

AGREEMENT FOR SERVICES #396-S1211  
AMENDMENT I

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This Amendment I to that Agreement for Services #396-S1211, 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 3001 Weston Parkway, Cary, North Carolina, and whose local place of business is 11919 Foundation Place, Suite 200, Gold river, California 95670-6600; (hereinafter referred to as "Consultant");

**RECITALS**

**WHEREAS**, Consultant has been engaged by County to prepare a traffic model update as a result of the Targeted General Plan Amendment and Zoning Code Ordinance Update for the Department of Transportation, in accordance with Agreement for Services #396-S1211, dated February 29, 2012, incorporated herein and made by reference a part hereof; and

**WHEREAS**, the parties hereto have mutually agreed to revise the scope of services to include additional services, hereby amending **ARTICLE I - Scope**; and

**WHEREAS**, the parties hereto have mutually agreed to revise **ARTICLE III – Compensation**, to revise the fee schedule and maximum compensation; and

**NOW THEREFORE**, the parties do hereby agree that Agreement for Services #396-S1211 shall be amended a first time as follows:

**ARTICLE I**

**Scope of Services:** Consultant agrees to furnish the personnel and equipment necessary to prepare a Traffic Model Update as a result of the Targeted General Plan Amendment and Zoning Code Ordinance Update for the Department of Transportation. Services shall include, but not be limited to those identified in Exhibit "A-1", marked "Scope of Work", incorporated herein and made by reference a part hereof.

**ARTICLE III**

**Compensation for Services:** For services provided herein, including all deliverables described in Exhibit "A-1", County agrees to pay Consultant monthly in arrears. Payment shall be made within thirty (30) days following County receipt of itemized invoices and progress reports detailing the services rendered. For the purposes of this Agreement, effective February 29, 2012, the billing rates for each task shall be in accordance with Exhibit "B-1", marked "Cost Estimate", incorporated herein and made by reference a part hereof. Travel expense shall be in accordance with Exhibit "C", marked "Board of Supervisors Policy D-1. The County will approve all submitted invoices to ensure conformity with approved scope of work.

The budget for the items of work identified in Exhibit "A-1" are described in Exhibit "B-1". The amounts indicated in Exhibit "B-1" represent the composition of the total not-to-exceed budget for the various items of work identified therein. In the performance of the scope of services to be provided under this Agreement, Consultant may request to reallocate the amounts listed in Exhibit "B-1", among the various items of work identified therein, subject to the Contract Administrator's written approval.

The total amount of this Agreement shall not exceed \$451,537.50, inclusive of all expenses and costs.

Itemized invoices shall follow the format specified by County and shall reference this Agreement number both on their faces and on any enclosures or backup documentation. 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:

County of El Dorado  
Chief Administrative Office  
330 Fair Lane  
Placerville, California 95667  
Attn.: Kimberly A. Kerr

Or to such other location as County directs

Except as herein amended, all other parts and sections of that Agreement #396-S1211 shall remain unchanged and in full force and effect.

**Requesting Contract Administrator Concurrence:**

By: Kimberly A. Kerr  
Kimberly A. Kerr  
Assistant Chief Administrative Officer

Dated: 3/1/13

IN WITNESS WHEREOF, the parties hereto have executed this first Amendment to that Agreement for Services #396-S1211 on the dates indicated below.

-- COUNTY OF EL DORADO --

By:  Dated: 3/5/13  
Terri Daly, Purchasing Agent  
Chief Administrative Office  
"County"

-- CONSULTANT --

Kimley-Horn and Associates, Inc.  
A North Carolina Corporation

By:  Dated: March 1, 2013  
~~Enda Melvin, P.E.~~ *Chuck Spraker*  
Senior Vice President  
"Consultant"

By:  Dated: March 1, 2013  
Assistant Secretary  
~~Matthew D. Weir, P.E.~~  
Michael Schmitt

## **Exhibit A-1**

### **Scope of Work**

#### **COMPONENT 1 - Update Travel Model to 2010 Baseline**

##### **Task 1.1: Project Management**

CONSULTANT will provide a detailed project schedule for the completion of services for all tasks within each Component within the Scope of Work. Time frames will be stated in terms of the number of weeks required to complete the specified tasks using COUNTY'S Notice to Proceed as the start date. This task also includes time for administrative activities not included within Component 2 and Component 3 of this Scope of Work, including time related to discussing the Scope of Work with the Contract Administrator, invoicing, and other required project and Subconsultant management activities. Upon acceptance by the Contract Administrator, CONSULTANT will create a schedule and provide monthly updates with substantial schedule modifications to the Contract Administrator for review and approval. Schedule changes will be handled via email approval.

