

Kimley-Horn and Associates, Inc.

Master Plan Traffic Operations for Various Corridors in El Dorado County

AGREEMENT FOR SERVICES #9484

THIS AGREEMENT, made and entered into by and between the County of El Dorado, a political subdivision of the State of California (hereinafter referred to as "County"), and Kimley-Horn and Associates, Inc., a North Carolina corporation duly qualified to conduct business in the State of California, whose principal place of business is 421 Fayetteville Street, Suite 600, Raleigh, North Carolina 27601 and whose local address is 555 Capitol Mall, Suite 300, Sacramento, California 95814 (hereinafter referred to as "Consultant").

R E C I T A L S

WHEREAS, County has determined that it is necessary to obtain a consultant to provide project management and preliminary design engineering services, to update and expand the County's 2022 Intelligent Transportation Systems (ITS) Master Plan for the County's Department of Transportation;

WHEREAS, Consultant has represented to County that it is specially trained, experienced, and competent to perform the special services described in ARTICLE I Scope of Work; that it is an independent and bona fide business operation, advertises and holds itself as such, is in possession of a valid business license, and is customarily engaged in an independently established business that provides similar services to others; and County relies upon those representations;

WHEREAS, it is the intent of the parties hereto that such services be in conformity with all applicable state and local laws;

WHEREAS, County has determined that the provision of such services provided by Consultant are in the public's best interest and that due to the limited timeframes for the project, the ongoing aggregate of work to be performed is not sufficient to warrant the addition of permanent staff in accordance with El Dorado County Ordinance Code, Section 3.13.030(c), El Dorado County Charter, Section 210(b)(6) and/or Government Code Section 31000;

WHEREAS, on February 19, 2025, Consultant was formally awarded Request for Proposal (RFP) #24-0111 for the Master Plan Traffic Operations Various Corridors in El Dorado County;

NOW, THEREFORE, County and Consultant mutually agree as follows:

ARTICLE I

Scope of Work: Consultant is engaged in the business of doing the services and tasks required under this Agreement, including those services and tasks that are identified in Exhibit A, marked "Scope of Work," and in accordance with Exhibit B, marked "Corridor Map," I and Exhibit C, marked "2022 ITS Master Plan," incorporated herein and made by reference a part hereof, and those services and tasks that are reasonably necessary for the completion of the work identified in the Scope of Work.

Consultant agrees to furnish, at Consultant's own cost and expense, all personnel, equipment, tools, materials, and services necessary to perform the services and tasks required under this Agreement, including those services and tasks that are identified in Exhibit A, and those services and tasks that are reasonably necessary for the completion of the work identified in the Scope of Work.

Deliverables shall be submitted via electronic file and Consultant shall produce the file using Microsoft Office (MS) 365 applications (specifically, MS Word, MS PowerPoint, MS Excel). Signed reports shall be submitted in Adobe portable document format (PDF). Electronic AutoCAD 2010 or AutoCAD Civil 3D 2010 format shall be used for submittal of plans or other similar documents as specified by County's Contract Administrator. All deliverables shall be submitted in the language, format and design that are compatible with and completely transferable to County's computer, and that are acceptable to County's Contract Administrator. Newer versions of software may be used and other types of software used for analytical purposes may be authorized if approved in advance of the submittal by County's Contract Administrator. Failure to submit the required deliverables in the format required may be grounds for termination of the Agreement, as provided in ARTICLE XIV, Default, Termination, and Cancellation, herein.

Consultant shall perform the services and tasks required under this Agreement in a safe, professional, skillful, and workmanlike manner. Consultant is responsible for ensuring that its employees, as well as any subconsultant if applicable, perform the services and tasks required under this Agreement accordingly.

Consultant acknowledges that the work performed must meet the approval of County, and therefore County reserves the right to monitor the work to ensure its satisfactory completion.

ARTICLE II

Term: This Agreement shall become effective upon final execution by both parties hereto and shall expire one (1) year thereafter.

ARTICLE III

Compensation for Services: For services provided herein, including any deliverables that may be identified herein, County agrees to pay Consultant upon the satisfactory completion and County's acceptance of work, in arrears. Payment shall be made within forty-five (45) days following County's receipt and approval of itemized invoices identifying the services rendered.

For the purposes hereof, the billing rates shall be in accordance with Exhibit D, marked "Cost Proposal," incorporated herein and made by reference a part hereof.

Other direct costs, including but not limited to, printing, delivery charges, and copying costs, authorized herein shall be invoiced at Consultant's cost, with no markup, for the services rendered. Rates and fees, included in such direct costs, will require prior authorization from County's Contract Administrator or successor.

For the purposes of budgeting the Tasks in Exhibit A, the billing amounts for each Task are identified in Exhibit D, marked "Cost Proposal," incorporated herein and made by reference a part hereof. In the performance of the scope of services to be provided under this Agreement, Consultant may request to reallocate the expenses listed in Exhibit D among the various Scope of Work tasks and Other Direct Costs identified herein, subject to County Contract Administrator's prior written approval. In no event shall the total not-to-exceed amount of the Agreement, be exceeded.

The total amount of this Agreement shall not exceed \$99,253, inclusive of all costs, taxes, and expenses.

Itemized invoices shall follow the format specified by County and shall reference this Agreement number on their faces. Copies of documentation attached to invoices shall reflect Consultant's charges for the specific services billed on those invoices. Invoices shall be mailed to County at the following address:

Invoices shall be mailed to County at the following address:

County of El Dorado
Department of Transportation
2441 Headington Road
Placerville, California 95667

Attn.: Ashley Johnson
Senior Administrative Analyst

or to such other location as County directs.

In the event that Consultant fails to deliver, in the format specified, the deliverables required by this Agreement, County at its sole option may delay the payment for the period of time of the delay, cease all payments until such time as the required deliverables are received, or proceed as set forth below in ARTICLE XIV, Default, Termination, and Cancellation, herein.

ARTICLE IV

Taxes: Consultant certifies that as of today's date, it is not in default on any unsecured property taxes or other taxes or fees owed by Consultant to County. Consultant agrees that it shall not default on any obligations to County during the term of this Agreement.

ARTICLE V

Ownership of Data: Upon completion or earlier termination of all services under this Agreement, ownership and title to all reports, documents, plans, maps, specifications, estimates, compilations, photographs, videos, and any and all other materials or data produced or obtained as part of this Agreement will automatically be vested in County without restriction or limitation on their use, and no further agreement will be necessary to transfer ownership to County. Copies may be made for Consultant's records, but shall not be furnished to others without prior written authorization from County's Contract Administrator. Such deliverables shall be deemed works made for hire and all rights in copyright therein shall be retained by County. Consultant shall furnish County all necessary copies of data, including data stored in electronic format, needed to complete the review and approval process of the services and deliverables provided under this Agreement.

ARTICLE VI

Progress Reports: Consultant shall submit written progress reports to County's Contract Administrator at intervals that are commensurate with the requirements of the items of work and tasks being performed and based upon a mutually agreeable schedule. At a minimum, Consultant shall submit progress reports once per month. The reports shall be sufficiently detailed for County's Contract Administrator to determine if Consultant is performing to expectations and is on schedule, to provide communication of interim findings, and to afford occasions for airing difficulties or special circumstances encountered so that remedies can be developed. County's review of these reports seeks to ensure that Consultant's work meets a level of acceptability as determined by County's Contract Administrator, and Consultant shall be required to modify its work as necessary to meet that level of acceptability as defined by County's Contract Administrator. Progress reports shall include the total number of hours worked by Consultant and any authorized subconsultants and shall include descriptions of the tasks and work performed, including a description of any deliverables submitted during the reporting period and the anticipated tasks, work and deliverables proposed for the subsequent reporting period. Any invoices submitted by Consultant for payment under the terms of this Agreement shall include copies of the progress reports that relate to the services being billed on those invoices.

ARTICLE VII

Changes to Agreement: This Agreement may be amended by mutual consent of the parties hereto. Said amendments shall become effective only when in writing and fully executed by duly authorized officers of the parties hereto.

ARTICLE VIII

Consultant to County: It is understood that the services provided under this Agreement shall be prepared in and with cooperation from County and its staff. It is further understood that this Agreement does not create an exclusive relationship between County and Consultant, and Consultant may perform similar work or services for others. However, Consultant shall not enter into any agreement with any other party, or provide any information in any manner to any other party, that would conflict with Consultant's responsibilities or hinder Consultant's performance of services hereunder, unless County's Contract Administrator, in writing, authorizes that agreement or sharing of information.

ARTICLE IX

Confidentiality: Consultant shall maintain the confidentiality and privileged nature of all records, including billing records, together with any knowledge therein acquired, in accordance with all applicable state and federal laws and regulations, as they may now exist or may hereafter be amended or changed. Consultant, and all Consultant's staff, employees, and representatives, shall not use or disclose, directly or indirectly at any time, any said confidential information, other than to County's Transportation Department for the purpose of, and in the performance of, this Agreement. This confidentiality provision shall survive after the expiration or earlier termination of this Agreement.

ARTICLE X

Assignment and Delegation: Consultant is engaged by County for its unique qualifications and skills as well as those of its personnel. Consultant shall not subcontract, delegate, or assign services to be provided, in whole or in part, to any other person or entity without prior written consent of County.

ARTICLE XI

Independent Contractor: The parties intend that an independent consultant relationship will be created by this contract. Consultant is, and shall be at all times, deemed independent and shall be wholly responsible for the manner in which it performs services required by the terms of this Agreement. Consultant exclusively assumes responsibility for acts of its employees, agents, affiliates, and subconsultants, if any are authorized herein, as they relate to the services or work to be performed under this Agreement during the course and scope of their employment by Consultant. Those persons will be entirely and exclusively under the direction, supervision, and control of Consultant.

County may designate the tasks to be performed and the results to be accomplished under this Agreement, provide information concerning the work or services, approve or disapprove the final work product and/or services provided, and set deadlines for the completion of the work or services, but County will not control or direct the manner, means, methods, or sequence in which Consultant performs the work or services for accomplishing the results. Consultant understands and agrees that Consultant lacks the authority to bind County or incur any obligations on behalf of County.

Consultant, including any subconsultant or employees of Consultant, shall not receive, nor be eligible for, any benefits County provides for its employees, including, but not limited to, vacation pay, paid holidays, life insurance, health insurance, social security, disability insurance, pension, or 457 plans. Consultant shall not receive, nor be eligible for, workers' compensation, including medical and indemnity payments. County is not responsible for withholding, and shall not withhold, Federal Income Contribution Act amounts or taxes of any kind from any payments which it owes Consultant. Consultant shall not be subject to the work schedules or vacation periods that apply to County employees.

Consultant shall be solely responsible for paying its employees, and for withholding Federal Income Contribution Act amounts and other taxes, workers' compensation, unemployment compensation, medical insurance, life insurance, or any other benefit that Consultant provides for its employees.

Consultant acknowledges that it has no authority to bind the County or incur any obligations on behalf of the County with regard to any matter, and shall not make any agreements or representations on the County's behalf.

ARTICLE XII

Fiscal Considerations: The parties to this Agreement recognize and acknowledge that County is a political subdivision of the State of California. As such, County is subject to the provisions of Article XVI, Section 18 of the California Constitution and other similar fiscal and procurement laws and regulations and may not expend funds for products, equipment, or services not budgeted in a given fiscal year. It is further understood that in the normal course of County business, County will adopt a proposed budget prior to a given fiscal year, but that the final adoption of a budget does not occur until after the beginning of the fiscal year.

Notwithstanding any other provision of this Agreement to the contrary, County shall give notice of cancellation of this Agreement in the event of adoption of a proposed budget that does not provide for funds for the services, products, or equipment subject herein. Such notice shall become effective upon the adoption of a final budget, which does not provide funding for this Agreement. Upon the effective date of such notice, this Agreement shall be automatically terminated and County released from any further liability hereunder.

