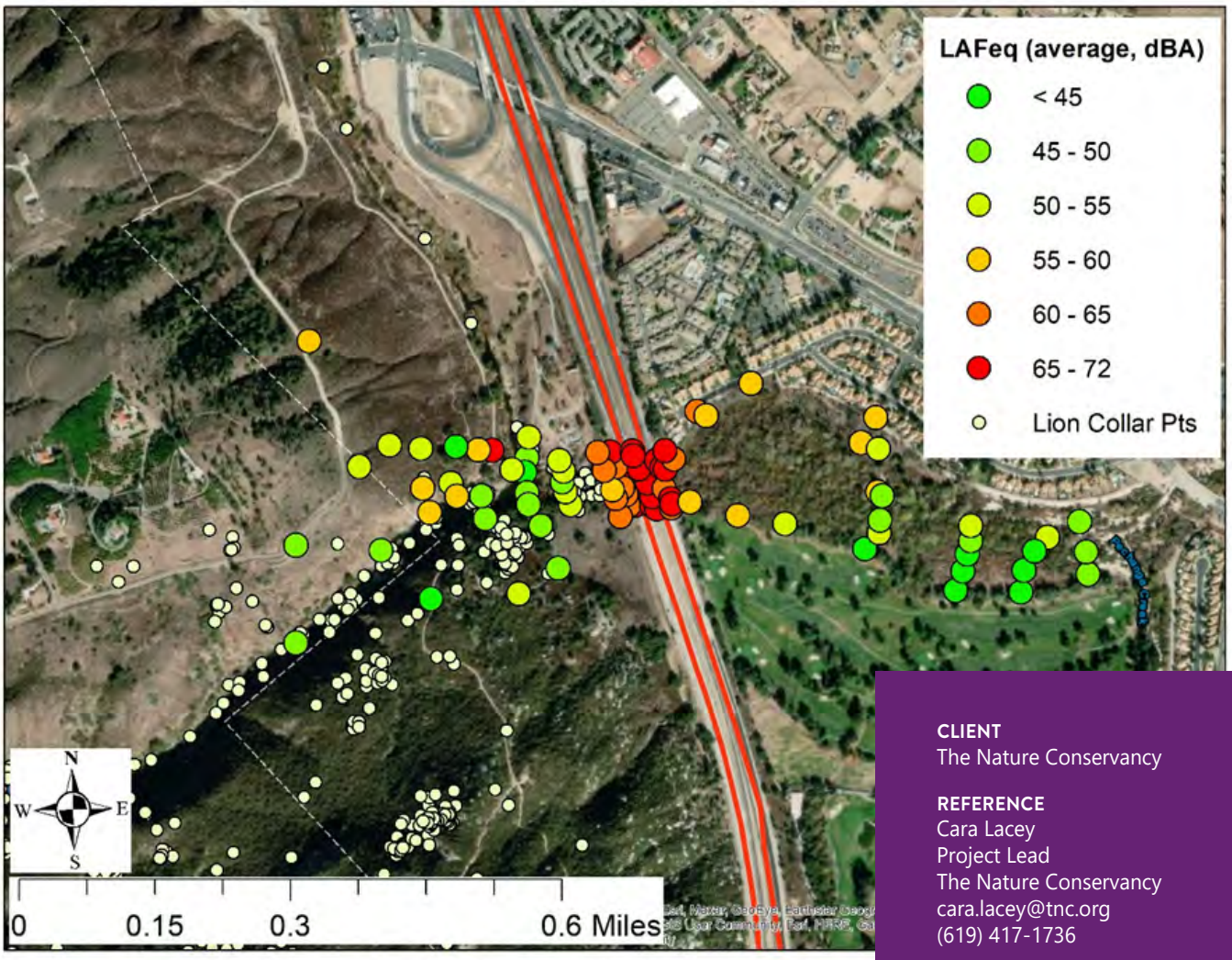
PORT OF LONG BEACH ECONOMIC IMPACT STUDY

PORT OF LONG BEACH

This case study demonstrates EBP's ability to successfully assess the operations and forecast port related international trade and inland freight flows. It demonstrates EBP's ability to analyse the regional and national economic impacts of the Port of LB as it serves as a key hub for national and international trade. EBP demonstrated its ability to develop a customized economic impact tool for the port to use as a key to future strategic planning efforts. It also demonstrated EBP's ability to assess the economic costs of port disruptions due to man-made or natural events.

For the Port of Long Beach, California, EBP prepared an economic impact assessment of the full range of port activities, including a long-range forecast of trade and inland freight flow. The study found that one in five jobs in the City of Long Beach depended on the Port, and that nationally, goods moved through the Port of Long Beach supports over 2.6 million American jobs and contributes over $206 billion to US GDP annually.

The forecasting system was designed to evaluate the economic impacts of a range of possible scenarios, including the effects of natural and human-caused disruptions. The model includes a system for mapping the flow of traded goods (imports and exports) for the entire US and is supported by an updatable database that includes economic and trade forecasts. EBP designed this modelling system to be operated and managed by the Port of Long Beach



TEMECULA CREEK WILDLIFE PASSAGE ENHANCEMENT PROJECT: TRAFFIC NOISE MONITORING

HARD ROCK HOTEL & CASINO TEJON

CLIENT
The Nature Conservancy

REFERENCE
Cara Lacey
Project Lead
The Nature Conservancy
cara.lacey@tnc.org
(619) 417-1736

TYPE OF WORK PERFORMED
Project Noise Monitoring

VALUE OF CONSULTING CONTRACT
$22,000

The Nature Conservancy and Caltrans are pursuing ways to improve mountain lion and other wildlife crossing through the existing I-15 bridge over Temecula Creek. This is the primary pathway across I-15 for mountain lions trapped in the west Santa Ana mountains. Fraser Shilling measured noise levels (dBA and dBC) at over 120 locations around the bridge in order to understand traffic noise propagation into the surrounding habitat. He developed recommendations for improvement of the soundscape around the bridge to increase mountain lion and other wildlife use of the bridge.

MAJOR GREENFIELD PROJECTS STATEWIDE AGRICULTURAL OUTREACH CAMPAIGN

VARIOUS LOCATIONS THROUGHOUT CA

CLIENT
Pacific Gas and Electric Company

REFERENCE
Shannon Koontz
Local Agency Liaison, PG&E
(559) 263-5445
SMK3@pge.com

TYPE OF WORK PERFORMED
Public Education and Engagement

VALUE OF CONSULTING CONTRACT
$ 743,693.51

In 2013 Southwest Strategies supported PG&E with public outreach for a new 230 kilovolt (kV) transmission line in Fresno, Kings and Madera counties. Following the launch of a successful community engagement program, Southwest Strategies commenced work on seven additional electric infrastructure projects, including new substations, transmission lines and upgrades in the counties of Kern, San Luis Obispo, Merced, San Joaquin and Santa Clara.

Southwest Strategies' first task was to develop a cohesive brand for PG&E's proposed projects. Public opinion polling and a series of four informal focus groups revealed that community members wanted the project names to indicate the new infrastructure's location and purpose. As a result, the projects were collectively dubbed the "Power Connect" initiative. Each project name also referred to a general area, such as "Bakersfield" or "Central Valley."

Southwest Strategies began developing project-specific messaging and bilingual collateral templates for fact sheets, brochures, direct mail pieces, websites, email news updates, newsletters, advertisements, PowerPoint presentations and other materials to support community outreach. Our team then launched a series of briefings, presentations and other communications to educate the public, answer questions and obtain input on the routing and siting of new transmission lines and substations.

Southwest Strategies also supported social media and traditional media outreach; developed an informational video; coordinated project tours; staffed booths at community events, business expos and farmers markets; provided logistical support, recommendations and collateral materials for stakeholder advisory group meetings; and worked with local partners to prepare economic studies that quantified jobs, tax revenues and other benefits to the community. Public open houses were also held in each project area. Southwest Strategies developed display boards, maps, handouts, sign-in sheets, comment forms and other materials for the open houses; coordinated logistics; handled media buying for multilingual print and radio advertisements in languages such as Spanish, Hmong and Punjabi; and posted fliers in highly visible public locations.

In addition, because many of the proposed projects were in rural area, Southwest Strategies developed agricultural and viticulture specific outreach plans to ensure the projects reflected the industries' vital feedback on the planning process. This included actively engaging the local farm bureaus, cattlemen's and women's associations, the California Fresh Fruit Association, the California Farm Bureau, Allied Grape Growers, Nisei Farmers League and other key industry leaders and community-based organizations throughout the state. Our team also staffed numerous community events, including the World Ag Expo, to provide information to local farmers. We also coordinated and staffed several informal tailgate meetings, which were strategically planned during the rainy season, at farms throughout the project areas to obtain feedback from local farmers.

COMPREHENSIVE MULTI-MODAL CORRIDOR PLAN (CMCP)

SAN DIEGO

CLIENT
San Diego Association of Governments (SANDAG)

REFERENCE
Tedi Jackson
Former SANDAG Employee
(760) 580-4630
tedi.jackson@cox.net

TYPE OF WORK PERFORMED
Public Education and Engagement

VALUE OF CONSULTING CONTRACT
$ 257,065.36

In 2020, SANDAG retained SWS to support their long-term transportation planning efforts, which included working with the CMCP planning team to develop and recommend public education and engagement strategies for five initial corridor plans – the Central Mobility Hub and Connections, Coast, Canyons, and Trails, North County, San Vicente and South Bay to Sorrento CMCPs. Because CMCPs were a new planning concept within the State of California, we recognized the need to develop high-level strategic messaging that educated San Diego residents and other Californians about CMCPs, their benefits and why they are important to promoting equity in communities. To do this, particular emphasis was placed on highlighting the data-driven nature of CMCP plans and emphasizing their role in offering solutions to reduce vehicle miles traveled and greenhouse gases, support climate action work, promote transportation choices, and increase access for residents, commuters, visitors, and goods movement.

From there, our team developed a suite of collateral materials to promote this work, including general informational fact sheets, a stakeholder briefing packet, a development process overview, a comprehensive planning guide and informational videos. We also developed multilingual virtual engagement hubs, which included project timelines, interactive maps, surveys, and an online comment form to drive public participation.

As six additional corridors will be studied in the region, our work in this arena is ongoing and has been hailed as a success. With an emphasis on inclusive, multicultural engagement and outreach, we have been able to obtain extensive community feedback from diverse stakeholders in communities throughout San Diego County and help integrate this into SANDAG's regional planning work.

HARD ROCK HOTEL

KERN

CLIENT
Hard Rock Hotel & Casino Tejon

REFERENCE
Jimmy Yee
President, Yankee Communications, Inc.
(661) 861-8100
jyee@yankeecommunications.us

TYPE OF WORK PERFORMED
Social Media and Digital Outreach

VALUE OF CONSULTING CONTRACT
$91,230.54

In 2019, Southwest Strategies was retained to provide social media and digital outreach to quickly generate support for the proposed Hard Rock Hotel & Casino Tejon. This project, which is slated to be located south of Bakersfield in Kern County, represents a $600 million investment. In addition to a hotel, the project would serve as an entertainment destination that would increase tourism, resources and services for Tejon Indian Tribe members.

Southwest Strategies developed a grassroots outreach, social media and digital advocacy campaign to bolster letters of support for a Kern County Board of Supervisors hearing. Our messaging highlighted Bakersfield's unique role as a traditional West Coast country music hub to reinforce the connection between the project and the area's musical tradition. We collected letters of support at the Kern County Barbeque Festival, a rodeo and local farmers markets, and our team deployed a multilingual social media campaign. This approach increased the number of supporters per dollar spent and accelerated sign-ups to meet the client's timeline.

Through this, we gathered more than 6,500 letters of support in less than four weeks. The project cleared a major milestone by receiving approval from the Kern County Board of Supervisors, with one supervisor going so far as to say the project was the most important thing to happen in Kern County since it received water rights.

KEY PROJECT AND KEY PERSONNEL MATRIX

The matrix below lists our team's key projects and corresponding key personnel responsible for the project.

KEY PROJECTS	**Ed Noriega, PE (Mark Thomas)** Principal in Charge / Project Manager	**Kristine Cai (LSA)** Assessment Lead	**Paul Martin, PE, TE (Mark Thomas)** Adaptation Mitigation Lead	**Martha Dadala, PE (Mark Thomas)** Design Lead
SR 132 Phases 2 & 3	✓	✓		✓
Veterans Boulevard Interchange at State Route 99 & UPRR	✓	✓		
State Route 58 (Rosedale Highway) Widening	✓	✓		
Kirker Pass Road Northbound Truck Climbing Lane	✓			
PHASE I: KARGO Sustainability Study: Integrated Circulation Study	✓			
PHASE II: KARGO Sustainability Study: Integrated Circulation Study	✓			
LTCAP Grant Support			✓	
Placer-Sacramento Action Plan			✓	

EXPERIENCE WITH PROJECT SCHEDULE AND COSTS

The following table shows our recently completed projects in or around the Kern COG. It demonstrates how Mark Thomas normally performs as it relates to schedule and budget. Although each has its challenges that may delay delivery and increase costs, we consistently deliver projects on schedule and within the budgeted amount.

PROJECT	SCHEDULE			COSTS	
	PHASE	PROPOSED	ACTUAL	PROPOSED	ACTUAL
California City Boulevard PRS-PDS, Kern County	NTP Draft Final	2/24/2014 6/30/2014 7/28/2014	5/5/2014 9/11/2014 12/19/2014	$58,939	$58,939
Mojave Transit Center Feasibility Study, Kern County	NTP Final	1/23/2015 6/30/2016	1/23/2015 9/18/2015	$47,230	$47,168
Rosedale Highway Improvements, Bakersfield	NTP 60% 90% 100%	7/24/2012 2/22/2013 5/1/2013 11/27/2013	7/24/2012 3/28/2013 7/24/2013 12/16/2013	$3,305,243	$3,342,391
Kettleman City SR2S Project, Kings County	NTP 60% 90% 100%	9/9/2013 5/5/2014 7/25/2014 9/12/2014	9/9/2013 2/14/2014 7/31/2014 10/01/2014	$224,280	$224,280

LAWSUIT & LITIGATION HISTORY

Mark Thomas has no pending bankruptcies, liens, stop payment notices, or foreclosures filed or resolved in the past five (5) years. Mark Thomas operates throughout California and has had average annual billings over the last five years in excess of $53 million.

There are no claims pending against the company that would impact its ability to discharge its contractual duties if awarded a contract. The following table describes our five-year history of lawsuit/litigation activity and the results of these activities.

PROJECT	BASIS OF CLAIM	RESULT	STATUS
MARK THOMAS			
Marin Sonoma Narrows B3	Tovar v. Ghilotti Construction Co. Suit for wrongful death due to a construction period traffic accident.	Settlement of $15,000.00	Closed
Napa Co-Imola Paving and ADA Ramps	Following substantial completion of project, client notifies us on 12/2/19 that there is standing water on the eastern leg of the Marshall Ave./Whitney Ave. intersection. (Non-litigated)	Settlement of $42,283.64	Closed
State College Blvd Railroad Grade Separation	The lawsuit is dealing with a car accident at the intersection of Kimberley Drive and Acacia Avenue. Deposition Subpoena for Productions of Business Records -Oliveros v Garcia, et. al. (Non-litigated)	Settlement of $510,000	Closed
CBDG ADA Transition Plan Implementation	Roughly 200' of newly constructed curb and gutter needed to be replace due to a grading bust; creating ponding. We were verbally informed by the client that they may request MT to cover c&g replacement cost. (Non-litigated)	Settlement of $10,338.75	Closed
EBP			
No lawsuits or Litigations to disclose			
FEHR & PEERS			
Feasibility study and a conceptual plan for a bike path	Graham v. City of Saratoga, et al., Plaintiff bicyclist alleges that he was severely injured when he collided with an automobile turning left at the intersection.	Superior Court granted Fehr & Peers' motion for summary judgement, which was affirmed on appeal in February 2022.	Closed
City of Milpitas Traffic Engineering Services	Alok Jain, et al. v. City of Milpitas, et al. Plaintiffs are deceased's children who allege that their mother was killed while crossing South Main Street in the City of Milpitas on a mid-block crossing.	The Superior Court entered judgment in favor of Fehr & Peers after Fehr & Peers brought an unopposed motion for summary judgment.	Closed
Foothill/Eastern Transportation Corridor Agency Contract	City of San Clemente, et al. v. Foothill/Eastern Transportation Corridor Agency, et al	Superior Court sustained Fehr & Peers' demurrer but granted Plaintiffs leave to amend the Complaint. Subsequently, Plaintiffs stipulated that Fehr & Peers is not a defendant, but a real party in interest, and dismissed Fehr & Peers in April 2021.	Closed
LSA			
No lawsuits or Litigations to disclose			

PROJECT	BASIS OF CLAIM	RESULT	STATUS
PGH WONG			
Civil Construction Management Consultant Services for Lynnwood Link Project	Employment claim	N/A	Ongoing
Division 20 Portal Widening Turnback Project	N/A	N/A	Ongoing
Construction Management Services for Construction Package 1	Automobile accident claim	Nominal amount	Closed
SOUTHWEST STRATEGIES			
No lawsuits or Litigations to disclose			
FRASER SHILLING			
No lawsuits or Litigations to disclose			

PROJECT MANAGEMENT APPROACH

We have developed our management approach with the goal of relieving Kern COG staff's management burden to the maximum extent possible. Our project management approach will be centered on two fundamental themes that are crucial to every project's success.

TWO FUNDAMENTAL THEMES FOR PROJECT SUCCESS

Early Project Definition. The course of a project is often set in its early stages. It is important to fully understand what issues and challenges exist early in the design process, so they can be addressed as efficiently as possible. Our technical approach is designed so that we can identify and develop solutions for the project development team (PDT) to discuss during the initial project meetings. We will use the applicable design standards and coordinate with respective stakeholder agencies early in the process. This will provide Kern COG and the PDT a good basis of design and that critical items have been identified.

A project with multiple components can include certain challenges critical to keeping the project on track. We have a proven approach to avoid project delays by setting and keeping intermediate milestones. Typical milestones are design submittals, public meetings, and environmental clearance. During PDT meetings, Mark Thomas will facilitate the projects team's efforts with a focus on achieving these milestones to keep the project on track through completion.

Persistent Coordination. For a project to be successful, progress needs to occur in multiple areas, including design, climate hazards, right-of-way needs, and environmental screening. Kern COG has entered separate contracts with other specialist consultants to handle some of these elements.

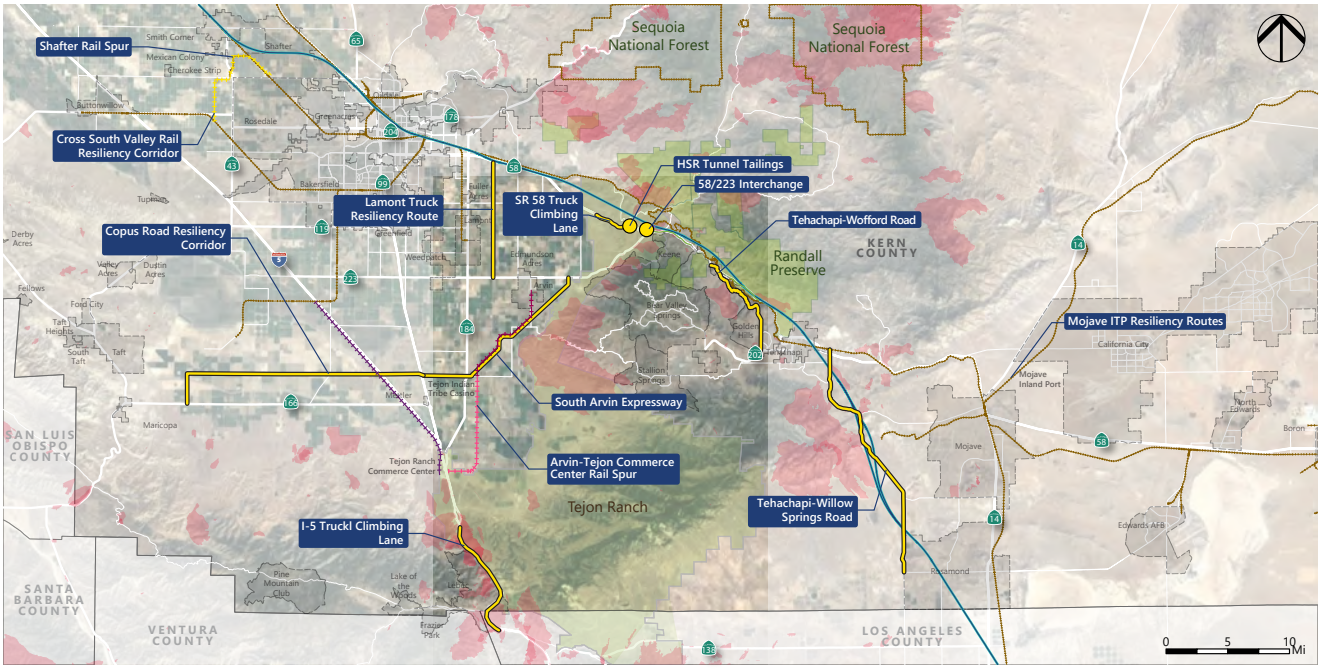
Our task managers will assume responsibility for coordination with these consultants to make sure that every element of the project remains on track. They will organize regular coordination meetings that involve all the consultants and Kern COG staff. As the project develops, Kern COG will be informed about work progress, and alert Kern COG staff when their involvement is required.

In managing projects, we propose the following specific approaches:

- **Multiple design groups to help deliver multiple projects.** This approach takes advantage of our deep bench of transportation engineers. We've assigned four experienced design groups. This ensures that our team will have the adequate staffing for Kern COG to deliver multiple projects at the same time. All of the design groups have experience in delivering complex and multi-faceted projects.
- **Assign team members with minimal learning curve.** Our team members recently completed similar projects in the County. They will utilize their in-depth knowledge and understanding of the County's standards, procedures and priorities to successfully deliver Kern COG's projects in a cost-effective and timely manner.
- **Continually look for opportunities where we can provide cost savings to Kern COG.**

UNDERSTANDING AND APPROACH

Kern COG provided a list of critical projects around the Twin Passes that Kern COG would like to position for expedited implementation. The following map shows the location of these projects.



To prioritize these projects under the Climate Adaptation Planning grant, Kern COG has outlined three main components: a vulnerability/resiliency assessment, an adaptation mitigation/co-benefit analysis, and to expedite implementation. The following is the Mark Thomas Team's approach of these components:

STEP 1 COMMUNITY AND STAKEHOLDER ENGAGEMENT

Objective 1: Convene regional partners and community members from across Kern County. Gather feedback on their climate change-related concerns and priorities.

STEP 2 VULNERABILITY ASSESSMENT

Objective 2: Identify climate change hazards and the risks they pose to the County's multi-modal transportation infrastructure.

Objective 3: Pinpoint specific transportation assets, including list of critical projects, that are vulnerable to climate change impacts.

STEP 3 PROJECT PRIORITIZATION

Objective 4: Develop life-cycle-cost-analysis and benefit-cost analysis to develop prioritization strategies for the County.

VULNERABILITY ASSESSMENT

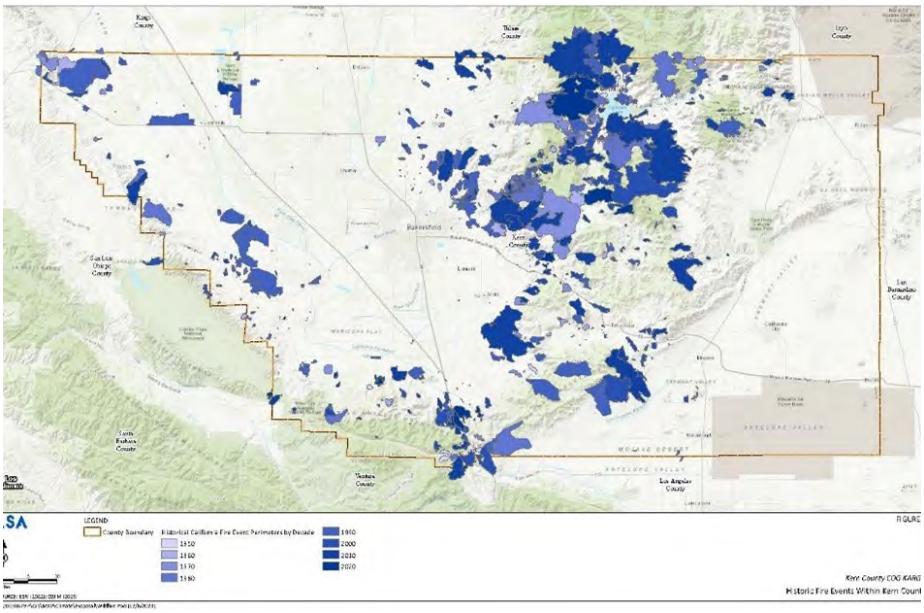
Future Climate Projections

Working with the project team, the consultant team proposes to use Cal-Adapt data to perform future climate projections. Cal-Adapt is a climate adaptation planning tool that was developed by the State of California's scientific and research community and funded by the California Energy Commission (CEC). The web-based tool was a key recommendation of the 2009 California Climate Adaptation Strategy and is intended to provide information on how climate change might affect California at the local level. Climate data on Cal- Adapt includes maximum temperature, minimum temperature, precipitation, sea-level rise, wildfire, and wind.

To provide additional details on the proposed climate projection modeling, temperature and precipitation data would be obtained from downscaled climate projections using Localized Constructed Analogs (LOCA), which is a technique used to improve details of global climate models using historical observations. Another key aspect in climate modeling is the predicted amount of GHG emissions in the atmosphere over time that result in climate change. Representative Concentration Pathways (RCPs) are various climate-modeling scenarios with differing concentrations of GHG emissions in the upper atmosphere over time. LOCA downscaled global climate models available on Cal-Adapt provide projections for differing RCP scenarios.

In-line with previously prepared CAP analysis and State and federal guidelines, the consultant team would utilize RCP4.5, RCP8.5 and historic modeled scenarios, pending discussion and approval by the project team. The maximum temperature, minimum temperature, and average precipitation projections will be modeled using the CanESM2 climate model, which has been selected by California State agencies as one of the priority models for research contributing to California's Fourth Climate Change Assessment.

Wildfire projections will be developed using the University of Merced model, and the downscaled LOCA global climate models together with historic climate data, population density, vegetation, and fire history. Wildfire projections are available for the four models selected by California State agencies as priority models for research contributing to California's Fourth Climate Change Assessment, which are the HadGEM2-ES, CNRM-CM5, CanESM2, and MICROC5 models. The projections are available for the RCP4.5 and RCP8.5 emissions scenarios, as well as three population growth projections: high, low, and central (BAU). For the review of future wildfire risk in Kern County, projections will be modeled using the CanESM2 model, under the RCP8.5 emissions and a selected population growth scenario. As an example of climate assessment modeling previously prepared by the consultant team, Figure 1 is a map of historical wildfire events in Kern County.

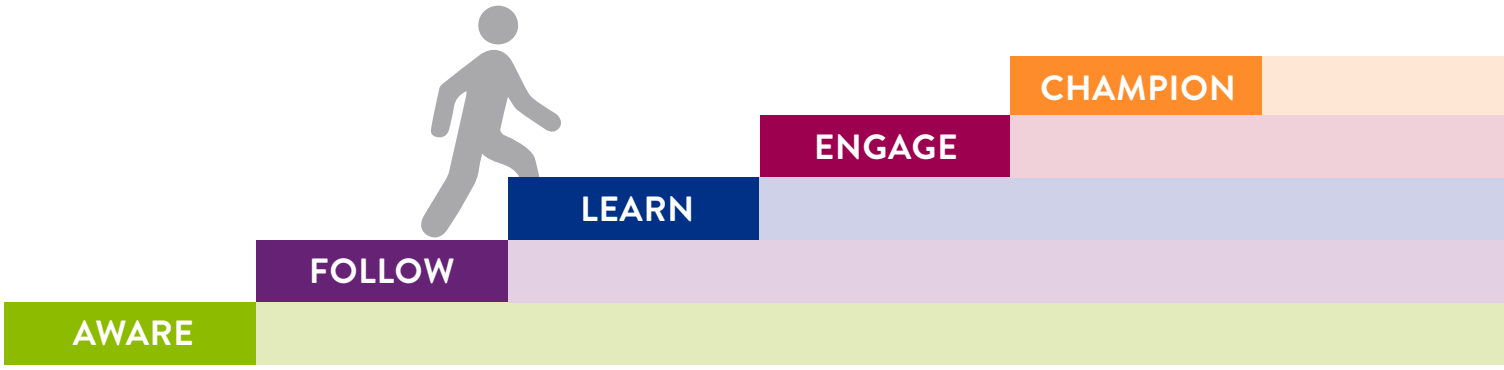


Detailed Community Engagement (DCE)

Our team will work with Kern COG staff to prepare a community engagement plan specific to this project. Particular emphasis will be placed on ensuring outreach is conducted in a manner that corresponds with Kern COG's established Public Involvement Process (PIP), as feedback received will also inform the development of the climate adaptation section of Kern COG's 2026 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS).

Our team regularly implements inclusive, multilingual community engagement programs to ensure diverse stakeholders from large geographic regions are able to be informed about a variety of complex subjects and provide their feedback. We are prepared to leverage this expertise to develop and implement a plan that authentically and meaningfully engages

stakeholders across Kern County. To do this, we routinely meet people where they already are and integrate a philosophy known as the "Rule of Seven" into our work. This leverages up-to-the-minute principles of cognitive science to ensure messages resonate with stakeholders by reaching them at least seven times through seven different outreach strategies. This gradual approach ultimately helps cultivate program champions incrementally as shown below.



The RFP listed eight (8) potential DCE locations. DCE meetings will be an important element of the vulnerability assessment. It will allow the public and stakeholder agencies to provide Kern COG with additional information about local concerns related to climate change and what climate change hazards may affect day-to-day life. We expect this engagement to assist with adaptation strategies that the public may expect in their community. The public's input would help guide the direction of the vulnerability assessment.

Our community engagement plan has the following goals in mind:

- Create materials with clear project information
- Allow the public the ability to provide feedback on vulnerability assessment
- Engage minority, low-income and disadvantage communities

The following are multiple strategies and tools of engaging the communities:

- Workshop – in-person open house forum workshops to present findings and collect public feedback.
- Pop-up events – have a tendency of reaching more community members since the project is going to where the community organically gathers. Setting up an informational area, with project information boards in English and Spanish, flyers, comment cards, and survey.
- Online Survey – online survey distributed through the project website linked through the Kern COG webpage in English and Spanish. Survey can also be distributed through social media, newsletters, and email.

Another tool that Kern COG would like to deploy is the use of a Project Introductory Animation (PIA) that conveys how the projects address the deficiencies of the transportation network that are vulnerable to climate change especially to historically disadvantaged communities in Kern County. Or a regular basis, Mark Thomas' Visual Design team develops graphical and video project information materials for projects. The following QR Code is a rendering of a sample PIA.

SCAN ME

ADAPTATION MITIGATION/CO-BENEFIT ANALYSIS

The consultant team proposes to use the methodologies recommended in the FHWA's Vulnerability Assessment and Adaptation Framework (3rd Edition) to prioritize adaptation measures identified under Task 2. The consultant team will use Multi-Criteria Analysis (MCA) to compare the adaptation measures across a range of

quantitative and qualitative metrics, including a Benefit Cost Analysis (BCA) that can be measured by monetary terms, but will also consider other social impacts such as the impacts to the disadvantaged communities that cannot be quantified or put into monetary terms.

The consultant team proposes to include the following metrics to prioritize the adaptation measures identified under Task 2. The proposed metrics are subject to approval of Kern COG and may be modified based on availability of data or information.

1. Benefit Cost Analysis (BCA)

A benefit cost analysis (BCA), also referred to as a life-cycle cost analysis, is one of the economic analysis approaches recommended by FHWA in the Vulnerability Assessment and Adaptation Framework. The BCA divides the public economic benefits of a project by the project's implementation and operations and maintenance costs over a 20-to-30-year period. Benefits can include the value of reduced travel time for travelers and shippers, reduction in collisions through installation of safety countermeasures, travel time reliability, improved emergency response time and hospital access, less damage to or loss of freight shipments, improved air quality through reduction in vehicle and truck emissions, avoided rehabilitation/ repair and detouring from a climate event, and residual value of improvements beyond the analysis period. Benefits are determined based upon inputs, which commonly involve vehicle miles traveled, vehicle hours traveled, average speeds and peak hour speeds, crash history, FHWA crash modification factors, and economic values provided by USDOT and/or Caltrans. For example, it can be determined how truck freight moved through the Tehachapi pass will save time, which commodities benefit, what industries these commodities track to, and where benefits are realized spatially.

Mark Thomas recommends using the California Benefit/Cost (Cal-B/C) model to prepare a BCA for each project. This is to better evaluate and prioritize each project on its own merits. Using the Cal-B/C model provides consistency with State and Federal grant programs and allows for efficiency in developing the analyses. A BCA will also be prepared for the suite of improvements combined to demonstrate the overall effectiveness of the KARGO C-CAMS program of projects.

2. Environmental Considerations

Improvements to transportation infrastructure could have adverse impacts to the environment. The consultant team proposes to use a high-level feasibility matrix to assess the level of environmental constraints within the project area, which could also provide high-level guidance for future project design. LSA will base the data off preliminary research performed by technical staff and use of online resources connected to the project study area. Typical important environmental considerations would include:

- Agricultural
- Air Quality
- Biology and Wetlands
- Community Impacts
- Cultural Resources
- Hazardous Materials
- Noise; and,
- Wildfire

Utilizing an environmental matrix, LSA will prepare an environmental opportunities and constraints analysis matrix summarizing the results of the analysis. The matrix will provide a qualitative assessment of the project's potential to impact sensitive environmental resources as well as the sensitivity of the environmental resource.

3. Environmental Justice Impacts (Disadvantaged Communities)

The project area covered under this project includes goods movement corridors that pass through or are near the disadvantaged communities of the Tejon tribe/Mettler, Arvin, Edison, Lamont, Caliente, Mojave, and portions of urbanized Southeast Bakersfield. Many of the disadvantaged communities are along the resiliency route corridors to the Twin Passes. Analysis will be conducted to determine whether the adaptation measures would result in benefits to the surrounding disadvantaged communities or whether the proposed adaptation projects would negatively impact such communities. For example, the disadvantaged communities could benefit from the adaptation measure they would move the source of pollution away from the disadvantaged communities. Vice versa, the disadvantaged communities would be negatively affected if the proposed project would impact the quality of their drinking water. These issues will be evaluated using qualitative metrics.

4. Stakeholder/Pubic Input

Stakeholder/Public input will also be part of the prioritization matrix and will be used to rank the proposed adaptation measures and move the projects into the Phase III for preliminary engineering/conceptual design. Both the stakeholders and the general public will be surveyed with regards to the criticality and importance of the proposed adaptation measures/projects to the Kern region. The findings from all input will be evaluated and incorporated into the matrix using qualitative metrics.

5. Funding Opportunities

There are multiple state and federal funding programs that are applicable for the climate mitigation, resiliency, and freight improvements. Mark Thomas has a thorough understanding of grant program opportunities for the KARGO C-CAMS projects. We will analyze the projects against the potential funding programs and provide a ranking of low, medium, or high competitiveness. The grant programs initially identified include:

- Local Transportation Climate Adaptation Program (LTCAP)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT)
- Building Resilient Infrastructure and Communities
- Flood Mitigation Assistance
- Trade Corridor Enhancement Program (TCEP)
- Local Partnership Program (LPP)
- Solutions for Congested Corridors Program (SCCP)
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Infrastructure for Rebuilding America (INFRA)
- Rural Surface Transportation Grant (Rural)
- Mega Program (Mega)

After technical analysis is conducted for the proposed adaptation measures/projects, the projects will be scored against each of the five metrics. The consultant team will work with Kern COG staff and the Advisory Committee to allocate weight to the metrics and develop a composite scoring system incorporating the five metrics. A composite score will then be calculated for each adaptation measure/project. The final scoring matrix may look like the following table:

TABLE 1: COMPOSITE SCORES BY SCORING METRICS

PROJECT NAME	BCA	ENVIRONMENTAL IMPACTS	DCA IMPACTS	PUBLIC INPUT	FUNDING POTENTIAL	TOTAL SCORE
A	30	10	20	25	30	115
B	25	20	20	25	20	110
C	30	30	30	35	40	165
D	10	40	40	25	20	135

This table is for illustrative purposes only.

BCA = Benefit Cost Analysis; DAC = Disadvantaged Communities

EXPEDITE IMPLEMENTATION

Caltrans Coordination

As stated in the RFP, project activities of this Climate Adaptation Planning grant excludes environmental and final design activities. Kern COG would like to further develop the project concepts as far along as possible while staying within the rules of the grant. From a project delivery and design perspective, '30% concept development' or a 'feasibility study' are acceptable design levels that fall within the rules of the grant. In our discussions with Michael Navarro, Deputy District Director Planning, he recommended inviting Caltrans

to the project kick-off meeting to discuss level of effort associated with the project activities; to ensure that the planned activities do meet the grant requirements.

Set up of PID or Environmental

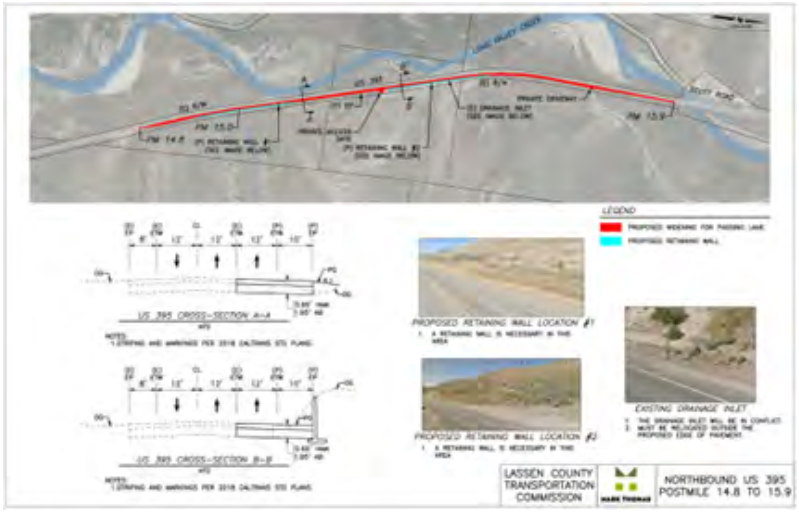
An important element of the project is to set up the next steps of project delivery for success. Processes for the next steps will be dependent on the agency involved; projects in State-owned right of way would follow Caltrans processes while projects not within State-owned right of way are not required to follow Caltrans processes. Keeping in mind that the design level of the project is at the '30% concept design' or 'feasibility study' level of design, the following are the next steps either a State Facility or Local Facility project:

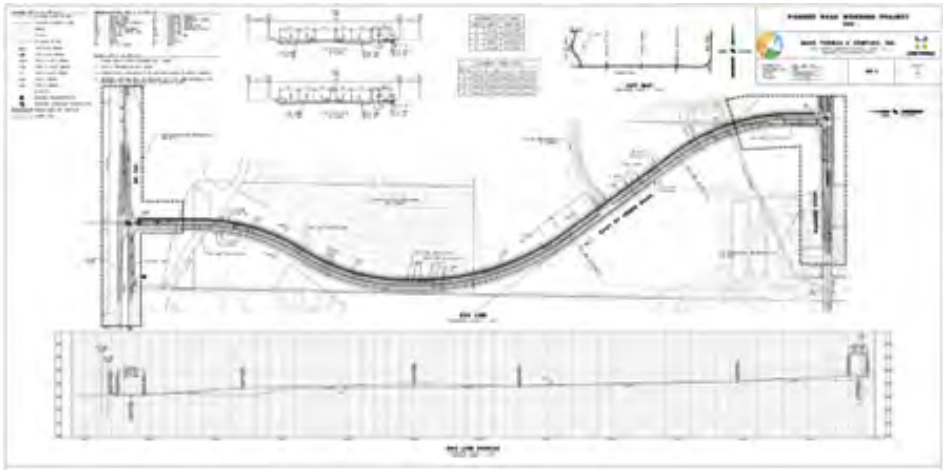
State Facilities - For projects within State-owned right of way, the next step is to prepare a Project Initiation Document (PID). A PID prepares conceptual design and has specific technical attachments (Conceptual Design, Preliminary Environment Assessment Report (PEAR), Traffic Engineering Performance Assessment (TEPA), Preliminary Cost Estimates) that define the required scope of the Project Approval and Environmental Document project phase. After the completion of this project, the conceptual design and cost estimates would be developed to a level that it does not need to be prepared for the PID phase. However, all other attachments to the PID will still be needed.

Local Facilities – Local agencies do not need to prepare a PID prior to preparing an environmental document. From a conceptual design or 'feasibility study' level of design, local agencies can prepare an environmental document. After the completion of this project, local agencies would have the ability to prepare an environmental document.

DESIGN APPROACH

The grant rules allow up to 30% conceptual design level. For 30% conceptual design level applies the appropriate design standards to develop the proposed geometrics of the improvements. The basemap for design is typically on a high-resolution aerial map. This method would be sufficient for projects on flat terrain; however, this method would not suffice for hilly or mountains areas. To properly represent the project area terrain and 30% conceptual design, Mark Thomas will use following design approach:





Basemap

In addition to using high-resolution aerial maps for basemapping, Mark Thomas will use LiDAR datasets from USGS to capture the vertical component of the design. Available as-built drawings will be used to supplement the LiDAR data to create a terrain for the project areas. Use of the terrain will allow the designer to identify where bridges and retaining walls will be needed. A terrain will also allow the designer to develop the concept grading and identify the potential right of way needs for the project.

DESIGN STANDARDS

State Facilities

For roadway projects within the State facilities, Mark Thomas will use the Caltrans Highway Design

Manual to defined the improvements. For local facilities, Mark Thomas will use the local standards supplemented by AASHTO standards. For railway projects, Mark Thomas will use AREMA and the UPRR/BNSF design guidelines.

KERN SAFETEC LOGISTICS RESILIENCY CORRIDORS

The proposed Kern Safe Autonomous Freight Enhanced Testing Environmentally Clean (SAFETEC) Logistics Zone identified in the KARGO Sustainability Study would feature autonomous, zeroemission vehicles traveling on rural back roads. These roads could serve as alternative resiliency corridors for cleaner/safer truck goods movement, multiplying potential cost-benefits for the rural DACs affected by these corridors.