##### Deliverables:

- Project schedule with monthly updates
- Monthly progress reports and invoices

##### **Task 1.2: TDM Meetings**

CONSULTANT will attend up to eight (8) meetings with the El Dorado County staff (COUNTY), as directed by the Contract Administrator, in addition to those specifically identified within other tasks of this Scope of Work. Anticipated meeting purposes include:

- Meetings #1, # 2, and #3: establish the schedule, and to discuss meeting protocols and times, lines of communication, Travel Demand Model (TDM) goals and objectives, and the existing COUNTY GIS data/layers and traffic information.
- Meeting #4: discuss data gaps (i.e., TAZ, roadway network, etc.) and TDM update progress.
- Meeting #5: participation in a scheduled public event
- Meeting #6: discuss the evaluation of the 2010 baseline analysis for the TDM update.
- Meeting #7: discuss TDM system expectations for COUNTY, which will include peer agency/COUNTY participation in the Travel Demand Model (TDM) system update process, and to determine the best approach to meet the expectations of the TDM system design.
- Meeting #8: coordinate with the Contract Administrator with respect to the purpose and need for the remaining meeting. If requested, CONSULTANT and Contract Administrator will coordinate the specific dates of each meeting, which will be included within the schedule as developed within Task 1.1.

All decisions from these meetings will be formalized by COUNTY, and CONSULTANT will provide an email summary of all meetings to COUNTY no later than five (5) days following the meeting date.

##### Deliverables:

- Up to eight (8) email summaries of each meeting's decisions and discussions

**Task 1.3: Software Vendor Presentations**

CONSULTANT will organize an online presentation of the TransCAD and CUBE modeling software platforms by the vendors. CONSULTANT will be in attendance and facilitate discussions with the vendors.

CONSULTANT will facilitate the purchase of the selected software platform. The COUNTY will be responsible for payment to the vendor and execution of all relevant software agreements and purchase agreements.

**Task 1.4: Existing Land Use and Socio-Economic Data Collection**

CONSULTANT will coordinate with COUNTY'S Development Services Department and Surveyor's Office to obtain an up-to-date GIS database of parcels, as well as a GIS file depicting the General Plan land use designations. CONSULTANT will generate a combined GIS database containing both spatial data (parcel and land use boundaries) and tabular data (existing parcel characteristics) using existing, readily available El Dorado County electronic databases. CONSULTANT will determine what data already exists and what additional data needs to be derived. The following existing land use information will be required:

- 2010 Baseline - Parcel square footage and acreage
- 2010 Baseline - Number of single-family dwelling units
- 2010 Baseline - Number of multi-family dwelling units
- 2010 Baseline - Building square footage for non-residential uses (retail, office, industrial, medical, or other)
- Acreage planned for other uses, such as schools, parks, golf courses, etc.

CONSULTANT will develop methods to effectively incorporate the above data into the new travel model. To handle data inconsistency issues, CONSULTANT will develop and calibrate conversion factors resolving consistency issues arising from data unit and data definitional differences. CONSULTANT will work with the existing COUNTY data to develop a comprehensive existing land use inventory consistent with the socio-economic inputs required for the TDM. CONSULTANT will coordinate with the Sacramento Area Council of Governments (SACOG) and the El Dorado County Transportation Commission (EDCTC), as necessary, to obtain additional available data required for the TDM.

CONSULTANT will prepare a brief technical memorandum documenting the sources of zonal data and how they will be used to construct the necessary zonal data files for the model. This memorandum will include appropriate graphics and discussion to provide an understanding of differences between existing Baseline assumptions and updated 2010 Baseline assumptions.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- One (1) email summary of meeting decisions and discussions
- GIS parcel land use database for the TDM
- DRAFT Technical Memorandum #1: Existing Land Use and Socio Economic Data
- FINAL Technical Memorandum #1: Existing Land Use and Socio Economic Data

**Task 1.5: Model Sensitivity to El Dorado County Policies and Factors**

CONSULTANT will develop and implement an approach for increasing model sensitivity to specific COUNTY policies and factors. This approach will be intended to specifically address considerations related to smart growth and mixed use development (commonly referred to as “D’s”) in El Dorado County. CONSULTANT’s method will include details on sensitivity testing, methodology development, and resulting model script development. CONSULTANT budget for this task has been developed based on the implementation of a post processor with a feedback loop and the use of existing CONSULTANT modeling software scripts. In the event that the final approach agreed to by COUNTY exceeds the effort budgeted for this task, those services will be provided as an additional service.

CONSULTANT will attend up to two meetings with COUNTY staff during the course of this task.

CONSULTANT will prepare a brief technical memorandum documenting the final approach and methodology prior to implementation. CONSULTANT will finalize the memorandum based on one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- Up to two (2) email summaries of meeting decisions and discussions
- DRAFT Technical Memorandum #2: Model Sensitivity to El Dorado County Policies and Factors
- FINAL Technical Memorandum #2: Model Sensitivity to El Dorado County Policies and Factors

**Task 1.6: Roadway Network**

CONSULTANT will draw upon COUNTY’S GIS roadway inventory databases to develop existing and future roadway networks. COUNTY network will be developed in GIS to utilize its database management functions. A database structure with appropriate indices and naming conventions will be developed to identify each specific network scenario as networks for future years or alternative plans are developed, allowing all scenario networks to have the same nodes and links at the same places. The networks will be reviewed for accuracy, consistency, and completeness by COUNTY.

