2021
CALL FOR PROJECTS
SUPPLEMENTAL
APPLICATION
GUIDE

Table of Contents

Attachment A: <u>Sample Supplemental Application</u>

Introduction and Purpose of Guide

The Supplemental Application, in Excel format, has been developed to encompass all components necessary for the Orange County Transportation Authority's (OCTA's) Regional Traffic Signal Synchronization Program (RTSSP) 2021 Call for Projects. This completed Supplemental Application must be submitted in hard copy and electronically, both in PDF and Excel format, as per the latest update to the Comprehensive Transportation Funding Program (CTFP) Guidelines. A partially filled Sample Supplemental Application is included at the end of this Guide.

As much as possible, the Supplemental Application will identify what is automatically calculated versus what requires an input. For example, **green** shaded cells denote **INPUT** fields and **gray** shaded cells denote **AUTO-FILL** fields. Note that the color on your screen may vary due to screen resolution.

The following sections will detail the required updates to each tab on the Excel file to complete the Supplemental Application.

If you have additional questions or need assistance, please email TrafficOps@octa.net .

Title Page

The cells that will require an input are as follows:

- Enter the ***Date of Submittal*** in Row 13
- Select the appropriate ***Type of Submittal*** from the drop-down in Row 14
- Using the dropdown menu, select the ***Participating Agencies*** starting with Row 27.
  a. Use one line per agency as shown in the Sample Supplemental Application.
  b. Only select Caltrans as a participating agency if all agencies that have Caltrans intersections are willing to sign a cooperative agreement.
- Using the dropdown, select the ***Applicant Agency*** in Row 38
- Enter the ***Contact Name*** for the ***Applicant Agency*** in Row 40
- Enter the ***Contact Number*** for the ***Applicant Agency*** in Row 42
- Enter the ***Contact Email*** for the ***Applicant Agency*** in Row 44

For the cells that will automatically populate, such as the name of the corridor and the funding request, it is recommended that these values be checked once more once all other tabs are updated.

Table of Contents (Checklist)

Populate the corresponding page numbers in Column B after the rest of the application is filled out. Make sure to avoid any page number overlaps.

Section 1: Key Technical Information

This section will be completed in three different tabs (Section 1.a-j, Section 1.k-l, and Section 1.m).

Part a: Type and Name of Project

- Use the drop-down menu to select the type of project in Row 3. The eligible types of projects as per CTFP:
    - ***Corridor****: shall be a single, multijurisdictional eligible corridor that includes at least 20 intersections; at least five (5) miles in length; at least three (3) eligible local agencies and four (4) signals per mile; or the full length of the corridor*
    - ***Grid****: shall be multijurisdictional with a minimum of two (2) local, eligible agencies and consist of one main corridor that is specifically identified with a maximum of two (2) crossing corridors with no more than fifty (50) intersections*
    - ***Route****: must be supported with simulation or actual vehicle counts showing Origin-Destination that proposes linked corridors to form a route with a maximum total of three corridors and the total number of intersections between these corridors are limited to fifty (50)*
- Enter the Project Name, which is the Name of the Corridor/Grid/Route in Row 4. Be sure to include the all names for a corridor that changes name.

Part b: Project Limits

Enter the project limits in Row 7, starting with the Northern/Western limit to the Southern/Eastern limit. If it is a grid project, please enter the limits of the main corridor. The full extent of the grid should be explained in Section 2. If it's a route, enter the starting and ending intersections.

Part c: Project Length

Enter the project length in miles to the nearest hundredth place. Include all route and grid corridors.

Part d: Number of Signalized Intersections

Enter the number of signalized intersections along the corridor/grid/route that will be synchronized as part of this project in Cell B13.

- The count shall include all Caltrans intersections whether or not a cooperative agreement will be signed.
- This shall NOT include any offset intersections that will be included with the project for synchronization. The number of offset signals should be entered in Cell H13

Part e: Participating Agencies

Using the checkboxes, select all the participating agencies that will be a part of this project, including the applicant agency.

Caltrans shall only be selected if all Participating Agencies that have Caltrans signals in their jurisdiction pledge to sign a Cooperative Agreement with Caltrans. The pledge shall be included with the letters of support from all participating agencies. The applicant agency will pledge this in the application cover letter, if applicable.

All participating agencies, and Caltrans if included, will be required to provide a letter of support in Appendix D and an approved resolution in Appendix A.

Part f: Lead Agency

Using the checkboxes, select the Lead Agency. The Lead Agency is responsible for delivering the project, collecting the required match, and filing the Final Report with OCTA Local Programing.

Choices include: OCTA and all eligible Orange County cities, including the County of Orange. Select only one option.

If a local agency is chosen as the Lead Agency, please use the drop-down menu to select the agency. Caltrans **CANNOT** be a lead agency. This dropdown menu pulls data from the list of Participating Agencies on the Title Page so you may see Caltrans listed.

Part g: Designation of the corridor to synchronize

The project must be either on the Signal Synchronization Network (SSN) or on the Master Plan of Arterial Highways (MPAH) network. Technically, the entire SSN is on the MPAH, but only select MPAH if the corridor is not on the SSN. **If neither is true, then this project does not qualify for Project P funding**.

Part h: Project Start and End Dates

This field will automatically populate using the information provided in Section 6.

Part i: Previous Project P Funding

In this section, you will indicate what percentage of the project has received previous Project P funding.

Part h: Project Start and End Date

This section is automatically populated with information from Section 6. Confirm the dates after filling out Section 6.

Part i: Percentage of Retimed Signals

Select "< 75%" if the project will include less than 75% of a previously funded corridor/route/grid or this corridor has never been synchronized before with Project P funding. If you are unsure, feel free to inquire by sending an email to TrafficOps@octa.net.

Select ">= 75%" if the project will include 75% or more of a previously synchronized corridor/route/grid.

Part j: Contact Information

Enter the project contact for every participating agency. Each contact should include the agency, contact name, position of contact, contact phone number, contact email, and mailing address.

Part k (Tab *Section 1.k-l*): List of Signalized Intersections

Enter the name of the main corridor and cross street under the appropriate columns. Make sure to number the entries and denote the owning agency with color. Do not separate Caltrans intersections by color as shown in the Sample Supplemental Application. Caltrans intersections will be counted towards the agency based on physical location. Designate Caltrans intersections with an asterisk (*) per the Sample Supplemental Application.

Part l (Tab *Section 1.k-l*): List of Offset Signals

If offset signals, signalized intersections within 2,700' of the project corridor/grid/route, are going to be included in this project, enter the main street and cross street of each. Make sure to number the entries, which continues from the previous part, and denote the owning agency with the appropriate colors.

Part m (Tab *Section 1.m*): Project Map Depicting the Project Limits

Please include a quality map that shows the limits of the project. Do not use satellite view as that is hard to read. A proper map should show all the project intersections, street names, and a legend to distinguish intersections by agency. Fit the map to one page, whether letter or tabloid and portrait or landscape.

Section 2: Regional Significance

In this section, you will explain why this project is regionally significant. Any justification for a route or grid project would also be included here. Please keep this section to one page. If this is a grid, introduce the main corridor (indicate limits) and include the crossing arterials and their corresponding limits.

Section 3: Acknowledgement of Required Tasks

In Part a, you will acknowledge on behalf of all participating agencies that, if funded, the applicant agency will execute this project per the CTFP Guidelines and include the tasks and components as written in this section. If additional tasks or exceptions to the tasks are requested, please check the designated boxes and describe it in the spaces provided.

In Part b, you will acknowledge, on behalf of all participating agencies, to comply with environmental requirements and other permits as necessary.

In Part c, you will acknowledge, on behalf of all participating agencies, that this project will comply with the current CTFP Guidelines.

The cells are shaded green to help highlight the areas described above.

Section 4: Funding Needs / Costs for Proposed Project by Task

In this section, you will break down the costs per tasks per agency. Input fields are shaded in **green**.

Do not input anything in Part a, Summary of Project Cost, as this table will automatically populate with the updates to the individual agency tables following it.

In Part b (Summary of Cost by Agency):

- Input Agency Name by selecting from the drop-down menu. Do not select Caltrans.
- Input number of signalized intersections that are owned and operated by the agency (exclude Caltrans intersections)
- Input number of signalized intersections that are owned and operated by Caltrans within the agency's jurisdiction
- Input number of offset signals within the agency's jurisdiction that are included in this project for signal timing purposes
- Input cost per intersection per task
- Input the pledged cash and in-kind match
- Repeat for every participating agency (excluding Caltrans)

Note that all fields in Task 3 will automatically populate based on Table I and Table II tabs.

There is a mathematical check on the right to make sure the overall project budget does not exceed the max cap and that there is a minimum of 20% match per agency. Please verify all formulas as necessary to ensure that the calculations are accurate.

It is not required that all agencies use up the available budget per signal/mile caps, but each agency is required to contribute at least a 20% match towards their expenses. The overall project match must be at least 20%. Agencies with Caltrans signals shall also provide a match for timing, O&M, and any improvements proposed.

Table I: Agency Improvement Preferences

The purpose of this table is to capture the equipment preferences of each participating agency and the respective cost per unit. Some of the most common specific improvements are listed for your convenience. Adjust the improvements as you see fit, but if you add additional rows, make sure to also include the change in Table II because they should be linked. If you need assistance, email TrafficOps@octa.net.

