

COOPERATIVE AGREEMENT BY AND BETWEEN THE CITIES
OF SANTA ANA, COSTA MESA, AND NEWPORT BEACH FOR
THE BRISTOL STREET CORRIDOR TRAFFIC SIGNAL
SYNCHRONIZATION PROJECT

This Cooperative Agreement (“Agreement”) is made and entered into this _____ day of _____, 2026, by and between the CITY OF SANTA ANA, a charter city (“SANTA ANA”), the CITY OF COSTA MESA, a municipal corporation (“COSTA MESA”), and the CITY OF NEWPORT BEACH, a municipal corporation (“NEWPORT BEACH”).

RECITALS:

- A. Santa Ana, with cooperation from Costa Mesa and Newport Beach, applied for a grant from the Orange County Transportation Authority (“OCTA”) as part of Renewed Measure M2 Regional Traffic Signal Synchronization Program (“RTSSP”) (Project P), aimed to coordinate traffic signals across multiple jurisdictions to enhance countywide traffic flow and reduce congestion.
- B. The Bristol Street Corridor Traffic Signal Synchronization Project was selected by OCTA as one of the RTSSP Projects to be funded in OCTA Fiscal Year 2025-2026. The project will include timing implementation and improvements at traffic signals along Bristol Street, from State Route 22 Eastbound Ramp in Santa Ana to Jamboree Road in Newport Beach, as listed in the Project Application attached hereto as Exhibit B and incorporated herein by this reference.
- C. The total budget for the project is \$4,218,657. Of this total, 80% (\$3,374,925.60) is funded by the OCTA Regional Traffic Signal Synchronization Program and 20% (\$843,731.40) through local agency’s matching funds. The breakdown is shown in Exhibit A attached hereto and incorporated herein by this reference.
- D. Santa Ana, Costa Mesa and Newport Beach agree to provide twenty percent (20%) matching funds for the total project cost. Matching funds can be a combination of cash and in-kind match as defined by the RTSSP grant.
- E. OCTA and Santa Ana have entered into a Master Funding Agreement “Cooperative Agreement No. C-1-2783” defining the terms and conditions for approved Measure M2 projects that will be implemented by Santa Ana.
- F. Santa Ana agrees to serve as the lead agency to oversee the design and implementation of the project.
- G. Santa Ana, Costa Mesa and Newport Beach desire to enter into this Cooperative Agreement to demonstrate their commitment to implement the project and improve inter-jurisdiction traffic signal synchronization on Bristol Street.
- H. This Cooperative Agreement defines the specific terms, conditions and funding responsibilities between Santa Ana, Costa Mesa and Newport Beach for the implementation of the project.

NOW, THEREFORE, it is mutually understood and agreed by and between SANTA ANA, COSTA MESA, and NEWPORT BEACH as follows:

I. SCOPE:

This Agreement specifies the roles and responsibilities of the cities as they pertain to the subjects and projects addressed herein. The project is specifically detailed in the Project Application attached hereto as Exhibit B and incorporated herein by this reference. All of the cities agree that each will cooperate and coordinate with the other in all activities covered by this Agreement and any other supplemental agreements that may be required to facilitate purposes thereof.

II. MUTUAL RESPONSIBILITIES:

Santa Ana, Costa Mesa and Newport Beach mutually agree to:

- a. Designate a lead staff to act as the liaison for the project. The liaison and any other project personnel, if necessary, will attend and participate in all related project meetings.
- b. Participate, cooperate and coordinate with contractors, consultants, vendors and staff in good faith using reasonable efforts to resolve any unforeseen issues and disputes arising out of the project to the extent practicable with respect to the performance of the project.
- c. Maintain project related traffic signals and telecommunications equipment with high priority during the project, and be responsible for repair of their own signal control systems in each of their respective jurisdictions.
- d. Provide on-site support for signal control systems, timing plans, detection systems and related equipment during construction, installation and integration, and be available to change or make adjustments to timing plans when necessitated by the project.
- e. Document in-kind match or dollar match funding as identified in the project application, and provide verification of such expenditures as part of any review or audit process, which may include payroll records, contracts and purchase orders.
- f. Monitor and operate the project traffic signals and improvements within its jurisdiction for a period of two (2) years following the completion of the Primary Implementation Phase of the project, as required by the program funding.
- g. Coordinate the inclusion of other improvements and in-kind services, where necessary, that the owning agency requires for the implementation of the project, but are not included in the project application. The owning agency shall be responsible for the inclusion of such elements within reason and at its own costs.
- h. Unused project funds for improvements from one City can be used by another City (with matching fund responsibility) upon mutual consent of the involved Cities.

