

**TECHNICAL SERVICES AGREEMENT BETWEEN
THE SHASTA REGIONAL TRANSPORTATION AGENCY AND
RSG FOR PREPARATION OF THE SHASTA REGIONAL PLANNING DASHBOARD**

This Agreement is entered into between the Shasta Regional Transportation Agency (“SRTA”) and RSG (“Consultant”) for the purpose of the Shasta Regional Planning Dashboard.

1. RESPONSIBILITIES OF CONSULTANT

- A) Consultant shall complete the services outlined in the scope of work shown in Attachment A.
- B) As required by California Government Code Section 7550, each document or report prepared by Consultant, for or under the direction of SRTA pursuant to this Agreement, shall contain the numbers and dollar amount of the Agreement and all subcontracts under the Agreement relating to the preparation of the document or written report. If multiple documents or written reports are the subject of the agreement or subcontracts, the disclosure section may also contain a statement indicating that the total contract amount represents compensation for multiple documents or written reports. Consultant shall label the bottom of the last page of the document or report as follows: Shasta Regional Transportation Agency, Agreement number, and dollar amount. If more than one document or report is produced under this Agreement, Consultant shall add: “This [document or report] is one of [number] produced under this Agreement.”

2. RESPONSIBILITIES OF SRTA

- A) SRTA shall compensate Consultant as set forth in section 3 of this Agreement and shall monitor Consultant’s performance.
- B) SRTA shall review draft documents in a timely manner.
- C) SRTA will provide relevant comments, in a timely manner.

3. COMPENSATION

Compensation shall be based on expenses associated with the bid deliverables, per the budget shown in Attachment B. Compensation shall not exceed \$500,000 for the services described in both Attachments A and B.

4. BILLING AND PAYMENT

Consultant shall submit to SRTA within thirty days (30) after completion of the services described in section 1, an itemized, mailed or emailed invoice of services rendered and an accompanying progress report. Invoices should be sent to either the street address or email address provided in Section 21. Consultant may submit periodic invoices (no more than twelve per year) as work is completed during the term of this Agreement; however, not less than quarterly Consultant shall submit an invoice and progress report **within ten days following the close of the quarter**. SRTA's quarters end on the following dates:

- Q1 – September 30
- Q2 – December 31
- Q3 – March 31
- Q4 – June 30

SRTA shall make payment within 30 days of receipt of Consultant's correct and approved invoice(s). All requests for payment must include the following:

- a. Consultant's name;
- b. Invoice date and number;
- c. Reference to project name and number;
- d. Narrative of services performed in the period by task, and any agreed-upon deliverables per Attachments A and B;
- e. Percentage of project that is complete;
- f. Invoice support documentation; and
- g. Amount of the invoice.

For travel and subsistence (per diem) expenses of Consultant and its subcontractors, Consultant rates shall not exceed rates authorized to be paid rank and file State employees under current State Department of Personnel Administration (DPA) rules. If the rates invoiced by Consultant are in excess of DPA rates, SRTA will not reimburse those amounts in excess of the DPA rates.

Consultant shall agree, and shall require its subcontractors to agree, that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual project cost items (contractors shall refer to 2 CFR, Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and/or parties shall comply with applicable regulations (i) 2 CFR part 220, "Cost Principles for Educational Institutions (OMB Circular A-21);" and (ii) 2 CFR part 230, "Cost Principles for Non-Profit Organizations (OMB Circular A-122)).

Consultant, and its subcontractors, shall establish and maintain an accounting system conforming to Generally Accepted Accounting Principles (GAAP) to support Requests for Reimbursement which segregate and accumulate the costs of work elements by line item (i.e direct labor, other direct costs, consultants/subcontractor, etc.) and enable the

determination of incurred costs at interim points of completion, and also provide support for reimbursement payment vouchers or invoices.

For the purpose of determining compliance with Title 2, California Government Code, Chapter 6.5, Article 2, Section 8546.7, Consultant and its subcontractors shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts and/or agreements, including, but not limited to, the costs of administering those various contracts and/or agreements. All of the above referenced parties shall make such contracts and/or agreements available at their respective offices at all reasonable times during the entire period of the contract duration and for three (3) years from the date of final payment to Consultant or until audit resolution is achieved for each annual SRTA Overall Work Program Agreement, whichever is later. The State, the California State Auditor, or any duly authorized representative of the State or the United States Department of Transportation, shall each have access to any books, records, and documents that are pertinent to the fulfillment of the contracts/ and/or agreements for audits, examinations, excerpts, and transactions, and Consultant and its subcontractors shall furnish copies thereof if requested.

5. TERM OF AGREEMENT AND SCHEDULE

This Agreement shall commence on the date of SRTA board of directors, or executive director, signing and shall terminate upon completion of the services described in section 1 and Attachment A, or on June 30, 2026, whichever is earlier, unless this Agreement is terminated under the provisions of Section 6. of this Agreement. If the project scope is not complete by the termination date, the Agreement may be extended for a specific period without any change in compensation to the Consultant by a written agreement between the Consultant and the executive director.

Subcontractor contracts containing Federal and State planning funds are required to be competitively bid and awarded in accordance with Title 49, CFR, Part 18, Section 18.37 and consistent with Local Assistance Procedure Manual, Ch. 10 or successors thereto.

6. TERMINATION OF AGREEMENT

- A) Termination for Convenience – This Agreement may be terminated by either party for any reason and at any time by giving no less than thirty (30) days written notice of such termination to the other party and specifying the effective date thereof.
- B) Termination for Cause – If Consultant materially fails to perform duties to the satisfaction of SRTA or if Consultant fails to fulfill in a timely and professional manner obligations under this Agreement, or if Consultant violates any of the terms or provisions of this Agreement, then SRTA shall have the right to terminate this Agreement for cause effective immediately upon SRTA giving written notice thereof

to Consultant. The Consultant shall retain the contract project manager as specified within this Agreement. If the project manager is revised, SRTA shall require notice within seven days of the change. SRTA retains the right to terminate the contract if the project manager change is not acceptable to SRTA.

If termination for cause is given by SRTA to Consultant and it is later determined that Consultant was not in default or the default was excusable, then the notice of termination shall be deemed to have been given without cause pursuant to paragraph A of this section.

- C) Immediate Termination – SRTA may terminate this Agreement immediately upon oral and/or written notice should funding cease, or be materially decreased, during the term of this Agreement.
- D) Stop Work Order – SRTA may, in order to investigate a possible deficiently-performing consultant or, in some instances protect itself and/or consultant from financial risk associated with lapsed funding, may request a stop order on all consultant work associated with this Agreement. Such stop work order will be delivered in writing to the consultant and shall be effective immediately.
- E) SRTA’s right to terminate this Agreement may be exercised by the Executive Director, or his/her designee.
- F) Disposition of, Title to and Payment for Work upon Expiration or Termination –

Upon expiration of this Agreement or termination for cause or termination for the convenience of a party, all finished or unfinished documents and other materials (e.g. finished and unfinished reports, data, studies, photographs, charts, and other documents), if any, and all rights therein shall become, at the option of SRTA, the property of and shall be promptly returned to SRTA, although Consultant may retain a copy of such work for its personal records only. Unless otherwise expressly provided in this Agreement, any copyrightable or patentable work created by Consultant under this Agreement shall be deemed a “work made for hire” for purposes of copyright or patent law and only SRTA shall be entitled to claim or apply for the copyright or patent thereof.

- G) Payment Terms Upon Termination – Consultant shall only be paid for services satisfactorily completed and provided prior to the notice of termination. Consultant shall be paid for the percentage of work satisfactorily completed under the Agreement, as agreed to by the agency, to the total compensation authorized by the Agreement, less payments of compensation previously made.

7. ENTIRE AGREEMENT; AMENDMENTS

- A) This Agreement supersedes all previous agreements relating to the subject of this

Agreement and constitutes the entire understanding of the parties hereto. Consultant shall be entitled to no other benefits other than those specified herein. Consultant specifically acknowledges that in entering into and executing this Agreement, Consultant relies solely upon the provisions contained in this Agreement and no others.

- B) No changes, amendments, or alterations shall be effective unless in writing and signed by both parties. However, minor amendments which do not result in a substantial or functional change to the original intent of the Agreement and do not cause an increase to the maximum amount payable under this Agreement may be agreed to in writing between Consultant and the executive director. If the proposed minor amendment alters the project schedule, a revised project schedule will be required from the Consultant for this Agreement.
- C) The headings that appear in this Agreement are for reference purposes only and shall not affect the meaning or construction of this Agreement.

8. NONASSIGNMENT OF AGREEMENT; NON-WAIVER

Inasmuch as this Agreement is intended to secure the specialized services of the Consultant, Consultant may not assign, transfer, delegate or sublet any interest herein without the prior written consent of SRTA. The waiver by SRTA of any breach of any requirement of this Agreement shall not be deemed to be a waiver of any other breach.

9. EMPLOYMENT STATUS OF CONSULTANT

Consultant shall, during the entire term of this Agreement, be construed to be an independent contractor and nothing in this Agreement is intended nor shall be construed to create an employer-employee relationship, a joint venture relationship, or to allow SRTA to exercise discretion or control over the professional manner in which Consultant performs the services which are the subject matter of this Agreement; provided, however, that the services to be provided by Consultant shall be provided in a manner consistent with the professional standards applicable to such services. The interest of SRTA is to ensure that services shall be rendered and performed in a competent, efficient, timely and satisfactory manner. Consultant shall be fully responsible for payment of all taxes due to the State of California or the federal government which would be withheld from compensation if Consultant were an SRTA employee. SRTA shall not be liable for deductions for any amount, for any purpose, from Consultant's compensation. Consultant shall not be eligible for coverage under SRTA workers' compensation insurance plan nor shall Consultant be eligible for any other SRTA benefit. Consultant must issue W-2 and 941 Forms for income and employment tax purposes, for all of Consultant's assigned personnel under the terms and conditions of this Agreement.