- As with the other sections, the input fields are shaded green.
- Select the agency names from the dropdown menu starting with Cell D5.
- Under the *Unit Price (Material + Labor)* columns, enter the unit price per improvement.
  - This shall include all material, labor, flat-rate turn-on support, tax, and shipping costs for a fully operational improvement.
  - Common things that applicants forget about include:
    - fiber termination, fiber distribution units, splice enclosures, SFP units (qty and speed), slack for cable length, conduit repair for fiber installation in existing conduit installations, existing conduit capacity, length of new conduit, number of pullboxes required, etc.
  - Unit costs shall be estimated and derived from recent procurements when possible.
- Under the *Applicable Design Cost Per Unit* column, enter any associated design cost requested as part of that improvement. Design costs are typically 10-15% of the improvement costs and it is assumed that some items will not require any design. Note that the Task 2, Data Collection, unit cost included in the Section 4 tab includes field work for signal timing and infrastructure improvement efforts.
- Enter the brand/model/specific preferences under the *Vendor/Brand & Additional Notes* columns, if known. Repeat for every applicable improvement.
- Insert more columns as necessary to include all participating agencies, but make sure the formulas are consistent with the rest of the table. If you need assistance, email TrafficOps@octa.net.
- Delete or hide columns if they are not needed to condense the table for printing.

Table II: Description of Work by Intersection

This table will include all the improvements and associated costs proposed on this project per intersection.

- In column A, a number is assigned to every intersection based on Section 1. For convenience, Column C is automatically populated for you based on Section 1. However, if this format does not work because not every intersection has improvements, you can choose to renumber the intersections in Column A, but follow the numbering from Section 1. As shown in the Sample Supplemental Application, no numbers are assigned to improvements at the Traffic Management Center. Enter the TMC improvements at the end of the table if you choose to keep the format as provided. You can also choose to renumber and include TMC improvements at the end of each agency's list of intersections as shown in the Sample Supplemental Application.
- In column B, list the implementing agency. Unlike Section 1, you will be selecting the agency that will be providing the match for the associated improvement costs. Therefore, Caltrans intersections might not be labeled as Caltrans if a local agency is funding the improvements, as shown in **red text** on the Sample Supplemental Application.
- In column C, list all project cross streets. For convenience, it is set up to reference Section 1, but if you modify the numbering, you will need to adjust the contents of Column C to match the new numbering. In the Sample Supplemental Application, the intersection list is referenced to Section 1 to avoid having to retype.
- Columns D to AP include some of the eligible improvements as approved in the CTFP Guidelines. These columns are linked to Table I, so if changes are made, make sure both tables match with the **ID** corresponding to the **Item Description**. We've left some empty spots so you don't need to add any more columns, but if you do, please make sure to reference Table I.
- For every intersection, enter the quantity for each improvement that is proposed in the appropriate spaces as shown in the example. If a value is added to an improvement that does not currently have a cost associated in Table I, the cell will change colors to indicate that.
- The spreadsheet is set up to automatically sum the total cost of improvements based on the quantity entered in Table II and the unit price information entered in Table I. If you intend to add additional columns, make sure it is referencing the correct cell.
    - In Cell AS6, enter the percentage of the construction that should be added for construction management and inspection.
    - In Cell AT6, enter the percentage of contingency that would be added to the design, construction, and construction management/inspection total.
    - In Cell AV6, enter the agency match percentage (minimum of 20%). If an agency is going to match more than 20%, please update the cells below accordingly.
- In the *Notes* column, enter any additional information, such as modifications required at any intersection or any extra information that will help with procurement/pricing. See the Sample Supplemental Application for examples.

Important Note: The cells in Table I and II are linked, thus adding rows may disrupt the formula. If you need assistance, please email TrafficOps@octa.net for assistance.

Section 5: Detailed Local Match Commitment

Please refer to Section 4 and Table II sheets when completing the tables in this section.

- Part 1 will automatically be filled. Fill in the required information shaded in green in Part 2.
- In Part 2A, the Agency will auto-populate based on Section 1. The applicant only needs to fill in the funding source for the cash match.
- If agencies intend to use specific improvements towards their required match, the information shall be entered in Part 2Bi. The specific improvement per agency must be entered to complete the table. Improvements proposed for in-kind match shall be an eligible improvement per the CTFP Guidelines. If no improvements will be contributed, then leave the table blank.
- In Part 2Bii, if in-kind match is provided, the applicant shall enter staff or consultant hours that will be contributed towards the project. The agency, staff position, type of service to project, number of hours, and fully burdened hourly rate shall be entered. Each agency will be responsible for keeping detailed records of hours worked and description of work. An accounting record of personnel, hours at fully burdened rate is expected to be included with the in-kind report submittals. Records will be subject to auditing. Refer to the Sample Supplemental Application as needed.

Additional rows shall be added as necessary to complete this section. It is also recommended that the applicant confirm the values shown to ensure consistency throughout the application.

Delete or hide blank rows as necessary for printing.

Section 6: Project Schedule for the 3 Year Grant Period by Task

In this section, fill in your projected dates in Part b. Dates shall be no sooner than fiscal year July 2021 – June 2022. Part a will be automatically populated based on the information in Part b.

If the project can be implemented within 12 months, it can qualify for additional points by checking the box under Part b. However, if checked, this will mean the project will not be allowed to request for delays or timely use of funds extensions so select with caution. If you cannot implement within 12 months, it is best that you do not check the box.

Part c refers to additional monitoring and maintenance that is outside of the grant funding. Any related expenses shall not be a part of the requested funding. By checking the box, the applicant, on behalf of the participating agencies agree to monitor and maintain the synchronization beyond the grant period. This also qualifies for addition points, but if selected, the corridor/grid/route will be ineligible to compete for future Project P funding until this additional monitoring and maintenance has been fulfilled. Select with caution. If you intent to compete for Project P funding again in 3 years, it is best to select "Zero Years".

Appendix A: Agency Resolutions

Include the resolution for every participating agency in this appendix. A sample resolution with estimated dates is acceptable if a resolution is not ready at the time of submission. A sample resolution can be found in the CTFP Guidelines. A Microsoft Word copy may be requested by emailing TrafficOps@octa.net.

Appendix B: Vehicle Miles Traveled (VMT)

Include the vehicle miles traveled (VMT) data calculation in this table. Input the segments (Column C) within the corresponding agency (Column B), average daily traffic (ADT, Column G), and the segment length (Column H). VMT should be calculated by the smallest segmentation on which the city typically collects ADT data. ADT must be based upon actual count information taken within 36 months preceding the application date and include 24-hour, midweek, bi-directional counts for each segment. All supporting data shall be inserted after this summary table and be organized in order in which they appear for the calculation of the VMT. Data from the OCTA Traffic Flow Map shall not be used. Failure to provide the appropriate ADT data will be treated as a non-responsive application.

Appendix C: Calculations and Estimated Points

This appendix provides the Estimated Points for your application.

Required input fields are shaded in **green**, which include the following:

- **Total number of offset signalized intersections (Cell H4)** refers to all possible offset signalized intersections whether or not it will be part of the optimized timing task. Offset signals on the project refers to the signalized intersections within 2,700 feet from either direction of the project corridor.
- **Project Characteristics in Rows 10 to 15** contain approved improvements and their associated points. Note that there is a 10-point maximum for this category.
  - **Timing Only, No Capital (10 points)**
    - If this characteristic is selected, no other characteristics may be selected
  - **Real-time traffic actuated operations and demonstration projects (4 points)** can be claimed for any one of the following:
    - Traffic Responsive only if all signals, in at least one agency on the project, are included in the system
    - Peer-to-peer program on traffic control devices
    - Adaptive traffic signal systems only if all signals, in at least one agency on the project, are included in the system
    - Bluetooth and/or connected vehicle roadside units implemented at least three (3) intersections on the project. If implemented, these items will require a data sharing agreement with OCTA.
  - **Automated Traffic Signal Performance Measures (ATSPM) (4 points)**
    - Select only if all signals, in at least one agency on the project, are included in the system, which will also be used during the O&M phase of the project. If implemented, this will require a data sharing agreement with OCTA.

- o **Intelligent Cameras (3 points)**
  - Select only if price of camera includes analytics, such as automated continuous counts and other metrics, either built-in or through an analytics module
    AND
  - A minimum of three (3) units must be implemented on this project. If implemented, these cameras will require a data sharing agreement with OCTA.
- o **Detection for Automated Traffic Signal Performance Measures (ATSPM) and traffic counts (3 points)**
  - Select only if the proposed detection will increase the number of inputs into the signal controller for the purpose of signal performance measures (e.g. ATSPM) and traffic counts
    AND
  - A minimum of three (3) locations must be implemented on this project.
- o **Separate Bicycle and/or ADA Pedestrian Detection (3 points)** that will improve the accessibility, mobility, and safety of the facility for pedestrians and bicyclists
  - Inductive loops, video detection, radar, sonar, thermal, hybrids thereof, and other types of detection systems that can distinguish bicycles. This includes implementing a separate bicycle minimum and/or clearance parameter in the traffic signal controller.
  - ADA compliant Pedestrian Signals including, but not limited to, tactile and audible buttons in countdown signal heads are also included in this project characteristic.
  - Select only if a minimum of three (3) units of either or a combination of bicycle and ADA pedestrian detection systems are implemented on this project.
- o **New or Upgraded Communication Systems (2 points)**
  - New contemporary communication system improvements (e.g. Ethernet) including all conduits, pull boxes, fiber optic and/or copper cabling (not to exceed 120 strands), network switches and distribution systems. These systems should be sufficiently sized for the need capacity of the Intelligent Transportation System (ITS) network. Excess capacity is deemed non-participating and also, cannot be used as part of the required project match.
  - Replacement fiber optic or copper cabling for network communication.
  - Software and hardware for system traffic control
  - Control and monitoring interconnect conduit (including upgrades or replacement of existing systems).
  - Communication closure systems of conduit, cable, and associated equipment that are outside of project limits but complete a designated communications link to an existing network for the Advanced Transportation Management System (ATMS) for an agency or agencies. Only communication links that are installed from a central location and/or communications hub to the project corridor that does not currently have a fiber connection to a central location are eligible.
- o **Intersection or Field System Modernization and Replacement (2 points)**
  - Traffic signal controller replacement of antiquated units with Advanced Transportation controller (ATC) units. ATC shall comply with latest industry standards.