III. RESPONSIBILITIES OF SANTA ANA:

Santa Ana agrees to the following responsibilities:

- a. Santa Ana shall serve as lead agency for design, construction and construction management of the project, and shall provide oversight by establishing milestones and overseeing the project development to ensure that all standards and requirements set forth by the agreement is adhered to.
- b. Santa Ana shall be responsible for completing the project in accordance with the funding guidelines and any and all other OCTA requirements related to these funding programs. Santa Ana shall maintain coordination with all participating agencies throughout the duration of the project.
- c. Santa Ana shall provide staff, consultants, and contractors deemed necessary and appropriate to manage, administer, coordinate, and oversee timing implementation, engineering design, bid and award, and construction management of the project.
- d. Santa Ana shall enter into an agreement with a qualified consultant and contractor to assist in the completion and monitoring of the project.
- e. Santa Ana shall enter into any required Cooperative Agreement with Caltrans regarding Caltrans Improvements in cities; to comply with all the terms and conditions of said Cooperative Agreement; to pay invoices for such Caltrans Improvements as required by Caltrans; and to invoice participating agencies in a timely manner with detailed documentation of said Caltrans Improvements.
- f. Santa Ana shall coordinate the work effort of this Project, provide the day to day management of the consultant and manage all consultant administration and contracting. Santa Ana shall review the consultant's invoices and pay them accordingly after ensuring that the work has been adequately performed by the consultant.
- g. Santa Ana shall provide its share of matching fund as shown in Exhibit A attached hereto and incorporated herein by this reference. The final amount may vary and will be based on the 20% of actual cost of implementing all timing, improvements and maintenance, as identified in the project application.
- h. Upon issuance of a Notice to Proceed to the Consultant, Santa Ana can issue invoices to Costa Mesa and Newport Beach for up to 80% of the cash match amount identified in Exhibit A. The remaining cash match amount will be invoiced after completion of the Primary Implementation Phase of the project.
- i. Santa Ana shall comply with all of the terms and conditions of the Cooperative Agreement with OCTA, including the Project Reporting and Audit Requirements contained therein.

IV. RESPONSIBILITIES OF COSTA MESA,

Costa Mesa agrees to the following responsibilities:

- a. Costa Mesa shall provide its share of matching funds as shown in Exhibit A. The final amount may vary and will be based on the 20% of actual cost of implementing all timing, improvements and maintenance, as identified in the project application.

- b. Costa Mesa shall provide Construction Inspection on all improvements within its jurisdiction. No additional compensation from the project is provided for providing inspection services.
- c. Costa Mesa shall waive all costs and fees related to any and all permits, if such permits are required to perform any project related work within its jurisdiction.

V. RESPONSIBILITIES OF NEWPORT BEACH:

Newport Beach agrees to the following responsibilities:

- a. Newport Beach shall provide its share of matching funds as shown in Exhibit A. The final amount may vary and will be based on the 20% of actual cost of implementing all timing, improvements and maintenance, as identified in the project application.
- b. Newport Beach shall provide Construction Inspection on all improvements within its jurisdiction. No additional compensation from the project is provided for providing inspection services.
- c. Newport Beach shall waive all costs and fees related to any and all permits, if such permits are required to perform any project related work within its jurisdiction.

VI. COMPLETE AGREEMENT:

- a. This Agreement, including any attachments incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the terms and conditions of this Agreement between SANTA ANA, COSTA MESA and NEWPORT BEACH and it supersedes all prior representations, understandings and communications between the parties. The invalidity in whole or in part of any term or condition of this Agreement shall not affect the validity of other term(s) or condition(s) of this Agreement. The above referenced Recitals are true and correct and are incorporated by reference herein.
- b. Any modification of this Agreement shall only be by amendment upon written mutual consent of all cities. All modifications, amendments, changes and revisions of this Agreement in whole or in part, and from time to time, shall be binding upon the cities so long as the same shall be in writing and executed by each agency.
- c. A party's failure to insist on any instance(s) of any other party's performance of any term(s) or condition(s) of this Agreement shall not be construed as a waiver of the non-enforcing party's right to such performance or to future performance of such term(s) or condition(s), and the nonperforming party's obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Agreement shall not be binding upon either party except when specifically confirmed in writing by way of a written amendment to this Agreement between the parties and issued in accordance with the provisions of this Agreement.