COUNTY will assemble available roadway information on requested model attributes. COUNTY will assemble intersection information including, but not limited to, control type and lane geometries, and provide this information to CONSULTANT. CONSULTANT shall supplement additional roadway information.

CONSULTANT will participate in one (1) meeting with COUNTY staff or other individuals identified by the COUNTY for the purpose of establishing consensus on the roadways which will be included in the updated travel model.

CONSULTANT will prepare a brief technical memorandum documenting considerations related to the revised model network, and differences between the existing model network and the revised model network.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

Deliverables:

- One (1) email summary of meeting decisions and discussions
- Updated GIS roadway network.
- DRAFT Technical Memorandum #3: Summary of Network Changes
- FINAL Technical Memorandum #3: Summary of Network Changes

**Task 1.7: Traffic Analysis Zone (TAZ) Structure**

CONSULTANT will prepare a TAZ GIS layer for COUNTY review and approval. The CONSULTANT will utilize COUNTY's 2010 TAZ structure in conjunction with the roadway network, reviewing locations and size of TAZs to make sure they have reasonable access to the roadway network and are consistent with land use, and reviewing the number of TAZs to make sure they are appropriate given the overall model design and are topologically consistent with parcel boundaries, roads, market areas, and other jurisdictional boundaries. The new TAZ structure will take into account information on the western edge of the COUNTY which generates traffic impacts on COUNTY's road network. Upon revision/development of TAZ structure, CONSULTANT will splice it into the TDM roadway network. The CONSULTANT will confirm COUNTY TAZs will conform to census data and SACOG TAZ boundaries.

CONSULTANT will participate in one (1) meeting with COUNTY staff or other individuals identified by the Contract Administrator for the purpose of reviewing Draft TAZs and identifying final changes to TAZs.

CONSULTANT will prepare a brief technical memorandum documenting considerations related to the revised TAZ system, and differences between the existing model TAZs and the revised model TAZs. CONSULTANT will include analysis and recommendation on the advantages and disadvantages of including in the TAZ system areas adjacent to El Dorado County in Sacramento and Placer Counties.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

Deliverables:

- One (1) email summary of meeting decisions and discussions
- Updated Traffic Analysis Zone (TAZ) GIS layer in shape file format.
- DRAFT Technical Memorandum #4: TAZ Development and Considerations
- FINAL Technical Memorandum #4: TAZ Development and Considerations

**Task 1.8: Traffic Counts and Transit Ridership Data**

CONSULTANT will coordinate with COUNTY to identify where roadway segment and intersection peak-hour counts are needed, and will assist COUNTY in gathering available state highway counts from California Department of Transportation (Caltrans) or SACOG, factoring available local traffic data to fill the gaps. CONSULTANT will collect available counts through the Performance Measurement System (PeMS) for US Highway 50. Available count data determined by CONSULTANT to be relevant to the model development and calibration/validation processes will be added to the TDM GIS network. CONSULTANT will also work with El Dorado Transit to estimate ridership data. CONSULTANT will include commute travel data from the American Community Survey and worker-flow data to evaluate the extent and mode of commuter travel crossing El Dorado County lines.

CONSULTANT will prepare a brief technical memorandum documenting available sources of traffic count and transit ridership data.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- Traffic count data included in the GIS based model network
- DRAFT Technical Memorandum #5: Traffic Count and Transit Ridership Data
- FINAL Technical Memorandum #5: Traffic Count and Transit Ridership Data

**Task 1.9: Trip Generation and Trip Distribution**

CONSULTANT will convert the GIS based parcel level land use update into land use information that will be incorporated into the TAZ structure defined in Task 1.7. CONSULTANT will review the current SACOG-SACMET trip generation and distribution functions for their applicability in developing an El Dorado County specific model. In addition, CONSULTANT will determine the most appropriate way to represent the necessary Traffic Impact Mitigation (TIM) Fee land uses categories (i.e., single family, office, retail, warehouse, etc.) and the General Plan land use designations identified for the model. CONSULTANT will review available information from SACOG's most recent household travel survey to determine its applicability in developing an El Dorado County specific trip generation function.

CONSULTANT will participate in one (1) meeting with COUNTY staff or other individuals identified by the Contract Administrator for the purpose of reviewing the recommended trip generation approach and categories.

CONSULTANT will work with COUNTY in selecting a distribution model appropriate to the updated El Dorado County model.

The CONSULTANT will prepare a brief technical memorandum documenting the following:

- COUNTY and SACOG trip generation and distribution comparison
- Assumptions of original travel model compared to the updated trip generation and trip distribution, including treatment of travel between El Dorado County and adjacent counties.
- Trip production-attraction purpose trip matrices
- Summary statistics of trip lengths.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- One (1) email summary of meeting decisions and discussions
- DRAFT Technical Memorandum #6: Trip Generation and Distribution
- FINAL Technical Memorandum #6: Trip Generation and Distribution



**Task 1.10: Mode Choice**

CONSULTANT will review the current SACOG-SACMET mode choice model for its applicability in developing an El Dorado County specific mode choice model.