In addition to the above, should the Board of Supervisors during the course of a given year for financial reasons reduce or order a reduction in the budget for any County department for which services were contracted to be performed, pursuant to this paragraph in the sole discretion of County, this Agreement may be deemed to be canceled in its entirety subject to payment for services performed prior to cancellation.

ARTICLE XIII

Audit by California State Auditor: Consultant acknowledges that if total compensation under this Agreement is greater than \$10,000.00, this Agreement is subject to examination and audit by the California State Auditor for a period of three (3) years, or for any longer period required by law, after final payment under this Agreement, pursuant to California Government Code § 8546.7. In order to facilitate these potential examinations and audits, Consultant shall maintain, for a period of at least three (3) years, or for any longer period required by law, after final payment under the Agreement, all books, records, and documentation necessary to demonstrate performance under the Agreement.

ARTICLE XIV

Default, Termination, and Cancellation:

- A. 1. Termination by Default: If either party becomes aware of an event of default, that party shall give written notice of said default to the party in default (notice) that shall state the following:
 - a. The alleged default and the applicable Agreement provision, and
 - b. That the party in default has ten (10) days upon receiving the notice to cure the default (Time to Cure).

If the party in default does not cure the default within ten (10) days of the Time to Cure, then such party shall be in default and the party giving notice may terminate the Agreement by issuing a Notice of Termination. The party giving notice may extend the Time to Cure at their discretion. Any extension of Time to Cure must be in writing, prepared by the party in default for signature by the party giving notice, and must specify the reason(s) for the extension and the date in which the extension of Time to Cure expires.

2. If County terminates this Agreement, in whole or in part, for default:
 - a. County reserves the right to procure the goods or services, or both, similar to those terminated, from other sources and Consultant shall be liable to County for any excess costs for those goods or services. County may deduct from any payment due, or that may thereafter become due to Consultant, the excess costs to procure from an alternate source.
 - b. County shall pay Consultant the sum due to Consultant under this Agreement prior to termination, unless the cost of completion to County exceeds the funds remaining in the Agreement. In which case the overage shall be deducted from any sum due Consultant under this Agreement and the balance, if any, shall be paid to Consultant upon demand.
 - c. County may require Consultant to transfer title and deliver to County any completed work under the Agreement.
3. The following shall be events of default under this Agreement:
 - a. Failure by either party to perform in a timely and satisfactory manner any or all of its obligations under this Agreement.
 - b. A representation or warranty made by Consultant in this Agreement proves to have been false or misleading in any respect.
 - c. Consultant fails to observe and perform any covenant, condition or agreement on its part to be observed or performed under this Agreement, unless County agrees, in writing, to an extension of the time to perform before that time period expires.
 - d. A violation of ARTICLE XXI, Conflict of Interest.
- B. Bankruptcy: County may terminate this Agreement immediately in the case of bankruptcy, voluntary or involuntary, or insolvency of Consultant.
- C. Ceasing Performance: County may terminate this Agreement immediately in the event Consultant ceases to operate as a business or otherwise becomes unable to substantially perform any term or condition of this Agreement.

- D. Termination or Cancellation without Cause: County may terminate this Agreement, in whole or in part, for convenience upon thirty (30) calendar days' written Notice of Termination. If such termination is effected, County will pay for satisfactory services rendered before the effective date of termination, as set forth in the Notice of Termination provided to Consultant, and for any other services that County agrees, in writing, to be necessary for contract resolution. In no event, however, shall County be obligated to pay more than the total amount of the Agreement. Upon receipt of a Notice of Termination, Consultant shall promptly discontinue all services affected, as of the effective date of termination set forth in such Notice of Termination, unless the Notice directs otherwise.

ARTICLE XV

Notice to Parties: All notices to be given by the parties hereto shall be in writing and served by depositing same in the United States Post Office, postage prepaid and return receipt requested. Notices to County shall be in duplicate and addressed as follows:

To County:

County of El Dorado
Department of Transportation
2441 Headington Road
Placerville, California 95667

Attn.: Brian Mullens
Deputy Director of Maintenance and
Operations

With a copy to:

County of El Dorado
Chief Administrative Office
Procurement and Contracts Division
330 Fair Lane
Placerville, California 95667

Attn.: Michele Weimer
Procurement and Contracts Manager

or to such other location as County directs.

Notices to Consultant shall be addressed as follows:

Kimley-Horn and Associates, Inc.
555 Capitol Mall, Suite 300
Sacramento, California 95814

Attn.: Matthew D. Weir
Senior Vice President

or to such other location as Consultant directs.

ARTICLE XVI

Change of Address: In the event of a change in address for Consultant's principal place of business, Consultant's Agent for Service of Process, or Notices to Consultant, Consultant shall notify County in writing as provided in ARTICLE XV, Notice to Parties. Said notice shall become part of this Agreement upon acknowledgment in writing by County's Contract

Administrator, and no further amendment of the Agreement shall be necessary provided that such change of address does not conflict with any other provisions of this Agreement.

ARTICLE XVII

Indemnity: To the fullest extent allowed by law, Consultant shall defend, indemnify, and hold harmless the County and its officers, agents, employees, and representatives from and against any and all claims, actions, losses, injuries, damages, or expenses of every name, kind, and description, including litigation costs and reasonable attorney's fees incurred, brought for or on account of, injury to or death of any person, including but not limited to workers, County employees, officers, or agents, and the public, or damage to property, which arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Consultant, its officers, agents, employees, volunteers, representatives, contractors, and subcontractors. This duty of Consultant includes the duty of defense, inclusive of that set forth in California Civil Code Section 2778 and is subject to any limit provided for in Civil Code Section 2782.8(a) of the cost to defend charged to Consultant. Each party shall notify the other party immediately in writing of any claim or damage related to activities performed under this Agreement, provided that the County's failure to immediately or timely notify Consultant does not limit or waive Consultant's defense and indemnity obligations in this Article. The parties shall cooperate with each other in the investigation and disposition of any claim arising out of the activities under this Agreement.

The insurance obligations of Consultant are separate, independent obligations under the Agreement, and the provisions of this defense and indemnity are not intended to modify nor should they be construed as modifying or in any way limiting the insurance obligations set forth in the Agreement.

Nothing herein shall be construed to seek indemnity in excess of that permitted by Civil Code section 2782, et seq. In the event any portion of this Article is found invalid, the Parties agree that this Article shall survive and be interpreted consistent with the provisions of Civil Code section 2782, et seq.

ARTICLE XVIII

Insurance: Consultant shall provide proof of a policy of insurance satisfactory to County's Risk Management Division and documentation evidencing that Consultant maintains insurance that meets the following requirements:

- A. Full Workers' Compensation and Employers' Liability Insurance covering all employees of Consultant as required by law in the State of California.
- B. Commercial General Liability Insurance of not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage and a \$2,000,000 aggregate limit. County, including, without limitation, its officers, officials, employees, and volunteers shall be named as an additional insured on ISO form CG 2010 1185, or its equivalent.

- C. Automobile Liability Insurance of not less than \$1,000,000 is required in the event motor vehicles are used by Consultant in performance of the Agreement.
- D. In the event Consultant is a licensed professional or professional consultant and is performing professional services under this Agreement, Professional Liability Insurance is required with a limit of liability of not less than \$1,000,000.
- E. Consultant shall furnish a certificate of insurance satisfactory to County's Risk Management Division as evidence that the insurance required above is being maintained.
- F. The insurance will be issued by an insurance company acceptable to County's Risk Management Division or be provided through partial or total self-insurance likewise acceptable to the Risk Management Division.
- G. Consultant agrees that the insurance required herein shall be in effect at all times during the term of this Agreement. In the event said insurance coverage expires at any time or times during the term of this Agreement, Consultant agrees to provide at least thirty (30) days prior to said expiration date, a new certificate of insurance evidencing insurance coverage as provided for herein for not less than the remainder of term of the Agreement, or for a period of not less than one (1) year. New certificates of insurance are subject to the approval of Risk Management and Consultant agrees that no work or services shall be performed prior to the giving of such approval. In the event Consultant fails to keep in effect at all times insurance coverage as herein provided, County may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event.
- H. The certificate of insurance must include the following provisions stating that:
 - 1. The insurer will not cancel the insured's coverage without thirty (30) days prior written notice to County; and
 - 2. The County of El Dorado, its officers, officials, employees, and volunteers are included as additional insured, on an additional insured endorsement, but only insofar as the operations under this Agreement are concerned. This provision shall apply to the general liability policy.
- I. Consultant's insurance coverage shall be primary insurance in respect to County, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by County, its officers, officials, employees, or volunteers shall be in excess of Consultant's insurance and shall not contribute with it.
- J. Any deductibles or self-insured retentions must be declared to and approved by County. At the option of County, either: The insurer shall reduce or eliminate such deductibles or self-insured retentions in respect to County, its officers, officials,

employees, and volunteers; or Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

- K. Any failure to comply with the reporting provisions of the policies shall not affect coverage provided to County, its officers, officials, employees, or volunteers.
- L. The insurance companies shall have no recourse against the County of El Dorado, its officers, and employees or any of them for payment of any premiums or assessments under any policy issued by any insurance company.
- M. Consultant's obligations shall not be limited by the foregoing insurance requirements and shall survive the expiration of this Agreement.
- N. In the event Consultant cannot provide an occurrence policy, Consultant shall provide insurance covering claims made as a result of performance of this Agreement for not less than three (3) years following completion of performance of this Agreement.
- O. The certificate of insurance shall meet such additional standards as may be determined by the contracting County department, either independently or in consultation with County's Risk Management Division as essential for protection of County.

ARTICLE XIX

Force Majeure: Neither party will be liable for any delay, failure to perform, or omission under this Agreement that is due to any cause that it is beyond its control, not due to its own negligence, and cannot be overcome by the exercise of due diligence. In that event, the affected party will:

1. Promptly give written notice to the other of the fact that it is unable to so perform and the cause(s) that is beyond its control.
2. Once the cause(s) has ceased, provide written notice to the other party and immediately resume its performance under this Agreement.

For purposes of this Article, "cause that is beyond its control" includes labor disturbances, riots, fires, earthquakes, floods, storms, lightning, epidemics, war, disorders, hostilities, expropriation or confiscation of properties, failure of and delays by carriers, interference by civil or military authorities, whether legal or de facto, and whether purporting to act under some constitution, decree, or law, or otherwise, or acts of God.

ARTICLE XX

Waiver: No failure on the part of the parties to exercise any rights under this Agreement, and no course of dealing with respect to any right hereunder, shall operate as a waiver of that right, nor shall any single or partial exercise of any right preclude the exercise of any other right. The remedies herein provided are cumulative and are not exclusive of any other remedies provided by law.

ARTICLE XXI

Conflict of Interest: The parties to this Agreement have read and are aware of the provisions of Government Code Section 1090 et seq. and the Political Reform Act of 1974 (Section 87100 et seq.), relating to conflict of interest of public officers and employees. Individuals who are working for Consultant and performing work for County and who are considered to be consultant within the meaning of Title 2, California Code of Regulations, Section 18700.3, as it now reads or may thereafter be amended, are required to file a statement of economic interest in accordance with County's Conflict of Interest Code. County's Contract Administrator shall at the time this Agreement is executed make an initial determination whether or not the individuals who will provide services or perform work pursuant to this Agreement are consultants within the meaning of the Political Reform Act and County's Conflict of Interest Code. Statements of economic interests are public records subject to disclosure under the California Public Records Act.

Consultant covenants that during the term of this Agreement neither it, or any officer or employee of Consultant, has or shall acquire any interest, directly or indirectly, in any of the following:

1. Any other contract connected with, or directly affected by, the services to be performed by this Agreement.
2. Any other entities connected with, or directly affected by, the services to be performed by this Agreement.
3. Any officer or employee of County that are involved in this Agreement.

