

February 20, 2025

Request for Proposals

for

Valley Transport Resiliency Advancement for Neighborhoods Sustainable
Freight Movement (V-TRANSFM) Study

from the

Tulare County Association of Governments (TCAG)
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Proposals Submittal Deadline: April 8, 2025, 5:00 PM, PST

I. Introduction

The Tulare County Association of Governments (TCAG) is leading a collaborative effort on behalf of all eight San Joaquin Valley Metropolitan Planning Organizations (MPOs) to conduct the Valley Transport Resiliency Advancement for Neighborhoods Sustainable Freight Movement (V-TRANSFRM) Study. We are looking for qualified consultants to help us assess climate change vulnerabilities and identify solutions that will strengthen the resilience of our transportation infrastructure. The San Joaquin Valley is a vital region in California, known for its significant contributions to agriculture, goods movement, and economic development. Despite its importance, the Valley is also one of the most economically disadvantaged regions in the state, with many communities facing high levels of poverty. Stretching approximately 250 miles from San Joaquin County in the north to Kern County in the south, the Valley is home to over 4.3 million residents and serves as a key connection between Northern and Southern California. The region's extensive transportation network includes major highways such as Interstate 5 and State Route 99, as well as critical rail corridors operated by Union Pacific (UP) and Burlington Northern Santa Fe (BNSF). These corridors support some of the highest freight volumes in the state, playing a crucial role in statewide and national supply chains. However, this reliance on transportation infrastructure also makes the region highly susceptible to climate-related disruptions, including extreme heat, flooding, and wildfires.



The study will analyze the vulnerabilities of I-5, SR-99, and their key connectors, including parallel routes that support freight movement and regional connectivity, identifying infrastructure deficiencies and prioritizing climate adaptation strategies.

This effort will focus on three key areas:

1. **Vulnerability, Risk, and Resilience Assessment** – Identifying and understanding climate-related risks that threaten the region’s transportation systems.
2. **Adaptation Actions and Co-Benefit Analysis** – Evaluating and proposing measures that mitigate these risks while maximizing economic, social, and environmental advantages.
3. **Expediting Implementation** – Prioritizing the most impactful resiliency projects and accelerating their execution to protect infrastructure and communities.

Funded through a Caltrans Sustainable Transportation Planning (Climate Adaptation) grant, this study brings together local communities, freight industry stakeholders, and agencies including Caltrans Districts 6, 9, and 10. By working together, we aim to create a more resilient freight corridor that protects public safety, supports economic stability, and reduces the risks posed by extreme weather events. The participating MPOs include Kern Council of Governments (Kern COG), Tulare County Association of Governments (TCAG), Fresno Council of Governments (Fresno COG), Kings County Association of Governments (KCAG), Madera County Transportation Commission (MCTC), Merced County Association of Governments (MCAG), San Joaquin Council of Governments (SJCOG), and Stanislaus Council of Governments (StanCOG). TCAG is taking the lead to ensure a coordinated and effective approach to tackling these challenges. This effort will provide a roadmap for future projects that improve infrastructure resilience while directly addressing the persistent economic hardships faced by Valley residents. Ensuring equitable solutions for disadvantaged communities is a key priority, as these populations are disproportionately affected by climate-related disruptions and infrastructure deficiencies.

For more details on the specific tasks and deliverables, please refer to **Exhibit A: Scope of Work** included in this RFP.

For grant guidelines, please refer to the following link: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/division-transportation-planning/regional-and-community-planning/sustainable-transportation-planning-grants/finalfy202425stpgapplicationguide1a11y.pdf>

II. Scope of Services

Attachment A identifies the Scope of Services.

III. Selection Timeline

| | |
|----------------------|--|
| February 20, 2025 | Distribution of Request for Proposals |
| March 17, 2025 | Deadline for Written inquiries/questions |
| March 18, 2025 | Q&A session (estimated; call instruction will be posted on TCAG website) |
| April 8, 2025 | Proposals Due to TCAG by 5:00 PM |
| April 29, 2025 | Interviews (estimated) |
| May 19, 2025 | Consultant selection by TCAG Board (estimated) |
| May 31, 2025 | Finalize Contract (estimated) |
| June 16, 2025 | Work begins (estimated) |

IV. Budget & Consultant Administration Responsibilities

1. Working Meetings: Schedule and coordinate all necessary working meetings with TCAG project manager and project staff (Vally MPO Working Group). Virtual meetings are permitted as necessary.
2. Budget and Schedule: The project is budgeted for the Fiscal Year 2024/2025, 2025/2026, 2026/2027. The total budgeted amount is **\$3 million**. 5 percent (5%) retention will be held for the preparation of the reports and released at contract completion. Project completion date is June 30, 2027.
3. Invoices and Progress Reports: Invoices and accompanying progress reports shall be submitted monthly. All invoices shall include a description of work completed, including the percentage completed for each project task, and the hourly rate and expenditures for each employee or subcontractor. Direct expenses shall include receipts or an acceptable form of backup.

V. Proposal Requirements

1. Firm Experience and Qualifications: Prospective consultants shall provide a summary description of the firm's overall qualifications for this project and previous experience of similar or related engagements. Qualifications and examples of previous related experience/projects should be included for the project manager and each of the key project staff proposed for the project. For each employee that works on this project (except support or clerical), the proposal must list the location of the office at which the employee works. Failure to provide the requested information may disqualify a proposal. (20 page maximum)
2. Understanding of the Project: Prospective consultants must provide a comprehensive narrative demonstrating their understanding of the V-TRANSFRM grant and its role in advancing climate resilience and transportation adaptation in the San Joaquin Valley. The V-TRANSFRM project aligns with the California State Adaptation Strategy, specifically supporting Goal B, Action 6, which prioritizes "investments that reduce climate risk to

California’s transportation system based on exposure and sensitivity analyses of climate change and natural disasters.” The project's primary objective is to assess the current and future vulnerabilities of the corridor, identifying critical infrastructure at risk due to climate change. This effort will not only address immediate climate challenges but also establish a long-term framework for a resilient and adaptive transportation system that benefits the San Joaquin Valley and its communities.

Prospective consultants should demonstrate their ability to:

- Assess climate change vulnerabilities affecting transportation infrastructure, including extreme weather, wildfires, flooding, and heat stress.
- Develop climate adaptation strategies aligned with state and federal guidelines, integrating best practices for resilience planning and infrastructure protection.
- Evaluate multimodal connectivity and freight resilience, ensuring system efficiency while mitigating climate risks.
- Address environmental justice considerations by identifying and responding to the needs of underserved and disadvantaged communities.
- Leverage data-driven methodologies, such as climate risk modeling, geospatial analysis, and scenario planning, to support informed decision-making.
- Align with Caltrans’ mission of ensuring a safe, sustainable, integrated, and efficient transportation system while advancing the state's climate adaptation goals.

Key Data Sources

Consultants should identify the critical data sources and resources necessary to complete the V-TRANSFRM scope of services, including:

- Climate vulnerability assessments and transportation network stressors
- Infrastructure risk and exposure analyses
- Freight movement patterns and supply chain disruptions due to extreme weather events
- Demographic and socioeconomic data for equity-driven transportation planning
- Existing and planned transportation adaptation projects
- Funding and policy opportunities for climate resilience implementation

Multi-Agency Approach

This study follows a multi-agency approach, recognizing that while all eight Valley MPOs are part of the San Joaquin Valley, each has distinct priorities, political climates, and goals for the V-TRANSFRM study. For instance: Kern COG is particularly interested in comparing big data sources with its classification counts and Caltrans data, as well as using anticipated savings on the assessment phase on Kern County to advance a local project with conceptual engineering plans. Other MPOs may have similar needs, while some may prioritize purchasing big data, enhancing or developing truck models, or exploring other transportation and climate resiliency solutions.

Given these varied priorities, the selected consultant must work closely with each MPO to understand and address their specific needs. The consultant will have flexibility in adjusting cost and schedule for specific tasks, as outlined in the cost and schedule table. This ensures that each MPO can collaborate with the consultant to refine deliverables while maintaining consistency with the broader grant objectives. During the assessment phase, the consultant will engage directly with each MPO to refine their priorities within applicable tasks. Any adjustments to cost or schedule must be coordinated with the TCAG project manager to ensure alignment with the overall budget, timeline, and grant requirements.

Encouraging Innovation

We encourage consultants to propose innovative approaches that address regional challenges, integrate emerging technologies, and align with state and local planning priorities. Proposals should focus on identifying impactful projects and best practices that promote long-term community benefits.

Consultant Expectations

Consultants will be expected to:

- Conduct research and analysis to determine high-priority needs.
- Propose creative solutions and best practices tailored to regional characteristics.
- Identify potential funding opportunities and cost-effective strategies.
- Collaborate with stakeholders to ensure practical and feasible recommendations.

We welcome diverse perspectives and expertise to help shape the future of our region. Proposals should highlight experience in innovative project development, strategic planning, and stakeholder engagement.