10. INDEMNIFICATION

Consultant shall defend, hold harmless, and indemnify SRTA, its elected officials, officers, employees, and agents against all claims, suits, actions, costs, expenses (including but not limited to reasonable attorney's fees of SRTA counsel and counsel retained by SRTA, expert fees, litigation costs, and investigation costs), damages, judgments, or decrees by reason of any person's or persons' injury, including death, or property (including property of SRTA) being damaged by the negligent acts, willful acts, or errors or omissions of the Consultant or any of Consultant's subcontractors, any person employed under Consultant, or under any subcontractor, or in any capacity during the progress of the work, except when the injury or loss is caused by the sole negligence or intentional wrongdoing of SRTA. Consultant shall also defend and indemnify SRTA for any adverse determination made by the Internal Revenue Service or the State Franchise Tax Board and/or any other taxing or regulatory agency and shall defend, indemnify and hold harmless SRTA with respect to Consultant's "independent contractor" status that would establish a liability on SRTA for failure to make social security deductions or contributions or income tax withholding payments, or any other legally mandated payment.

For professional services provided under this Agreement, Consultant shall indemnify, defend, and hold harmless SRTA, its elected officials, officers, employees, agents, and volunteers from and against any and all claims, demands, actions, losses, liabilities, damage, and costs, including reasonable attorneys' fees, to the extent caused by the performance of the professional services provided under this Agreement.

11. INSURANCE COVERAGE

- A) Consultant and any subcontractor shall obtain, from an insurance carrier authorized to transact business in the State of California, and maintain continuously during the term of this Agreement Commercial General Liability Insurance, including coverage for owned and non-owned automobiles, and other insurance necessary to protect SRTA and the public with limits of liability of not less than \$1 million combined single limit bodily injury and property damage; such insurance shall be primary as to any other insurance maintained by SRTA.
- B) Consultant and any subcontractor shall obtain and maintain continuously required Workers' Compensation and Employer's Liability Insurance to cover Consultant, subcontractor, Consultant's partner(s), subcontractor's partner(s), Consultant's employees, and subcontractor(s) employees with an insurance carrier authorized to transact business in the State of California covering the full liability for compensation for injury to those employed by Consultant or subcontractor. Consultant hereby certifies that Consultant is aware of the provisions of section 3700 of the Labor Code which requires every employer to insure against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and Consultant will comply with such provisions before commencing the

performance of the work of this Agreement.

- C) Consultant shall obtain and maintain continuously a policy of Errors and Omissions coverage with limits of liability of not less than \$1 million.
- D) Consultant shall require subcontractors to furnish satisfactory proof to them that liability and workers' compensation and other required types of insurance have been obtained and are maintained similar to that required of Consultant pursuant to this Agreement. Consultant shall not allow any contract or subcontract to continue without proper insurance in effect after notification of the lapse of requisite insurance.
- E) With regard to all insurance coverage required by this Agreement:
 - (1) Any deductible or self-insured retention exceeding \$25,000 for Consultant or subcontractor shall be disclosed to and be subject to approval by SRTA prior to the effective date of this Agreement.
 - (2) If any insurance coverage required hereunder is provided on a "claims made" rather than "occurrence" form, Consultant or subcontractor shall maintain such insurance coverage with an effective date earlier or equal to the effective date of the Agreement and continue coverage for a period of three years after the expiration of the Agreement and any extensions thereof. In lieu of maintaining post-agreement expiration coverage as specified above, Consultant or subcontractor may satisfy this provision by purchasing tail coverage for the claims-made policy. Such tail coverage shall, at a minimum, provide coverage for claims received and reported three years after the expiration date of the Agreement.
 - (3) All insurance (except workers' compensation and professional liability) shall include an endorsement or an amendment to the policy of insurance which names the *Shasta Regional Transportation Agency (SRTA), its elected officials, officers, employees, agents, and volunteers as an additional insured* and provides that coverage *shall not be reduced or canceled without 30 days written prior notice certain to SRTA*. The Additional Insured coverage shall be equal to Insurance Service Office endorsement CG 20 10 for on-going operations and CG 20 37 for completed operations.
 - (4) Each insurance policy (except for workers' compensation and professional liability policies), or endorsement thereto, shall contain a "separation of insureds" clause which shall read:

"Separation of Insureds."

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Coverage Part to the first Named Insured, this insurance applies:

- a) As if each Named Insured were the only Named Insured; and
 - b) Separately to each suit insured against whom a claim is made or suit is brought.”
- (5) Consultant shall provide SRTA with an endorsement or amendment to Consultant’s policy of insurance as evidence of insurance protection before the effective date of this Agreement. The accountant/finance officer, or his designee, shall approve the insurance certificate. A copy of the insurance certificate will be kept in the project file.
- (6) The insurance required herein shall be in effect at all times during the term of the Agreement. In the event any insurance coverage expires at any time during the term of the Agreement, Consultant shall provide, at least twenty (20) days prior to said expiration date, a new endorsement or policy amendment evidencing insurance coverage as provided for herein for not less than the remainder of the term of the Agreement or for a period of not less than one year. In the event Consultant fails to keep in effect at all times insurance coverage as herein provided and a renewal endorsement or policy amendment is not provided within ten (10) days of the expiration of the endorsement or policy amendment in effect at inception of the Agreement, SRTA may, in addition to any other remedies it may have, terminate the Agreement upon the occurrence of such event and pay in full all contractual invoices for work completed prior to expiration of insurance.
- (7) If the endorsement or amendment does not reflect the limits of liability provided by the policy of insurance, Consultant shall provide SRTA a certificate of insurance reflecting those limits.

12. NOTICE OF CLAIM/APPLICABLE LAW/VENUE

- A) If any claim for damages is filed with Consultant or if any lawsuit is instituted concerning Consultant’s performance under this Agreement and that in any way, directly or indirectly, contingently or otherwise, affects or might reasonably affect SRTA, Consultant shall give prompt and timely notice thereof to SRTA. Notice shall be prompt and timely if given within thirty (30) days following the date of receipt of a claim or ten days following the date of service of process of a lawsuit.
- B) Any dispute between the parties, and the interpretation of this Agreement, shall be governed by the laws of the State of California. Any litigation shall be venued in Shasta County.

13. FEDERAL CERTIFICATIONS AND ASSURANCES

- A) The Consultant shall adhere to the requirements contained in SRTA's annual Certification and Assurances (FHWA and FTA "Metropolitan Transportation Planning Process Certification") submitted as part of SRTA's OWP, pursuant to 23 CFR 450.334 and 23 U.S.C. 134. This Certification shall be published annually in SRTA'S OWP. Such requirements shall apply to the Consultant to the same extent as SRTA and may include, but are not limited to:
- (1) 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
 - (2) In nonattainment and maintenance areas, section 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93.
 - (3) Title VI of the Civil Rights Act of 1964 and Title VI Assurance executed by California under 23 U.S.C. 324 and 29 U.S.C. 794;
 - (4) Section 1101(b) of the SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
 - (5) The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37, and 38;
 - (6) 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
 - (7) 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
 - (8) The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
 - (9) Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
 - (10) Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.
- B) The Consultant shall additionally comply with the requirements contained in the annual FTA "Certifications and Assurances for FTA Assistance," including "Certifications and Assurances Required of Each Applicant" and the "Lobbying Certification" in compliance with 49 U.S.C. Chapter 53; published annually in SRTA'S OWP and found online at http://www.fta.dot.gov/grants/12825_93.html. Such

assurances shall apply to the Consultant to the same extent as SRTA, including but not limited to the following areas:

- (1) Authority of Applicant and its Representatives;
- (2) Standard Assurances;
- (3) Intergovernmental Review Assurance;
- (4) Nondiscrimination Assurance;
- (5) Suspension and Debarment Certification;
- (6) U.S. OMB Assurances in SF-424B and SF-424D.

14. DISADVANTAGED BUSINESS ENTERPRISE (DBE)

- A) It is the policy of SRTA, the California Department of Transportation, and the U.S. Department of Transportation, that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, shall have an equal opportunity to receive and participate in the performance of agreements financed in whole or in part with FHWA/FTA funds provided under this Agreement.
- B) The Consultant, its employees, and its sub-contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of FHWA/FTA funds-assisted contract or in the administration of SRTA's DBE program per the requirements of 49 CFR Part 26. Failure to carry out the requirements of this paragraph shall constitute a breach of contract and may result in termination of this Agreement or such other remedy SRTA may deem appropriate.
- C) If Consultant proposed the contract project with Disadvantaged Business Enterprise participation, the Consultant will adhere to the stated participation rate unless otherwise agreed to, in writing, between SRTA and the Consultant for circumstances beyond the control of the Consultant.

Consultant will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

Affirmative steps shall include:

- (1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

- (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
 - (4) Establishing delivery schedules, where the project requirements permit, that encourage participation by small and minority business, and women's business enterprises;
 - (5) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce;
- D) The Consultant shall, as required by 49 CFR part 26, include the language in Attachment C into all contracts funded in whole or in part with funds authorized in this Agreement.