APPROACH

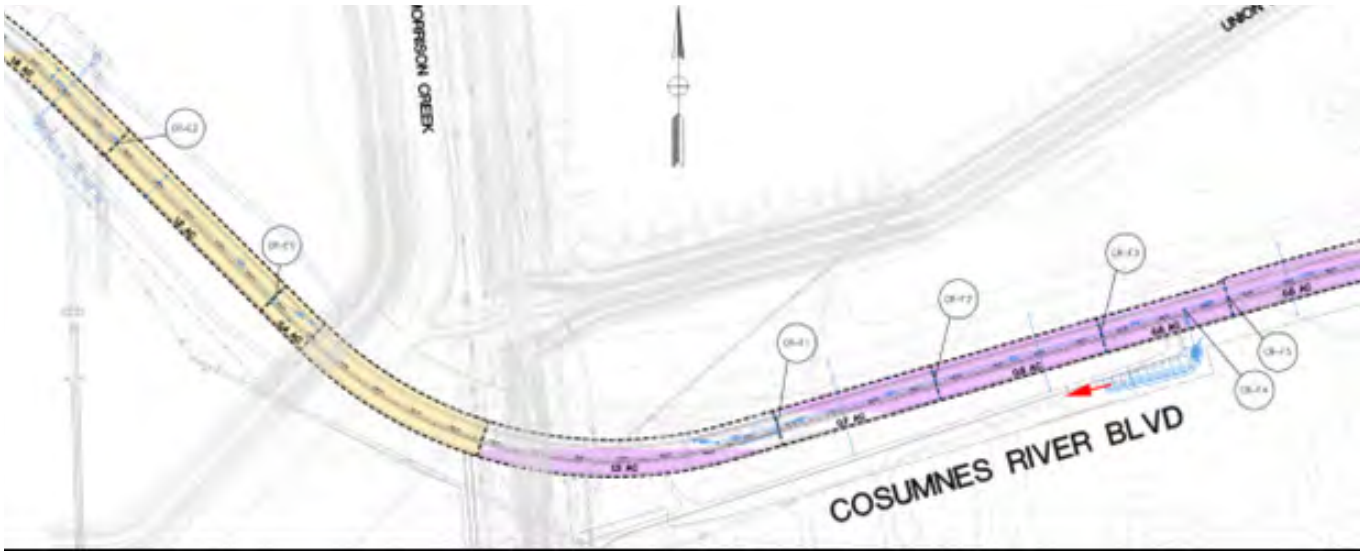
Autonomous driving systems in trucks are an important element in the future of goods movement. But in addition to the long-haul freight trucks, there is another dynamic in the automated truck world that could provide a strategy to help remedy the emissions issues that Kern County currently faces. There are a number of companies that are using off-the-shelf vehicle guidance technologies (optical cameras sensors and steering systems) and have adapted these technologies to a new style truck delivery "pod". These pods are ground-up delivery vehicles that are purposely designed to support intra-company inventory management. These systems are meant to support automated transfer of cargo between company warehouse facilities. This technology application can be also adapted to support intermodal facility cargo transfers to nearby warehouses. These systems and other similar technologies are being actively marketed now, the real-world deployment may take couple of more years, but it is coming. This may be an opportunity for Kern County to consider how it might catalyze autonomous cargo movement within its industrial district(s) and to/from a future rail intermodal hub. The Kern Safe Autonomous Freight Enhanced Testing Environmentally Clean (SAFETEC) logistics zone shows how a system of autonomous freight shuttle can connect various logistic hubs in the county. The implementation of this system (as a full or in a limited pilot) can potentially be expedited by better understanding of potential volume and value of commodity that can be transported via autonomous shuttles. Quantifying various benefits of such a system such as emission reduction, congestion reduction, economic benefit to disadvantage communities and improving travel time reliability can position Kern COG to apply for federal and state funding programs.

The Mark Thomas team will use observed truck flow data, information from travel demand model, and inputs collected from stakeholders during KARGO phase I and II to further evaluate economic benefits of SAFETEC logistic zone. We will review the roadway infrastructure to evaluate the feasibility of the roadway network for adopting autonomous vehicle operation. We will identify limitations and required improvements and help Kern COG position better for future funding programs.

SAMPLE CLIMATE ADAPTATION STRATEGIES FOR ROUTE RESILIENCY

Flooding

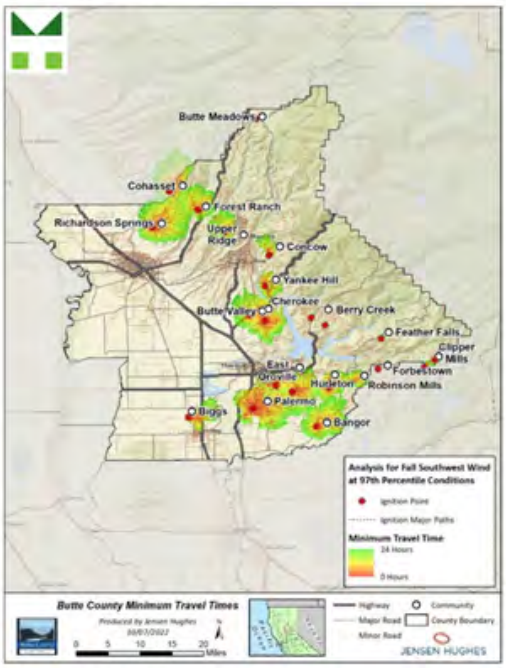
This project will identify areas within Kern County that may be vulnerable to flooding. An adaption mitigation to address flooding is to allow storm waters to easily cross barriers such as roadways or railways. A potential improvement that would make a route more resilient from flooding is to construct more culverts across a barrier allowing storm waters to equalize pressures across the barrier. For Cosumnes River Blvd in Sacramento, Mark Thomas designed multiple culverts across the roadway reducing the probability of storm waters from overtopping the corridor.



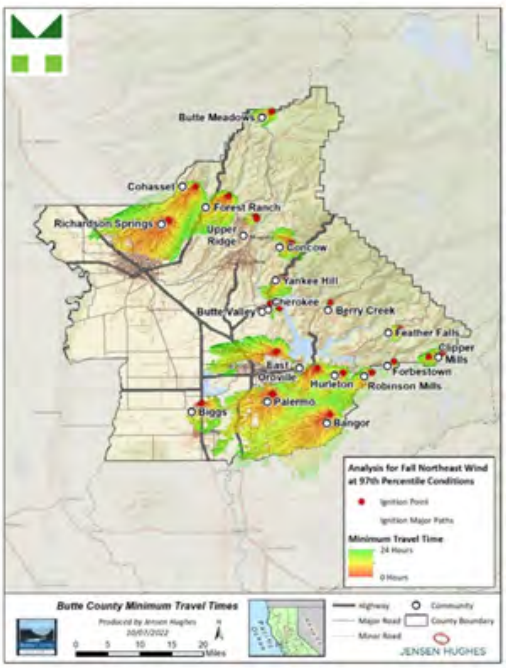
Wildfire

This project will identify areas within Kern County that may be vulnerable to wildfire. An adaptation mitigation for wildfire is to identify potential emergency evacuation routes for communities within Kern County that may be affected by this type of extreme climate event. Having an Emergency Evacuation Plan in place provides route resiliency. This project would provide the next steps to develop emergency evacuation routes for these communities. Mark Thomas developed the Emergency Evacuation Plan for Butte County in the event of wildfires.

Core (SW)



Fall (NE)



OTHER ITEMS TO CONSIDER

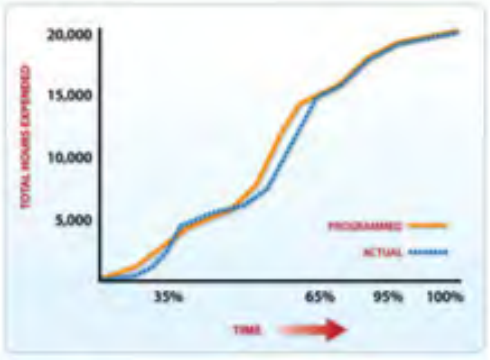
Wildlife Corridors

California Department of Fish and Wildlife

The Twin Passes are located in the Tehachapi Mountains, a mountain range that separates the Central Valley from Southern California and the Mojave Desert. This mountain range links a 400+ square mile wildlife corridor connected by the Tejon Ranch and the Randall Preserve. The Twin Passes represent barriers for wildlife movement across the mountain range. The movement patterns and required habitats are different for different species. This means that accommodating wildlife movement across road and rail alignments require consideration of which wildlife species are present in an area, which are listed, and what types of crossing structures they will prefer. We have included Dr. Fraser Shilling, an ecologist who has led over 40 research projects in studying wildlife movements. He will provide guidance on wildlife crossing types for the projects. His guidance would include description of the species present, their habitat and movement needs, and the types of structures they would prefer and require to cross an alignment. Guidance provided would be adapted into conceptual designs and locations.

COST CONTROL

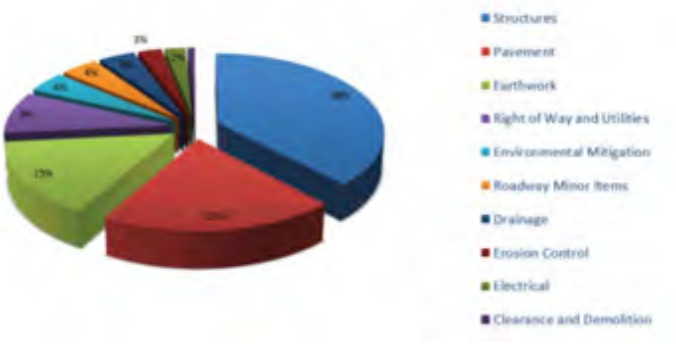
Controlling Costs



Mark Thomas is diligent in controlling design costs. We use our task breakdown structure developed in the scope and schedule and allocate specific staff hours and budgets to each item. This helps the deputy project manager to quickly and easily address any potential cost issues. An effective graphical tool that we use to keep the project on track graphs the programmed budget against the actual budget.

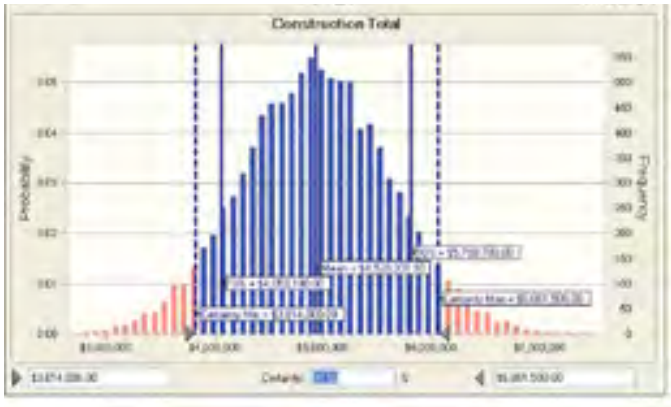
Estimating Construction Costs

Percentage of Project Cost by Item



We use a cost trending technique to analyze the project's construction cost. This allows us to adapt the estimate in real time to the ever-changing bidding environment and suggest cost-saving solutions to help keep the overall project within budget. Accurate cost estimating is critical to analyzing alternatives and seeking funding for projects. We develop an accurate preliminary construction cost estimate by:

- **Experience.** We have experience on large scale projects and an understanding of the Central Valley needed to support effective construction cost estimating.
- **Focus on big ticket items.** Typically 86% of the capital cost of the project is made up of five items (structures, pavement, earthwork, right of way/utilities, and environmental mitigation). Our experience on past corridor projects has shown that the biggest "bang for the buck" during value engineering occurs at these items.
- **Using tools to capture risks and cost trends in the marketplace.** Mark Thomas uses the "Crystal Ball" program to perform Monte Carlo simulations of construction prices. This software allows analysis of the primary cost risk drivers during the estimating process by simulating the uncertainty in each cost line item, which helps you to understand the probability that project funding will be adequate for project delivery and which cost items have the greatest potential to drive project cost. Both Caltans and the FHWA use a similar method.

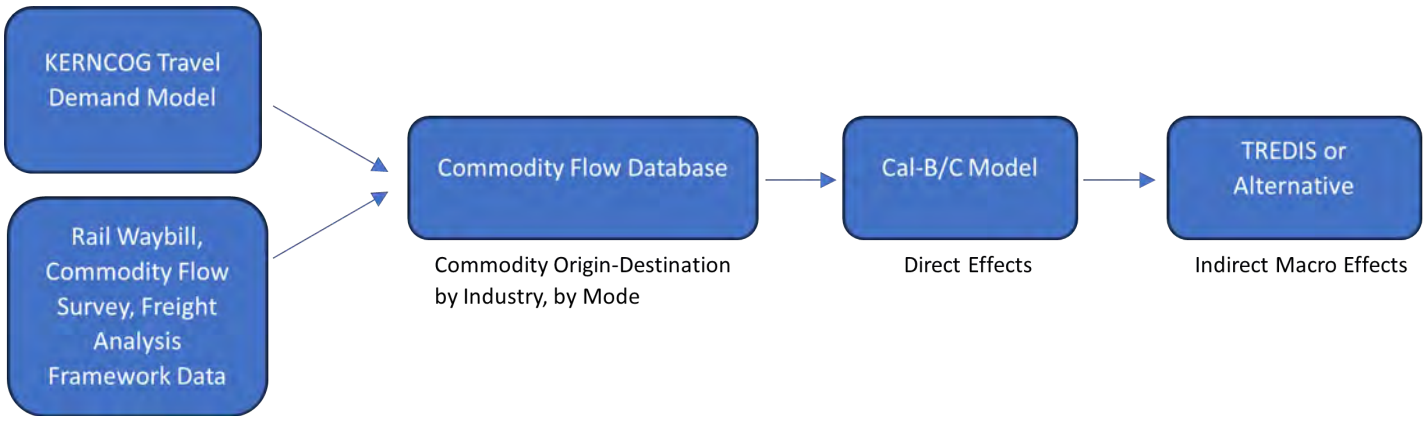


ECONOMIC ANALYSIS AND REGIONAL COMPETITIVENESS

MACRO- AND MICROECONOMIC ANALYSIS

The macro- and microeconomic impacts of the KARGO C-CMAS are necessary to understand the County's and state's economic development potential as well as climate and freight impacts. EBP will perform the economic analysis to link freight, regional travel demand, databases, and modeling tools which together will enable comprehensive economic benefits analyses.

The economic analysis, as shown in the flow chart below, will utilize primary and secondary data sources and tools. Travel demand model (TDM) outputs and rail data will be used to create a freight-economy model. This will analyze how specific modes and markets feed into specialized industry activity patterns and an estimate of the number of jobs, gross domestic product, and tax revenue that results from each infrastructure investment as well as broader measures of regional supply chain activity and integration. These economic models work to describe how freight operates within a region, broader linkages, and the impacts of behavior.



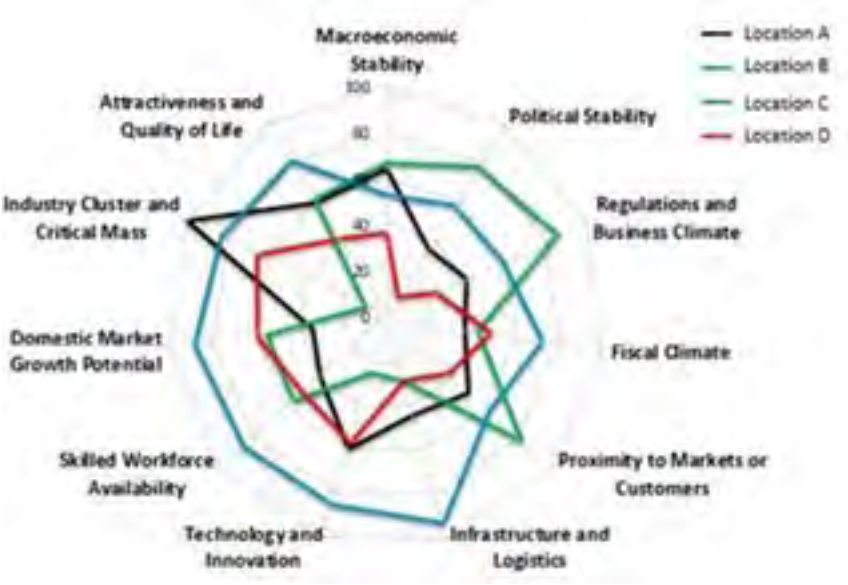
Our team will develop vehicle and traffic flows and forecasts using the Kern COG TDM, extrapolating data to reasonably develop origins, destinations, and commodities being moved. Rail volumes will be obtained directly from published carrier data. The freight flow data will be entered into the Cal-B/C model to evaluate the economic impact of truck vehicle miles and hours saved, which can be translated into commodity, industry sector, and origin-destination impacts. This will result in direct effects from project investments.

As an optional task, the team can apply the TREDIS model to derive macro regional economic impacts. This includes employment, labor income, value added (GRP), business output, and possible fiscal impacts. The team recommends approaching Caltrans to use the state's existing TREDIS license. If that is unsuccessful, Kern COG can obtain a six-month license.

EBP has recently performed similar economic analyses for the Port of Long Beach, Southern California Association of Governments, Caltrans, and the states of Michigan, Georgia, and New Mexico.

ECONOMIC COMPETITIVENESS AND DIVERSIFICATION POTENTIAL STUDIES

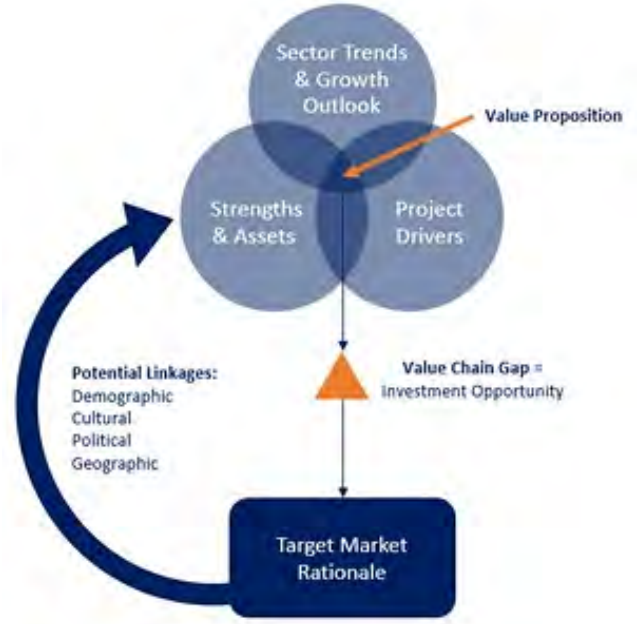
The Mark Thomas Team proposes additional regional economic studies that examine the competitive advantages and disadvantages of Kern County going forward, and that can support plans for transition of the county's economy from a primarily agricultural base to a more diversified economy, including for example increased logistics industries and more diversified food processing and other higher tech industries that leverage the base agricultural economy. These studies will be an instrumental component of future grant applications.



We will perform a reverse site selection analysis (a weighting and ranking analysis using actual corporate location decision factors) to understand how the County and region rank against competing locations, from a site selector's point of view. We will develop a list of peers and perceived "best-in-class" or aspirational communities based on knowledge of the region and input from the district's planning team. Our analysis will yield a summary of rankings by category for each of the regions, as well as an advantages/disadvantages chart for the region.

Our team will prepare Opportunity Match Profiles to examine the region against a list of activity and use opportunities that appear to fit both the location profile of the region and its objectives. The profiles will identify how the area is aligned to the needs of each opportunity and will also include a review of target markets to which investment attraction efforts should be focused. This analysis will also examine existing networks within target markets to understand the resources on which KernCOG and its members can call upon when implementing the proposed strategy.

Our team will also prepare a gap analysis to identify the most pressing needs for the top target sectors to grow, specialize and evolve in the region. It is likely that we will identify several "but-for" to be addressed in the strategic plan. Some will be simple items to fix or enhance. Other will require more in-depth analysis and planning. All will provide a means for enhancing the region's competitiveness.



$1.3 BILLION AND COUNTING.

Over the past 5 years, Mark Thomas has secured nearly $340 million in competitive grant funding. This includes nearly $198 million in the 2020 Senate Bill 1 funding round.

FUNDING STRATEGY

Preparing an effective funding strategy is critical to advancing the KARGO C-CAMS suite of projects. Each project will provide not only climate resiliency and mitigation, but economic and freight benefits as well. Kern COG has set the vision for how to leverage the project to secure funding that Mark Thomas will build upon to bring grant funds to the region. As described above, our team will analyze various grant programs and prepare mapping and graphics. These are critical components of a successful marketing strategy for the project. We will use these pieces to build a comprehensive strategy to position for grant funds.

Our team includes Vince Mammano, former FHWA California Administrator, to lead this effort. Vince spent 30 years at FHWA and 11 of those in Senior Executive Service. He has built strong relationships with the various USDOT modal administrations and with Caltrans, CalSTA, and the CTC. Vince and the team will develop the strategy that extends beyond simply identifying funding programs. After identifying the funding sources, additional actions will be necessary to secure grant funds. These include:

» Understand how the project addresses Caltrans System Investment Strategy (CSIS) and what additional information is needed to demonstrate adhere to this policy to gain Caltrans support for future grant nominations. This includes determining the project's impact on regional vehicle-miles traveled (VMT), greenhouse gas (GHG) emissions, and disadvantaged/low-income community benefits.

» Develop project fact sheets, similar to the I Street Bridge Fact Sheet on the following page, that highlights the project's safety, freight throughput, and environmental sustainability benefits/outcomes, project components/outputs, and cost and schedule. The fact sheet will also adhere to SB 1 grant program guidelines.

» Engage with politically elected officials and funding agencies, such as the CTC and USDOT. Graphics materials and project fact sheets can leveraged for these discussions, which will help further project recognition.

Mark Thomas is currently working with the Riverside County Transportation Commission (RCTC) and San Joaquin Regional Rail Commission (SJRRC) to identify grant funding opportunities and strategies for both highway and rail projects.

SAMPLE FUNDING FACT SHEET

to the right we have included a sample funding factsheet.

PROJECT FACT SHEET

I STREET BRIDGE REPLACEMENT

Lead Agency: City of Sacramento

SCOPE

The I Street Bridge Replacement Project will construct a new iconic basket-handle network tied-arch, 860-foot long bridge with a 330-foot long vertical lift span over the Sacramento River. The project will extend from Railyards Boulevard in Sacramento to C Street in West Sacramento. The project will include one vehicle lane, Class 2 buffered bike lane, and wide sidewalks in each direction. The project will transform the Sacramento Riverfront while connecting to significant regional infill redevelopment areas. The project will be an instant regional landmark.

COST

Environmental & Design	$14,999,000
Right of Way & Support	$8,001,000
Construction & Support	$205,000,000
Total	$228,000,000

SCHEDULE

CEQA/NEPA Clearance	6/2019
Final Design Complete	3/2023
Construction Begin	6/2023
Construction Complete	12/2025

OUTPUTS

- 860 Foot Long Bridge with 330 Foot Vertical Lift Span
- 2.7 Miles of Vehicle Lanes
- 0.67 Miles of Class 2 Buffered Bike Lanes
- 0.54 Miles of Class 2 Bike Lanes
- 0.47 Miles of Class 1 Path
- 0.80 Miles of Sidewalk
- 5 Signalized Intersections

OUTCOMES

- Congestion Reduction
- Safety Enhancements
- Emissions Reduction
- Economic Redevelopment Support
- Multimodal Connectivity

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

We have assigned Amy Fischer and Garry Horton of LSA to serve as our QA/QC managers. Serving in this capacity from outside the day to day project activities, they will pull from their years of experience to review proposed designs, and will implement Mark Thomas' Quality Control Plan for all deliverables. This includes methods for design calculations, establishing appropriate levels of design development for intermediate submittals, identification of required plan checks, using CAD procedures, design checklists, and methods of project documentation.

For this project, we will implement the following quality control/quality assurance approach, which integrates our recent experiences working on Kern COG projects. Our project manager and our QA/QC manager are both responsible for assuring that these QC activities take place on every deliverable.

QUALITY ASSURANCE + QUALITY CONTROL STEPS

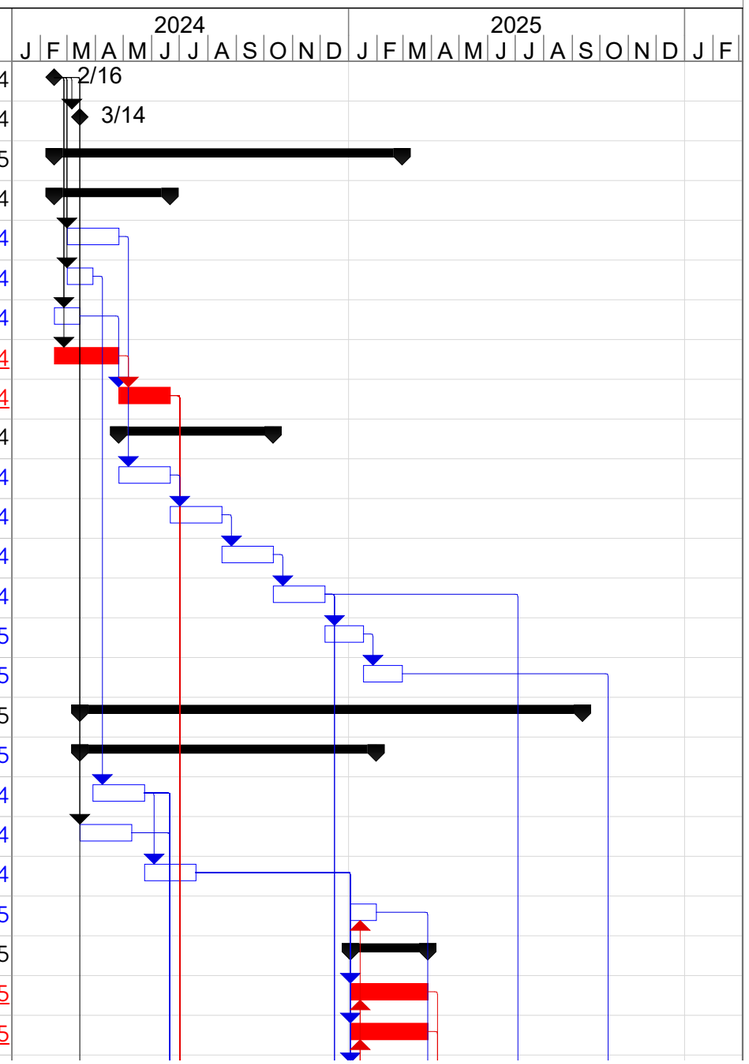
1. Project staff is fully briefed on the project scope, features, and design scope prior to beginning work on the project. Project scope is kept on the file server within the project directory, available for review at any time.
2. A project CAD approach is developed, establishing anticipated plan sheets, special agency formats, software requirements, layering conventions, and final delivery format.
3. Staff is briefed on a weekly basis for the project status and issues, especially any changes in design, schedule, or goals. Project documentation includes meeting minutes, plus memorandums for telephone conversations or email. These are distributed among project staff for consistency in understanding the client's goals and objectives.
4. Design and calculations are independently checked, corrected and back checked. All related correspondence and memorandum are routed and received by staff involved and then filed in the appropriate project file.
5. Quantity calculations are prepared for every individual pay item. The quantity calculations is organized in numerical order of the pay items in the project. The quantity calculations are independently checked, corrected, and back-checked.
6. Roadway alignment, topography, and utility features are kept on a reference file, which is consistent between all disciplines. Any changes to reference file will automatically update any in-house plans between different disciplines. For subconsultant plans, subconsultants are notified of changes by email, and files are posted on FTP site for downloading and use, and subsequently back-checked by our staff.
7. All plans, calculations, documents, and other items submitted for review shall be marked clearly as being fully checked and that the preparation of the material followed the quality control plan established for the work.

SCHEDULE

- NTP is expected in February 2024 (line 1)
- The Draft Vulnerable/Resiliency Assessment would be submitted in late December 2024 (line 14). This includes feedback from Round 1 of community engagement (line 65)
- The Draft 30% Concept Design would begin after Data Collection/Basemapping is completed. Draft Concepts are expected to be completed in November 2024 (line 59)
- LCCA and Project Rankings are expected in early 2025. The Draft Adaptation Mitigation/Co-Benefit Analysis Report would be submitted in July 2025 (line 39)
- Round 2 of community engagement will follow in July-August 2025 (line 66)
- The Draft Final C-CAMS Report would be submitted in August 2025 (line 70) and presented to the Kern COG Board/TPPC/TTAC/and RPAC at their respective meetings (line 72)
- The Final C-CAMS Report is expected to be submitted in November 2025 (line 71)

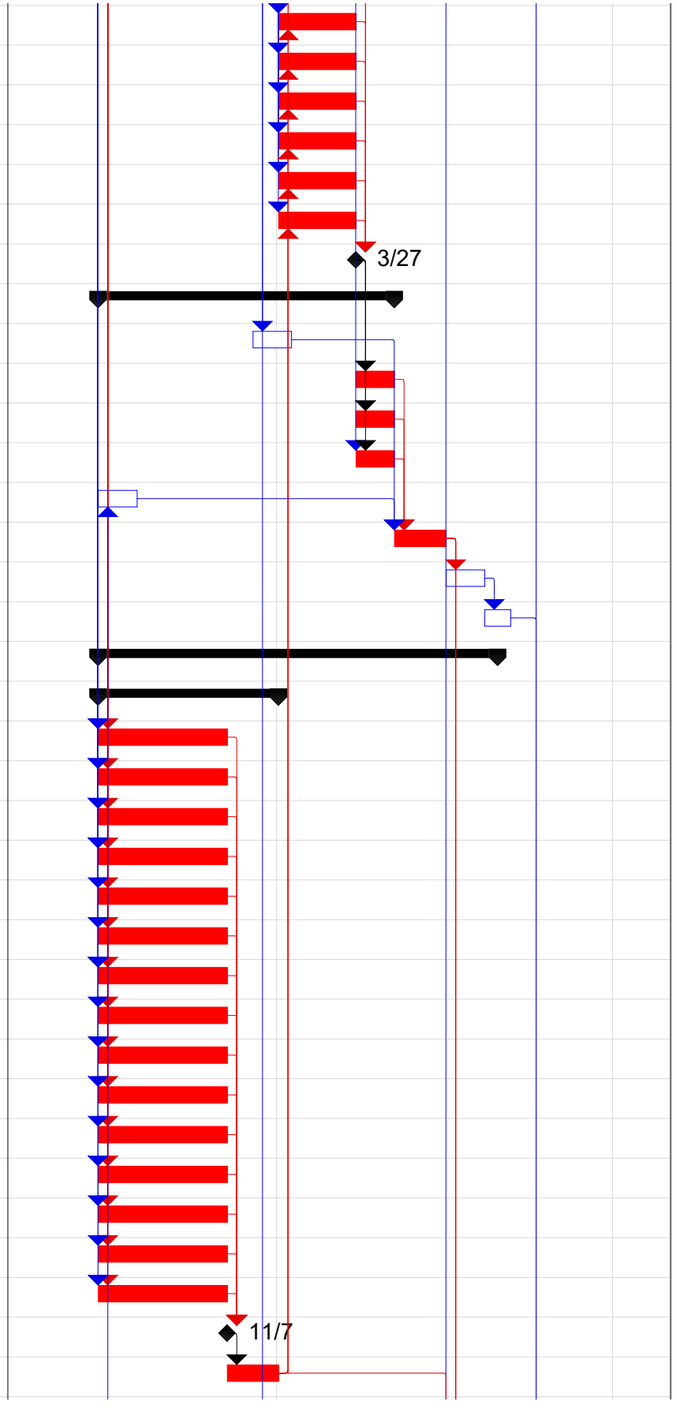
KARGO 3 C-CAMS
Kern COG

ID	Task Name	Duration	Start	Finish
1	NTP	0 days	Fri 2/16/24	Fri 2/16/24
2	Kick Off Meeting	0 days	Thu 3/14/24	Thu 3/14/24
3	VULNERABILITY/RESILIENCY ASSESSMENT REPORT	270 days	Fri 2/16/24	Thu 2/27/25
4	Data Collection	90 days	Fri 2/16/24	Thu 6/20/24
5	Collect historical climate event information	8 wks	Fri 3/1/24	Thu 4/25/24
6	Collect GPS traffic data	4 wks	Fri 3/1/24	Thu 3/28/24
7	Obtain USGS LiDAR datasets	4 wks	Fri 2/16/24	Thu 3/14/24
8	Obtain project area as-builts	10 wks	Fri 2/16/24	Thu 4/25/24
9	Generate project basemapping	8 wks	Fri 4/26/24	Thu 6/20/24
10	Vulnerability/Resiliency Assessment	120 days	Fri 4/26/24	Thu 10/10/24
11	Future Climate Projection	8 wks	Fri 4/26/24	Thu 6/20/24
12	County-wide Vulnerability Assessment	8 wks	Fri 6/21/24	Thu 8/15/24
13	Corridor/Facility Level Risk Assessment	8 wks	Fri 8/16/24	Thu 10/10/24
14	Draft Vulnerability/Resiliency Assessment Report	8 wks	Fri 10/11/24	Thu 12/5/24
15	Kern COG Review	6 wks	Fri 12/6/24	Thu 1/16/25
16	Final Vulnerability/Resiliency Assessment Report	6 wks	Fri 1/17/25	Thu 2/27/25
17	ADAPTATION MITIGATION/CO-BENEFIT ANALYSIS REPORT	390 days	Fri 3/15/24	Thu 9/11/25
18	Preliminary Technical Studies	230 days	Fri 3/15/24	Thu 1/30/25
19	Traffic	8 wks	Fri 3/29/24	Thu 5/23/24
20	Wildlife Corridors	8 wks	Fri 3/15/24	Thu 5/9/24
21	Economics	8 wks	Fri 5/24/24	Thu 7/18/24
22	Funding Strategy	4 wks	Fri 1/3/25	Thu 1/30/25
23	Life-Cycle-Cost-Analysis/Co-Benefit Analysis	60 days	Fri 1/3/25	Thu 3/27/25
24	SR 58 Truck Climbing Lanes	12 wks	Fri 1/3/25	Thu 3/27/25
25	Tehachapi-Wofford Rd Corridor	12 wks	Fri 1/3/25	Thu 3/27/25



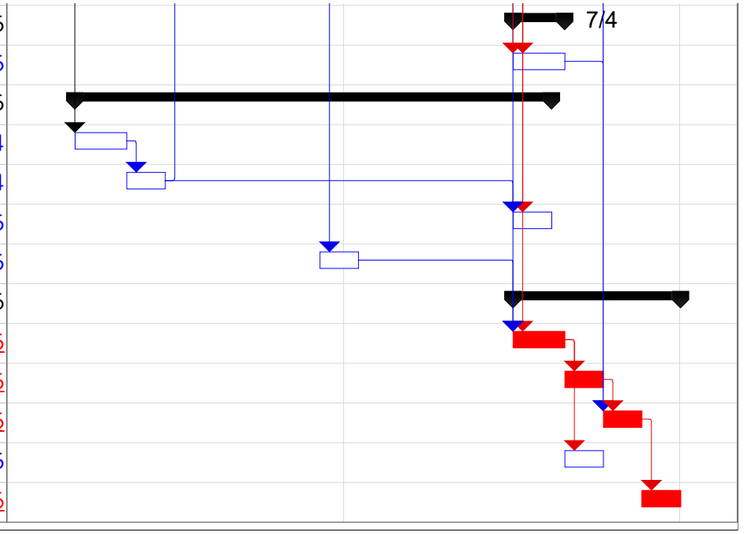
SCHEDULE CONTINUED

26	Tehachapi-Willow Springs Rd Corridor	12 wks	Fri 1/3/25	Thu 3/27/25
27	SR 14/58 Mojave Inland Port connections	12 wks	Fri 1/3/25	Thu 3/27/25
28	South Arvin Expressway	12 wks	Fri 1/3/25	Thu 3/27/25
29	SR 184 Realignment to Edison Rd	12 wks	Fri 1/3/25	Thu 3/27/25
30	SR 166 Resiliency Corridor	12 wks	Fri 1/3/25	Thu 3/27/25
31	ITP Rails	12 wks	Fri 1/3/25	Thu 3/27/25
32	Completed LCCA/BCA	0 days	Thu 3/27/25	Thu 3/27/25
33	Develop Project Rankings	230 days	Fri 6/21/24	Thu 5/8/25
34	Environmental Considerations	6 wks	Fri 12/6/24	Thu 1/16/25
35	Benefit/Cost Analysis	6 wks	Fri 3/28/25	Thu 5/8/25
36	DAC Impact Analysis	6 wks	Fri 3/28/25	Thu 5/8/25
37	Funding Potential Analysis	6 wks	Fri 3/28/25	Thu 5/8/25
38	Stakeholder Survey	6 wks	Fri 6/21/24	Thu 8/1/24
39	Draft Adaptation Mitigation/Co-Benefit Analysis Report	8 wks	Fri 5/9/25	Thu 7/3/25
40	Kern COG Review	6 wks	Fri 7/4/25	Thu 8/14/25
41	Final Adaptation Mitigation/Co-Benefit Analysis Report	4 wks	Fri 8/15/25	Thu 9/11/25
42	DEVELOP 30% CONCEPTUAL DESIGN	310 days	Fri 6/21/24	Thu 8/28/25
43	Draft Concept Design	140 days	Fri 6/21/24	Thu 1/2/25
44	SR 58 Truck Climbing Lanes	20 wks	Fri 6/21/24	Thu 11/7/24
45	HSR Tunnel Tailings	20 wks	Fri 6/21/24	Thu 11/7/24
46	SR 58/223 Interchange	20 wks	Fri 6/21/24	Thu 11/7/24
47	Tehachapi-Wofford Rd Corridor	20 wks	Fri 6/21/24	Thu 11/7/24
48	South Arvin Expressway	20 wks	Fri 6/21/24	Thu 11/7/24
49	SR 184 Realignment to Edison Rd	20 wks	Fri 6/21/24	Thu 11/7/24
50	I-5 Truck Climbing Lanes	20 wks	Fri 6/21/24	Thu 11/7/24
51	Shafter-Bakersfield Intermodal Rail	20 wks	Fri 6/21/24	Thu 11/7/24
52	McFarland ITP Resiliency Routes	20 wks	Fri 6/21/24	Thu 11/7/24
53	Mojave ITP Resiliency Routes	20 wks	Fri 6/21/24	Thu 11/7/24
54	Arvin-Tejon Commerce Center Rail Spur	20 wks	Fri 6/21/24	Thu 11/7/24
55	Copus Road Resiliency Route	20 wks	Fri 6/21/24	Thu 11/7/24
56	Kern SAFETEC Logistics Resiliency Corridor	20 wks	Fri 6/21/24	Thu 11/7/24
57	Shafter-Buttonwillow Rail Spur Resiliency Corridor	20 wks	Fri 6/21/24	Thu 11/7/24
58	Cross South Valley Rail Resiliency Corridor	20 wks	Fri 6/21/24	Thu 11/7/24
59	Completed Draft Concept Design	0 days	Thu 11/7/24	Thu 11/7/24
60	Kern COG Review	8 wks	Fri 11/8/24	Thu 1/2/25



SCHEDULE CONTINUED

61	Final Concept Design	40 days	Fri 7/4/25	Thu 8/28/25
62	Update Concept Drawings	8 wks	Fri 7/4/25	Thu 8/28/25
63	DETAILED COMMUNITY ENGAGEMENT	370 days	Fri 3/15/24	Thu 8/14/25
64	Develop DCE Plan	8 wks	Fri 3/15/24	Thu 5/9/24
65	Stakeholder Meetings (Round 1)	6 wks	Fri 5/10/24	Thu 6/20/24
66	Stakeholder Meetings (Round 2)	6 wks	Fri 7/4/25	Thu 8/14/25
67	Develop Project Introductory Animation	6 wks	Fri 12/6/24	Thu 1/16/25
68	CLIMATE-CHANGE ADAPTATION MITIGATION STUDY REPORT	130 days	Fri 7/4/25	Thu 1/1/26
69	Assemble Draft Final C-CAMS Report	8 wks	Fri 7/4/25	Thu 8/28/25
70	Kern COG Review	6 wks	Fri 8/29/25	Thu 10/9/25
71	Assemble Final C-CAMS Report	6 wks	Fri 10/10/25	Thu 11/20/25
72	Board Presentation (Draft Final C-CAMS Report)	6 wks	Fri 8/29/25	Thu 10/9/25
73	Board Presenation (Final C-CAMS Report)	6 wks	Fri 11/21/25	Thu 1/1/26



E. KNOWLEDGE AND UNDERSTANDING OF THE LOCAL ENVIRONMENT

Mark Thomas has been delivering projects for local agencies throughout the Central Valley for the past 20 years, including recent work with Kern COG, Kern County, City of Bakersfield, City of McFarland; we have experience delivering state and federally-funded projects in Kern County. We have been involved in the Thomas Road Improvement Program (TRIP); and have delivered an "off-system" federally-funded project for the City of Ridgecrest.

Our team performed the following the following services for these local projects:

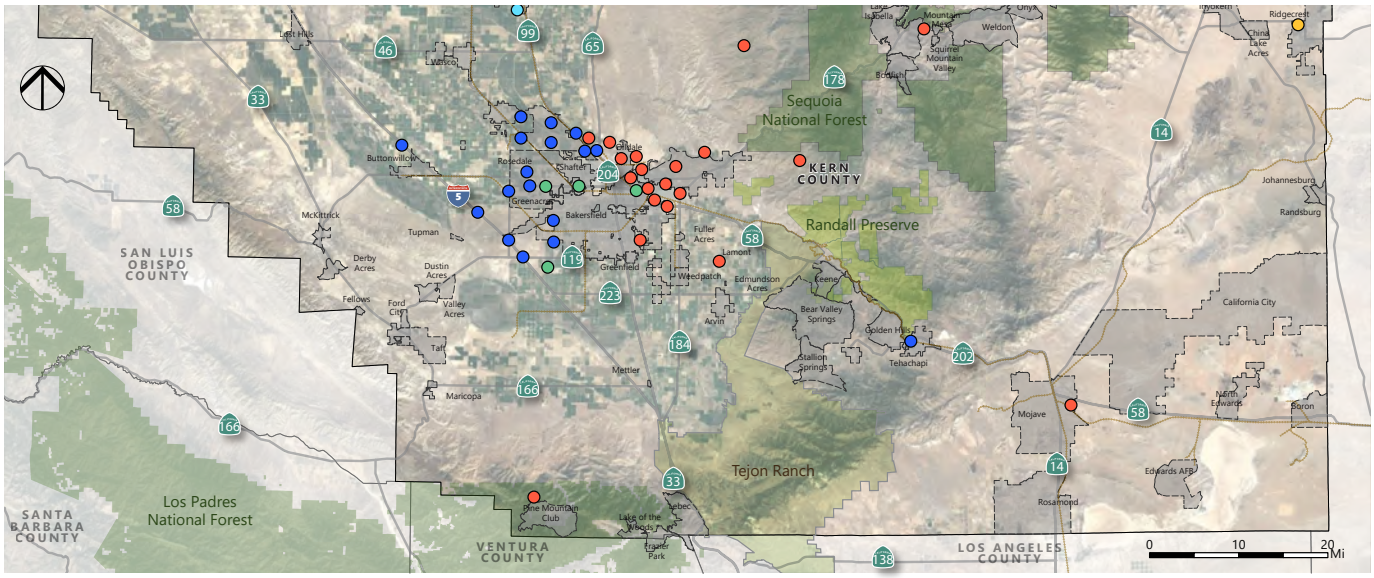
1. Performed planning and design level topographic surveys
2. Prepared Right of Way acquisition documents
3. Acquired needed Right of Way
4. Performed Traffic Studies and Prepared Traffic Operations Report
5. Preformed geotechnical services for roadway and structure design
6. Prepared intersection design studies
7. Prepared PS&E packages and support bidding and construction activities
8. Performed overall project management
9. Obtained project environmental clearance and permitting

In addition to our detailed design experience, we have recent planning and feasibility study level design experience in Kern County. Mark Thomas assisted Kern COG in developing design concepts and ballpark estimates for KARGO Phase 1 and 2 studies. With Fehr & Peers providing anticipated traffic information, Mark Thomas developed proper interchange configuration that accommodated the traffic demands. The recommended improvements took into account area constraints such as oil wells, irrigation canals, etc.

For Kern County, Mark Thomas has been developing conceptual design and estimates to assist the County applying for state and federal grants to fund the next phases of project delivery for some local roadway and transit projects. We prepared the PSR-PDS for the California City Boulevard Extension to the 140th Street/SR 58 Interchange. The project studied improvements to provide a direct route from California City to Edwards Air Force Base (a major employer of California City residents). The proposed connection will provide a safer commute between Edwards AFB and California City. Mark Thomas developed several alignment alternatives for the connection to study. The study also resulted in identifying needed improvements at the SR 50/140th Street interchange. We also prepared transit center siting studies for the Lake Isabella Transit Center and Mojave Transit Center. These project analyzed multiple locations and developed site plans to achieve:

- Optimize bus circulation and passenger transferability
- Identify an optimal automobile parking layout with potential for expansion
- Provide for pedestrian/bicycle access and circulation
- Provide for ADA access and paratransit interconnectivity

The graphic below show projects that Mark Thomas project experience in Kern County.