- Controller cabinet (assemblies) replacements that can be shown to enhance signal synchronization.
- Closed Circuit Television (CCTV).
- Uninterruptible Power Supply (UPS) for ATMS and intersection field equipment. For ATMS, UPS shall solely provide electrical power for ATMS Server(s), one dedicated workstation (console terminal) and related communications devices. UPS for ATMS is not intended to provide power to entire TMC and approval of request for UPS is at the sole discretion of OCTA.
- Active Transportation/Pedestrian Safety related elements
    i. High-Intensity Activated crosswalk signaling systems (HAWK)
    ii. Pedestrian detection modules
    iii. Bicycle detection modules.
    iv. Rectangular Rapid Flashing Beacon Systems (RRFB) including striping, legends, and signage.
- o **Minor Signal Operational Improvements (2 points)**
    - Emergency Vehicle Preempt (EVP) intersection control equipment only
    - Transit Signal Priority (TSP) intersection control equipment only
    - Channelization (signing, striping, raised pavement markers, in lane flashing guidance or warning marking systems, and legends) improvements required for traffic signal phasing.
    - Traffic signal phasing improvements that will improve traffic flow and system performance including protected permissive left turn phasing and shared pedestrian phasing, excluding display equipment and other ineligible activities as mentioned in these guidelines.
- o **Traffic Management Center or Traffic Operations Center and Motorist Information (1 point)**
    - New TMCs or TOCs (any project funded under this category should plan for center-to-center communication (C2C) with nearby agencies and/or OCTA).
    - Upgrades to existing TMCs or TOCs (any project funded under this category should plan for C2C with nearby agencies and/or OCTA).
    - Motorist information systems (up to 10 percent (10%) of total project costs for PI phase only).
    - Video display equipment, including wall monitors, screens, mounting cabinets, and optical engines (up to 10 percent (10%) of total construction costs for PI phase only).
- o **New or Upgraded Detection (1 points)**
    - New or upgraded vehicle, pedestrian, and bicycle detection that does not already meet the above categories can be claimed (1 point) if there are a minimum of three (3) implementations along the signal synchronization corridors to ensure necessary conditions for signal synchronization: inductive loops, video detection, radar, sonar, thermal, hybrids thereof, and other types of detection systems.
- Note that only one feature can be selected for any qualifying improvement; for example, an implementation of a new video detection system that can distinguish bicycles can be selected

for points under the "Separate Bicycle/ADA Pedestrian Detection" or "New/Upgraded Detection", but not both.

- **Number of signals** along entire length of corridor in Orange County whether or not they are part of this project.
    - o For a grid network, this would be the total number of signals on the main corridor.
    - o For a route, use the longest corridor.

The rest of the fields in **gray** will automatically populate. Please make sure the values are correct based on inputs in all previous sections.

Appendix D: Additional Information

Include the letters of support for all participating agencies in this appendix. You may also include additional information that will assist in the evaluation and understanding of the project. Please **DO NOT** include the CTFP Guidelines or the MPAH maps.

Printing the Document

The intent is for all documents to look alike so it streamlines the application reviewing process and saves paper. With that in mind, go into the **Print** menu and select **Print Entire Workbook.** Then use **Print Preview** to scroll through all the pages to ensure the contents are not inappropriately spilling onto the next page and that you have the correct page numbers.

- Make sure to check the page numbers in the Checklist (aka Table of Contents) as well.
- Make sure to update the **Headers** with the project name.
- Delete or hide columns if they are not needed to condense the table for printing.

Additional Help

If you have additional questions or need assistance, please email TrafficOps@octa.net.

FY 2021 Call for Projects

Regional Traffic Signal Synchronization Program

Project P

<SAMPLE> Supplemental Application

Kraemer Boulevard / Glassell Street / Grand Avenue

10/22/2020
Application Deadline

Project Overview

Length of Corridor (mi):	15.1
Number of signals:	60
Total Project Cost:	$2,570,291.00
M2 funds requested:	$2,056,232.80
Total Match:	$514,058.20
Cash Match:	*$479,283.20*
In-kind Match:	*$34,775.00*
Participating Agencies:	Anaheim
	Brea
	Orange
	Placentia
	Santa Ana

Applicant Agency: City of Anaheim

Contact Name: John Doe

Contact Number: 949-567-8899

Contact Email: John.Doe@city.gov

a. Project   **Corridor**
Kraemer Boulevard / Glassell Street / Grand Avenue

b. Project Limits:
from _____**Lambert Road**_____ to _____**SR-55 Southbound Off-Ramp**_____

c. Project Length (*miles*):
_____**15.14**_____

d. Number of signalized intersections along the corridor (include all Caltrans intersections):
_____**60**_____ number of signals on project corridor(s)   _____**0**_____ number of offset signals included in this project

e. Participating agencies / Traffic Forum Members (*including applicant agency*):

				☐ San Juan Capistrano
☐ Aliso Viejo	☐ Cypress	☐ La Habra	☐ Los Alamitos	☑ Santa Ana
☑ Anaheim	☐ Dana Point	☐ La Palma	☐ Mission Viejo	☐ Seal Beach
☑ Brea	☐ Fountain Valley	☐ Laguna Beach	☐ Newport Beach	☐ Stanton
☐ Buena Park	☐ Fullerton	☐ Laguna Hills	☑ Orange	☐ Tustin
☐ Caltrans	☐ Garden Grove	☐ Laguna Niguel	☑ Placentia	☐ Villa Park
☐ Costa Mesa	☐ Huntington Beach	☐ Laguna Woods	☐ Rancho Santa Margarita	☐ Westminster
☐ County of Orange	☐ Irvine	☐ Lake Forest	☐ San Clemente	☐ Yorba Linda

f. Lead Agency
☑ OCTA   ☐   **Select a City**

g. Designation of the corridor to synchronize:
☑ Signal Synchronization Network Corridor or Priority Corridor   ☐ Master Plan of Arterial Highways Corridor

h. Project Start Date: _____**January 1, 2022**_____ Project End Date: _____**December 31, 2024**_____

i. What percentage (%) of this corridor/grid/route has received past Project P funding?
☐ < 75%   ☑ >= 75%

j. Contact Information

Agency	Phone	Email	Mailing Address
City of Anaheim Name of Contact Position	949-567-8899	John.Doe@city.gov	Street Address City, State, Zip
City of Name of Contact Position			Street Address City, State, Zip
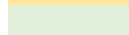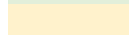
k. <u>Signalized intersections that are part of the project:</u>

	Main Corridor	Cross Street			Main Corridor	Cross Street
1	Kraemer Blvd	Lambert Road		41	Grand Avenue	Fairhaven Avenue
2	Kraemer Blvd	Birch Street		42	Grand Avenue	Santa Clara Avenue
3	Kraemer Blvd	Orbiter Street		43	Grand Avenue	21st Street
4	Kraemer Blvd	Birch Mall		44	Grand Avenue	17th Street
5	Kraemer Blvd	Imperial Highway (SR-90)*		45	Grand Avenue	I-5 Northbound Ramp*
6	Kraemer Blvd	Buttonwood Dr/Saturn St		46	Grand Avenue	Santa Ana Blvd/I-5 SB Ramp*
7	Kraemer Blvd	Golden Avenue		47	Grand Avenue	Fruit Street
8	Kraemer Blvd	Patrician Lane		48	Grand Avenue	6th Street/OC Register
9	Kraemer Blvd	Bastanchury Road		49	Grand Avenue	4th Street
10	Kraemer Blvd	Yorba Linda Boulevard		50	Grand Avenue	1st Street
11	Kraemer Blvd	Sheffield Street/Morse Avenue		51	Grand Avenue	Chestnut Avenue
12	Kraemer Blvd	Madison Avenue		52	Grand Avenue	McFadden Avenue
13	Kraemer Blvd	Alta Vista Street		53	Grand Avenue	Century High School
14	Kraemer Blvd	Chapman Avenue (North)		54	Grand Avenue	St. Andrew Place
15	Kraemer Blvd	Hawaii Way		55	Grand Avenue	Edinger Avenue
16	Kraemer Blvd	Crowther Avenue		56	Grand Avenue	St. Gertrude Place
17	Kraemer Blvd	Orangethorpe Avenue		57	Grand Avenue	Warner Avenue
18	Kraemer Blvd	La Jolla Street		58	Grand Avenue	Hotel Terrace Dr/Brookhollow Dr*
19	Kraemer Blvd	Miraloma Avenue		59	Grand Avenue	SR-55 SB Off-Ramp*
20	Kraemer Blvd	Coronado Street		60	Grand Avenue	Dyer Road
21	Kraemer Blvd	La Palma Avenue				
22	Kraemer Blvd	SR-91 Westbound Off-Ramp*				
23	Glassell Street	Frontera Street				
24	Glassell Street	Riverdale Avenue				
25	Glassell Street	Riverbend Pkwy/Richland Ave				
26	Glassell Street	Lincoln Avenue				
27	Glassell Street	Fletcher Avenue				
28	Glassell Street	Meats Avenue				
29	Glassell Street	Grove Avenue				
30	Glassell Street	Orange Olive Road				
31	Glassell Street	Taft Avenue				
32	Glassell Street	Katella Avenue				
33	Glassell Street	Wilson Ave/Adams Ave				
34	Glassell Street	Collins Avenue				
35	Glassell Street	Walnut Avenue				
36	Glassell Street	Sycamore Avenue/University Drive				
37	Glassell Street	Palm Avenue				
38	Glassell Street	La Veta Avenue				
39	Glassell Street	SR-22 Westbound Ramp*				
40	Glassell Street	SR-22 Eastbound Ramp*				