(30-pages maximum)

3. Project Management: Prospective consultants shall designate by name the project manager to be employed. The selected consultant shall not substitute the project manager without prior approval by the TCAG Executive Director. (3 page maximum)
4. Project Personnel: Prospective consultants shall describe the qualifications of all professional personnel assigned to this project, including a summary of similar work or studies each member has performed and a resume of each professional. Project personnel changes require that TCAG is notified by Project Manager. (10 page maximum)
5. References: Prospective consultants shall provide names and contact information for three (3) clients for whom the prospective consultant has performed technical and management assignments of similar complexity to those proposed in this request. At least two references shall be provided for projects on which the proposed and named project manager has worked. Up to one may exclusively include a project on which the proposed professional personnel for this project with the most hours assigned participated in. Full points cannot be awarded for past projects in which the proposed project manager or

primary professional assigned did not participate. This could necessitate projects references outside of the work of the proposed firm. A summary statement for each assignment shall be provided. (5 page maximum)

6. Subcontracting: If subcontractors are used, prospective consultants must submit a description of each person and/or firm, and the work to be done by each subcontractor. The TCAG Executive Director must approve all subcontractors and no work may be subcontracted nor the subcontractor change without the prior approval of the TCAG Executive Director. (2 page maximum per subcontractor)
7. Methodology: Prospective consultants shall describe the approach to the project and specific techniques that will be used. The schedule should be included in this section. Content in this section is to be determined by consultant. Reviewers will be assessing, among other things, consultant's outreach methodology and data-driven methodologies, including climate risk modeling, geospatial analysis, and scenario planning, to guide decision-making. (30-page maximum)
8. Conflict of Interest: Prospective consultants shall disclose any financial, business or other relationship with TCAG, any of the eight incorporated cities in Tulare County, the County of Tulare, members of the Vally MPO Working Group (as listed above in "Introduction to the Request for Proposals", or any of their officers or officials that may have an impact on the outcome of the project. The prospective consultant shall also list current clients who may have a financial interest in the outcome of the project.
9. Project Costs: Prospective consultants shall include a cost proposal section or exhibit demonstrating the total cost of the work solicited under this RFP, by task. For each task, estimated costs should be broken down. Cost proposals shall detail all direct and indirect costs to be incurred for the project, broken down by task, and shall include the labor rates.
10. Signature: The proposal and accompanying certifications shall be signed by an official (or officials, as applicable) authorized to bind the consultant and shall contain a statement to the effect that the proposal is a firm offer for a 90-day period. The proposal should also provide the following information: type of business entity (e.g., corporation, California limited partnership, etc.) and whether the business entity is registered to do business in California; and name, title, address, and telephone number of individuals with authority to negotiate and contractually bind the company.
11. Insurance Requirements: TCAG will require the selected consultant to obtain and maintain, at consultant's sole cost and expense, insurance coverage as outlined in the attached Sample Consultant Services Contract (Attachment E)

The selected consultant shall maintain said insurance policies in effect during the term of the contract and shall cause all parties to supply services, labor, or materials to maintain

insurance in amounts and coverage not less than those specified in the attached Sample Consultant Services Contract General Terms and Conditions.

The selected consultant shall file certifications of this insurance, including all applicable endorsements, with TCAG prior to commencement of its performance under this agreement. The consultant must maintain adequate levels of insurance throughout the duration of the agreement.

12. Indemnity and Harmless Clause: TCAG will require the selected consultant to hold harmless, defend and indemnify TCAG, their officers, employees and agents from any liability, claims, actions, costs, damages or losses, for injury, including death to any person, or damage to any property arising out of the consultant's services, in accordance with the indemnity language included in the Sample Consultant Services Contract General Terms and Conditions (Attachment F).
13. Ineligible Bidders: Each consultant must certify that it is not included on the U.S. Comptroller General's Consolidated List of Persons or Firms Currently Debarred for Violations of Various Public Contracts Incorporating Labor Standards Provisions. Attachment B must be properly completed and submitted with the proposal.
14. Disadvantaged Business Enterprise (DBE): It is the policy of the U.S. Department of Transportation that minority and women-owned business enterprises (herein referred to as DBEs) shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement.

The proposal must list the percentage of work, by cost expended, to be completed by DBE-certified consulting firms, prime or sub-consultants. Proof of DBE certification for qualified firms is required to be submitted with the proposal. If the percentage is less than 13.5% an explanation of the attempt and failure to meet this goal must be provided. Failure to provide the requested information may disqualify the proposal.

15. Title VI of the Civil Rights Act of 1964: The contractor agrees to comply with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (49 USC 2000d) and the regulations of the U.S. Department of Transportation issued there under in 49 CFR Part 21.
16. Equal Employment Opportunity: In connection with the performance of this contract, the contractor shall not discriminate against any employee or applicant for employment because of race, color, age, creed, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

17. Attachments: Attachments A through F are attached herein. Consultants must complete attachments B through D and include them at the end of the proposal.

- Attachment A** Scope of Services
Attachment B Debarment and Suspension Notification
Attachment C Workers' Compensation Insurance
Attachment D DBE Participation Certification (OR provide DBE statement as described in Section 14)
Attachment E Insurance Requirements
Attachment F Sample Consultant Services Contract General Terms and Conditions

VI. Scoring Criteria, Submission, and Selection

1. Selection of Successful Consultant: Selection of the successful consultant will be based on information provided in response to the Request for Proposals, information provided by former clients of the consultant for whom work of a similar scope has been done, interviews, if conducted, and consideration of any exceptions taken to the RFP or taken to the proposed contract terms and conditions. Proposals submitted by each consultant will be evaluated separately based on how well each proposal meets the scoring criteria listed below. If a high number of proposals is received, TCAG reserves the right to interview consultant teams with the higher proposal scores.

| Scoring Criteria | Points |
|--|------------|
| Comprehension of Project | 10 |
| Thoroughness of Proposal | 10 |
| Meeting the Project Objectives | 25 |
| Project Delivery Time | 5 |
| Qualifications and Experience | 25 |
| References | 15 |
| Reasonableness of Cost | 5 |
| DBE | 5 |
| | |
| Subtotal | 100 |
| Local Firm ¹ | 5 |
| Total Possible Points (RFP) | 105 |
| | |
| <i>Total Possible Points (Interview)</i> | <i>100</i> |

¹ Local firms are required to meet both of the following:
- Have a local business office in Tulare County; and
- At least 51% of the work to be conducted by employees in the local office

2. Contract Award: The selected consultant will execute a contract with TCAG after consultant selection approval. The official selection of the consultant, if any, is anticipated to be made by TCAG at its **Monday, May 19, 2025**, meeting. Unsuccessful proposals will be notified in writing.
3. Modification or Withdrawal of Proposals: Any proposal received prior to the due date and time specified may be withdrawn or modified by written request of the consultant. However, to be considered, the final modified proposal must be received by the date and time specified above. All verbal modifications of these conditions or provisions are void and ineffective for proposal evaluation purposes. Only written changes issued to consultants by the TCAG Executive Director are authorized and binding.
4. Selection Process: All proposals submitted in response to this request will be screened by a selection committee using the provided scoring criteria. Proposal opening does not constitute the awarding of a contract. The contract is not in force until it is awarded by the TCAG Board and executed by TCAG.
 - a. TCAG may, during the evaluation process, request from any applicant additional information that TCAG deems necessary to determine the applicant's ability to perform the required services. If such information is requested, the applicant shall be permitted three (3) working days to submit the information requested.
 - b. TCAG reserves the right to select the applicant(s) that in its sole judgment best meets the needs of TCAG. The lowest proposed cost is not the sole criterion for recommending a contract award. TCAG reserves the right to reject any and all proposals and/or negotiate with another party or any other party directly.
 - c. TCAG reserves the right to conduct interviews. Consultants who will be interviewed will be notified by **April 17, 2025**, for interviews on **April 29, 2025**. TCAG and Valley MPOs scoring committee will conduct the interview in person, via TEAMS or another electronic medium.
5. Rejection of Proposals: Failure to meet the requirements of the Request for Proposals will be cause for rejection of the proposal. TCAG may reject any proposal if it is conditional, incomplete, contains irregularities, or has inordinately high or low costs. TCAG reserves the right to reject any and all proposals without cause. TCAG may waive an immaterial deviation in a proposal when it determines that waiving a requirement is in the best interest of TCAG. Waiver of an immaterial deviation shall in no way modify the Request for Proposals documents or excuse the applicant from full compliance with the contract requirements, if the applicant is awarded the contract.

6. Public Record: All proposals submitted in response to this RFP shall become the exclusive property of TCAG. At such time as the selection committee recommends a proposal to the TCAG Board and such recommendation appears on the TCAG Board agenda, all proposals submitted in response to this RFP shall become a matter of public record and shall be regarded as public records. If there are any trade or proprietary secrets included by the consultant, the consultant may provide a different copy of the proposal that would be acceptable to release to the public.
7. Method of Payment: Payment to the selected consultant will be made upon successful completion of project tasks as invoiced by the consultant. Pre-award expenses shall not be allowed. Cash advances will not be available.