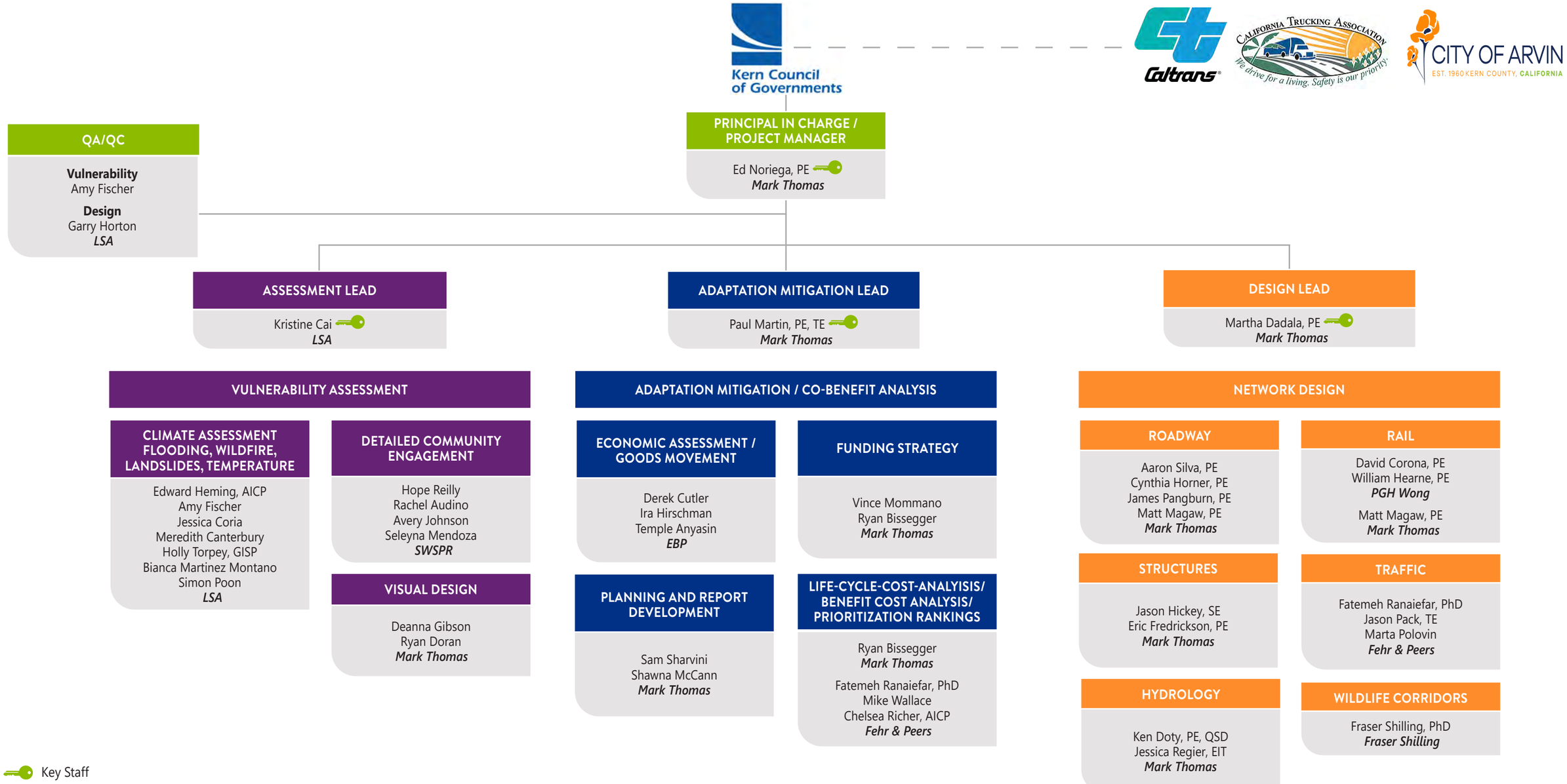


- KARGO Phase 1 and 2
- McFarland Projects
- TRIP Projects
- Ridgecrest Projects
- Kern County Projects

F. PROJECT ORGANIZATION AND KEY PERSONNEL

ORGANIZATIONAL CHART

We have assembled a highly experienced team dedicated to successfully delivering Kern COG's project. Our organization chart depicts the lines of communication and structure we intend to implement for this contract and the table on the following page describes the availability of each key team member. Key team member resumes are to follow. Additional team member resumes can be found in Appendix A.



Key Staff

ROLES AND RESPONSIBILITIES

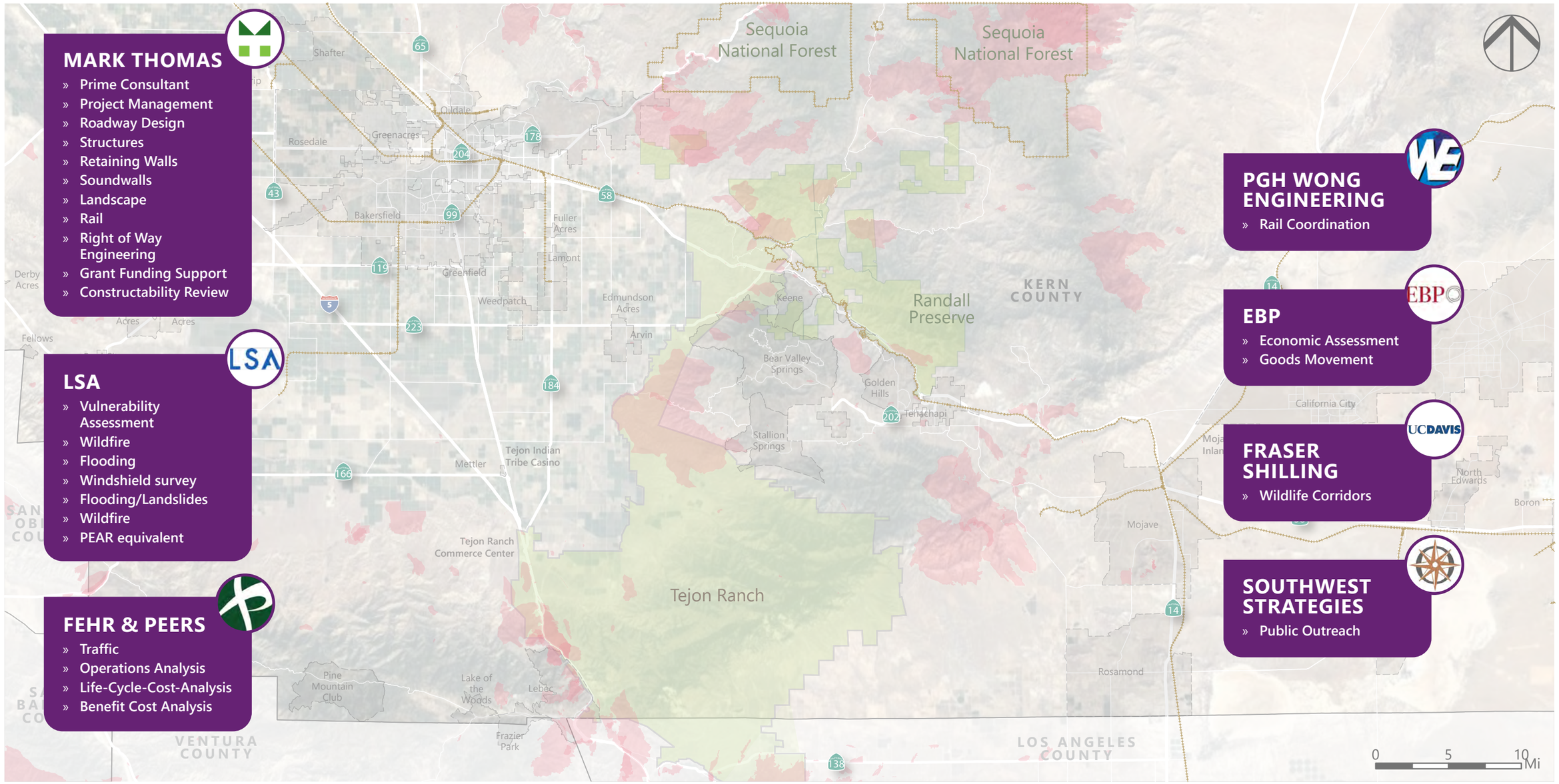
KEY STAFF	ROLES	RESPONSIBILITIES	AVAILABILITY
Ed Noriega, PE *Mark Thomas*	Principal in Charge / Project Manager	Ed will serve as the Principal-in-Charge and Project Manager. He'll allocate the resources to meet the project needs and will be the overall in charge and responsible for coordination with the County.	30%
Kristine Cai *LSA*	Assessment Lead	Kristine will lead Task 1. Climate Vulnerability Assessment. Under her guidance, the team will identify areas within Kern County that need climate adaptation mitigations improvements.	40%
Paul Martin, PE *Mark Thomas*	Adaptation Mitigation Lead	Paul will lead the team in developing climate adaptation mitigations for the projects. He will also lead the teams LCCA and BCA efforts; and the prioritization of projects.	40%
Martha Dadala *Mark Thomas*	Design Lead	Martha will lead the generation of 30% conception design for the project improvements.	40%

STAFFING CONTINUITY

Mark Thomas has over 380 professional staff to provide additional staffing and ensure that there is continuity in providing the necessary services to complete all task orders issued. Staffing continuity is achieved by clearly defining roles along with scheduled tasks. We foster constant and continual communication through weekly team meetings that log and address any issues that arise and carefully track the project. If there is an instance where a necessary change in a key team member, any team member, or subconsultants that are depicted in the organizational chart, an equally or more qualified staff or subconsultant will be selected that can seamlessly continue with the work with minimal interruption. There will be no changes in the team composition without prior approval from Kern COG.

TEAM RESPONSIBILITIES

Mark Thomas acknowledges Kern COG's statement on no changes in the team composition without prior written approval of Kern COG, and will adhere to this standard.



SUBCONSULTANTS

Our teaming partners supplement and expand our capabilities taking advantage of their existing understanding and work history on the project. We have long standing working relationships with these firms and close working relationships with their proposed team members.

LSA — TRAFFIC AND OPERATIONS ANALYSIS

LSA is a diversified environmental, transportation, sustainability, and climate action/adaptation planning firm with 47 years of experience helping clients navigate the often-complex process of climate action/adaptation planning. LSA has designed, implemented, and monitored large-scale mitigation and habitat restoration efforts in various locations throughout the State. LSA takes pride in developing and implementing effective and efficient CEQA compliance measures.

LSA's climate action and adaptation team offers climate vulnerability and risk assessment services, supported by their geographic information system (GIS) team. LSA's experts work to develop approaches to climate change analysis that meets current challenges; anticipates future issues; and reflects the needs of the projects, the communities, , and multiple regulatory agencies.

Companywide, LSA employs GIS professionals with a wide variety of geospatial experience, including solution architecture, web and mobile application development, aerial image capture and processing, community engagement, and field data collection methods. This experience allows the GIS team to prepare climate risk maps for our clients using Cal-Adapt software. Common risks that are evaluated by the GIS team include drought, extreme heat, precipitation, air quality, wildfires, and sea level rise.

The LSA team has developed and implemented dozens of Climate Action Plans (CAPs) and Climate Action and Adaptation Plans (CAAPs) for cities, counties, water districts and regions in California.

FEHR & PEERS — ENVIRONMENTAL/RISK AREAS

Fehr & Peers is an experienced multi-modal transportation planning and engineering firm established in 1985. They were an early industry leader in the planning and quantification of climate change impacts, as illustrated by their firm's role in co-authoring (founding principal Jerry Walters) the national publication Growing Cooler: *The Evidence on Urban Development and Climate Change (2007)* that was a collaborative effort of ULI, the Center for Clean Air Policy, and Smart Growth America. From distillation of complex transportation concepts to innovative complete streets designs to next-generation transit planning, Fehr & Peers' transportation planners and engineers strive to enhance mobility, safety and accessibility through better transportation solutions. Their approach combines the latest research and innovative technology combined with extensive public engagement to analyze, forecast, design, and evaluate transportation systems and the effects of changes to those systems on the people who rely on them. They use this information to develop visually-compelling plans that fit the local context and put people first while positioning leaders for success with competitive funding pursuits

Fehr & Peers worked on many of the Climate Action Plans and Greenhouse Gas Reduction Plans in Southern California, including Cities of Oxnard, Beverly Hills, and Irvine.

PGH WONG ENGINEERING, INC. — RAIL

PGH Wong Engineering, Inc. (PGH Wong) was established in 1985 on its extraordinary foundation in systems engineering including traction power, train control and signaling, communications, vehicles, and fare collection. Since its founding, PGH Wong has expanded to deliver civil, structural, architectural and trackwork design, program/project management, and construction management/administration practices.

PGH Wong is a leading infrastructure engineering, project management and construction management company, managing many of the largest transportation programs in the United States. PGH Wong has provided conceptual engineering, preliminary engineering, and final engineering for numerous rail transit projects in California.

PGH Wong is also currently providing Project and Construction Management Services for the Construction Package 1 (CP1) Design-Build Contract for California High-Speed Rail which extends from Road 26 in Madera County, CA to south of East American Avenue in Fresno.

EBP US – ECONOMIC ASSESSMENT, OIL INDUSTRY, AND GOODS MOVEMENT

Founded in 1996, EBP US is a U.S.-based company that provides superior, cutting-edge economic expertise, tools, and analysis to help their clients make better decisions on policies, programs, and investments in the transportation, energy, environment, and economic development sectors. They have an extensive experience analyzing and modeling the economic impacts of trade flows, freight fluidity, and port infrastructure to enhance trade flows in a region. EBP has an extremely high success rate in helping clients win grant funds for their discretionary grant applications. **They have helped support approximately $350 million in discretionary grant funds in the last 3 years.** They have great experience, through their BCA and Economic Impact Analysis core areas, in evaluating the full range of co-benefits of enhanced goods movement, including reduced emissions, accident reductions, and regional economic development. Working hand in hand with cutting edge freight data and planning tools are EBP's ability to incorporate regional economic models and broader development tools to look at both the behavior and response of a region to local development, competitive factors which enhance or impede those developments, as well as understand the competitive value statement of the region and its positioning amongst surrounding ports.

FRASER SHILLING – WILDLIFE CORRIDORS

Fraser Shilling is an ecologist with 30 years' post PhD experience and has been an academic scientist and independent consultant. He has led over 40 research and consulting projects for a wide range of public and private organizations. Besides being a research leader, he is currently the lead ecologist for several major wildlife crossing planning projects in California, in partnership with local and state agencies and stakeholders.

SOUTHWEST STRATEGIES – PUBLIC OUTREACH

Southwest Strategies is one of the most experienced and successful public outreach firms serving the surrounding areas for the last 23 years. For decades, they have helped clients in government and the private sector achieve their goals through innovative outreach strategies that educate, motivate and shape the future of our communities. In addition to supporting San Joaquin Valley COGs like Fresno COG, TCAG, MCAG and SJCOG on a variety of projects, they also have direct experience conducting outreach in Kern County. This includes supporting outreach for a PG&E project at Wheeler Ridge Junction, facilitating community meetings in Shafter for the San Joaquin Valley Air Pollution Control District, and conducting extensive public outreach and digital engagement regarding the Hard Rock Hotel and Casino Tejon.

ED NORIEGA, PE
PRINCIPAL IN CHARGE/PROJECT MANAGER

EDUCATION
BS in Civil Engineering, University of Toledo, Ohio, 1994

REGISTRATION
CA PE C61555

Ed has 28 years of experience in municipal and transportation engineering. Ed manages the design effort from our Fresno office. He has served as a project manager and project engineer on many projects including bridges, local roadway and streetscape improvements, highway interchanges and railroad grade separations. Ed has experience in all aspects of project development from inception (PSR), to approval (PA/ED), through to design (PS&E).

REPRESENTATIVE PROJECTS

PHASE I: KARGO SUSTAINABILITY STUDY: INTEGRATED CIRCULATION STUDY, KERN

Project manager responsible for professional engineering services for the preparation of an integrated circulation study for the cities of Bakersfield, Shafter, and Kern County. The primary goal was to create an integrated circulation study that incorporates input from multiple agencies that could be used as a tool to assist the cities of Bakersfield and Shafter, and the County of Kern in updating their circulation elements, focusing on the importance of key corridors to the movement of goods in the region.

PHASE II: KARGO SUSTAINABILITY STUDY: INTEGRATED CIRCULATION STUDY, KERN

Project manager responsible for phase II addressing the strategies that were not able to be addressed by the Phase I Study (i.e., low and zero emission truck technology) that was incorporated in Phase II. Some of the major goals and tasks included the preparation for expected freight growth in the region, suggested changes to the General Plan Circulation Element and STAA Tuck Route Map to accommodate the long-range freight growth and developing funding options and a nexus study to account for the freight transportation needs (i.e., road maintenance, capacity, clean technology, etc.).

SR 132 PHASES 2 & 3, STANISLAUS

Project manager responsible for the PS&E for phase two and three, and the two environmental documents being cleared, one for the segment from SR 99 to Dakota Avenue (Phases 1 and 2) and the other is for the segment from Dakota Avenue to Gates Road/Paradise Road ("Phase 3").

VETERANS BOULEVARD/STATE ROUTE 99 INTERCHANGE PHASE II - INTERCHANGE AND GRADE SEPARATION, FRESNO

Project manager for this multi-agency, multi-discipline $110 million transportation project. Responsible for the preparation of plans, specifications, and estimate for this 2.5-mile roadway, new interchange and railroad grade separated crossing. The project includes a grade separated Class 1 trail through the interchange. Responsible for overall management of project elements including design, right of way acquisition, and utility relocation. Coordinated with the City, UPRR, CAHSR, CPUC, Caltrans, and utility companies.

STATE ROUTE 58 (ROSEDALE HIGHWAY) WIDENING, BAKERSFIELD

Project engineer responsible for final design and construction support services for the $17 million widening approximately 5.5 miles of SR 58/Rosedale Highway from SR 99 to Allen Road. This conventional highway is on the National Highway System within City of Bakersfield, County of Kern, and Caltrans District 6 right of way.

CROWS LANDING CORRIDOR IMPROVEMENTS, MODESTO

Project manager responsible for PS&E services to construct median curb, curb gutter and sidewalk, and various other roadway improvements along a 1-mile stretch of Crows Landing Road. The project area contains a five-lane arterial corridor that has grown to accommodate businesses and serves as access to residential communities. This mixture of land use generates a large amount of non-motorized transportation, including biking and walking, that are commonly seen along the corridor.

PAUL MARTIN, PE, TE
ADAPTATION MITIGATION LEAD

EDUCATION
BS in Civil Engineering, University of California, Irvine, 1999

REGISTRATION
CA LCI 4936
CA PE C65868
CA TE TR2315

Paul has 24 years of experience as a transportation manager and traffic engineer. He has a strong engineering and planning background that is focused on improving public travel and safety. Paul's expertise includes multi-modal transportation planning, active transportation, community engagement, traffic engineering, and strategic funding programs. He has experience working on complex transportation planning projects, including comprehensive multimodal corridor plans, that analyze and prioritize improvements and involve coordination with regional and local agencies. Paul co-leads a Caltrans ATRC 2-day course on positioning for successful grant applications that has been attended by over 500 public and private sector practitioners.

REPRESENTATIVE PROJECTS

LA PAZ ROAD RESILIENCY IMPROVEMENTS LTCAP GRANT SUPPORT, LAGUNA NIGUEL
Project manager responsible for preparing the Local Transportation Climate Adaptation Program (LTCAP) grant application for improvement to La Paz Road. In addition to the slope mitigations, the scope of work also included installing a road diet on the corridor and installing Class IV protected bikeway. We prepared an updated cost estimate to reflect recent bid pricing and contingencies.

PLACER-SACRAMENTO ACTION PLAN (PSAP), PLACER
Transportation planning support for this study to prioritize and advance regionally significant projects across nine jurisdictions. The project area is 40-mile corridor which includes SR 65 from Lincoln to I-80 interchange, I-80 from SR-49 to SR-51 split, and SR-51/US-50 to I-5. Projects geared towards increasing travel options on the corridor and developing a multi-modal transportation system that will support economic and population growth in its neighboring communities. Responsibilities have included grant program discussions and assisting with project prioritization rankings based upon SB-1 grant program criteria.

BUTTE COUNTY COMMUNITY EVACUATION PLANNING PROJECT BUTTE
Project manager for project that includes refining community emergency evacuation maps for 10 rural unincorporated communities and the City of Biggs. Services include traffic evacuation analysis, wildfire risk mitigation analysis and assessment, data collection, review of existing plans, and baseline maps. The project also involves extensive public agency coordination, community engagement and outreach and public meetings. These efforts will result in updated evacuation maps, engineering and operational improvements identification and community input strategies.

TRANSPORTATION MASTER PLAN, PARADISE
Project engineer responsible for providing strategic planning services to the Town of Paradise to guide recovery following the 2018 Camp Fire. Projects include engineering design utilizing state air congestion mitigation funds and a $1.7 million Transportation Master Plan (TMP). The TMP is a broad serving document that updates development design standards for the Downtown and along the Clark Road Corridor, identifies placemaking and parking recommendations, and positions the Town for repopulation through growth in residential and commercial land uses. The successful grants have so far yielded $41m in ATP funding, $230m in disaster recovery funding, and $33m in LTCAP resiliency funding.

SR 4 CORRIDOR VISION, CONTRA COSTA COUNTY
Deputy project manager and planning lead for the preparation of a multimodal corridor plan for SR 4. The Visioning project provides a baseline understanding of current challenges and opportunities along the SR-4 corridor. The objective is to comprehensively assess the transportation infrastructure along the SR4 corridor, considering various modes and facilities. This assessment defines and prioritizes future infrastructure investments within Contra Costa County. Responsibilities include report development and review, coordination with Caltrans and local agencies, and reviewing supplemental analyses for safety, freight, and emerging technologies.

MARTHA DADALA, PE
DESIGN LEAD

EDUCATION
MS in Geotechnical Engineering, National Institute of Technology Warangal, 1992
BS in Civil Engineering, National Institute of Technology Warangal, 1990

REGISTRATION
CA PE C66275

Martha has 31 years of experience focused on the planning, design, and construction management of transportation engineering projects. Her extensive experience includes highway planning, geometric design of highways, and interchanges; infrastructure development; drainage design; pavement design; complete streets design; and at-grade intersections and roundabouts. She is experienced at building consensus with multidisciplinary team input into a constructible and approvable concept, and is experienced at preparing feasibility studies, preliminary design reports, project study reports, project reports, bid documents, technical reports, constructability evaluation, and other engineering documents.

REPRESENTATIVE PROJECTS

SR 132 PHASES 2 & 3, STANISLAUS
Project engineer responsible for the PS&E for phase two and three, and the two environmental documents being cleared, one for the segment from SR 99 to Dakota Avenue (Phases 1 and 2) and the other is for the segment from Dakota Avenue to Gates Road/Paradise Road ("Phase 3").

VALLEY LINK, ALAMEDA AND SAN JOAQUIN COUNTIES
Deputy project manager for the PA&ED phase for the 22-mile initial operating phase between Dublin/Pleasanton and a new Mountain House Community station with additional stations at Isabel Avenue and Southfront Road. Scope includes analysis and preliminary design of impacts and improvements to I-580 to accommodate the new rail corridor, and coordination with Caltrans.

US 101/HOLLY STREET INTERCHANGE AND PEDESTRIAN OVERCROSSING, SAN CARLOS
While at a previous firm, served as principal engineer responsible for providing oversight to the preliminary and final design for the interchange modification at US 101 and Holly Street and addition of a pedestrian overcrossing over US 101. The interchange modification will remove the northeast and southwest loop ramps from the existing full cloverleaf (Type L-10) interchange and create a partial cloverleaf (Type L-9) interchange to US 101. Diagonal on- and off-ramps will be modified to create more bicycle- and pedestrian-friendly crossings. Holly Street will be widened to provide a third through lane for limited sections at on-ramp approaches. Martha proposed several cost-effective and value engineering design features to reduce the impacts to the wetlands and processed them through Caltrans.

SR 120/MCKINLEY AVENUE INTERCHANGE, MANTECA
While at a previous firm, served as project manager for the design of a new interchange on SR 120 between the SR 120/Yosemite Avenue and SR 120/Airport Way interchanges. This project achieved PA&ED as the Project Report was approved in November 2014. Responsibilities included preparing the final design documents (plans, specifications, and estimate [PS&E]) and Project Report. Additional related document reports consisted of right-of-way engineering; Project Report; Stormwater Data Reports; Right-of-Way Data Sheets and Preliminary Drainage Report; Design Exception Factsheets and DIB 77 for Interchange Justification; cost estimates; and Traffic Management Plan checklists.

SR 1 PROGRAM MANAGEMENT, SANTA CRUZ COUNTY
While at a previous firm, served as project manager for analyzing alternative investments to relieve congestion on SR 1 (Highway 1) in Santa Cruz County. The Highway 1 program is comprised of Tier I and Tier II stages. Tier I is a long-term, program level analysis for the future of the Highway 1 corridor between the Cities of Santa Cruz and Aptos. The Tier I concept for the corridor will be built, over time, through a series of smaller incremental projects (referred to as Tier II projects). Tier II is a project level analysis of a smaller incremental project within the Tier I corridor which would move forward based on available funding. Each of the Tier II projects would have independent utilities and benefits to the public and Highway 1 operations. is currently assisting the RTC with three Highway 1, Tier II projects, including: Highway 1 Northbound and Southbound Auxiliary Lanes, between 41st Avenue and Soquel Drive; Highway 1 Auxiliary Lanes and Bus-On Shoulder, from Bay Avenue/Porter Street to State Park Drive; and Highway 1 Auxiliary Lanes and Bus-On Shoulder, between State Park Drive and Freedom Boulevard Interchanges.

KRISTINE CAI

DIRECTOR OF MOBILITY, CENTRAL AND NORTHERN CALIFORNIA

EXPERTISE

- Transportation Strategy and Planning
- Sustainable Communities Strategy
- Project Management
- VMT Mitigation
- SB 743 Implementation
- Travel Demand Forecasting
- Talent Training and Development
- Policy Development
- Process Improvement
- Grant Management
- Team Leadership
- Presentations and Reporting

EDUCATION

M.S., Regional and Community Planning, Kansas State University, 1999

PROFESSIONAL EXPERIENCE

Director of Mobility, Central and Northern California, LSA, 7/2023–Present

Deputy Director, Fresno Council of Governments, 2019–2023

Other Roles, Fresno Council of Governments, 2002–2019

Regional Planner, San Joaquin Council of Governments, 1999–2001

PROFESSIONAL RESPONSIBILITIES

Ms. Cai is a recognized expert in transportation strategy and planning, policy development, VMT strategy and mitigation, and travel demand forecasting. Ms. Cai served as the Deputy Director for the Fresno Council of Governments, and was with the Fresno Council of Governments for 21 years before joining LSA. During her service in the public sector, Ms. Cai devoted much of her career to integrated transportation and land use planning work. She has extensive experience advancing innovative solutions that meet sustainability, efficiency, equity, and safety goals. Leading a team of professional engineers and planners, she implemented many projects and programs that advanced the sustainability in the Fresno region as well as in the San Joaquin Valley. As the Director of Mobility for Central and Northern California at LSA, Ms. Cai will continue to serve the communities in the San Joaquin Valley as well as in the Northern California region.

PROJECT EXPERIENCE

Fresno Council of Governments, 2022 Regional Transportation Plan/Sustainable Communities Strategy Development
Fresno, California

Ms. Cai directed the development (for the third time) of the Fresno Council of Governments' RTP/SCS, which was adopted in July 2022. She worked closely with federal, State, local partners, interest groups, and the public through a robust, interactive and multifaceted public process to develop a comprehensive transportation plan that addresses issues such as transportation, housing, climate, social equity, resource conservation, and public health.

Fresno Council of Governments, Fresno County Regional Transportation Network Vulnerability Assessment

Ms. Cai supervised the Fresno County Transportation Network Vulnerability Assessment study, which assessed the climate risk to the transportation infrastructure in Fresno County, prioritized the most vulnerable and critical assets and identified mitigation strategies for future actions.

Fresno Council of Governments, Development of the Fresno County SB 743 Implementation Regional Guidelines
Fresno, California

Ms. Cai led a consultant team and stakeholder group and developed a well-received regional implementation guideline that provides local governments and development communities with recommended thresholds, tools, and policies to implement SB 743. The technical team at Fresno Council of Governments has been providing VMT analysis service to traffic engineering consultants and development communities for their traffic impact studies.

H. EXCEPTIONS TO THIS RFQ

Per Section 2 h. of the RFQ, Mark Thomas has reviewed RFQ Exhibit "B" the sample Standard Professional Services Contract. We are requesting the following revisions to the contract language shown in red.

Request 1:

Section VI D. Contract Completion Retainer:

The contract requires a ten (10) percent retainer from each billing only to be released at contract completion. Mark Thomas is an employee-owned for-profit organization. We rely on our profits to operate the company; and to share with each of employee through our yearly adjustments and year end profit-sharing. We request that this language is updated as suggested below:

D. Contract Completion Retainer:

~~Ten~~ Five (~~10~~5) percent shall be retained from each contract billing until the completion of ~~the contract~~ a milestone task. This retention will be released to Consultant upon completion ~~of contract~~ a milestone task and contract deliverables to the reasonable satisfaction of Kern COG.

Request 2:

Section XVIII Hold Harmless:

The current contract language in Section XVIII Hold Harmless is not compliant with Senate Bill 496. We request that this language is updated as suggested below.

Kern COG's contract may be unenforceable and may expose Kern COG to General Liability claims. To be consistent with Civil Code Section 2782.8 and so Kern COG has clear protection from General Liability claims, we're recommending the text below so Kern COG gets the full benefit of our insurance coverage. The suggested language separates "design professional" services from all other general services. We have insurance for both General Liability and Professional Liability. General Liability insurance covers defense cost while Professional liability insurance does not. The suggested revision to XVIII below provides Kern COG access to our General Liability insurance clearly and also provides coverage to our Professional Liability insurance consistent with 2782.8. Below is our recommended modification to Section XVIII of the Professional Services Contract.

Section XVIII Hold Harmless:

Consultant agrees to indemnify, but not defend and hold harmless Kern COG and Kern COG's ~~agents~~, board members, elected and appointed officials and officers, employees, ~~volunteers and authorized representatives~~ from any and all losses, liabilities, ~~charges~~, damages, ~~claims, liens, causes of action, awards,~~ judgments, costs, and expenses ~~(including, but not limited to, reasonable attorneys' fees of County Counsel and other counsel retained by Kern COG, expert fees, costs of staff time, and investigation costs) of whatever kind or nature, which arise out of or are in any way connected with any~~ but only to the extent actually caused by the negligent, reckless, or willful act or omission of Consultant or Consultant's officers, agents, employees, independent contractors, sub-contractors of any tier, or authorized representatives, or breach of this Agreement. Without limiting the generality of the foregoing, the same shall include bodily and personal injury or death to any person or persons; damage to any property, regardless of where located, including the property of Kern COG; and any workers' compensation claim or suit arising from or connected with any services performed pursuant to this Agreement on behalf of Consultant by any person or entity. Consultant has no obligation to pay for any of the indemnitees' defense related cost prior to a final determination of liability or to pay any amount that exceeds Consultant's finally determined percentage of liability based upon the comparative fault of Consultant.

APPENDIX A
RESUMES

MATT MAGAW, PE
ROADWAY AND RAIL

EDUCATION
BS in Civil Engineering, University of California, Davis, 1984

REGISTRATION
CA PE C45041

Matt has 10 years of experience in the design and delivery of transportation improvement projects. His experience includes rail design, at-grade crossing improvements, geometric design, drainage design, utility coordination and the preparation of PS&E. His project experience includes railroad track design and at-grade crossing improvements, roadway and corridor extensions, interchange and highway improvements, bridges, grade separations, intersection modifications, active transportation facilities and complete streets design.

REPRESENTATIVE PROJECTS

SR 70 BINNEY JUNCTION ROADWAY REHABILITATION AND COMPLETE STREETS, MARYSVILLE

Serving as project engineer to rehabilitate SR 70, in the City of Marysville, from 0.1 mile south of 14th Street to just north of Cemetery Road in Yuba County. Mark Thomas prepared track relocation design for two UPRR subdivisions (Sacramento and Valley Subs) and three connector tracks. Design included coordination with two structures, retaining walls, utilities, drainage, flood control/levee, Caltrans, and UPRR as a CMGC project.

QUARRY LAKES PARKWAY (QLP) PHASES 3 & 4, UNION CITY

The Quarry Lakes Parkway (QLP) project is the major first link providing better circulation within the community of Union City for vehicles and will offer a non-motorized, healthy travel alternative to access transit, local parks, trails, and retail. In time, the larger project will allow safer routes to schools, and playgrounds. Project engineer for the East West Connector phases of this project. Services include roadway and bridge plan updates to 30% level engineering, draft and final design guidelines, agency coordination (BART, UPRR, and ACWD), data review related to the design of the project.

POWER INN ROAD QUEUE CUTTER, SACRAMENTO

Civil project engineer for the preparation of PS&E for surface and signal improvements to the Power Inn Road at UPRR at-grade crossing near Fruitridge Road. The design included new medians, pedestrian, and sidewalk improvements, and signing and striping design associated with the queue cutter traffic signal. The project required interconnection with railroad warning devices and the City's Fruitridge Road traffic signal for communications, preempt, and closed-circuit television. Coordinated with UPRR and the CPUC was needed to facilitate design reviews, approval, and to process the modification to an at-grade crossing General Order 88b application. Responsibilities included leading the civil engineering design and providing quality control reviews.

GRANT LINE ROAD WIDENING AND GRADE SEPARATION PHASE 1 PS&E, ELK GROVE

Design engineer for the preparation of PS&E for the widening and grade separation of Grant Line Road. Improvements included a new four-lane road and railroad overhead connecting the recently constructed SR 99/ Grant Line Road interchange and the recently constructed realignment of Waterman Road.

HARNEY LANE / UPRR GRADE SEPARATION, LODI

Design engineer responsible for the design of a new roadway grade separation at the UPRR tracks. This grade separation project included the preparation of the environmental document including technical studies, utility conflict mapping, funding applications and support, preliminary engineering work, and final design PS&E.

CALTRANS DISTRICT 3 CAPITAL CITY FREEWAY IMPROVEMENTS, SACRAMENTO

Serving as project engineer for the SR 51 Project from J Street to Arden Way includes roadway widening/ rehabilitation, bus/carpool lanes, auxiliary lanes, ITS elements, bridge widening, and replacing three railroad underpass structures. Mark Thomas is responsible for preparation of 10% level concept plans and two shoofly options for each of two alternative SR-51 locations. Each concept will provide for approximately 13,000 LF of shoofly track.

JASON HICKEY, SE
STRUCTURES

EDUCATION
Training in Bridge Inspector Training, National Highway Institute (NHI), 2016 Training in LRFD Bridge Design Course, University of California, Davis, 2006
BS in Civil Engineering, California State University, Chico, 2004

REGISTRATION
CA SE S5783, CA PE C72409, Leadership in Energy and Environmental Design (LEED)

Jason has 19 years of experience in the analysis, design and preparation of PS&E packages for bridges and overcrossings involving railroads and converting at-grade railroad crossings to bridges and retaining wall projects. He has been responsible for all aspects of structures project development, from preparing advance planning studies, retrofit strategy reports, and type selection reports during preliminary engineering to the preparation of PS&E production documents to shop drawing reviews and field investigations during construction. Jason's project experience also includes structure inspections, evaluation of existing and damaged structures, design of repairs and strengthening. These projects have included pedestrian bridges, vehicular bridges, retaining walls, box culverts, concrete and steel storage tanks and water/wastewater treatment structures. Jason is a registered structural engineer in California, is a LEED-accredited professional and is a registered professional engineer in California.

REPRESENTATIVE PROJECTS

HWY 1 AUXILIARY LANES - STATE PARK TO FREEDOM, SANTA CRUZ
Structures engineer for the PA&ED for the widening of the SR 1 bridge over Aptos Creek. The existing railroad bridges will be replaced with longer span bridges to accommodate the addition of auxiliary lanes on Highway 1. The new bridges will also be able to accommodate future high-capacity public transit and trail to improve multimodal transportation across the County. The new bridges, soundwalls, and retaining walls will incorporate aesthetic treatments consistent with the visual character of the corridor and the adjacent community.

I-80 / I-680 / SR 12 INTERCHANGE COMPLEX INITIAL CONSTRUCTION PACKAGE PS&E, SOLANO
Structures check engineer responsible for the independent structure design, layout and plan preparation check for new overcrossing structure. The overcrossing structure is a precast, prestressed wide-flange girder. The single span structure is approximately 166 feet long and 53 feet wide, crossing over the southbound 680 on-ramp..

CERES STATION IMPROVEMENTS, CERES
Design engineer for PS&E for the Ceres Station passenger rail project in the City of Ceres. The station will be constructed between the UPRR tracks and SR 99 and runs approximately 1,000 feet from north of Kinser Road to south of Central Avenue. Improvements will be constructed across State, UPRR, and City right of way, and include the following: A new station platform, new surface parking along El Camino Avenue, a new pedestrian path under SR 99, Multiple retaining walls along surface parking and under SR 99, Installation of a new traffic signal at the southbound off-ramp terminal, Install signal at 7th and Pecos intersection, at grade crossing improvements at Pecos Avenue and also 7th Street, culvert rehabilitation, and utility relocation and coordination.

BROADWAY GRADE SEPARATION, BURLINGAME
Structures engineer responsible for the project's design, final plans and estimates, right-of way design, utility coordination, and traffic handling plan. The project includes raising the Caltrain tracks approximately 18.5 feet and lowering Broadway approximately six feet to accommodate a grade separation. The project will include a new raised station platform with connections from the street level to the center of the platform, a new parking lot on the east side on Carolan Avenue, and new grade-separated pedestrian undercrossing.

ELK GROVE STATION IMPROVEMENTS, ELK GROVE
Structures engineer for the completion of the PA&ED/ Preliminary 30% Design phase that involves obtaining environmental clearance and undertake the project PS&E final design phase that includes design and environmental permitting and mitigation monitoring support during the bidding and construction phases for this project. The project includes construction of up to a 10,000-foot-long siding track to accommodate the operational requirements UPRR needs to allow passenger service to run in the corridor and the removal and replacement of approximately 3,900 feet of existing UPRR mainline track between Laguna Boulevard and Big Horn Boulevard to accommodate construction of the station platform.

CYNTHIA HORNER, PE
ROADWAY

EDUCATION
BS in Civil Engineering, California State University, Fresno, 2016

REGISTRATION
CA PE C92276

Cynthia has 11 years of experience in transportation engineering. She has worked on numerous projects, including transportation, local roadway and intersection improvements. Her experience includes geometric design, grading and drainage design, utility coordination, ADA compliance, and preparation of PS&E. Cynthia has extensive experience leading the development of final PS&E for active transportation projects involving coordination with irrigation districts, PG&E, and other utility providers.

REPRESENTATIVE PROJECTS

PHASE II: KARGO SUSTAINABILITY STUDY: INTEGRATED CIRCULATION STUDY, KERN
Project engineer responsible for phase II addressing the strategies that were not able to be addressed by the Phase I Study (i.e., low and zero emission truck technology) that was incorporated in Phase II. Some of the major goals and tasks included the preparation for expected freight growth in the region, suggested changes to the General Plan Circulation Element and STAA Tuck Route Map to accommodate the long-range freight growth and developing funding options and a nexus study to account for the freight transportation needs (i.e., road maintenance, capacity, clean technology, etc.).

VETERANS BOULEVARD/STATE ROUTE 99 INTERCHANGE PHASE II - INTERCHANGE AND GRADE SEPARATION, FRESNO
Design engineer for the environmental and PS&E phases for the Veterans Boulevard/SR 99 Interchange and Extension. The project constructs a new roadway with bicycle and pedestrian facilities that accommodates future development and circulation needs in Northwest Fresno. The project also comprises of the construction of a double box culvert at the Herndon Canal crossing.

KERN TRANSIT STATIONS FEASIBILITY STUDY, KERN
Design Engineer responsible for study of locations, site layout, estimates, and final report for proposed transit center. Study includes analysis of short and long term needs, functionality, meeting client's objectives, pedestrian/bicycle/bus access and circulation, and cost. The preliminary investigation consists of gathering GIS, utility, and site information. Development of each site includes layout of bus station, bus entrance and exits, park-n-ride lot, planned utilities, future facilities, and landscaped areas. Responsibilities include preparation of site exhibits, cost estimates, and a feasibility study describing the sites in detail for delivery to the client.

CERES STATION IMPROVEMENTS, CERES
Design engineer for PS&E for the Ceres Station passenger rail project in the City of Ceres. This project is one of several to be completed by the SJRRC to improve commuter rail services from the San Joaquin Valley into Sacramento and the Bay Area. The Ceres Station will be constructed between the UPRR tracks and SR 99 and runs approximately 1,000 feet from north of Kinser Road to south of Central Avenue. Improvements will be constructed across State, UPRR, and City right of way, and include the following: A new station platform, New surface parking along El Camino Avenue, a new pedestrian path under SR 99, Multiple retaining walls along surface parking and under SR 99, Installation of a new traffic signal at the southbound off-ramp terminal, Install signal at 7th and Pecos intersection, at grade crossing improvements at Pecos Avenue and also 7th Street, culvert rehabilitation, and utility relocation and coordination.

GOLDEN STATE CORRIDOR IMPROVEMENTS, FRESNO
Design engineer for the preparation of plans, specifications, and estimate, utility relocations, and coordination with multiple agencies. The goals of the project are to revitalize and improve the corridor and stimulate economic development along 14.1 miles of Golden State Boulevard. The project includes reconfiguring medians, turn pockets, improvements to at-grade UPRR crossings, and intersection modifications to improve traffic safety and operations, as well as extensive pavement rehabilitation.

CALIFORNIA HIGH SPEED RAIL CONSTRUCTION PACKAGE 1, FRESNO
Project engineer responsible for the plan check review of City of Fresno infrastructure designs for the High-Speed Rail Construction Package 1 project. Work included the review of the roadway components of the Ventura Underpass, Fresno Underpass, and Tulare Underpass.

JAMES PANGBURN, PE
ROADWAY

EDUCATION
BS in Civil Engineering, California State University, Sacramento, 2004

REGISTRATION
CA PE C71445

James has 21 years of experience in municipal and transportation engineering. He has served as project manager and design lead on numerous projects, including Caltrans highway widenings and interchanges, local roadway and intersection improvements, infrastructure improvements and streetscape enhancements. His experience includes preparation of PS&E, geometric design, drainage design, utility coordination, and Caltrans coordination. James has a strong understanding of the Caltrans project delivery process and the Highway Design Manual. He has been involved with the planning and design of new local access to state highways and knows what is required to gain access.

REPRESENTATIVE PROJECTS

DONNER PASS ROAD CORRIDOR IMPROVEMENTS, TRUCKEE
Project manager responsible for overseeing design and layout of project alternatives, overseeing subconsultants, and coordinating with external stakeholders for complete street improvements along Donner Pass Road, in Truckee. The goal of the Donner Pass Road project is to provide safer pedestrian facilities, improve bicycle lanes, and beautify the corridor. The existing roadway was a former state highway (Historic Route 40), and is very "automobile focused." The project is currently in the corridor planning phase, with Phase 1 (HSIP funded) going to construction in the summer of 2016.

BROADWAY COMPLETE STREET IMPROVEMENTS, SACRAMENTO
Project manager for improvements that include a four-lane to three-lane road diet, Class II buffered bike lanes, intersection modifications at key locations, pedestrian improvements, conversion of 16th Street to a two-way street, and constructing the 29th Street extension between X Street and Broadway.

ENVISION BROADWAY IN OAK PARK, SACRAMENTO
Project manager providing oversight and management for the PA&ED and PSE phase of this important roadway segment. This project will enhance mobility for all users including bicyclists, pedestrians, and transit riders by reducing the number of travel lanes on Broadway; provide buffered Class II bike lanes; enhance intersection treatments between Alhambra Boulevard and Martin Luther King Jr. Boulevard; and maintaining the area's historic identity.