CONSULTANT will develop an appropriate model to account for transit trips in El Dorado County in coordination with the COUNTY. CONSULTANT will prepare a brief technical memorandum documenting the mode choice approach.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- DRAFT Technical Memorandum #7: Mode Choice
- FINAL Technical Memorandum #7: Mode Choice

**Task 1.11: Trip Assignment and Model Calibration/Validation**

CONSULTANT will prepare average daily trip assignments for validation. Additionally, CONSULTANT will develop methodologies for determining AM and PM peak period assignments. CONSULTANT may modify the time periods based upon direction from COUNTY. The model calibration and validation process will be an iterative process that will focus on traffic counts in the County. The process will entail comparing the Daily, AM peak hour, and PM peak hour traffic volumes estimated by the model to actual traffic counts taken at specific locations throughout the County.

Travel model accuracy will be tested using the techniques listed below:

- The volume-to-count ratio is computed by dividing the traffic volume forecast from the model by the actual traffic volume counted on various segments. The deviation is the difference between the model volume and the actual count divided by the actual count.
- The correlation coefficient estimates the correlation between the actual traffic counts and the estimated traffic volumes from the model.
- The percent root mean square error (RMSE) is the square root of the model volume minus the actual count squared, divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model.
- Current Caltrans modeling guidelines and the current Travel Model Improvement Program "Validation and Reasonableness Checking Manual."

CONSULTANT will prepare a brief technical memorandum documenting the following:

- Selected assignment algorithm(s)
- Peak Hour Percentages of Daily Travel by Trip Purpose
- Summary statistics of trip lengths
- Initial Trip Assignment Results for chosen Model Time Periods (including summary statistics)
- ADTs and peak hour volumes on key roadways
- Calibration and Validation results and statistics
- Comparison of existing model and new model results

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- DRAFT Technical Memorandum #8: Trip Assignment and Model Calibration/Validation
- FINAL Technical Memorandum #8: Trip Assignment and Model Calibration/Validation

**Task 1.12: Special Tools - Software Automation and Administration**

CONSULTANT will develop special tools for COUNTY to set-up, run, and utilize model output. These tools will be either linked with the model software, or developed in a spreadsheet. Additional model tools are anticipated to include:

- Simplified process to produce TAZ or district level land use summaries in a table format.
- Simplified process to output Vehicle Miles Traveled (VMT) by roadway classification, VMT by speed, or congested VMT.
- Simplified process to output and visualize peak hour intersection turning volumes.
- Select node/link assignments to visualize the paths of vehicles using a specific facility.
- Summaries of trip lengths based on trip purpose.
- Develop a scenario tool (i.e. scenario manager or catalog) tailored to the needs of the updated El Dorado County model.
- Create up to five standardized GIS based templates, which include thematic mapping options and the ability to include existing GIS layers that display landmarks such as political boundaries and water features, for presenting model output.

CONSULTANT will prepare a brief technical memorandum with recommendations and information related to the following topics:

- How to manage the different levels of user operation desired (i.e. manipulate the entirety of the model, run with a scenario tool only, need output only).
- Methods to establish an electronic file management plan to document scenarios and organize scenario input and output files.
- Methods to make select output files available to El Dorado County and/or public GIS users.
- A draft version of a model user's agreement for the COUNTY use with outside CONSULTANTS.
- Policies regarding the use of forecasts (SACOG, El Dorado County, or Caltrans) on particular roads or roadway types.
- Differences between the updated El Dorado County model and SACOG model; including model assumptions, input data, and traffic forecasts.
- How to tracks applications, tentative and final maps, and permit inventory/status for the purpose of updating the model specific recommendations.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by the COUNTY.

**Deliverables:**

- Tools to set-up, run, and utilize the model output
- DRAFT Technical Memorandum # 9: Model Automation and Administration
- FINAL Technical Memorandum # 9: Model Automation and Administration

**Task 1.13: Model Presentations to COUNTY and Peer Agencies**

CONSULTANT will work with COUNTY to develop a TDM Preview presentation for one specific Community Region, the Diamond Springs/El Dorado Community Region, to present for up to two (2) presentations to an audience to be identified by COUNTY. The purpose of this presentation will be to explain the model development process in layman's terms using a case study approach.

CONSULTANT will prepare a single model presentation to be delivered up to four (4) times providing an overview of the model, its functionality, and initial results. Anticipated presentation audiences, to be finalized by COUNTY include: 1) COUNTY; 2) SACOG, Caltrans, EDCTC; 3) El Dorado County Planning Commission; and 4) El Dorado County Board of Supervisors. CONSULTANT will include in this effort a summary of the TDM update process and the 2010 base year results.

As part of this effort, CONSULTANT will prepare a Model Summary Sheet, which will be a one-page (front and back) summary handout with appropriate graphics that can be distributed to those who are not technically skilled to enable them to understand the more detailed technical reports developed during the course of this project.