If Consultant becomes aware of a conflict of interest related to this Agreement, Consultant shall promptly notify County of the existence of that conflict, and County may, in its sole discretion, immediately terminate this Agreement by giving written notice of termination specified in ARTICLE XIV, Default, Termination, or Cancellation.

ARTICLE XXII

Nondiscrimination:

- A. County may require Consultant's services on projects involving funding from various state and/or federal agencies, and as a consequence, Consultant shall comply with all applicable nondiscrimination statutes and regulations during the performance of this Agreement including but not limited to the following: Consultant and its employees and representatives shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, genetic information, military or veteran status, marital status, age, gender, gender identity, gender expression, sexual orientation, or sex; Consultant shall, unless exempt, comply with the applicable provisions of the Fair Employment and Housing Act (Government Code, Sections 12900 et seq.) and applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Sections 11000 et seq.); the applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12990, set forth in Subchapter 5 of Chapter 5 of Division 4.1 of Title 2 of the California

Code of Regulations incorporated into this Agreement by reference and made a part hereof as if set forth in full; and Title VI of the Civil Rights Act of 1964, as amended. Consultant and its employees and representatives shall give written notice of their obligations under this clause as required by law.

- B. Where applicable, Consultant shall include these nondiscrimination and compliance provisions in any of its agreements that affect or are related to the services performed herein.
- C. Consultant's signature executing this Agreement shall provide any certifications necessary under the federal laws, the laws of the State of California, including but not limited to Government Code Sections 12990 and Title 2, California Code of Regulations, Section 11102.

ARTICLE XXIII

California Residency (Form 590): If Consultant is a California resident, Consultant must file a State of California Form 590, certifying its California residency or, in the case of a limited liability company or corporation, certifying that it has a permanent place of business in California. Consultant will be required to submit a Form 590 prior to execution of this Agreement, or County shall withhold seven (7) percent of each payment made to Consultant during the term of this Agreement. This requirement applies to any agreement/contract exceeding \$1,500.

ARTICLE XXIV

County Payee Data Record Form: All independent contractors or corporations providing services to County who do not have a Department of the Treasury Internal Revenue Service Form W-9 (Form W-9) on file with County must file a County Payee Data Record Form with County.

ARTICLE XXV

Business License: County's Business License Ordinance provides that it is unlawful for any person to furnish supplies or services, or transact any kind of business in the unincorporated territory of El Dorado County without possessing a County business license unless exempt under County Ordinance Code Section 5.08.070. Consultant warrants and represents that it shall comply with all of the requirements of County's Business License Ordinance, where applicable, prior to beginning work under this Agreement and at all times during the term of this Agreement.

ARTICLE XXVI

Licenses: Consultant hereby represents and warrants that Consultant and any of its subconsultants employed under this Agreement has all the applicable licenses, permits, and certifications that are legally required for Consultant and its subconsultants to practice its profession or provide the services or work contemplated under this Agreement in the State of California. Consultant and its subconsultants shall obtain or maintain said applicable licenses, permits, or certificates in good standing throughout the term of this Agreement.

ARTICLE XXVII

California Forum and Law: Any dispute resolution action arising out of this Agreement, including, but not limited to, litigation, mediation, or arbitration, shall be brought in El Dorado County, California, and shall be resolved in accordance with the laws of the State of California.

ARTICLE XXVIII

Contract Administrator: The County Officer or employee with responsibility for administering this Agreement Brian Mullens, Deputy Director of Maintenance and Operations, Department of Transportation, or successor.

ARTICLE XXIX

Authorized Signatures: The parties to this Agreement represent that the undersigned individuals executing this Agreement on their respective behalf are fully authorized to do so by law or other appropriate instrument and to bind upon said parties the obligations set forth herein.

ARTICLE XXX

Electronic Signatures: Each party agrees that the electronic signatures, whether digital or encrypted, of the parties included in this Agreement, are intended to authenticate this writing and to have the same force and effect as manual signatures. Electronic Signature means any electronic visual symbol or signature attached to or logically associated with a record and executed and adopted by a party with the intent to sign such record, including facsimile or email electronic signatures, pursuant to the California Uniform Electronic Transactions Act (Cal. Civ. Code §§ 1633.1 to 1633.17) as amended from time to time.

ARTICLE XXXI

Partial Invalidity: If any provision, sentence, or phrase of the Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions, sentences, and phrases will continue in full force and effect without being impaired or invalidated in any way.

ARTICLE XXXII

No Third-Party Beneficiaries: Nothing in this Agreement is intended, nor will be deemed, to confer rights or remedies upon any person or legal entity not a party to this Agreement.

ARTICLE XXXIII

Counterparts: This Agreement may be executed in one or more counterparts, each of which shall be an original and all of which together shall constitute one and the same instrument.

ARTICLE XXXIV

Entire Agreement: This document and the documents referred to herein or exhibits hereto are the entire Agreement between the parties, and they incorporate or supersede all prior written or oral agreements or understandings.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates indicated below.

--COUNTY OF EL DORADO--

By: _____

Dated: _____

Board of Supervisors
"County"

Attest:
Kim Dawson
Clerk of the Board of Supervisors

By: _____
Deputy Clerk

Dated: _____

--KIMLEY-HORN AND ASSOCIATES, INC.--

By: *Matthew D. Weir*
Matthew D. Weir (Jun 3, 2025 16:10 PDT)
Matthew D. Weir P.E. #70216
Senior Vice President
"Consultant"

Dated: 06/03/2025

Kimley-Horn and Associates, Inc.

Exhibit A

Scope of Work

Consultant shall provide project management and preliminary design engineering services, to determine proper communication (i.e. radio cellular or fiber optic) between signals to provide efficient coordination along the various individual corridors identified in Exhibit B with the ability of transmitting the data and video to Department of Transportation Traffic Operations Center (TOC) located at 2441 Headington Road. Consultant shall identify all equipment upgrades at the various signals that will need to be upgraded and include digital message sign locations. If the plan already exists in the current 2022 Intelligent Transportation Systems (ITS) Master Plan identified in Exhibit C, the Consultant shall update the equipment information for each corridor. All work shall be supervised by an engineer licensed in the State of California.

Task 1 – Project Administration and Meetings

Consultant shall provide general project administration, including management of project staff, quality control, and project accounting.

Consultant shall participate in up to three (3) in-person meetings, one (1) of which is assumed to be a project kick-off meeting, with County staff. Consultant shall be responsible for developing meeting agendas, preparing draft meeting notes, distributing draft meeting notes for review, and incorporating comments into the final meeting notes. The notes shall contain discussion points, major decisions and directions, action items, person(s) responsible, and due dates. Consultant shall also be responsible for preparing monthly progress reports, invoices, and schedule updates for County.

Deliverables:

- Up to three (3) In-person meetings, with one (1) being a Project kickoff meeting
- Meeting agendas, meeting materials, and draft meeting notes (electronic MSWord format)
- Final meeting notes (electronic PDF format)
- Project Schedule (with updates)
- Progress Reports and invoices

Schedule:

- Progress Reports and invoices shall be submitted to County monthly for the duration of the Agreement.

Task 2 – Data Collection and Field Review

County will provide Consultant with the following:

- Inventory of existing traffic signal infrastructure, including cabinet type, traffic signal controller, vehicle detection system, battery backup systems, and network switches.
- Record drawings/as-builts of County-owned traffic signal and communications infrastructure
- TOC hardware and software information (communications network layout and architecture, traffic signal system)
- Planned/programmed improvement projects

Consultant shall complete a field review at up to forty-seven (47) signalized intersections in accordance with Exhibit B. Field review shall be focused on observations of traffic signal and ITS infrastructure, which shall include at a minimum, existing communications equipment (network switches, fiber patch panels), closed-circuit television (CCTV) cameras, video detection systems, controllers, and any other readily apparent above ground traffic signal infrastructure. Field review shall focus exclusively on the controller cabinets.

Consultant shall identify opportunities for deployment of wireless systems along potential communications routes. Consultant shall observe and document the following conditions in a field inventory summary and photo log:

- Structures within County right-of-way for mounting of wireless communications (i.e., traffic signal poles, street light poles)
- Apparent lines of sight
- Vegetation that may impact line of sight

Deliverables:

- Field inventory summary

Task 3 – Development of Communications System Alternatives

Consultant shall develop up to two (2) communications system alternatives for each of the eight (8) corridors identified in Exhibit B, anticipated to consist of the following:

- Identification of roadway segment limits with connection to the County TOC to each of the project traffic signals, the pathway for the proposed communication strategies, and proposed communication media
- Evaluation of communications medium based on the County's needs, bandwidth needs, existing and planned infrastructure (traffic signal controller, CCTV cameras, video detection systems, battery backup system (BBS), changeable message signs (CMS), bluetooth/ wi-fi readers), global positioning system (GPS)-based emergency vehicle preemption (EVP) system, accessible pedestrian signals (APS), and implementation feasibility based on assessment of existing (baseline) conditions
- A communications system map and system architecture exhibits for each alternative, presenting proposed communications connections from County's TOC to County-owned and maintained traffic signals

- Recommendations for specific ITS equipment or materials, including pull boxes, fiber-optic splice vaults, conduit, innerducts, traffic signal controller switches, fiber-optic splice cases, patch panels, wireless modems, and wireless antennas and receivers

Consultant shall prepare communication system concepts in the form of system block diagrams for each of the project corridors. These diagrams will present the existing and proposed connections for field-to-center communications and shall include the TOC elements, field communications equipment, and ITS field devices; the system diagrams will note the components that are existing and proposed.

Consultant shall prepare high level opinions of probable construction costs (OPCC) based on the system block diagrams. These estimates shall consider design and implementation (including any retrofitting or new construction items), and recurring maintenance (cellular data plan).

Deliverables:

- Up to two (2) communications system alternatives for each of the eight (8) corridors (AutoCAD format for diagrams and electronic PDF format for recommendations)
- OPCC (electronic Excel format)

Task 4 – Documentation

Consultant shall prepare a draft Communications Master Plan Report. This document shall present communications recommendations for each of the eight (8) project corridors identified in Exhibit B. Consultant shall prepare and submit a copy of the Draft Report in MSWord format to the County for review.

Consultant shall address one (1) set of consolidated, non-conflicting County comments on the draft Communications Master Plan Report and shall prepare and submit an electronic (PDF) copy of the Final Report.

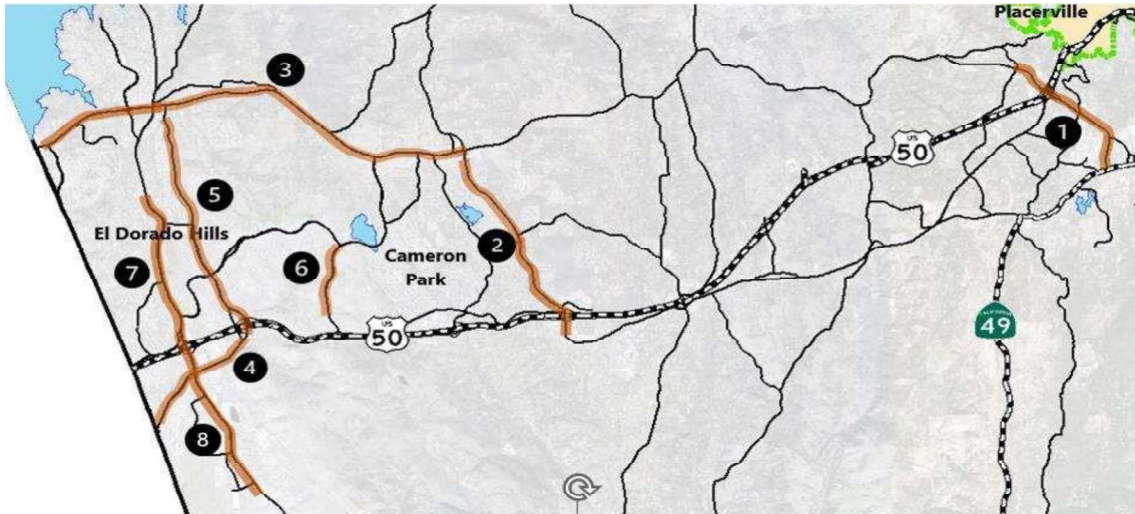
Deliverables:

- One (1) draft Communications Master Plan Report (electronic MSWord format).
- One (1) final Communications Master Plan Report (electronic PDF format).