FOLSOM BOULEVARD STREETSCAPE - PHASE 4, RANCHO CORDOVA
Project manager responsible for Phase 4 and 5 of this historic corridor beautification project that included providing bicycle and pedestrian friendly features, improved safety and connectivity and traffic calming. The light rail connectivity and safety around local school has significantly improved as a result of this project.

AUBURN BOULEVARD WIDENING, SYLVAN CORNERS TO RUSCH PARK PS&E, CITRUS HEIGHTS
Project engineer responsible for final design of improvements to Auburn Boulevard between Rusch
Park and Sylvan Corners, passing through a variety of commercial and high-density residential properties located on either side of the streets. Project includes design of landscape and architectural features throughout the project limits, removal of excess driveways, partnering with SMUD to underground all of adjacent facilities, and upgrading the existing bridge over Cripple Creek for enhanced pedestrian safety features. This project also included the construction of a Class 1 Bike Facility and prefabricated pedestrian crossing Cripple Creek.

CHASE DRIVE CORRIDOR IMPROVEMENTS, RANCHO CORDOVA
Project manager responsible for providing master plan design, coordination with project stakeholders, cost estimating and recommendations of project phasing, developing complete street alternatives, and created an opportunities and constraints plan for the Chase Drive Corridor. The project consists of upgrading and updating the primary entry to one of the oldest and most beloved regional parks in the County, creating a stronger connection to the community and surrounding land users, capitalizing on the value of the recently built performing arts center on the adjacent high school campus, creating additional access, visibility and parking for Soil Born Farms, hands-on urban farming, and ultimately connecting local City bike corridors with the American River Bike Trail.

AARON SILVA, PE
ROADWAY

EDUCATION
BS in Civil Engineering, California State University, Sacramento, 2007

REGISTRATION
CA PE C75938

Aaron has 16 years of experience in design and delivery of municipal and transportation projects. Aaron is a proven engineer and geometrician. He is knowledgeable in both local agency and Caltrans design standards and has successfully delivered projects with sensitive and significant public outreach efforts. Aaron is recognized as an expert in the design of bike and pedestrian facilities, helping design and implement state of the practice solutions to improve active transportation safety throughout California.

REPRESENTATIVE PROJECTS

VETERANS BOULEVARD/STATE ROUTE 99 INTERCHANGE PHASE II - INTERCHANGE AND GRADE SEPARATION, FRESNO

Project engineer responsible for the preparation of PS&E for a new 2. 5 mile six-lane super arterial within the City of Fresno. This $115-million project will connect areas on opposite sides of SR 99 and will include a Class I bicycle path, improving pedestrian mobility in the area. Project tasks included preparing roadway geometrics, detailed grading conforming to existing pavement and other roadway facilities, design of a precast box culvert, coordination with design of the Veterans Boulevard Interchange project, and preparation of a project cost estimate.

CAPITAL SOUTHEAST CONNECTOR ON-CALL PROFESSIONAL SERVICES, SACRAMENTO

Project manager overseeing on-call, as-needed land surveying, civil engineering, and construction management services for the planned Capital SouthEast Connector Project (Connector) Project. Managed by a Joint Powers Authority (JPA) that includes the cities of Folsom, Elk Grove, and Rancho Cordova, and El Dorado and Sacramento counties this project is a 34-mile limited-access roadway spanning from the Interstate 5 / Hood-Franklin interchange, south of Elk Grove, to U.S. 50 at the new Silva Valley Parkway interchange just east of El Dorado Hills Blvd. This project will feature four traffic lanes, and accommodate bicycle, pedestrian, equestrian, transit, truck and automobile travel.

GRANT LINE ROAD WIDENING AND GRADE SEPARATION PHASE 1 PS&E, ELK GROVE

Project engineer responsible for the construction support for the widening and grade separation of Grant Line Road over the Union Pacific Railroad tracks. Improvements included a new four-lane road and railroad overhead connecting the recently constructed State Route 99/Grant Line Road interchange and the recently constructed realignment of Waterman Road. The project required the relocation coordination for several utilities that conflicted with the project, reviewing material submittals, and working with the Resident Engineer and contractor to resolve requests for information resulting from various field conditions.

HARNEY LANE/UPRR GRADE SEPARATION FEASIBILITY STUDY REPORT, LODI

Design engineer responsible for preparing the feasibility study for a grade separation at Harney Lane and Union Pacific Rail Road. Multiple alternatives were developed and the study included cost estimates, design challenges, utility and right of way impacts, scheduling and recommendations.

LATHROP ROAD WESTERLY GRADE SEPARATION, LATHROP

Project engineer responsible for the preparation of plans, specifications, and estimates for the widening and grade separation of Lathrop Road over the Union Pacific Railroad. This project included the design of new residential access roads, retaining walls, parking lot design, and utility relocation.

SACRAMENTO-BROADWAY VISION ZERO,

Project manager for this important east-west four lane arterial project that provides a cross town connection between Interstate 5 and 65th Street. This segment of Broadway is mostly residential on and adjacent to the corridor where there are existing sidewalks on both sides of Broadway with segments of Class II bike lanes. This project includes elements that will enhance the mobility for all users including bicyclists, pedestrians, and transit riders by providing improved pavement; separated bikeways; and enhanced intersection treatments at Martin Luther King Jr. Boulevard and East Stockton Boulevard.

ERIC FREDRICKSON, PE
STRUCTURES

EDUCATION
BS in Civil Engineering, California State University, Sacramento, 2007

REGISTRATION
CA PE C75938

Eric has 35 years of experience in structural design and design oversight with Caltrans. Throughout his career, he has provided bridge and structural design or review of more than 100 projects across California. Many of these projects included type selection, structural analysis, and retrofit/widening of bridges over waterways and roadways. For 15 years, Eric was the Caltrans structures oversight liaison for locally-funded projects in the North Region (Districts 1, 2, and 3). In this role he coordinated with local agencies on their structures design projects within Caltrans' right of way. Additionally, he was an instructor for the Caltrans Bridge Design Academy and Seismic Retrofit Design Academy. He was a member of the Caltrans Prestress Concrete committee and Precast Concrete committee that helped update and improve design standards and guidance material. He also was on a quality management plan (QMP) team to improve and implement standardized quality assurance (QA) processes, and served as the ACEC/Caltrans-DES liaison. Eric has designed or reviewed a wide variety of structure types designed according to the Caltrans Bridge Design Manual including cast-in-place (CIP) concrete girder, precast (PC)/prestressed (PS) elements, and steel girders. His projects include the construction of various retaining walls and soundwalls such as tie-back, soldier pile, cantilevered, and soil nail. He has performed life cycle costs analyses, seismic retrofit strategies, cost comparison analyses, and other structures investigations.

REPRESENTATIVE PROJECTS

VETERANS BOULEVARD/STATE ROUTE 99 INTERCHANGE PHASE II - INTERCHANGE AND GRADE SEPARATION, FRESNO

Project engineer responsible for the preparation of PS&E for a new 2. 5 mile six-lane super arterial within the City of Fresno. This $115-million project will connect areas on opposite sides of SR 99 and will include a Class I bicycle path, improving pedestrian mobility in the area. Project tasks included preparing roadway geometrics, detailed grading conforming to existing pavement and other roadway facilities, design of a precast box culvert, coordination with design of the Veterans Boulevard Interchange project, and preparation of a project cost estimate.

I-80 / I-680 / SR 12 INTERCHANGE COMPLEX - I-80 WB TO I-680 SB CONNECTOR

Structures manager responsible for the independent structure design, layout and plan preparation for new overcrossing structure. The overcrossing structure is a precast, prestressed wide-flange girder. The single span structure is approximately 166 feet long and 53 feet wide, crossing over the southbound 680 on-ramp. The overcrossing is part the Interstate 80/Interstate 680/ State Route 12 interchange project. Also design engineer responsible for the design of a 316-foot long cast-in-place cantilevered concrete retaining wall, founded on a driven pile foundation with wall heights up to 28-feet.

DAVIS-I-80/RICHARDS INTERCHANGE, DAVIS

Structures engineer for the I-80/Richards Boulevard Interchange PSR-PDS, PA&ED, and PS&E to improve traffic operations and bicycle/pedestrian safety. The project will modify the configuration to allow for additional queue length along the re-aligned ramps and provide increased spacing to Olive Drive.

FOLSOM BOULEVARD IMPROVEMENTS - RAMONA AVENUE EXTENSION, SACRAMENTO

Structural QA/QC manager responsible for providing quality assurance of the design and plan details for the new five-level tie-back wall under the Highway 50 viaduct structure. Mark Thomas was hired by the City of Sacramento to prepare project approval and construction documents. This extension will traverse a significant pedestrian barrier that is created by US 50, UPRR, and light rail. The alignment has been carefully designed to go under US 50 and light rail with a new at-grade railroad crossing.

I STREET BRIDGE REPLACEMENT, SACRAMENTO

Structural QA/QC manager responsible for assisting with the design alternatives and plan review of the new movable bridge and approach bridges across the Sacramento River. The cities of Sacramento and West Sacramento have agreed a new "neighborhood friendly" bridge needs to be constructed north of the existing I Street Bridge to increase economic development and riverfront access, make walking and bicycling across the river easier, reduce traffic delays, and improve travel safety and emergency access.

KEN DOTY, PE, QSD
HYDROLOGY

EDUCATION
BS in Civil Engineering, Oregon State University 1987

REGISTRATION
CA PE C47228
CA QSD/P 23338

Ken has 35 years of experience in municipal and transportation engineering with Mark Thomas. Ken is experienced in all aspects of the preparation of PS&E specializing in transportation improvement projects, including Caltrans facilities. He has led the design of the storm drain improvements, temporary drainage and water line during construction, and water and sewer relocations for projects. He also is experienced in the preparation of the hydrology and hydraulic reports. Ken has been involved in the planning and design of multiple interchange projects in District 10. His in-depth experience has made him an excellent QA/QC reviewer and he routinely provides this service.

REPRESENTATIVE PROJECTS

ATWATER-MERCED EXPRESSWAY (AME) CONSTRUCTION DESIGN SUPPORT, MERCED
Project manager overseeing professional services associated with foundation investigations, the preparation of preliminary plans, and right of way engineering that supported the development of plans that depict the project's footprint and right of way requirements for this project located in Merced County. Scope of work included aerial topographic survey for the entire project area; utility identification and verification; coordination with UPRR; preparation of skeleton layouts; preparation of right of way needs maps; preparation of Appraisal Maps; and right of way support services.

CALTRANS-HUM 254 CULVERTS (TO #7), VARIOUS LOCATIONS
Project manager overseeing the completion of Plans, Specs, and Estimate (PS&E), as well as all other required engineering studies and deliverables to support Phase 1 project delivery for the HUM-254 Culverts project. This project is located on State Route (SR) 254 (Avenue of the Giants) from post mile (PM) 0.8 to 21.0. This project involves the rehabilitation of culverts at 10 locations. Rehabilitation strategies include drainage structure replacement, correcting deficient inlet and/or outlet conditions, and cut and cover culvert replacements. The scope of this project includes cut and cover culvert replacement at 10 locations; modifications of inlet structure including replacement, adjustment, or placement of new structure; and modifications of outlet structure including replacement of down drain, addition of new down drain, or modification of down drain.

ON-CALL DESIGN SERVICES, HUMBOLDT
Project engineer for this on-call design engineering contract agreement with the County, we have provided engineering and support services through different task orders. These have ranged from storm damage road repair on Shelter Cove Road, Mitchell Road, and Alderpoint Road; preparation of Systemic Safety Analysis Report (SSAR); study multimodal improvements in McKinleyville; complete street improvements for Redwood Drive; ADA improvements; plan reviews; funding assistance; and project management support services.

STATE COLLEGE BOULEVARD RAILROAD GRADE SEPARATION, FULLERTON
Discipline engineer responsible for storm drainage, sanitary sewer and water phases for construction of this grade separation project. The storm drainage did not include the pump station design though coordinated with designer Kennedy-Jenks. The sanitary sewer plans were split into the City of Fullerton sewer and the Orange County Sanitation District sewer lines. The water line belonged to the City of Fullerton. The project includes a railroad bridge, special design retaining walls, pump station, signal and lighting modifications, parking lot site improvements, water and sewer relocations, utility coordination, and survey and right of way support.

US 101 HOV & REHABILITATION PROJECT, SANTA BARBARA
QA/QC for design services to evaluate geometrics for this $300M, 4.5-mile HOV widening and pavement rehabilitation project. The project involves the preparation of PS&E for highway and interchange improvements along US- 101 from Cabrillo Boulevard to Padaro Lane. Project elements also include reconstruction of two interchanges with left-lane off-ramps, replacement of three bridges of FEMA-regulated creeks, retaining walls along the sea cliff, sound walls, and pavement rehabilitation.

JESSICA REGIER, EIT
HYDROLOGY

EDUCATION
BS in Civil Engineering, California State University, Fresno 2015 v

REGISTRATION
CA EIT 155004

Jessica has 8 years of experience in transportation engineering. She provides assistance on a variety of local roadway and highway improvement projects, providing geometric design, drainage design, hydraulics, hydrology, grading, ADA compliance, and collision data analysis. Her technical skills include the use of design softwares such as AutoCAD Civil 3D, AutoCAD, MicroStation, Hydraflow, and HEC-RAS.

REPRESENTATIVE PROJECTS

APPLICATION PREPARATION FOR HIGHWAY SAFETY IMPROVEMENT PLAN (HSIP) CYCLE 10, KINGS
Project engineer supporting the preparation of the HSIP funding application. Specific tasks included proposing countermeasures, analyzing accident data, preparing cost estimates, verifying adequate b/c ratios will be met, and preparing the HSIP application write-ups. The project was successful in obtaining funding for two of the three HSIP applications submitted.

CITY OF REEDLEY: SYSTEMATIC SAFETY ANALYSIS REPORT, REEDLEY
Design engineer responsible for preparing a SSAR for the City of Reedley. The report will identify intersections and segments throughout the City that meet HSIP funding guidelines or thresholds, and recommend projects to solve the identified issue. These projects and the information gathered will then be used to prepare and submit applications to Caltrans to receive HSIP funding.

GOLDEN STATE CORRIDOR IMPROVEMENTS, FRESNO
Design engineer responsible for the design and coordination efforts for improvements to 12.9 miles of Golden State Boulevard. The goals of the project are to revitalize and improve the corridor and stimulate economic development. The project includes reconfiguring medians, turn pockets, improvements to at-grade UPRR crossings, and intersection modifications to improve traffic safety and operations, as well as extensive pavement rehabilitation. The project also includes the addition of active transportation elements including Class I path, Class II bike lanes, Class IV bikeways, and other innovative treatments. The project includes extensive coordination with the cities of Fowler, Selma, and Kingsburg; FresnoCOG; Fresno County; UPRR; and utilities.

COUNTYWIDE SYSTEMIC SAFETY ANALYSIS REPORT, MADERA COUNTY
Design engineer responsible for preparing a SSAR for Madera County. The report will identify intersections and segments throughout the unincorporated areas of the County that meet HSIP funding guidelines or thresholds, and recommend projects to solve the identified safety issues. These projects and the information gathered will then be used to prepare and submit applications to Caltrans to receive HSIP funding.

PREPARATION OF A ROADWAY NETWORK SYSTEMATIC SAFETY ANALYSIS REPORT, MCFARLAND
Design engineer responsible for preparing a SSAR for the City of McFarland. The report will identify intersections and segments throughout the City that meet HSIP funding guidelines or thresholds, and recommend projects to solve the identified issue. These projects and the information gathered will then be used to prepare and submit applications to Caltrans to receive HSIP funding. In addition, the data generated would assist the City to secure ATP funds for qualifying projects.

SYSTEMIC SAFETY ANALYSIS REPORT - SSARP-5945 (108), KINGS
Design engineer responsible for preparing a SSAR for Kings County. The report will identify intersections and segments throughout the unincorporated areas in the County that meet HSIP funding guidelines or thresholds, and recommend projects to solve the identified issue. These projects and the information gathered will then be used to prepare and submit applications to Caltrans to receive HSIP funding.

RYAN BISSEGGER

FUNDING STRATEGY/LIFE-CYCLE-COST ANALYSIS/ BENEFIT COST ANALYSIS/PRIORITIZATION RANKINGS

EDUCATION
Training in Funding and Programming Transportation Projects in CA, UC Berkeley Technology Transfer, 2018
BA in International Business, Westminster College, 2004

Ryan has 19 years of experience in the engineering industry. He has held various roles including technical editor, proposal writer, and business development. Ryan has grown to become Mark Thomas' funding expert. He is very knowledgeable of federal and state funding sources including the Active Transportation Program (ATP), Highway Safety Improvement Program (HSIP), and the new Senate Bill (SB 1) programs. He tracks the programs and is knowledgeable of call for project schedules. He has provided funding recommendations to agencies to pursue in order to implement improvements. Ryan has experience developing and reviewing grant applications. His understanding of the funding programs and experience developing proposals has been leveraged in the preparation of competitive grants.

REPRESENTATIVE PROJECTS

LAGUNA NIGUEL- LTCAP GRANT SUPP (AM #14), LAGUNA NIGUEL

Grant writer responsible for preparing the Local Transportation Climate Adaptation Program (LTCAP) grant application for improvement to La Paz Road. In addition to the slope mitigations, the scope of work also included installing a road diet on the corridor and installing Class IV protected bikeway. We prepared an updated cost estimate to reflect recent bid pricing and contingencies. We were successful at tying historical wet weather events, including Winter 2022/2023, to the slope stability experienced on the corridor.

PLACER-SACRAMENTO ACTION PLAN (PSAP),

Funding and financing support for this study to prioritize and advance regionally significant projects across nine jurisdictions. The project area is 40-mile corridor which includes SR 65 from Lincoln to I-80 interchange, I-80 from SR-49 to SR-51 split, and SR-51/US-50 to I-5. Projects geared towards increasing travel options on the corridor and developing a multi-modal transportation system that will support economic and population growth in its neighboring communities. Responsibilities have included grant program discussions and assisting with project prioritization rankings based upon SB-1 grant program criteria.

MCKINLEY STREET GRADE SEPARATION, CORONA

Funding support responsible for preparing a Section 190 funding nomination and a SB-1 TCEP grant application. The project constructs a four-lane arterial grade separation over the BNSF double tracks. The bridge is a 291-foot network tied arch bridge. Mark Thomas is providing comprehensive project management services for the grade separation project, including project management; funding/grant application assistance; Caltrans, BNSF, and CPUC coordination, right of way certification, and utilities relocation.

I-80 / I-680 / SR 12 INTERCHANGE COMPLEX INITIAL CONSTRUCTION PACKAGE PS&E, SOLANO COUNTY

Grant writer responsible for preparing a TCEP Grant application for Construction Package 2A (CP2A) of the I-80/I-680/SR-12 Interchange Project. Overall, this project is a $2 billion program to redesign this freeway-to-freeway interchange to improve traffic operations and goods movement. Ryan prepared the grant application narrative, graphics, collision data, and cost estimates for the project. The work included researching economic impacts of the project on I-80 and demonstrating the improved freight operations on the highway.

FRESNO-BLACKSTONE/MCKINLEY GRANT WRITING, FRESNO

Project manager for the preparation of three grant applications for this $151.9 million grade separation project. Responsibilities include development and review of grant narratives, review of graphics and maps, meeting with the funding agencies, and strategies development.

LATHROP-MEASURE K GRANT WRITING, LATHROP

Project manager for the preparation of two regional San Joaquin Council of Government grant applications for bicycle and pedestrian improvements. The grant application was modeled from the state ATP, including disadvantage communities' information, collision data, and detailed description of removal of barriers and gap closures.

SAM SHARVINI
PLANNING AND REPORT DEVELOPMENT

EDUCATION
BA in Urban Planning, University of California, Irvine, 2016

Sam has 9 years of experience as a transportation planner. Sam has a strong planning background with a passion for growing multi-modal transportation choices by identifying access and mobility solutions to serve all individuals. His expertise includes active transportation, transportation demand management, multi-modal corridor studies, data collection and analysis, and stakeholder engagement. Prior to Mark Thomas, Sam served as a program manager of the Orange County Transportation Authority's (OCTA's) where he led a multi-jurisdictional team in the bicycle and pedestrian data collection. He collaborated with GIS staff to develop Orange County's first regional bicycle flow map. He also led and developed the OCTA's Equity Task Force first inventory and framework of Diversity, Equity, and Inclusion efforts.

REPRESENTATIVE PROJECTS

PLACER-SACRAMENTO ACTION PLAN (PSAP), SACRAMENTO
Transportation planning support for this study to prioritize and advance regionally significant projects across nine jurisdictions. The project area is 40-mile corridor which includes SR 65 from Lincoln to I-80 interchange, I-80 from SR-49 to SR-51 split, and SR-51/US-50 to I-5. Projects geared towards increasing travel options on the corridor and developing a multi-modal transportation system that will support economic and population growth in its neighboring communities. Responsibilities have included grant program discussions and assisting with project prioritization rankings based upon SB-1 grant program criteria.

MCKINLEYVILLE MULTIMODAL IMPROVEMENTS, MCKINLEYVILLE
Providing multimodal transportation planning support to the County to develop transportation solutions to improve mobility and connectivity within and connecting the McKinleyville community area to the City of Arcata. The project focuses upon mobility enhancements for people walking, cycling, using a mobility assistance device, or accessing transit.

LAGUNA NIGUEL- GRANT FUNDING AM #6), LAGUNA NIGUEL
Shark Bay Kit of Parts, Laguna NiguelProvided multimodal transportation planning support for the implementation of a series of new artistic crosswalks along Shark Bay to provide a new high-quality, low-stress active transportation corridor that connects with Niguel Hills Middle School in the City of Laguna Niguel. Oversaw the Project's planning, coordination, and implementation efforts, including facilitation of an artwork submission contest with Niguel Hills Middle School students. Coordinated with SCAG to carry out the successful implementation of an artistic crosswalk Go Human Demonstration Event at Niguel Hills Middle School.

BREA- CSP GRANT APPLICATIONS, BREA
Planner supporting the grant application submittal for the City of Brea related to the Orange County Transportation Authority (OCTA) Complete Streets Program (CSP). Mark Thomas is leading the efforts in preparing narrative text, exhibits, and graphics for submittal of the three applications to the OCTA CSP grant funding program under the Capital Implementation category. Scope of services include prepare narrative responses to application questions; developing and soliciting project partner letters of support; securing letters of support, preparing of grant application graphics including maps as required by the grant; preparation of a project fact sheet; quantifying crash history in the project influence area; providing a fee schedule identifying the year the construction funding; revising application materials to address one round of consolidated City comments, and; compiling of final grant application for digital submittal by City staff.

SAC CO-ON CALL GRANT WRITING, SACRAMENTO
Watt Avenue Planning Grant Application, SacramentoSupported the development of the successful Caltrans Sustainable Transportation Planning Grant application for the Re-Envision Watt Avenue Mobility Project. Prepared the narrative responses, data analysis, and graphics to secure funding for the planning study now underway by the County to develop a corridor mobility plan in coordination with planned evolution of land uses.

SHAWNA MCCANN
PLANNING AND REPORT DEVELOPMENT

EDUCATION
BS Sustainability Studies University of California, Riverside ,2018
MA Master of City Planning (MCP) San Diego State University, 2022

Shawna has 5 years of transportation planning experience. She has thorough understanding of government laws, rules, and regulations governing transportation policies, urban development, transportation best practices, and public funding sources. She is experienced at providing grant writing services as well, working with multiple agencies to submit state and federal applications.

REPRESENTATIVE PROJECTS

SANTA ANA-SAGS GRANT APPLICATIONS, SANTA ANA
Grant writing support for the preparation of the grant narrative for the Boulevard Grade Separation adjacent to the Metrolink station. The project is proposed for the replacement of an existing eight-lane at-grade highway-railway crossing with a new four-lane roadway underpass. Supported the development a RAISE grant application, including traffic performance measures and BCA, and have developed a list of grant program funding recommendations and supporting strategies

TRANSPORTATION MASTER PLAN PARADISE
Transportation planner for the development of the TMP to guide long-term improvements, and utilize public input to prioritize solutions to aid in the recovery process. The TMP includes developing a Town-wide Active Transportation Plan, Local Roadway Safety Plan, roadway network and evacuation route analysis, updated roadway design standards, downtown public realm/aesthetics guidelines, and economic development assessment. Responsibilities include bikeway planning, roadway network planning, and public engagement.

SR 4 VISION STUDY, CONTRA COSTA COUNTY
Providing transportation planning support for the PID phase of operational improvements on SR 4 from west of the SR 4/SR 242 Interchange to Bailey Road Interchange in the eastbound and westbound directions to relieve severe directional peak period traffic congestion, which is expected to grow in the future. Scope of services include preparing the PSR-PDS documents, which developed the project alternatives, purpose and need statement, traffic analysis, and environmental assessment.

RANCHO CUCAMONGA HEALTHY RECREATION CENTER, RANCHO CUCAMONGA
Transportation planner supporting school outreach that involved 35 schools, conducted walking audits, and provided peer review of existing walk audits. The peer review and new walking audits focused on connecting active transportation and healthy mobility to each of the schools as well as connecting those schools to the broader active transportation network. Highly visual fact sheets were prepared that provided sufficient detail such that recommendations for overall active transportation infrastructure, key considerations for implementation, cost estimates for improvements, and key programs to consider pursuing funding for identified improvements were identified. Walking audits and recommendations were completed, and Mark Thomas was able to provide the broader connectivity recommendations and included them into a Citywide ATP for use by the City of Rancho Cucamonga.

WESTMINSTER SAFE ROUTES TO SCHOOLS, WESTMINSTER
Transportation planner supporting the development of the City of Westminster Safe Routes to School (SRTS) Plan. The plan shall evaluate 21 public elementary, middle, and high schools located within the Garden Grove Unified, Huntington Beach Union High, Ocean View, and Westminster School Districts. Services include data collection, safety analysis, and implementation recommendations for each school based on the six E's associated with safe routes to school (evaluation, engineering, education, encouragement, enforcement, and equity).

DEANNA GIBSON
VISUAL DESIGN

EDUCATION
Training in Geographic Information Systems, Diablo Valley College,
Training in Art History, University of London,

Deanna has 18 years of experience providing 3D models, project visualization exhibits and geographic information system (GIS) project support for a diversity of transportation projects including interchanges, highways, and local roadways. Her experience includes using ArcGIS Desktop 10.4 and AutoCAD software for mapping, spatial analysis, data conversion, geodatabase creation from spatial and non-spatial data, spatial analysis including raster calculation and analysis, and managing and maintaining GIS data. Trimble SketchUp, AutoCAD Civil 3D, 3D Studio Max, and the Adobe suite for the production of project visualization materials. Deanna works with internal and external clients to develop project visualization graphics, GIS data and map products per project and client guidelines. She also prepares data documentation or metadata for GIS projects following client and/or corporate standards.

REPRESENTATIVE PROJECTS

CHARLESTON-ARASTRADERO CORRIDOR IMPROVEMENTS, PALO ALTO
GIS specialist responsible for the project visualization graphics, project maps, and point-of-view conceptual renderings. This complete streets corridor projects covers a 2.3 mile corridor. The project will add innovative bicycle transportation solutions which consist of modified signals, green bike lanes, cycle tracks and Copenhagen bike left turn lanes.

INTERSTATE 580/CASTRO VALLEY INTERCHANGES PSR, PR/ED, PS&E, ALAMEDA COUNTY
GIS specialist responsible for developing project exhibits generated from ArcMap and georeferencing nonspatial data for use in AutoCAD, Microstation, and ArcGIS for this interchange improvement project for the Alameda County Transportation Improvement Authority (ACTIA).

I-80 / I-680 / SR 12 INTERCHANGE COMPLEX INITIAL CONSTRUCTION PACKAGE PS&E, SOLANO COUNTY
GIS specialist responsible for project phase graphic and display boards, right-of-way and property owner maps and exhibits, and aerial imagery processing. The project limits cover 13 miles of freeways and highway, including six miles of Interstate 80, three miles of Interstate 680 and four miles of State Route 12, including three freeway-freeway interchanges and six local interchanges.

I-880/WHIPPLE ROAD AND INDUSTRIAL PARKWAY INTERCHANGES, HAYWARD
GIS specialist responsible for project alternative exhibits and display boards . The project will improve the I-880 Whipple Road and Industrial Parkway Interchanges in order to relieve freeway and interchange congestion, enhance safety, improve business access and provide routine bicycle accommodation.

I-280 / WINCHESTER BOULEVARD IMPROVEMENTS, SAN JOSE
Project visualization specialist responsible for creating 3D model of potential freeway cap options generating several renderings for each alternative and incorporating the rendered scenes into photos of existing public consumption in a community meeting venue.

VTA - SR 237 EXPRESS LANES PHASE 2, SANTA CLARA COUNTY
GIS specialist responsible for processing and reprojecting aerial imagery for the PA/ED phase of this project to convert approximately five miles of existing HOV lanes to express lanes. Responsible for developing project exhibits generated from ArcMap and georeferencing nonspatial data for use in AutoCAD and ArcGIS. The project extends from the current restricted-access express lanes west of the State Route 237/Interstate 880 Express Connectors (Phase 1) in Milpitas to the vicinity of the Mathilda Avenue Interchange in Sunnyvale.

SMCTA-I-380 CORRIDOR IN SAN BRUNO, SAN BRUNO
GIS specialist responsible for project alternative exhibits and display boards. The project spans the entirety of I-380 including the interchanges with US-101 and I-280 as well as a two-mile segment of I-280 between I-380 and SR-1. The Project Preliminary Study evaluates a range of alternatives to determine which meet the purpose and need of the project as well feasibility of such alternatives based on technical evaluations and stakeholder input.

Derek Cutler

EBP | Chief Economist, Principal
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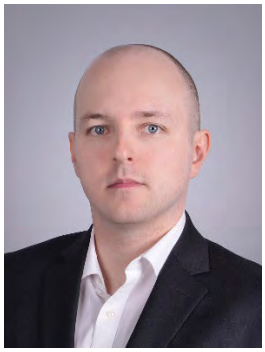
1.617.338.6775, x 216 | derek.cutler@ebp-us.com



Professional Background

Derek Cutler is an expert in performing various forms of quantitative analysis, including econometric, and analyzing large data sets for economic impact studies, program evaluation, and for model development. His current work at EBP focuses on communicating the role of freight in supporting regional economic development. Mr. Cutler is also one of the lead developers at TREDIS Software Group – which specializes in the delivery of economic impact analysis software supporting the evaluation of investment in transportation infrastructure. He has worked with a range of domestic and international clients focused on integrating custom economic impact analysis models: most recently with the Institute of Transport and Logistics Studies at the University of Sydney (METROSCAN). Derek also manages the annual production of county level commodity flow data which is now part of EBP vFreight ™ system. These data were developed as part of work with the Brookings Institute on their Metro-to-Metro freight series and support detailed regional modeling of commodity flows.

Education
MS, Economic Policy, Suffolk University, 2011
BS, Economics, Rensselaer Polytechnic Institute, 2009

Years of Experience
12

Policy Studies

- Failure to Act: The Economic Impact of Current Investment Trends in Infrastructure – (ASCE)
- Impact of Freight Costs on Trade Performance - FHWA
- Future of the Interstates – Economic Drivers of Freight Change (TRB)

Economic Analysis and Prioritization Methodologies

- Port of Long Beach Economic Impact Study and derivation of Port Impact Analysis Toolkit
- Impact of Trade and infrastructure – Kazakhstan/Kyrgyzstan (Asian Development Bank), Kenya, Tanzania, Uganda (African Development Banks)
- Jomo E Kenyatta International Airport, Kenya – Impact Analysis of expansion (African Development Bank)
- Kampala City Roads Project Modeling & Economic Evaluation, Uganda – benefit cost analysis & impact analysis of transportation improvements (Kampala Capital City Authority)
- Msalato Airport Investment Analysis: Dodoma – Tanzania Impact of Airport Expansion (African Development Bank)
- Generation of Transportation-Economic Evaluation Model – Institute of Transport and Logistics Studies (University of Sydney, NSW)
- Economic Contribution of Singapore Seletar Airport to the Economy of Singapore- Civil Aviation Authority of Singapore

Ira Hirschman

EBP | Senior Economist
155 Federal Street, Suite 600, Boston, MA 02110

Professional Background

Dr. Ira Hirschman is a Senior Economic Consultant for EBP and heads EBPs Benefit Cost Analysis and Grant Support Practices. Prior to joining EBP (then EDRG) in 2018, he served for many years as the head of WSP's (formerly Parsons Brinckerhoff) economics consulting practice. He has extensive experience analyzing freight projects, and conducting freight related economic research. He has conducted Benefit Cost Analyses to support numerous federal discretionary grants, including port and freight related projects, such as the recently awarded Port of San Juan Wharf C RAISE grant application, which received a $20 million grant in 2022. He conducted the BCA for the recently awarded RAISE grant for the LA-LB high speed rail corridor, the High Dessert Stations project. He was the lead economist for business plan development for the California High Speed Rail System. He was the Principal Investigator and/or lead economist for several NCHRP freight research studies, including studies of the economic costs of supply chain disruptions, and the economic value of truck freight reliability.

Education

Ph.D., Urban and Regional Planning, Rutgers University, 1991

Master's, Joint Urban and Regional Planning and Economics, Rutgers University,1981

Years of Experience

36

Selected Freight and Grant Benefit-Cost Analysis Experience

Port of San Juan/Nuevo Port, Wharf C 2022 RAISE Grant. Conducted BCA and economic competitiveness analysis of improvements to Wharf C which was badly damaged by Hurricane Marina. The project was awarded a $20 million RAISE grant in August 2022.

Riverview Trenton Logistic Center CRISI Grant Application, 2019. Conducted the BCA for a proposed finished automobile distribution terminal, to move finished autos produced by major automotive manufacturers in Michigan

NCHRP 08-99 Economic Value of Reliability in Truck Goods Movement, 2016: Principal in charge of research to improve understanding and valuation of reliability in the movement of freight via truck. The study considered perspectives of shippers and truck service providers and includes extensive surveys and interviews of truckers and shippers. NCHRP Report 824., "Methodology for Estimating the Value of Travel Time Reliability for Truck Freight System Users".

NCHRP 20-59(34) Estimating Economic Impacts of Freight Disruptions, 2012. Lead economist for this study, in partnership with Georgia Tech, to develop and apply conceptual methodologies for identifying and estimating the short- and long-term impacts of disruptions to the goods movement system.

Oregon Statewide Freight Plan, Oregon,2010: Lead economist for 2010 study to update Oregon Department of Transportation's state rail plan. The effort included update of the state rail plan, development of a statewide freight plan, and a statewide port strategic plan as components of the overall effort.

TEMPLE ANYASI

EBP | Associate
155 Federal Street, Suite 600, Boston, MA 02110
1.617.847.2443| temple.anyasi@ebp-us.com

Professional Background

Education
BA, Economics and Statistics,
Cornell University, 2022

Years of Experience
>1

Temple Anyasi is an Analyst at EBP supporting economic development and transportation consulting practices. His project work ranges from benefit cost analysis to transportation travel demand modeling. Temple has experience using R and Stata for economic and transportation network analysis and a special interest in transit-oriented development.

Prior to joining the EBP team, Mr. Anyasi worked as an advisor to the urban policy publication, Oxford Urbanists, and for the office of the United States Assistant Speaker Katherine Clark. Through these roles, in addition to public advocacy on transportation equity issues in Brooklyn, New York, he has gained data analysis, economic impact analysis, policy writing, and stakeholder outreach skills.

Relevant Projects

WMATA Transit Benefits. EBP is consulting the Washington Metro Area Transit Authority (WMATA) to convey the benefits of transit (including heavy rail, light rail, and buses) to the public and policymakers. Through coverage of an eclectic array of environmental, economic, and social benefits, the study will update a previous version to justify tax revenue being directed toward the federally funded system. 2023 – Present.

Brightline West RAISE Grant Application. EBP US conducted a benefit cost analysis to support a RAISE grant for the addition of two stops to the Brightline West commuter rail. The effects of ridership, time/reliability savings, operation and maintenance costs, and capital expenditure on the stations' net benefit was included in the rationale for federal funding. 2023.

American Association of State Highway and Transportation Officials (AASHTO) EconWorks. EBP US is updating AASHTO's case study database on the effects of transportation investments on the local economy, specifically metrics such as jobs added, property value, population size and tax revenue. Through conducting interviews and comparing before/after metrics, we will highlight the factors determining the effectiveness of transportation improvements on economies. 2022 - Present

FEHR PEERS

Fatemeh Ranaiefar, PhD

Senior Associate

EDUCATION

PhD in Transportation Science, University of California, Irvine, 2013

M.S.c. (Eng.) in Industrial Engineering, Socioeconomic

System Eng., Tarbiat Modares University, Tehran, Iran

B.Sc. (Eng.) in Industrial Engineering, Alzahra University, Tehran, Iran

AFFILIATIONS

Standing Committee on Freight Transportation Planning and Logistics (AT015) - Research coordinator

Adjunct Lecturer at University of Southern California (USC)

EXPERTISE

- Freight Planning
- Freight Data Analytics
- Freight Performance Measures
- Multimodal Corridor Planning
- Commodity Flow Analysis
- Truck Parking Demand Analysis
- Travel Demand Modeling
- Travel Pattern Studies
- Traffic Analysis
- Customized VMT analysis

ABOUT

Fatemeh Ranaiefar leads Fehr & Peers' freight technical group. She specializes in freight travel demand forecasting, big data, and freight analytics. She led the consultant team for KARGO study phase I and II and served as the Project Manager for the California State Freight Mobility Plan. Fatmeh has extensive experience and knowledge of goods movement in Central Valley working on several freight planning, corridor study, truck route study across in the region during past decade. She developed a commodity-based freight forecasting model that Caltrans adopted as the primary module of the California Statewide Freight Forecasting Model (CSFFM). As a leader, she is dedicated to empowering agencies by providing training on travel demand modeling. Her expertise allows staff to develop and evaluate freight modeling scenarios, assess projects using comprehensive freight performance measures, and understand the application of new freight big data sources. In addition, she helps create visual infographics that aid in the decision-making process, ensuring that teams have the tools necessary to make informed and effective choices. She teaches transportation network to graduate students at the University of Southern California. Fatemeh served as a member of Urban Freight (AT025) and Freight Planning and Logistic (AT015) Committee at TRB.

FREGITH PLANNING PROJECT EXPERIENCE

- Kern Area Regional Goods- Movement Operations (KARGO) Phase I and II
- California State Freight Mobility Plan (CFMP 2020) (Statewide, CA)
- Southern California Strategic Freight Plan
- SCAG Strategic Freight Framework
- San Juaquin County STAA truck route study
- I5/SR99 Freight Corridor Study
- San Juaquin County sustainable Goods Movement Plan
- TCAG Truck Origin-Destination Study
- San Diego and Imperial Counties 2021 Gateway Study Update (San Diego, CA).
- SCAG Communities Freight Impact Assessment (Southern California, CA)
- Port of Long Beach Port Master Plan Update (Long Beach, CA)

FREIGHT MODELING AND DATA ANALYTICS PROJECTS

- California Statewide Freight Forecast Model Enhancement (Statewide, CA)
- SCAG Heavy Duty Truck Model Update
- SANDAG Commercial Vehicle Model update
- Utah Freight Model Update
- Central Valley Model Improvement Program (MIP II)

FEHR PEERS

Jason Pack, TE

Principal

EDUCATION

Bachelor of Science in Civil Engineering, University of California, Davis, 1999

REGISTRATIONS

Licensed Traffic Engineer, State of California (TR2402)

RECOGNITIONS

WTS Honorable Ray LaHood Award Winner (Man of the Year) – Inland Empire Chapter (2023)

PRESENTATIONS

VMT Related Presentations:

- 2023 UCLA Land Use Law and Policy Conference
- 2022 National APA
- 2022 Western ITE
- 2022 CEAC Public Works Officers Institute
- 2022 SBCOG City/County Conference
- 2019 California APA
- 2019 CSU Facilities Conference

Future of Transportation Presentations:

- 2018 SBCTA City/County Conference
- 2017 WRCOG Planning Conference

Emergency Evacuation Assessment – 2022 National APA Conference
Multi-Modal Levels of Service – ULI SCIC
Innovative Interchange Designs – District 8 Professional Liaison Committee Meeting, 2011
Roundabout Operations and Feasibility – ASCE national webinar series, 2011 through 2018
Process of Signal Coordination – ASCE national webinar series, 2011 through 2016

ABOUT

Jason D. Pack, P.E., is a Principal with Fehr & Peers located in Southern California. He is actively involved in a wide variety of project work but also finds time to lead the firm's research and development efforts in Emergency Evacuation assessment. Jason has an extensive background in travel demand forecasting, traffic operations assessment, VMT analysis, big data analysis, transit ridership forecasting, and transportation impact studies involving NEPA and CEQA. His focus is to utilize his experience and the technical resources of the company to help clients answer their toughest questions related to mobility. His recent work has included forecasting and operations assessment for large infrastructure improvements, developing recommendations for SB 743 implementation (California's new requirements to consider VMT as an impact metric under CEQA), assisting agencies with establishing VMT banks/exchanges, emergency evacuation assessment to respond to new legislative requirements (SB 99 and AB 747) and development of innovative transportation policies to assist City's advancing transportation into the future.

PROJECT EXPERIENCE

Impact Fee Programs, Banks, and Exchanges

- SBCTA VMT Mitigation Bank Feasibility Study
- WRCOG VMT Mitigation Fee/Bank/Exchange Feasibility Study
- City of Orange VMT and LOS Traffic Impact Fee Program
- Kern COG KARGO Fee Program (logistics fee program)
- Riverside County Transportation Commission Truck/Logistics Fee Program

Emergency Evacuation Studies

- California Fire Safe Regulations Update – Articles 2 and 3
- City of Moreno Valley Evacuation Assessment, CA
- City of Montecito Emergency Evacuation Assessment, CA
- City of Lafayette Safety Element Support, CA
- Guenoc Valley Emergency Evacuation Support, CA

FEHR & PEERS

Mike Wallace

Principal, Senior Forecasting Practice Leader

EDUCATION

Master of Science in Civil and Environmental Engineering, California Polytechnic State University, San Luis Obispo, 2004

Bachelor of Science in Civil Engineering, California Polytechnic State University, San Luis Obispo, 2002

AFFILIATIONS

American Planning Association (APA)

Institute of Transportation Engineers (ITE)

PUBLICATIONS & PRESENTATIONS

Wrangling Big Data to Inform Transportation Decisions Using Cube, Python and ArcGIS, Citlabs Future International User Conference, 2016

Planning for Autonomous Vehicles, AMPO Annual Meeting 2016

EXPERTISE

- Travel Demand Forecasting
- Big Data and Travel Analysis
- Transportation Planning & Infrastructure Funding
- Transportation Impact Analysis & Environmental Assessment
- Project Development Studies
- Parking & Trip Generation Studies
- Campus Planning
- Transit Planning

ABOUT

Mike Wallace, a Principal in the Walnut Creek office, has been responsible for detailed travel behavior analysis, travel forecasting, and traffic operations analysis of local and regional transportation facilities, as well as transportation impact, circulation and parking studies for land use developments. With over fifteen years of experience in the traffic engineering and planning field, he has developed in-depth expertise in the application of all major transportation analysis techniques, with particular emphasis on travel demand software applications such as TransCAD, Cube/Voyager, EMME, and VISUM. As a Senior Forecasting Practice Leader, Mike evaluates, implements, and shares new techniques and tools throughout the company, attends and presents at professional organization meetings, trains and mentors junior staff, and helps ensure that projects provide innovative solutions that benefit communities.

Mike has served as project manager, technical advisor, or project engineer on numerous transportation planning and operations analysis projects developing and utilizing city and regional models across the western states. Mike has combined innovative data collection and analysis techniques on multiple projects, and he continues to evaluate opportunities.