VII. Other Conditions

1. Reservation of Right to Withdraw RFP and/or Not Award Contract: TCAG reserves the right to amend or withdraw this RFP at any time without prior notice. Revisions to the RFP, if any, will be emailed to all consultants to whom the original RFP was distributed in addition to posting online with the notice of the RFP. Furthermore, TCAG makes no representations that any agreement will be awarded to any consultant responding to this RFP. TCAG expressly reserves the right to reject any and all proposals in response to this RFP without indicating any reasons for such rejection.
2. TCAG Property: All data, documents and other information provided to TCAG by the Contractor shall become property of TCAG.
3. Pre-Contractual Expenses Not Allowed: TCAG shall not, in any event, be liable for any pre-contractual expenses incurred by any consultant. Pre-contractual expenses are defined as expenses incurred by prospective consultants such as:
 - a. Preparing and submitting a proposal in response to this RFP
 - b. Negotiating with TCAG on any matter related to this RFP, proposal and/or contractual agreement
 - c. Any other expenses incurred by the consultant prior to the date of a Notice to Proceed.

VIII. Proposal Submittal

Proposals must be received electronically no later than **5:00 PM PDT, on April 8, 2025**. It is recommended that a submittal email is sent without an attachment, as attachments may be too

large, and access be granted for TCAG to download your document. This could be done via FTP, Dropbox, Hightail, or another service provided by prospective consultants. A flash drive may also be delivered to the TCAG office before the deadline. These items will not be returned. Please submit to Kasia Poleszczuk at kpoleszczuk@tularecag.ca.gov.

IX. Questions

Questions should be directed to Kasia Poleszczuk at kpoleszczuk@tularecag.ca.gov. All questions must be submitted in writing by **5:00 p.m. on March 17, 2025**.

TCAG and Valley MPO scoring committee will host a Q&A session via teleconference to address inquiries related to this RFP (tentatively **March 18th**).

All questions and responses, including from the Q&A session, will be posted in writing on the TCAG website. Please check www.tularecog.org/tcag/rfps-contracts/rfps regularly for amendments or additional information on this RFP. Consultants that are considering responding to this RFP are forbidden from contacting members of the Tulare County Association of Governments to discuss their proposal. Failure to comply with this requirement may cause your proposal to be denied without review.

Consultants considering responding to this RFP are strictly prohibited from contacting members of the TCAG or any Valley MPO staff to discuss their proposal. Failure to comply with this requirement may result in disqualification without review.

SCOPE OF WORK

| Project Information | |
|------------------------------|--|
| Grant Category | Climate Adaptation |
| Grant Fiscal Year | 24/25 |
| Project Title | Valley Transport Resiliency Advancement for Neighborhoods' Sustainable FReight Movement (V-TRANSFRM) Study |
| Organization (Legal name) | Tulare County Association of Governments |

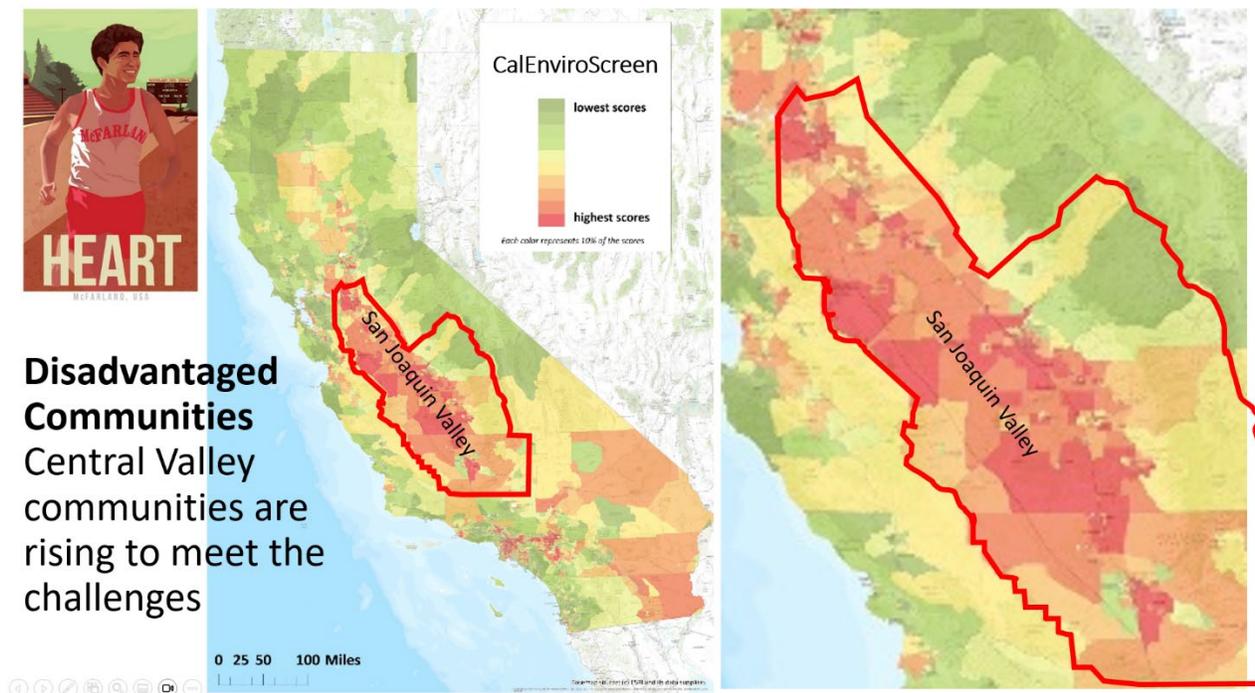
Disclaimer

Agency commits to the Scope of Work below. Any changes will need to be approved by Caltrans prior to initiating any Scope of Work change or amendment.

Introduction

Providing the freight backbone through one of the most productive agricultural, yet most disadvantaged regions in the nation (see **figure 1**), SR 99, I-5, their many connecting corridors, and the parallel Union Pacific (UP)/Burlington Northern Santa Fe (BNSF) make up the central segment of the nationally significant West U.S. north-south corridor. The objective of this study is to assess the climate change vulnerabilities of the San Joaquin Valley corridor and parallel or connecting routes that may be used to enhance resilience (resiliency connectors), and to leverage and advance critical projects that implement adaptive climate measures. The study will focus on three main components: 1) Vulnerability/Risk/Resiliency Assessment; 2) Adaptation/Co-Benefit

Figure 1 – CalEnviroScreen Disadvantaged Communities in the 8-San Joaquin Valley RTPAs



Analysis; and 3) Expedite Implementation. Partners and collaborators will include local disadvantaged communities, stakeholders, and agencies including Caltrans Districts 6, 9 & 10, and the 8-San Joaquin Valley Regional Transportation Planning Agencies (RTPAs) to ensure that the adaptation measures are effective. The goal is to expedite implementation of climate adaptation, reduce impacts of extreme weather events while enhancing freight transportation resilience and realizing the co-benefits for all communities in this economically disadvantaged corridor.

The corridor connects Northern and Southern California population goods movement centers and passes through three of the largest agricultural producing counties in the nation. Half of all truck traffic in the San Joaquin Valley is passing through while the other half is originating in or destined for Valley facilities. In 2019, at the southern gateways to the Valley, The I-5 Tejon Pass and SR 58 Tehachapi Pass saw a combined 24,500 trucks per day (TPD)—one of the highest volume truck bottlenecks in the state. That is nearly 20% higher than the I-110/710 to the Ports of LA/LB with a 20,000 TPD. The Tehachapi Pass also includes the shared BNSF/UP singletrack bottleneck that handles an estimated 35-50 trains per day, compared to the I-110/710 Alameda Corridor that handles 38 trains per day.

The objective of this project is to assess the climate change vulnerabilities of the 8-county San Joaquin Valley corridor and their resiliency connectors, and to leverage and advance critical projects that implement adaptive climate measures while maximizing co-benefits regionwide. The project will focus on three main components:

- 1. Vulnerability/Risk/Resiliency Assessment:** 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/Co-Benefit Analysis:** 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 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:** Leverage planned projects in the corridor including the intermodal rail 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.

Partners and collaborators will include the public, stakeholders, local disadvantaged community members, and agencies including the 8-San Joaquin Valley Metropolitan Planning Organizations (RTPAs) and Caltrans Districts 6 & 10, to ensure that the adaptation measures are effective. The study will also reach out to neighboring regions such as SCAG, SACOG, MTC, AMBAG, SLOCOG, and SBCAG that may be affected by resiliency routes such as US 101, SR 152 and many others. The goal is to expedite implementation of climate adaptation solutions and/or projects to reduce

impacts of extreme weather events while enhancing transportation resilience and realizing the co-benefits for the nationally significant corridor.

The study will be coordinated closely with the recently awarded 2023/24 Caltrans Climate Adaptation Planning grant titled “Kern Area Regional Goods Movement Operations (KARGO) Climate-Change Adaptation Mitigation Study (C-CAMS)” to ensure elimination of redundant overlapping tasks. The application has been adapted from the successful KARGO C-CAMS application, expanding the effort to the 7 Counties to the North. The KARGO planning studies are available at www.kerncog.org/goods-movement/. Note that all outreach will be coordinated with the 2026 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) outreach efforts in all 8 RTPAs, and input received will be used to inform both the RTP/SCS and this Study.

Note: This project excludes environmental, complex design, engineering work, and other ineligible activities outlined in the Grant Application Guide.