15. EQUAL EMPLOYMENT OPPORTUNITY/NONDISCRIMINATION

- A) In the performance of work undertaken pursuant to this Agreement, the Consultant for itself, its assignees, and successors in interest, shall affirmatively require that its employees and subcontractors shall not unlawfully discriminate, harass or allow harassment, against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (including cancer), age (over 40), marital status, denial of family and medical care leave, and denial of pregnancy disability leave.
- B) The Consultant shall ensure that the evaluation and treatment of its employees and applicants for employment, as well as its subcontractors, are free from such discrimination and harassment. The Consultant shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing the Government Code sections referenced above, are incorporated into this Agreement by reference and made a part hereof as set forth in full. The Consultant shall give written notice of their obligations under this clause to labor organizations with which they have collective bargaining or other labor agreements.
- C) In the event of the Consultant's noncompliance with the nondiscrimination provisions of this Agreement, SRTA shall impose such contract sanctions as it, the DOT, or other

applicable funding agency may determine to be appropriate, including, but not limited to:

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

- D) Consultant shall permit access to all records of employment, employment advertisements, application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission or any other agency of the State of California designated by the State to investigate compliance with this section.
- E) The Consultant shall include the provisions of this Section in every agreement with its subcontractor(s). The Consultant shall take such action with respect to any such agreement as SRTA, the DOT, or other applicable funding agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

16. COMPLIANCE WITH LAWS

- A) Consultant will observe and comply with all applicable federal, state, and local laws, ordinances, and codes which relate to the services to be provided pursuant to this Agreement.
- B) Consultant agrees to adhere to the Buy America regulations which apply to federally- assisted, typically development and/or construction activities subject to a NEPA determination, procurements exceeding certain amounts. Buy America regulations require Consultant to provide goods produced or manufactured in the US, unless the federal government has granted a waiver authorized by those regulations.

In addition to FTA's Buy America Act, which requires that the steel, iron, and manufactured goods used in an FTA-funded project are produced in the United States (49 U.S.C. § 5323(j)(1)), the Build America, Buy America Act (BABA) (Public Law 117-58, div. G § 70914(a)) now requires that construction materials used in infrastructure projects are also produced in the United States. Refer to terms and conditions in FTA's Master Agreement Section 15. The BABA requirement applies to this grant, in addition to the Buy America Act, except to the extent a waiver of either requirements may apply.

- C) When using federal funds, Consultant will, for any contract of over \$30,000, abide by lobbying disclosure requirements, per compliance with 31 U.S.C. 1352. For contracts which exceed \$100,000, Consultant shall require the following language of this subsection to be included in all subcontracts.
- (1) By signing this Agreement, Consultant certifies, to the best of its knowledge and belief, that no state or federal funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any state or federal agency, a Member of the State Legislature or United States Congress, an officer or employee of the Legislature or Congress, or any employee of a Member of the Legislature or Congress in connection with the awarding of any state or federal contract, the making of any state or federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any state or federal contract, grant, loan, or cooperative agreement.
 - (2) If any funds other than state or federal funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the Consultant shall complete and submit Federal Standard Form-LL, "Disclosure Form to Report Lobbying," in accordance with those form instructions.
 - (3) This certification is a material representation of fact, upon which reliance was placed when this Agreement was entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S.C. and by the MFTA between SRTA and the state or, alternatively, the grant agreement with the respective funding entity. Any persons who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and more than \$100,000 for each such failure.
- D) Consultant acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Consultant certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Consultant further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Consultant to the extent the Federal Government deems appropriate.

Consultant also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Consultant, to the extent the Federal Government deems appropriate.

- E) Consultant is required to acknowledge the mandatory standards and policies related to every efficiency that are contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321, et. seq.).
- F) Consultant acknowledges that it will not enter into contracts for over \$25,000 with suspended or debarred consultants (Executive Order 12549; 49 CFR part 29). This contract is a covered transaction for purposes of 49 CFR Part 29. As such, Consultant is required to verify that neither itself, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

Consultant is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, Consultant certifies as follows:

The certification in this clause is a material representation of fact relied upon by SRTA. If it is later determined that the Consultant knowingly rendered an erroneous certification, in addition to remedies available to SRTA, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. Consultant agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. Consultant further agrees to include a provision requiring such compliance in its lower tier covered transactions.

- G) Consultant will comply with appropriate Patent and Rights in Data requirements (37 C.F.R. Part 401 and 49 C.F.R. Part 18).
- H) Consultant will comply with 49 U.S.C. 40118 in accordance with the General Service Administration's regulations at 41 C.F.R. Part 301-10.
- I) Consultant, in accordance with 49 U.S.C. Section 5325(b)(3), will ensure that all federally assisted contracts and subcontracts including program management, architectural engineering, feasibility studies, preliminary engineering, design, architectural, engineering, surveying, mapping or related services must be performed (i.e. a consultant cannot incur and invoice the agency any unallowable, unallocable, or unreasonable costs prohibited by the Federal Acquisition Regulations

(FAR) and/or the contract terms and conditions) and audited in accordance with FAR Part 31 cost principles. The consultant, its sub-consultants, and sub-recipients must accept FAR indirect cost rates for one-year applicable accounting periods established by a cognizant federal or state government agency, if those rates are not currently under dispute, and these established rates will apply for purposes of contract estimation, negotiation, administration, reporting, change order, options, and payments, not limited by administrative or de facto ceilings.

- J) Consultant shall at all times comply with all applicable Federal Transit Administration (FTA) regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between SRTA and FTA, as they may be amended or promulgated from time to time during the term of this contract. Consultant's failure to so comply shall constitute a material breach of this contract.
- K) Consultant agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.
- L) SRTA and Consultant acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to SRTA, Consultant, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- M) The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in [FTA Circular 4220.1E](#) are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Consultant shall not perform any act, fail to perform any act, or refuse to comply with any SRTA requests which would cause SRTA to be in violation of the FTA terms and conditions.

17. ACCESS TO RECORDS/RETENTION

SRTA, federal, and state officials shall have, without charge, access to any books, documents, papers, and records of Consultant which are directly pertinent to the subject matter of this Agreement for the purpose of auditing or examining the activities of Consultant or SRTA. Except where longer retention is required by federal or state

law, Consultant shall maintain all records for five years after SRTA makes final payment hereunder.

18. LICENSES AND PERMITS

Consultant shall possess and maintain all necessary licenses, permits, certificates, and credentials required by the laws of the United States, the State of California, County of Shasta, and all other appropriate governmental agencies, including any certification and credentials required by SRTA. Failure to maintain the licenses, permits, certificates, and credentials shall be deemed a breach of this Agreement and constitutes grounds for the termination of this Agreement by SRTA.

19. PERFORMANCE STANDARDS

Consultant shall perform the services required by this Agreement in accordance with the industry and/or professional standards applicable to Consultant's services.

20. CONFLICT OF INTEREST

Consultant, including its officers and employees, is required, prior to entering into this Agreement, to inform agency of any real or apparent organizational conflict of interest. Such organizational conflict of interest exists when the nature of the work to be performed under a contract may, without some restriction on future activities, results in an unfair competitive advantage to the Consultant, or may impact the Consultant's objectivity in performing the contract work.

21. NOTICES

A) Any notice required to be given pursuant to the terms and provisions of this Agreement shall be in writing and shall be sent first-class mail and/or email to the following addresses:

If to SRTA:	Shasta Regional Transportation Agency Attn: Sean Tiedgen, AICP, Executive Director 1255 East Street, Suite 202 Redding, CA 96001 srtat@srtaca.gov
-------------	---

If to Consultant:	RSG Attn: Nagendra Dhakar 811 SW 6 th Avenue, Suite 1000 Portland, Oregon, 97204 nagendra.dhakar@rsginc.com
-------------------	--

- B) Notice shall be deemed to be effective two days after mailing. For more expedient delivery, an email may be used for more administrative types of communication, with the provision there is record of receipt of the transmission. Any oral notice authorized by this Agreement shall be deemed to be effective immediately.

22. CONFIDENTIALITY

During the term of this Agreement, both parties may have access to information that is confidential or proprietary in nature. Both parties agree to preserve the confidentiality of, and to not disclose, any such information to any third party without the express written consent of the other party or as required by law. This provision shall survive the termination, expiration, or cancellation of the Agreement.

23. SCOPE AND OWNERSHIP OF WORK

All research data, reports, and every other work product of any kind or character arising from or relating to this Agreement shall become the property of SRTA and be delivered to SRTA upon completion of its authorized use pursuant to the Agreement. SRTA may use such work products for any purpose whatsoever. All works produced under this Agreement shall be deemed works produced by a contractor for hire, and all copyright with respect thereto shall vest in SRTA without payment of royalty or any other additional compensation.

Notwithstanding anything to the contrary contained in this Agreement, all proposals submitted in response to an RFP will become the exclusive property of the agency. At such time as the executive director recommends a proposal to the SRTA Board of Directors and such recommendation appears on the board agenda, all proposals submitted in response to the 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. If an alternate document is not made available to SRTA by the consultant, then the original proposal, as submitted, will be released as requested.** Proprietary information can include secret formulas, processes, and methods used in production. It can also include a company's business and marketing plans, salary structure, customer lists, contracts, and details of its computer systems. In some cases, the special knowledge and skills that an employee has learned on the job are considered to be a company's proprietary information.