PROJECT EXPERIENCE

- Kern Area Regional Goods- Movement Operations (KARGO)
- SANDAG Speed Data Evaluation (San Diego County, CA)
- SR 125 Before and After (San Diego County, CA)
- LA Metro Express Lane Performance Monitoring (Los Angeles County, CA)
- Fresno-Clovis Metropolitan Area Public Transportation Strategic Service Evaluation Fresno County, CA)
- TCAG Mode Choice Tools (Tulare County, CA)
- Mountain Accord Travel Demand Model Development, (Salt Lake City, UT)
- Monterey Bay OD Study, Monterey, Santa Cruz, and San Benito Counties, CA
- Santa Clara County Emergency Evacuation Model (Santa Clara County, CA)
- Envision San Jose 2040 General Plan (San Jose, CA)
- Central Valley Model Improvement Program (MIP)
- Merced County Travel Demand model Update

FEHR PEERS

Chelsea Richer, AICP

Principal

EDUCATION

Master of Urban & Regional Planning
University of California, Los Angeles, 2014

Bachelor of Arts, Environmental Studies and Public Policy, University of Chicago, 2008

REGISTRATIONS

American Institute of Certified Planners (027878)

YEARS OF EXPERIENCE

Total: 13
With Firm: 10

AFFILIATIONS

- American Planning Association (APA), Los Angeles Section, Member
- California Planning Foundation (CPF), Board Member

EXPERTISE

- Climate Change & Transportation Resiliency
- Evacuation Studies
- Transit Access & First/Last Mile Planning
- Long-range Transportation Planning
- Bicycle and Pedestrian Planning
- Multimodal Corridor Planning
- Transportation Demand Management

ABOUT

Chelsea has over 13 years of experience in transportation planning, focusing on climate & resilience, first/last mile planning, multimodal safety, active transportation conceptual design, and sustainable mobility. Chelsea leads the Fehr & Peers companywide discipline group on Climate Change & Resilience. Much of her work focuses on ways to encourage people to diversify their travel patterns to include low-carbon modes - first/last mile planning, multimodal safety, VMT reduction policy, and transportation demand management (TDM).

PRESENTATIONS & PUBLICATIONS

- *The New World of VMT Mitigation: Programmatic Approaches from around the State*, California AEP Conference, Lake Tahoe, 2023
- *Current Trends in Trip Generation and Transportation Impacts Assessmen*t, ITE Annual Meeting & Exhibition, New Orleans, 2022
- *Catching Fire: Evacuation Analysis and Planning in California*, APA National Conference, San Diego, 2022
- *The Changing Landscape of Mobility, Lessons Learned in a Pandemic*, APA Los Angeles & LA County Regional Planning Community Planning Month Session, 2021
- *Case Study: Understanding How Women Travel*, Oregon Active Transportation Summit, 2021
- *Climate Resilience & the Transportation Sector*, WTS San Francisco Seminar, 2021
- *Understanding How Women Travel Study: The LA Metro Case Study*, featured in APA State of Transportation Planning, Moving People Over Cars: Mobility for Healthy Communities, 2020
- *Understanding How Women Travel*, Rail~Volution, Vancouver, BC, 2019
- *Vision Zero Deep Dive: Taking Meaningful Action on Vision Zero*, APA National Conference, NYC, 2017
- *County-wide Strategic First/Last Mile Planning and Implementation in Los Angeles*, APTA Annual Meeting, Los Angeles 2016

FEHR PEERS

Marta Polovin

Planner

EDUCATION

Master of City Planning, University of California, Berkeley

Bachelor of Arts, Human Biology and Society, Minor in Urban & Regional Planning, University of California, Los Angeles

AFFILIATIONS

American Planning Association (APA),

AWARDS

1st Place, APA California Planning Foundation Student Scholarship Recipient (2019)
UC Berkeley CSCRS Fellow (2019)

EXPERTISE

Parking Studies
Land Use and Transportation
Transit Planning
Multimodal Safety Planning
Travel Demand Modeling
Traffic Analysis
Freight Planning

ABOUT

Marta is a transportation planner in the Long Beach office. She has technical and qualitative experience in multimodal safety planning, parking and curbspace management, freight, transit, and land use planning. Prior to joining Fehr & Peers in 2020, Marta worked at UC Berkeley SafeTREC (Transportation Research and Education Center), as a graduate student researcher, working on safe systems research and promotion. She also interned at the San Francisco Municipal Transportation Agency (SFMTA) in the Parking and Curbspace Management Division for the Residential Permit Parking program.

PROJECT EXPERIENCE

- SJCOG Truck Planning Study (Stockton, CA)
- Port of Long Beach PIDP and RAISE Grant Support HD-8961 (Long Beach, CA)
- KARGO Phase II Sustainability Study
- Calaveras SR-4 Truck Study
- SANDAG Gateway Study (San Diego, CA)
- SCAG Strategic Freight Plan (Los Angeles, CA)
- AMBAG Freight Study (Monterey, CA)

AMY E. FISCHER

PRINCIPAL / AIR QUALITY, CLIMATE CHANGE AND NOISE ANALYST

EXPERTISE

- CEQA/NEPA
- Air Quality Analysis
- GHG Emissions Analysis
- Climate Change Analysis
- Noise Analysis
- Transportation Planning
- Health Risk Assessment

EDUCATION

B.S., Environmental Policy Analysis, minor in Geography
University of Nevada, Reno, 1998

PROFESSIONAL CERTIFICATIONS

San Joaquin Valley Air Pollution Control District Regulation VIII – Certified Dust Control Plan Preparer, May 19, 2015

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals (AEP) – Director, Central Valley Chapter, 2016–Present

AEP – VP of Programs, Central Valley Chapter, 2011–2015

American Planning Association (APA)

PROFESSIONAL RESPONSIBILITIES

With 20 years of experience in environmental studies, Ms. Fischer has performed principal-level review or conducted more than 200 CEQA/NEPA-related and/or stand-alone air quality and greenhouse gas (GHG) impact studies for community plans, development projects, and infrastructure improvements. She is experienced with the models and methods used to assess both air quality and GHG impacts. As the Director of LSA's Air Quality Services, she monitors State and federal standards, case law, and scientific research to make sure that LSA's analyses reflect the rapid changes in this evolving field. In keeping with LSA's commitment to senior-level management, as the Principal in Charge, Ms. Fischer maintains substantive involvement with projects as a means of ensuring high-quality products and balanced professional consultation. She works closely with Project Managers and clients, and provides input on and monitors the scope, budget, and scheduling of specific projects. Ms. Fischer is ultimately responsible for the quality of all project work, and reviews all in-house prepared text, tables, and graphics before these materials are presented to the client.

PROJECT EXPERIENCE

LSA is currently preparing Climate Action Plans and Greenhouse Gas Reduction Strategy Plans for several agencies. Ms. Fischer serves as Principal in Charge and provides technical oversight for the following projects:

- *Climate Action and Adaptation Plan for Monterey One Water.* Preparation of the agency's CAAP. The goal of the CAAP was to develop policies, programs, and measures to reduce reliance on fossil fuels with co-benefits of decreased air emissions, providing long-term cost savings, and building resiliency into the agency's facilities and operations during climate change induced sea level rise, flooding, extreme heat events, wildfires, and other risks.
- *General Plan and Greenhouse Gas Reduction Plan Update for the City of Fresno.* Updated of the City's GHG Reduction Plan to comply with current State regulations including SB 32, which has a statewide goal of reducing emissions 40 percent below 1990 levels by 2030. Also assisted the City with developing a GHG emissions reduction monitoring strategy to track effective implementation of the GHG Reduction Plan Update.
- *Sustainable Santee: The City's Roadmap to Greenhouse Gas Reductions, for the City of Santee.* Update of the City's GHG emissions inventory, forecasts and target setting, development of adaptation strategies. Strategies focus on public health and safety, electrical demand, water availability, infrastructure damage, wildfire, and social equity.
- *Climate Action Plan Update for the City of Corona. Preparation of GHG Inventory, Forecasting, and Target-Setting Report for a CAP.* Inventory describes historic energy use and GHG emissions and forecasts describe projected future emissions. Target-setting recommends GHG reduction measures consistent with State goals.

EDWARD HEMING, AICP
PRINCIPAL / ENVIRONMENTAL PLANNER

EXPERTISE

- Environmental Planning

EDUCATION

M.S., Environmental Studies, California State University, Fullerton, 2005

B.A., Economics and Accounting, University of California, Santa Barbara, 2000

PROFESSIONAL CERTIFICATIONS

American Institute of Certified Planners (AICP) – No. 025193

SPECIALIZED TRAINING

Caltrans Training Courses:

- The NEPA/404 Memorandum of Understanding
- Section 4(f), The "How Come" and the "How To"
- The 23 USC 139 (Formerly Section 6002) Efficient Environmental Review Process
- The Importance of the Administrative Record
- FHWA Transportation Conformity
- Introductory Course on Purpose and Need

PROFESSIONAL AFFILIATIONS

American Planning Association

PROFESSIONAL RESPONSIBILITIES

As a Principal at LSA, Mr. Heming is responsible for managing the preparation of environmental documents for a variety of transportation, alternative energy, and land development projects. His primary responsibilities include coordinating and conducting research and analysis for environmental documents prepared in compliance with CEQA and NEPA, including EIRs, EISs, Environmental Assessments, Initial Studies, Mitigated Negative Declarations, Negative Declarations, and other environmental documents.

Mr. Heming has 20 years of planning experience (including 15 years with LSA) and is knowledgeable in various planning and environmental regulations related to transportation projects and the development entitlement process, including but not limited to, the Caltrans guidance for environmental document preparation, High-Speed Rail guidance for environmental document preparation, local zoning ordinances, General Plans, Specific Plans, and permitting requirements.

PROJECT EXPERIENCE

City of Modesto, SR-99/Standiford Road Interchange Reconstruction
Modesto, California

Mr. Heming is currently managing the Preliminary Environmental Assessment Report (PEAR) during the Project Initiation Phase (PID), which consists of preliminary environmental scoping for the interchange and multi-modal safety and complete streets project on SR-99 at Standiford Road in the City of Modesto. The project is anticipated to complete the PID in the spring of 2024.

Los Angeles County Metropolitan Transportation District, I-405 Sepulveda Pass Expressway
Los Angeles, California

Mr. Heming is currently assistant author for the Community Impact Assessment and primary author for the Section 4(f) Evaluation for the I-405 Sepulveda Pass Expressway in the City of Los Angeles. The draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is anticipated to be submitted to LA Metro in the spring of 2024.

San Joaquin Council of Governments, SR-99/SR-120 Connector Interchange Reconstruction
Manteca, California

Mr. Heming was responsible for the management of environmental documents for the Project Assessment and Environmental Document phase, which consisted of an Initial Study with Mitigated Negative Declaration/Environmental Assessment (IS/MND/EA). Included in this documentation were technical studies prepared to address the following environmental topics: Air Quality, Biology, Community Impacts, Cultural, Noise, Paleontological, Visual Resources, and Water Quality. The project was certified under CEQA/NEPA in the fall of 2019 and revalidated in the fall of 2020.

JESSICA CORIA

ASSOCIATE/DIRECTOR OF AIR QUALITY AND CLIMATE CHANGE SERVICES

EXPERTISE

- CEQA/NEPA
- Air Quality Analysis
- GHG Emission Analysis
- Climate Change Analysis
- Air Pollution Control Measures
- GHG Mitigation Measures
- Health Risk Assessment

EDUCATION

M.S., Environmental Science and Policy, Johns Hopkins University, Baltimore, 2019

B.A., International Relations: Global Environment, Health, and Natural Resources, University of California, Davis, 2015

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals (AEP)

Central Chapter AEP Board of Directors

RECENT PRESENTATIONS

APA Conference 2023: Climate Action Planning for Water Utilities

PROFESSIONAL RESPONSIBILITIES

With a decade of experience, Ms. Coria served as a Regional Program Manager at the San Joaquin Valley Air Pollution Control District (SJVAPCD) and as a consulting Senior Scientist prior to her current position at LSA. Her expertise includes regulatory compliance, air quality impact analysis per CEQA requirements, conducting health risk assessments, air dispersion modeling, sustainable project design, air pollution control measures, and GHG emission mitigation. She has extensive experience in project management, staff mentoring, and client relationships as well as comprehensive knowledge of CEQA requirements for air districts throughout California. Ms. Coria is experienced with the models and methods used to assess both air quality and GHG impacts. Her CEQA experience includes conducting technical evaluations and overseeing the preparation of air quality, GHG, and energy analysis for Specific Plans, General Plans, Climate Action Plans, and Housing Element Updates as well as mixed-use, commercial, residential, and industrial warehouse projects.

PROJECT EXPERIENCE

Clean Air Plans

In her former role as the Regional Program Manager for the SJVAPCD's Air Quality Science and Planning Department, Ms. Coria acted as lead technical staff and management lead for the development and implementation of regional clean air attainment plans, reducing emissions of criteria pollutant emissions throughout the eight counties in the San Joaquin Valley to support attainment of the health-based federal ambient air quality standards in accordance with State and federal regulations and guidance. These planning efforts included stakeholder engagement efforts, presentations to the public and elected officials, interagency coordination, technical review, and report preparation for the following:

- *2016 Plan for the 2008 8-Hour Ozone Standard*
- *2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard*
- *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*
- *2020 Reasonably Available Control Technology (RACT) Demonstration*
- Community Emission Reduction Program (CERPS) for communities selected by the California Air Resources Board under Assembly Bill (AB) 617

Fresno Council of Governments Priority Climate Action Plan Fresno County, California

Ms. Coria is leading the technical studies for a Priority Climate Action Plan (PCAP) for the County of Fresno, which includes the development of the GHG emissions inventory and implementation plan. Funding for the project is being provided by the United States Environmental Protection Agency (EPA) under the CPRG Program to the Fresno Council of Governments (FCOG). The scope of work includes conducting a comprehensive climate action planning process for the Fresno County region, including the 15 incorporated cities in the county and the unincorporated county areas. The PCAP will include the development of a regional GHG inventory, identification and quantification of priority GHG emission reduction measures, a benefit analysis for low-income and disadvantaged communities, and identification of implementation authorities, to be developed through outreach to stakeholders and the public.

MEREDITH CANTERBURY

SENIOR GEOGRAPHIC INFORMATION SYSTEMS ANALYST

LSA

EXPERTISE

- Geographic Information Systems (GIS)
- Environmental Impact Analysis
- Global Positioning Systems
- Quantitative and Qualitative Analysis

EDUCATION

B.A., Geography, with an Emphasis in Environmental Analysis, California State University, Fullerton, June 2006

A.A., Liberal Studies, Fullerton College, June 2004

PROFESSIONAL EXPERIENCE

Senior GIS Specialist, LSA Associates, Inc., Irvine, California, August, 2007–Present

PROFESSIONAL RESPONSIBILITIES

As a Senior Geographic Information Systems (GIS) Analyst and Discipline Lead for LSA, Ms. Canterbury is primarily responsible for GIS project management, impacts analysis, ad-hoc mapping requests, project-specific website creation, and data creation/conversion to a Geodatabase format. Specific responsibilities include working with ArcGIS 10.8 and its various extensions (including 3D Analyst and Spatial Analyst); ArcGIS Pro; working with scripts and models, data manipulation, computer-aided design (CAD) and MicroStation to GIS conversion; implementation of overlay analysis, proximity analysis, data management and validation; and basic script programming of GIS tasks and automated cartography.

PROJECT EXPERIENCE

Monterey One Water, Climate Action and Adaptation Plan
Monterey, Monterey County, California

Ms. Canterbury served as the GIS Lead in assisting Monterey One Water in its assessment of current and future Climate Action and Adaptation Plan (CAP) that includes greenhouse gas (GHG) reductions and climate risk and adaptation planning for its service area. Ms. Canterbury managed data collection and analysis in the GHG emissions inventories and the planned implementation of emission reduction measures in the Climate Action Plan (CAP), including a climate change risk analysis and adaption measures to address climate change impacts. She analyzed minimum and maximum temperatures, precipitation, wildfire, flood zones, landslides, and evacuation constraints due to climate.

City of Agoura Hills, Climate Action and Adaptation Plan
Agoura Hills, Los Angeles County, California

Ms. Canterbury served as the GIS Lead in assisting the City of Agoura Hills in an analysis of climate change vulnerabilities, risks, and recommended adaptation measures in support of the Compatible Use Study being prepared by Bridge View Resources, LLC for the City of Lompoc, Santa Barbara County (County), California. The mapping included existing and future climate information for areas around the City of Lompoc and within western Santa Barbara County including Vandenberg Space Force Base (VSFB), the cities of Buellton, Guadalupe, Los Alamos, Orcutt, Santa Maria, and Solvang. Ms. Canterbury managed data collection and analysis in the GHG emissions inventories and the planned implementation of emission reduction measures in the Climate Action Plan (CAP), including a climate change risk analysis and adaption measures to address climate change impacts. She analyzed minimum and maximum temperatures, precipitation, wildfire, flood zones, landslides, and evacuation constraints due to climate.

City of Chino, Climate Action Plan Update
Chino, San Bernardino County, California

Ms. Canterbury served as the GIS Lead in assisting the City of Chino in an update of its Climate Action Plan (CAP) that includes greenhouse gas (GHG) reductions and climate risk and adaptation planning. Ms. Canterbury managed data collection and analysis in the GHG emissions inventories and the planned implementation of emission reduction measures in the Climate Action Plan (CAP), including a climate change risk analysis and adaption measures to address climate change impacts. She analyzed minimum and maximum temperatures, precipitation, wildfire, flood zones, landslides, and evacuation constraints due to climate.

HOLLY TORPEY, GISP

SENIOR GIS SPECIALIST/PROGRAMMER

EXPERTISE

- Quantitative Spatial Analysis
- Image Processing
- Web Application Development
- Field Data Collection

EDUCATION

MS, Geographic Information Science and Technology
University of Southern California, Los Angeles, 2017

BA, Geography, Environmental Analysis Track, University of New Orleans, 1997

PROFESSIONAL CERTIFICATIONS/ REGISTRATIONS

Certified Geographic Information Systems Professional - Credential ID 160628

PROFESSIONAL AFFILIATIONS

California Geographic Information Association

Urban and Regional Information Systems Association

URISA's GISCorps Advisory Board and Disaster Response Subcommittee Member

PROFESSIONAL RESPONSIBILITIES

Ms. Torpey develops tools and applications to streamline LSA's Geographic Information Systems (GIS) workflows. She provides cartographic and analytical support for LSA's technical disciplines, contributing maps, figures, and analyses to technical reports.

Before joining LSA, Ms. Torpey served as Program Coordinator for URISA's GISCorps, a nonprofit organization that matches skilled GIS practitioners with volunteer opportunities providing short-term GIS services to other nonprofits or participating in disaster response efforts following hurricanes, floods, earthquakes, and fires.

PROJECT EXPERIENCE

City of Norwalk, AB 2097 Analysis and Mapping
Norwalk, California

Ms. Torpey managed this project focused on determining the locations of parcels potentially eligible for parking exemptions under Assembly Bill 2097. In collaboration with professionals from LSA's Environmental Planning, Mobility, and GIS disciplines, Ms. Torpey analyzed the bill's text, sourced and analyzed public transit schedules, stop locations, and assessor's parcel data, and conducted an analysis to identify and map all City of Norwalk parcels that fell within or partially within 0.5-mile of current or planned major transit stops.

City of Long Beach, City of Long Beach On-Call Services
Long Beach, California

Ms. Torpey created smart forms for mobile field data collection for multiple Arborist Surveys and Tree Risk Assessments in Long Beach. She used ArcGIS Pro to process and analyze field survey data and produce cartographic products to visualize results.

Solano County Water Agency, Solano Habitat Conservation Plan Mapping and Application Development
Solano County, California

Ms. Torpey developed an ArcGIS Hub site to share Solano Habitat Conservation Plan (HCP) documents, data, and applications with plan reviewers, stakeholders, and eventually the public. She also developed web-based applications to enable Solano HCP stakeholders to visualize and interact with dozens of layers of spatial data depicting the complex interactions between plan elements. Ms. Torpey continues to create and maintain spatial and tabular data for inclusion in plan documents and applications as needed.

Jacobs and Caltrans, I-80 Express Lanes Swainson's Hawk Nest Tree Study
Solano County, California

Ms. Torpey developed and executed a novel, repeatable Swainson's Hawk Corridor Habitat Mapping Protocol using LiDAR, aerial imagery, and deep learning within a 1-mile-wide study area spanning a 22-mile stretch of the I-80 corridor in Solano County.

BIANCA MARTINEZ MONTAÑO

AIR QUALITY SPECIALIST

EXPERTISE

- CEQA Documentation
- Environmental Analysis

EDUCATION

B.S., Earth System Science and a minor in Global Sustainability – University of California, Irvine

PROFESSIONAL EXPERIENCE

Assistant Air Quality and Climate Change Analyst, LSA, Irvine, California, March 2022 to Present.

PROFESSIONAL RESPONSIBILITIES

Ms. Martinez has been heavily involved in the research and preparation of a variety of environmental and community planning projects for commercial, industrial, residential, and mixed-use projects. Her primary duties consist of air quality and greenhouse gas emission modeling, analyzing model data, conducting research, and assisting in the preparation of environmental assessments/documents and technical studies.

PROJECT EXPERIENCE

City of San Clemente, Senior Housing Project
San Clemente, California

Under contract to the City of San Clemente, Ms. Martinez assisted in the preparation of an Air Quality and Greenhouse Gas Report for a 250-dwelling senior house and medical office project. Issues addressed in the report include an analysis of the project's construction and operational emissions, localized impacts, consistency with the regulatory bodies, and a health assessment of the project's potential impact to nearby sensitive receptors.

City of San Bernardino, 9th and Tippecanoe Street Warehouse Project
San Bernardino, California

Under the contract to the City of San Bernardino, Ms. Martinez assisted in the preparation of an Air Quality, Energy, and Greenhouse Gas Report for a 339,600-square-foot industrial building. Issues addressed in the report include an analysis of the project's construction and operational emissions, consistency with the San Bernardino County Regional Greenhouse Gas Reduction Plan and other applicable regulatory bodies, and a health assessment of the project's potential impact to nearby sensitive receptors.

City of Fontana, Merrill and Ceres Avenue Warehouse Project
Fontana, California

Under the contract to the City of Fontana, Ms. Martinez assisted in the preparation of an Air Quality, Energy, and Greenhouse Gas Report for three speculative warehouses. Issues addressed in the report include an analysis of the project's construction and operational emissions, consistency with the regulatory bodies, and a health assessment of the project's potential impact to nearby sensitive receptors.

County of Santa Barbara, Artic Cold Storage Project
Santa Barbara, California

Under the contract to the County of Santa Barbara, Ms. Martinez assisted in the preparation of a Greenhouse Gas Reduction Program (GHGRP) for an arctic cold agricultural processor and freezer facility. Issues addressed in the GHGRP include an analysis of the project's construction and operational emissions and an evaluation of additional project design features to fulfill mitigation measure reductions for greenhouse gas emissions.

City of Long Beach, Via Oro Avenue Warehouse Project
Long Beach, California

Under the contract with the City of Long Beach, Ms. Martinez assisted in the preparation of an Air Quality, Health Risk, Energy, and Greenhouse Gas Report for a 74,203-sqaure-foot industrial building. Issues addressed in the report include an analysis of the project's construction and operational emissions, consistency with the Long Beach Climate Action Plan and other applicable regulatory bodies, and a health assessment of the project's potential impact to nearby sensitive receptors.

SIMON POON
TRANSPORTATION PLANNER/ENGINEER

EXPERTISE

- Transportation Engineering
- Transportation Systems Planning

EDUCATION

Master of City and Regional Planning – Transportation Planning, California Polytechnic State University, San Luis Obispo, 2021

Master of Science in Engineering – Transportation Planning, California Polytechnic State University, San Luis Obispo, 2021

Bachelor of Science in Environmental Management and Protection, California Polytechnic State University, San Luis Obispo, 2019

PROFESSIONAL EXPERIENCE

Assistant Transportation Planner, LSA, Riverside, California, 2021–Present

Water Resources Intern, County of San Luis Obispo Public Works Department, San Luis Obispo, California, 2017–2019.

PROFESSIONAL RESPONSIBILITIES

Mr. Poon is an Assistant Transportation Planner with LSA's Riverside office. He specializes in transportation engineering and his experience includes collaboration on creating preliminary designs to compare cloverleaf and bowtie interchanges on AutoCAD and the simulation of 36 scenarios of traffic conditions to compare safety and travel time of a cloverleaf interchange to a bowtie interchange on PTV Vissim and SSAM. As a Transportation Systems Planner, Mr. Poon gathered household census data from the United States Census Bureau to be used for trip prediction for TransCAD, predicted future travel demand for a city using trip generation and trip distribution with TransCAD, and assigned mode choice and route choice of commuters through TransCAD. His expertise also includes data gathering and analysis to create traffic models and also community engagement on transportation projects. Mr. Poon is also experienced in the use of GIS, Synchro, AutoCAD, Civil 3D, and other specialized software.

PROJECT EXPERIENCE

Blue Marquise Investments, LLC, Trumble and Mapes Warehouse Project Perris, California

Mr. Poon worked with a group of transportation planners in the LSA Riverside Office to prepare the scope of work for the Trumble and Mapes Warehouse Traffic Study in Perris, California. The project included a 396,000-square-foot warehouse. Mr. Poon analyzed the trip generation, trip distribution, and trip assignment as a result of the project. He utilized the Transportation Uniform Mitigation Fee High-Cube Warehouse Trip Generation Study and Institute of Transportation Engineers' *Trip Generation Manual* to determine the number of trips generated by the project.

InSite Property Group, Parking Study for the 127 Concord Street Self-Storage Glendale, California

Mr. Poon prepared the parking study for this project, which included a development of a 120,000-square-foot self-storage warehouse and 1,000-square-foot office. Mr. Poon prepared the parking analysis according to the Institute of Transportation Engineers' *Parking Generation Manual* and other cities' municipal codes to justify a parking reduction for the project site.

City of Norwalk, Strategic Plan for Health and Equity Norwalk, California

Mr. Poon taught peers how to create a crowdsourced data collection application using ESRI GIS Crowdsource Reporter and engaged with local community members to inquire about the current conditions of active transportation in Norwalk. He developed six strategies for the active transportation component of the City's Strategic Plan for Health and Equity.

David Corona, P.E.

Project Manager

Experience

22 years

Education

B.S., Civil Engineering, San Jose State University

Professional Data

Registered Professional Civil Engineer - CA

Firm

PGH Wong Engineering, Inc.

Key Qualifications

David Corona has more than 20 years of experience implementing public sector projects specializing in the rail transit industry. David's experience includes guideway and yard trackwork preliminary and final design, transit facilities design and layout, and the preparation of construction documents; site grading and drainage, road alignments, and wet/dry utility design and layouts; and right-of-way planning and documentation mapping; and cost estimating.

Relevant Experience

California High-Speed Rail Authority (CHSRA) – Project and Construction Management Services for Construction Package 1 (CP 1), Fresno, CA. David is currently assisting the Project Change Management (PCM) Team in reviewing and processing change orders for the 32-mile CP 1 Segment of the California High-Speed Rail Project. He brings his vast design experience to the Team, utilizing his analytical skills to evaluate the impacts of proposed changes, and provide clear and concise communication/documentation for changes to be negotiated. David's contribution to the Team is to thoroughly assess, communicate/document, and implement efficiently while maintaining alignment with project objectives and constraints.

San Francisco Bay Area Rapid Transit District (BART) – East Contra Costa BART (eBART) Extension Project, Antioch, CA. David served as *Deputy Project Manager* responsible for providing design and design support services during construction of the 10-mile East Contra Costa BART (eBART) Extension Project. This $525 million rail transit extension includes 10 miles of track, a transfer platform, and two passenger stations located in the State Highway 4 (SR-4) Corridor in Contra Costa County. During design, David served as the *Project Engineer* responsible for the preparation of the track alignment alternatives, preliminary, and final design; site grading and drainage; and utility design and layout of the transit stations, facilities, structures, and guideways. David coordinated closely with Caltrans throughout the design due to the location of the alignment in the median of SR-4.

San Francisco Bay Area Rapid Transit District (BART) – Irvington Station Project, Fremont, CA. David is currently serving as *Project Manager* for the Preliminary Engineering and Final Design of the Irvington Station. The Irvington BART Station is an infill station approximately halfway between the existing Fremont BART Station and the Warm Springs/South Fremont BART Station in Fremont, California. The Irvington BART Station components include the station buildings (ancillary building, split at grade platforms, concourse level with ticket vending machines and fare gates, elevators, stairs, etc.), pedestrian and bicycle access improvements, patron and transit bus drop-off and pick-up, disabled access, automobile and bicycle parking, and pedestrian and bicycle overcrossing structures for connections across Union Pacific Railroad (UPRR) tracks and to local City roads. David, leading The PGH Wong Team in coordination with nearly every department within BART, gathered input from external stakeholders such as the City of Fremont and the BART Bicycle Task Force to help inform the design with respect to function, patron experience, and integration with the surrounding neighborhood.

San Francisco Bay Area Rapid Transit District (BART) – Tailtrack Extensions Project, San Francisco Bay Area, CA. David is serving as the *Senior Project Manager* responsible for the preparation of construction packages to extend tailtracks at the existing Dublin-Pleasanton and Millbrae Stations and to lengthen a pocket track at Lafayette Station. When completed, these track extensions will allow for the storage of 10-car train consists and will provide increased operational flexibility to turn back the trains. The Dublin-Pleasanton tailtrack is located between eastbound and westbound Interstate 580 and will require relocation of Caltrans elements including lighting, express toll gantry, and in-pavement loops. The Millbrae Station Tailtrack Extension includes the extension of existing tracks Line W1, W2, and W4 by approximately 310 feet to the south.

William Hearne, P.E.

Trackwork Engineer

Experience

49 years

Education

B.S., Civil Engineering, Purdue University

Graduate Studies, Civil Engineering, Northeastern University

Professional Data

Registered Professional Civil Engineer – CA

Firm

PGH Wong Engineering, Inc.

Key Qualifications

William (Bill) Hearne has nearly five decades of experience as a Railroad Trackwork Engineer. Bill's experience encompasses all project phases including environmental assessment, conceptual, preliminary, final engineering, construction phases, where he has successfully served as surveyor, project engineer, resident engineer, track engineer, and project manager.

Relevant Experience

Sonoma-Marin Area Rail Transit (SMART) – SMART Project, Sonoma and Marin Counties, CA. As *Trackwork Project Engineer*, Bill was responsible for the preparation of trackwork design criteria and standards for the SMART Project.

Amtrak – California Passenger Rail Study. As *Technical Manager*, Bill's responsibilities included the preparation of the corridor evaluation studies and their incorporation into an overall California Passenger Rail Study.

Massachusetts Bay Transportation Authority (MBTA) – Southwest Corridor Project, Boston, MA. Bill was the *Lead Trackwork Engineer* in charge of trackwork design and preparation transit and railroad trackwork construction contracts for MBTA's Southwest Corridor Project. Responsibilities included establishing design criteria for railroad and transit clearances, track geometrics, and track structure; preparing trackwork directive drawings; preparing trackwork contract drawings; writing trackwork specifications; and preparing construction cost estimates. Other responsibilities included assisting alignment designers in preparing railroad and transit baseline alignments and profiles; reviewing section designers' design plans and specifications for conformance with trackwork design criteria; and coordinating trackwork design with section designer's trackway design.

Northwestern Pacific Railroad – Grove Street Extension Grade Crossing Project, Healdsburg, CA. Bill was the *Project Manager* responsible for the preparation of contract documents for construction of a concrete panel grade crossing on the Northwestern Pacific Railroad main line track in Healdsburg. Responsibilities included designing track alignment and profile through grade crossings; designing grade crossing layout, typical cross sections and details; supervising the preparation of contract drawings; preparing the contract manual, including commercial and technical specifications; and preparing construction cost estimates.

Union Pacific Railroad – T5 South Wye Track Construction Project, Portland, OR. Bill was the *Project Manager* responsible for the preparation of contract documents for construction of a railroad wye track in the Portland Bulk Terminal (Terminal 5) served by the Union Pacific Railroad (UPRR). Responsibilities included designing track alignment, profile, typical cross sections and details; supervising the preparation of contract drawings; preparing the contract manual; and developing construction cost estimates.

Southern Pacific Railroad (SPRR) – Various Projects, Oakland, CA. Bill served as an *Assistant Construction Superintendent* for the SPRR assisting in supervising a tie renewal gang. Responsibilities included replacing timber ties and ballast and surfacing and lining SPRR main line track. Responsibilities also included replacing 900 feet of the Dumbarton Railroad Bridge; performing work within daily work windows provided by the railroad operating department; completing work each day for train operations over the tracks during non-work window hours. In addition, Bill served as Trackwork Engineer for SPRR responsible for designing railroad main line, yard, and industrial track alignments and profiles and utility crossings under SPRR railroad tracks for SPRR's Western Division (Davis to Paso Robles, California) and as a surveyor performing field surveys for railroad track construction and land development.

Hope Reilly

VICE PRESIDENT and PARTNER

CONTACT

949.291.4391
hreilly@swspr.com

EDUCATION

B.A. Political Communication
The George Washington University
May 2010

AWARDS

San Diego Metro Top PR and Marketing Executives, 2022

San Diego Metro 40 Under 40 Awards, 2021

PRSA Silver Anvil, Award of Excellence, Public Affairs – 2019 (No on E, Yes on G)

American Association of Political Consultants' Award of Excellence, Ballot Measure Campaign of the Year – 2019 (No on E, Yes on G)

SKILLS

- Project Management
- Strategic Planning
- Government Relations
- Message Development

PROFESSIONAL EXPERIENCE

Vice President and Partner
Southwest Strategies, San Diego, CA
August 2022 – Present

Oversee transportation communications practice area. Manage variety of client accounts, working on issues of land use planning and development, transportation, energy, media relations, marketing communications and community relations. Develop strategic public affairs campaigns to achieve clients' goals and objectives. Create communications strategies to help clients engage with key audiences. Guide clients through the entitlement process, preparing and implementing government relations and supporter mobilization plans. Coordinate public opinion and economic research efforts to develop strategies and messages for clients. Lead digital advocacy efforts for local and national strategic initiatives.

Senior Director of Public Affairs & Chief Social Media Strategist
Southwest Strategies, San Diego, CA
July 2021 – July 2022

Developed strategic communication programs utilizing media relations, community relations, public affairs, social media, and issues management. Led digital advocacy efforts and digital outreach strategy development. Managed key public outreach initiatives to support infrastructure improvements throughout San Diego County.

Director of Public Affairs & Chief Social Media Strategist
Southwest Strategies, San Diego, CA
September 2020 – June 2021

Developed and implemented public relations, strategic communications, and event plans and programs. Developed branding and marketing strategies. Managed development and implementation of key tactics, such as print and digital collateral materials, digital campaigns, and other initiatives.

PROFESSIONAL ORGANIZATIONS

Board of Directors, President
January 2017 – December 2022
San Diego/Imperial Counties Chapter of Public Relations Society of America

Member
January 2022 – Present
Circulate San Diego

Rachel Audino

SENIOR DIRECTOR OF PUBLIC AFFAIRS

CONTACT

559.579.4456
raudino@swspr.com

EDUCATION

Master of Public Administration
Fresno State
December 2009

B.A. in English and French
University of California, San Diego
March 2005

SKILLS

- Technical writing
- Data management and reporting
- Message development
- Research & Analysis
- Business/Strategic Planning
- Government relations
- Legislative affairs
- Transportation and land use planning

PROFESSIONAL EXPERIENCE

Senior Director of Public Affairs (2022-Present)
Southwest Strategies, Fresno, CA
February 2014-June 2017, June 2018 – Present

Prepare and implement community outreach and engagement strategies for clients in the energy and transportation sectors throughout Central and Northern California, including Fresno COG, San Joaquin COG, City of Fresno, PG&E, among others. Support business development efforts for all offices, including preparing technical proposals for public agencies.

Manager of Public Affairs
Community Medical Centers, Fresno, CA
June 2017 – June 2018

Managed the development of the hospital system's Community Benefit Report, a requirement for 501(c)(3) status under the Affordable Care Act. Prepared letters of support for grant applications. Coordinated VIP tours for elected officials and gubernatorial candidates. Tracked legislation.

Manager of Government Relations
Fresno State, Fresno, CA
February 2012 – July 2013

Managed a California Public Utilities Commission broadband grant and ensured reporting compliance. Managed and coordinated logistics for grant to increase broadband internet access among vulnerable population. Coordinated with elected officials at all levels to obtain letters of support for the organization's grant submittals. Curated and managed an online repository of sustainable planning tools and resources for local governments

Regional Planner
Kings County Association of Governments Lemoore, CA
February 2009 – February 2012

Prepared successful Caltrans High-Speed Rail planning grant and a Strategic Growth Council grant for a county-wide climate action plan. Developed Regional Bicycle Plan. Prepared regional greenhouse gas emission reduction target analysis and memo for the Air Resources Board. Supported a federal Joint Land Use Study (JLUS) with the US Naval Air Station and local agencies.

Executive Assistant
The Qualcomm Institute at UCSD La Jolla, CA
October 2005 – June 2007

Supported the Executive Director in coordinating grant submittals. Prepared letters of support for grants with partner organizations and interdisciplinary researchers.

Avery Johnston

ACCOUNT EXECUTIVE

CONTACT

559.240.3426
ajohnston@swspr.com

EDUCATION

B.A. in Public Relations
California State University, Fresno State
July 2021

HONORS

Dean's List
Eli Setencich Journalism Scholarship

SKILLS

- Copywriting
- Community Outreach & Relations
- Message development
- Research & Analysis
- Business/Strategic Planning
- Digital Marketing / Analytics
- Event coordination

PROFESSIONAL EXPERIENCE

Account Executive
Southwest Strategies, Fresno, CA
July 2023– Present

Supports project managers and specializes in community outreach, media relations and social media for the agency's wide range of development, transportation, infrastructure, and energy clients. Engage and conduct outreach across communities in alignment with building consensus with stakeholders.

Account Coordinator
Southwest Strategies, Fresno, CA
July 2021– July 2023

Supports project managers and specializes in community outreach, media relations, and social media for the agency's wide range of development, transportation, infrastructure, and energy clients. Prepares and implements community outreach and engagement strategies for clients in the regional planning and transportation sectors throughout the Central Valley.

Marketing and Communications Intern
Girl Scouts of Central California South, Fresno, CA
January 2021 – May 2021

Helps generate content for Facebook, Instagram, and Twitter. Edited videos and created graphics that were promoted on the National Girl Scout's social media account. Actively developed media relationships within a five-county footprint.

Staff Reporter, Fresno, CA
January 2020 – June 2020

Write 5 articles a month averaging 600 words that focus on local arts/culture, political, and civic topics. Research current topics and conduct professional interviews. Curated original article ideas.

PROFESSIONAL ORGANIZATIONS

Member
January 2020 – Present
Public Relations Society of America

Seleyna Mendoza

Senior Account Executive

CONTACT

559.691.4912
smendoza@swspr.com

EDUCATION

B.A. Mass Communications and Journalism
Fresno State
2015

M.S. Higher Education Administration
National University
2018

AWARDS

CalSPRA Communication Tactics Award for Newsletter - February 2020 We Believe Newspaper

CalSPRA Communication Special Events Recognition Award - 2020

SKILLS

- Bilingual (English and Spanish)
- Strategic Communications
- Public Speaking
- Storytelling
- Project Management
- Event Coordination
- Community Outreach
- Social Media

PROFESSIONAL EXPERIENCE

Senior Account Executive
Southwest Strategies, San Diego, CA
May 2023 – Present

Assist with development and implementation of strategic communications and outreach programs through all phases of projects, from planning and entitlements to construction. Help manage community relations efforts related to infrastructure. Develop strategic community outreach campaigns targeting underreached communities. Develop engaging and innovative content for advertising, videos, websites, fact sheets, presentations, newsletters and other collateral. Educate community about projects through targeted outreach and events. Plan public meetings, hearings, open houses, workshops, special events and news conferences. Plan and implement engaging social media campaigns and track metrics and successes. Develop and pitch creative ideas for gaining earned media hits.

Business and Arts, Media and Entertainment Teacher
Madera Unified School District, Madera, Ca
July 2019-September 2022

Taught business and marketing basics to students in 9th through 12th grades. Guided students in demonstrating their knowledge and communication skills through group activities, public speaking, and marketing plans. Supported and mentored students to develop their teamwork, communication, and critical thinking skills. Provided guidance to students on how to create professional presentations and documents.

Communications Analyst/Communications Assistant
Madera Unified School District, Madera, Ca
September 2016-September 2022

Coordinated strategic marketing communications such as promotions, events, marketing, and public relations for 24,000 recipients. Coordinated marketing campaigns that created and sustained a culture enabling students to experience an unparalleled educational journey that was intellectually, socially, and personally transformative. Organized conferences and inclusive initiatives to provide equity and inclusion within the school district and community. Developed training and communications materials on understanding unconscious bias that affect student achievement with the goal of eliminating disparities in educational outcomes for students from historically underserved and underrepresented populations. Mentored and managed the daily duties of Communications Technicians, enabling them to assist thirty schools in improving their communications with their diversified communities. Translated strategic direction into a high-quality design within an established brand identity to ensure the Spanish-speaking community was informed. Developed culturally sensitive and engaging messaging to develop higher engagement rates from traditionally underreached communities.

Fraser Shilling, PhD

Fraser Shilling is an ecologist with 30 years' post-PhD experience and has been an academic scientist and independent consultant. He has led over 40 research and consulting projects for a wide range of public and private organizations. Dr. Shilling specializes in investigations of interactions between human development and natural systems, wildlife movement, environmental and tribal justice, environmental data sharing through web services, and climate resilience.

Dr. Shilling is Director of the Road Ecology Center at the University of California, Davis. He investigates transportation and landscape ecology, sustainability systems, and environmental pollution and policy. He regularly speaks at Transportation Research Board annual conferences, Infra-Eco Network Europe, and the International Conference on Ecology and Transportation on transportation, wildlife, and environmental impacts. He has co-authored several manuals and books, including wildlife crossing guidance manuals for California, Idaho, South Dakota, and Vermont departments of transportation.

Education

University of Southern California, PhD, Ecology
BSc, Biological Sciences

Professional Affiliations

NASEM Transportation Research Board, Environmental Analysis and Ecology Committee (AEP70), Member

RELEVANT PROJECTS

1. Predicting Wildlife Use of Existing Highway Bridges and Culverts, National Center for Sustainable Transportation, Nationwide.
2. Wildlife Connectivity Study in Diablo Range and East Bay Hills, Alameda County Resource Conservation District, California.
3. Development of a Web-based Econometrics Tool to Help Plan for Projects to Reduce Wildlife-Vehicle Collisions, Pew Charitable Trust, Nationwide.
4. Landscape Design and Ecology Lead for Large Highway Wildlife Crossings, Caltrans, California.
5. Wildlife Ecology Investigation into Traffic Noise Impacts and Mitigation at a Wildlife Crossing Across I-15, The Nature Conservancy, California.
6. Automated System to Analyze Clusters of Wildlife-Vehicle Collisions. National Center for Sustainable Transportation, Nationwide.

SELECT, RECENT PEER-REVIEWED JOURNAL PUBLICATIONS

Shilling, F., G. Porter, D. Waetjen, J. Kintsch, D. Smith, L.A. Duncan, K.K. He, and M. Skroch. 2023. Economic decision support for wildlife-vehicle conflict reduction (In Submission to *Environmental Management*).

Barrientos, R., T.W. Vickers, T. Longcore, E.S Abelson, J. Dellinger, D.P. Waetjen, G. Fandos, and F.M. Shilling. 2023. Nearby night lighting, rather than sky glow, is associated with habitat selection by a top predator in human-dominated landscapes (*Philosophical Transactions of the Royal Society*).

Iverson, A.R., D. Waetjen, and F. Shilling. 2023. Landscape connectivity for a select few: linkages do not consistently predict wildlife occupancy or movement (*Landscape and Urban Planning*).

Collins, A., T.W. Vickers, and F. Shilling. 2023. Behavioral responses to anthropogenic noise at highways vary across temporal scales. *Frontiers in Ecology and Evolution*. https://doi.org/10.3389/fevo.2022.891595.