VII. INSURANCE AND INDEMNIFICATION:

- a. Each city shall jointly and severally indemnify, defend and hold harmless each other city, its officers, directors, employees and agents from and against any and all claims for any loss or damages, bodily injuries, damage to, or loss of property caused by the negligent acts, omissions or willful misconduct by that city, its officers, directors, employees or agents in connection with or arising out of the performance of this Agreement.
- b. Each city shall maintain adequate levels of insurance, or self-insurance to assure full indemnification of each other city.

VIII. ADDITIONAL PROVISIONS:

- a. Term of Agreement: This Agreement shall commence on the date first written above and continue in full force and effect until December 31, 2031. This Agreement may be extended at the mutual consent of all parties in writing.
- b. SANTA ANA, COSTA MESA and NEWPORT BEACH hereto affirm that they are authorized to execute this Agreement on behalf of said parties and that, by so executing this Agreement, the parties hereto are formally bound to the provisions of this Agreement.
- c. Severability: If any term, provision, covenant or condition of this Agreement is held to be invalid, void or otherwise unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Agreement shall not be affected thereby, and each term, provision, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
- d. Counterparts of Agreement: This Agreement may be executed and delivered in any number of counterparts, each of which, when executed and delivered shall be deemed an original and all of which together shall constitute the same agreement. Facsimile and electronic signatures will be permitted.
- e. In the event that the project costs exceed the estimates submitted in the Project Application as prepared, all parties agree to meet and determine project revisions to meet the budget, or a revised funding proposal by the cities that shall be documented and submitted in writing as a revision to the Agreement.
- f. The parties shall comply with all applicable federal, state and local laws, statutes, ordinances and regulations of any governmental agency having jurisdiction over the project.
- g. Force Majeure: Any party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including, but not limited to: any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or, a material act or omission by the other party; when satisfactory evidence of such cause is presented to the other parties, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.
- h. Assignment: Neither this Agreement, nor any of the parties' rights, obligations, or duties hereunder may be assigned in whole or in part by any party without the prior written

consent of all the other parties in their sole and absolute discretion. Any such attempt of assignment shall be deemed void and of no force and effect. Consent to one assignment shall not be deemed consent to any subsequent assignment, nor the waiver of any right to consent to such subsequent assignment.

- i. Obligations To Comply with Law: Nothing herein shall be deemed nor construed to authorize or require any party to issue bonds, notes or other evidences of indebtedness under the terms, in amounts, or for purposes other than as authorized by local, state or federal law.
- j. Governing Law: The laws of the State of California and applicable local and federal laws, regulations and guidelines shall govern this Agreement.
- k. Litigation fees: Should litigation arise out of this Agreement for the performance thereof, the court shall award costs and expenses, including attorney's fees, to the prevailing party.
- l. Notices: Any notices, requests, or demands made between the parties pursuant to this Agreement are to be directed as follows:

City of Santa Ana
Public Works Agency
20 Civic Center Plaza, M-43
Santa Ana, CA 92701
Cesar Rodriguez
Sr. Civil Engineer
(714) 647-5626
Crodriguez5@santa-ana.org

City of Costa Mesa
Public Works Department
77 Fair Drive,
Costa Mesa, CA 92626
Ramin Nikoui
Senior Engineer
714-754-5184
Ramin.Nikoui@costamesaca.gov

City of Newport Beach
Public Works Department
100 Civic Center Drive
Newport Beach, CA 92660
Kevin Riley
Transportation Manager/City Traffic Engineer
949-644-3329
KRiley@newportbeachca.gov

IX. DELEGATED AUTHORITY:

The actions required to be taken by the cities in the implementation of this Agreement are delegated to its City Manager or equivalent designee.

[SIGNATURES ON SUBSEQUENT PAGES]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written:

CITY OF SANTA ANA:

ALVARO NUÑEZ
City Manager

ATTEST:

JENNIFER L. HALL
City Clerk

APPROVED AS TO FORM:

SONIA R. CARVALHO
City Attorney

By: 

KYLE NELLESEN
Assistant City Attorney

RECOMMENDED FOR APPROVAL:

RODOLFO ROSAS, P.E.
Acting Executive Director
Public Works Agency

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written:

CITY OF COSTA MESA:

Cecilia Gallardo-Daly
City Manager

ATTEST:

Brenda Green
City Clerk

APPROVED AS TO FORM:

Kimberly Hall Barlow
City Attorney

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written:

CITY OF NEWPORT BEACH:

David A. Webb
Public Works Director

ATTEST:

Lena Shumway
City Clerk

APPROVED AS TO FORM:

Aaron C. Harp
City Attorney

EXHIBIT A

BRISTOL STREET CORRIDOR RTSSP

PROJECT FUNDS BREAKDOWN

Agency		Project Funds by Agency*		M2 Grant (80%)	Local Match (20%)		
					Total Match**	Match Type	
						Cash	In-kind
1	Santa Ana	PI	\$2,180,869.00	\$1,744,695.20	\$436,173.80	\$396,173.80	\$40,000.00
		O&M	\$67,200.00	\$53,760	\$13,440.00	\$13,440.00	\$0
2	Costa Mesa	PI	\$1,379,946.00	\$1,103,956.80	\$275,989.20	\$275,989.20	\$0
		O&M	\$50,400.00	\$40,320.00	\$10,080.00	\$10,080.00	\$0
3	Newport Beach	PI	\$517,842.00	\$414,273.60	\$103,568.40	\$103,568.40	\$0
		O&M	\$22,400.00	\$17,920.00	\$4,480.00	\$4,480.00	\$0
Total			\$4,218,657.00	\$3,374,925.60	\$843,731.40	\$803,731.40	\$40,000.00

*: Unused project funds from one Agency can be transferred to another Agency with mutual consent.

**: Total match amount may vary; the final match amount will be based on the actual project implementation costs, to be determined at completion of the Primary Implementation Phase of the project.

EXHIBIT B

BRISTOL STREET CORRIDOR RTSSP

PROJECT APPLICATION

FY 2025 Call for Projects

Regional Traffic Signal Synchronization Program

Project P

Supplemental Application

Bristol Street

10/24/2024

Application Deadline

Project Overview

Length of Corridor (mi): 10.5
Number of signals: 45
Total Project Cost: \$4,218,657.00
M2 funds requested: \$3,374,925.60
Total Match: \$843,731.40
Cash Match: \$803,731.40
In-kind Match: \$40,000.00
Participating Agencies: Santa Ana
Costa Mesa
Newport Beach
Caltrans

Applicant Agency: City of Santa Ana

Contact Name: Cesar Rodriguez

Contact Number: 714-647-5626

Contact Email: crodriguez5@santa-ana.org

**Project P Regional Traffic Signal Synchronization Program
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a. Project **Corridor**
Bristol Street Corridor

b. Project Limits:
from **SR-22 EB Ramp** to **Jamboree Road**

c. Project Length (*miles*):
10.46

d. Number of signalized intersections along the corridor (include all Caltrans intersections):
45 number of signals on project corridor(s) **5** number of offset signals included in this project

- e. Participating agencies / Traffic Forum Members (*including applicant agency*):
- | | | | | |
|--|---|--|---|---|
| <input type="checkbox"/> Aliso Viejo | <input type="checkbox"/> Cypress | <input type="checkbox"/> La Habra | <input type="checkbox"/> Los Alamitos | <input type="checkbox"/> San Juan Capistrano |
| <input type="checkbox"/> Anaheim | <input type="checkbox"/> Dana Point | <input type="checkbox"/> La Palma | <input type="checkbox"/> Mission Viejo | <input checked="" type="checkbox"/> Santa Ana |
| <input type="checkbox"/> Brea | <input type="checkbox"/> Fountain Valley | <input type="checkbox"/> Laguna Beach | <input checked="" type="checkbox"/> Newport Beach | <input type="checkbox"/> Seal Beach |
| <input type="checkbox"/> Buena Park | <input type="checkbox"/> Fullerton | <input type="checkbox"/> Laguna Hills | <input type="checkbox"/> Orange | <input type="checkbox"/> Stanton |
| <input checked="" type="checkbox"/> Caltrans | <input type="checkbox"/> Garden Grove | <input type="checkbox"/> Laguna Niguel | <input type="checkbox"/> Placentia | <input type="checkbox"/> Tustin |
| <input checked="" type="checkbox"/> Costa Mesa | <input type="checkbox"/> Huntington Beach | <input type="checkbox"/> Laguna Woods | <input type="checkbox"/> Rancho Santa Margarita | <input type="checkbox"/> Villa Park |
| <input type="checkbox"/> County of Orange | <input type="checkbox"/> Irvine | <input type="checkbox"/> Lake Forest | <input type="checkbox"/> San Clemente | <input type="checkbox"/> Westminster |
| | | | | <input type="checkbox"/> Yorba Linda |

f. Lead Agency **Santa Ana**

g. Is this project on either the Signal Synchronization Network or Master Plan of Arterial Highways?
 Yes No

h. Project Start Date: **April 1, 2026** Project End Date: **September 30, 2029**

i. Project Status and Baseline Participation
Re-timing at least 75% of previous project
Yes, all applicant agencies and project signals are participating in the Countywide Baseline Project

j. Contact Information (Include name, title, agency, phone, email, and address)