24. SEVERABILITY

If any portion of this Agreement or application thereof to any person or circumstance is declared invalid by a court of competent jurisdiction or if it is found in contravention of any federal or state statute or regulation, the remaining provisions of this Agreement, or the application thereof, shall not be invalidated thereby and shall remain in full force and effect to the extent that the provisions of this Agreement are severable.

IN WITNESS THEREOF, SRTA and Consultant have executed this Agreement on the day and year of the last signature set forth below. By their signatures below, each signatory represents that he/she has the authority to execute this Agreement and to bind the party on whose behalf his/her execution is made.

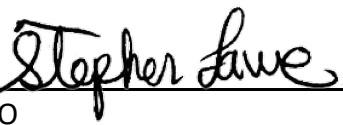
SHASTA REGIONAL TRANSPORTATION AGENCY

Date: _____

Sean Tiedgen, AICP, Executive Director

RSG

Date: 4/18/2024

By: 
CEO

Tax I.D.#: 02-0405879

Approved as to form:

JOHN KENNY
Counsel, Shasta Regional Transportation Agency

Attachment A
SCOPE OF WORK

Consultant Project Manager: Nagendra Dhakar

Scope of Work follows beginning on the next page

SRTA-RSG/ Shasta Regional Planning Dashboard Engagement



Work Plan and Schedule

WORK PLAN

TASK 0: Project Initiation and Ongoing Management

The project team proposes a work plan that will successfully accomplish project goals and outcomes while satisfying the requirements of the schedule and budget. Effective project management and team communication are critical to the success of any project. The RSG Project Manager, Nagendra Dhakar, will ensure that the project is completed on-time and according to scope, while Reid Haefer, Deputy Project Manager, will assist Nagendra in all project management activities including coordinating with SRTA and team members on all aspects of the project.

The RSG team will hold a kickoff meeting to start the project by discussing SRTA's requirements in more detail and finalizing a project approach accordingly. Nagendra will hold bi-weekly conference calls with project team members, providing the opportunity for team members to discuss work completed in the previous weeks and expected work throughout the next two weeks. RSG will take notes during calls and provide them to the team afterwards, including action items for the next period of work. Nagendra also will ensure timely submittal of invoices, with a progress report, to SRTA. He will establish quality assurance (QA) protocols that will apply quality control checks (QC) to all key deliverables. Principal-in-Charge Jeff Frkonja will be responsible for quality oversight, while technical advisors Joel Freedman and Maren Outwater will provide technical guidance as needed during the project. Billy Charlton will use his wealth of experience in building visualization to guide data dashboard development.

RSG strategy for this dashboard project is based on Agile project management thinking: base all decisions on a clear and agreed upon needs assessment couched in "user stories" crafted or at least informed by the users themselves; stand up functioning software that users can respond to as soon as possible; and use an iterative and evolutionary approach to constantly drive toward meeting the highest priority needs. The key to success is to retain a laser focus on the highest priority needs and features while giving the client and user community tangible yet-evolving products to which they can meaningfully react, acknowledging that at the end of the iterative cycles supported by the budget other items will inevitably remain to be addressed in future work. Section 7.1 and 7.2 provide more details on our approach to complete similar projects within schedule and budget.

Deliverables

- Project kickoff meeting and notes.
- Bi-weekly conference calls and meeting notes.
- Monthly invoices and progress reports.

TASK 1: Public Outreach and Engagement Plan

The Shasta Planning Data Dashboard project will involve various stakeholders through a participatory initiative that includes workshops, meetings, activities that are oriented to evaluate the proposed platform and dashboard (e.g., demonstrations, usability testing sessions with representative users, distributing surveys to gather feedback from users). We propose to utilize specific focus groups as well as have the dashboard available through an interactive web testing platform. Through this initiative, stakeholders will be involved in the development of the proposed platform and dashboard in addition to evaluating the final version and suggesting specific improvements. Participants may include representatives of key stakeholder communities, like policymakers or advisors, local government agencies, tribal entities, and interested citizens. There will be specific workshops geared toward local government agencies and tribal entities to discuss how the platform and dashboard can meet their planning or policy needs. Through channels of dissemination and communication (e.g., SRTA and the project website) and the follow-up workshop, stakeholders will be kept involved in the project. They will critically evaluate the effects of suggested recommendations in the follow-up workshop.

Community engagement is a priority for our project team. We understand that the input and project exposure directly relates to the successful implementation of the project. The project team will engage a broad spectrum of stakeholders to ensure that the platform and dashboard are developed with direct input from key community stakeholders. This includes a structured, ongoing dialogue with policymakers, local government agencies, tribal entities, and the general community. The goal is to foster a collaborative environment where stakeholder feedback directly influences the design, functionality, and usability of the dashboard.

Based on our experience on previous projects in Shasta County, we know our audience, we know the critical stakeholders and we know the communities throughout the County. We will capitalize on this while working

cooperatively with SRTA to identify new and underrepresented populations to include in the outreach process. The goal is to have robust and diverse stakeholder representation.

Our project team will prepare a comprehensive, stand-alone, flexible, community engagement plan that will be followed throughout the process. This plan will outline an agreed upon approach, timeline, meeting formats, goals, and meeting schedules. The plan will be formatted for use on a webpage as well.

1.1 Stakeholder Identification and Segmentation

During the kickoff meeting, we will establish a stakeholder distribution list. Our team will bring a list of formerly known stakeholders and the organizations they represent to use as a starting point. The stakeholder list will be used to inform relevant agencies, tribal governments, organizations and community members about the project.

This task involves identifying all potential stakeholders and categorizing them based on their interest, influence, and needs regarding the project. We will work with SRTA and agency partners to identify key participants. This allows for more focused and effective communication strategies tailored to each group's specific concerns and contributions. Green DOT will lead this effort and has standing relationships with many key stakeholders through past planning efforts throughout the region, including their work on the North State Intercity Bus System project. RSG also has worked with federal/state agencies on other projects in the state. Our experience working with these stakeholders means a minimal learning curve and easier process in accessing and engaging them in the project.

Key stakeholders involved to participate in this effort will include but not be limited to the following:

- Caltrans, District 2
- City of Anderson
- City of Redding
- City of Shasta Lake
- County of Shasta
- Shasta Living Streets
- Shasta County Transportation Commission
- Redding Area Bus Authority (RABA)
- Dignity Health Connected Living (DHCL)
- Healthy Shasta
- North State Super Region (NSSR)
- Pit River Tribe
- Redding Rancheria (Yana, Wintu, Pit River)
- Community Members

Deliverables

- Stakeholder list.
- Public Engagement Outreach Strategy.

1.2 Initial Stakeholder Engagement

Stakeholders will be formally invited by letter and/or email to join the stakeholder group. The initial engagement aims to introduce the project to key stakeholders, highlighting its significance and the role their input and collaboration will play. This sets the stage for meaningful participation throughout the project.

Deliverables

- Invitations.
- Project kickoff meeting.
- Documentation and notes from the kickoff.

1.3 Participatory Outreach

Through participatory planning, stakeholders will be actively involved in the development process through workshops, community meetings, and direct feedback online. Our project team will develop and host a web-based interactive information tool that provides the public with the opportunity to get information, test, and comment on the

database. These activities are designed to gather insightful input and foster a sense of ownership among participants. The following items will be part of the outreach process:

- **Surveys:** Electronic and paper surveys will be distributed online and at public meetings to understand dashboard needs and design criteria. The findings of these surveys will then be used to create a mock-up dashboard.
- **Workshops:** Results of the survey and the mock-up dashboard will be presented at community workshop(s) and through our interactive portal to receive feedback. The information acquired from this workshop will be incorporated into the design.
- **Tutorials:** The final dashboard will be a result of feedback from the surveys and workshops. This will include a video tutorial of sections of the dashboard or the entire dashboard. From that tutorial, we will host up to 5 group tutorial sessions that offer a chance for final feedback and ultimately database adjustments.

Deliverables

- Stakeholder workshops.
- Online portal for community feedback.

1.4 Advisory Workshops - Local Government and Tribal Entities

Advisory committee workshops will be organized for local government and tribal entities focusing on addressing their unique needs and how the platform can serve their communities effectively. These workshops are crucial for ensuring that the platform is relevant and useful for these specific groups. We will draw upon our past experience in the region and our preexisting relationships with key stakeholders from efforts such as the North State Intercity Bus System Project and other local projects.

Deliverables

- Specialized workshops for local government and tribal entities.
- Reports on workshop outcomes and stakeholder feedback.

1.5 Continuous Communication and Engagement

Maintaining ongoing communication ensures that stakeholders remain informed about the project's progress and are continuously engaged in providing feedback. This open line of communication helps in adapting the project to better meeting stakeholders' needs over time. This engagement also will be available through the web platform and project communication protocols developed at the onset of the project.

Deliverables

- Regular updates through various communication channels
- Engagement and feedback collection memo

1.6 Dissemination of Information

Information sharing is crucial for keeping all stakeholders and the broader community informed about the project's achievements and progress, ensuring transparency, and fostering trust. Information will be directly distributed and will be available online for review and comment. All public information advertising will be done through a social media platform as well.

Deliverables

- Social media platform.
- Online public dissemination of project updates and achievements

1.7 Follow-up Workshops

Follow-up workshops towards the project's end allow stakeholders to see the final product, provide last-minute feedback, and discuss the project's outcomes and future directions.

Deliverables

- Feedback workshop and final project presentation.
- Final outreach findings memo.