Legend

	City of Brea
	City of Placentia
	City of Anaheim
	City of Orange
	City of Santa Ana
*	Caltrans

l. Offset signalized intersections that are part of the project:

	Main Street	Cross Street
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		

2

m.   Project Map Depicting the Project Limits
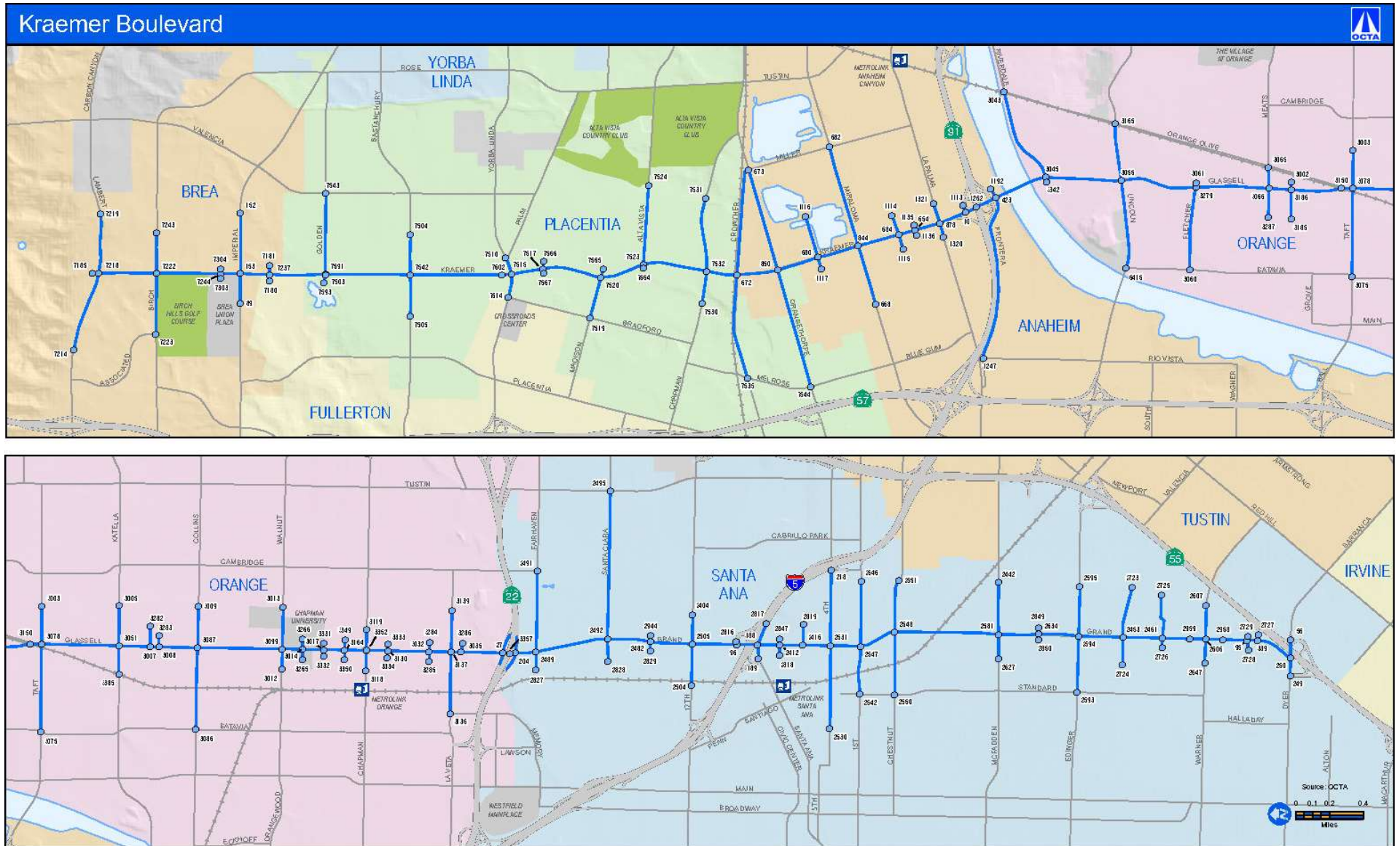
SECTION 2: REGIONAL SIGNIFICANCE

Explain why this project is regionally significant:

<INSERT TEXT>

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS

a. **PROJECT TASKS**

☑ **By checking this box, the Applicant Agency, on behalf of all the participating agencies, agree to the following tasks:**

Primary Implementation (PI) Phase, lasting approximately one year shall include the following:

Task 1: Project Management - PI Phase
This task is ongoing throughout the duration of the PI Phase of the project. It includes day-to-day project management, such as meetings, progress reports, tracking of schedules, invoicing, and overall administration of the PROJECT.

The following list is a minimum of what is required of this task:
   • *A running record of project cost broken down by Participating Agency shall be part of this task. This information will be used by the Applicant Agency to bill Participating Agencies for their respective project match.*
   • *A running record of all scope changes and/or any deviations from the final approved application. This information will be used by the Applicant Agency to request for Scope Changes at the Semi-Annual Review (SAR).*

Task 2: Data Collection and Field Review
This task shall include collecting seven-day, 24-hour machine counts, including vehicle and bike classifications, along each 1-mile segment of the corridor(s). The project shall also produce weekday and weekend peak period intersection turning movement (ITM) counts at every signalized intersection, including pedestrian and bicycle counts. ITM counts shall be conducted for two hours of each weekday peak period (AM, mid-day, and PM) and a single four-hour Saturday mid-day peak period. All counts shall be summarized in Microsoft Excel format. All data shall adhere to the CTFP Guidelines for data compatibility.

Data collection also includes field review of before and after conditions. The floating car method shall be utilized with software and GPS for the 'Before' Study to fine-tune the corridor operation and verify integrity of system intersection clocks. Synchronized Video shall be used to compare actual conditions to anticipated conditions dictated by the time-space diagram so that any anomalies may be corrected prior to the 'After' studies task.

Field review conducted as part of this task will document the existing conditions for all signal timing, infrastructure, and system improvements on the project. This includes pre-construction pictures for comparison during the post-construction walkthrough, should there be any questions or discrepancies noted by any parties.

Task 3: System Design and Construction
The Participating Agencies will hire a consultant(s), licensed contractor(s), and/or use city staff, or extension of staff, to design, procure, install, construct, and implement all desired components of the project as described in this application in accordance with the CTFP Guidelines.

All work and equipment supplied for the project shall comply and be done in accordance with the latest standards and provisions of each Participating Agency or latest approved California Department of Transportation (Caltrans) Standard Plans and Standard Specifications.

As-built plans shall be provided to match the improvements. This task is not complete until all participating agencies approve the improvements implemented in their jurisdiction.

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS

Task 4: Signal Timing Optimization and Implementation
Synchronization will be inter-jurisdictional in nature. All existing traffic patterns, flows, and conditions will be taken into account. At a minimum, synchronized timing plans will be developed for a weekday AM, Mid-day, PM, and a Weekend peak period. Special generators such as schools and businesses along with cross street traffic will be considered as part of the project. Timing plans will be developed that assist traffic in getting to its destination without regard to physical or jurisdictional boundaries.

The following list is a minimum of what is required of this task:
- *A review of the basic timing parameters*
- *Concept of Operations documenting the recommended coordination strategies (e.g. segments, cycle lengths, etc.) based on existing data collection and simulations*
- *Existing and Optimized simulation networks in Synchro (version 10) that is also shared with OCTA using the OCTA designated ID numbers*
- *Implementation and fine-tuning of proposed timing plans*

This task will not be complete until all participating agencies approve the new timing plans implemented.

Task 5: Final PI Report
A Final PI Report, with an executive summary, shall provide complete documentation of the project, including, but not limited to:
- *Project scope, objectives, locations, findings, and recommendations*
- *Data collected: counts, travel time studies, and project benefits achieved in terms of fuel savings, travel time, and other measurable parameters*
- *For each intersection: lane configurations, signal phasing, turning movement data, and cycle lengths for existing and proposed timings for all peak periods*
- *All work performed for system construction and signal timing optimization*
- *Implementation schedule and improvements accomplished, including dates*
- *Procedures for continuing maintenance, surveillance, and evaluation of the coordinated signal system*

The report shall document all planned and programmed improvements on the study corridor as well as recommendations based on PI tasks for further infrastructure improvements that would likely improve the corridor signal coordination project results. The report shall be completed in accordance with the current CTFP Guidelines.

Finally, the report shall provide recommendations with cost and benefit estimates for future improvements to traffic signal infrastructure (signal controllers, vehicle detection, communications, etc.), intersection capacity (appropriate signal phasing, lane geometrics, and alleviation of physical bottlenecks that curtail arterial capacity), and traffic management strategies. These proposed improvements should be useful in determining future enhancements to the corridor.

A Project Summary Sheet, one sheet front and back, that describes the project and improvements gained shall be provided to OCTA. This sheet will be used by OCTA and Participating Agencies to present to the Board and elected officials.

☐ ***By checking this box, the following additional PI task(s) and/or exceptions will be made:***
<Insert Text>

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS

ONGOING OPERATIONS AND MAINTENANCE (O&M) PHASE, lasting approximately two (2) years, shall include the following:

Task 6: Project Management - O&M Phase
This task includes day-to-day project management, such as meetings, tracking of schedules, invoicing, and overall administration of the project. This task shall continue in full force as specified in the Primary Implementation Phase.