**Deliverables:**

- Up to two (2) Model Preview Presentations
- Model Summary Sheet
- Up to four (4) presentations to: 1) COUNTY; 2) SACOG, Caltrans, EDCTC; 3) El Dorado County Planning Commission; and 4) El Dorado County Board of Supervisors.
- Up to four (4) email summaries of meeting discussions and comments

**Task 1.14: Final Traffic Demand Model, Users' Manual, and Documentation**

CONSULTANT will prepare a Model Users' Manual for COUNTY containing diagrams and step-by-step explanations on how to use the model. The Users' Manual will be designed to help the user learn and understand the components of the travel model, basic information about the models, and how to setup and make edits to the model. The Users' Manual will demonstrate post-processing routines to obtain intersection turn output and air quality modeling inputs. The Users' Manual will include:

- Basics of the Model inputs
- Description of Model Components
- Set up and Running a Base Scenario and use of the Scenario Manager
- Viewing Inputs and Outputs
- Displaying Results and use of Thematic Templates
- Set up and Running Additional Scenarios
- Comparing Results
- Post-Processing Turn Movements
- Discussion on data maintenance for the purpose of keeping the model reasonably current

CONSULTANT will finalize the User's Manual based upon one set of consolidated, non-conflicting comments provided by COUNTY.

CONSULTANT will prepare a report, based on the technical memorandum developed during previous tasks, documenting the development process including a summary of model inputs such as land use assumptions, socio-economic data, and transit routes. The report will also describe the model structure, the coefficients built into the model, and the calibration/validation process. Documentation will include:

- Model development overview
- Summary on hardware/software needs for the model.
- Summary on integration of GIS into the model.
- Zonal Land Use and Socio-Economic Data
- Transit and Highway Networks
- Trip Generation
- Trip Distribution
- Mode Choice
- Person Trip Summaries by Purpose and Model
- Traffic and Transit Assignment
- Performance Statistics

CONSULTANT will finalize the Model Documentation Report based upon one set of consolidated, non-conflicting comments provided by COUNTY

At the conclusion of this Task, CONSULTANT will deliver the final electronic version of the model to COUNTY.

Deliverables:

- DRAFT Model Users' Manual
- DRAFT Model Documentation Report
- FINAL Traffic Demand Model
- FINAL Model User's Manual
- FINAL Model Documentation Report

**Task 1.15: Staff Training**

CONSULTANT will conduct one (1) one-day training session for COUNTY staff at a location to be determined by COUNTY. Topics covered during the training session will include methods to modify the model inputs, how to use and understand the modeling software's interface, how to run the model, how to display output, and how to use automated features.

Deliverables:

- One (1) one-day training session.

**COMPONENT 2 – Environmental Impact Analysis for Targeted General Plan Amendment and Zoning Ordinance Update**

CONSULTANT will work with COUNTY to analyze the potential environmental impacts of the Targeted General Plan Amendment (Resolution of Intention 182-2011) and Zoning Ordinance update (Resolutions of Intention 183-2011 and 184-2011). CONSULTANT shall also analyze the potential for deleting the El Dorado Hills Business Park employment cap limits including options identified in TC-1y. CONSULTANT will develop methodologies to define traffic impacts as a result of the Targeted General Plan Amendment (TGPA) and Zoning Code Ordinance Update. CONSULTANT will coordinate the deliverables from this task with the TGPA and Zoning Ordinance update schedule.

**Task 2.1: Preparation of Administrative Draft Traffic Section**

If available within the time frame required for the DEIR, CONSULTANT shall use the new travel model to complete two (total) model runs to evaluate the two 2035 forecasts created during COMPONENT 3 for the purpose of identifying facility type/lane requirements of existing and planned roadways. Planning level mitigation measures to address roadways deficiencies will be identified and documented during the course of this analysis. Note that if new roadways, revisions to land use forecasts, or significant improvements beyond those provided for in this scope require analysis using the model, this will be completed as an additional service to this Scope of Work.

CONSULTANT will evaluate up to five (5) scenarios for up to three (3) alternatives as defined and provided to CONSULTANT by COUNTY. Traffic impacts associated, beyond those identified in the single model alternative outlined above, will be analyzed qualitatively for incorporation into the alternatives chapter of the Draft Environmental Impact Report (DEIR). The alternatives are anticipated to include No Project, and two (2) project alternatives to be provided by COUNTY.

In the event the updated model is not available within the time frame required for the DEIR, CONSULTANT will work with COUNTY to identify an alternative methodology to address traffic analysis requirements.

CONSULTANT will prepare a Traffic Impact Analysis Chapter which will be included in the DEIR. The chapter will include impacts and mitigation measures related to the impacts.

In the settings section, CONSULTANT will summarize existing traffic infrastructure and constraints. In the impact section, thresholds of significance will be based on existing COUNTY standards will be discussed and defined. Traffic forecast data prepared by CONSULTANT during the course of this task will be provided to COUNTY in a format usable by others for the purpose of noise analysis.

Where significant traffic impacts are identified, program-level mitigation measures will be identified and discussed. COUNTY expects that potential traffic impacts will be mitigated by the TIM fee program and other policies and regulations under the project. CONSULTANT will identify any additional mitigation measures, within the parameters of this task, if applicable.