1.8 Continuing Collaboration

Establishing a feedback loop ensures that stakeholder input can continue to influence the project even after its initial completion, allowing for ongoing improvement and adaptation.

Deliverables

- Implementation program outlining ongoing process for continuous dashboard improvement and community reach.

1.9 Evaluation and Iteration

This task involves regularly evaluating the effectiveness of the engagement strategies and making necessary adjustments based on stakeholder feedback, ensuring the project remains responsive to the needs of community members.

Deliverables

- Memo outlining tested community engagement strategies to implement future upgrades based on user feedback.

1.10 Reporting and Documentation

Comprehensive reporting and documentation are essential for tracking the project's progress, stakeholder engagement, and feedback received. This ensures accountability and provides a basis for future projects.

Deliverables

- Detailed records of stakeholder interactions and feedback.
- Engagement and project progress reports.

TASK 2: Data Collection and Updating the Required Prediction Models

The RSG team will identify and review existing data sources for their potential use in updating the integrated travel/land-use model. If needed, we will suggest new data collection efforts for additional data. RSG will assess the current integrated model and identify necessary improvements to develop a model update plan. Once finalized with SRTA staff, we will follow the plan to update the model, document the work, and train SRTA staff and relevant users on use of the updated model.

2.1 Integrated Model Exploration

The RSG team will obtain the current travel model system from SRTA and review it to identify necessary updates to support the agency's future planning efforts. The review will evaluate model performance compared to relevant observed data and identify areas for improvements. The outcome of this assessment will be a model update plan that will identify necessary model updates and a model calibration and validation framework. We will discuss and finalize the plan with SRTA. The final model update plan will categories updates in two categories: the essential updates that can be achieved as part of the current project in the available budget and schedule; and the updates that should be pushed for future projects. Below are our initial thoughts on potential model updates based on our current understanding of the travel model.

Presently, SRTA is developing a new land-use model with a planned completion by mid-2024. The RSG team will review the land-use model and develop a plan for its integration with the ShastaSIM travel model. The integration will explore the possibility of a two-way feedback between the two models. RSG staff developed a similar, two-way feedback for the Oregon Department of Transportation's (DOT) Statewide Integrated Model (SWIM)². The integration may necessitate changes to both the travel model and the land-use model. **RSG team is intimately familiar with both the transport and land-use models**; we developed the DaySim software upon which ShastaSIM is built, Mark Bradley of Blue Door is one of the original developers of DaySim, and the Manhan Group is presently helping SRTA develop the new land-use model. We will finalize the integration plan with SRTA staff and implement.

Our understanding is that ShastaSIM uses DaySim's built-in population synthesizer to generate synthetic population files. We propose replacing this process with **a new population synthesizer tool called PopulationSim**³.

PopulationSim is an open-source and a state-of-the-art standardized population synthesis program first developed for the Oregon DOT and its partner agencies. The program is implemented in Python-based ActivitySim framework, and its development adheres to software engineering best practices. PopulationSim enhances previous population synthesizers in several ways. First, it takes advantage of Python and Pandas, making the software compatible with ActivitySim and eliminating the need for third-party database software. Second, it is flexible with respect to the number and geographic level of controls or constraints for population synthesis. Third, it uses a novel algorithm that takes advantage of both entropy-maximization as well as simultaneous balancing, addressing key limitations of other existing tools. And fourth, it provides a "re-simulate" option that can be used to add to, or replace, population in subareas without perturbing the core input population. This means that PopulationSim can be used effectively for traffic impact studies. We think replacing the existing process with PopulationSim will bring SRTA multiple benefits. First, the above-mentioned enhancements will result in improved synthetic population data. Second, "re-simulate" feature will be handy for model application studies. Third, the setup is more streamlined and easier to work with. Fourth, it has better runtime performance than previous population synthesizers, also due to parallel processing functionality.

We will develop an automated process of producing synthetic population (household and person) files using PopulationSim. The process will include automated downloading (using API) of Census data, building controls, running PopulationSim, and formatting synthetic population files in the format required in DaySim. The outputs will also include a set of validation plots showing match of controls versus outputs for control variables at specified geographies.

Since its original development in 2014, SRTA has gone through a couple rounds of updates (2018 and 2023) to the ShastaSIM activity-based travel model. During the latest model update, SRTA updated the older Pascal-based DaySim version to the latest version available on the DaySim GitHub repository⁴. RSG maintains the repository and has been making bug fixes, as encountered, and enhancements related to represent demand for new transportation technology (e.g., TNCs, AVs, telecommuting). As part of this project, we propose to **upgrade the DaySim software used in ShastaSIM to the latest version available on the DaySim GitHub repository**. We will compare and document differences in the results from the two versions and provide potential explanation. We also will **implement necessary DaySim enhancements (e.g., TNCs, telecommuting, use of bike level-of-service)** to ShastaSIM.

Deliverables

- Draft model update plan.
- Final model update plan.

² <https://github.com/tlumip/tlumip/wiki>

³ <https://activitysim.github.io/populationsim/>

⁴ <https://github.com/RSGInc/DaySim>

2.2 Data Source Investigation

The RSG team will conduct multiple work sessions with SRTA staff to develop a comprehensive, regionwide data assessment that will 1) catalog potential datasets and prioritize them based upon project requirements and staff recommendations and 2) identify current data accessibility and barriers to collecting additional data. Important elements of the data assessment will include availability of data (current and future), data accuracy, opportunities of automated data retrieval (e.g. APIs), cost of data acquisition, and consistency across uses (travel model, land-use model, general planning uses). Upon completion of this assessment, the project team will also propose a data collection effort that will involve gathering data for two discrete but interrelated purposes: model updates and data dashboard development. Necessary data for model updates include parcel level land-use data (households, employment, and enrollment), model calibration data (2017 national household travel survey, Census, and big data if purchased separately) and model validation data (traffic counts, transit boardings, vmt, speed). RSG will document our data assessment into a technical memo.

Deliverables

- Data assessment memo.

2.3 Framework Development for Automated Data Retrieval

During data gathering and assessment, the RSG team also will design a framework for automated retrieval (e.g., via API) of data for model updates. The framework will identify technical, schedule, and budget trade-offs for a variety of scenarios. We will discuss and finalize the framework with SRTA to select essential features that can be achieved within the schedule and budget. RSG will integrate the selected framework into the integrated travel/land-use model and perform sufficient testing to ensure correctness and efficiency of the process.

RSG will follow the model update plan developed as part of Task 2.1 to develop an updated integrated travel/land-use model. As identified in the plan, we will add necessary enhancements and calibrate and validate the model using the observed data identified in Task 2.2. Note that RSG will utilize only the existing data sources in model update and data dashboard. Any new data collection/purchase effort (e.g., travel survey, traffic count collection, big data) will be additional funds outside of the project budget and discussed/negotiated with SRTA.

One outcome of the data assessment performed in Task 2.2 will be a new base year for ShastaSIM. The RSG team will update model inputs to reflect the new base year and calibrate and validate the model. We propose replacing the current DaySim coefficient parameters in ShastaSIM with recently estimated parameters in the SACOG's SACSIM model and adjusting them during the model calibration/validation phase to match observed travel behavior in the Shasta region.

RSG proposes versioning the integrated travel/land-use model on a GitHub repository for easier tracking of changes to the model setup over time. We will discuss with SRTA the nature of the repository (public vs private).

Deliverables

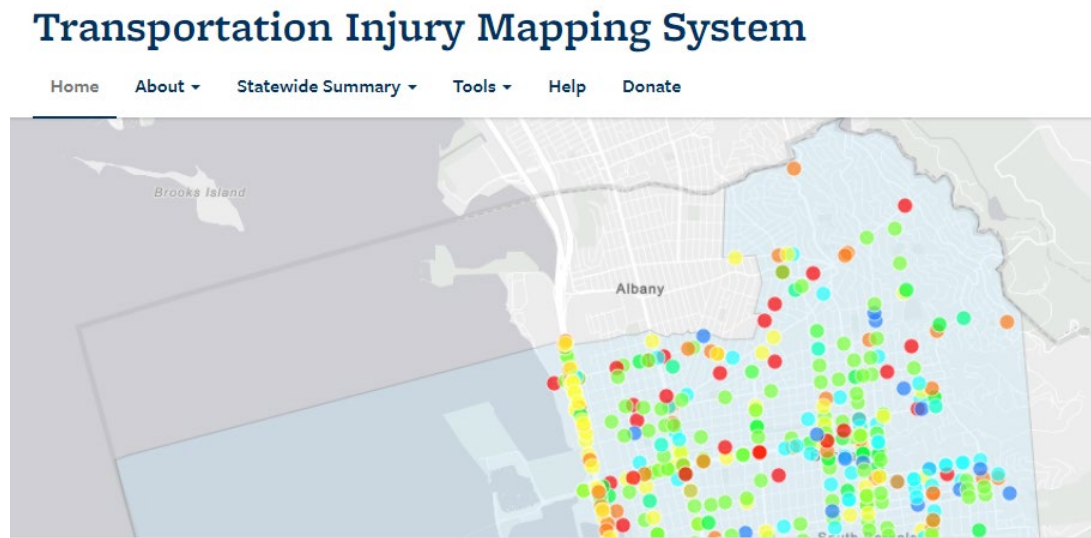
- Framework design for automated data retrieval.
- Updated model setup on a GitHub repository.