Project Stakeholders

Tulare County Association of Governments (TCAG) is the project lead applicant. Other key agencies partnering on this application include the 7 other San Joaquin Valley Regional Transportation Planning Agencies (RTPAs), and Caltrans Districts 6 & 10. In 2006, the 8-Valley RTPAs established The San Joaquin Valley RTPA Partnership. The organization includes the Council of Fresno County Governments, Kern Council of Governments, Kings County Association of Governments, Madera County Transportation Commission, Merced County Association of Governments, San Joaquin Council of Governments, Stanislaus Council of Governments and Tulare County Association of Governments. The 8-County RTPA partnership uses problem-solving approaches to meet the Valley’s regional needs such as goods movement.

A consultant will be retained to prepare the study and perform outreach. Many of the following key stakeholders to be invited to the outreach have already provided letters of support for this application:

POTENTIAL LIST

- The 8-San Joaquin Valley RTPAs Partnership
- California Highway Patrol
- Center for Race, Poverty & Environment (CRPE)
- Delores Huerta Foundation
- The Nature Conservancy (TNC)
- Tejon Indian Tribe
- Union Pacific Railroad (invited)
- Burlington Northern/Santa Fe Railroad (invited)
- San Joaquin Valley Railroad (invited)
- Central California Rail Shippers/Receivers
- High Speed Rail Authority
- Pioneer Partners (Mojave Inland Trade Port)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- The Wonderful Company
- Bolthouse Properties
- Leadership Counsel for Justice and Accountability
- Tule River Tribal Council
- Others

Overall Project Objectives

The objective of this project is to assess the climate change vulnerabilities of the San Joaquin Valley Corridor and regionwide, including resiliency connectors, and to leverage and advance critical projects that implement adaptive climate measures while maximizing co-benefits.

Summary of Project Tasks

Task 01: Project Administration

TCAG will manage and administer the grant project according to the Grant Application Guidelines, Regional Planning Handbook, and the executed grant contract between Caltrans and TCAG.

Caltrans/TCAG Kick-off Meeting (TCAG).

Quarterly invoices and progress reports, follow required procedures including DBE Reporting (TCAG).

| Task Deliverables |
|--|
| 01.1 - Kick-off mtg. w/ appropriate Caltrans HQ, D6 & 10 staff & TCAG key staff - Meeting Notes (TCAG) |
| 01.2 - Quarterly invoices and progress reports, DBE reporting (TCAG) |

Task 02: Consultant Procurement

TCAG will procure a consultant team, consistent with state and federal requirements including, Local Assistance Procedures Manual for procuring non-Architectural and Engineering consultants, the Grant Application Guide, Regional Planning Handbook, and the executed grant contract between Caltrans and TCAG. A consultant selection team will be made up of volunteers from interested RTPAs via a web conference meeting. Any consultant interviews will be done via web conference. TCAG will provide Caltrans a copy of the TCAG Procurement Procedure.

RFQ-P Process - Minimum 28-day consultant procurement process with DBE process as required (TCAG).

Consultant Contracting – TCAG will negotiate and approve final contract and include consultant suggested scope changes as appropriate. Provide appropriate RTPA/Caltrans staff opportunity to review scope changes/clarifications provided by the consultant team (TCAG).

| Task Deliverables |
|---|
| 01.1 – RFQ/RFP as appropriate (TCAG) |
| 01.2 – Contract for professional services between TCAG and the consulting team (TCAG) |

Task 1: Vulnerability/Risk/Resiliency Assessment

This component will assess the current and future vulnerability of this national freight corridor, and numerous connecting resiliency freight routes regionwide, to the impacts of climate change and identify critical mitigation infrastructure including alternative resiliency routes.

Draft Report - Develop draft Vulnerability/Risk/Resiliency Assessment report for each RTPA on their climate change related vulnerabilities. The report will include potential parallel and connecting resiliency routes/approach corridors, using best available scientific data, tools and maps to identify climate change related vulnerabilities and the potential risks to this corridor. As resources allow, the assessment will include connecting resiliency routes outside the region such as US 101, SR 4, SR 41, SR 46, SR 58, SR 152, SR 166, I-5, I-580 to Southern California and the Bay Area. The report will review existing conditions and identify candidate projects using the following documents:

- State & Federal Climate Adaptation Plans, Maps, Data, Tools and Resources
- Completed Vulnerability Assessments (Caltrans, SJCOG, High Speed Rail, etc)
- Latest version of CalEnvroScreen
- San Joaquin Valley Goods Movement Studies <https://sjvcogs.org/goods-movement/>
- 2023 Kern Area Regional Goods Movement Operations (KARGO) Studies www.kerncog.org/goods-movement/
- 2022 Caltrans Statewide Truck Parking Study (Truck O/D Database) <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/freight-planning/plan-accordion/catrpkpgstdy-finalreport-a11y.pdf>
- Trade Port California Project <https://www.tradeportcal.com/>
- 2022 Regional Transportation Plans for all 8-RTPAs
- Recent goods movement related environmental documents in the corridor including HSR (ie. grade separations for class I RRs, and major highway re-alignments)
- Published TRB and AASHTO studies regarding transportation resilience to climate hazards
- Other information as appropriate

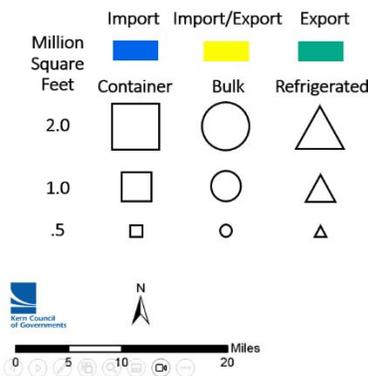
Figure 2 – Sample Greater Metropolitan Map for One RTPA with Sample Legend

Major Facilities Around Metropolitan Bakersfield

Symbol sizes are proportional to the square footage at that facility.

Square footage data is for distribution centers, warehouses, processing, mining and energy facilities using Google Earth 2019.

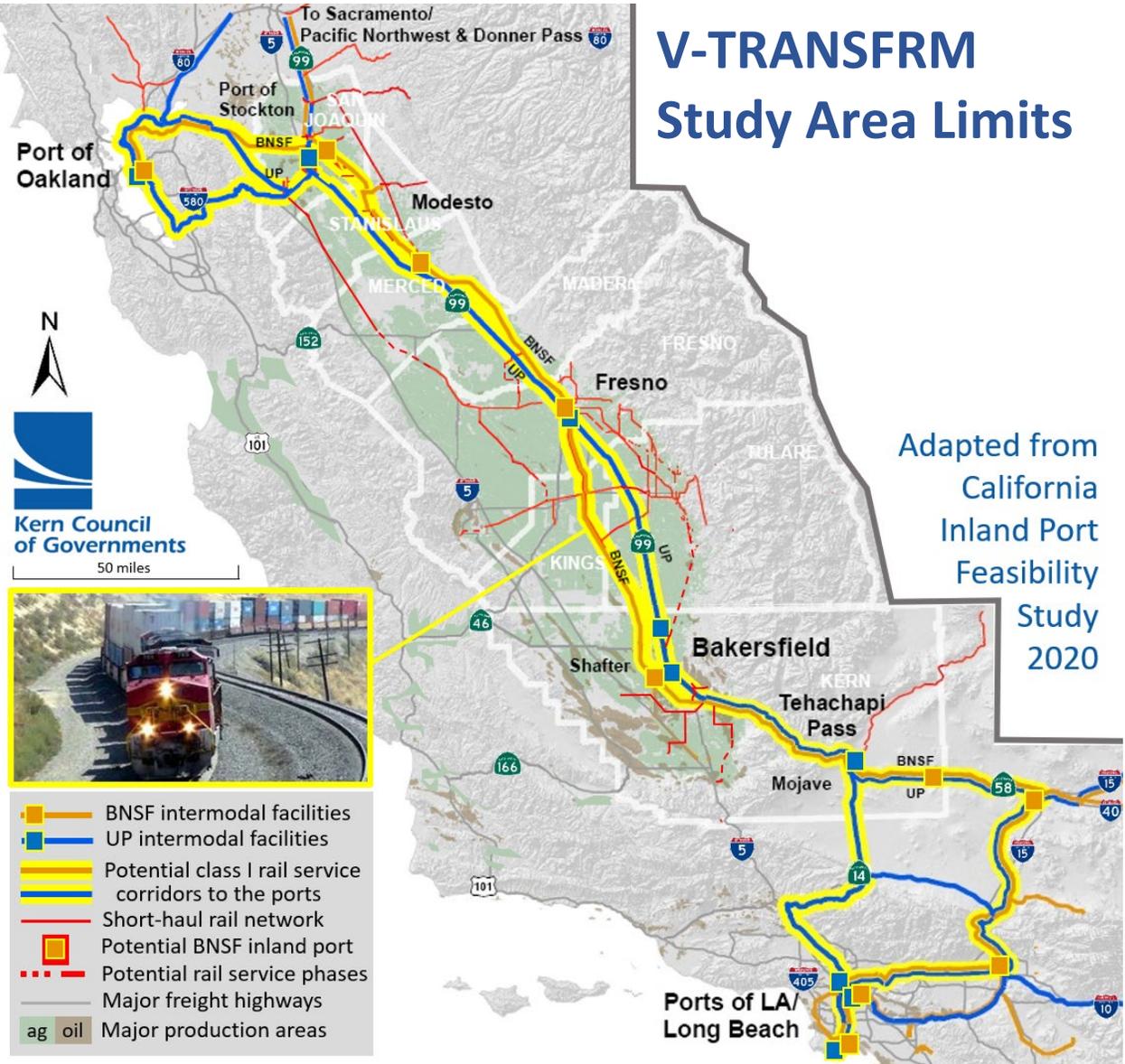
Green areas are predominantly agriculture. Tan areas are predominantly oil production.