CONSULTANT will attend up to three (3) meetings, as requested by COUNTY, to coordinate with others working on the DEIR.

**Deliverables:**

- Up to three (3) email summaries of meeting decisions and discussions
- Traffic Impact Analysis Chapter for inclusion in the Administrative Draft EIR
- Travel modeling data prepared in a format usable by others for the purpose of noise analysis.

**Task 2.2: COUNTY and Peer Review Comments**

CONSULTANT will prepare a revised report based on a single set of consolidated, non-conflicting comments provided by COUNTY which includes COUNTY comments and any comments provided by a third party peer review provided by EIR CONSULTANT under separate contract.

**Deliverables:**

- Response to comments as a result of a Peer Review
- Revised draft based on COUNTY and Peer Review Comments for inclusion in the Draft EIR

**Task 2.3: Response to Comments**

COUNTY will supply copies of all traffic-related comments to CONSULTANT.

CONSULTANT will prepare responses to the traffic-related comments and provide an administrative draft of the responses to COUNTY. Report revisions and/or public comment responses exceeding the number of hours allotted for this Task will be provided as an additional service to this Scope of Work.

Deliverables:

- Response to comments as a result of the public comment period

**COMPONENT 3 – Land Use Forecast for TDM**

**Task 3.1: Land Use Forecast Assumptions**

CONSULTANT will prepare for and attend up to two (2) meetings with the COUNTY to finalize the assumptions that will be the basis for developing the two (2) future land use forecasts. Specific items that will be addressed and approved by COUNTY during the course of this task include control totals for housing and employment, distribution of housing and employment between Community Regions and Rural Regions/Rural Centers, basic approach/methodology for determining the intensity/location of land uses within Community Regions and Rural Regions/Rural Centers, and data collection/input participants and meeting schedules.

CONSULTANT will prepare a brief technical memorandum summarizing land use forecast assumptions for approval by the COUNTY, including treatment of growth in areas outside El Dorado County. CONSULTANT will not undertake other land use forecast activities prior to COUNTY acceptance of this memorandum.

CONSULTANT shall consider mixed use development opportunities and place emphasis on locating development close to existing or planned infrastructure. CONSULTANT shall also consider the form and location of development based on constraints and General Plan and State objectives.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

Deliverables:

- Up to two (2) email summaries of meeting decisions and discussions
- DRAFT Technical Memorandum #10: Land Use Forecast Assumptions
- FINAL Technical Memorandum #10: Land Use Forecast Assumptions

**Task 3.2: Land Use Forecast Activities**

The CONSULTANT will prepare two (2) land use forecast scenarios: 2035 based on the existing General Plan and 2035 based on the Targeted General Plan Amendment and the Zoning Ordinance Update. Additionally, CONSULTANT will prepare a 2025 version of the land use forecast based on the existing General Plan. CONSULTANT will update jobs forecast and allocate forecasted dwelling units and jobs to meet the intent of General Plan Objective 2.2.1: Land Use Designations and Planning Concept Areas.

This task Includes attending up to five (5) meetings with COUNTY and other participants, designated by COUNTY, to provide data and input prior to preparing the draft land use forecasts. It is intended that one

(1) meeting shall be limited focusing on identifying the location and intensity of future land uses in Rural Regions/Rural Centers. CONSULTANT will work with COUNTY to identify meeting participants.

Land use forecasts within Community Regions will be based on a review of development considerations at the parcel level. This methodology will consider materials previously prepared by COUNTY and EDAC maps previously presented to COUNTY. Land Use forecasts within Rural Regions/Rural Centers will be based on CONSULTANT and COUNTY knowledge and expertise related to development patterns in these areas.

CONSULTANT will use GIS both as a primary tool to develop land use forecasts and to capture the data inputs and develop findings during this task. GIS will be used to summarize parcel level data at the Community Region, Rural Region/Rural Center, and County-wide levels for the purpose of ensuring the final products meet the assumption finalized during Task 3.1. Parcel level land use forecast data will be summarized into both the existing TAZs and the updated TAZs developed during Task 1.7 for purposes of comparison and for use during Task 3.3.

CONSULTANT will prepare a brief technical memorandum summarizing the input received during the course of this task, the forecast methodology(s), and findings. A special focus of this memorandum will be to identify and discuss differences between the two (2) land use forecasts developed over the course of this Task and the forecast documented in the 2002 *El Dorado County Land Use Forecasts for Draft General Plan (EPS)*.

CONSULTANT will finalize the memorandum based upon one set of consolidated, non-conflicting comments provided by COUNTY.

**Deliverables:**

- Up to five (5) email summaries of meeting decisions and discussions
- GIS based DRAFT Land Use Forecast(s)
- Draft Technical Memorandum #11: Land Use Forecast Activities
- Final Technical Memorandum #11: Land Use Forecast Activities

**Task 3.3: Land Use Forecast Workshop**

CONSULTANT will present preliminary findings and results, review land use maps, and solicit COUNTY comments during a workshop. COUNTY is responsible for providing CONSULTANT with one set of consolidated, non-conflicting specific comments/directions that will be the sole basis for finalizing the two (2) land use forecasts.