2.4 Data for Land Use and Transportation Impacts

Beyond the integrated travel/land-use model, the team will gather general purpose planning data that will support the next transportation plan, performance measures (federal, state, and local), and general planning activities. A key goal of the RSG team is to create a data dashboard that directly supports planning efforts and strategies; therefore, it will be essential to consider inclusion of datasets beyond those required for the travel model and land-use model. General purpose planning data may include demographics, safety, greenhouse gas emissions, and health. The project team has extensive experience working with all types of planning datasets. Example data sources that the

team will explore based upon budget and priority include Census (ACS, Decennial)⁵, HPMS⁶, LATCH⁷, PEMS traffic counts⁸, TIMS SWITRS safety data⁹ (an example is provided in Figure 1), and LEHD employment.¹⁰

FIGURE 1. EXAMPLE DATASET, SWITRS SAFETY DATA



The RSG team will enhance the reporting features of the integrated model to visualize findings regarding the impacts of land use and transportation strategies. Some useful and typical summaries/metrics include mode share, vehicle miles traveled (VMT), vehicle hours traveled (VHT), vehicle hours of delay (VHD), travel times for selected corridors, and volumes (vehicles, trucks, transit boardings and loadings, etc.). These metrics can often be segmented temporally (e.g., daily, time period), spatially (e.g., urban/rural, corridor, TAZ, subarea), and by market segment (e.g. low income residents for Environmental Justice support). RSG is adept at designing visual products to clearly communicate *meaning*; this can be in table, chart, or map format depending on the measure in question. Figure 2 shows an example of VHD superimposed on VMT by draft plan alternative, demonstrating that the preferred alternative has slightly lower VMT (and thus emissions) than the future no-build while having roughly the same congestion. Our team will develop a reporting framework and ensure via discussion with SRTA that it meets regional planning needs.

⁵ <https://www.census.gov/data/developers/data-sets.html>

⁶ <https://www.fhwa.dot.gov/policyinformation/hpms.cfm>

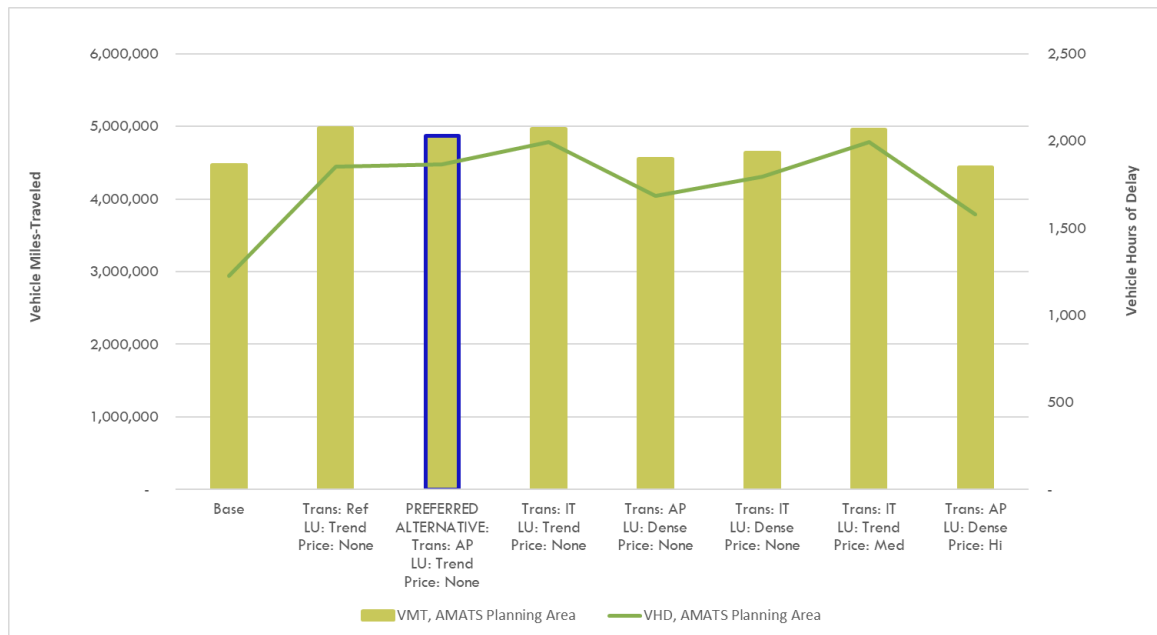
⁷ <https://www.bts.gov/latch/latch-data>

⁸ <https://dot.ca.gov/programs/traffic-operations/mpr/pems-source>

⁹ <https://tims.berkeley.edu/>

¹⁰ <https://lehd.ces.census.gov/>

FIGURE 2. ANCHORAGE EXAMPLE OF VMT AND VHD REPORTING FOR THE AMATS PLANNING AREA



Deliverables

- Framework for collecting data and integrating into the integrated travel/land-use model and the data dashboard.
- Updated integrated travel/land-use model, including data extraction and analysis capabilities.

2.5 Documentation and Reporting

RSG will document the work performed during Task 2 in a comprehensive report detailing new processes, updates to the integrated travel/land-use model, calibration and validation summaries, and findings. The report will also describe the model's capabilities and limitations for optimum and correct use of the model in transportation planning. After model updates are finalized and documented, RSG will provide up to one day (8 hours) training to SRTA staff and other relevant users on the use of the updated model. We will also provide support to SRTA staff for setting up and successfully run the model in-house to ensure smooth transition of the updated model from consultant to the agency.

Deliverables

- A comprehensive report describing model updates, findings, and model capabilities/limitations.
- Training material (e.g., handouts and slides).
- Model support to setup and run the model in-house.

TASK 3: Dashboard Design, Development, and Implementation

3.1 Dashboard Design

The RSG team's approach for designing the dashboard centers on a holistic understanding of data visualization for exploration, communication, and insight and emphasizes clarity, functionality, and user-centric design. Drawing on a deep understanding of foundational principles in data visualization by Tufte¹¹, Cleveland¹², and others, as well as extensive experience in the application of those principles specifically to transportation data, the project team emphasizes accurate and meaningful data presentation while minimizing clutter. The team prioritizes a collaborative

¹¹ E.g. Tufte, E. 1997. *The Visual Display of Quantitative Information*, 2nd ed. Graphics Press.

¹² Cleveland, W.S. 1994. *The Elements of Graphing Data*, 2nd ed. Hobart Press

design approach, engaging stakeholders at all stages of the process to identify the key metrics and user requirements. Among many other design considerations, an important component of the dashboard design process will be selecting the appropriate dashboard software. The RSG team will conduct a review of potential software options and present the trade-offs of different options to SRTA staff. Important considerations for selecting the right dashboard software technology include cost (upfront and ongoing), customizability, interoperability with travel/land-use models, sophistication of data visualization capabilities, hosting requirements, and ongoing maintenance needs. Our team includes Billy Charlton as Data Dashboard Advisor who will draw from his years of experience building data dashboards for many agencies to develop a design for SRTA. Billy's most notable contribution include a comprehensive data dashboard tool called SimWrapper¹³ which could be worth discussing as one of the potential options for SRTA.

The project team has extensive experience with a wide variety of data formats and sources, is adept in R, Python, and JavaScript, and has experience with a range of dashboard platforms such as Shiny, Dash, Tableau, ArcGIS Dashboards, and PowerBI. In particular it is crucial that SRTA selects a dashboard platform that is sustainable into the future; the RSG team emphasizes the need to adopt technology that can be maintained by SRTA staff with minimal ongoing costs and staff resources. Throughout the design task, the RSG team will work with SRTA staff to select the right tool to align with stakeholder needs and user preferences, while adhering to the principles of effective data visualization and user-centered design.

Deliverables

- Draft Dashboard Design Memo.
- Final Dashboard Design Memo.

3.2 Integrate Model into Dashboard

Building upon the work in Task 2 to update the travel demand model, Task 3.2 will focus on integrating the updated model into the overall data dashboard. During the dashboard development process, the RSG team will incorporate data from the integrated travel/land-use model within the overall data dashboard system. The RSG team will develop a set of custom programming scripts (e.g., Python) that connect components of the integrated model to the dashboard, thus allowing users of the dashboard to visualize model outputs and results. These scripts will enable automated retrieval of data from the integrated model. We think that a real-time integration of the integrated travel/land-use model will have a significant impact on dashboard's runtime performance, therefore, we suggest incorporating preloaded scenarios to visualize in the dashboard.

Deliverables

- Demonstration and documentation of model integration and display of model outputs.

3.3 Real-Time Data Integration (Optional)

We will discuss real-time data integration requirements with SRTA and develop a plan accordingly. Currently, we think that the available budget is not sufficient to perform this task, so excluding this from the project's scope of work.

Deliverables

- Discussion with SRTA

3.4 User Interface & Interactivity

Regardless of the technology software selected during the dashboard design phase, the dashboard will contain a minimum set of interactive, user interface features, which will support regional planning and analysis. These

¹³ <https://simwrapper.github.io/docs/examples>

features are listed below in Table 1. These features will be developed and designed through a user-centric design process, which will involve the development of mock-up UI wireframe diagram, iterative prototype, and then a final user interface design.

TABLE 1. DASHBOARD MINIMUM FEATURES

DASHBOARD FEATURE	FEATURE TYPE	EXAMPLE
Interactive Webmaps	Cartography/Maps	Origin-Destination Flow Choropleth
Scenario Planning	User Interactivity	Presentation of integrate travel/land use results
Data Queries	User Interactivity	Dropdowns, toggles, and user defined values
Data Download	Data Management	Spatial and tabular data downloads
Automated data updates	Data Management	Integration of Census API
Interactive Plots/Graphs	Data Visualization	OD Sankey diagrams
Data Summaries	Data Visualization	Travel model trips by purpose & traveler

Figure 3, Figure 4, and Figure 5 show a few examples of data dashboard developed by RSG.