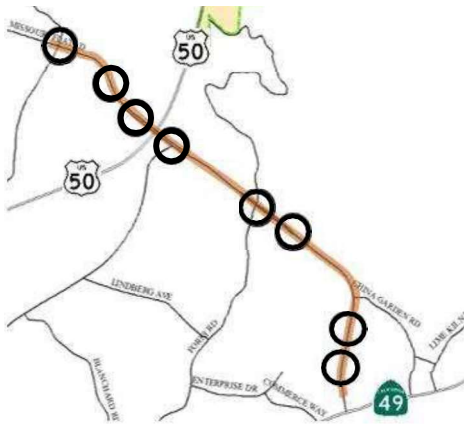
Kimley-Horn and Associates, Inc.

Exhibit B

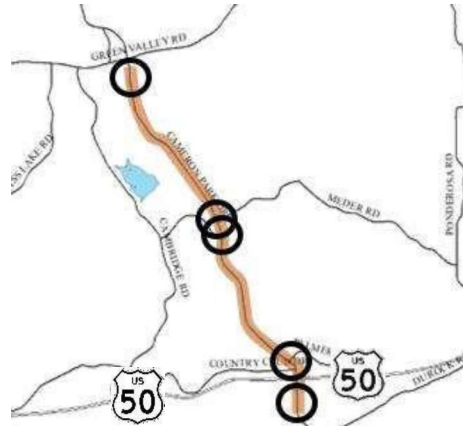
Corridor Map



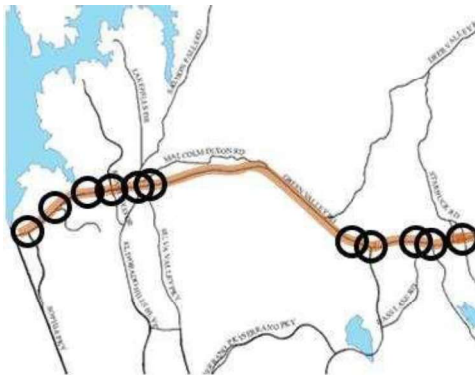
- 1 Missouri Flat Rd from El Dorado Rd to Enterprise Dr



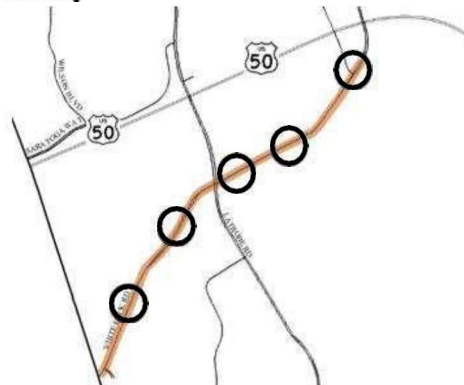
- 2 Cameron Park Dr from Coach Ln to La Canada Dr



- 3 Green Valley Rd from Sophia Pkwy to Silva Valley Pkwy

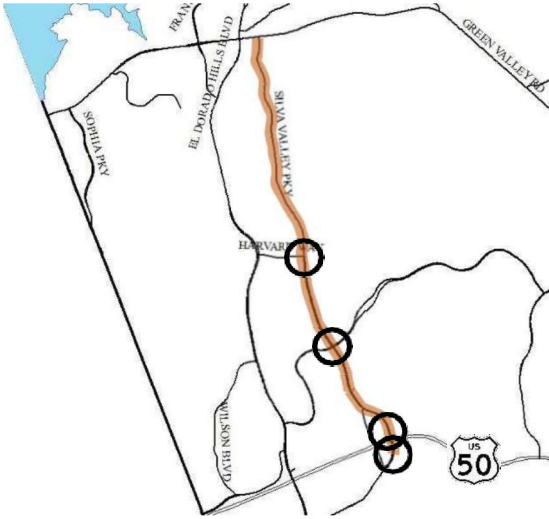


- 4 White Rock Rd from Stonebriar Dr to Clarksville Crossing



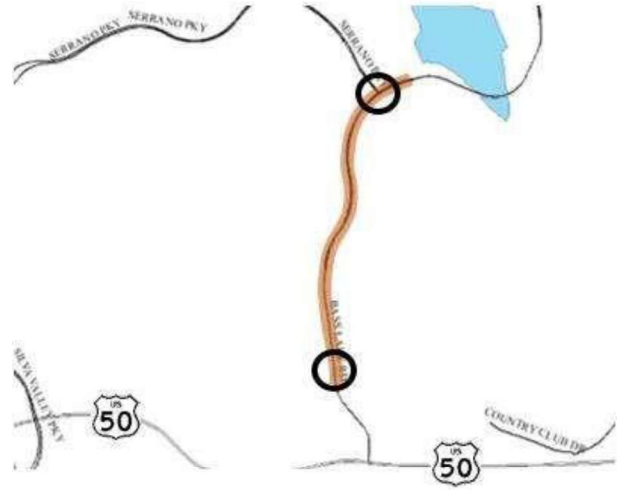
5

Silva Valley Pkwy from US Highway 50 EB Ramp to Green Valley Rd



6

Bass Lake Rd from Country Club Dr to Serrano Pkwy



7

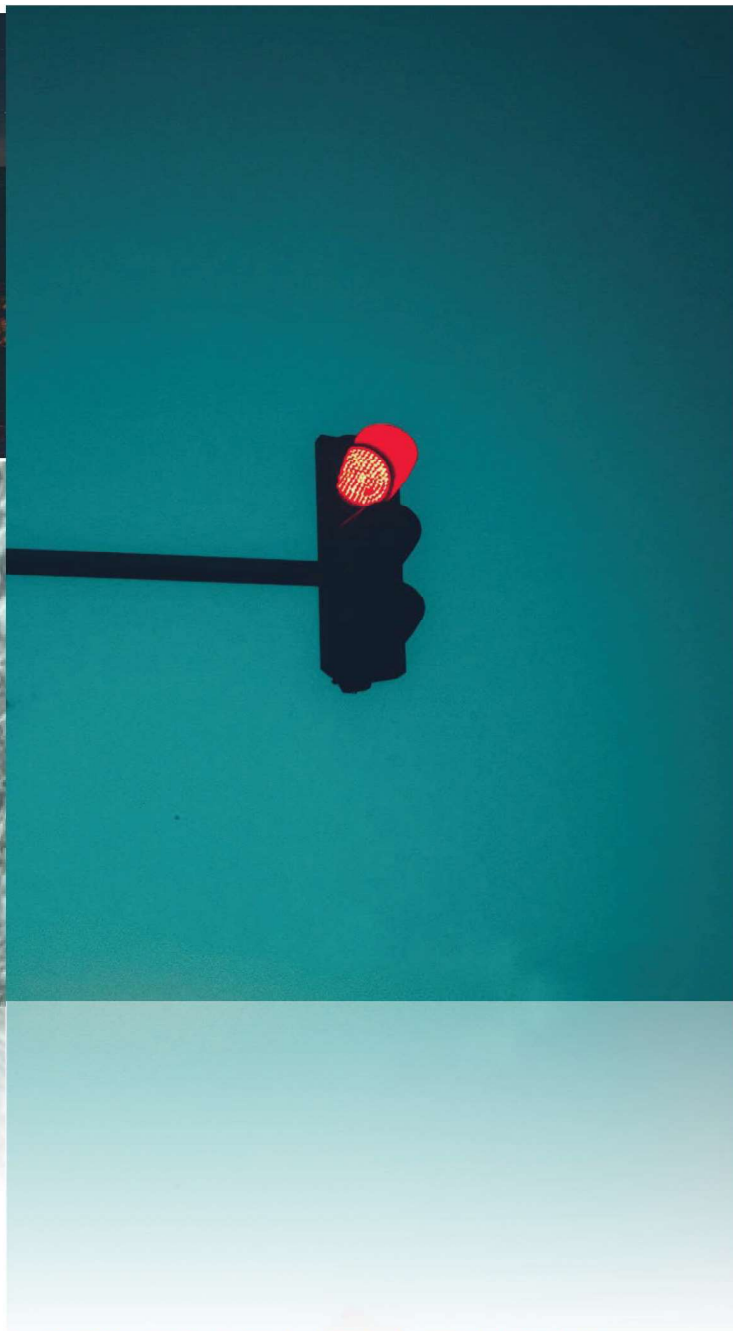
El Dorado Hills Blvd from US Highway 50 to Governor Dr



8

Latrobe Rd from US Highway 50 to Industrial Blvd





El Dorado County

ITS MASTER PLAN IMPLEMENTATION

April 2022

El Dorado County Department of Transportation



EXECUTIVE SUMMARY

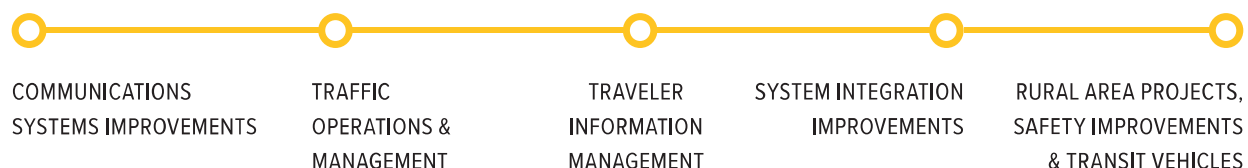
Rapid growth and geographic constraints combine to place a unique burden on the transportation network in El Dorado County (County). On the West Slope, most of the County's traffic funnels down arterials like El Dorado Hills Boulevard, Cameron Park Drive, and Missouri Flat Road, connects to Highway 50, and finally transfers back to an arterial to the final destination.

While these local roadways can and do carry high volumes, closely-spaced signals, lack of synchronization, and operational inefficiencies (e.g. allocation of green time) hamper corridor progression and frustrate drivers. Occasionally, incidents (i.e., collisions, hazards, etc.) or planned events divert traffic off of Highway 50 and onto local roadways, exacerbating operational challenges.