Task 7: Continuing Support
During this 24-month period, the signal timing along the corridor/route/grid shall be observed and fine-tuned. This task shall also include the monitoring, maintaining, and repair of detection and communication implemented as part of this project. Monthly drives shall be conducted along the length of the project during all designated corridor synchronization timing plan hours of operation in order to verify that the synchronization timing is working as designed and complete any necessary adjustments. This is followed by a monthly memorandum summarizing the status and trends of the corridor based on the runs conducted. Trip logs for the month shall be provided to the Participating Agencies. The memorandum shall include all additional tasks requested and completed during that month. Performance metrics comparisons from ATSPM, where available, shall also be included in the memorandum.

Task 8: Final O&M Report
At the end of the O&M Phase, a Final O&M Report documenting the Ongoing Operations and Maintenance efforts and procedures for continuing maintenance shall be prepared. At the minimum, the memorandum shall include when travel runs were conducted and issues and solutions throughout the phase. The memorandum shall document all planned and programmed improvements on the study corridor as well as recommendations for further infrastructure improvements that would likely improve the corridor signal coordination project results.

☐ ***By checking this box, the following additional O&M task(s) and/or exceptions will be made:***
<Insert Text>

b.   **ENVIRONMENTAL CLEARANCE AND OTHER PERMITS**
☑ By checking this box, the Applicant Agency, on behalf of all the participating agencies, agree to obtain environmental clearance and other permits (if needed) for this project

c.   **ACKNOWLEDGMENT OF MEETING CTFP GUIDELINES**
☑ By checking this box, the Applicant Agency, on behalf of all the participating agencies, certify that all current CTFP guidelines were met for this project.

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

a. **Summary of Project Cost**

Project Tasks	Total Cost	Match	
		Cash	*In-Kind*
Task 1: Project Management - PI Phase	$ 60,000.00	$ 9,900.00	$ 2,100.00
Task 2: Data Collection	$ 240,000.00	$ 48,000.00	$ -
Task 3: System Design and Construction	$ 1,721,291.00	$ 319,883.20	$ 24,375.00
Task 4: Signal Timing Optimization and Implementation	$ 270,000.00	$ 46,500.00	$ 7,500.00
Task 5: Project Report	$ 30,000.00	$ 5,200.00	$ 800.00
Task 6: Project Management - O&M Phase	$ 15,000.00	$ 3,000.00	$ -
Task 7: Continuing Support	$ 216,000.00	$ 43,200.00	$ -
Task 8: Final Technical Memorandum	$ 18,000.00	$ 3,600.00	$ -
Total Project Cost:	**$ 2,570,291.00**	**$ 479,283.20**	**$ 34,775.00**

Total Project Cost (Including PI and O&M for a total of 3 years):

	Total
Total M2 Request:	*$2,056,232.80*
Total Agency Match:	*$514,058.20*
Total Project Cost:	**$2,570,291.00**

b. **Summary of Cost by Agency**

Brea

	Agency	Caltrans	Offset
Number of Signals:	5	1	0

Project Tasks (Brea)	Cost / Int	Total Cost	Match	
			Cash	*In-Kind*
Task 1: Project Management - PI Phase	$ 1,000.00	$ 6,000.00	$ 600.00	$ 600.00
Task 2: Data Collection	$ 4,000.00	$ 24,000.00	$ 4,800.00	$ -
Task 3: System Design and Construction	-	$ 275,165.00	$ 55,033.00	$ -
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ 27,000.00	$ 3,400.00	$ 2,000.00
Task 5: Project Report	$ 500.00	$ 3,000.00	$ 300.00	$ 300.00
Task 6: Project Management - O&M Phase	$ 250.00	$ 1,500.00	$ 300.00	$ -
Task 7: Continuing Support	$ 3,600.00	$ 21,600.00	$ 4,320.00	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ 1,800.00	$ 360.00	$ -
Total Project Cost:		**$ 360,065.00**	**$ 69,113.00**	**$ 2,900.00**

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

Placentia

	Agency	Caltrans	Offset
Number of Signals:	11	0	0

Project Tasks (Placentia)	Cost / Int	Total Cost	Match	
			Cash	In-Kind
Task 1: Project Management - PI Phase	$ 1,000.00	$ 11,000.00	$ 2,200.00	$ -
Task 2: Data Collection	$ 4,000.00	$ 44,000.00	$ 8,800.00	$ -
Task 3: System Design and Construction	-	$ 329,626.00	$ 65,925.20	$ -
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ 49,500.00	$ 9,900.00	$ -
Task 5: Project Report	$ 500.00	$ 5,500.00	$ 1,100.00	$ -
Task 6: Project Management - O&M Phase	$ 250.00	$ 2,750.00	$ 550.00	$ -
Task 7: Continuing Support	$ 3,600.00	$ 39,600.00	$ 7,920.00	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ 3,300.00	$ 660.00	$ -
Total Project Cost:		$ 485,276.00	$ 97,055.20	$ -

Anaheim

	Agency	Caltrans	Offset
Number of Signals:	5	1	0

Project Tasks (Anaheim)	Cost / Int	Total Cost	Match	
			Cash	In-Kind
Task 1: Project Management - PI Phase	$ 1,000.00	$ 6,000.00	$ 1,200.00	$ -
Task 2: Data Collection	$ 4,000.00	$ 24,000.00	$ 4,800.00	$ -
Task 3: System Design and Construction	-	$ 72,160.00	$ 14,432.00	$ -
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ 27,000.00	$ 5,400.00	$ -
Task 5: Project Report	$ 500.00	$ 3,000.00	$ 600.00	$ -
Task 6: Project Management - O&M Phase	$ 250.00	$ 1,500.00	$ 300.00	$ -
Task 7: Continuing Support	$ 3,600.00	$ 21,600.00	$ 4,320.00	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ 1,800.00	$ 360.00	$ -
Total Project Cost:		$ 157,060.00	$ 31,412.00	$ -

Orange

	Agency	Caltrans	Offset
Number of Signals:	15	2	0

Project Tasks (Orange)	Cost / Int	Total Cost	Match	
			Cash	In-Kind
Task 1: Project Management - PI Phase	$ 1,000.00	$ 17,000.00	$ 3,400.00	$ -
Task 2: Data Collection	$ 4,000.00	$ 68,000.00	$ 13,600.00	$ -
Task 3: System Design and Construction	-	$ 777,755.00	$ 155,551.00	$ -
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ 76,500.00	$ 15,300.00	$ -
Task 5: Project Report	$ 500.00	$ 8,500.00	$ 1,700.00	$ -
Task 6: Project Management - O&M Phase	$ 250.00	$ 4,250.00	$ 850.00	$ -
Task 7: Continuing Support	$ 3,600.00	$ 61,200.00	$ 12,240.00	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ 5,100.00	$ 1,020.00	$ -
Total Project Cost:		$1,018,305.00	$ 203,661.00	$ -

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

Santa Ana

	Agency	Caltrans	Offset
Number of Signals:	17	3	0

Project Tasks (Santa Ana)	Cost / Int	Total Cost	Match Cash	Match In-Kind
Task 1: Project Management - PI Phase	$ 1,000.00	$ 20,000.00	$ 2,500.00	$ 1,500.00
Task 2: Data Collection	$ 4,000.00	$ 80,000.00	$ 16,000.00	$ -
Task 3: System Design and Construction	-	$ 266,585.00	$ 28,942.00	$ 24,375.00
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ 90,000.00	$ 12,500.00	$ 5,500.00
Task 5: Project Report	$ 500.00	$ 10,000.00	$ 1,500.00	$ 500.00
Task 6: Project Management - O&M Phase	$ 250.00	$ 5,000.00	$ 1,000.00	$ -
Task 7: Continuing Support	$ 3,600.00	$ 72,000.00	$ 14,400.00	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ 6,000.00	$ 1,200.00	$ -
Total Project Cost:		$ 549,585.00	$ 78,042.00	$ 31,875.00

	Agency	Caltrans	Offset
Number of Signals:			

Project Tasks ()	Cost / Int	Total Cost	Match Cash	Match In-Kind
Task 1: Project Management - PI Phase	$ 1,000.00	$ -	$ -	$ -
Task 2: Data Collection	$ 4,000.00	$ -	$ -	$ -
Task 3: System Design and Construction	-	$ -	$ -	$ -
Task 4: Signal Timing Optimization and Implementation	$ 4,500.00	$ -	$ -	$ -
Task 5: Project Report	$ 500.00	$ -	$ -	$ -
Task 6: Project Management - O&M Phase	$ 250.00	$ -	$ -	$ -
Task 7: Continuing Support	$ 3,600.00	$ -	$ -	$ -
Task 8: Final Technical Memorandum	$ 300.00	$ -	$ -	$ -
Total Project Cost:		$ -	$ -	$ -