FIGURE 3. TAMPA MOBILITY DATA DASHBOARD

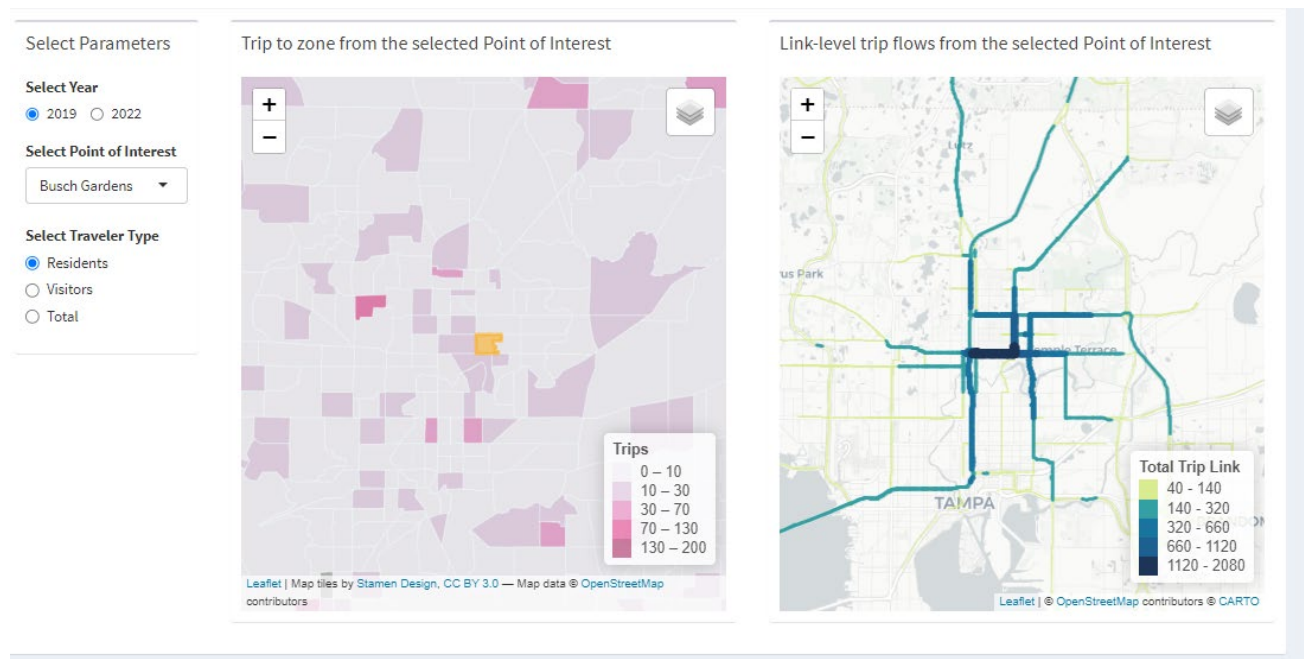


FIGURE 4. SPOKANE LAND USE ALLOCATION DASHBOARD

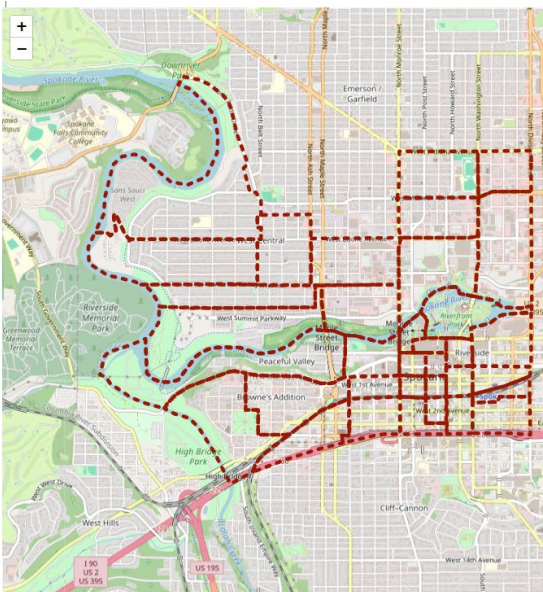
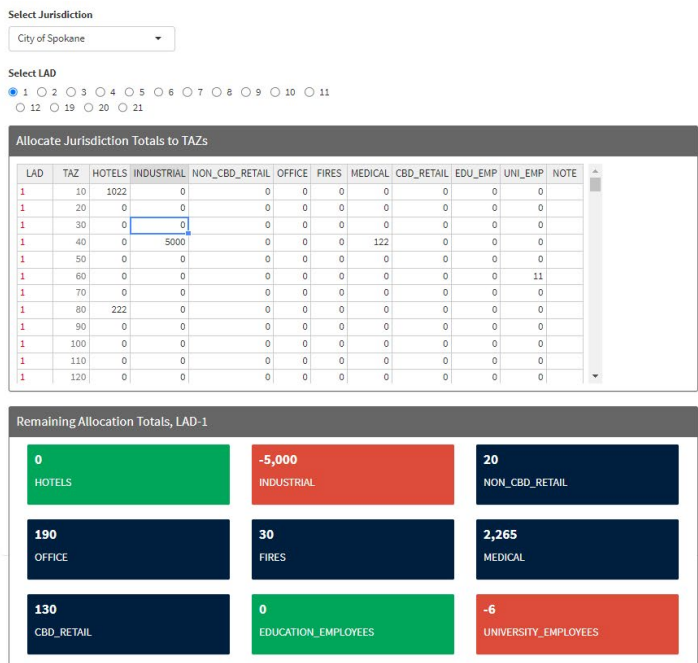
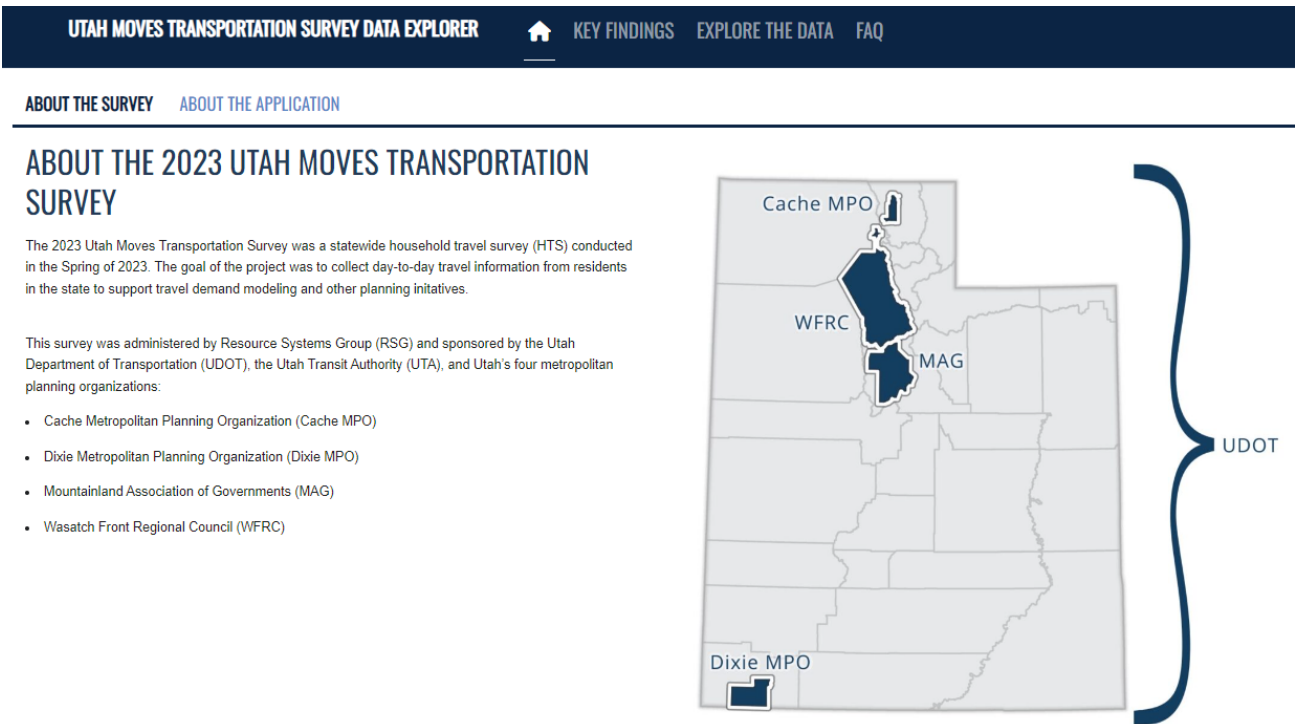


FIGURE 5. UTAH TRAVEL SURVEY DASHBOARD



Deliverables

- UI mock-up wireframe diagram.
- UI working prototype.
- Final user interface.

3.5 Testing & Quality Assurance

As the dashboard development process progresses and data is integrated into the tool, the project team will iteratively test the product to ensure ongoing data quality. Data quality will be assessed by reviewing and summarizing data inputs and comparing to outputs that are displayed on the dashboard.

Deliverables

- QA and QC metrics.