The draft report will include data and maps to identify critical local and regional freight corridors both in the base year and a future horizon year. The freight assessment will include all existing, planned (with entitlements) and proposed (partial or no entitlement) major intermodal rail/inland port hubs. The consultant will use Google Earth and Google Maps or other data to map existing warehouses and industrial facilities greater than 50k square feet and create a map and database for the 8-county region. The map will look similar to **Figure 2**. Maps will also be created for each County’s major metropolitan area and County wide. A map will be created for all 8 counties and 1 map for each Caltrans district.

The assessment will map existing and planned intermodal facilities with existing entitlements (general plan industrial land use designation but vacant). That map will look similar to **Figure 3**. Maps will be created for each County’s major metropolitan area and Countywide with insets as needed. One map will be created for all 8 counties and 1 map for each Caltrans

Figure 3 – Rail Service to Potential Major Intermodal Facilities in Central California



district. The map will include all existing, abandoned, and planned railroad routes, rail operator, and connectivity routes to the Ports of Oakland, Stockton, Sacramento, Hueneme, LA/Long Beach, major goods movement truck routes, ag, forestry, oil, & mining production areas (resource related truck trip generators).

The map will include intermodal rail facilities that might someday be used as a resiliency route for goods in and out of the region should the major highway passes into the Valley be closed due to a Climate Change induced extreme weather event (snow, mudslides, landslides, subsidence, flooding, fires, fog, etc.).

The mapping shall include identification of “last mile” spokes to these intermodal hubs (water, rail, and air) and how they affect disadvantaged communities (see **Figures 1 & 4**). A similar process will be performed on major thru-freight corridors and facilities (industrial areas, dairies, ag processing facilities, refineries, mining, etc.)

Figure 4 – Sample Intermodal Rail Hub and Spoke System

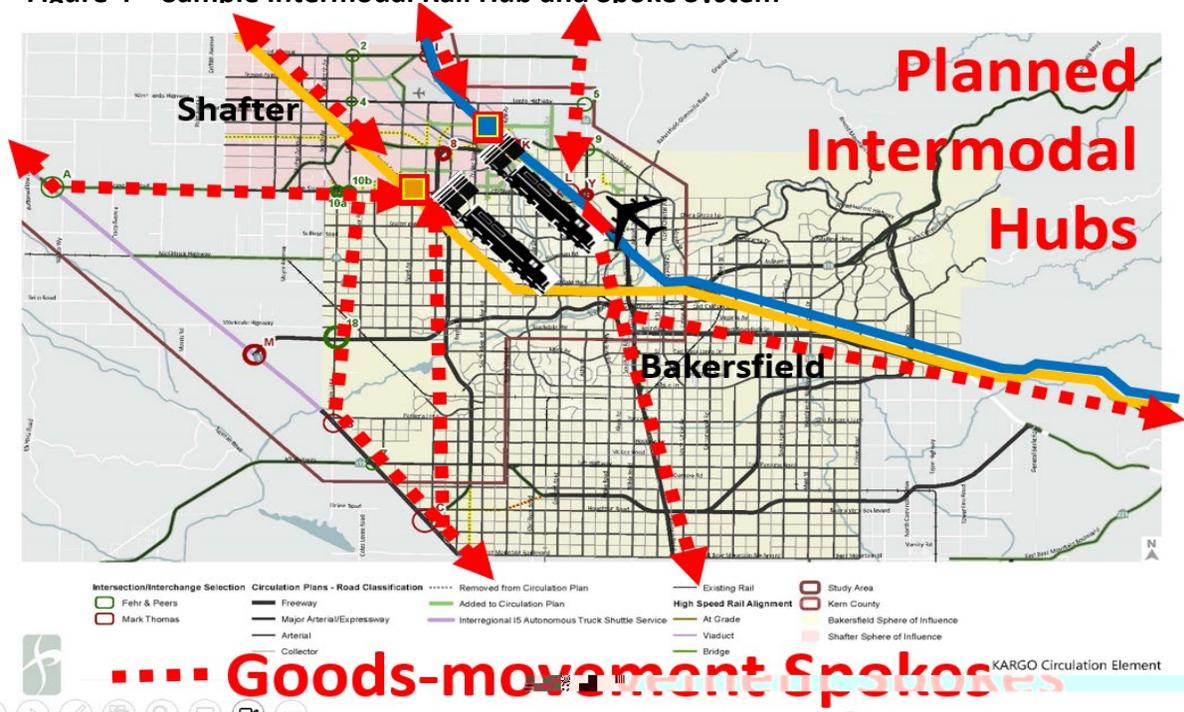
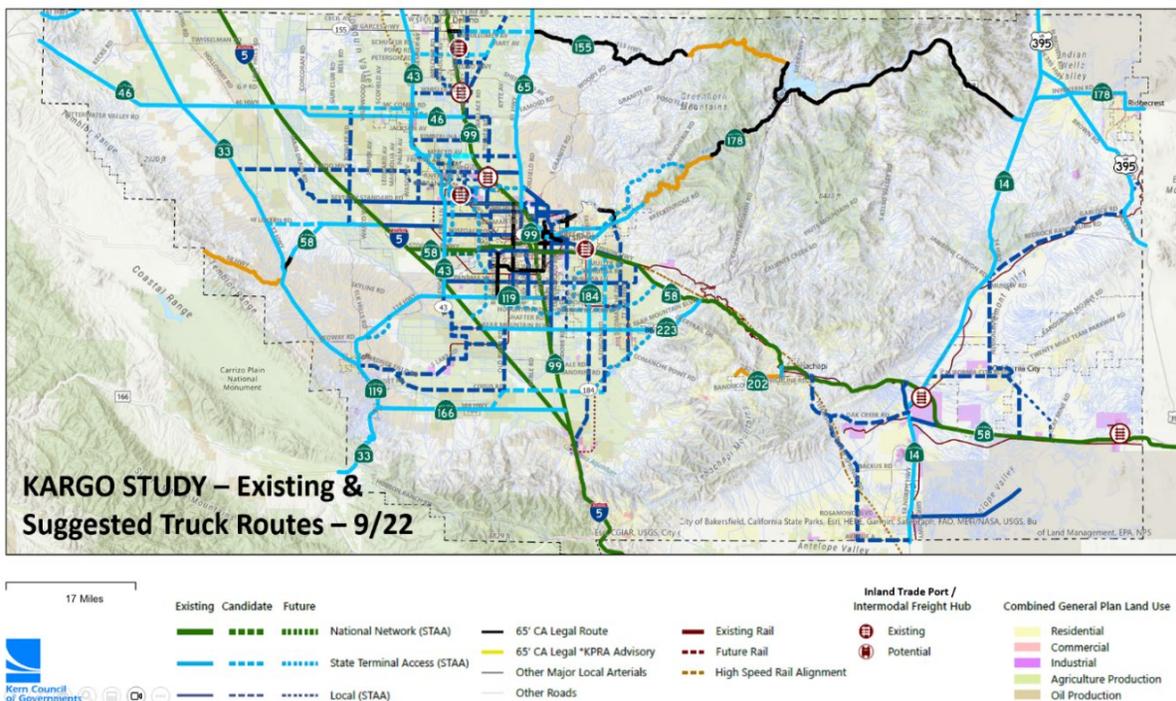


Figure 5 – Sample STAA Route Base Map



The Basemap for the last mile spokes will be a compilation of existing federal, state and local STAA routes. These routes will be developed with local input to include candidate routes (existing roadways that might be converted into STAA routes in the future), and potential routes (on new roadway alignments that are not yet built). **Figure 5** is a sample base map for the analysis. The legend for this map will likely require a new GIS base map layer for each of the RTPAs except Kern which has one from the KARGO study. Note that many of the other major local routes and other local roads will provide base for the candidate/proposed STAA routes.

The report will provide the following data.

A) Observed Classification/Train Count Plan and Data Collection

1) The consultant (term assumes the consulting team) shall compile and/or collect min. 24hr. wkday. traffic counts at up to 800 locations on local roads (tube counts, or video ok) and at railroad crossings/switches (video or audio counts ok). The traffic classification counts will occur in the 7 most northerly RTPAs (Kern already maintains 400+ annual classification counts on local roads for an area that covers 1/3rd of the 8-county region).

2) Each RTPA will provide access to existing classification counts on local roads. For example, Kern COG will provide access to its classification counts (<https://www.kerncog.org/traffic-counts/>).

3) Count Plan - The consultant will work with each RTPA to receive existing classification counts and determine local road locations of additional classification count location needs on local roads & rail. The Consultant will provide a traffic/train count acquisition plan for each RTPA (including Kern) prior to commencing traffic/train count acquisition. The 8-plans will include maps and recommendations for ongoing collection of classification counts on local roads, timing, frequency, duration, etc., in areas anticipated to see growth in goods movement so that the analysis performed can be periodically updated.