El Dorado County initiated development of an Intelligent Transportation Systems (ITS) Master Plan with a vision of strategic deployment of technology and strategies to improve mobility and circulation for the traveling public. ITS offers an opportunity to better manage existing infrastructure with relatively low-cost investments. The desired outcome of this project was a plan that achieves the following goals:

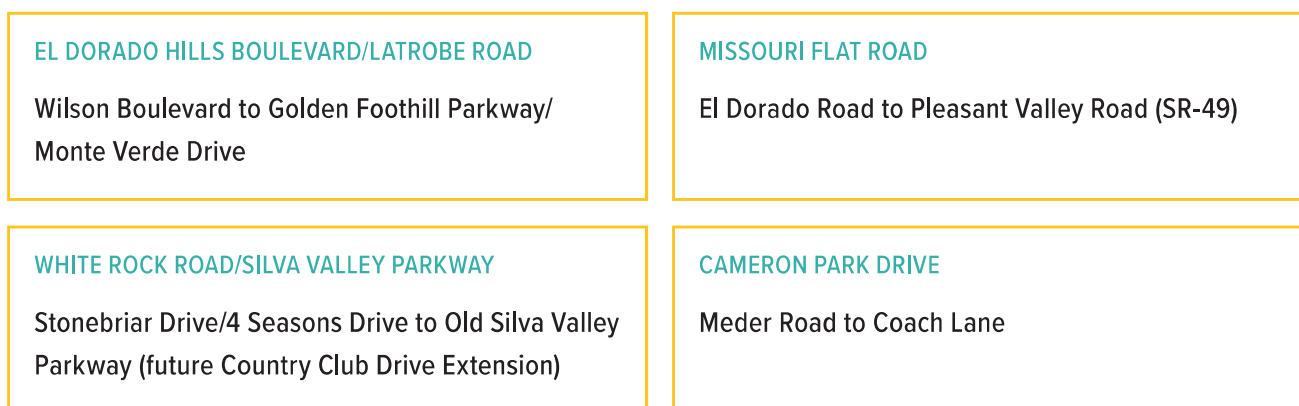


In order to meet these goals, the County devised five key strategies for which specific needs were identified:



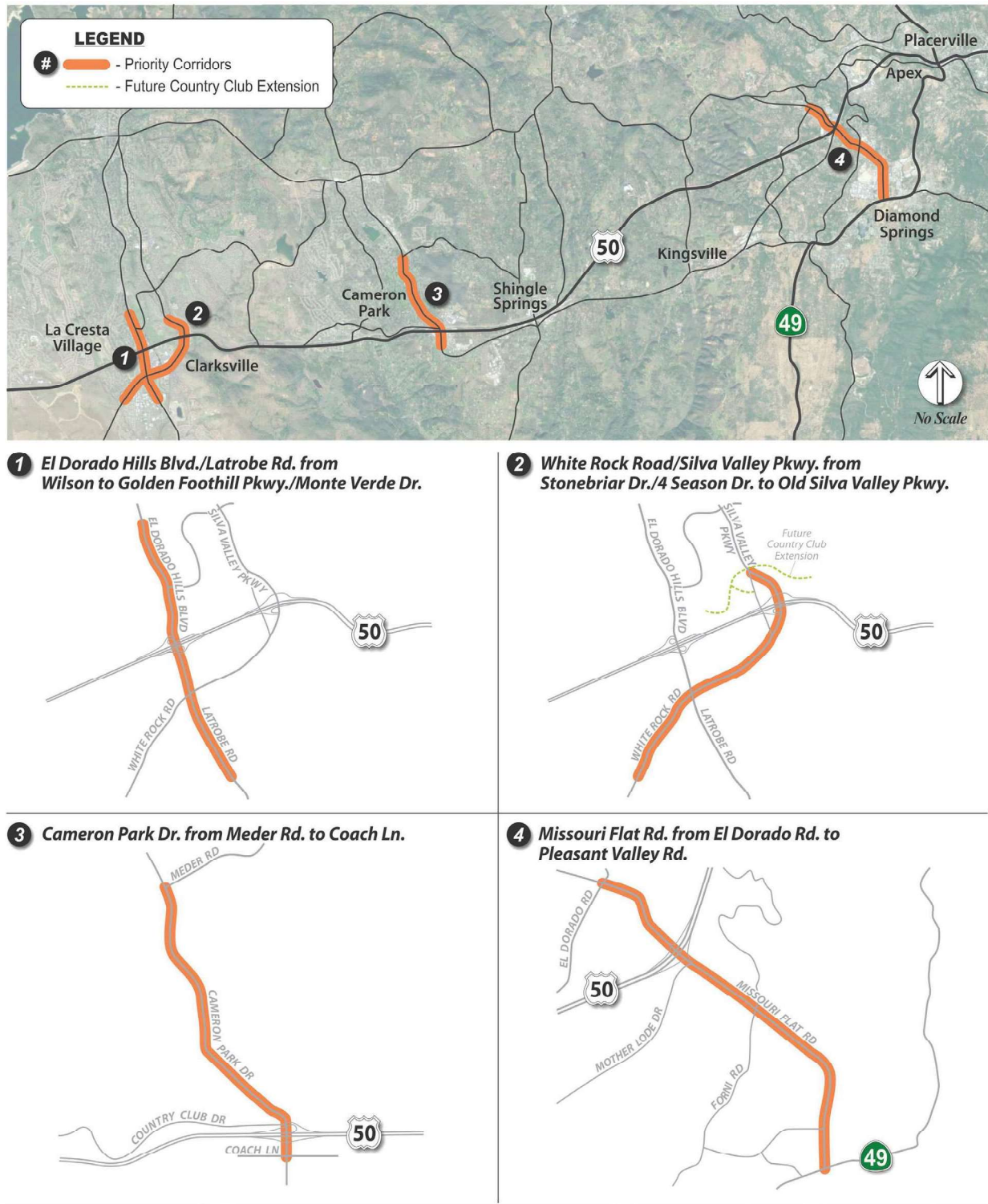
County staff developed a list of projects, cost estimates, and an implementation plan to address these needs. The entire countywide need (short, intermediate, and long term) is estimated at \$22,880,705, which is anticipated to be met through a combination of federal, regional, local, and private sources.

To address needs in developed areas, ITS Master Plan identifies four priority corridors:



Portions of each of these roadways are identified in the County's Traffic Impact Fee (TIF) Program as not meeting the County's General Plan roadway operational thresholds under future year 2040 conditions (*El Dorado County Traffic Impact Fee (TIF) Program Update: Appendix A Needs Analysis Methodology Technical Memorandum and Study Findings and Summary of Effort Technical Memorandum*, December 8, 2020).

Figure 1. ITS Priority Corridors



As a first step, the County has decided to start with one ITS deployment and evaluate its effectiveness before proceeding to other corridors. County staff reviewed the priority corridors suggested by stakeholders participating in the ITS Master Plan development process. Stakeholders felt that El Dorado Hills would benefit the most from an initial ITS deployment. The first two priority corridors of El Dorado Hills Boulevard/Latrobe Road and White Rock Road/Silva Valley Parkway will demonstrate a number of different ITS strategies. The County will deploy a combination of ITS investments, including communications infrastructure, dynamic message signs (DMS), signal coordination, systems integration, and signal hardware upgrades. These upgrades include Closed Circuit Television cameras (CCTV), GPS-based emergency vehicle preemption (EVP)/transit signal priority (TSP) system, battery backup systems (BBS), and accessible pedestrian signals (APS). Additionally, the County will invest in a virtual traffic operations center (TOC), advanced traffic management system (ATMS), and develop a communications plan.

For additional information on the potential ITS elements see *Smart Region Technology and Mobility Master Plan*, SACOG, February 2019 and *Smart Region El Dorado County Technology Implementation Plan*, February 2019.

Contained within the El Dorado County ITS Master Plan is the El Dorado Hills ITS Plan, which includes a specific project list and cost estimates.

This El Dorado County ITS Master Plan should be updated every 5 to 7 years to accurately represent the County's ITS and maintenance needs, update/reprioritize the project list, and update cost estimates. This update will coincide with the 5-Year Major Update to the TIF Program to be consistent with the update provisions described in the Mitigation Fee Act.

BACKGROUND AND CHALLENGES

The County is part of a rapidly growing region just northeast of Sacramento, and is the host to both tourist traffic and heavy daily commuter traffic. US 50 is the sole major limited access freeway corridor in the County, and much of the traffic volume that El Dorado County experiences is a result of heavy US 50 congestion. There is little parallel capacity, which negatively impacts level of service (LOS) on County streets and highways. There are many capacity-improvement projects underway on US 50 but there are currently no systems in place in the County with the capability to proactively manage traffic.

The County is spread out over a vast area (almost 1800 square miles, about twice the size of Sacramento County) that includes both rural and urban areas. El Dorado County is largely rural. Because of the width and size of the County, it is difficult to respond to signal/controller and system operations or maintenance calls immediately.

NEED FOR INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

There are two main sources of traffic delay: the first one and most studied being when travel demand grows larger than the existing roadway capacity often during regular peak travel periods. Generally, the way to address this recurring congestion has involved either widening of existing roadway segments to increase capacity, or the addition or improvement of alternate routes that offer travel time savings over the primary route during periods of congestion. The other cause of traffic delay occurs when an event reduces the available capacity due to traffic collisions, construction work zones, adverse weather, wildfire, flooding, or planned

special events, to the point where the roadway no longer has enough capacity to support the existing demand. These “events” can be planned or unplanned but are considered non-recurrent sources of congestion and can dramatically reduce reliability of the transportation system, which can cause significant disruptions to commuters and freight shipments. According to Federal Highway Administration (FHWA), over half of the annual delay (i.e., traffic congestion) experienced on state highways is due to non-recurring causes. Additionally, non-recurring delay can be both directly and indirectly related to new development.

The operational benefits of ITS is well documented^[1]. Delay reductions range between 2-20% depending on the type of ITS deployment. For example, a summary of the literature of ITS operational benefits of Adaptive Traffic Control System (ATCS) types indicates on average ATCS improves travel time by more than 10 percent. In areas with particularly outdated signal timing, improvements can be 50 percent or more. ATCS deployment is also a cost-effective strategy to improve safety (i.e., reduce vehicle collisions). For instance, an assessment from Virginia and Pennsylvania determined that ATCS systems reduced the propensity of severe plus moderate and minor injury crashes between 4% and 12% depending on the type of system. ITS strategies also help to reduce the duration of incident clearance. Of 121,793 incidents across 4.5 years in New South Wales, Australia, application of CCTV reduced incident duration by 4.5 minutes, with a 9% reduction in duration variance. This is attributed to early detection (decreasing the response time) and a more uniform response (decreasing the variability of the time needed to clear the incident).

Generally, developer fees, including the El Dorado County Traffic Impact Fee (TIF), are calculated based on what infrastructure is necessary to accommodate travel demand during the regular periods of high traffic demand, such as weekday commute periods. These needs are predictable and translatable to system capacity needs under either existing (observed traffic counts) or future (travel forecasting) conditions. For a fraction of the cost, ITS strategies can serve to maximize the operational benefits of capacity increasing improvements by supplementing their operational benefits and prolonging the effectiveness of the capacity investment itself. Conversely, given the unpredictable nature of non-recurring congestion, strategies to address non-recurrent congestion cannot rely on adding pavement (physical capacity). These are dependent on communicating existing traffic conditions and travel time predictions to travelers in real-time, and communication between infrastructure along parallel routes allowing for detour and signal coordination designed to flush increased traffic demand through the affected corridor.

[1] <https://www.itsbenefits.its.dot.gov/its/benecost.nsf/0/03BDC39B85A6A78C8525725F00605A8A>

https://www.itskrs.its.dot.gov/sites/default/files/doc/Highlighted%20ITS%20Benefits%20Infographic_FINAL%20508%20compliant_07_01_21.pdf

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doi:10.1177/0361198118775870

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INTELLIGENT TRANSPORTATION SYSTEMS (ITS) APPLICATIONS IN EL DORADO COUNTY

El Dorado County's geographic challenges identify a substantial need for coordinating the major corridors in the County (arterials, US 50 and State Route 49) that carry heavy traffic. At a minimum, more efficient traffic management techniques are needed to relieve recurring peak hour weekday and seasonal weekend congestion. However, they are also needed to facilitate the safe and timely evacuation of residents and visitors along the US 50 corridor, including disadvantaged and vulnerable populations, during a catastrophic wildfire event. In particular, Integrated Corridor Management (ICM) strategies that increase throughput capacity and operations when issues occur on portions of US 50 that are served by local County parallel roadways. This includes concurrent management of both freeway and local parallel County roadways through traveler information systems (variable electronic message signs, CCTV, etc.), signal upgrades for adaptive signal controls, optimized signal timing, and coordination. These ITS improvements are relatively low-cost, high-benefit improvements that offer immediate delay reduction and travel time savings during recurring (day-to-day) congestion as well as non-recurring congestion (incidents, weather events, evacuation events etc.).