APPENDIX B
SCOPE OF SERVICES

KARGO C-CAMS SCOPE OF WORK

TASK 0.0 MANAGEMENT

TASK 0.1 PROJECT MANAGEMENT

Mark Thomas will coordinate with Kern COG and manage the project team. This includes preparing contract paperwork, memos, letters and emails, and making phone calls. Management activities also include the development and maintenance of a critical path method (CPM) design schedule, and preparation of monthly invoices and progress reports. The schedule will be updated as progress is made, with critical path activities clearly shown for team review purposes. The schedule and billings will be submitted in the form and in enough detail to track the project status and contract expenditures as outlined by Kern COG at the beginning of the project.

TASK 0.2 PROJECT MEETINGS/ COORDINATION

The Project will involve milestone meetings to keep the project "on-track". This work includes preparation of meeting agenda in consultation with the Kern COG, distribution of approved meeting agenda, arrangement of attendance of meeting participants, and preparation and distribution of meeting minutes, including recap of actions to be taken prior to the next meeting. This scope assumes a total of 1 project kick-off meeting and an additional 19 virtual project development team (PDT) meetings. If deemed appropriate by Kern COG, informal focused meetings with key stakeholders will be held, to gather appropriate information.

TASK 0.3 TEAM COORDINATION/ MEETINGS

This task will include ongoing general project coordination with subconsultants and Mark Thomas internal staff. This task will include preparing memos, letters, e-mail, and phone calls necessary to manage the project.

TASK 0.4 QUALITY CONTROL

The Mark Thomas Quality Control plan consists of established procedures for performing and reviewing the work (which are reassessed with each component of the project), including report format, completeness of report, standards for design, establishing appropriate levels review between disciplines, identification of required distribution (who, what, when), submittal checklists, and methods of project documentation. Mark Thomas will use their QA/QC manual as a guide to ensure the highest engineering quality possible.

TASK 1.0 VULNERABILITY/ RESILIENCY ASSESSMENT REPORT

TASK 1.1 DATA COLLECTION

Under this task, Mark Thomas team will gather data to be utilized for the 30% Conceptual Designs and Cost Estimates (Task 3). This data will include USGS LiDAR database and as-builts for the project areas. The LiDAR scans will be calibrated based on available asbuilt data, creating the base files necessary for Mark Thomas to complete the 30% Concepts. It is assumed that Caltrans and the local agencies will be able to provide adequate as-built information for Mark Thomas to create the necessary base files.

LSA will collect historical climate event and risk data from readily available sources in Kern County. Such data could include but is not limited to storm events, property damage, historical flood and wildfire events.

Fehr & Peers will obtain detailed establishment data and observed truck GPS probe data. Acknowledging that sample GPS data from a single vendor may underrepresent certain sectors, we have engaged with multiple vendors to secure a more comprehensive dataset to supplement the KernCOG travel demand model. This information is also valuable for potential updates to KernCOG's travel demand model beyond the scope of this project.

TASK 1.2 VULNERABILITY/ RESILIENCY ASSESSMENT

Task 1.2.1 Future Climate Projection

The consultant team will use Cal-Adapt data to perform future climate projections. Localized Constructed Analogs (LOCA) downscaled global climate models available on Cal-Adapt will be used to provide projections for two separate scenarios: RCP4.5 and RCP8.5. Representative Concentration Pathways (RCPs) are various climate-modeling scenarios with differing concentrations of GHG emissions in the upper atmosphere over time.

For review of future maximum and minimum temperature and precipitation in Kern County, the high emission RCP8.5 scenario will be used with the annual average time

period for 2018 (present), 2050 (mid-century), and 2100 (end of century). The maximum temperature, minimum temperature, and average precipitation projections will be modeled using the CanESM2 climate model.

Wildfire projections will be developed using the University of Merced model, and the downscaled LOCA global climate models together with historic climate data, population density, vegetation, and fire history. Wildfire projections are available for the four models: HadGEM2-ES, CNRM-CM5, CanESM2, and MICROC5. For the review of future wildfire risk in Kern County, projections will be modeled using the CanESM2 model, under the RCP8.5 emissions and a selected population growth scenario.

Taks 1.2.2 County-wide Vulnerability Assessment

LSA will identify at risk assets based off the climate projection results from Task 1.2.a. The major asset groups that will be included in the vulnerability assessment for this project are roadways, bridges, railroads, culverts, and other transportation facilities identified in the RFQ. Through public outreach, the consultant team will identify the major climate hazards in Kern County. The key climate hazards are expected to include extreme heat, wildfire, flooding, and landslide.

An indicator-based approach, which is recommended by FHWA's Vulnerability Assessment and Adaptation Framework , will be used to rank the criticality of transportation infrastructure that will be impacted by the extreme climate events. Metrics will be developed for each asset and available data sets will be collected for the above-mentioned transportation asset groups by different metrics. Stakeholders/public input will also be collected with regards to historical hazard events and future concerns. A comprehensive scoring system will be developed to include the scores for all the metrics, and a score will be calculated for the at-risk assets. The high priority assets resulting from the scoring process will be further evaluated under Task 1.2.3.

Task 1.2.3 Corridor/ Facility Level Climate Risk Assessment

As described in the approach section, LSA will follow FHWA's Adaption Decision-Making Assessment Process (ADAP) to conduct the corridor/facility level climate risk assessment. The first four steps of ADAP will be conducted under this sub-task, including:

- Understanding the site context
- Document the existing facility
- Identify climate stressors
- Develop climate scenarios

Up to 15 corridors/facilities will be analyzed for the climate risk assessment under this sub-task. The consultant team will perform the first four steps of ADAP under this sub-task for each of the corridors identified in the study. The environmental setting and the role/function of the facilities, document the design standards, the dimensions and remaining design life, identify climate stressors surrounding the facilities will be examined and climate scenarios that might impact the facilities will be developed.

The other five steps of the ADAP will be performed under Task 2.

TASK 1.3 DRAFT REPORT AND TASK 1.4 FINAL REPORT

The consultant team will develop a draft Vulnerability/ Resiliency Assessment report includes the following elements:

- Climate projections for Kern County;
- Summarizes the outreach conducted to identify historical climate events and concerns from the public under Task 2; and
- Assessment of the county-wide climate vulnerability analysis with identification of high-risk corridors/facilities.

A second report will be drafted that includes the first four steps of the corridor/facility-level analysis. This portion will be combined with the report included as part of Task 2 as a comprehensive Corridor/Facility Level Climate Risk Assessment report.

The first draft of the Vulnerability/Resiliency Assessment report will be reviewed by Kern COG, and comments will be incorporated into the revised draft report. The second draft will be distributed to stakeholders and the public for comments, and comments will be incorporated into the Final report.

TASK 1 DELIVERABLES

- Draft Vulnerability/Resiliency Assessment Report
- Final Vulnerability/Resiliency Assessment Report

TASK 2.0 ADAPTATION MITIGATION/CO-BENEFIT ANALYSIS REPORT

The Mark Thomas Team will develop a comprehensive climate adaptation analysis for the Twin Pass corridors and countywide, incorporating the results of the vulnerability assessment as described in Task 1. The analysis will provide co-benefits evaluation, phasing, criteria and weighting,

and project prioritization. Key stakeholders will include representatives from KernCOG, Caltrans District 6, Kern County, California High Speed Rail Authority, and the City of Tehachapi.

Based on the vulnerability assessment, our team will develop a list of projects for consideration by agency staff. The project list will also be informed by the Phase II KARGO Sustainability Study which reviewes parallel resiliency corridors serving STAA routes.

The project list may include items such as the construction of mudslide barriers, retaining walls, drainage structures, wildlife crossing infrastructure improvements, and vegetation management/restoration to reduce the impacts of climate change on the corridor. Additional project recommendations will be developed and reviewed with the Client and key stakeholders based on ongoing discussions based on the vulnerability assessment and needs review.

The project recommendations are expected to include the following preliminary list of projects:

- SR 58 Tehachapi Pass Mainline Climbing Lanes Segment 1;
- Resiliency Corridors:
  - Tehachapi-Wofford Rd Corridor;
  - Tehachapi-Willow Springs Road Corridor;
  - SR 14/58 Connection for the Mojave Inland Port;
  - SR 223/58 (I-5 Corpus Road via South Arvin Expressway);
  - SR 184 realignment to Edison Road;
  - SR 166;
- ITP Intermodal Rail Facilities in Shafter, Mojave, McFarland, Tejon Ranch, Delano and Others;

Phasing analysis will be prepared to identify the project readiness and ability to implement the projects on a short-, medium- and long-term horizon.

TASK 2.1 PRELIMINARY TECHNICAL STUDIES

2.1.1 Traffic

The F&P team led the KARGO phase I and II initiatives, identifying multiple projects aimed at mitigating the impact of goods movements on DCAs. The KernCOG Travel Demand Model, along with available data on land use, socio-economic factors, truck traffic, estimates of mobile emissions, and input from extensive stakeholder engagement, was utilized to evaluate project performance. The analysis concluded with a prioritized list of projects. To enhance previous efforts and conduct a thorough cost-benefit analysis of goods-movement transportation projects, obtaining detailed data on truck flows and addressing the following questions is imperative:

1. What role does the corridor play in local/countywide truck flows, and which industries and businesses in Kern County are significant users of the corridor?

2. What role does the corridor play in regional/statewide/national truck flows, and which industries and businesses outside Kern County benefit from improvements on this corridor?

3. What is the typology of trucks traveling through the corridor (vehicle's GVWR and length, commodity)?

4. What is the current operational profile of the corridor throughout different times of the day and various seasons (traffic volume, travel time, travel time reliability, off-ramp queueing)?

5. What are the demographic characteristics of the communities near the corridor, and are there disadvantaged communities identified in proximity to it?

Addressing these questions will not only help assess the impact of transportation projects on the immediate community but also on the broader region and economy. This information can be instrumental in presenting a compelling narrative for competitive state and federal grant applications, a strategy that F&P has successfully employed for various small and large projects.

Question 1 and 2 will quantify the importance of the corridor in local and broader economy, by reviewing the origin and destination of trips and how the corridor is providing access to small and large businesses and how they benefit by improving the resiliency of the corridor.

Questions 1 and 2 aim to quantify the corridor's importance in the local and broader economy by examining trip origins and destinations, illustrating how the corridor provides access to businesses, both small and large, and the benefits derived from enhancing corridor resiliency.

Question 3 seeks to amplify the corridor's role for specific commodities or industries, recognizing that travel time reliability is more critical for trucks transporting perishable goods than for those transporting manufacturing or chemical products. It also help with understanding demands for other purposes such as alternative fuel charging facility or truck parking. These measures are relevant to broader context of resiliency as the states have mandatory goals toward adoption of alternative fuels trucks.

Question 4 aims to quantify the corridor's level of service, identifying delays and bottlenecks, and demonstrating how resilience improvements can enhance traffic operations, potentially saving thousands of dollars by reducing travel time and enhancing reliability.

Question 5 focuses on the specific benefits to DCAs by

reviewing current impacts of goods movement operations and showcasing how improvements can reduce congestion, emissions, and enhance safety as part of resilience mitigations. Following federal Justice40 initiative it is important to clearly quantify the benefit to DCAs in federal grant applications.

To supplement the KernCOG travel demand model, we plan to use detailed establishment data and observed truck GPS probe data. Acknowledging that sample GPS data from a single vendor may underrepresent certain sectors, we have engaged with multiple vendors to secure a more comprehensive dataset at a negotiated cost. This information is also valuable for potential updates to KernCOG's travel demand model beyond the scope of this project.

In collaboration with stakeholders, F&P developed a series of performance measures (beyond what is required for grant applications) during KARGO phase I. We will build on those measures to score each project and provide ranking accordingly. Based on our experience working on similar task for California Statewide Freight Mobility Plan and other regional freight plans, ranking projects usually involves working with stakeholders to undrestand their goals and priorities. We collaborate with stakeholders to develop a systematic weights for

2.1.2 Wildlife Corridors

A Wildlife Corridor technical memorandum will be developed for projects within the Twin Passes. The memo will contain a description of the species present, their habitat and movement needs, whether or not sufficient information is available, and the types of structures they would prefer and require to cross an alignment. This will be based upon a desktop GIS analysis of: 1) species models, 2) existing observations of wildlife, 3) wildlife vehicle collisions in the project area, 4) existing right-of-way conditions, and 5) likely movement/connectivity needs and areas. The memo will make clear and explicit whether sufficient information exists, what the existing connectivity needs, and how wildlife connectivity could be structurally improved in the project area. The memo will inform conceptual designs and locations.

2.1.3 Economics

The first major undertaking for the preliminary economic studies is to develop the data and methodological framework to assess each of the road, railroad, and inland port improvements under consideration in Section 2.2. These nine improvements include:

- SR 58 Tehachapi Pass climbing lanes segment 1
- Connecting Resiliency Route Corridors
- Tehachapi-Woffard Rd Keene (Tehachapi SR58/202)
- Tehachapi-Willow Springs Road Corridor (SR 14)
- SR 14/58 (Pioneer Partners/Mojave Inland Port)
- SR 223/58 (I-5 Corpus Road via South Arvin Expwy)
- SR 184 realignment to Edison Road
- SR 166, 58/14, South Arvin Green Expwy (last mile connectivity to ITP)
- ITP rails

The challenge, which we are anxious to address, will be to link a series of freight, regional travel demand, (and underlying demographic) databases and modeling tools which together will enable comprehensive economic benefits analyses of the improvement alternatives in Section 2.2.

Freight Data and Economic Benefits Analysis Framework for Alternatives Evaluation

Freight data: - Beginning with freight data provided by KERNCOG, EBP will incorporate KERNCOG's regional travel demand model and a set of economic impact models to create a custom freight-economy model which will link freight flows (both truck and rail) to the county and regional industries which are responsible for its purchasing and production. This model gives insight and discloses the underlying supply chains and market linkages at work within a large county such as Kern County, and within a broader region. It models how specific modes and markets feed into specialized industry activity patterns. At the "end" of the modeling chain are direct estimation of the number of jobs, GDP, and tax revenue impacts derived from each project improvement, as well as broader measures of regional supply chain activity and integration. Impacts of investment can be further evaluated on their growth of the regional economy, as well as demand for induced freight activity.

The freight flows data base utilizes Commodity Flow Survey data, rail Waybill data, Freight Analysis Framework (FAF) data, and other sources.

Such applications can be readily seen in some of our more recent work for:

- Illinois Marine Transportation System Plan
- Port of Long Beach – freight-economy impact analysis and what if scenario generation tool
- Michigan LRTP – supply chain and freight dependence
- Buffalo Freight Plan – market forecasts, freight dependence
- Georgia State Rail Plan – freight-dependence
- NM Freight Plan – freight forecasts and freight dependence
- HEPMPO freight plan
- SCAG regional rail-freight forecasts
- California Freight Mobility Plan (2019)

» CalTrans Cal-B/C integration module with TREDIS

These economic models work to describe how freight operates within a region, broader linkages, and the impacts of behavior. Accompanying the analysis are economic development-oriented tools which also evaluate the relative strengths and opportunities from a development perspective. These tools bolster a region by identifying the competitive factors which lead a business to locate, and where growth opportunities can be identified.

Regional traffic and travel demand model – EBP will work closely with the rest of the study team, including the Fehr and Peers travel demand modeling team, to refine the truck traffic flows and forecasts from the travel demand model (TDM), such that those flows can be extrapolated to reflect with reasonable accuracy the origins, destinations, and commodities being moved within those otherwise unidentified truck volumes.

By combining the regional travel demand information for truck movements with the freight data bases, a comprehensive data base can be assembled and summarized, tracking shows flows through the region and by road and rail specific facilities, for commodity types, commodity origin destinations, and by mode. Rail movements will not be obtained from the travel demand model, but rail volumes for each of the rail connections in the region can be obtained directly from published carrier data.

Cal-B/C benefit cost analysis tool – With the combined commodity flow database in place, the impacts of the various infrastructure initiatives can be assessed. The travel demand model will provide information on truck vehicle miles and hours saved, and these in turn can be translated into commodity, industry sector, and origin destination impacts. For example, it can be determined how truck freight moved through the Tehachapi pass will save time, which commodities benefit, what industries these commodities track to, and where benefits are realized spatially.

These travel time and mileage savings can then be run through Cal-B/C to obtain industry and O-D specific direct freight cost savings, based on ton miles and hours reduced.

TREDIS (or alternative) macroeconomic impact analysis tool – With the direct effects in hand from Cal-B/C, the study team can then apply the TREDIS (or an alternative macroeconomic) model to derive macro regional economic impacts, including employment, labor income, value added (GRP), business output, and possibly fiscal impacts. If possible, we would suggest investigating the use of CALTRANS' existing TREDIS license to obtain these impacts. Alternatively, KERNCOG to obtain a 6-month TREDIS license with 3 users to obtain the macro regional economic effects.

We assume use of the CALTRANS owned TREDIS license will be priced at $5.4 K for an additional user (KERNCOG). A new KERNCOG license for 6 months and 3 users would typically be priced at $17.8K. All TREDIS prices can be negotiated. EBP is also prepared to utilize a REMI TranSight Model if KERNCOG prefers that.

Regional Economic Competitiveness and Diversification Potential Studies

In addition to the freight data assembly and economic impact modeling to support the life cycle cost analyses in Section 2.2, EBP proposes additional regional economic studies that examine the competitive advantages and disadvantages of Kern County going forward, and that can support plans for transition of the county's economy from a primarily agricultural base to a more diversified economy, including for example increased logistics industries and more diversified food processing and other higher tech industries that leverage the base agricultural economy.

Competitive Benchmarking Analysis

Standard site selection tools provide one lens for effectively understanding the region's advantages and disadvantages for investment attraction in the same way that a site selector or a corporate decision maker would. The team's experience in helping companies make location decisions around the world provide us with the tools and insight necessary to provide communities with the opportunity to look back through the telescope and see themselves within the context of a globally competitive environment.

We will perform a reverse site selection analysis (a weighting and ranking analysis using actual corporate location decision factors) to understand how the County and region rank against competing locations, from a site selector's point of view. We will develop a list of peers and perceived "best-in-class" or aspirational communities based on knowledge of the region and input from the district's planning team.

Factors compared in the model will include (but may not be limited to):

» Population and population change
» Labor force and unemployment
» Tax climate assessment
» Occupation and industry employment strengths
» Occupation salaries and housing cost statistics
» Access to transportation and to customer and supplier markets
» Educational attainment
» Access to a skilled workforce
» Crime, climate, and natural hazards
» Cost of living and access to medical care

Our analysis will yield a summary of rankings by category for each of the regions, as well as an advantages/ disadvantages chart for the region, such as the example shown to the left. This is one the many ways we can convey this information for a range of audiences. Our analysis will provide an overview as to how the district measures against surrounding districts and broader competitors to better recognize area strengths and weaknesses for the development of the value propositions and workplan. This information is gained through using the same types of tools used by corporate decision makers use when determining locations or expansions. As a result, the team can determine precise advantages and/or weaknesses for its analysis.

Opportunity Match Profiling

Opportunity Match Profiles examine the region against a list of activity and use opportunities that appear to fit both the location profile of the region and its objectives. The profiles will identify how the area is aligned to the needs of each opportunity and will also include a review of target markets to which investment attraction efforts should be focused. This analysis will also examine existing networks within target markets to understand the resources on which KernCOG and its members can call upon when implementing the proposed strategy.

This approach is based in our years of knowledge of working with both the public and private sector and understanding the market drivers for investment decisions. We have developed such opportunity match grids for regions across the globe, helping them to more precisely target opportunities for which there is both a need and for which the region has tangible strengths.

Our typical approach to Opportunity Match Profiling results in a description of the following factors regarding each opportunity:

- The industry or activity
- Current size and scope
- Trends in growth patterns
- Employment patterns
- Site selection criteria
- Necessary institutional links (especially – but not limited to – education and training)
- Target markets for the opportunity
- The region's strengths that correspond to the opportunity's requirements

Gap Analysis

This quantitative and qualitative approach will identify the most pressing needs for the top target sectors to grow, specialize and evolve in the District. In examining the above, it is likely that we will identify several "but-for" to be addressed in the strategic plan. Some will be simple items to fix or enhance. Other will require more in-depth analysis and planning. All will provide a means for enhancing the region's competitiveness.

We will consider the following factors:

- Investment-ready land, facilities, and transportation infrastructure
- Skills/workforce
- Financing
- Value chain/cluster-based approach to economic growth
- Municipal/government structures and support
- Institutional support (access to intellectual and knowledge capital)
- Quality of life and talent recruitability (access to transit, schools, recreation facilities)

2.1.4 Funding Strategy

Mark Thomas will work closely with Kern COG to develop a funding strategy for the infrastructure investments. We will identify various regional, state, and federal funding programs applicable to the projects. Mark Thomas will rate the projects alignment with each grant program. The funding strategy will also include a review of how each project aligns with the Caltrans System Investment Strategy (CSIS) by leveraging the Cal-B/C models and benefits/ impacts to disadvantaged communities. We will prepare a project fact sheet for each project. Mark Thomas will also develop an overall political engagement strategy for the suite of projects.

TASK 2.2 LIFE-CYCLE-COST-ANALYSIS/CO-BENEFITS ANALYSIS

We will evaluate where the project list achieves co-benefits such as an improved economy, alignment with state housing goals, benefits to disadvantaged communities (DACs), reduced resource use, reduced air quality emissions and Vehicles Mile Traveled (VMT), jobs creation, and other environmental, economic and social co-benefits. Our team will work with agency staff to consider additional co-benefits that can be identified that might later align projects with various grant funding sources.

The team will estimate/monetize the primary and secondary economic benefits (co-benefits) using the series of models described in Section 2.1 Analyses will be conducted for each of the infrastructure initiatives listed in the RFP:

- SR 58 Tehachapi Pass climbing lanes segment 1
- Connecting Resiliency Route Corridors
- Tehachapi-Woffard Rd Keene (Tehachapi SR58/202)
- Tehachapi-Willow Springs Road Corridor (SR 14)

- SR 14/58 (Pioneer Partners/Mojave Inland Port)
- SR 223/58 (I-5 Corpus Road via South Arvin Expwy)
- SR 184 realignment to Edison Road
- SR 166, 58/14, South Arvin Green Expwy (last mile connectivity to ITP)
- ITP rails

Primary (first order) impacts – We anticipate that Cal-B/C will generate these impacts, which will include

- Truck time and cost savings – these are cumulated so that benefits may be assigned to in-region versus out-of-region industries.
- Rail time and cost savings, with similar assignment to in-region versus out-of-region benefits. Most rail traffic will be through traffic, rather than cargoes originating or terminating in Kern County.
- Freight/logistics cost savings – also assigned to in-region versus out of region benefits.
- Emissions and other environmental impacts/benefits.
- Safety (crash reduction) benefits
- Reduced exposure of EJ populations to environmental hazard exposure

Secondary macro regional impacts generated by TREDIS or alternative macro model – These will focus on Kern County impacts but also include a to-be-determined Central Valley region. Impacts to include increases per year in:

- Employment
- Labor Income
- Business output
- Gross County/Regional Product
- Tax Revenues

TASK 2.3 DEVELOP PROJECT RANKINGS

The consultant team will use Multi-Criteria Analysis (MCA) to compare the adaptation measures across a range of quantitative and qualitative metrics. The methodology was recommended by FHWA in the Vulnerability Assessment and Adaptation Framework (3rd Edition). The metrics include environmental consideration, benefit/cost analysis, disadvantaged communities impact analysis, funding potential, and stakeholder survey. After technical analysis is conducted for the proposed adaptation measures/projects, the projects will be scored against each of the five metrics. The consultant team will work with Kern COG staff and the Advisory Committee to allocate weight to the metrics and develop a composite scoring system incorporating the five metrics. A composite score will then be calculated for each of the adaptation measures/projects.

The Mark Thomas team will develop evaluation criteria and weighting for use in prioritization of projects. The top ranked projects will then advance to Task 3, 30% conceptual design. We will work with agency stakeholders to develop and refine the criteria and determine the weighting through regular Project Development Team (PDT) Meetings. We anticipate the criteria and weighting will reflect public input and reflect and balance regional planning goals, California's CAPTI guiding principles, and Kern COG's project objectives. Below is a draft list of potential criteria for consideration that will be refined as the project advances and based on the co-benefits analysis:

- Safety Benefit;
- Benefit to Disadvantaged Communities (DACs);
- Operational Benefit;
- Modal Benefit;
- Agency Priority;
- Economic Development;
- Access to and Creation of Jobs ;
- Air Quality and Greenhouse Gas Emissions Reduction;
- Vehicles Miles Traveled Benefit;
- Efficiency of Land Use;
- Supportive of State Housing Goals;
- Project Readiness;
- Schedule for Implementation; and/or
- Implementation Cost.

Mark Thomas will prepare the Draft Adaptation Mitigation/ Co-Benefit Analysis Report for distribution to the public and agency for review. Upon public release of the Draft Report, we will collect public comments for inventory and review with agency staff.

2.3.1 Environmental Consideration

The consultant team will conduct an opportunities and constraints analysis for the proposed adaptation measures/ projects. This scope of work assumes 15 corridors/ facilities with an average of two build-alternatives per corridor/facility, for a total of up to 30 build alternatives will be considered. The environmental opportunities and constraints analysis will be based on a feasibility level project description and design provided by the project engineer.

LSA will conduct an evaluation for the following factors utilizing aerial map reconnaissance, site photographs, publicly available records searches, agency documents (i.e., General Plans), and available CEQA/NEPA documents:

- Agricultural
- Air Quality
- Biology and Wetlands
- Community Impacts
- Cultural Resources

» Hazardous Materials
» Noise; and
» Wildfire

2.3.2 Benefit/cost analysis

Developed in Task 2.2, the LCCA/BCA results will be ranked. Results will be used to determine project prioritization.

2.3.3 DAC impact analysis

The consultant team will use CalEnviroScreen 4.0 or Kern COG's definition to identify the disadvantaged communities in or near the proposed project areas. Analysis will be conducted to evaluate whether the mitigation measures will bring benefits to the surrounding disadvantaged communities or the proposed mitigation projects will negatively impact such communities.

2.3.4 Funding potential analysis

The consultant team will conduct research on climate adaptation/resilience related funding programs/principles. Such funding programs/principles could include, but are not limited to, CTC's Local Transportation Climate Adaptation Program (LTCAP), the scoring rubrics of Caltrans Strategic System Investment Strategy (CSIS), and the Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA)l. We will rate the proposed mitigation measures against the funding principle/criteria of such funding programs for funding potentials.

2.3.5 Stakeholder survey

Input from the community performed in Task 4 DCE will be ranked. Results will e used to help determine project prioritization.

TASK 2.4 DRAFT FINAL REPORT

Mark Thomas will develop the Draft Final Adaptation Mitigation/Co-Benefit Analysis Report addressing public and agency comments. We will distribute the Draft Final Report to the Client for review, including a response to comments matrix.

TASK 2.5 FINAL REPORT

Mark Thomas will develop the Final Adaptation Mitigation/ Co-Benefit Analysis Report addressing agency feedback on the Draft Final Report. The Final Report will serve as a chapter or appendix to the Draft Final and Final Study as described in Task 6.

TASK 2 DELIVERABLES

» Economics Study
» Funding Strategy Memo
» Project List, Phasing, and Ranking Analysis,
» Draft Adaptation Mitigation/Co-Benefits Analysis Report
» Draft Adaptation Report Response to Comments Matrix
» Final Adaptation Mitigation/Co-Benefits Analysis Report

TASK 3.0 DEVELOP 30% CONCEPTUAL DESIGNS

The design team will develop a 30% pre-environmental, conceptual design drawing and cost estimate for up to twenty projects. The projects will be selected based on the results of the Vulnerability and Resiliency Assessment and the Adaptation Mitigation and Co-Benefit Analysis Report (Task 1 and Task 2). For each project's 30% Concept package, the design team will prepare a strip map exhibit showcasing the proposed improvements and a construction cost estimate. It is assumed that the exhibits will provide high-level concepts including general design information but will not delve into final design details. The exhibits will include approximate Right of Way acquisition needs based on available records. The exhibits will not include utility relocation information.

The following projects have been identified as potential projects that will proceed to the 30% Concept level. The assumed scope for each of these projects is outlined in the following subtasks.

TASK 3.1 DRAFT CONCEPT DESIGN

Task 3.1.1 SR 58 Truck Climbing Lanes Segment 1

It is assumed that this project will include 1 truck climbing lane along State Route 58 between Postmile 71 and 75. The climbing lane will be approximately 3 miles long. It is assumed that the proposed concept will need to include the following components:

» Extend/ retrograde 3 existing box culvert crossings
» Widening of the inside shoulder where necessary to meet agency standards
» Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not anticipated to be necessary, so they are not included in this scope:

» Retaining walls
» Modifications to the Bena Road Undercrossing

Task 3.1.2 HSR Tunnel Tailings

This project consists the HSR tunnel tailings just north of the SR223/SR58 intersection

Task 3.1.3 SR 58/223 Interchange

It is assumed that this project will convert the at grade intersection of SR 58 and SR 223 into a grade separated interchange. The concept will follow either the F-5 or F-6 interchange example presented in Chapter 500 of the HDM. It is assumed that the proposed concept will need to include the following components:

- Approximately 3 miles of lane construction (includes both ramps and SR 223 reconstruction)
- Embankment and 2-lane bridge structure allowing SR 223 to cross over SR 58
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

Task 3.1.4 SR 58/E. Tehachapi Blvd/ Tehachapi Willow Springs Rd

This existing 2-lane resiliency route is approximately 21 miles long connecting E Tehachapi Blvd to Rosamond Blvd. It is assumed that the proposed concept will need to include the following components:

- Approximately 21 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in this scope:

- Intersection control changes
- Structural design
- Any modifications to the Willow Springs Overcrossing at SR 58

Task 3.1.5 SR 223 Tejon Indian Tribe-S. Arvin Expwy

It is assumed that this resiliency route will be a 2-lane facility connecting State Route 99 to State Route 223. This corridor will extend east from SR 99 along existing David Road for approximately 4 miles before heading northeast through undeveloped land for approximately 12 miles to connect to SR 223. It is assumed that the proposed concept will need to include the following components:

- Roadway reconstruction for approximately 4 miles along David Road
- New roadway construction for approximately 12 miles
- 5 new stop controlled intersections
- 6 new structures for canal/ ditch/ creek crossings
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in this scope:

- Existing Intersection control changes
- Modifications to the existing David Road and SR 99 interchange

Task 3.1.6 SR 184 Lamont Truck Bypass Resiliency Route

This project proposes to realign the existing SR 184 approximately 2 miles east to reduce the route's impacts on existing sensitive receptors. The realignment would utilize the existing Edison Road to connect SR 223 and SR 58. It is assumed that the proposed concept will maintain Edison Road's 2-lane configuration and will need to include the following components:

- Approximately 10 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in this scope:

- Intersection control changes
- Structural design
- Any modifications to the SR 58 interchange

Task 3.1.7 I-5 Truck Climbing/Passing Lanes

This project proposes to add approximately 11 miles of truck climbing lane to southbound I-5. It is assumed that the proposed concept will need to include the following components:

- A truck climbing lane approximately 11 miles long
- Approximately 4500 linear feet of retaining wall
- 4 bridge/ box culvert widenings
- 4 ramp reconfigurations (does not include structural design)
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

There are some areas within the project limits where the

existing inside shoulder is wide enough to accommodate the lane addition. In these areas, it is assumed that the traffic lanes will be shifted into the existing inside shoulder to minimize project impacts. This will reduce the project's impacts to utilities and will eliminate the need for bridge widening in some areas. This scope assumes that the pavement on the inside shoulder will need to be reconstructed in order to carry the shifted traffic.

There are several areas where southbound I-5 crosses under existing bridge structures. At these locations, the existing bridge columns restrict the available width for I-5. In order to accommodate the additional climbing lane without needing to reconstruct the bridge above I-5, it is assumed that the shoulders can be reduced below the standard shoulder width at the crossing location. This non-standard shoulder will require a design exception, but it is assumed that this design exception will be preferred over replacing the bridges entirely.

Task 3.1.8 Shafter-Bakersfield Intermodal Rail

Project consists of the intermodal rail facility for the Shafter-Bakersfield ITP.

Task 3.1.9 McFarland ITP Resiliency Routes

This project proposes to connect the proposed McFarland ITP facility to SR 155 via Famoso Porterville Highway and Sherwood Avenue. This route would connect into the Delano ITP Resiliency Route at Pond Road outlined in the following task. These improvements are proposed to help minimize impacts to the McFarland DAC by reducing traffic traveling to the proposed ITP facility through McFarland along SR 99. It is assumed that the proposed concept will maintain the existing 2-lane configuration of Sherwood Avenue and Famoso Porterville Highway, and will need to include the following components:

- Approximately 5.5 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.
- At-Grade railroad crossing modifications at Sherwood Avenue near Famoso Porterville Highway

The following items are not included in this scope:

- Intersection control changes
- Modifications to freeway interchanges
- Structural design

Task 3.1.10 Delano ITP Resiliency Routes

This project proposes to realign SR 155 south along Famoso Porterville Highway and Pond Road to tie into SR 99 south of the City of Delano. This realignment is being considered in response to the proposed ITP located at UP's former Cold-Connect facility in South Delano. These improvements are proposed to help minimize impacts to the Delano DAC by redirecting the increased truck traffic that the ITP is expected to attract. It is assumed that the proposed concept will maintain the existing 2-lane configuration of Pond Road and Famoso Porterville Highway, and will need to include the following components:

- Approximately 8 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.
- Realignment of the southbound SR 99 ramp at Pond Road to meet current standards

The following items are not included in this scope:

- Intersection control changes
- Structural design

Task 3.1.11 Mojave ITP Resiliency Routes

To maximize the facility's efficiency, the proposed Mojave Inland Port will require access points along both SR 58 and SR 14. This proposed project will define what these connection points will look like. Along SR 14, there is already a connection point via United Street that the facility can utilize. It is assumed that this connection will require the following components:

- Approximately 2 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in the SR 14 connection scope:

- Intersection control changes
- Structural design
- Modifications to the geometrics of the existing SR 14 connection

Along SR 58, a new interchange connection will be necessary to service the facility. Due to minimum

interchange spacing requirements along roadways of this type, the new interchange will need to be located about 2 miles southeast of the ITP facility. A frontage road will be constructed parallel to SR 58 to connect to the new interchange location. The interchange concept will follow either the F-5 or F-6 interchange example presented in Chapter 500 of the HDM. It is assumed that this connection will require the following components:

- Approximately 6 miles of roadway pavement (include the frontage road and connection ramps)
- Embankment and 2-lane bridge structure allowing the frontage road to cross over SR 58
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in the SR 58 connection scope:

- Structural design
- Modifications to the geometrics of the existing SR 14 connection

The scope for this project will also include the addition of 2 traffic signals at the existing interchange ramp connection points between SR 14 and SR 58. It is assumed that the ramp intersection configurations can remain the same with minor modifications to incorporate the signals.

Task 3.1.12 Arvin-Tejon Commerce Center Rail Spur

The project alignment start from Arvin and follows the South Arvin Expressway and continues south to connect to the Tejon Commerce Center.

Task 3.1.13 Tejon Indian Tribal Lands/ Mettler/ Copus Road Resiliency Corridor

This project proposes to re-route SR 166 north to Corpus Road to benefit the Mettler DAC and provide a resiliency corridor with connections to SR 99, I-5, SR 166, and the proposed Arvin Expressway. The corridor improvements will span from the intersection of SR 166 and Basic School Road, north to Corpus Road, and west to SR 99. It is assumed that the proposed concept will maintain Corpus Road's 2-lane configuration and will need to include the following components:

- Approximately 22 miles of pavement reconstruction/ rehabilitation
- Shoulder widenings where necessary to comply with local agency standards
- Various minor drainage modifications including overside drains, down drains, culvert extensions, drainage inlets, etc.

The following items are not included in this scope:

- Intersection control changes
- Structural design
- Any modifications to the interchanges at SR 99 or I-5

Task 3.1.14 Kern SAFETEC Logistics Resiliency Corridor

Fehr & Peers will use observed truck flow data, information from travel demand model, and inputs collected from stakeholders during KARGO phase I and II to further evaluate economic benefits of SAFETEC logistic zone. We will review the roadway infrastructure to evaluate the feasibility of the roadway network for adopting autonomous vehicle operation. We will identify limitations and required improvements and help KernCOG position better for future funding programs.

Task 3.1.15 Shafter-Buttonwillow Rail Spur Extension Resiliency Corridor

Project consist connecting the UP-Buttonwillow Subdivision to the BNSF-Bakersfield Subdivision to provide a resiliency route for rail in the South SJV rail corridor.

Task 3.1.16 Cross South Valley Rail Resiliency Corridor

Project consist of providing a second spur to complete a South Valley loop for UP and SJVRR.

Task 3.1.17 Up to four other rail and roadway facilities

The design team will provide 30% Concepts for up to four additional rail or roadway facilities. It is assumed that the scopes for these four additional projects will be similar in size and general concept to the other projects scoped under this task.

TASK 3.2 FINAL CONCEPT DESIGN

Based on feedback received on the Draft Concept Designs, the design team will make necessary design revisions and develop Final Concep Desings for each of the projects selected. Each project's 30% Final Concept package will consist of a strip map exhibit showcasing the proposed improvements and a construction cost estimate. The following projects have been identified as potential projects that will proceed to the 30% Final Concept Design level. The assumed design scope for each of these projects is outlined under Task 3.1.

TASK 3 DELIVERABLES

- Up to twenty 30% Draft Concept Design and Cost

Estimate packages
» Up to twenty 30% Final Concept Design and Cost Estimate packages

TASK 4.0 DETAILED COMMUNITY ENGAGEMENT

TASK 4.1 DEVELOP DETAILED COMMUNITY ENGAGEMENT PLAN

The Mark Thomas Project Team will draft a comprehensive approach to ensure the public engagement process is robust and representative of the community. To guide this effort, the Mark Thomas Project Team will develop a Detailed Community Engagement Plan (DCE Plan) that identifies the objectives and strategies of Tasks 1-3 including outreach methods, an outreach schedule, potential participants, potential event dates and times, event formats, and goals for each outreach activity.

The following items will be included in the DCE Plan:

» Project Goals and objectives;
» Focused & desired audiences, including disadvantaged communities;
» Key messaging across all Project channels and/or materials;
» Communications and outreach tools;
» Proposed activities & timelines;
» Language translation; and
» Roles and responsibilities of Mark Thomas Project Team and Kern COG Staff

Understanding that the input received from this engagement process will be used for both this Study (Task 6) and the development of the 2026 RTP/SCS Climate Adaption Section, we will ensure that the DCE Plan leverages the latest Kern COG Public Involvement Procedure (PIP) document for the RTP/SCS and Sustainable Communities Strategies (SCS) update process. The Mark Thomas Project Team will incorporate changes in the DCE Plan based on review and revisions from the Advisory Committee.

Develop Interactive Webpage: Our team will prepare an interactive, standalone webpage for this project using a site like Social PinPoint or Public Input. In addition to serving as a forum through which the public can learn more about the project, stakeholders are also able to complete surveys, provide feedback through an interactive idea wall and stay up to date on the latest project updates. QR codes linking to the site can be integrated into advertisements and collateral materials to help further engage the public and drive traffic to the site. Site content will also be available in Spanish to maximize engagement.

Prepare Collateral Materials: In anticipation of the community outreach to be conducted, our team will prepare a suite of collateral materials. Particular focus will be made to ensuring these are written in an easy-to-understand way with minimal technical jargon so the public is able to authentically engage and provide input. Collateral materials to be prepared include, but are not limited to: a briefing packet, fact sheet, displays and infographics, social media content, print and digital ads, and detailed poster sized maps.

Ensure Tribal Engagement: Authentic and meaningful tribal engagement is a cornerstone of equity. Our team will conduct outreach to the Tejon Tribe to ensure they are able to provide feedback on this work. Our team can conduct briefings and conduct additional outreach to maximize engagement.

Consider Media Buying: If desired, our team will conduct media buying to ensure the public is informed of this outreach process and is able to engage. This could include print and/or digital advertisements with newspapers of record like the Bakersfield Californian in addition to multilingual radio advertisements across the county.

Convene Community Workshops: Our team will conduct two rounds of workshops in eight communities adjacent to the identified Twin Pass Corridors. The first round will be to obtain stakeholder feedback and input regarding climate vulnerabilities and potential solutions, with a specific focus on goods movement, to inform plan development. These will serve as a venue for the public to learn more about the climate resiliency planning process, provide their input on anticipated issues and solutions, and otherwise engage on this work. The second round will be to inform the public of the draft plan developed and obtain additional feedback to finalize the plan.

Our team will prepare a briefing packet, visuals, advertisements and social media content to help promote these meetings as described above. We will also coordinate meeting logistics, including A/V needs, refreshments, locations, site set up, etc., and will ensure Caltrans approval of refreshments in advance in accordance with grant requirements. We will work in close coordination with Kern COG staff and other stakeholders (including the San Joaquin Valley Air Pollution Control District's Assembly Bill 617 Steering Committees in Shafter and Arvin) to ensure diverse residents throughout Kern County are able to be involved in this work. In addition, hybrid and/or virtual workshops will be conducted to ensure all residents are able to participate in these meetings. We also recommend coordinating translation services to ensure an inclusive process.

» Mettler/Tejon, including the Tejon Indian Tribe as noted above
» Arvin/Lamont
» Keene and Tehachapi
» Mojave and Rosamond
» Remaining communities to be determined based on input from the Task 5 Advisory Committee

Consider virtual industry workshops: Kern County is an essential goods movement gateway to Southern California, the Central Valley, greater Northern California and the greater Western United States in general. Given the interregional nature of goods movement in Kern County, we recommend virtual industry workshops to convene candid conversations about resiliency planning across a variety of sectors pertinent to Kern County's long-term economic livelihood. If desired, these workshops could be briefings instead, where our team meets with key stakeholders on a one-on-one basis to obtain their feedback to inform the development of the adaptation mitigation/co-benefit analysis report. Specific industries include, but are not limited to:

» The Ports of Long Beach, Los Angeles and San Diego, in addition to Merced County's Castle Air Force Base Port representatives
» Aerospace industry contacts and federal stakeholders in the greater Mojave Desert area
» Freight rail and rail stakeholders
» Agricultural growers, packers and shippers
» Petroleum industry stakeholders

Prepare Outreach Summary Document: A summary document detailing outreach conducted, feedback received and additional information on the public involvement process will be prepared and included as an appendix to the plan.

TASK 4.2 DEVELOP PROJECT INTRODUCTORY ANIMATION

Digital outreach tools are effective in reaching a wide range of audiences and advertising the Project's objectives and goals. The Mark Thomas Project Team will develop a Project Introductory Animation (PIA) of roughly three minutes to convey how the proposed projects will provide climate mitigation, adaptation, resiliency, and co-benefits to historically disadvantaged communities in the region. The animation will be provided in both English and Spanish. The Mark Thomas team will develop a draft storyboard of the animation for review and approval by the Kern COG staff before the beginning of the animation work.

TASK 4.3 AND TASK 4.4 STAKEHOLDER MEETINGS

Building relationships with community leaders and organizations offers a chance to obtain feedback and gain support from a representation of an entire community or interest. Hosting smaller meetings and one-on-one meetings with the leaders or organizations is a chance to explore nuances, consider impacts, offer creative solutions, and build support.

The Mark Thomas Project Team will conduct two rounds of eight (8) stakeholder meetings for each Twin Pass Corridor (for a total of 16 stakeholder meetings). We expect to reach out to stakeholders who represent nearby disadvantaged communities of Mettler/Tejon including the Tejon Indian Tribe, Arvin/Lamont, Keene and Tehachapi, and Mojave and Rosamond. We will work with the Advisory Committee and Kern COG staff to identify other community leaders and/or organizations. Stakeholder meetings will take place via web conference as directed by Kern COG.

Stakeholder engagement will be documented to preserve the process, discussions, feedback, and activities. We will compile summaries, memorandums, notes, and materials into a Stakeholder Engagement Report that will have a description of activities, attendees, dates, and locations and will include the invitations, agendas, presentations, and meeting minutes. Additionally, it will include fact sheets, newsletters, notifications, and other materials developed in support of outreach.