CONSULTANT will, based on COUNTY'S comments, finalize the two (2) land use forecasts at the parcel level in GIS. Subsequently, CONSULTANT will convert the parcel level data into TAZ level data for use in the TDM.

**Deliverables:**

- One (1) email summary of meeting decisions and discussions
- GIS based FINAL land use forecast(s)

**Contingency Task**

This task provides for unanticipated services or costs necessary to successfully complete the project. Services covered under this task, include but are not limited to:

- Additional meetings
- Public outreach activities
- Additional staff training
- Data collection activities

CONSULTANT will not undertake any additional services under this Task without the express written approval of the Contract Administrator.

## **COMPONENT 4 - Rural Area Land Use Forecasting and Iterative Analysis**

### **Task 4.1: Rural Area Land Use Forecast**

To the extent necessary to address data requirements for the ongoing forecast of households and employment (a separate consultant and contract from the IDM Update), the CONSULTANT will complete parcel level analysis of portions of the Rural Regions/Rural Centers using a methodology similar to that established for parcels within the Community Regions. This analysis will incorporate the following specific criteria to determine the development potential of vacant parcels or underdeveloped parcels:

- Dwelling units
- Current land use designation
- Adjacent land use
- Adjustment for General Plan policies such as agricultural setbacks, etc. (as deemed appropriate)

The results of this analysis, in conjunction with market area forecasts of housing and employment, will also be used to develop household and employment forecasts for specific community regions (in instances where they overlap with more than one market area) and to subsequently establish the following three land use forecast scenarios provided for in the original scope of services:

- 2035 based on the existing General Plan
- 2035 based on the Targeted General Plan Amendment and the proposed Zoning Ordinance Update
- 2025 based on the existing General Plan (Note: Further parcel level assignment of growth in the rural regions and rural centers is not anticipated to be needed)

The resulting land use forecast scenarios (utilizing household and employment forecasts), their conversion to model compatible data, and the subsequent model travel demand forecasts will be completed under the existing scope of services (at no additional cost). Note that this Task is limited to the number of hours provided for in the attached cost estimate.

#### **Deliverables:**

- GIS based FINAL land use forecast(s)
- Summary of land use data/intensities for the following data attributes/ geographic areas:
  - Housing and vacant land inventory (Countywide, Market Area, and Community Regions)
  - Biological Policy Amendments related to Oak Woodlands and related Biological Protection resource policies
  - Mitigation Areas 0 and 1 (Ecological Preserve for Pine Hill Preserve rare plant habitat)
  - Airport safety zones



- Missouri Flat Master Circulation and Financing Plan Phase II
- Up to one additional existing geographic area defined by the County (data attribute that is the basis for selection must already exist)

**Task 4.2: Land Use Forecast Revision and Model Analysis - OPTIONAL**

At the request of the COUNTY, the CONSULTANT will evaluate the model forecast resulting from Task 4.1 to determine the cause of transportation improvement needs in Rural Regions and Rural Centers that differ from County policies using select link analysis and other select GIS techniques. The CONSULTANT will provide guidance regarding the principle causes of improvement needs in terms of the geographic location and the associated intensity of development. This information will be used by others to revise the 2035 household and employment forecast to reflect a more reasonable forecast considering the anticipated cost or anticipated likelihood of required improvements being completed (i.e., EDC policy encourages development to occur in Community Regions or other identified barriers to development).

The resulting 2035 household and employment forecast will be used by the CONSULTANT to adjust the following three land use forecast scenarios:

- 2035 based on the existing General Plan
- 2035 based on the Targeted General Plan Amendment and the Zoning Ordinance
- 2025 based on the existing General Plan

If more than four single transfers of residential uses between market areas or efforts in excess of the allotted hours are required, that analysis will be provided as an additional service.

The CONSULTANT will, based on the County's comments, finalize the three land use forecasts. Subsequently, the CONSULTANT will convert the parcel level data into TAZ level data for use in the TDM and complete and summarize a model run using appropriate data and maps.

This CONSULTANT will complete up to one (1) additional iteration of the process outlined above (within this Task).

**Deliverables:**

- GIS based FINAL land use forecast(s)
- Summary of land use data/intensities for the following data attributes/geographic areas:
  - Housing and vacant land inventory (Countywide, Market Area, and Community Regions)
  - Biological Policy Amendments related to Oak Woodlands and related Biological Protection resource policies
  - Mitigation Areas 0 and I (Ecological Preserve for Pine Hill Preserve rare plant habitat)
  - Airport safety zones
  - Missouri Flat Master Circulation and Financing Plan Phase II
  - Up to one additional existing geographic area defined by the County (data attribute that is the basis for selection must already exist)

**Task 4.3: Meetings and Documentation- OPTIONAL**

This task includes attending up to three (3) meetings with the COUNTY and other participants designated by the COUNTY, to discuss the results and analysis of Tasks 4.1 and 4.2.