TABLE I: AGENCY IMPROVEMENT PREFERENCES

IMPROVEMENTS	ID	ITEM DESCRIPTION	UNIT PRICE (MATERIAL + LABOR)					APPLICABLE DESIGN COST PER UNIT					VENDOR/BRAND & ADDITIONAL NOTES				
			Brea	Placentia	Anaheim	Orange	Santa Ana	Brea	Placentia	Anaheim	Orange	Santa Ana	Brea	Placentia	Anaheim	Orange	Santa Ana
INTERSECTION	1	EVP (GPS)		$8,000					$800								
	2	EVP (IR+GPS)	$12,000		$12,000	$12,000	$12,000	$1,200		$1,200	$1,200	$1,200	GTT / Opticom		GTT / Opticom	GTT / Opticom	GTT / Opticom
	3	Video Detection System	$30,000	$30,000	$35,000	$35,000	$35,000	$3,000	$3,000	$3,500	$3,500	$3,500		Autoscope Vision		GridSmart (2 cam)	Autoscope Vision
	4	Battery Backup System	$15,000	$14,000		$15,000	$15,000	$1,500	$1,400		$1,500	$1,500				Meyers	Meyers
	5	ADA Pushbutton Assembly	$1,500	$1,500		$1,500	$1,500	$150	$150		$150	$150		Polara		Polara	Polara
	6	Pedestrian Countdown Heads	$1,500	$1,500		$1,500	$1,500	$150	$150		$150	$150				Dialight	GE / approved equiv
	7	Advance Detect Loop w/New Cond			$10,000					$1,000					per approach		
	8	Bluetooth Travel Time Unit			$8,000		$7,500			$800		$750			Connected Vehicle		BluToad
CONTROLLERS	9	New Controller	$7,000	$7,000	$6,500	$7,000	$6,500						Cobalt w/EOS	Cobalt w/EOS	2070+1C	Cobalt w/EOS	2070+1C
	10	ATC Engine Board (1-C)			$2,000		$2,000								Safetran 2070-1C		
	11	SDLC Cable															
CONTROLLER CABINET	12	New Cabinet with New Foundation	$40,000	$40,000	$40,000	$40,000	$40,000	$4,000	$4,000	$4,000	$4,000	$4,000			333 or Special P	TS2 Type II	Safetran 332L
	13	New Cabinet (Reuse exist foundation)	$30,000	$30,000	$30,000	$30,000	$15,000	$3,000	$3,000	$3,000	$3,000	$1,500			333 or Special P	TS2 Type II	Safetran 332L
	14	Type II Service	$4,000	$4,000	$4,000	$4,000	$4,000	$400	$400	$400	$400	$400					
	15	Type III Service		$6,000		$6,000			$600		$600						
	16	SCE Conduit + Fees	$10,000	$10,000	$10,000	$10,000	$10,000	$1,000	$1,000	$1,000	$1,000	$1,000					
	17	System Detector (DLC)					$9,000					$900					4 E-Loops + 3000' DLC
COMMUNICATION UPGRADE	18	CCTV Camera	$6,000	$4,100	$7,500	$7,500	$5,500	$600	$410	$750	$750	$550		Cohu/Bosch	Bosch	Bosch	Axis Q6155E
	19	Pullbox + Conduit			$2,500		$2,500			$250		$250			6E @ 500 o.c.	6E @ intersections & #6 @ 500 o.c.	6E @ 500 o.c.
	20	6E Pullbox and Splice Enclosure			$3,800		$3,800			$380		$380					
	21	Drop Cable					$650					$65					12-SMFO @ 200 ft
	22	Fiber In New Conduit		$40	$45	$35	$30		$6.00	$6.75	$5.25	$4.50			144-SMFO (Arm)	72-SMFO	24-SMFO (Arm)
	23	Fiber in Existing Conduit		$5	$10	$8	$5		$0.75	$1.50	$1.20	$0.75			144-SMFO (Arm)	72-SMFO	24-SMFO (Arm)
	24	Fiber Distribution Unit (FDU)			$7,500		$1,500			$750		$150					
	25	Fiber Switch / Ethernet Switch		$5,000	$4,000	$3,000	$2,000								EtherWAN	EtherWAN	EtherWAN EX71802-0VB + 2 SFPs
	26	Patch Panel and Fiber Splicing		$1,500	$1,500	$1,500	$1,500			$150	$150	$150	$150				
	27	Wireless Radio				$10,000					$1,000					Encom	
	28	Cell Modem															
ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) & TMC	29	ATMS Integration + System Graphics	$1,200				$1,000						Centracs	Centracs	All	Centracs	Centracs
	30	ATMS System License	$1,000				$1,500										
	31	Video Management Software		$50,000													
	32	TMC Workstation/Server		$15,000													
	33	Synchro															
OTHER	34	Caltrans Coop + Fee	$2,500	$2,500	$2,500	$2,500	$2,500						Yes	N/A	No	Yes	Yes
	35	Conduit Repair	$6,000	$8,500				$600	$850								
	36																
	37																
	38																
	39																

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

Column legend (DESCRIPTION OF WORK):
1. EVP (GPS)
2. EVP (IR+GPS)
3. Video Detection System
4. Battery Backup System
5. ADA Pushbutton Assembly
6. Pedestrian Countdown Heads
7. Advance Detect Loop w/New Cond
8. Bluetooth Travel Time Unit
9. New Controller
10. ATC Engine Board (1-C)
11. SDLC Cable
12. New Cabinet with New Foundation
13. New Cabinet (Reuse exist foundation)
14. Type II Service
15. Type III Service
16. SCE Conduit + Fees
17. System Detector (DLC)
18. CCTV Camera
19. Pullbox + Conduit
20. 6E Pullbox and Splice Enclosure
21. Drop Cable
22. Fiber In New Conduit
23. Fiber in Existing Conduit
24. Fiber Distribution Unit (FDU)
25. Fiber Switch / Ethernet Switch
26. Patch Panel and Fiber Splicing
27. Wireless Radio
28. Cell Modem
29. ATMS Integration + System Graphics
30. ATMS System License
31. Video Management Software
32. TMC Workstation/Server
33. Synchro
34. Caltrans Coop + Fee
35. Conduit Repair
36–39. 0

#	LOCATION	AGENCY	PROJECT CROSS STREETS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	Brea		Lambert Road	1	1			8	8			1			1			1	1		1	1		1						1		1	1				1	1
2	Brea		Birch Street									1																				1	1					
3	Brea		Orbiter Street									1																				1	1					
4	Brea		Birch Mall									1				1																1	1					
5	Brea		Imperial Highway (SR-90)*																		1																1	1
6	Brea		Buttonwood Dr/Saturn St									1																				1	1					
7	Placentia		Golden Avenue									1																										
8	Placentia		Patrician Lane									1																										
9	Placentia		Bastanchury Road									1			1						1																	
10	Placentia		Yorba Linda Boulevard									1			1						1																	
11	Placentia		Sheffield Street/Morse Avenue									1																										
12	Placentia		Madison Avenue									1																										
13	Placentia		Alta Vista Street									1																										
14	Placentia		Chapman Avenue (North)												1																							
15	Placentia		Hawaii Way																																			
16	Placentia		Crowther Avenue																																			
17	Placentia		Orangethorpe Avenue												1			1	1		1					2000	1	1	1									
	Placentia		Traffic Management Center																																			
18	Anaheim		La Jolla Street										1														1											
19	Anaheim		Miraloma Avenue										1																									
20	Anaheim		Coronado Street										1																									
21	Anaheim		La Palma Avenue																																			
22	Anaheim		SR-91 Westbound Off-Ramp*										1		1													1										
23	Anaheim		Frontera Street																																			
24	Orange		Riverdale Avenue																																		1	
25	Orange		Riverbend Pkwy/Richland Ave									1																										
26	Orange		Lincoln Avenue									1																										
27	Orange		Fletcher Avenue		1	1						1			1			1	1		1																	
28	Orange		Meats Avenue									1																										
29	Orange		Grove Avenue		1	1	1					1			1						1																	
30	Orange		Orange Olive Road									1																										
31	Orange		Taft Avenue									1																										
32	Orange		Katella Avenue		1	1						1			1						1																	
33	Orange		Wilson Ave/Adams Ave																																			
34	Orange		Collins Avenue									1																										
35	Orange		Walnut Avenue		1	1						1			1						1																	
36	Orange		Sycamore Avenue/University Drive									1																										
37	Orange		Palm Avenue									1																										
38	Orange		La Veta Avenue		1	1						1			1						1																	
39	Santa Ana		SR-22 Westbound Ramp*																		1																1	
40	Santa Ana		SR-22 Eastbound Ramp*																		1																1	
41	Santa Ana		Fairhaven Avenue								1		1						1	1																	1	1

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	EVP (GPS) 1	EVP (IR+GPS) 2	Video Detection System 3	Battery Backup System 4	ADA Pushbutton Assembly 5	Pedestrian Countdown Heads 6	Advance Detect Loop w/New Cond 7	Bluetooth Travel Time Unit 8	New Controller 9	ATC Engine Board (1-C) 10	SDLC Cable 11	New Cabinet with New Foundation 12	New Cabinet (Reuse exist foundation) 13	Type II Service 14	Type III Service 15	SCE Conduit + Fees 16	System Detector (DLC) 17	CCTV Camera 18	Pullbox + Conduit 19	6E Pullbox and Splice Enclosure 20	Drop Cable 21	Fiber In New Conduit 22	Fiber in Existing Conduit 23	Fiber Distribution Unit (FDU) 24	Fiber Switch / Ethernet Switch 25	Patch Panel and Fiber Splicing 26	Wireless Radio 27	Cell Modem 28	ATMS Integration + System Graphics 29	ATMS System License 30	Video Management Software 31	TMC Workstation/Server 32	Synchro 33	Caltrans Coop + Fee 34	Conduit Repair 35	0 36	0 37	0 38	0 39
42	Santa Ana	Santa Clara Avenue										1							1	1											1	1									
43	Santa Ana	21st Street										1																			1	1									
44	Santa Ana	17th Street								1		1							1												1	1									
45	Santa Ana	I-5 Northbound Ramp*																		1																1					
46	Santa Ana	Santa Ana Blvd/I-5 SB Ramp*																		1																1					
47	Santa Ana	Fruit Street								1		1																			1	1									
48	Santa Ana	6th Street/OC Register										1																			1	1									
49	Santa Ana	4th Street										1																			1	1									
50	Santa Ana	1st Street								1		1							1	1											1	1									
51	Santa Ana	Chestnut Avenue										1																			1	1									
52	Santa Ana	McFadden Avenue								1		1							1												1	1									
53	Santa Ana	Century High School										1							1												1	1									
54	Santa Ana	St. Andrew Place										1																			1	1									
55	Santa Ana	Edinger Avenue																													1	1									
56	Santa Ana	St. Gertrude Place										1																			1	1									
57	Santa Ana	Warner Avenue																													1	1									
58	Santa Ana	Hotel Terrace Dr/Brookhollow Dr*																													1	1									
59	Santa Ana	SR-55 SB Off-Ramp*																																		1					
60	Santa Ana	Dyer Road																																							
	Santa Ana	Traffic Management Center																																							