The report will be Integrated into the Draft and Final Study (Task 6) as a standalone chapter or appendix, including an outreach synopsis defining disadvantaged and underserved communities. This will at a minimum include the number and location of meetings, people attended, translation services provided, and a summary of feedback received. The chapter or appendix will be designed as a resource for the development of the 2026 RTP/SCS Climate Adaptation Section.

TASK 4 DELIVERABLES

» Detailed Community Engagement Plan
» Stakeholder DCE Meetings Round 1
» Stakeholder DCE Meetings Round 2
» Project Introductory Animation StoryBoard
» Project Introductory Animation Video

TASK 5.0 ADVISORY COMMITTEE MEETINGS

5.1 KICK-OFF MEETING

Mark Thomas will facilitate an Advisory Committee Kick-

off Meeting with the Mark Thoms Project Team, staff from Kern COG, and Advisory Committee members. Before the Kick-off Meeting, the Mark Thomas Project Team will work with Kern COG to establish the Advisory Committee which may include representatives from key stakeholders such as Caltrans, local governments, and other agencies and organizations.

The project kickoff meeting commences the project development, convening the Project Team to chart the critical path to a successful planning and development process. We will lead an agenda-guided discussion to clarify project goals and confirm the project scope of work, schedule, key milestones, invoicing, communication protocols, and other expectations. We will also describe how to conduct, coordinate, and share outreach activities, data collection and analysis tasks, mapping outputs, and associated deliverables and reports.

5.2 ADVISORY COMMITTEE COORDINATION MEETINGS

Upon the Kick-off Meeting as described in Task 5.1, Mark Thomas will host up to seven (7) Advisory Committee Meetings via a Mark Thomas provided videoconference link. The frequency of status meetings is intended to maintain a conversational approach to delivering the project and to quickly secure guidance and direction on project elements to deliver the project consistent with the proposed schedule. Mark Thomas will prepare meeting agendas, presentations for each meeting, and meeting summary notes.

TASK 5 DELIVERABLES

- Kick-off Advisory Committee Meeting
- Advisory Committee Meetings

TASK 6.0 DRAFT FINAL AND FINAL STUDY

6.1 ASSEMBLE DRAFT FINAL STUDY

Upon completion of the Vulnerability Assessment Report, the Adaptation Mitigation Report, and the 30% Conceptual Design Plans, Mark Thomas will develop a Draft Final Study compilation document that will be circulated and made available for agency staff and public review.

6.3 FINAL STUDY

Based on public and agency stakeholder input on the Draft Final Study, we will prepare the project Final Study. The Final Study will also include an executive summary and appendices to provide access to other key deliverables and work products developed over the project planning process. The Final Study will be provided to Kern COG in Microsoft Word, Adobe PDF, and/or Adobe InDesign formats. If not already done so, any remaining GIS files will be provided to Kern COG to support local and regional data collection efforts.

TASK 6 DELIVERABLES

- Draft Final Report
- Draft Final Report Response to Comments Matrix
- Final Report
- Digital Content Deliverables (assume graphics and GIS shapefiles)

TASK 7 BOARD REVIEW/ ACCEPTANCE

7.1 BOARD PRESENTATION

The Mark Thomas Project Team will be available to develop summary presentations or any other project materials requested and participate in up to six (6) public meetings via hybrid web consulting to solicit input or project approval. We will work with Kern COG to identify the appropriate meetings to attend, prepare summary presentations, and present the project summary and recommendations for approval by the Kern COG Board/ Transportation Planning Policy Committee (TPPC).

TASK 7 DELIVERABLES

- Draft Final Document Public Meetings Online (TTAC, RPAC, TPPC) (Consultant)
- Final Document Public Meetings Online (TTAC, RPAC, TPPC) (Kern COG)

MARK THOMAS

(559) 447-1938
7571 North Remington Avenue, Suite 102
Fresno, CA 93711

Exhibit “B”

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29
DEBARMENT AND SUSPENSION CERTIFICATION

1) The Consultant certifies, to the best of its knowledge and belief, that it and it contractors, subcontractors and subrecipients:

   a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
   b) Have not, within the three (3) year period preceding this certification, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) transaction or contract under a public transaction, violation of Federal or state antitrust statutes, or commission of embezzlement, theft forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
   c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, state, or local) with commission of any of the offenses listed in sub paragraph (1)(b) of this certification; and
   d) Have not, within the three (3) year period preceding this certification, had one or more public transactions (federal, state, or local) terminated for cause or default.

2) The Applicant also certifies that, if Applicant later becomes aware of any information contradicting the statements of paragraph (1) above, it will promptly provide that information to Kern Council of Governments.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

_____
(Consultant)

_____
Date

Brian Van Wyk

COST PROPOSAL FOR PROJECT SCOPE: Kern COG-KARGO Climate-Change Adaptation Mitigation Study

MARK THOMAS

		Sr. Engineering Manager $343	Sr. Engineering Manager $376	Sr. Project Manager $252	Sr. Project Manager $265	Sr. Project Engineer $186	Design Engineer II $142	Sr. Funding Specialist $185	Sr. Project Accountant $146	Sr. Project Coordinator $145	Sr. Graphic Manager $173	Sr. Graphic Designer $148	Total Hours	Total MT Cost	Subconsultants: EBP	Fehr & Peers	Fraser Schilling	LSA	Southwest Strategies	PGHWong	TOTAL COST
0.0	**PROJECT MANAGEMENT**																				
0.1	Project Management	20	20		100	60			40	80			320	$69,492	6,000	6,148	-	-	-	-	$81,640
0.2	Project Coordination	20	20		100	60							200	$52,052	4,247	6,148	-	-	-	-	$62,447
0.3	Team Coordination/Meetings	20	20		100	60							200	$52,052	2,000	6,235	4,840	-	-	-	$65,127
0.4	Quality Control	20	20		80	20							140	$39,298	1,800	8,878	-	-	-	-	$49,976
	Subtotal Phase 0	**80**	**80**	**0**	**380**	**200**	**0**	**0**	**40**	**80**	**0**	**0**	**860**	**$212,895**	**$14,047**	**$27,409**	**$4,840**	**$0**	**$0**	**$0**	**$259,191**
1.0	**VULNERABILITY/RESILIENCY ASSESSMENT REPORT**																				
1.1	Data Collection	2			40	80	180						302	$51,841	-	2,961	18,361	34,559	-	-	$107,722
1.2	Vulnerability/Resiliency Assessment																				
1.2.1	Future Climate Projection	2											2	$685	-	-	-	49,091	-	-	$49,777
1.2.2	County- wide Vulnarability Assessment	2											2	$685	-	-	-	48,168	-	-	$48,854
1.2.3	Corridor/Facilty Level Climate Risk Assessment	2											2	$685	-	-	-	54,344	-	-	$55,029
1.3	Draft Report	2											2	$685	-	900	-	45,230	-	-	$46,815
1.4	Final Report	2											2	$685	-	900	-	20,000	-	-	$21,586
	Subtotal Phase 1	**12**	**0**	**0**	**40**	**80**	**180**	**0**	**0**	**0**	**0**	**0**	**312**	**$55,268**	**$0**	**$4,761**	**$18,361**	**$251,393**	**$0**	**$0**	**$329,783**
2.0	**ADAPTION MITIGATION/CO-BENEFIT ANALYSIS REPORT**																				
2.1	Preliminary Technical Studies																				
2.1.1	Traffic		2	2									4	$1,257	-	48,900	-	-	-	-	$50,157
2.1.2	Wildlife Connectivity		2	2									4	$1,257	-	-	16,360	-	-	-	$17,617
2.1.3	Economics		2	2									4	$1,257	41,590						$42,847
2.1.4	Funding Stategy		2	2				40					44	$8,657		-	-	-	-	-	$8,657
2.2	Life-Cycle-Cost-Analysis/Benefit Cost Analysis																				
2.2.1	SR 58 Tehachapi Pass climbing lanes segment 1	1		2									3	$847	25,875	11,309	-	-	-	-	$38,032
2.2.2	Connecting Resiliency Route Corridors	1		2									3	$847	25,875	11,309	-	-	-	-	$38,032
2.2.3	Tehachapi-Woffard Rd Keene (Tehachapi SR58/202)	1		2									3	$847	25,875	11,309	-	-	-	-	$38,032
2.2.4	Tehachapi-Willow Springs Road Corridor (SR 14)	1		2									3	$847	25,875	11,309	-	-	-	-	$38,032
2.2.5	SR 14/58 (Pioneer Partners/Mojave Inland Port)	1		2			72	36					111	$17,767		11,309	-	-	-	-	$29,076
2.2.6	SR 223/58 (I-5 Corpus Road via South Arvin Expwy)	1		2			72	36					111	$17,767		11,309	-	-	-	-	$29,076
2.2.7	SR 184 realignment to Edison Road	1		2			72	36					111	$17,767		11,309	-	-	-	-	$29,076
2.2.8	SR 166, 58/14, South Arvin Green Expwy (last mile connectivity to ITP	1		2			72	36					111	$17,767		11,309	-	-	-	-	$29,076
2.2.9	ITP	1		2			72	36					111	$17,767		11,309	-	-	-	-	$29,076
2.3	Develop project rankings														-	-	-	-	-	-	
2.3.1	Environmental Considerations	2		4									6	$1,695	-		-	25,970	-	-	$27,665
2.3.2	Benefit/Cost Analysis	2		4									6	$1,695	-		-	586	-	-	$2,281
2.3.3	DAC Impact Analysis	2		4									6	$1,695	-		-	8,538	-	-	$10,233
2.3.4	Funding Potential Analysis	2		4									6	$1,695	-		-	8,679	-	-	$10,374
2.3.5	Stakeholder Survey	2		4									6	$1,695	-		-	1,171	-	-	$2,866
2.4	Draft Report	2		20									22	$5,733	6,050	7,720	-	30,304	-	-	$49,808
2.5	Final Report	2		10									12	$3,209	4,545	2,102	-	5,641	-	-	$15,498
	Subtotal Phase 2	**23**	**8**	**76**	**0**	**0**	**360**	**220**	**0**	**0**	**0**	**0**	**687**	**$122,068**	**$155,685**	**$160,506**	**$16,360**	**$80,890**	**$0**	**$0**	**$535,510**

3.0	**EXPEDITE IMPLEMENTATION WITH 30% CONCEPTUAL DESIGN**																			
3.1	Draft Concept Design																			
3.1.1	SR 58 Truck Climbing Lanes Segment 1	4	8		36	140	140						328	$59,955	-	14,923	6,260	-	-	-	$81,138
3.1.2	HSR Tunnel Tailings	4											4	$1,371	-	-	6,260	-	-	6,550	$14,181
3.1.3	SR 58/233 Interchange	4	8	0	36	140	140						328	$59,955	-	-	6,260	-	-	-	$66,215
3.1.4	SR 58/E. Tehachapi Blvd/Tehachapi Willow Springs Rd	4	8	0	36	140	140						328	$59,955	-	-	6,260	-	-	-	$66,215
3.1.5	SR 223 Tejon Indian Tribe-S. Arvin Expwy	4	8	0	36	140	140						328	$59,955	-	-	-	-	-	-	$59,955
3.1.6	SR 184 Lamont Truck Bypass Resiliency Route	4	8	0	36	140	140						328	$59,955	-	-		-	-	-	$59,955
3.1.7	I-5 Truck Climbing/Passing Lanes	4	8	0	36	140	140						328	$59,955	-	-	6,260	-	-	-	$66,215
3.1.8	Shafter-Bakersfield Intermodal Rail	4											4	$1,371	-	-	-	-	-	8,568	$9,939
3.1.9	McFarland ITP Resiliency Routes	4	8	0	36	140	140						328	$59,955	-	-	-	-	-	-	$59,955
3.1.10	Delano ITP Resiliency Routes	4	8	0	36	140	140						328	$59,955	-	-	-	-	-	-	$59,955
3.1.11	Mojave ITP Resiliency Routes	4	8	0	36	140	140						328	$59,955	-	-	-	-	-	-	$59,955
3.1.12	Arvin-Tejon Commerce Center Rail Spur	4											4	$1,371	-	-	-	-	-	19,129	$20,500
3.1.13	Tejon Indian Tribal Lands/Mettler/Copus Rd Resiliency Corridor	4	8	0	36	140	140						328	$59,955	-	-	-	-	-	-	$59,955
3.1.14	Kern SAFETEC Logistics Resiliency Corridors	4											4	$1,371	-	4,000	-	-	-	-	$5,371
3.1.15	Shafter-Buttonwillow Rail Spur Extension Resiliency Corridor	4											4	$1,371	-	-	-	-	-	11,366	$12,737
3.1.16	Cross South Valley Rail Resiliency Corridor	4											4	$1,371	-	-	-	-	-	11,366	$12,737
3.1.17	Up to four other rail and roadway facilities	16	32	0	160	400	400						1008	$191,445	-	-	6,260	-	-	38,748	$236,453
3.2	Final Concept Design																			
3.2.1	SR 58 Truck Climbing Lanes Segment 1	1	4		20	40	40						105	$20,300	-	-	2,630	-	-	-	$22,930
3.2.2	HSR Tunnel Tailings	1											1	$343	-	-	2,630	-	-	4,480	$7,453
3.2.3	SR 58/233 Interchange	1	4	0	20	40	40						105	$20,300	-	-	2,630	-	-	-	$22,930
3.2.4	SR 58/E. Tehachapi Blvd/Tehachapi Willow Springs Rd	1	4	0	20	40	40						105	$20,300	-	-	2,630	-	-	-	$22,930
3.2.5	SR 223 Tejon Indian Tribe-S. Arvin Expwy	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.6	SR 184 Lamont Truck Bypass Resiliency Route	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.7	I-5 Truck Climbing/Passing Lanes	1	4	0	20	40	40						105	$20,300	-	-	2,630	-	-	-	$22,930
3.2.8	Shafter-Bakersfield Intermodal Rail	1											1	$343	-	-	-	-	-	4,480	$4,823
3.2.9	McFarland ITP Resiliency Routes	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.10	Delano ITP Resiliency Routes	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.11	Mojave ITP Resiliency Routes	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.12	Arvin-Tejon Commerce Center Rail Spur	1											1	$343	-	-	-	-	-	11,760	$12,103
3.2.13	Tejon Indian Tribal Lands/Mettler/Copus Rd Resiliency Corridor	1	4	0	20	40	40						105	$20,300	-	-	-	-	-	-	$20,300
3.2.14	Kern SAFETEC Logistics Resiliency Corridors	1											1	$343	-	-	-	-	-	-	$343
3.2.15	Shafter-Buttonwillow Rail Spur Extension Resiliency Corridor	1											1	$343	-	-	-	-	-	7,280	$7,623
3.2.16	Cross South Valley Rail Resiliency Corridor	1											1	$343	-	-	-	-	-	7,280	$7,623
3.2.17	Up to four other rail and roadway facilities	4	16	0	80	200	200						500	$94,352	-	-	2,630	-	-	25,390	$122,371
	Subtotal Phase 3	**100**	**168**	**0**	**800**	**2400**	**2400**	**0**	**0**	**0**	**0**	**0**	**5868**	**$1,098,619**	**$0**	**$18,923**	**$53,340**	**$0**	**$0**	**$156,398**	**$1,327,280**
4.0	**DETAILED COMMUNITY ENGAGEMENT**																			
4.1	Develop Detailed Community Engagement Plan	4											4	$1,371	-	-	-	-	9,060	-	$10,431
4.2	Develop Project Introductory Animation	4								36	180		220	$34,239	-	-	-	-	-	-	$34,239
4.3	Stakeholder Meetings Round 1																			
4.3.1	Mettler/Tejon	8				8							16	$4,232	-	-	-	-	9,300	-	$13,532
4.3.2	Arvin/Lamont	8				8							16	$4,232	-	-	-	-	9,300	-	$13,532
4.3.3	Keene/Tehachapi	8				8							16	$4,232	-	-	-	-	9,300	-	$13,532
4.3.4	Mojave/Rosamond	8				8							16	$4,232	-	-	-	-	9,300	-	$13,532
4.3.5	TBD	5				5							10	$2,645	-	-	-	-	8,550	-	$11,195
4.3.6	TBD	5				5							10	$2,645	-	-	-	-	8,550	-	$11,195
4.3.7	TBD	5				5							10	$2,645	-	-	-	-	8,550	-	$11,195
4.3.8	TBD	5				5							10	$2,645	-	-	-	-	8,550	-	$11,195
4.4	Stakeholder Meetings Round 2																			
4.4.1	Mettler/Tejon	8				8							16	$4,232	-	-	-	-	4,632	-	$8,864
4.4.2	Arvin/Lamont	8				8							16	$4,232	-	-	-	-	4,632	-	$8,864
4.4.3	Keene/Tehachapi	8				8							16	$4,232	-	-	-	-	4,632	-	$8,864
4.4.4	Mojave/Rosamond	8				8							16	$4,232	-	-	-	-	4,632	-	$8,864
4.4.5	TBD	5				5							10	$2,645	-	-	-	-	4,632	-	$7,277
4.4.6	TBD	5				5							10	$2,645	-	-	-	-	4,632	-	$7,277
4.4.7	TBD	5				5							10	$2,645	-	-	-	-	4,632	-	$7,277
4.4.8	TBD	5				5							10	$2,645	-	-	-	-	4,632	-	$7,277
	Subtotal Phase 4	**112**	**0**	**0**	**0**	**104**	**0**	**0**	**0**	**0**	**36**	**180**	**432**	**$90,631**	**$0**	**$0**	**$0**	**$0**	**$117,516**	**$0**	**$208,147**

5.0	**ADVISORY COMMITTEE MEETINGS**																			
5.1	Kick-off Advisory Committee Meeting	1	1	1								3	$971	-	700	-	1,704	-	-	$3,375
5.2	Advisory Committee Coordination Meetings	7	7	1								15	$5,282	-	700	2,630	11,407	-	-	$20,020
	Subtotal Phase 5	**8**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**$6,253**	**$0**	**$1,400**	**$2,630**	**$13,111**	**$0**	**$0**	**$23,395**
6.0	**DRAFT FINAL AND FINAL STUDY**																			
6.1	Assemble Draft Final Study			4		12						16	$3,246	-	-	-	-	-	-	$3,246
6.2	Final Study			2		12						14	$2,741	-	-	-	-	-	-	$2,741
	Subtotal Phase 6	**0**	**0**	**6**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**$5,987**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,987**
7.0	**BOARD REVIEW/ACCEPTANCE**																			
7.1	Board Presentation	6		24								30	$8,114	-	50	-	1,464	-	-	$9,628
	Subtotal Phase 7	**6**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**$8,114**	**$0**	**$50**	**$0**	**$1,464**	**$0**	**$0**	**$9,628**
TOTAL HOURS		**341**	**264**	**108**	**1220**	**2808**	**2940**	**220**	**40**	**80**	**36**	**180**	**8237**								
Anticipated Salary Increases														**$31,997**	**$4,362**	**$9,747**	**$4,495**	**$3,564**	**$5,427**	**$7,368**	**$66,960**
OTHER DIRECT COSTS														**$1,610**	**$32,700**	**$21,734**	**$0**	**$494**	**$77,068**	**$0**	**$133,605**
TOTAL COST		**$116,860**	**$99,232**	**$27,259**	**$323,300**	**$523,254**	**$418,921**	**$40,700**	**$5,840**	**$11,600**	**$6,228**	**$26,640**		**$1,633,442**	**$206,794**	**$244,530**	**$100,027**	**$350,916**	**$200,010**	**$163,766**	**$2,899,485**

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ■ Prime Consultant ☐ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **Mark Thomas & Company, Inc.**

Project No. _____ Contract No _____ Date **12/19/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Principal		$138 - $165		$ 150.40	$ -
Sr. Engineering Manager	*Ed Noriega	$112 - $148	341	$ 120.96	$ 41,247.36
Sr. Engineering Manager	*Martha Dadala	$112 - $148	264	$ 132.70	$ 35,032.80
Sr. Engineering Manager		$112 - $148		$ 120.96	$ -
Engineering Manager		$105 - $126		$ 112.62	$ -
Design Manager		$101 - $126		$ 112.62	$ -
Sr. Project Manager	*Paul Martin	$75 - $107	108	$ 97.09	$ 10,485.72
Sr. Project Manager		$75 - $107	1220	$ 93.56	$ 114,143.20
Sr. Technical Lead		$75 - $107		$ 93.56	$ -
Project Manager		$62 - $88		$ 75.55	$ -
Technical Lead		$62 - $88		$ 75.55	$ -
Sr. Project Engineer		$56 - $78	2808	$ 65.67	$ 184,401.36
Sr. Technical Engineer		$56 - $78		$ 65.67	$ -
Project Engineer		$50 - $70		$ 57.90	$ -
Civil Engineering Designer		$40 - $67		$ 55.43	$ -
Design Engineer II		$38 - $62	2940	$ 50.13	$ 147,382.20
Design Engineer I		$30 - $52		$ 40.60	$ -
Sr. Planner		$38 - $62		$ 50.13	$ -
Planner II		$31 - $53		$ 41.66	$ -
Planner I		$28 - $45		$ 33.19	$ -
Sr. Technician		$40 - $63		$ 51.19	$ -
Technician		$23 - $46		$ 34.25	$ -
Intern		$17 - $34		$ 23.30	$ -
Survey Division Manager		$85 - $126		$ 112.27	$ -
Survey Manager II		$74 - $96		$ 85.44	$ -
Survey Manager I		$69 - $89		$ 76.61	$ -
Project Surveyor III		$65 - $91		$ 78.38	$ -
Project Surveyor II		$60 - $80		$ 67.79	$ -
Project Surveyor I		$52 - $75		$ 62.49	$ -
Asst Surveyor III		$45 - $65		$ 53.31	$ -
Asst Surveyor II		$41 - $60		$ 48.01	$ -
Asst Surveyor I		$35 - $54		$ 42.72	$ -
Survey Specialist III		$58 - $87		$ 74.49	$ -
Survey Specialist II		$45 - $69		$ 57.19	$ -
Survey Specialist I		$35 - $56		$ 44.48	$ -
Lead Survey Technician		$46 - $67		$ 55.43	$ -
Survey Technician III		$37 - $60		$ 48.01	$ -
Survey Technician II		$34 - $56		$ 44.48	$ -
Survey Technician I		$19 - $51		$ 39.19	$ -

Chief of Party (OE3)*		$55 - $73		$ 60.37	$ -
Instrumentperson (OE3)*		$51 - $67		$ 55.08	$ -
Chainperson (OE3)*		$48 - $65		$ 53.31	$ -
Apprentice (OE3)*		$28 - $50		$ 38.48	$ -
2-Person Crew (OE3)*		$103 - $129		$ 115.80	$ -
3-Person Crew (OE3)*		$133 - $169		$ 154.64	$ -
Utility Locator (PW North)*		$44 - $60		$ 48.01	$ -
2-Person Utility Locate (PW North)*		$90 - $108		$ 94.62	$ -
Chief of Party (OE12)*		$64 - $84		$ 71.32	$ -
Instrumentperson (OE12)*		$58 - $77		$ 64.26	$ -
Chainperson (OE12)*		$58 - $75		$ 62.49	$ -
Apprentice (OE12)*		$24 - $50		$ 38.48	$ -
2-Person Crew (OE12)*		$122 - $148		$ 133.81	$ -
3-Person Crew (OE12)*		$146 - $186		$ 170.88	$ -
Utility Locator (PW South)*		$62 - $78		$ 66.02	$ -
2-Person Utility Locate (PW South)*		$125 - $148		$ 133.81	$ -
LAUD Division Manager		$85 - $104		$ 91.44	$ -
Sr. LAUD Project Manager		$77 - $99		$ 85.79	$ -
LAUD Project Manager		$65 - $87		$ 74.49	$ -
Sr. Landscape Architect		$41 - $70		$ 57.55	$ -
Landscape Architect		$38 - $64		$ 52.25	$ -
Landscape Designer II		$33 - $53		$ 41.31	$ -
Landscape Designer I		$27 - $45		$ 33.19	$ -
Landscape Intern		$17 - $34		$ 23.30	$ -
District Manager-Engineer		$110 - $133		$ 118.98	$ -
Deputy District Manager		$97 - $120		$ 106.97	$ -
Operations Manager		$78 - $106		$ 92.85	$ -
Sr. Sanitary Project Engineer		$68 - $95		$ 82.61	$ -
Sanitary Project Engineer		$57 - $85		$ 72.73	$ -
Associate Sanitary Engineer		$54 - $75		$ 62.49	$ -
Assistant Sanitary Engineer		$48 - $67		$ 54.72	$ -
Sr. Inspector*		$42 - $60		$ 48.01	$ -
Inspector*		$34 - $52		$ 40.25	$ -
Inspector - Apprentice*		$21 - $40		$ 28.60	$ -
Area Manager - CM		$105 - $145		$ 130.63	$ -
Division Manager - CM		$105 - $134		$ 120.04	$ -
Sr. Resident Engineer		$90 - $118		$ 104.50	$ -
Sr. Project Manager - CM		$80 - $112		$ 99.21	$ -
Project Manager - CM		$72 - $103		$ 90.38	$ -
Resident Engineer		$72 - $103		$ 89.67	$ -
Project Controls/Scheduler		$53 - $88		$ 75.20	$ -
Inspector - CM*		$43 - $88		$ 75.55	$ -
Asst. Resident Engineer*		$55 - $89		$ 76.61	$ -
Office Engineer		$38 - $66		$ 54.37	$ -
Office Technician		$22 - $40		$ 28.60	$ -
Expert Witness		$170 - $185		$ 174.41	$ -
Strategic Consulting		$170 - $185		$ 174.41	$ -
Funding Manager		$88 - $114		$ 100.62	$ -
Sr. Funding Specialist		$52 - $78	220	$ 65.31	$ 14,368.20

Funding Specialist		$38 - $67		$ 55.43	$ -
Project Accountant Manager		$55 - $78		$ 65.31	$ -
Sr. Project Accountant		$41 - $63	40	$ 51.55	$ 2,062.00
Project Accountant		$36 - $57		$ 45.54	$ -
Sr. Project Coordinator		$43 - $63	80	$ 51.19	$ 4,095.20
Project Coordinator		$33 - $52		$ 40.60	$ -
Sr. Project Assistant		$34 - $52		$ 40.25	$ -
Project Assistant		$24 - $42		$ 31.07	$ -
Sr. Technical Writer		$35 - $59		$ 47.66	$ -
Technical Writer		$21 - $42		$ 31.07	$ -
Sr. Graphic Manager		$50 - $73	36	$ 61.08	$ 2,198.88
Sr. Graphic Designer		$40 - $64	180	$ 52.25	$ 9,405.00
Graphic Designer		$35 - $56		$ 44.48	$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $564,821.92

b) Anticipated Salary Increases (see page 2 for calculation) $ 11,296.44

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 576,118.36

INDIRECT COSTS

d) Fringe Benefits (Rate: 95.61%) e) Total Fringe Benefits [(c) x (d)] $550,826.76

f) Overhead & G&A (Rate: 55.05%) g) Overhead [(c) x (f)] $317,153.16

h) General & Admin (Rate:) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 867,979.92

FIXED FEE k) **TOTAL FIXED FEE** [(c) + (j)] x fixed fee: 13% $ 187,732.78

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
Mileage	2000	Miles	$ 0.66	$ 1,310.00
Overnight Mail/Mail	20	EA	$ 15.00	$ 300.00
				$ -
				$ -

l) TOTAL OTHER DIRECT COSTS $ 1,610.00

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: EBP $ 206,794.17

Subconsultant 2: Fehr & Peers $ 244,529.93

Subconsultant 3: Fraser Schilling $ 100,026.51

Subconsultant 4: LSA $ 350,915.93

Subconsultant 5: Southwest Strategies $ 200,010.87

Subconsultant 6: PGHWong $ 163,766.07

m) TOTAL SUBCONSULTANTS' COSTS $ 1,266,043.48

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ 1,267,653.48

TOTAL COST [(c) + (j) + (k) + (n)] $ 2,899,484.53

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **Mark Thomas & Company**

Project No. _____ Contract No _____ Date **12/19/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

	Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
	$ 564,821.92		8237	=	$ 68.57	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 68.57	+	5%	=	$ 72.00	Year 2 Avg Hourly Rate
Year 2	$ 72.00	+	5%	=	$ 75.60	Year 3 Avg Hourly Rate
Year 3	$ 75.60	+	5%	=	$ 79.38	Year 4 Avg Hourly Rate
Year 4	$ 79.38	+	5%	=	$ 83.35	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	60.00%	*	8237.0	=	4942.2	Estimated Hours Year 1
Year 2	40.00%	*	8237.0	=	3294.8	Estimated Hours Year 2
Year 3	0.00%	*	8237.0	=	0.0	Estimated Hours Year 3
Year 4	0.00%	*	8237.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	8237.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	8237.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 68.57	*	4942	=	$ 338,893.15	Estimated Hours Year 1
Year 2	$ 72.00	*	3295	=	$ 237,225.21	Estimated Hours Year 2
Year 3	$ 75.60	*	0	=	$ -	Estimated Hours Year 3
Year 4	$ 79.38	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ 54.12	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 576,118.36	
			Direct Labor Subtotal before Escalation	=	$ 564,821.92	
			Estimated total of Direct Labor Salary Increase	=	**$ 11,296.44**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement. Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: R. Matt Brogan

Title *: Vice President

Signature: R. M. Brogan

Date of Certification: 12/19/2023

Email: mbrogan@markthomas.com

Phone number: (916) 381-9100

Address: 701 University Avenue, Suite 200, Sacramento, CA 95825

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed

☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **EBP**

Project No. _____ Contract No. _____ Date **12/12/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Officer in Charge	Kyle Schroeckenthaler		15.8	$ 76.20	$ 1,207.01
Senior Economist, Project Manager	Ira Hirschman		190.1	$ 76.20	$ 14,484.10
Chief Economist	Derek Cutler		86.5	$ 76.20	$ 6,588.25
Senior Analyst	Jane Haines		344.5	$ 49.96	$ 17,212.22
Analyst	Temple Anyasi		509.5	$ 37.50	$ 19,107.00

LABOR COSTS

a) Subtotal Direct Labor Costs $ 58,598.58

b) Anticipated Salary Increases (see page 2 for calculation) $ 1,464.96

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 60,063.54

INDIRECT COSTS

d) Fringe Benefits (Rate: 56.15%) e) Total Fringe Benefits [(c) x (d)] $ 33,725.68

f) Overhead & G&A (Rate: 107.35%) g) Overhead [(c) x (f)] $ 64,478.21

h) General & Admin (Rate:) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 98,203.89

FIXED FEE

k) TOTAL FIXED FEE [(c) + (j)] x fixed fee: 10% $ 15,826.74

$174,094.17

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
TREDIS Subscription for 8 counties, 1 year	1		$ 26,700.00	$ 26,700.00
Implan Subscription	1		$ 6,000.00	$ 6,000.00
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -

l) TOTAL OTHER DIRECT COSTS $ **32,700.00**

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: _____

Subconsultant 2: _____

Subconsultant 3: _____

Subconsultant 4: _____

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ 32,700.00

TOTAL COST [(c) + (j) + (k) + (n)] $ **206,794.17**

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **EBP**

Project No. _____ Contract No. _____ Date **12/12/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

	Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
	$ 58,598.58		1146	=	$ 51.11	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 51.11	+	5%	=	$ 53.67	Year 2 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	50.00%	*	1146.4	=	573.2	Estimated Hours Year 1
Year 2	50.00%	*	1146.4	=	573.2	Estimated Hours Year 2
Total	100%		Total	=	1146.4	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 51.11	*	573	=	$ 29,299.29	Estimated Hours Year 1
Year 2	$ 53.67	*	573	=	$ 30,764.25	Estimated Hours Year 2
			Total Direct Labor Cost with Escalation	=	$ 60,063.54	
			Direct Labor Subtotal before Escalation	=	$ 58,598.58	
			Estimated total of Direct Labor Salary Increase	=	**$ 1,464.96**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology)
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Kyle Schroeckenthaler

Title *: Vice President - Finance

Signature:

Date of Certification: 12/13/2023

Email: kyle.schroeckenthaler@ebp-us.com

Phone number: 612 416 8909

Address: 155 Federal Street, Suite 600, Boston, MA 02110

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Task 0.1 Project Management. Task 0.2 Project Coordination. Task 0.3 Team Coordination/Meetings. Task 0.4 Quality Control. Task 2.1.3 Economics. Task 2.2 Life-Cycle-Cost Analysis/Benefit Cost Analysis. Task 2.4 Draft Report. Task 2.5 Final Report.

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **Fehr & Peers**

Project No. _____ Contract No. _____ Date 12/11/2023

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Principal	Jason Pack	70-120	60	$ 105.77	$ 6,346.20
Principal	***Mike Wallace*	-	40	$ 63.00	$ 2,520.16
Senior Associate / PM	Fatemeh Ranaiefar	50-85	200	$ 72.12	$ 14,424.00
Project coordinator	Maria Nguyen	35-45	120	$ 40.87	$ 4,904.40
Principal	Chelsea Richer	70-120	20	$ 73.00	$ 1,460.00
Senior Planner	Sean Reseigh	40-60	60	$ 49.04	$ 2,942.40
Planner	Yunjie Luo	35-50	360	$ 38.94	$ 14,018.40
Planner	Marta polovin	35-50	300	$ 41.35	$ 12,405.00
Planner	Max Shen	35-50	200	$ 37.50	$ 7,500.00
					$ -
					$ -
					$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $ 66,520.56

b) Anticipated Salary Increases (see page 2 for calculation) $ 3,043.32

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 69,563.88

INDIRECT COSTS

d) Fringe Benefits (Rate: 62.30%) e) Total Fringe Benefits [(c) x (d)] $ 43,338.29

f) Overhead & G&A (Rate: 121.13%) g) Overhead [(c) x (f)] $ 84,262.72

h) General & Admin (Rate:) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 127,601.02

FIXED FEE k) **TOTAL FIXED FEE** [(c) + (j)] x fixed fee: 13% $ 25,631.44

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
GPS Data	1		$ 20,000.00	$ 20,000.00
Travel (mileage)	1120		0.655	$ 733.60
Travel (other)	1		$ 1,000.00	$ 1,000.00
				$ -

l) TOTAL OTHER DIRECT COSTS $ 21,733.60

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: _____

Subconsultant 2: _____

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ 21,733.60

TOTAL COST [(c) + (j) + (k) + (n)] $ 244,529.93

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **Fehr & Peers**

Project No. _____ Contract No. _____ Date **12/11/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

	Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
	$ 66,520.56		1360	=	$ 48.91	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 48.91	+	5%	=	$ 51.36	Year 2 Avg Hourly Rate
Year 2	$ 51.36	+	5%	=	$ 53.93	Year 3 Avg Hourly Rate
Year 3	$ 53.93	+	5%	=	$ 56.62	Year 4 Avg Hourly Rate
Year 4	$ 56.62	+	5%	=	$ 59.45	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	40.00%	*	1360.0	=	544.0	Estimated Hours Year 1
Year 2	30.00%	*	1360.0	=	408.0	Estimated Hours Year 2
Year 3	30.00%	*	1360.0	=	408.0	Estimated Hours Year 3
Year 4	0.00%	*	1360.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	1360.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	1360.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 48.91	*	544	=	$ 26,608.22	Estimated Hours Year 1
Year 2	$ 51.36	*	408	=	$ 20,953.98	Estimated Hours Year 2
Year 3	$ 53.93	*	408	=	$ 22,001.68	Estimated Hours Year 3
Year 4	$ 56.62	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ -	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 69,563.88	
			Direct Labor Subtotal before Escalation	=	$ 66,520.56	
			Estimated total of Direct Labor Salary Increase	=	**$ 3,043.32**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Sarah Brandenberg

Title *: Prinicpal

Signature: Sarah Brandenberg

Date of Certification: 12/11/2023

Email: s.brandenberg@fehrandpeers.com

Phone number: t: 213.261.3075 | m: 424.214.8567

Address: 600 Wilshire, Los Angeles, Suite 1050, Los Angeles, CA 90017

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Freight planning
Travel demand modeling
Data analysis
GIS analysis
Stakeholder engagement
cost beneifit analysis

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **Fraser Shilling**

Project No. _____ Contract No. _____ Date **12/8/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Senior Ecologist	Fraser Shilling	$100-$125	395	$ 100.00	$ 39,525.00
					$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $ 39,525.00

b) Anticipated Salary Increases (see page 2 for calculation) $ 1,808.27

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 41,333.27

INDIRECT COSTS

d) Fringe Benefits (Rate: _____) e) Total Fringe Benefits [(c) x (d)] $ -

f) Overhead & G&A (Rate: 120.00%) g) Overhead [(c) x (f)] $ 49,599.92

h) General & Admin (Rate: _____) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 49,599.92

FIXED FEE **k) TOTAL FIXED FEE** [(c) + (j)] x fixed fee: 10% $ 9,093.32

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -

l) TOTAL OTHER DIRECT COSTS $ -

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: _____

Subconsultant 2: _____

Subconsultant 3: _____

Subconsultant 4: _____

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ -

TOTAL COST [(c) + (j) + (k) + (n)] $ **100,026.51**

NOTES:

1 Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**) All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.

2 The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.

3 Anticipated salary increases calculation (page 2) must accompany.

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **Fraser Shilling**

Project No. _____ Contract No. _____ Date **12/8/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
$ 39,525.00		395	=	$ 100.00	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 100.00	+	5%	=	$ 105.00	Year 2 Avg Hourly Rate
Year 2	$ 105.00	+	5%	=	$ 110.25	Year 3 Avg Hourly Rate
Year 3	$ 110.25	+	5%	=	$ 115.76	Year 4 Avg Hourly Rate
Year 4	$ 115.76	+	5%	=	$ 121.55	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	40.00%	*	395.3	=	158.1	Estimated Hours Year 1
Year 2	30.00%	*	395.3	=	118.6	Estimated Hours Year 2
Year 3	30.00%	*	395.3	=	118.6	Estimated Hours Year 3
Year 4	0.00%	*	395.3	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	395.3	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	395.3	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 100.00	*	158	=	$ 15,810.00	Estimated Hours Year 1
Year 2	$ 105.00	*	119	=	$ 12,450.38	Estimated Hours Year 2
Year 3	$ 110.25	*	119	=	$ 13,072.89	Estimated Hours Year 3
Year 4	$ 115.76	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ -	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 41,333.27	
			Direct Labor Subtotal before Escalation	=	$ 39,525.00	
			Estimated total of Direct Labor Salary Increase	=	**$ 1,808.27**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

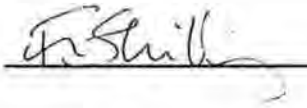
1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Fraser Shilling

Title *: Senior Ecologist/Sole Proprietor

Signature: 

Date of Certification: 12/8/2023

Email: frasershilling@gmail.com

Phone number: 530-219-3282

Address: 1007 McCormick St NE, Olympia WA 98506

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

All planning and descriptive information related to wildlife occurrence, movement and connectivity. Ecological information related to decision-making for wildlife crossing structures

California Safe Harbor Indirect Cost Rate Program

Consultant Firm Certification of Eligibility and Certification of Financial Management System

Consultant Firm Name Fraser Shlling

Local Agency (if applicable) Kern COG

Contract Number / Federal Project Number _____

Contract Total $ _____

For Subconsultant Firms – estimated % of work to be performed 2 %

Safe Harbor Indirect Cost Rate (SHR): **Home: 120% and/or Field: 90%**
Field SHR will be utilized for contracts where the work deliverables are not completed from the consultant offices (i.e. Construction Inspection, Material Testing, Sources Inspection, others).

Consultant Firm Certification of Eligibility

I, the undersigned, certify that I am eligible to use the Safe Harbor indirect cost rate as I:

1. Am not a Prime Consultant Firm on a Caltrans contract > $3.5M, or
   Local Government contract > $1M, regardless of the participation amount.
2. Have not used SHR for more than three (3) years since entering the program on a state or federally funded contract.

   AND

1. Do not have relevant contract cost history to use as a base for developing a Federal Acquisition Regulations (FAR) of Title 48, Code of Federal Regulations (CFR), Part 31 compliant ICR.
2. Do not have a previously accepted ICR by a cognizant agency, or with an audited/accepted actual ICR, and do not have an existing contract with a provisional rate.

Certification of Financial Management System

I, the undersigned, certify that our financial management system in place for this contract and moving forward meets the standards for the Safe Harbor indirect cost rate requirements and financial reporting, accounting records, internal and budget control as set forth in 2 CFR 200, Subpart D. These standards require consulting firms have an accounting system

adequate to accumulate, and track allowable, allocable, and reasonable direct labor and other direct costs by contract; segregate indirect costs and remove unallowable costs.

Print Name Fraser Shilling

Signature
(Electronic Signature Allowed)

Title Sole Proprietor

Date Completed 12/7/2023

Note: The certification of this Safe Harbor Rate was made by, and are the responsibility of, the Company's management.

Definition of Terms

Direct Cost is any cost that is identified specifically with a particular cost objective. Direct costs are not limited to items that are incorporated in the end products as material or labor. Costs identified specifically with a contract are direct costs of that contract. All costs identified with other final cost objectives of the contractor are direct costs of those objectives, 48 CFR 31.202.

Indirect or overhead cost is any cost that is not directly identified with a single final cost objective but is identified with two or more final cost objectives or with at least one intermediate cost objective, 48 CFR 31. 203.

References

Title 48 Code of Federal Regulations (CFR) Part 31 -Federal cost principles.
Title 48 CFR Chapter 99, Subchapter B - Procurement Practices and Cost Accounting Standards.
Title is 2 CFR 200 Subpart D, Standards for Financial and Program Management.
Title 23 United States Code (U.S.C.), Chapter 1, Section 112 - Letting of Contracts.
Title 23 CFR, Chapter 1, Part 172 - Procurement, Management, and Administration of Engineering and Design Related Services.
American Association of State Highway and Transportation Officials (AASHTO) Uniform Audit & Accounting Guide (2016 Edition).

California Safe Harbor Indirect Cost Rate Program

Caltrans Contract

If participating on a Caltrans Contract, also attach a completed copy of the following Safe Harbor Indirect Cost Rate Questionnaire for Evaluating Consultant Firm's Financial Management System.

California Safe Harbor Indirect Cost Rate Program

Questionnaire for Evaluating Consultant Firm's Financial Management System

Consultant Firm Name Fraser Shilling

Firm Headquarters Address 1007 McCormick St NE, Olympia, WA 98506

Accounting Records

- Location where Accounting records are held Same as above
- Name and Title Fraser Shilling, Sole Proprietor
- Email and Phone frasershilling@gmail.com; 530-219-3282
- Mailing Address 1007 McCormick St NE, Olympia, WA 98506

To be eligible for Safe Harbor indirect cost rate (SHR), the Consultant Firm's financial management system must be adequate to accumulate and track direct labor and other direct costs by contract, segregate indirect costs, and remove unallowable costs in accordance with 48 CFR 31 for the different business segments.

Instructions

1. Answer all questions and provide an explanation and additional supporting documentation where requested.
2. If additional space is required, please attach a separate sheet and refer to items being answered by number.

Has the Firm developed an indirect cost rate in the past? Yes ____ No X

If "Yes", you are NOT ELIGIBLE to use the SHR.
DO NOT CONTINUE with this Questionnaire and please complete the AASHTO Appendix B ICQ and provide an ICR Schedule.

Is the Firm a Prime Consultant Firm on a Caltrans contract > $3.5M Or Local Government contract > $1M, regardless of the participation Amount? Yes ____ No X

If "Yes", you are NOT ELIGIBLE to use the SHR.
DO NOT CONTINUE with this Questionnaire and please complete the AASHTO Appendix B ICQ and provide an AUDITED ICR Report.