At the request of the COUNTY, the CONSULTANT will prepare a brief technical memorandum summarizing the activities undertaken during Task 4.1 and Task 4.2. The CONSULTANT will also update Technical Memorandum #11 as appropriate.

Deliverables:

- Brief memorandum summarizing activities
- Updated mapping and text for Technical Memorandum #11

**Task 4.4: Additional Presentations- OPTIONAL**

This task includes presentations to an audience to be identified by COUNTY.

At the request of the COUNTY, the CONSULTANT will explain the model development process in layman's terms using a case study approach.

Deliverables:

Up to two (2) Model Presentations to County selected groups

Up to four (2) email summaries of meeting discussions and comments



# Exhibit "B-1"

## Estimate of Cost for Traffic Model Update Services and TGPA/Zoning Ordinance Update EIR Support Services

County of El Dorado - Office of the Chief Administrative Officer (CAO)

Task	Rates and Hours										Total Hours	Total Cost
	Principal	Project Manager	Senior Engineer / Planner	Engineer / Planner II	Engineer / Planner I	Admin Prof.	Clerical / Admin					
<b>Component 1 - Update Traffic Model to 2010 Baseline</b>												
1.1 - Project Management	\$225	\$185	\$165	\$140	\$120	\$105	\$75					
1.2 - Traffic Demand Model Meetings	0	22	25	0	0	6	13					\$9,800.00
1.3 - Software Vendor Presentations	0	29	6	0	28.5	13	0					\$11,140.00
1.4 - Existing Land Use and Socio-Economic Data Collection	0	0	5.5	0	0	0	0					\$907.50
1.5 - Model Sensitivity to El Dorado County Policies and Factors	0	3	2	0	131.5	0	1					\$16,740.00
1.6 - Roadway Network	0	10	15	20.5	75	0	1					\$16,270.00
1.7 - Traffic Analysis Zone (TAZ) Structure	0	3	9	0	85	0	0					\$12,240.00
1.8 - Traffic Counts and Transit Ridership Data	0	2	10.5	0	84.5	0	0					\$12,242.50
1.9 - Trip Generation and Trip Distribution	0	0	16	0.5	32	0	0					\$6,550.00
1.10 - Mode Choice	0	25	23.5	0	73.5	2	0					\$17,532.50
1.11 - Trip Assignment and Model Calibration/Validation	0	16	7	31	5	0	5					\$9,430.00
1.12 - Special Tools - Software Automation and Administration	0	40	24	75.5	15	0	4					\$24,030.00
1.13 - Model Presentations to County and Peer Agencies	0	24	25	40	22	0	5					\$17,180.00
1.14 - Final Traffic Demand Model, User's Manual, and Documentation	0	55	0	0	27	6.5	7.5					\$14,660.00
1.15 - Staff Training	0	24	40	0	40	0	4					\$16,140.00
	0	16	0	0	24	0	4					\$6,140.00
<b>Subtotal</b>												<b>\$191,002.50</b>
<b>Component 2 - Environmental Impact Analysis for TGPA and Zoning Ordinance Update</b>												
Task 2.1 - Preparation of Admin Draft Traffic Section	0	16	120	0	160	0	4					\$42,260.00
Task 2.2 - Peer Review Responses	0	16	16	0	16	0	4					\$7,820.00
Task 2.3 - Response to Comments	0	16	16	0	8	0	4					\$6,860.00
<b>Subtotal</b>												<b>\$56,940.00</b>
<b>Component 3 - Integration of Land Use Forecast Update into Traffic Model Update</b>												
Task 3.1 - Land Use Forecast Meetings	0	19	7	0	12	0	0					\$6,110.00
Task 3.2 - Land use Forecast Activities	0	76	26	0	212.5	0	2					\$44,000.00
Task 3.3 - Land Use Forecast Workshop	0	16	0	0	16	0	4					\$5,180.00
<b>Subtotal</b>												<b>\$55,290.00</b>
<b>Component 4 - Rural Area Land Use Forecasting and Iterative Analysis</b>												
Task 4.1 - Rural Area Land Use Forecast	0	40	0	0	40	0	0					\$12,200.00
Task 4.2 - Land Use Forecast Revision and Model Analysis - OPTIONAL	0	44	0	0	96	0	0					\$19,660.00
Task 4.3 - Meetings and Documentation - OPTIONAL	0	12	0	0	4	0	2					\$2,850.00
Task 4.4 - Additional Presentations - OPTIONAL	0	14	0	0	0	0	0					\$2,590.00
Subconsultant - OPTIONAL												\$17,000.00
<b>Subtotal (OPTIONAL Component 4 Tasks Only)</b>												<b>\$42,100.00</b>
<b>Expenses, Subconsultants, and Project Contingency</b>												
Direct Expenses (Mileage, Shipping, Misc.)												\$500.00
Subconsultant (excludes OPTIONAL Component 4 Tasks)												\$93,505.00
Project Contingency												\$0.00
<b>Subtotal</b>												<b>\$94,005.00</b>
<b>Grand Total</b>												<b>\$451,537.50</b>