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	SIGNAL IMPROVEMENT COSTS					AGENCY MATCH			NOTES
			Design	Construction	Construction Management & Inspection 10%	Contingency 10%	TOTAL	Total Agency Match 20.0%	Cash	In-Kind	
1	Brea	Lambert Road	$ 12,200.00	$ 131,200.00	$ 13,120.00	$ 15,652.00	$ 172,172.00	$ 34,434.40	$ 34,434.40		
2	Brea	Birch Street	$ -	$ 9,200.00	$ 920.00	$ 1,012.00	$ 11,132.00	$ 2,226.40	$ 2,226.40		
3	Brea	Orbiter Street	$ -	$ 9,200.00	$ 920.00	$ 1,012.00	$ 11,132.00	$ 2,226.40	$ 2,226.40		
4	Brea	Birch Mall	$ 3,000.00	$ 39,200.00	$ 3,920.00	$ 4,612.00	$ 50,732.00	$ 10,146.40	$ 10,146.40		
5	Brea	Imperial Highway (SR-90)*	$ 1,200.00	$ 14,500.00	$ 1,450.00	$ 1,715.00	$ 18,865.00	$ 3,773.00	$ 3,773.00		
6	Brea	Buttonwood Dr/Saturn St	$ -	$ 9,200.00	$ 920.00	$ 1,012.00	$ 11,132.00	$ 2,226.40	$ 2,226.40		
7	Placentia	Golden Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
8	Placentia	Patrician Lane	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
9	Placentia	Bastanchury Road	$ 4,410.00	$ 51,100.00	$ 5,110.00	$ 6,062.00	$ 66,682.00	$ 13,336.40	$ 13,336.40		
10	Placentia	Yorba Linda Boulevard	$ 4,410.00	$ 51,100.00	$ 5,110.00	$ 6,062.00	$ 66,682.00	$ 13,336.40	$ 13,336.40		
11	Placentia	Sheffield Street/Morse Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
12	Placentia	Madison Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
13	Placentia	Alta Vista Street	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
14	Placentia	Chapman Avenue (North)	$ 4,000.00	$ 40,000.00	$ 4,000.00	$ 4,800.00	$ 52,800.00	$ 10,560.00	$ 10,560.00		Special P
15	Placentia	Hawaii Way	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
16	Placentia	Crowther Avenue	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
17	Placentia	Orangethorpe Avenue	$ 7,660.00	$ 76,600.00	$ 7,660.00	$ 9,192.00	$ 101,112.00	$ 20,222.40	$ 20,222.40		Existing 333 cabinet
	Placentia	Traffic Management Center									
18	Anaheim	La Jolla Street	$ -	$ 6,000.00	$ 600.00	$ 660.00	$ 7,260.00	$ 1,452.00	$ 1,452.00		
19	Anaheim	Miraloma Avenue	$ -	$ 2,000.00	$ 200.00	$ 220.00	$ 2,420.00	$ 484.00	$ 484.00		
20	Anaheim	Coronado Street	$ -	$ 2,000.00	$ 200.00	$ 220.00	$ 2,420.00	$ 484.00	$ 484.00		
21	Anaheim	La Palma Avenue	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
22	Anaheim	SR-91 Westbound Off-Ramp*	$ 4,000.00	$ 46,000.00	$ 4,600.00	$ 5,460.00	$ 60,060.00	$ 12,012.00	$ 12,012.00		
23	Anaheim	Frontera Street	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
24	Orange	Riverdale Avenue	$ -	$ 2,500.00	$ 250.00	$ 275.00	$ 3,025.00	$ 605.00	$ 605.00		
25	Orange	Riverbend Pkwy/Richland Ave	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
26	Orange	Lincoln Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
27	Orange	Fletcher Avenue	$ 11,050.00	$ 117,500.00	$ 11,750.00	$ 14,030.00	$ 154,330.00	$ 30,866.00	$ 30,866.00		
28	Orange	Meats Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
29	Orange	Grove Avenue	$ 10,950.00	$ 116,500.00	$ 11,650.00	$ 13,910.00	$ 153,010.00	$ 30,602.00	$ 30,602.00		4 batteries
30	Orange	Orange Olive Road	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
31	Orange	Taft Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
32	Orange	Katella Avenue	$ 9,450.00	$ 101,500.00	$ 10,150.00	$ 12,110.00	$ 133,210.00	$ 26,642.00	$ 26,642.00		
33	Orange	Wilson Ave/Adams Ave	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
34	Orange	Collins Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
35	Orange	Walnut Avenue	$ 9,450.00	$ 101,500.00	$ 10,150.00	$ 12,110.00	$ 133,210.00	$ 26,642.00	$ 26,642.00		
36	Orange	Sycamore Avenue/University Drive	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
37	Orange	Palm Avenue	$ -	$ 7,000.00	$ 700.00	$ 770.00	$ 8,470.00	$ 1,694.00	$ 1,694.00		
38	Orange	La Veta Avenue	$ 9,450.00	$ 101,500.00	$ 10,150.00	$ 12,110.00	$ 133,210.00	$ 26,642.00	$ 26,642.00		
39	Santa Ana	SR-22 Westbound Ramp*	$ 550.00	$ 8,000.00	$ 800.00	$ 935.00	$ 10,285.00	$ 2,057.00	$ 857.00	$ 1,200.00	City staff will provide construction management and inspection support
40	Santa Ana	SR-22 Eastbound Ramp*	$ 550.00	$ 8,000.00	$ 800.00	$ 935.00	$ 10,285.00	$ 2,057.00	$ 857.00	$ 1,200.00	City staff will provide construction management and inspection support
41	Santa Ana	Fairhaven Avenue	$ 2,200.00	$ 26,500.00	$ 2,650.00	$ 3,135.00	$ 34,485.00	$ 6,897.00	$ 5,697.00	$ 1,200.00	City staff will provide construction management and inspection support

SECTION 4: FUNDING NEEDS / COSTS FOR PROPOSED PROJECT BY TASK

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	SIGNAL IMPROVEMENT COSTS					AGENCY MATCH			NOTES
			Design	Construction	Construction Management & Inspection 10%	Contingency 10%	TOTAL	Total Agency Match 20.0%	Cash	In-Kind	
42	Santa Ana	Santa Clara Avenue	$ 1,450.00	$ 19,000.00	$ 1,900.00	$ 2,235.00	$ 24,585.00	$ 4,917.00	$ 3,717.00	$ 1,200.00	City staff will provide construction management and inspection support
43	Santa Ana	21st Street	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
44	Santa Ana	17th Street	$ 1,650.00	$ 21,000.00	$ 2,100.00	$ 2,475.00	$ 27,225.00	$ 5,445.00	$ 4,245.00	$ 1,200.00	City staff will provide construction management and inspection support
45	Santa Ana	I-5 Northbound Ramp*	$ 550.00	$ 8,000.00	$ 800.00	$ 935.00	$ 10,285.00	$ 2,057.00	$ 857.00	$ 1,200.00	City staff will provide construction management and inspection support
46	Santa Ana	Santa Ana Blvd/I-5 SB Ramp*	$ 550.00	$ 8,000.00	$ 800.00	$ 935.00	$ 10,285.00	$ 2,057.00	$ 857.00	$ 1,200.00	City staff will provide construction management and inspection support
47	Santa Ana	Fruit Street	$ 750.00	$ 12,000.00	$ 1,200.00	$ 1,395.00	$ 15,345.00	$ 3,069.00	$ 1,869.00	$ 1,200.00	City staff will provide construction management and inspection support
48	Santa Ana	6th Street/OC Register	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
49	Santa Ana	4th Street	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
50	Santa Ana	1st Street	$ 2,200.00	$ 26,500.00	$ 2,650.00	$ 3,135.00	$ 34,485.00	$ 6,897.00	$ 5,697.00	$ 1,200.00	City staff will provide construction management and inspection support
51	Santa Ana	Chestnut Avenue	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
52	Santa Ana	McFadden Avenue	$ 1,650.00	$ 21,000.00	$ 2,100.00	$ 2,475.00	$ 27,225.00	$ 5,445.00	$ 4,245.00	$ 1,200.00	City staff will provide construction management and inspection support
53	Santa Ana	Century High School	$ 900.00	$ 13,500.00	$ 1,350.00	$ 1,575.00	$ 17,325.00	$ 3,465.00	$ 2,265.00	$ 1,200.00	City staff will provide construction management and inspection support
54	Santa Ana	St. Andrew Place	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
55	Santa Ana	Edinger Avenue	$ -	$ 2,500.00	$ 250.00	$ 275.00	$ 3,025.00	$ 605.00	$ (595.00)	$ 1,200.00	City staff will provide construction management and inspection support
56	Santa Ana	St. Gertrude Place	$ -	$ 4,500.00	$ 450.00	$ 495.00	$ 5,445.00	$ 1,089.00	$ (111.00)	$ 1,200.00	City staff will provide construction management and inspection support
57	Santa Ana	Warner Avenue	$ -	$ 2,500.00	$ 250.00	$ 275.00	$ 3,025.00	$ 605.00	$ (595.00)	$ 1,200.00	City staff will provide construction management and inspection support
58	Santa Ana	Hotel Terrace Dr/Brookhollow Dr*	$ -	$ 2,500.00	$ 250.00	$ 275.00	$ 3,025.00	$ 605.00	$ (595.00)	$ 1,200.00	City staff will provide construction management and inspection support
59	Santa Ana	SR-55 SB Off-Ramp*	$ -	$ 2,500.00	$ 250.00	$ 275.00	$ 3,025.00	$ 605.00	$ 230.00	$ 375.00	City staff will provide construction management and inspection support
60	Santa Ana	Dyer Road	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
	Santa Ana	Traffic Management Center	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
		SIGNAL IMPROVEMENT TOTAL =					$ 1,721,291.00	$ 344,258.20	$ 319,883.20	$ 24,375.00	