5) As needed, the consultant will work with each jurisdiction, utility, railroad, etc. to get the necessary encroachment permits for performing the counts.

6) The consultant will work with Caltrans to get access to all their traffic count data on state routes for all 8-counties and the connecting/parallel resiliency corridors outside the 8-County region.

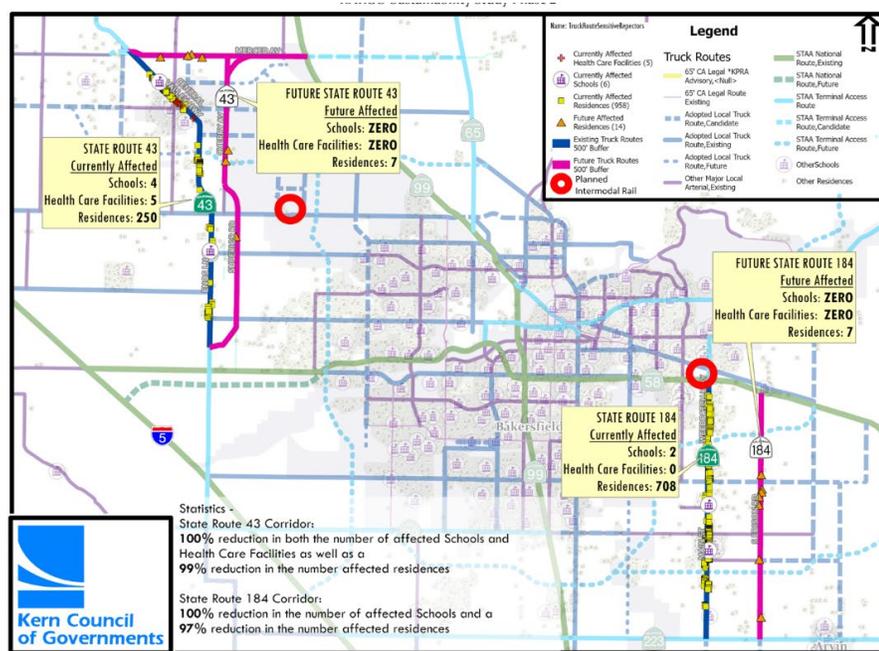
7) The counts will be made available online through a digital mapping application such as MS2 (see Kern COG website <https://www.kerncog.org/traffic-counts/>).

B) Big Data purchase – The consultant will survey the RTPAs and determine which can provide access to “Big Data” truck volume sources such as cellphone, commercial truck or related data sources (Replica, StreetLight, etc.) and ensure at least 2 big data sources are available for each RTPA collected in a similar timeframe. The sources will be used to provide a validation check for all data sources along with the observed classification counts for similar time periods collected in sub-task A, including Caltrans count data. Adjustments will be considered for anomalous traffic data collected during the pandemic. Note that the California Truck Parking Study Truck O/D database and modeling released in 2022 shall be used to augment this analysis which was already adjusted for the pandemic.

- C) Validate Base Truck Traffic comparison from various data sources – The sources in the sub tasks A) & B) above will be used to perform a validation check. To the extent possible the sources will be acquired for similar time periods. The results will be adjusted into a validated base year count for use in the freight vulnerability analysis and mapping.
- D) California Statewide Freight Forecasting Model Input – The Valley RTPAs have approached Caltrans about enhancing the statewide travel model with data collected from this study. At a minimum the consultant will use output from the statewide travel model for validating horizon year gateway volumes (growth increments) for each RTPA travel demand model as appropriate. If Caltrans has resources, the truck count data collected by this study will be used for refining the statewide travel model as appropriate. For more know on the CSFFM go to <https://dot.ca.gov/programs/transportation-planning/division-of-transportation-planning/data-analytics-services/statewide-modeling/california-statewide-freight-forecasting-model>
- E) Disadvantage Community (DAC) Hot Spot Analysis – The consultant shall analyze major routes to major intermodal rail facilities, industrial parks, resource (ag, oil, mining, etc.) processing facilities and develop potential alternative routes that minimize impact of these trucking growth hubs and major through valley trucking corridors (see **figure 6**)

Figure 6 – TASK E - DAC Hot Spot Analysis

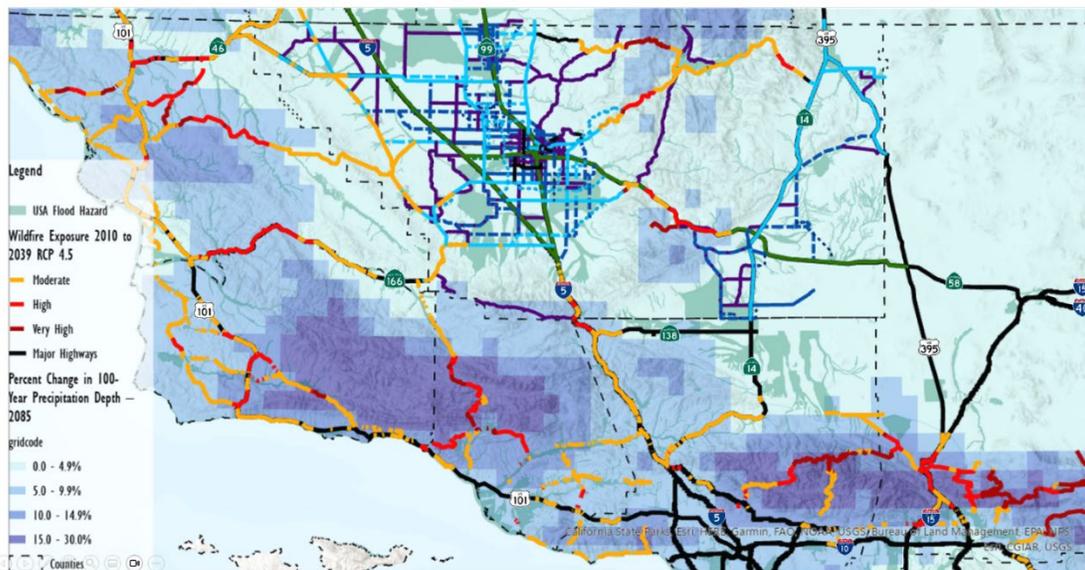
Potential to Move Truck Traffic Away from Sensitive Receptors on State Routes 43 & 184



- F) Climate Vulnerability Hot Spot Analysis – The consultant shall use existing Climate Change Adaption mapping and other readily available sources to map areas with Climate Change vulnerabilities to overlay the rail and STAA routes (see **figure 7**). Mapping shall include precipitation, fire hazard, mudslides, landslide, subsidence, flood plain, high winds, and other vulnerabilities.

G) Local 3-step Truck Models - For the RTPAs that are interested, develop a simple 3-step truck travel model for integration into their existing travel models. Some of the travel models have an Activity Based model which may be a challenge to integrate. The results will be used to forecast future truck traffic for use in the Vulnerability/Resiliency Assessment. The simple 3-step truck models will be validated using the data collected in the previous sub tasks. The validation shall be implemented in such a way as not to affect air quality conformity and the documentation shall demonstrate this. The consultant shall provide a report on the validation, a user guide, and support for one (1) year. Kern already has a simple 3-step truck travel model integrated with its current 4-step travel model so the maximum number of models to be developed under this task is 7. Resources not used in model development will go towards Task 3 – Expedite Implementation.

Figure 7 – Sample Climate Change Vulnerability Mapping
KARGO C-CAMS Study Area Vulnerability Map Connecting Corridors in Neighboring Regions



Circulate Draft Report - Circulate draft Vulnerability/Risk/Resiliency Assessment report and collect and address comments (Consultant).

Draft Final Report - Develop Draft Final Vulnerability/Risk/Resiliency Assessment Report (Consultant).

| Task Deliverables |
|--|
| 1.1 Truck Classification/Train Counts draft/final (Consultant) |
| 1.2 Big Data Purchase draft/final (Consultant) |
| 1.3 Base Year Truck Validation Report draft/final (Consultant) |
| 1.4 Local 3-Step Truck Model Validation Report, Guidance, Model Delivery, and Support for participating RTPAs (Consultant) |
| 1.5 Draft Vulnerability/Resiliency Assessment Report (Consultant) |
| 1.6 Mark-up Draft Vulnerability/Resiliency Assessment Report (Each Respective RTPA) |
| 1.7 Incorporated/address all stakeholder and public comments into the Draft Final Vulnerability/Resiliency Assessment Report (Consultant) |

Task 2: Adaptation /Co-Benefit Analysis

This component will develop a comprehensive Climate Adaptation Analysis for the national goods movement corridor & connecting routes, incorporating the results of the Task 1 vulnerability assessment. The analysis will identify and rank short- and long-term adaptation mitigation measures, such as the construction of mudslide barriers, retaining walls, dual-use drainage/migratory crossing improvements to reduce the impacts of climate change on the corridor over the entire service life, while prioritizing co-benefits for safety, community, economy and habitat. Co-benefits resulting from an improved economy because more efficient, cleaner, cheaper goods movement operations will be a major focus area of this report. The report will also recommend nature-based adaptation solutions to address flooding or vegetation management. In addition, the report will consider emergency response for vulnerable populations. This report will be included as a chapter in the draft and final study.