The importance of ITS for addressing non-recurring congestion particularly in the context of wildfire risk, flooding, as well as collisions in El Dorado County cannot be understated. Due to the impacts of climate change, wildfire intensity continues to increase in California. El Dorado County is not immune to this trend as evident by the recent wildfires . This includes ITS deployment to support Integrated Corridor Management (ICM) strategies that increase throughput capacity and operations when issues occur on portions of US 50 that are served by local County parallel roadways. Deployment of ITS would allow for local roadways parallel to US 50 to coordinate operations and increase throughput capacity such that they could

act as pressure release valves for US 50 during times of reduced capacity and increased delay from both recurring and non-recurring congestion. This would best be implemented along signalized corridors parallel to US 50 that span multiple interchanges, allowing for multiple points exit and re-entry to US 50 depending on where the capacity reduction has occurred. This would come from ITS infrastructure investment into local roadways that would not be considered alternate routes during normal operation but would provide travel time savings when capacity on US 50 is constrained.

Portions of the four priority corridors identified in this ITS Master Plan have been identified in the County's Traffic Impact Fee (TIF) Program as not meeting the County's General Plan roadway operational thresholds under future year 2040 conditions (*El Dorado County Traffic Impact Fee (TIF) Program Update: Appendix A Needs Analysis Methodology Technical Memorandum and Study Findings and Summary of Effort Technical Memorandum*, December 8, 2020).

Intelligent transportation systems (ITS) promise to "take the roadway network to the next level" through the use of various technologies and strategies. Capital improvement program (CIP) projects are intended to provide the necessary roadway capacities to meet the needs of planned growth. ITS projects compliment the CIP by maximizing the efficient use of existing capacity, improving traffic flow, and enhancing safety. ITS systems can improve emergency response times, enable better evacuation planning and emergency management, and disseminate information to travelers using the cloud. The implementation of ITS elements within the CIP will result in reduced traffic congestion and improve the driving experience for commuters and tourists.

GOALS AND OBJECTIVES

El Dorado County initiated development of an Intelligent Transportation Systems (ITS) Master Plan with a vision of strategic deployment of technology and strategies to improve mobility and circulation for the traveling public. ITS offers the opportunity to better manage existing infrastructure with technology to meet local and regional needs. The desired outcome of this project was a plan that achieves the following goals:

1 Details a short, intermediate and long-term ITS deployment strategy commensurate with the regional planning process.

2 Utilizes the existing transportation infrastructure to best utilize existing resources for deploying future ITS projects that maximize funding.

3 Recommend ITS projects to:

- Improve County-wide signal operations through local and multijurisdictional coordinated signal timing and signal interconnects
- Provide County-wide traffic monitoring
- Improve public safety and incident response times
- Provide the County stakeholders with the tools to more efficiently and effectively manage the existing transportation network
- Provide deployment strategies and phasing with some operations and maintenance cost opinions
- Prioritize the ITS deployments based on the needs of the priority corridors with preliminary cost opinions and some expected benefits.
- Develop detailed deployment cost opinions for the phased deployment of ITS strategies (although costs are in constant flux, these planning level cost estimates are considered reasonable based on local construction cost experience).
- Integrate El Dorado County ITS into other regional ITS deployments such as STARNET for the Sacramento region

STRATEGIES & TACTICS

El Dorado County staff identified five overall strategies most applicable to the County's current needs. These strategies and their corresponding needs are summarized below, and were used to guide the project list:

STRATEGY 1	COMMUNICATIONS SYSTEMS IMPROVEMENTS
STRATEGY 2	TRAFFIC OPERATIONS AND MANAGEMENT
STRATEGY 3	TRAVELER INFORMATION MANAGEMENT
STRATEGY 4	SYSTEM INTEGRATION IMPROVEMENTS
STRATEGY 5	RURAL AREA PROJECTS, SAFETY IMPROVEMENTS AND TRANSIT VEHICLES

STRATEGY 1 COMMUNICATIONS SYSTEM IMPROVEMENTS

NEEDS:

- Establish communications between all corridor signals and a central system
- Share data and operational control with Caltrans

STRATEGY 2 TRAFFIC OPERATIONS AND MANAGEMENT

NEEDS:

- Address congestion around US 50 ramps and other key bottlenecks
- Upgrade traffic signal controllers and other signal appurtenances to support more advanced signal operations
- Collect real time traffic information on key corridors to support day-to-day operations, particularly during peak hours
- Coordinate signals for optimal corridor progression
- Deploy Advanced Traffic Management Systems (ATMS)

STRATEGY 3 TRAVELER INFORMATION MANAGEMENT

NEEDS:

- Automated Traveler Information System (ATIS) Improvements
- DMS/trailblazer assets and communications infrastructure
- Close gaps in the highway advisory radio (HAR) network
- Deploy web-based traveler information (e.g. transit, traffic conditions, permit routing)

STRATEGY 4 SYSTEM INTEGRATION IMPROVEMENTS

NEEDS:

- Receive STARNET data for better traffic management
- Integrate traffic management with emergency management (i.e. police and fire systems)
- Integrate County advisories with Caltrans' HAR network

STRATEGY 5 RURAL AREA PROJECTS, SAFETY IMPROVEMENTS & TRANSIT VEHICLES

NEEDS:

- Plan for evacuation scenarios (Tahoe Basin to Sacramento and vice versa)
- Improve timeliness and accuracy of landslide and avalanche detection
- Improve transit vehicle progression on congested corridors in the future
- Increase CCTV coverage
- Expand deployment of emergency vehicle preemption (EVP) to rural areas

PROJECT LIST AND DEPLOYMENT PLAN

Guided by the strategies and needs, County staff developed a list of specific projects, cost estimates, and deployment timeframe. The timeframes are based on existing conditions, assessment of needs, funding sources, and prerequisite infrastructure. For the purposes of this document, timeframes of projects are categorized as follows: short term as 0-5 years; intermediate term as 6-10 years; and long term as 11-15 years. These time frames are consistent with typical Mitigation Fee Act related programs which typically apply a 20 to 25-year planning horizon (the current TIF Program utilizes a 20-year planning horizon). This horizon is considered long enough to plan for long-term infrastructure needs, yet short enough to represent reasonably anticipated growth based on current land use policy. There are also practical reasons for this length of horizon. Implementing a transportation infrastructure project typically takes 4-15 years. Also, regional agency travel demand models typically use a 20-30 forecast horizon pursuant to the federal metropolitan planning regulations. A key reason that transportation fee

programs do not reflect longer planning horizons (e.g., 35 years or more) is defensibility. If fees are not applied to advance projects listed in the program in a reasonable timeframe, the program CIP list could be considered too speculative and subject to legal challenge.

ITS strategies that can be implemented within the next five years are listed as short term and top priority. These immediate projects will also provide requisite baseline infrastructure for some of the intermediate and long-range projects. While the full functionality of a proposed improvement may not be realized for several years, it is important to phase the implementation so that the benefits provided can be realized throughout the development process. The objective is to apply proven, practical, and cost-effective technologies to help solve current issues, demonstrate their effectiveness, and build on existing applications that have shown success. Short, intermediate, and long term ITS projects are listed below and described in the following table.

SHORT TERM PROJECTS

P1	Communications Plan
P2-A	Traffic Control System Procurement; policies & procedures for signal timing plans between Caltrans and the County.
P2-B	Priority Corridor ITS Deployment at El Dorado Hills/Latrobe Road and White Rock Road/Silva Valley Pkwy.
P3	Procure and Deploy portable DMS and possible trailblazers.

INTERMEDIATE TERM PROJECTS

P5	Continued Signal Coordination Improvements
P6	Intermediate - Priority Corridor Deployment of ITS (Missouri Flat Road)
P7	Install Communications Phase II along Gaps in the Traffic Signal System
P8	Critical Intersection/Segment Improvements (per intersection and segment – future development)
P9	El Dorado County Integration Project
P10	Landslide Sensor Integration Project
P11	Highway Advisory Radio Deployment and Weather Stations – Integrate with Caltrans HAR system
P12	Safety Projects Emergency Communications and Traffic Plan Coordination
P13	Web Based Traveler Information dissemination

P14 Automatic Vehicle Location for Transit
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LONG TERM PROJECTS

P15	Continued Signal Coordination Improvements
P16	Remote Traffic Control Workstation – EM, Sheriff, Fire
P17	Installation of CCTV, Emergency Management Pre-emption at critical intersections
P18	Long Term - Priority Corridor Deployment of ITS (Cameron Park Drive)

SUMMARY OF RECOMMENDED PROJECTS

PROJECT	COST
SHORT-TERM PROJECTS (1-5 YEARS)	
P1: Communications Plan	\$100,000
<p>This project will initiate a communications plan for integration (i.e. fiber, microwave, DSL, Switched Ethernet, etc.) that includes considering specific 5 year CIP projects and their implementation (how ITS can fit into them), funding cycles for integration phasing, funding and timing for preparing timing plans for signal coordination along the priority corridors and specific details of communications between stakeholders and El Dorado County. It will also provide some guidance for operations & maintenance of specific communications choices and suggested staffing strategies and costs for each corridor.</p>	
P2-A: Traffic Control System procurement, policies & procedures for signal timing plans between Caltrans and the County, and Virtual TMC	\$706,500
<p>Purchase server, workstation and software with controllers to begin implementation of the advanced traffic management system (ATMS) – Phase 1 for the traffic control system. It is envisioned that with a server, the County can send the traffic control information on the County’s WAN and access it from existing workstations.</p> <p><i>It is anticipated that the ATMS and virtual TOC would be procured and deployed as part of the El Dorado Hills ITS Plan.</i></p>	
P2-B: Priority Corridor ITS Deployment at El Dorado Hills/Latrobe Road and White Rock Road/Silva Valley Pkwy. Install Communications and ITS elements for early testing of ITS deployment.	\$9,502,620
<p>This project includes ITS components in the El Dorado Hills Boulevard / Latrobe Road ITS priority corridor area, including controller upgrades, video/radar detection and advance detection, cabinet upgrades, Bluetooth readers, GPS-based EVP/TSP system, battery backup system, CCTV cameras, fiber optic cabinet equipment, and accessible pedestrian signals (APS).</p> <p><i>It is anticipated that the communications plan for this corridor would include microwave radio to support compressed video 384KB/S along El Dorado Hills Boulevard / Latrobe Road. Concentrate on leased lines (cable, AT&T) to bring info back to County offices. The dollar amount can change with selected and available implementation strategies. This project would later tie into Caltrans’ fiber optic network as part of Project P8.</i></p> <p><i>The cost estimates for projects P2-A and P2-B combined are consistent with the El Dorado Hills ITS Plan (see next section).</i></p>	
P3: Procure and deploy Portable Dynamic Message Signs (DMS) and Trailblazers.	\$92,250

This project would procure and deploy 2 portable DMS for use in managing the traffic on the priority corridors and during construction, etc. It also deploys Trailblazers in the Apple Hill area for use during the Spring and Fall where traffic backs up on rural thoroughfares before getting on US 50.

The County will procure stationary or permanent DMS on El Dorado Hills Boulevard / Latrobe Road north of and south of US 50 along with the first Priority Corridor project. Those costs are included in Project P2-B.

P4: STARNET Integration

\$40,000

Participate in regional partnership to develop STARNET and reserve a place in the server for future integration with region when El Dorado County has more ITS deployed. Begin receiving STARNET data and 511 data for better traffic management awareness. The regional display that STARNET provides will also enable El Dorado County transportation management personnel, again via the Internet, to view live video from cameras operated by the agencies participating in STARNET, including Caltrans. Where technically feasible and allowed by policy, El Dorado County personnel will be able to view other agencies' cameras (e.g., pan/tilt/zoom or select presets).