SECTION 5: DETAILED LOCAL MATCH COMMITMENT

PART 1: AGENCY TOTAL MATCH SUMMARY

Agency	CASH		IN-KIND		TOTAL MATCH	
	PI	OMM	PI	OMM	PI	OMM
Brea	$64,133.00	$4,980.00	$2,900.00	$0.00	$67,033.00	$4,980.00
	$69,113.00		$2,900.00		$72,013.00	
Placentia	$87,925.20	$9,130.00	$0.00	$0.00	$87,925.20	$9,130.00
	$97,055.20		$0.00		$97,055.20	
Anaheim	$26,432.00	$4,980.00	$0.00	$0.00	$26,432.00	$4,980.00
	$31,412.00		$0.00		$31,412.00	
Orange	$189,551.00	$14,110.00	$0.00	$0.00	$189,551.00	$14,110.00
	$203,661.00		$0.00		$203,661.00	
Santa Ana	$61,442.00	$16,600.00	$31,875.00	$0.00	$93,317.00	$16,600.00
	$78,042.00		$31,875.00		$109,917.00	
TOTAL MATCH	$429,483.20	$49,800.00	$34,775.00	$0.00	$464,258.20	$49,800.00
	$479,283.20		$34,775.00		$514,058.20	

PART 2: MATCH BREAKDOWN (CASH vs IN-KIND SERVICES)

A. Cash Match

Agency	Funding Source	Amount of Cash Contribution
Brea	AQMD	$69,113.00
Placentia	General Fund	$97,055.20
Anaheim	M2 Turnback	$31,412.00
Orange	SCCP	$26,432.00
Santa Ana	General Fund	$189,551.00
TOTAL CASH MATCH:		$197,580.20

B. In-Kind Services

i. Specific Improvements (List items and Cost):

Agency	Description	Expenditure
Anaheim	Controllers	$25,000.00
Santa Ana	CENTRACS Licenses	$25,000.00
Total Specific Improvements (i):		$50,000.00

SECTION 5: DETAILED LOCAL MATCH COMMITMENT

ii. Staffing Commitment:

Agency	Staff Position	Type of Service to Project	No. of Hours	Fully Burdened Hourly Rate	Total*
Brea	Traffic Engineer (Consultant)	Project Mmtt, Quality Assurance, Signal Timing	20	$175.00	$3,500.00
	PW Inspector	Construction Inspection	20	$125.00	$2,500.00
				Total for City of Brea:	*$6,000.00*
Santa Ana	Senior Civil Engineer	Project Mgmt, Plan Check, Timing Review	50	$150.00	$7,500.00
					$0.00
					$0.00
					$0.00
				Total for City of Santa Ana:	*$7,500.00*
					$0.00
					$0.00
					$0.00
					$0.00
				Total for City of :	*$0.00*
					$0.00
					$0.00
					$0.00
					$0.00
				Total for City of :	*$0.00*
					$0.00
					$0.00
					$0.00
					$0.00
				Total for City of :	*$0.00*
					$0.00
					$0.00
					$0.00
					$0.00
				Total for City of :	*$0.00*
					$0.00
					$0.00
					$0.00
					$0.00
				Total for City of :	*$0.00*
				Total Staffing Commitment (ii):	*$13,500.00*

TOTAL IN-KIND MATCH* (i + ii):	$63,500.00

*Total amount is the required participation by the identified agency. The number of hours and hourly rate will be based on each agency's actual fully burdened billing rates, which must collectively equal the same value of the assigned "Total" dollars. Each agency will be responsible for keeping detailed records of hours worked and description of work. An accounting record of personnel, hours at fully burdened rate is expected to be included with the in-kind report submittals. Records will be subject to auditing.

SECTION 6: PROJECT SCHEDULE BY TASK

a. Projected Start and End Dates:

Project start date: _____January 1, 2022_____

Project end date: _____December 31, 2024_____

b. Projected Schedule by Task

Task	Starting Date	Ending Date
Task 1: Project Management - PI Phase	January 1, 2022	December 31, 2022
Task 2: Data Collection	January 1, 2022	March 31, 2022
Task 3: System Design and Construction	January 1, 2022	September 30, 2022
Task 4: Signal Timing Optimization and Implementation	January 1, 2022	September 30, 2022
Task 5: Project Report	March 1, 2022	December 31, 2022
Task 6: Project Management - O&M Phase	January 1, 2023	December 31, 2024
Task 7: Continuing Support	January 1, 2023	December 31, 2024
Task 8: Final Technical Memorandum	June 1, 2024	December 31, 2024

☐ By checking this box, the Applicant Agency, on behalf of all the participating agencies, agree to implement this project within 12 months. **(*This means the project will be ineligible for delays and timely use funds extensions.*)**

c. **AGENCY COMMITMENT OF EXTENDED MONITORING AND MAINTENANCE**
All agencies commit to monitor and maintain signal sychronization **BEYOND** the three year grant period for :

☑ Zero Years   ☐ One Year*   ☐ Two Years*   ☐ Three Years*

*Project P funding is not eligible for this expense. Agencies **WILL NOT** be allowed to re-apply for Project P funding until this additional monitoring and maintainence has been fulfilled.*

Appendix A

AGENCY RESOLUTIONS

Appendix B

VEHICLE MILES TRAVELED (VMT)

APPENDIX B: VEHICLE MILES TRAVELED (VMT)

	Segment	ADTs	Distance	VMT
Brea	Lambert to Imperial	18,000	0.90	16,200
	Imperial to Golden	19,000	0.50	9,500
Placentia	Golden to Yorba Linda	22,000	1.10	24,200
	Yorba Linda to Alta Vista	25,000	0.80	20,000
	Alta Vista to Orangethorpe	23,000	0.82	18,860
Anaheim	Orangethorpe to Miraloma	22,000	0.50	11,000
	Miraloma to La Palma	27,000	0.50	13,500
	La Palma to Riverdale	26,000	0.70	18,200
Orange	Riverdale to Lincoln	21,000	0.45	9,450
	Lincoln to Taft	18,000	1.40	25,200
	Taft to Katella Avenue	20,000	0.46	9,200
	Katella Avenut to Collins Avenue	15,000	0.46	6,900
	Collins Avenue to Walnut Avenue	11,000	0.50	5,500
	Walnut Avenue to Chapman Avenue (South)	12,000	0.50	6,000
	Chapman Avenue (South) to La Veta Avenue	15,000	0.50	7,500
	La Veta Avenue to SR-22 Fwy	29,000	0.34	9,860
Santa Ana	SR-22 Fwy to Fairhaven Avenue	30,000	0.16	4,800
	Fairhaven Avenue to Santa Clara Avenue	28,000	0.44	12,320
	Santa Clara Avenue to 17th Street	24,000	0.50	12,000
	17th Street to I-5 Fwy	29,000	0.35	10,150
	I-5 Fwy to 4th Street	34,000	0.47	15,980
	4th Street to McFadden Avenue	28,000	1.02	28,560
	McFadden Avenue to Edinger Avenue	27,000	0.47	12,690
	Edinger Avenue to Warner Avenue	24,000	0.75	18,000
	Warner Avenue to Dyer Road	23,000	0.55	12,650
	Total Project VMT:		**15.14**	**338,220**

Source: 2018 City of Brea, Placentia, 2019 City of Orange, Santa Ana, and 2020 City of Anaheim ADT Counts

Appendix C

CALCULATIONS AND ESTIMATED POINTS

APPENDIX C: CALCULATIONS AND ESTIMATED POINTS

Criteria (Max Points)	Estimated Points

1. Transportation Significance (30 points)
 	
Inclusion of offset signals w/in 2,700'
 	
  # of offset signals on project / total # of offset signals: 0   /   34   =   0.0%
                                                 =   0
         Vehicle Miles Traveled (VMT):   338,220   =   20
	20

2. Economic Effectiveness (Cost Benefit Ratio): (15 points) Calculation for Total Project Cost / VMT = $2,827,320 / 338,220 = 8.36	8
3. Project Characteristics: (10 points) ☐ Timing Only, No Capital 10 ☐ Real-time Traffic Actuated Op & Demo Projects 4 ☑ New/Upgraded Communications Sys 2 ☐ Automated Traffic Signal Perf. Measures 4 ☑ Intersection/Field System Modernization 2 ☑ Intelligent Cameras 3 ☐ Minor Signal Operational Improvements 2 ☑ Detection for ATSPM and counts 3 ☐ TMC/TOC and Motorist Information 2 ☐ Separate Bike/ADA Ped Detection 3 ☐ New/Upgraded Detection 1	10
4. Maintenance of Effort (beyond 3 year Grant Period): (5 points) 0 (Zero) Years	0

5. Project Scale: (20 points)
 	
     # of signals along entire length of corridor: 60   =   10
     # of signals being synched / total # of corridor signals: 60   /   60   =   100.0%
                                          =   10
	20

6. Number of Jurisdictions: (10 points) 5 Participating Jurisdiction(s)	10

7. Current Project Status (10 points)
 	
       Yes, Retiming 75% of prior RTSSP project   =   5
       Not Implementing within 12 months   =   0
	5

8. Funding Match: (5 points) $514,058.20 / $2,570,291.00 = 20.00%	0
Total Estimated Points:	**53**

Appendix D

ADDITIONAL INFORMATION