Draft Report - Develop Draft Adaptation/Co-Benefits Analysis Report for each county on the climate change related vulnerabilities regionwide, including potential resiliency routes/approach corridors. In some cases, an alternatives analysis may need to be performed for adaptation options for specific projects. For example, alternative resiliency routes to avoid impacts to a disadvantaged community. With stakeholder input, develop a ranking within each county, including relative cost, to help determine which adaptation, including co-benefit projects, to advance to conceptual design in Task 3 Expedite Implementation. The report will incorporate the following (Consultant):

- Identify and rank at a county level Co-Benefit opportunities that balance climate change vulnerability adaptation solutions with projects that benefit environmental, social, and economic impacts on the disadvantaged communities in the region.

Circulate Draft Report - Circulate draft Adaptation/Co-Benefit Analysis report and collect and address comments (Consultant).

Draft Final Report - Develop Draft Final Adaptation/Co-Benefit Analysis Report (Consultant).

| Task Deliverables |
|--|
| 2.1 Draft Adaptation Mitigation/Co-Benefits Analysis Report (Consultant) |
| 2.2 Mark-up Draft Adaptation/Co-Benefits Analysis Report (Each Respective RTPA) |
| 2.3 Incorporated/address all stakeholder and public comments into the Draft Final Adaptation Mitigation/Co-Benefits Analysis Report (Consultant) |

Task 3: Expedite Implementation (Optional)

Leverage planned and new projects identified by the analysis in Tasks 1 & 2 for the Corridor and Resiliency Connector Routes regionwide, including truck lane and the High-Speed Rail co-benefit projects to focus on early implementation of the identified adaptation measures, including pre-environmental 30% conceptual design/cost estimates for drainage/migration culverts, retaining walls, vegetation management, resiliency connectors and other safety, community, economic and habitat co-benefits. This analysis will provide at 30% Conceptual Design and Cost Estimates for a minimum of 1 project that has not yet begun environmental for each of the 8-RTPAs. The

funding resources for this Task should be distributed evenly between the RTPAs however, if an RTPA has more than one project their public input process prioritized, that they would like expedited, the resources for this task can be split to advance multiple projects.

Conceptual Design/Cost Estimate - Develop 30% pre-environmental, conceptual design drawings/cost estimates for transportation routes and/or facilities (ie. rail improvements, Interchanges, etc.) identified as priority the climate change related vulnerabilities by RTPA, (see Task 2) and potential resiliency routes/approach corridors (see Task 2). The conceptual design work/cost estimate will incorporate the locations developed using public outreach incorporated into tasks 1 & 2. At least one project per RTPA that has need for drainage/habitat migration culverts, retaining walls, vegetation management, resiliency connectors and other safety, community, economic and habitat co-benefits as identified by Tasks 1 & 2 shall be developed.

Optional Task - Note that if tasks 1 & 2 prove to be too resource intensive, additional grant funding will be sought to complete this task in a future cycle. The consultant should provide an estimate for this task for funding 30% Conceptual Design for at least 1 project per RTPA.

Next Steps Summary - Include a summary of the next steps each RTPA will need to take towards prioritized implementation of each of the above identified projects. Include eligible funding options, inclusion in the RTP/SCS Action Element Climate Adaptation Section, etc. The summary shall be crafted in a way that it can easily be inserted into the Climate Change Adaptation section of each RTPA's RTP.

Circulate Draft Conceptual Designs - Circulate draft Conceptual Designs to the appropriate stakeholders and collect and address comments (Consultant).

Draft Final Conceptual Designs - Develop Draft Final 30% Pre-Environmental Conceptual Design Drawings/Cost Estimate Report. Identify and prioritize near-term projects that can incorporate these mitigation projects in a Draft and Final Report to the stakeholders (Consultant).

| Task Deliverables |
|--|
| 3.1 Draft Pre-Environmental Conceptual Design Drawings/Cost Estimate, and Next Steps Summary Report (Consultant) |
| 3.2 Mark-up of Draft Pre-Environmental Conceptual Design Drawings/Cost Estimate and Next Steps Summary Report (Each Respective RTPA) |
| 3.3 Incorporate/address all stakeholder and public comments into the Pre-Environmental Conceptual Design Drawings/Cost Estimate Final-Draft Report (Consultant) |

Task 4: Detailed Community Engagement (DCE)

Informing Decision Making – The public engagement will inform decision-making in two ways. 1) The public DCE will be used to refine and select the strategies and projects in Tasks 1-3. 2) The DCE input received from this study will be used for both this study and development of the 2026 RTP/SCS Climate Adaptation Sections to guide future transportation funding decisions.

DCE Plan - The DCE will leverage the latest Public Involvement Procedure (PIP) documents for each RTPA RTP. The PIP plans were developed with representatives from disadvantaged communities, social justice, environmental, business and industry advocates. The consultant will develop an DCE plan specific to each RTPA to study, incorporating specific and appropriate Community Engagement Best Practices found in the grant guidelines on <https://dot.ca.gov/>

</media/dot-media/programs/transportation-planning/documents/sustainable-planning-grants-2021/122822-update/final-fy2023-24-stpg-application-guide.pdf> p. 64-66. The Draft DCE plans will be reviewed by the steering committee for review and adjustments as appropriate. The DCE plan will be comprised of two rounds of eight DCE events for each RTPA (a total of 16 outreach events). The plan will require the consultant to provide a PowerPoint Presentations, flyers, website announcements, sign-in sheets, community surveys, conceptual drawings, bilingual services, hybrid online meeting options, receipts for light snacks (Caltrans approval required prior to purchase. No full meals.) Note also that the plan shall include Spanish translation for the less technical material.

8 Stakeholder DCE Meetings in the 8 RTPAs - Round 1 – web conference DCE events focused on the disadvantaged communities to be determined by the Task 5 advisory committee based on the anticipated locations of Task 3 Conceptual Design projects. Note that each DCE Meeting will likely be reviewing more than one conceptual design project. Consideration should be given to coordinating these meetings with existing committees such as the AB 617 community meetings.

8 Stakeholder DCE Meetings in the 8 RTPAs - Round 2 – Same as Round 1 with adjustments as appropriate.

| Task Deliverables |
|--|
| <p>4.1 Stakeholder Outreach Meetings Round 1 – Meeting Bilingual translation, Outreach contact lists – including media, tribal and local governments, public agencies, non-governmental and community benefit organizations, the general public. Webinar materials including invitations, agendas, participant lists, presentations, public/stakeholder summary of meeting input.</p> |
| <p>4.2 Stakeholder Outreach Meetings Round 2 – Meeting Bilingual translation, Outreach contact lists – including media, tribal and local governments, public agencies, non-governmental and community benefit organizations, the general public. Webinar materials including invitations, agendas, participant lists, presentations, public/stakeholder summary of meeting input.</p> |

Task 5: Advisory Committee Meetings

The program will include an advisory committee to provide input on the public outreach process, and deliverables. The advisory committee will consist of representatives from key stakeholders including Caltrans, local governments, and other agencies and organizations. We anticipate the need for a total of 4 advisory committee meetings to develop and review major deliverables.

| Task Deliverables |
|---|
| <p>5.1 Kick-off Advisory Committee Meeting (Consultant)</p> |
| <p>5.2 Up to 3 more advisory committee Meetings (Consultant)</p> |

Task 6: Draft Final and Final Study

Upon completion of the three major reports by RTPA and incorporation of public input, a Draft Final compilation document will be circulated to and made available for one more round of public review and comments. Final changes will then be incorporated based on public and stakeholder input and the Final Report will be circulated.

| Task Deliverables |
|---|
| 6.1 Draft Final Document (Consultant) |
| 6.2 Mark-up Draft Final Document (Each RTPA their Respective Sections, TCAG whole doc.) |
| 6.3 Incorporated/address all stakeholder and public comments as appropriate into Final Document (Consultant) |

Task 7: Board Review/Acceptance

TCAG Board will review the Draft Final and Final study documents at two separate public meetings. The consultant may participate via hybrid web conferencing. Summary presentations for the Draft and Final Documents will be prepared by the consultant and provided to TCAG staff for review and comment 15 days prior to the TCAG meetings. Each RTPA will be required to present the final document to their respective government boards for final acceptance. The consultant will be prepared to give the presentations online at all 8-RTPA meetings that request presentations. The final document will be presented for review and acceptance by the TCAG Board.

| Task Deliverables |
|--|
| 7.1 Draft Final Document Public Meetings Online (TCAG) (Consultant) |
| 7.2 Final Document Public Meetings Online (TCAG) |

Examples of Recent Climate Change Vulnerabilities

October 2015 – Mudslide on SR 58 Tehachapi Pass (nearly 100 vehicles buried for a length of 39 football fields)