California Safe Harbor Indirect Cost Rate Program

1. What form of business entity is the Firm?

   Sole Proprietorship X Partnership ____ C Corporation __ S Corporation __

   Other _____

2. What types of services will the Firm provide for this contract? (Select all that apply.)

   Architectural and Engineering Services ____ Program Management ____

   Preliminary Engineering ____ Design Engineering ____

   Surveying ____ Feasibility Studies ____

   Mapping or Architectural Related Services ____ Other Ecological/GIS

3. Does the Firm have prior government contracting experience? Yes X No ____

4. Does the general ledger contain separate direct and indirect accounts for the following?

   Labor Yes ___ No X Non-Labor Yes ____ No X

5. Does the company have a system in place to identify and remove form the indirect cost pools all unallowable cost? Yes X No ____

6. Does the firm assign a unique identification/project number in your accounting system for each contract/project?

   Yes X No ____

7. Is indirect and direct labor separated by contract/project/cost objectives on employee timesheets with unique reporting codes?

   Yes ____ No X

Indirect costs are not charged

8. Do you have written policies on the following cost categories?

Accounting	Yes ___	No X	Overtime	Yes ___	No X
Billing	Yes ___	No X	Direct/Indirect Expenses	Yes ___	No X
Timesheet Preparation	Yes ___	No X	Prevailing Wage	Yes ___	No X
Bonus	Yes ___	No X			

9. What types of employee status will the Firm provide for this contract?

Non-exempt ___ Exempt-salaried ___ Exempt-hourly ___ Contract Employee ___

Other N/A, no employees

10. Does the Firm pay overtime for exempt employees?

Yes ___ No ___ N/A

11. Besides labor, does the Firm normally bill/invoice the following as direct contract/project costs? (Select all that apply)

Vehicle	___	Shipping	___
Computer/CADD	___	Lab	___
Printing	___	Travel	___
Specialty Equipment (List below)	___	Other (List below)	___

___ ___

12. Are mileage logs maintained for all vehicles? If no, please explain below.

Explanation ___

Where is the vehicle stored after work? ___

Does employee use vehicle for personal use? Yes ___ No ___

What is the recovery/billing rate used for Firm or personal vehicle mileage reimbursement?

$ ___ per mile

California Safe Harbor Indirect Cost Rate Program

I certify that to the best of my knowledge and belief the responses to this questionnaire are accurate.

Print Name Fraser Shilling

Signature
(Electronic Signature Allowed)

Title Sole Proprietor

Date Completed 12/7/2023

Note: The certification of this Safe Harbor Rate was made by, and are the responsibility of, the Company's management.

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **LSA Associates, Inc.**

Project No. _____ Contract No. _____ Date **12/13/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Principal in Charge*	Amy Fischer		120	$76.48	$ 9,177.60
Project Manager*	Kristine Cai		313	$84.13	$ 26,332.69
Technical Specialist	Jessica Coria		260	$72.12	$ 18,751.20
Air Quality and Climate Change Specialist	Bianca Martinez		290	$33.75	$ 9,787.50
Principal Planner	Edward Heming		20	$58.72	$ 1,174.40
Transportation Planner	Simon Poon		140	$39.62	$ 5,546.80
Senior GIS Specialist	Meredith Canterbury		266	$49.08	$ 13,055.28
Senior GIS Specialist/Developer	Holly Torpey		100	$49.88	$ 4,988.00
Principal		$94.23 - $58.72	14	$76.48	$ 1,070.72
Associate		$73.34 - $40.11	22	$56.73	$ 1,248.06
Senior Technical Staff		$73.71 - $39.82	8	$56.77	$ 454.16
Technical Staff		$56.10 - $26.40	87	$41.25	$ 3,588.75
Assistant Technical Staff		$28.09 - $35.71	4	$31.90	$ 127.60
Graphics		$49.88 - $29.70	50	$39.79	$ 1,989.50
Project Assistant		$33.59 - $27.28	1	$30.44	$ 30.44
Admin/Document Management		$35.99 - $30.95	70	$33.47	$ 2,342.90

LABOR COSTS

a) Subtotal Direct Labor Costs $ 99,665.60

b) Anticipated Salary Increases (see page 2 for calculation) $ 996.66

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 100,662.26

INDIRECT COSTS

d) Fringe Benefits (Rate: 101.89%) e) Total Fringe Benefits [(c) x (d)] $102,564.77

f) Overhead & G&A (Rate: 114.58%) g) Overhead [(c) x (f)] $115,338.81

h) General & Admin (Rate: 0%) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 217,903.59

FIXED FEE

k) TOTAL FIXED FEE [(c) + (j)] x fixed fee: 10% $ 31,856.58

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
Lodging	1	Nights	$ 107.00	$ 107.00
Meals	1	Cost	$ 59.00	$ 59.00
Mileage (on-road) 2023	500	Miles	$ 0.655	$ 327.50

l) TOTAL OTHER DIRECT COSTS $ 493.50

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ 493.50

TOTAL COST [(c) + (j) + (k) + (n)] $ 350,915.93

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles Subconsultants will provide their own cost proposals
2. The cost proposal format shall not be amended Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans
3. Anticipated salary increases calculation (page 2) must accompany

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **LSA Associates, Inc.**

Project No. _____ Contract No. _____ Date **12/13/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
$	99,665.60	1765	=	$ 56.47	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 56.47	+	5%	=	$ 59.29	Year 2 Avg Hourly Rate
Year 2	$ 59.29	+	5%	=	$ 62.26	Year 3 Avg Hourly Rate
Year 3	$ 62.26	+	5%	=	$ 65.37	Year 4 Avg Hourly Rate
Year 4	$ 65.37	+	5%	=	$ 68.64	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	80.00%	*	1765.0	=	1412.0	Estimated Hours Year 1
Year 2	20.00%	*	1765.0	=	353.0	Estimated Hours Year 2
Year 3	0.00%	*	1765.0	=	0.0	Estimated Hours Year 3
Year 4	0.00%	*	1765.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	1765.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	1765.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 56.47	*	1412	=	$ 79,732.48	Estimated Hours Year 1
Year 2	$ 59.29	*	353	=	$ 20,929.78	Estimated Hours Year 2
Year 3	$ 62.26	*	0	=	$ -	Estimated Hours Year 3
Year 4	$ 65.37	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ -	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 100,662.26	
			Direct Labor Subtotal before Escalation	=	$ 99,665.60	
			Estimated total of Direct Labor Salary Increase	=	**$ 996.66**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (I.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Amy Fischer

Title *: President

Signature: Amy Fischer

Date of Certification: 12/14/2023

Email: amy.fischer@lsa.net

Phone number: 559-490-1210

Address: 2565 Alluvial Ave., Suite 172, Clovis, CA 93611

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Provide climate adaptation and environmental services for the Kern COG's Kern Area Regional Goods-movements Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) project

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **PGH Wong Engineering, Inc.**

Project No. **Kern Area Regional Goods - Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS)** Contract No. **Request for Qualifications (RFQ)** Date **12/8/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Project Manager	David Corona		108	$ 98.45	$ 10,632.60
Track Engineer	William Hearne		250	$ 96.98	$ 24,245.00
Civil Engineer	Juma Mohammadi		245	$ 72.93	$ 17,867.85
Civil Designer	Mara Green		176	$ 44.92	$ 7,905.92
Estimator	Timothy Findley		64	$ 113.40	$ 7,257.60
					$ -
					$ -
					$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $ 67,908.97

b) Anticipated Salary Increases (see page 2 for calculation) $ 3,106.84

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 71,015.81

INDIRECT COSTS

d) Fringe Benefits (Rate:)

e) Total Fringe Benefits [(c) x (d)] $ -

f) Overhead & G&A (Rate: 109.641%)

g) Overhead [(c) x (f)] $ 77,862.44

h) General & Admin (Rate:)

i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 77,862.44

FIXED FEE

k) TOTAL FIXED FEE [(c) + (j)] x fixed fee 10% $ 14,887.82

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
Other Direct Costs to be determined - billed at cost				$ -
				$ -
				$ -
				$ -
				$ -

l) TOTAL OTHER DIRECT COSTS $ -

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1:

Subconsultant 2:

Subconsultant 3:

Subconsultant 4:

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ -

TOTAL COST [(c) + (j) + (k) + (n)] $ **163,766.07**

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans
3. Anticipated salary increases calculation (page 2) must accompany

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **PGH Wong Engineering, Inc.**

Project No. Kern Area Regional Goods - Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS) Contract No. Request for Qualifications (RFQ) Date **12/8/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal			Avg Hourly Rate	5 Year Contract Duration
$	67,908.97	843	=	$	80.56	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate			Proposed Escalation			
Year 1	$ 80.56	+	5%	=	$	84.58	Year 2 Avg Hourly Rate
Year 2	$ 84.58	+	5%	=	$	88.81	Year 3 Avg Hourly Rate
Year 3	$ 88.81	+	5%	=	$	93.25	Year 4 Avg Hourly Rate
Year 4	$ 93.25	+	5%	=	$	97.92	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	40.00%	*	843.0	=	337.2	Estimated Hours Year 1
Year 2	30.00%	*	843.0	=	252.9	Estimated Hours Year 2
Year 3	30.00%	*	843.0	=	252.9	Estimated Hours Year 3
Year 4	0.00%	*	843.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	843.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	843.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 80.56	*	337	=	$ 27,163.59	Estimated Hours Year 1
Year 2	$ 84.58	*	253	=	$ 21,391.33	Estimated Hours Year 2
Year 3	$ 88.81	*	253	=	$ 22,460.89	Estimated Hours Year 3
Year 4	$ 93.25	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ -	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 71,015.81	
			Direct Labor Subtotal before Escalation	=	$ 67,908.97	
			Estimated total of Direct Labor Salary Increase	=	**$ 3,106.84**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Billy Whittemore

Title *: Chief Financial Officer

Signature: 

Date of Certification: 12/14/2023

Email: bwhittemore@pghwong.com

Phone number: (415) 566-0800

Address: 182 - 2nd Street, San Francisco, CA 94105

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

See atttached Work Plan Budget

Cost Proposal 1

Cost Plus Fixed Fee or Lump Sum

Note: Mark-ups are Not Allowed ☐ Prime Consultant ■ Subconsultant ☐ 2nd Tier Subconsultant

Consultant: **Southwest Strategies**

Project No. _____ Contract No. _____ Date **12/8/2023**

DIRECT LABOR

Classification/Title	Name	Range	Hours	Actual Hourly Rate	Total
Account Executive		$25-$42	332	$ 27.55	$ 9,146.60
Vice President		$90-$135	132	$ 97.09	$ 12,815.88
Director		$50-$88	240	$ 60.02	$ 14,404.80
Senior Account Executive		$35-$57	295	$ 38.46	$ 11,345.70
					$ -

LABOR COSTS

a) Subtotal Direct Labor Costs $ 47,712.98

b) Anticipated Salary Increases (see page 2 for calculation) $ 2,182.87

c) TOTAL DIRECT LABOR COSTS [(a) + (b)] $ 49,895.85

INDIRECT COSTS

d) Fringe Benefits (Rate: _____) e) Total Fringe Benefits [(c) x (d)] $ -

f) Overhead & G&A (Rate: 120.00%) g) Overhead [(c) x (f)] $ 59,875.02

h) General & Admin (Rate: _____) i) Gen & Admin [(c) x (h)] $ -

j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] $ 59,875.02

FIXED FEE **k) TOTAL FIXED FEE** [(c) + (j)] x fixed fee: 12% $ 13,172.50

l) CONSULTANT'S OTHER DIRECT COSTS (ODC) - ITEMIZE (Add additional pages if necessary)

Description of Item	Quantity	Unit	Unit Cost	Total
Interactive webpage	2	1.00	$ 3,500.00	$ 7,000.00
Print materials	50	1.00	$ 95.00	$ 4,750.00
Paid media placements	20	1.00	$ 750.00	$ 15,000.00
Community workshops (venue, supplies, audio-visual, interpretation)	16	1.00	$ 2,500.00	$ 40,000.00
Virtual industry workshops	5	1.00	$ 950.00	$ 4,750.00
Mileage	8500	1.00	$ 0.66	$ 5,567.50
				$ -
				$ -
				$ -

l) TOTAL OTHER DIRECT COSTS **$ 77,067.50**

m) SUBCONSULTANTS' COSTS (Add additional pages if necessary)

Subconsultant 1: _____

Subconsultant 2: _____

Subconsultant 3: _____

m) TOTAL SUBCONSULTANTS' COSTS $ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS [(l) + (m)] $ 77,067.50

TOTAL COST [(c) + (j) + (k) + (n)] **$ 200,010.87**

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.

CALCULATIONS FOR ANTICIPATED SALARY INCREASES

Consultant **Southwest Strategies**

Project No. _____ Contract No. _____ Date **12/8/2023**

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal		Total Hours per Cost Proposal		Avg Hourly Rate	**5 Year Contract Duration**
$ 47,712.98		999	=	$ 47.76	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate		Proposed Escalation			
Year 1	$ 47.76	+	5%	=	$ 50.15	Year 2 Avg Hourly Rate
Year 2	$ 50.15	+	5%	=	$ 52.66	Year 3 Avg Hourly Rate
Year 3	$ 52.66	+	5%	=	$ 55.29	Year 4 Avg Hourly Rate
Year 4	$ 55.29	+	5%	=	$ 58.05	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	40.00%	*	999.0	=	399.6	Estimated Hours Year 1
Year 2	30.00%	*	999.0	=	299.7	Estimated Hours Year 2
Year 3	30.00%	*	999.0	=	299.7	Estimated Hours Year 3
Year 4	0.00%	*	999.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	999.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	999.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	$ 47.76	*	400	=	$ 19,085.19	Estimated Hours Year 1
Year 2	$ 50.15	*	300	=	$ 15,029.59	Estimated Hours Year 2
Year 3	$ 52.66	*	300	=	$ 15,781.07	Estimated Hours Year 3
Year 4	$ 55.29	*	0	=	$ -	Estimated Hours Year 4
Year 5	$ -	*	0	=	$ -	Estimated Hours Year 5
			Total Direct Labor Cost with Escalation	=	$ 49,895.85	
			Direct Labor Subtotal before Escalation	=	$ 47,712.98	
			Estimated total of Direct Labor Salary Increase	=	**$ 2,182.87**	Transfer to Page 1

NOTES:

1. This is not the only way to estimate salary increases. Other methods will be accepted if they clearly indicate the % increase, the # of years of the contract, and a breakdown of the labor to be performed each year.
2. An estimation that is based on direct labor multiplied by salary increase % multiplied by the # of years is not acceptable. (i.e. $250,000 x 2% x 5 yrs = $25,000 is not an acceptable methodology).
3. This assumes that one year will be worked at the rate on the cost proposal before salary increases are granted.
4. Calculations for anticipated salary escalation must be provided.

Certification of Direct Costs:

I, the undersigned, certify to the best of my knowledge and belief that all direct costs identified on the cost proposal(s) in this contract are actual, reasonable, allowable, and allocable to the contract in accordance with the contract terms and the following requirements:

1. Generally Accepted Accounting Principles (GAAP)
2. Terms and conditions of the contract
3. Title 23 United States Code Section 112 - Letting of Contracts
4. 48 Code of Federal Regulations Part 31 - Contract Cost Principles and Proceedures
5. 23 Code of Federal Regulations Part 172 - Procurement, Management and Administration of Engineering and Design Related Service
6. 48 Ccode of Federal Regulations Part 9904 - Cost Accounting Standards Board (when applicable)

All costs must be applied consistently and fairly to all contracts. All documentation of compliance must be retained in the project files and be in compliance with applicable federal and state requirements. Costs that are noncompliant with the federal and state requirements are not eligible for reimbursement.
Local governments are responsible for applying only cognizant agency or Caltrans accepted Indirect Cost Rate(s).

Prime Consultant or Subconsultant Certifying:

Name: Hope Reilly

Title *: Vice President and Partner

Signature: Hope Reilly

Date of Certification: 12/15/23

Email: hreilly@swspr.com

Phone number: 949-291-4391

Address: 401 B Street, Suite 150, San Diego, CA 92101

* An individual executive or financial officer of the consultant's or subconsultant's organization at a level no lower than a Vice President or a Chief Financial Officer, or equivalent, who has authority to represent the financial information utilized to establish the cost proposal for the contract.

List services the consultant is providing under the proposed contract:

Public outreach, public engagement, stakeholder meeting coordination, strategic communications planning

California Safe Harbor Indirect Cost Rate Program

Consultant Firm Certification of Eligibility and Certification of Financial Management System

Consultant Firm Name Southwest Strategies LLC

Local Agency (if applicable) _____

Contract Number / Federal Project Number _____

Contract Total $ _____

For Subconsultant Firms – estimated % of work to be performed _____ %

Safe Harbor Indirect Cost Rate (SHR): **Home: 120% and/or Field: 90%**
Field SHR will be utilized for contracts where the work deliverables are not completed from the consultant offices (i.e. Construction Inspection, Material Testing, Sources Inspection, others).

Consultant Firm Certification of Eligibility

I, the undersigned, certify that I am eligible to use the Safe Harbor indirect cost rate as I:

1. Am not a Prime Consultant Firm on a Caltrans contract > $3.5M, or
   Local Government contract > $1M, regardless of the participation amount.
2. Have not used SHR for more than three (3) years since entering the program on a state or federally funded contract.

   AND

1. Do not have relevant contract cost history to use as a base for developing a Federal Acquisition Regulations (FAR) of Title 48, Code of Federal Regulations (CFR), Part 31 compliant ICR.
2. Do not have a previously accepted ICR by a cognizant agency, or with an audited/accepted actual ICR, and do not have an existing contract with a provisional rate.

Certification of Financial Management System

I, the undersigned, certify that our financial management system in place for this contract and moving forward meets the standards for the Safe Harbor indirect cost rate requirements and financial reporting, accounting records, internal and budget control as set forth in 2 CFR 200, Subpart D. These standards require consulting firms have an accounting system

adequate to accumulate, and track allowable, allocable, and reasonable direct labor and other direct costs by contract; segregate indirect costs and remove unallowable costs.

Print Name MalleVaddi

Signature 
(Electronic Signature Allowed)

Title VP Finance

Date Completed 12/8/23

Note: The certification of this Safe Harbor Rate was made by, and are the responsibility of, the Company's management.

Definition of Terms

Direct Cost is any cost that is identified specifically with a particular cost objective. Direct costs are not limited to items that are incorporated in the end products as material or labor. Costs identified specifically with a contract are direct costs of that contract. All costs identified with other final cost objectives of the contractor are direct costs of those objectives, 48 CFR 31.202.

Indirect or overhead cost is any cost that is not directly identified with a single final cost objective but is identified with two or more final cost objectives or with at least one intermediate cost objective, 48 CFR 31. 203.

References

Title 48 Code of Federal Regulations (CFR) Part 31 -Federal cost principles.
Title 48 CFR Chapter 99, Subchapter B - Procurement Practices and Cost Accounting Standards.
Title is 2 CFR 200 Subpart D, Standards for Financial and Program Management.
Title 23 United States Code (U.S.C.), Chapter 1, Section 112 - Letting of Contracts.
Title 23 CFR, Chapter 1, Part 172 - Procurement, Management, and Administration of Engineering and Design Related Services.
American Association of State Highway and Transportation Officials (AASHTO) Uniform Audit & Accounting Guide (2016 Edition).

California Safe Harbor Indirect Cost Rate Program

Caltrans Contract

If participating on a Caltrans Contract, also attach a completed copy of the following Safe Harbor Indirect Cost Rate Questionnaire for Evaluating Consultant Firm's Financial Management System.

California Safe Harbor Indirect Cost Rate Program

Questionnaire for Evaluating Consultant Firm's Financial Management System

Consultant Firm Name ____Southwest Strategies LLC

Firm Headquarters Address _401 B st, Suite 150, San Diego CA 92101

Accounting Records - Same as above

- Location where Accounting records are held ___Headquarters_____
- Name and Title __Malle Vaddi, VP Finance
- Email and Phone mvaddi@swspr.com
- Mailing Address _401 B st, Suite 150, San Diego CA 92101

To be eligible for Safe Harbor indirect cost rate (SHR), the Consultant Firm's financial management system must be adequate to accumulate and track direct labor and other direct costs by contract, segregate indirect costs, and remove unallowable costs in accordance with 48 CFR 31 for the different business segments.

Instructions

1. Answer all questions and provide an explanation and additional supporting documentation where requested.
2. If additional space is required, please attach a separate sheet and refer to items being answered by number.

Has the Firm developed an indirect cost rate in the past? Yes ____ No __x_

If "Yes", you are NOT ELIGIBLE to use the SHR.
DO NOT CONTINUE with this Questionnaire and please complete the AASHTO Appendix B ICQ and provide an ICR Schedule.

Is the Firm a Prime Consultant Firm on a Caltrans contract > $3.5M Yes ____ No __x_
Or Local Government contract > $1M, regardless of the participation Amount?
If "Yes", you are NOT ELIGIBLE to use the SHR.
DO NOT CONTINUE with this Questionnaire and please complete the AASHTO Appendix B ICQ and provide an AUDITED ICR Report.

California Safe Harbor Indirect Cost Rate Program

1. What form of business entity is the Firm?

   Sole Proprietorship___ Partnership ____ C Corporation __ S Corporation __

   Other _____LLC

2. What types of services will the Firm provide for this contract? (Select all that apply.)

Architectural and Engineering Services	____	Program Management	____
Preliminary Engineering	____	Design Engineering	____
Surveying	____	Feasibility Studies	____
Mapping or Architectural Related Services	____	Other _Outreach communications	

3. Does the Firm have prior government contracting experience? Yes __x__ No ____

4. Does the general ledger contain separate direct and indirect accounts for the following?

   Labor Yes _x__ No _____ Non-Labor Yes __x__ No ____

5. Does the company have a system in place to identify and remove form the indirect cost pools all unallowable cost? Yes_____ No _x___

6. Does the firm assign a unique identification/project number in your accounting system for each contract/project?

   Yes _____ No _x____

7. Is indirect and direct labor separated by contract/project/cost objectives on employee timesheets with unique reporting codes?

   Yes _____ No __x___

8. Do you have written policies on the following cost categories?

Accounting	Yes _x_ No ___	Overtime	Yes _x__ No ___
Billing	Yes _x__ No ___	Direct/Indirect Expenses	Yes ____ No _x__
Timesheet Preparation	Yes _x__ No ___	Prevailing Wage	Yes ____ No _x__
Bonus	Yes ___ No _x__		

9. What types of employee status will the Firm provide for this contract?

Non-exempt _x__ Exempt-salaried x___ Exempt-hourly _x__ Contract Employee

___ Other _____

10. Does the Firm pay overtime for exempt employees?

Yes ____ No ___x

11. Besides labor, does the Firm normally bill/invoice the following as direct contract/project costs? (Select all that apply)

Vehicle	____x	Shipping	____
Computer/CADD	____	Lab	____
Printing	___x_	Travel	_x___
Specialty Equipment (List below)	__x__	Other (List below)	____
_____		_____	

12. Are mileage logs maintained for all vehicles? If no, please explain below.

Explanation _____Personal vehicles are used

_____

Where is the vehicle stored after work? _____

Does employee use vehicle for personal use? Yes _____x_____

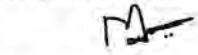
No_____

What is the recovery/billing rate used for Firm or personal vehicle mileage reimbursement? $ ___0.655__ per mile

California Safe Harbor Indirect Cost Rate Program

I certify that to the best of my knowledge and belief the responses to this questionnaire are accurate.

Print Name MalleVaddi

Signature 
(Electronic Signature Allowed)

Title _VPFinance_____

Date Completed ___12/8/23_____

Note: The certification of this Safe Harbor Rate was made by, and are the responsibility of, the Company's management.

Kern Council of Governments

IV.
COG

February 15, 2023

TO: Kern Council of Governments Board

FROM:AHRON HAKIMI,
EXECUTIVE DIRECTOR

By: Rob Ball, Deputy Director/Planning Director
Becky Napier, Deputy Director/Administrative Director

SUBJECT: Kern Council of Governments Agenda Item: IV.
STAFF REFERRAL: KERN SELF-HELP TRANSPORTATION FUNDING MEASURE

DESCRIPTION:

In response to a board member referral at the January Kern COG Board meeting, staff has prepared a report on a Kern countywide voter-approved Self-Help transportation funding ballot measure.

DISCUSSION:

At the January 18, 2024 Kern COG Board Meeting, Mayor Saul Ayon of McFarland requested that staff provide a report on how Kern County voters could consider adopting a special sales tax for transportation. Kern County is the largest County in California that has yet to pass a local sales tax for transportation. Counties that have passed sales tax measures are commonly referred to as "Self-Help" transportation counties.

Laws Governing Self-Help Transportation Ballot Measures in California

Ballotpedia, which describes their site as an online digital encyclopedia of American politics, includes a convenient summary of California laws governing local ballot measures at:
https://ballotpedia.org/Laws_governing_local_ballot_measures_in_California

According to Ballotpedia, all taxes imposed by local governments are classified as either a general tax requiring 50% +1 voter approval, and special tax requiring a 66.67% supermajority voter approval. A general tax is any tax levied to fund general government purposes and which goes into the local government entity's general fund. A special tax is any tax levied for a specific purpose such as transportation and earmarked in a legally binding way. Note that a somewhat controversial 2017 court case ruled that local citizen petition initiatives for a special tax could also be passed with a 50% +1 voter approval.

Three Initiatives to Amend Laws Governing Sales Tax Measures on the November 2024 Ballot - In direct response to the 2017 court case on petition initiated special tax measures, three initiatives will be on the November 2024 ballot.

1) Lower Supermajority Requirement to 55% for Local Special Taxes to Fund Housing and Public Infrastructure Amendment (a.k.a. ACA 1) placed on the November 2024 ballot by the state legislature in September 2023 would lower the voter threshold on all special tax measures to 55% +1 voter approval.
2) Two-Thirds Legislative Vote and Voter Approval for New or Increased Taxes Initiative endorsed by the California Business Roundtable, and the Howard Jarvis Taxpayers Association, this petition initiative for a State Constitutional Amendment to the November 2024 ballot would require all tax increases (general & special) to require a 66.67% voter approval including general tax measures.
3) Vote Requirements for Initiatives Requiring Supermajority Votes Amendment was proposed in response to the above petition initiative (item 2). The state legislature has voted to place this measure on the ballot that would require item 2) to be passed by a 66.67% voter approval. If this item 3) measure does not pass, item 2) could be passed with a 50% +1 voter approval because it is a petition initiative.

It is currently unclear if both 1) & 2) were to pass in November, which one would take precedence. Note that some are predicting that due to the confusion created by these three related ballot measures, all three would likely fail, resulting in a transportation ballot measure placed on the ballot in November being passed under the current law—66.67% for a special tax, or 50% +1 if a petition initiative. If one or more were to pass, any local Self-Help measure on the same ballot would be subject to the other measures that passed.

Environmental Document Requirement - Note also that transportation measures must have an environmental document prepared for them before they are adopted. The 2006 effort in Kern County included the creation of a supplemental environmental impact report. The 2016 effort was based on the 2014 Regional Transportation Plan (RTP) project list, fulfilling this requirement. It is recommended that the next transportation measure attempt use the most recent adopted RTP list with a competed environmental document. **Attachment 10** contains the 2022 RTP list which includes an assumption of a transportation measure or other funding source and incorporates public input from over 7,000 residents in Kern County.

Recent History of Self-Help Ballot Measure in California

Six out of 16 Self-Help transportation measures have been approved by the voters with a 2/3^{rds} super-majority over the past 8 years (may be partial listing pending verification by Self-Help Coalition).

1) Stanislaus County, California, Sales Tax, Measure L (November 2016) - Ballotpedia for transportation improvements, 71.95% yes, **approved**.
2) Merced County, California, Transportation Sales Tax, Measure V (November 2016) - Ballotpedia 71.25% yes, **approved**.
3) Contra Costa County, California, Sales Tax for Transportation Projects, Measure X (November 2016) 63.45% yes, defeated.
4) Humboldt County, California, Transportation Sales Tax, Measure U (November 2016) 48.83% yes, defeated
5) Placer County, California, Sales Tax for Roads and Transportation, Measure M (November 2016) 63.8% yes, defeated.
6) Sacramento County, California, Transportation Sales Tax, Measure B (November 2016) 65.71% yes, defeated.
7) San Benito County, California, Tansportation Sales Tax, Measure P (June 2016) 59.77% yes, defeated.
8) San Diego County, California, Transportation and Environment Sales Tax, Measure A (November 2016) 58.37% yes, defeated.
9) San Luis Obispo County, California, Transportation Sales Tax, Measure J (November 2016) 66.31% yes, defeated.
10) Santa Cruz County, California, Transportation Sales Tax Measure, Measure D (November 2016) 67.78% yes, **approved**.
11) Solano County, California, Transportation Improvement Advisory Measure, Measure G (June 2016) 64.51% yes, defeated.
12) San Benito County, California, Measure G, Transportation Sales Tax (November 2018) 69.77% yes, **approved**.
13) San Mateo County, California, Measure W, Roads and Transit Sales Tax (November 2018) 66.87% yes, **approved**.
14) Fresno County, California, Measure C, Continuation of Sales Tax Measure (November 2022) - Ballotpedia for roads and bridges, 58.2% yes, defeated.
15) Madera County, California, Measure T, Sales Tax Measure (November 2022) - Ballotpedia renewal for transportation, 52.41% yes, defeated.
16) San Francisco, California, Proposition L, Sales Tax Renewal for Transportation Projects Measure (November 2022) - Ballotpedia 71.79% yes, **approved**

History of Self-Help Measure Efforts in Kern County

Kern County has attempted three Self-Help measures efforts since 1990, two of which made it to the ballot and were defeated. The last ballot measure in 2006 failed with 56% voter approval. The third attempt in 2015 was supported by two, single-question surveys but never made it to the ballot after a more rigorous and confidential poll showed little chance of a measure passing the 2/3rds voter threshold.

Figure 1 - Public Opinion Polls & Measure Voting Results for a 0.5% Transportation Measure

Year	1990	**1992**	1999	2003	**2006**	2015	2016	2016
Month	May	**Nov**	May	May	**Nov**	Feb	Feb	Spring
Voter Approval Threshold	50% +1	**50% +1**	66.67%[1]	66.67%	**66.67%**	66.67%	66.67%	66.67%
Initial Reaction	50.0%	**49.7%**	52.0%	56%	**56.4%**	68.3%[2]	69.5%[3]	<66.67%
Push Question	55.3%	-	-	58%	-	-	-	-
Source	Price Research	**Election**	J. Moore	Fairbanks, Maslin, Mauldin	**Election**	Godbe (1-question poll)	Godbe (1-question poll)	Bakersfield Chamber/ Realtors consultant

[1]Proposition 218 passed in 1996 increasing the voter threshold to 66.67% for special taxes.
[2]40.2% definitely yes + 28.1% probably yes. [3]43.0% definitely yes + 26.5% probably yes (margin of error 2.8%)

Kern County 2006 Safe Roads Measure Effort - Kern Council of Governments wound up the 2005-06 fiscal year by asking the Board of Supervisors to place a local transportation 0.5% sales tax on the ballot after more than 40 public workshops and nearly a year of public input.

The Kern County Elections Department in August 2006 dubbed a local transportation initiative Measure I for the November 2006 ballot. The measure would have raised about $1 billion for transportation infrastructure and repair over its 20-year lifetime.

Figure 2 – 2006 Measure Campaign Logo

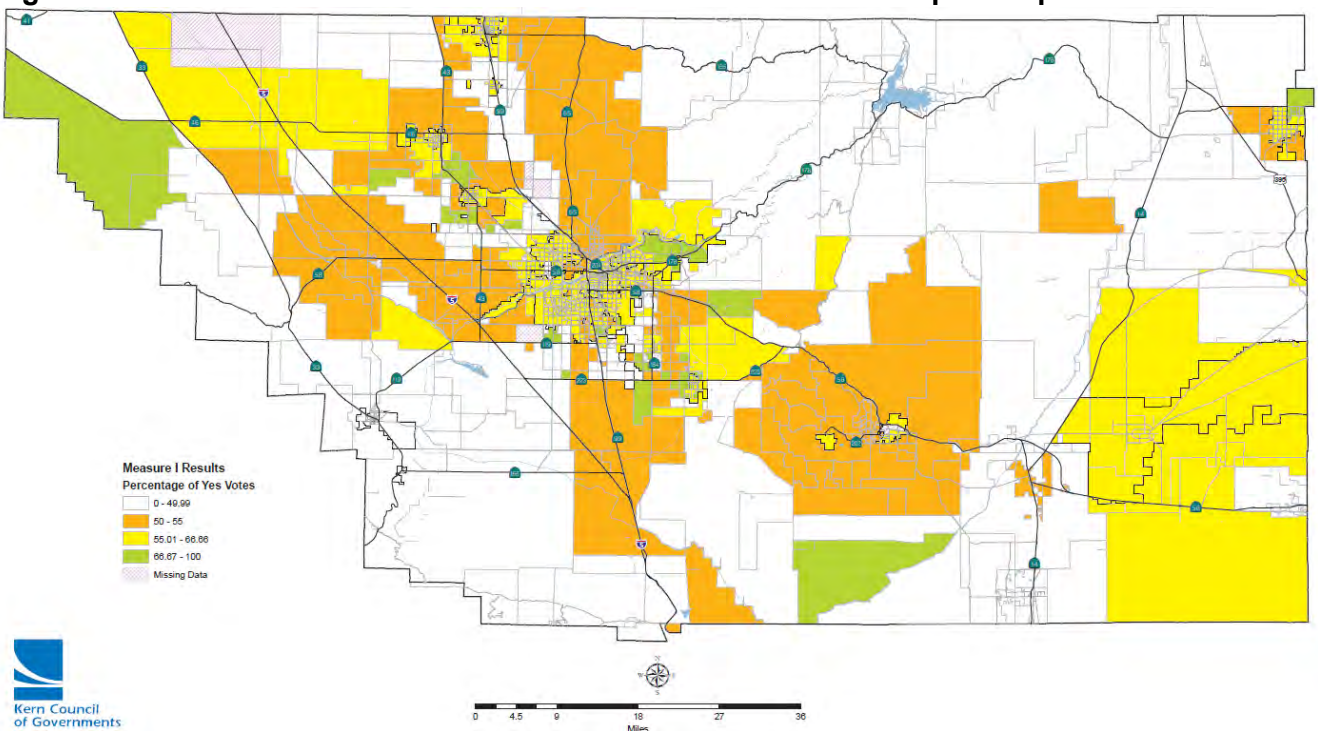
Kern COG, which developed the measure's ordinance and expenditure plan, and served in a technical advisory capacity to Kern Taxpayers for Safety and Traffic Relief, a campaign committee made up of business, development and agricultural interests advocating on the initiative's behalf.

In August 2006, voters received the second of two informational mailers that Kern COG produced to explain the measure's benefits, and costs. The ½-cent sales tax increase proposal was expected to generate $453.6 million for capital improvement projects such as road widenings or new construction; approximately $346.8 million for local street and road rehabilitation and repair; and $119.6 million for transit, air quality and 'transportation enhancement' projects such as new buses or bicycle lanes, paving road shoulders and synchronizing traffic signals.

For administrative purposes, the county was divided into nine subregions, each of which would have receive its fair share of funding based on 2007 population estimates. This translates into at least one capital improvement project as well as a lump sum of both rehabilitation and transit/air quality funding to each subregion.

Kern COG has received approximately 300 comments and surveys in response to the two mailers, which were distributed to all voting households in the region, or about 160,000 in all. The vast majority of comments came via a special website Kern COG established especially for the measure, www.saferoadskern.org but has long since been taken down.

Figure 3 – 2006 Voter Precincts Distribution in Favor of the Self-Help Transportation Measure



2016 Kern Transportation Measure Effort - In 2015 & 16 Kern COG's annual quality of life survey consultant asked a single, uninformed question on a transportation measure. Although not a thorough voter poll it did offer some hope showing a growth in general favor of ½ percent sales tax increase for transportation from 68.3 to 69.5% with a margin of error of +-2.82%. However, more rigorous, confidential, polling by the Bakersfield Chamber and Board of Realtors in 2016 showed significant lower levels of voter support below the 66.67% threshold so the measure was NOT requested to be placed on the November 2016 ballot. Note, also that since 2015, COVID, overall political polarization, and the success of general sales taxes in many of Kern's jurisdictions have most likely radically changed voter opinions since these polls. **Attachments 1 & 2** contain registered voter responses from the 2015 & 2016 Kern COG quality of life surveys.

Current Sales Tax Rates

Since 2015 all but three of Kern's local jurisdictions have passed general sales taxes. Note that Tulare and Los Angeles Counties have 0.5 percent and 2.0 percent Self-Help transportation measures respectively. Some have noted the inequity between when we purchase items in a county with a transportation measure we help support their transportation system, but when they purchase things in our county they don't support ours even though they are using it.

Figure 4 – Current Sales Tax Rates by Local Jurisdiction

Arvin	8.25%
Bakersfield	8.25%
California City	7.25%
Delano	8.25%
Maricopa	7.25%
McFarland	8.25%
Ridgecrest	9.25%
Shafter	7.25%
Taft	8.25%

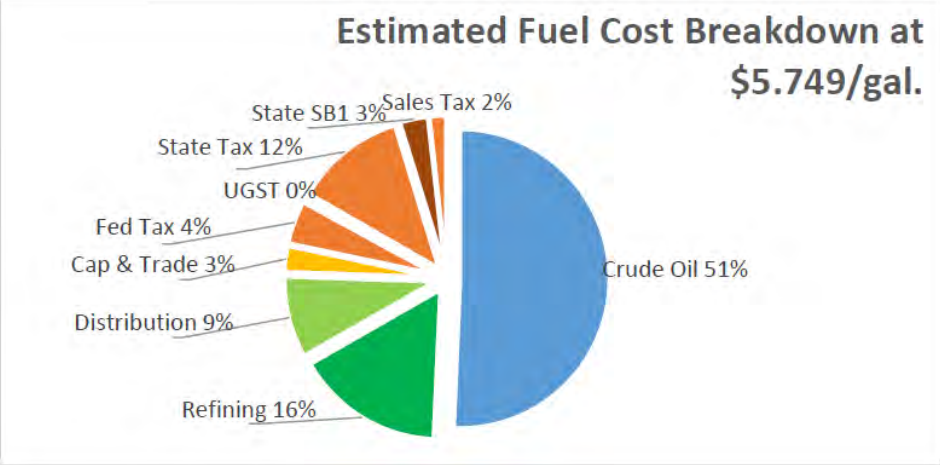
Los Angeles	9.50%
Los Angeles County	9.50%
Santa Clarita	9.50%
Lancaster	10.25%
Palmdale	10.25%
Porterville	9.25%
Tulare	8.25%
Fresno	8.35%
Visalia	8.50%

Tehachapi	8.25%	Paso Robles	8.75%
Wasco	8.25%	San Luis Obispo	8.75%
Unincorporated Area-Kern	8.25%	Morro Bay	8.75%

Funding Sources, Needs and Mechanisms

Current Transportation Funding Sources - Attachment 10, 2nd page includes a breakdown of current transportation funding resources. When gas was at $5.749/gal. about 25% of that went to maintain and improve our transportation system. Note that the federal gas tax flat rate of 18 cents per gallon has shrunk to only 4% with the remainder being various state taxes (**Figure 5**). The federal tax because it is a flat tax has lost over half of its buying power since it was last raised in 1997. To supplement these resources, most regions in California have enacted a special sales tax of ½ to 2 percent for transportation. Kern County is the largest county in California without sales tax dedicated to transportation. 88% of Californians live in regions that help themselves by providing a local source of funding for their roads.

Figure 5 – 24% Tax on Gasoline at $5.75 Per Gallon



$5.75/Gal. Gas	
Crude Oil	$2.36
Refining	$1.79
Distribution	$0.47
Cap & Trade	$0.13
Fed Tax	$0.18
UGST	$0.02
State Tax	$0.57
State SB1	$0.12
Sales Tax	$0.11
Fuel Cost	$5.75
Tax-Fee Rate	17.4%
Tax-fee/Gal.	$1.00

Need For Road Maintenance Funds - The 2022 RTP assumes that a new funding source (sales tax measure, gas tax increase, development impact fee, etc.) would generate an additional $86M per year for 20 years above and beyond historic revenue sources. If half that funding were directed to road maintenance, $43M, a $206.5M maintenance backlog in road maintenance could be brough up to a pavement condition index (PCI) of 63 out of 100 to 80 in just 5 years when factoring in new pavement technologies (see **attachment 10** p. 1–43). Note that keeping roads at 80 PCI (preventive maintenance, regular oiling, etc.) is 1/10th the cost of rebuilding a road from its base after alligator cracking sets in. A sales tax measure would cost a household about $269 per year, however, better maintained roads will save an average household 8% - 22% in vehicle maintenance or $518 to $1,423 per year.

Alternative Funding Mechanisms - A 1/2 percent increase in the sales tax over 20 years would raise approximately $1.7B or $86M per year. A similar amount could be raised by 1) $225 annual parcel tax; 2) $0.15 gas tax; 3) $20k per new house impact fee; or 4) $0.0075 DMV milage fee. In 2006, advocates of the self-help transportation measure selected a sales tax as the best option for improving our transportation system, Note that the sales tax would cost the average household about $269 per year however, better maintained roads will save an average household 8% - 22% in vehicle maintenance or $518 to $1,423 per year.

Self-Help County Resources

Self-Help Counties Coalition - The California Self-Help Counties Coalition hosts an annual conference for Self-Help counties and maintains the following website: http://selfhelpcounties.org/ . **Attachment 3** includes a flyer on the organization. Note that a portion of the 2018 gas tax increase from Senate Bill SB-1.

Institute for Local Government (ILG) – the ILG has developed guidance on what governments and elected officials can and can't do with public funds during a measure campaign. The guidance is available at: https://www.ca-ilg.org/document/three-explanatory-resources-ballot-measure-activities

California City Finance Local Government Finance Almanac – Reports on all local government finance measures. Located at https://californiacityfinance.com/ under Hot Topics, Local tax and bond measure results, also see Local Streets and Roads funds (HUTA, SB1).

Approach Options

The 2006 Measure was the result of a 2-year campaign funded by the private sector. The campaign consultant estimated that $2M was needed for an educational outreach campaign to reach the 2/3rds threshold. Around $700k was raised, and almost no benefit was seen compared to the prior year polling, resulting in a disappointing 56% voter approval at the ballot.

Approach 1 – Conduct a 6-month low budget campaign leveraging the 2022 outreach for the Regional Transportation Plan. Appendix 4 contains an accelerated timeline.

Pros – a. Cheaper 6-month campaign consulting contract; b. lower cost means should the measure fail, a follow-up effort would seem more doable; c. Leverages the ballot as an educational tool; d. leverages environmental and public outreach used to develop the 2022 RTP.
Cons – a. Not enough time for a traditional public education campaign; b. Some have suggested you only have 3 tries at getting a measure passed before invoking voter backlash.

Approach 2 – Conduct a 2-year campaign as performed in Kern 2006 and 2016 (not completed) and in other successful Self-Help counties. Appendix 3 contains an adapted version of the 2-year timeline.

Pros – a. Allows time to educate voters on the benefits of the Self-Help Transportation Measure; b. Allows time to build a close coalition of all stakeholder groups; c. Reduces uncertainty related to amendments to laws governing tax measures.
Cons – a. More expensive 2-year campaign consultant contract; b. Delays implementation by 2-years possibly increasing project costs by 6%.

ACTION: Provide Staff Direction, Approach 1, Approach 2 or Other. ROLL CALL VOTE.

Attachments available at: https://www.kerncog.org/wp-content/uploads/2024/01/COG_Self-Help-Attach_202402.pdf

1) **2016 Quality of Life 1-Question Survey Results**
2) **2015 Quality of Life 1-Question Survey Results**
3) **California Self Help Counties Fact Sheet**
4) **Draft 6-Month Timeline/Milestones**
5) **Draft 2-Year Timeline/Milestones**
6) **Common Questions and Answers**
7) **Mayor Ayon's Proposal to Kern COG Board 1/18/24**
8) **SWOT Analysis**
9) **Sample Ordinance/Resolutions**
10) **Project List/Maps**