Total Cost of Short Term Project Deployment

\$10,441,370

10% Contingency for Operation & Maintenance (Short-Term Projects)

\$1,044,137

INTERMEDIATE-TERM PROJECTS (6-10 YEARS)

P5: Continued Signal Coordination Improvements

\$80,000

In accordance with the initial signal timing plan schedule for revising timings and coordination improvement, plans would need to be revised again to accommodate the changes in traffic and signal operation. This would cost about \$4,500 per intersection (includes counts, analysis, implementation, fine-tuning and before-after studies).

P6: Intermediate Priority Corridor Deployment of ITS (Missouri Flat Road)

\$5,388,575

This series of projects would deploy ITS elements and communications for the next ITS Priority Corridor (assumed to be Missouri Flat Road). This deployment should be coordinated with the Missouri Flat Area Master Circulation and Financing Plan (MC&FP) Phase II.

P7: Install Communication Phase II along Gaps in the Traffic Signal System

\$205,000

Earlier projects began using available sources such as cable and phone lines for beginning communications. This project will consider installing fiber or other endpoints for communications consistent with the communications plan for integration. It is anticipated that the County will coordinate with Caltrans to tie into the US 50 Fiber project.

P8: Critical Intersection Improvements (per intersection – future development)

\$256,250

As development occurs, potential improvements at critical intersections should be implemented, which include operational improvements (controllers \$7,000 per location), signal timing plans (\$4,500) and other signal modifications, additional use of CCTV (\$15K), detection (loops, video, etc.) (\$40K), and geometric enhancements as directed by County staff. Each intersection will need to be evaluated for ITS component needs.

This cost is to cover ITS improvements at intersections outside the priority corridors.

P9: El Dorado County Integration Project \$400,000

This project is a follow-on project to the communications Phase II and must be sequenced to occur after the communications are in place. This project allows for funding to be set aside for continued integration of the County's communications system with the virtual TMC and Emergency Management.

P10: Landslide Sensor Integration Project \$61,500

There is at least one pass near US 50 that the Department of Forestry (USDF) has identified for landslide sensors in El Dorado County to provide better, earlier detection of potential landslides. USDF is very interested in partnering in this project and could contribute to the projects development.

P11: Highway Advisory Radio Deployment and Weather Stations – integrate with Caltrans \$256,250

This project would provide a plan for consistent and integrated or at minimal, shared information of communications using HAR already deployed by Caltrans. This project will also have the County installing HAR where there are gaps in County of effective HAR.

P12: Safety Projects Emergency Communications and Traffic Plan Coordination \$100,000

There have been numerous requests by stakeholders in the El Dorado region to coordinate traffic and emergency management for emergency evacuation of Sacramento and EM evacuation from the surrounding forestry and South Lake Tahoe area. This coordinate would involve use of ITS technology and regional integration for re-routing and diverting, sharing traveler information, etc.

This project could be a great way to access additional funds for devices for Emergency Evacuation. This project does NOT include any ITS elements itself – just an integration of the existing evacuation plan with the County.

P13: Web-based Traveler Information Dissemination \$60,000

This project may be implemented as part of an earlier project. If not, this project will provided web-based traveler information that includes transit and information for travelers regarding traffic conditions and perhaps transportation permit routing.

P14: Automatic Vehicle Location for Transit \$205,000

This project would be led and matched by El Dorado Transit as the lead agency. It installs AVL for transit on buses. El Dorado County could use these data to track transit vehicles along the priority corridors for the goal of improving transit vehicle progression along the corridors.

Total Cost for Intermediate Project Deployment	\$7,012,575
10% Contingency for Operation & Maintenance (Intermediate Projects)	\$701,258
LONG-TERM PROJECTS (11-15 YEARS)	
P15: Continued Signal Coordination Improvements	\$130,000
In accordance with the initial signal timing plan schedule for revising timings and coordination improvement, plans would need to be revised again to accommodate the changes in traffic and signal operation. This would cost about \$4,500 per intersection (includes counts, analysis, implementation, fine-tuning and before-after studies).	
P16: Remote Traffic Control Workstation	\$8,000
Consider a second workstation for the virtual TMC and consider a workstation at police and/or fire for emergencies. If the original traffic operations system is put on the County's WAN, additional workstations could be fairly inexpensive to include monitors and computer.	
P17: Installation of CCTV, EM Pre-emption, etc. at critical Intersections	\$399,750
Install CCTV Cameras, Video Detection and Emergency Preemption capabilities in non-priority corridor areas – rural or near Placerville – for managing traffic and monitoring. <i>El Dorado County is a major evacuation area. The Sheriff's department interview for this project listed numerous DMS locations, signal timing, CCTV cameras, etc. that they could use. The emergency evacuation plan listed in the long-range project area could be a great way to access additional funds for these devices (DMS signs, CCTV Cameras, etc.) since they are needed for evacuation from El Dorado County.</i>	
P18: Long-Term Priority Corridor Deployment of ITS (Cameron Park Drive)	\$2,808,945
This series of projects would deploy ITS elements and communications for the last ITS Priority Corridor (assumed to be Cameron Park Drive). This deployment should be coordinated with the Cameron Park Drive Interchange Improvements.	
Total Long Term Project Deployment	\$3,346,695
10% Contingency for Operation & Maintenance (Long-Term Projects)	\$334,670
TOTAL (Short-Term, Intermediate, and Long-Term Projects)*	\$22,880,705

*Total cost are estimates based on findings on similar project cost experience.

NOTE: All costs are in 2019 dollar values adjusted by ENR BCI of 2.5% (BCI change 2019-2020) to escalate to reflect 2020 costs. Further updates will need to take the current cost opinions and include that into the County's inflation accelerator calculations.

FUNDING STRATEGY

Developing a sustainable funding program for deployed ITS systems must consider the requirements for ongoing traffic operations and maintenance. Any successful program must: specifically define objectives; establish the methods and processes to meet the objectives; provide resources, time, personnel and equipment; and have quantifiable performance measures in place to make certain the objectives are met. Without a sustainable funding source, additional benefits from ITS deployment will be hard to sustain through the life cycle of the program.

Federal, state, local, and private funding sources can be used to sustain the County's ITS program. Some of these potential funding sources identified include but are not limited to:

- Fixing America's Surface Transportation Act (FAST), 2015
- National Highway Safety System (NHS)
- Surface Transportation Program (STP)
- Congestion Mitigation and Air Quality (CMAQ)
- State Transportation Improvement Program (STIP)
- Senate Bill 1, the Road Repair and Accountability Act of 2017
- Public/Private Partnerships
- State of California Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006
- El Dorado County Traffic Impact Fee (TIF) Program
- General Funds
- Proposition 42 (Transportation Congestion Improvement Act)
- Contributions from development

In the effort to obtain federal, state, and local funding, El Dorado County Department of Transportation will need to obtain regional, state and federal funding by coordinating with:

- **El Dorado County Transportation Commission (EDCTC):** serves as the Regional Transportation Planning Agency (RTPA) for El Dorado County.
- **El Dorado County Department of Transportation:** administers the County DOT budget for traffic and transportation and decides on capital improvement projects (CIP) for the County.
- **Caltrans:** administers virtually all federal and state planning and construction funds to EDCTC and its member jurisdictions.
- **SACOG:** the Metropolitan Planning Organization (MPO) responsible for developing the State and Federally required Metropolitan Transportation Plan (MTP) every four years in coordination with the 22 cities and six counties in the greater Sacramento region. Under memoranda of understanding, long-range transportation plans in El Dorado and Placer Counties are also incorporated into the Sacramento regional MTP.

Generally speaking, projects such as highway advisory radio (HAR), landslide sensors, and emergency/evacuation management serve rural and existing development and are best suited for federal and state funding. Projects applicable to developing areas such as communications infrastructure, centralized traffic signal coordination and management, and traveler information systems are primarily needed to accommodate planned growth. These projects are well-suited to partnering with development for implementation. As allowed under the Mitigation Fee Act, contributions from private development may be used to fund capital ITS infrastructure where such needs have been identified. As such, ITS elements will be included within the Intersection and Safety Improvements line item of the TIF Program. Conversely, developer fees cannot be used to fund on-going operational costs of ITS infrastructure. As a result, the cost of ITS operations and maintenance is not reflected in this ITS Master Plan.

1. EL DORADO HILLS BOULEVARD/LATROBE ROAD

- Wilson Boulevard to Golden Foothill Parkway/Monte Verde Drive

2. WHITE ROCK ROAD/SILVA VALLEY PARKWAY

- Stonebriar Drive/4 Seasons Drive to Old Silva Valley Parkway (future Country Club Drive Extension)

3. MISSOURI FLAT ROAD

- El Dorado Road to Pleasant Valley Road

4. CAMERON PARK DRIVE

- Meder Road to Coach Lane

This private funding mechanism would result in the creation of three ITS programs for El Dorado County (priority corridors 1 and 2), Diamond Springs/Unincorporated Placerville (priority corridor 3), and Cameron Park (priority corridor 4). For the purpose of establishing the need for ITS deployment in each of these priority corridors, the County's TIF (El Dorado County, December 2020) is included herein by reference. As stated previously, analyses documented in the County's TIF demonstrate that these priority corridors do not meet the County's General Plan roadway operational thresholds under future year 2040 conditions (*El Dorado County Traffic Impact Fee (TIF) Program Update: Appendix A Needs Analysis Methodology Technical Memorandum and Study Findings and Summary of Effort Technical Memorandum*, December 8, 2020).

The proposed El Dorado Hills ITS Plan is described in the next section. Future TIF Program updates may include development and inclusion of the remaining two ITS plans.

Future updates to the Master Plan may also consider including the Bass Lake Road corridor (Country Club Drive to Marble Valley Parkway) and Shingle Road corridor (N Shingle Road/ Wild Chaparral Drive to Sunset Lane). These corridors were also identified in the County's TIF as being deficient under future year conditions.

EL DORADO HILLS ITS PLAN

The County has decided to start with one ITS deployment and evaluate its effectiveness before proceeding to other corridors. County staff reviewed the priority corridors suggested by stakeholders participating in the ITS Master Plan development process. Stakeholders felt that El Dorado Hills would benefit the most from an initial ITS deployment. The first two priority corridors of El Dorado Hills Boulevard/Latrobe Road and White Rock Road/Silva Valley Parkway will demonstrate a number of different ITS strategies. The County will deploy a combination of ITS investments, including communications infrastructure, dynamic message signs (DMS), signal coordination, systems

integration, and signal hardware upgrades. These upgrades include Closed Circuit Television cameras (CCTV), GPS-based emergency vehicle preemption, battery backup systems, and accessible pedestrian signals (APS). Additionally, the County will invest in a virtual traffic operations center (TOC), advanced traffic management system (ATMS), and a communications plan for making communications decisions throughout the County.

PROJECT LIST AND COSTS

The County has identified the following necessary components of the El Dorado Hills ITS Plan. For each component, a description and planning level cost opinion is provided. Administrative and engineering (“soft”) costs are included at the end, resulting in a final project cost of \$10,395,715.