December 2013 Derailment

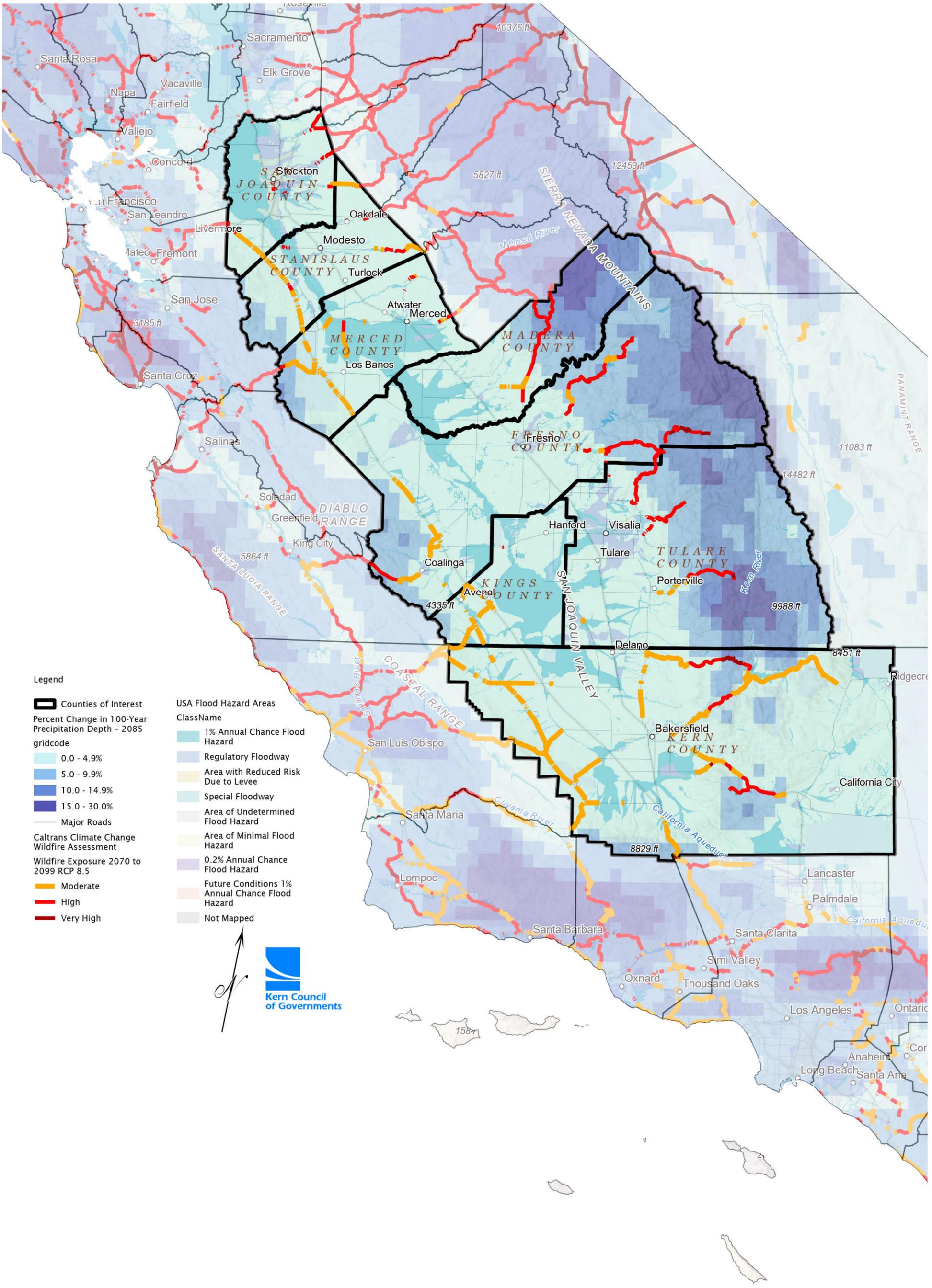


February 2018 Derailment



January 2023 Derailment Upstream from Keene, Arvin & Lamont DACs (minor hazardous spill)





Legend

Counties of Interest

Percent Change in 100-Year Precipitation Depth - 2085 gridcode

- 0.0 - 4.9%
- 5.0 - 9.9%
- 10.0 - 14.9%
- 15.0 - 30.0%

Major Roads

Caltrans Climate Change Wildfire Assessment

Wildfire Exposure 2070 to 2099 RCP 8.5

- Moderate
- High
- Very High

USA Flood Hazard Areas

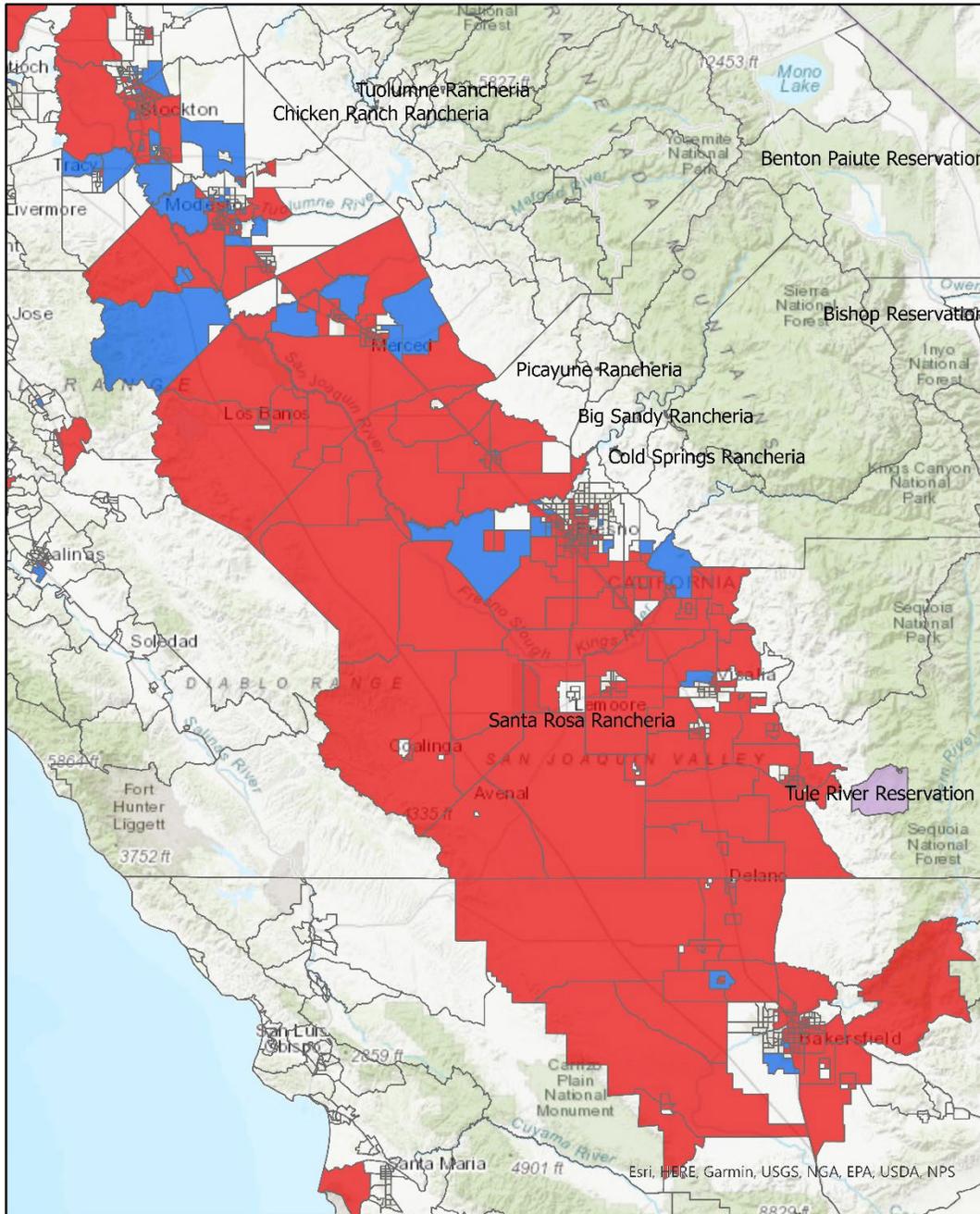
ClassName

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area with Reduced Risk Due to Levee
- Special Floodway
- Area of Undetermined Flood Hazard
- Area of Minimal Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Not Mapped



CalEPA SB 535 Disadvantaged Communities

- CalEnviroScreen 4.0 Top 25%
- CalEnviroScreen 4.0 High Pollution Burden Score, Low Population Count
- 2017 Disadvantaged Community (CalEnviroScreen 3.0 only)
- Tribal Areas (Federal American Indian Reservations and Off-Reservation Trustlands)
- Census tracts



San Joaquin Valley

2022

0 12.5 25 50 Miles

Figure 6. Map of the disadvantaged communities in the San Joaquin Valley

Fog



Above: 50 vehicle crash in heavy fog on SR 198 near Hanford in Kings County

Left: Fog causes 10 separate crashes in one day along SR 99 in Fresno County

Photo Courtesy Fresno CHP

Flooding



Above: SR 99
near Earlimart
in Tulare
County

Left: SR 99
near Pixley
closed
highway due
to flooding

Mudslides



Above:
Mudslides on
SR 58 near
Tehachapi in
Kern County

Left:
Mudslides on
SR 58 near
Tehachapi in
Kern County