3.6 Deployment, Maintenance Plan, & Final Dashboard

A crucial element of this project is creating a data dashboard that can be sustained by SRTA staff far into the future. To achieve this, the RSG team will create a deployment and maintenance plan that will document key strategies for maintaining the dashboard over time. This will include recommendations on hosting platforms, ongoing costs, processes for updates, and future potential dashboard update components. Note that the cost of the dashboard maintenance plan after the project duration is not included in the project budget. Upon completion of this task, the RSG team will deliver a deployment and maintenance plan, as well as the final data dashboard.

Deliverables

- Draft memo that specifies recommended deployment configuration and long-term dashboard maintenance plan.
- Final memo that documents the deployment configuration and long-term dashboard maintenance requirements.
- Complete final data dashboard.

3.7 Documentation

The main dashboard deliverable (Task 3.6) will be supported by in-depth documentation in both draft and final memo formats.

Deliverables

- Draft dashboard documentation.
- Final dashboard documentation.

3.8 Training

The main dashboard deliverable (Task 3.6) will be supported by in-depth staff training.

Deliverables

- Virtual staff training sessions (2).

TASKS 4 & 5: Advisory Committee Meetings & Board Review/Approval

Throughout the entirety of the project the RSG team will solicit feedback and provide input opportunities from the Project Advisory Committee (PAC), Technical Advisory Committee (TAC), and SRTA board. Similar to Task 1, the RSG team will schedule or participate in meetings where key stakeholders will be able to review progress and provide feedback that will be directly incorporated into the project. These meetings will be scheduled around key project milestones, such as completion of model update, selection of key datasets and performance measures, dashboard design, and draft/final data dashboard. During the development of the outreach plan in Task 1, RSG will discuss with SRTA to determine number of meetings under these tasks. Presently, we assume up to three (3) PAC meetings and three (3) TAC board meetings with virtual attendance in most of them.

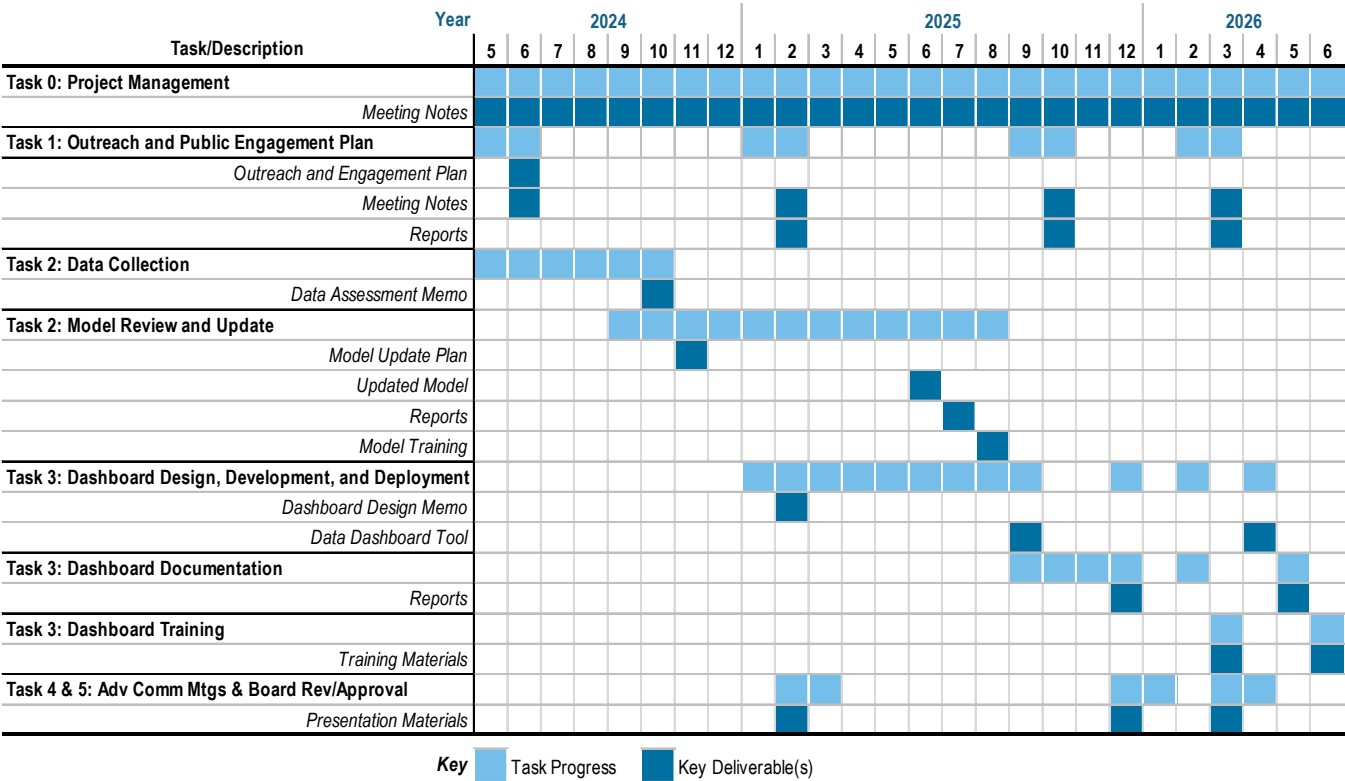
Task 4 & 5 Deliverables

- Presentation materials for advisory committees and SRTA board.
- RSG team presentation to advisory committee and board (optional, depending on project need and budget).

SCHEDULE

The RSG team proposes a schedule that will enable the successful achievement of project tasks and outcomes, starting with public outreach and culminating in board approval. Project work will span two years and begin in Spring 2024 and then conclude in Spring 2026. It will be important to align public engagement and committee/board check-ins with key milestones or decision points in the model update and dashboard development. We have designed this schedule to successfully accomplish the technical project tasks while incorporating important feedback from the public and key stakeholders. See Figure 6 for a detailed, month-by-month schedule breakdown.

FIGURE 6. PROJECT SCHEDULE



Attachment B**BUDGET**

Consultant Project Manager: Nagendra Dhakar

Maximum Compensation: \$500,000.00

2024-2026	Cost
Task 0: Project Management	\$53,585
Task 1: Outreach and Public Engagement Plan	\$70,449
Task 2: Data Collection and Updating the Required Prediction Models	\$228,379
Task 3: Dashboard Development, Documentation, and Training	\$116,775
Task 4: Advisory Committee Meetings	\$13,588
Task 5: Board Review/Approval	\$13,588
Fixed Expenses (nights of travel per person)	\$ 2,850
Total	\$499,214

Attachment C

CPG Subrecipient Responsibilities for DBE include:

- Participation in the race neutral DBE Program when contracting/awarding to subrecipients or planning consultants involving any fraction of federal Consolidated Planning Grant (CPG) funds.
- Participation in the race neutral DBE Program even if subrecipients have not contracted out work to sub-recipients or consultants. They must also complete, sign and turn in the FTA DBE Uniform Report form, showing zero dollars. This information will provide necessary data for the federally mandated Caltrans DBE disparity study.
- Completion of the FTA DBE Uniform Report form twice a year: April 1st and October 1st. The DBE Uniform Report shows the federal dollar amount provided through contract/s as well as DBE participation in these contracts. This information will provide necessary data for the federally mandated Caltrans DBE disparity study and reporting to the FTA. The completed forms are sent to the appropriate HQ ORIP Liaison.
- Development and implementation of a DBE Program following the Caltrans DBE Program Plan, pursuant to the Master Fund Transfer Agreement, Article IV, Section 2. This Plan formally acknowledges the statutory and/or regulatory requirements with its race-neutral measures, and their commitment to comply with all the prescribed responsibilities explained herein.
- Development and maintenance of a Bidder's List, consisting of information about all DBE and non-DBE firms that bid or quote on CPG-assisted contracts. The Bidder's List includes the name, address, DBE/non-DBE status, age and annual gross receipts of firms.
- Inclusion of the following clause is required, verbatim, in each CPG-assisted contract:
 - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of United States Department of Transportation-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as recipient deems appropriate.
- Inclusion of contractual language specifying prompt payment clauses are required in the foregoing provisions. These prompt payment clauses benefit all subcontractors equally.

- **Prompt Progress Payment to Subcontractors**—A prime contractor or subcontractor shall pay to any subcontractor not later than 10-days of receipt of each progress payment, in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10-day rule is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30-days may take place only for good cause and with the agency's prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies of that Section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance, and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

- **Prompt Payment of Withheld Funds to Subcontractors**—The MPO, RTPA or local government entity shall include either (1), (2), or (3) of the following provisions in their CPG-assisted contracts to ensure prompt and full payment of retainage (withheld funds) to subcontractors in compliance with 49 CFR 26.29.
 - 1) No retainage will be held by the agency from progress payments due to the prime contractor. Prime contractors and subcontractors are prohibited from holding retainage from subcontractors. Any delay or postponement of payment may take place only for good cause and with the agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance, and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

 - 2) No retainage will be held by the agency from progress payments due the prime contractor. Any retainage kept by the prime contractor or by a subcontractor must be paid in full to the earning subcontractor in 30-days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may take place only for good cause and with the agency's prior written approval. Any violation of these provisions shall subject the violating contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code.

This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the contractor, deficient subcontractor performance, and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

- 3) The agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within 30-days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Any delay or postponement of payment may take place only for good cause and with the agency's prior written approval. Any violation of these provisions shall subject the violating prime contractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to the contractor or subcontractor in the event of: a dispute involving late payment or nonpayment by the contractor; deficient subcontractor performance; and/or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.