EL DORADO HILLS ITS PLAN COMPONENTS	COST
1. Traffic Signal Hardware Upgrades	\$2,687,550
Upgrade traffic signal controllers to NEMA 2070/970/980, upgrade detection system to video/radar with advance capabilities, replace cabinets, install Bluetooth readers, GPS-based emergency vehicle preemption system, battery backup system, CCTV cameras, accessible pedestrian signals (APS), and fiber optic installation (termination panel, switch, drop cable, pull-box, and splice to trunk).	
2. Advanced Traffic Management System (ATMS)	\$250,000
Select, procure and deploy a corridor management system for the county’s virtual traffic operations center (TOC).	
3. Dynamic Message Signs (DMS)	\$1,793,750
Procure and install seven (7) permanent, rotatable DMS on El Dorado Hills Boulevard / Latrobe Road north of and south of US 50.	
4. Traffic Operations Center (TOC)	\$200,000
Purchase server, workstation and software with controllers to begin implementation of the ATMS – Phase 1 for the traffic control system. It is envisioned that with a server, the County can send the traffic control information on the County’s WAN and access it from existing workstations.	
5. Fiber Optic Signal Interconnect	\$1,113,675
Installation of 3” PVC conduit and 96-strand SMFO trunk cable, including trenching/boring costs. It is anticipated that in the long term, the County’s trunk lines along El Dorado Hills Blvd./Latrobe Road and White Rock Road will be connected to the planned Caltrans Highway 50 trunk line at either the El Dorado Hills Boulevard/Latrobe Road or Silva Valley Parkway interchange.	
6. System to TOC Link	\$180,000
Establish communications between the field and TOC, including purchase and setup of three County servers. The initial data link would likely be wireless (through a telecommunications provider), with monthly contract and data costs. The system would eventually be wired, as Caltrans builds out its Highway 50 fiber network.	
Construction Cost of El Dorado Hills ITS Plan	\$6,224,975

Environmental/Permit Costs (12%)	\$747,000
Design/Surveying/Bidding (25%)	\$1,556,245
Construction Management (15%)	\$933,745
R/W / Utility Coordination / Other (5%)	\$311,250
Contingency (10%)	\$622,500
Total Cost of El Dorado Hills ITS Plan	\$10,395,715

NOTE: All costs are in 2019 dollars values adjusted by ENR BCI of 2.5% (BCI change 2019-2020) to escalate to reflect 2020 construction costs only. Further updates will need to take the current cost opinions and include that into the County's inflation accelerator calculations.

DEPLOYMENT PLAN

Most of the El Dorado Hills ITS Plan can feasibly be deployed in the short term. As funding becomes available, the plan may be implemented piecemeal. For example, signal hardware investments (e.g. controller upgrades, preemption systems) at existing intersections can be done without fiber optic signal interconnect. However, a solid communications backbone will first be needed to support the TOC, ATMS, and DMS infrastructure.

Development agreements that may result in new traffic signals should condition the project to interconnect any new signals. Further, if operational analysis or mitigation for any new

development determines it is necessary to retime and/or coordinate traffic signals, the County should condition the project to either construct necessary ITS infrastructure or pay its fair share thereof.

It is recommended to coordinate the installation of fiber optic signal interconnect conduits and the DMS deployment to minimize trenching costs. The County will need to coordinate with Caltrans to determine the most logical connection point between the County and State ITS networks (El Dorado Hills Boulevard interchange, Silva Valley Parkway interchange, or both).

FUNDING METHODOLOGY

All signalized intersections in El Dorado Hills currently (as of 2020) operate acceptably at level of service (LOS) E or better. The need for ITS is primarily driven by traffic that would be added to the roadway network by planned growth. Buildout of the County's CIP will generally provide adequate roadway capacity to maintain the County's level of service standards. However, project-specific traffic impact analyses have consistently identified a Cumulative Year need for signal coordination and precise signal timing plans in order to acceptably operate signals near capacity, particularly in proximity to US 50.

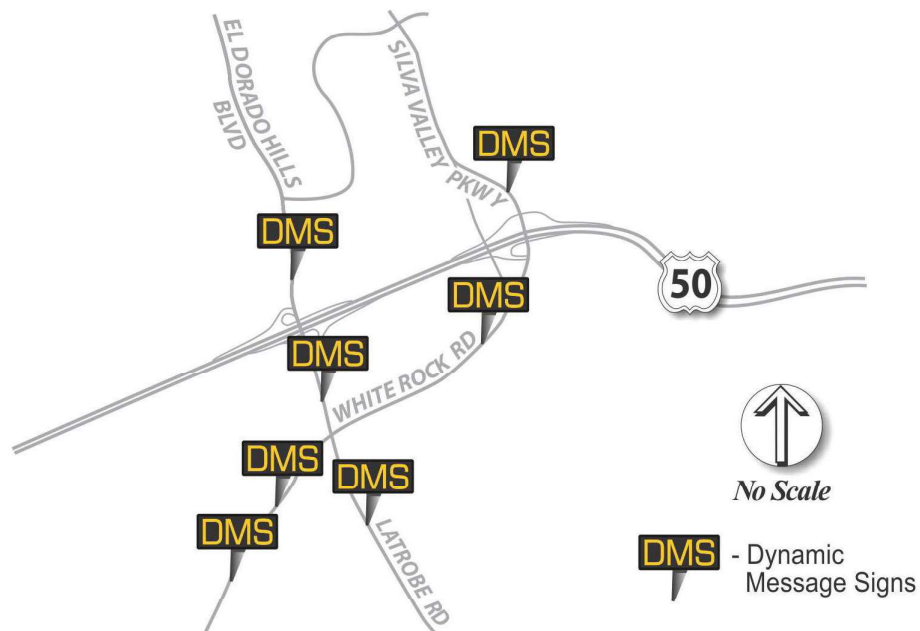
ITS infrastructure is not a substitute for building additional roadway capacity that will be needed to accommodate growth. Rather, ITS infrastructure and added capacity (i.e. buildout of General Plan lanes) are complimentary improvements that would combine to fully mitigate traffic growth. It is therefore appropriate to charge growth for these ITS improvements.

ITS improvements are recommended at the following project intersections, as well as along the connecting roadway segments:

1. White Rock Road & Carson Crossing Road (future signal)
2. White Rock Road & 4 Seasons Dr/Stonebriar Drive
3. White Rock Road & Windfield Way
4. White Rock Road & Manchester Drive
5. White Rock & Post Street
6. White Rock & Valley View Parkway/Vine Street
7. White Rock Road & Clarksville Crossing/Old White Rock Road
8. Silva Valley Parkway & US Hwy 50 Eastbound Ramps
9. Silva Valley Parkway & US Hwy 50 Westbound Ramps
10. Silva Valley Parkway & Clarksville Crossing/ Country Club Tie-In (future signal)
11. El Dorado Hills Boulevard & Wilson Drive
12. El Dorado Hills Boulevard & Serrano Parkway/ Lassen Lane
13. El Dorado Hills Boulevard & Saratoga Lane/ Park Drive
14. El Dorado Hills Boulevard & US Hwy 50 Westbound Ramps
15. Latrobe Road & US Hwy 50 Eastbound Ramps
16. Latrobe Road & Town Center Boulevard
17. Town Center Boulevard & Post Street (future signal)
18. Latrobe Road & White Rock Road
19. Latrobe Road & Golden Foothill Parkway/ Monte Verde Drive

Figure 2. ITS Signals, DMS Locations, Fiber Trunk Lines

A Dynamic Message Signs (DMS)



B Fiber Optic Signal Interconnect

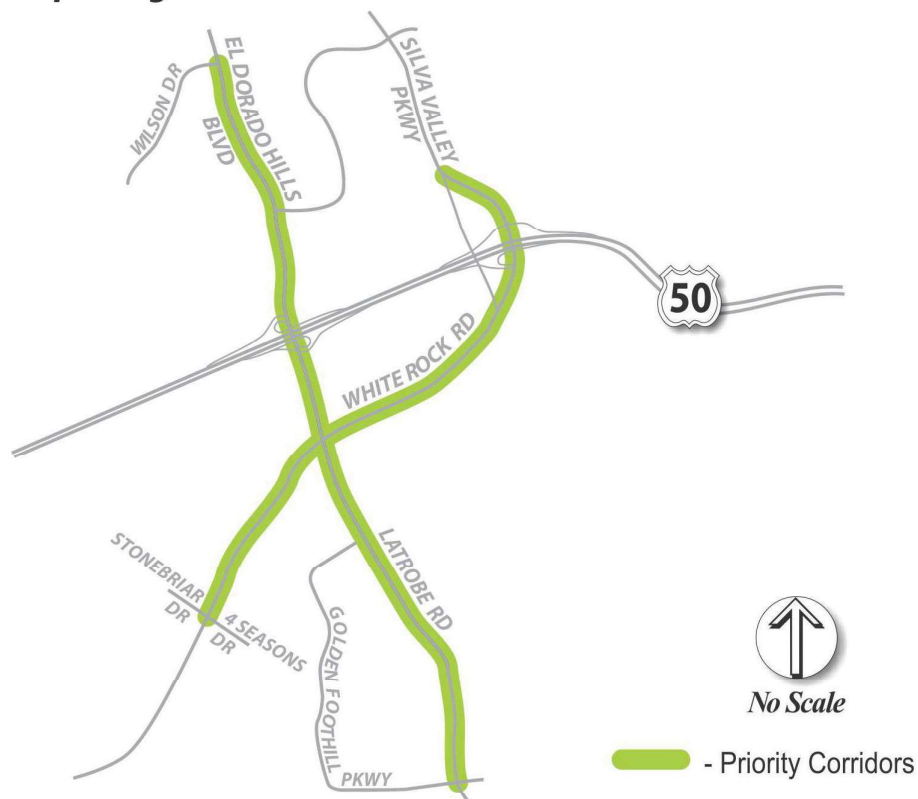


Figure 3. ITS Signals, DMS Locations, Fiber Trunk Lines

C Traffic Signal Hardware Upgrades



NEXT STEPS

The recommended next steps for El Dorado County Department of Transportation involve both stakeholders and technology:

- 1 Include projects from the El Dorado Hills ITS Plan in the Intersection and Safety Improvements line item of the TIF Program during the 2022 Annual TIF Program Update.
- 2 During the 2023 CIP update, add a new project for construction of the Traffic Operations Center.
- 3 Initiate a corridor-specific Communications Plan that identifies communications options for each of the priority corridors, considering maintenance and operations.
- 4 Concurrently with development of a communications plan, we recommend that the County request modifications be made in the Sacramento Regional ITS Architecture file to include the ITS strategies to be deployed by El Dorado County. Specifically identifying the County's elements in the regional architecture isn't immediately compulsory (meaning it shouldn't hold up funding) because the projects are represented in a "broad sense" in the regional architecture. However, as these projects go forward, they should be specifically identified in the County's regional planning process (overseen by the EDCTC) and in the regional architecture (managed and overseen by the Sacramento Area Council of Governments (SACOG)).
- 5 Develop a Cameron Park ITS Program (Cameron Park Drive corridor) and Diamond Springs ITS Program (Missouri Flat Road corridor). Similar to the El Dorado Hills program, this program would include a detailed list of projects, costs, and "fair share" calculations.
- 6 The County should begin deploying the projects within the short, intermediate and long-term categories; the actual order of implementation may depend on project availability and ready status.

Kimley-Horn and Associates, Inc.

Exhibit D

Cost Proposal

	<u>Description</u>	<u>Cost</u>
Task 1	Project Administration and Meetings	\$ 11,225.00
Task 2	Data Collection and Field Review	\$ 24,210.00
Task 3	Development of Communications System Alternatives	\$ 28,140.00
Task 4	Documentation	\$ 26,255.00
	Subtotal:	\$ 89,830.00
	Other Direct Costs	\$ 400.00
	Total Cost Proposal:	\$ 90,230.00

Other Direct Costs

Other direct costs including printing, reproduction, miscellaneous supplies, and delivery charges, authorized herein, shall be invoiced in accordance with ARTICLE III, Compensation for Services.

All expenses and their distribution among Tasks and Items of Work are estimates only. This Exhibit represents the composition of the total not-to-exceed budget for this Agreement. In the performance of the Scope of Work to be provided in accordance with this cost proposal, Consultant may request to reallocate the expenses listed herein among the various Scope of Work tasks and Other Direct Costs identified herein, subject County's Contract Administrator's prior written approval. In no event shall the total not-to-exceed amount of the Agreement be exceeded.