Cesar Rodriguez, Senior Civil Engineer City of Santa Ana, 714-647-5626 crodriguez5@santa-ana.org 20 Civic Center Plaza Santa Ana, CA 92701	Ramin Nikoui, Senior Engineer City of Costa Mesa, 714-754-5184 Ramin.Nikoui@costamesaca.gov 77 Fair Drive, Costa Mesa, CA 92626
Kevin Riley, Principal Civil Engineer City of Newport Beach, 949-644-3329 KRiley@newportbeachca.gov 100 Civic Center Drive Newport Beach, CA 92660	Peter Ngo, Branch Chief, Traffic Signals/Ramp Metering/ Census peter.ngo@dot.ca.gov Caltrans District 12, 949-285-4262 6681 Marine Way Irvine, CA 92618

k. Signalized intersections that are part of the project:

	<u>Main Corridor</u>	<u>Cross Street</u>
1	Bristol Street *	SR-22 EB Ramps *
2	Bristol Street	Riverglen Lane
3	Bristol Street	Memory Lane
4	Bristol Street	Santa Clara Avenue
5	Bristol Street	Bristol Market Place/19th Street
6	Bristol Street	17th Street
7	Bristol Street	Washington Avenue
8	Bristol Street	Civic Center Drive
9	Bristol Street	Santa Ana Boulevard
10	Bristol Street	1st Street
11	Bristol Street	Bishop Street
12	Bristol Street	McFadden Avenue
13	Bristol Street	Wilshire Avenue
14	Bristol Street	Edinger Avenue
15	Bristol Street	St. Andrew Place
16	Bristol Street	Glenwood Place
17	Bristol Street	Warner Avenue
18	Bristol Street	Central Avenue
19	Bristol Street	Hemlock Way
20	Bristol Street	Segerstrom Avenue
21	Bristol Street	Alton Avenue
22	Bristol Street	Bristol Plaza
23	Bristol Street	MacArthur Boulevard
24	Bristol Street	Callens Common
25	Bristol Street	Sunflower Avenue
26	Bristol Street	Town Center Drive
27	Bristol Street	Anton Boulevard
28	Bristol Street *	I-405 NB Ramps *
29	Bristol Street *	I-405 SB Ramps *
30	Bristol Street	Hotel Way
31	Bristol Street	Paularino avenue
32	Bristol Street	Baker Street
33	Bristol Street	Sobeca Way
34	Bristol Street	Randolph Avenue
35	Bristol Street	Bear Street
36	Bristol Street	Newport Boulevard SB
37	Bristol Street	Newport Boulevard NB
38	Bristol Street	Santa Ana Avenue/ Redhill Avenue
39	Bristol Street NB	Campus Drive / Irvine Avenue
40	Bristol Street SB	Campus Drive/ Irvine Avenue
41	Bristol Street NB	Birch Street
42	Bristol Street SB	Birch Street
43	Bristol Street SB	Bayview Place
44	Bristol Street NB	Jamboree Road
45	Bristol Street SB	Jamboree Road

Legend

- Santa Ana
- Costa Mesa
- Newport Beach
- * Caltrans

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

Baseline participants only need to list signals that are requesting improvements:

	<u>Main Street</u>	<u>Cross Street</u>
46	Paularino Avenue	Jian Way
47	Anton Boulevard	Park Center Drive
48	Anton Boulevard	Avenue of the Arts
49	Anton Boulevard	Sakioka Drive
50	Bayview Place	Bayview Circle

SECTION 2: REGIONAL SIGNIFICANCE

Explain why this project is regionally significant:

The Bristol Street corridor is a reimagined project originally performed and funded by M2 RTSSP in FY 2014/2015. The Bristol Street corridor extends approximately 10.5 miles from State Route 22 Eastbound Ramp in the City of Santa Ana to Jamboree Road in the City of Newport Beach. The corridor encompasses 45 signalized intersections controlled by the Cities of Santa Ana, Costa Mesa, Newport Beach and the California Department of Transportation (Caltrans). Caltrans is a participating agency in the project and the participating Cities are committed to executing a cooperative agreement with Caltrans for the implementation of optimized signal timing at the Caltrans intersections.

Bristol Street corridor is currently classified as a Major Arterial in the Cities of Santa Ana and Costa Mesa and as a Primary Arterial in the City of Newport Beach. The corridor is also designated as part of a Priority Corridor Network by the Traffic Signal Synchronization Master Plan. The corridor carries traffic volumes as high as 53,000 in Santa Ana; to traffic volumes ranging from 40,000 to 20,000 in City of Costa Mesa, down to approximately 16,000 vehicles daily in Newport Beach.

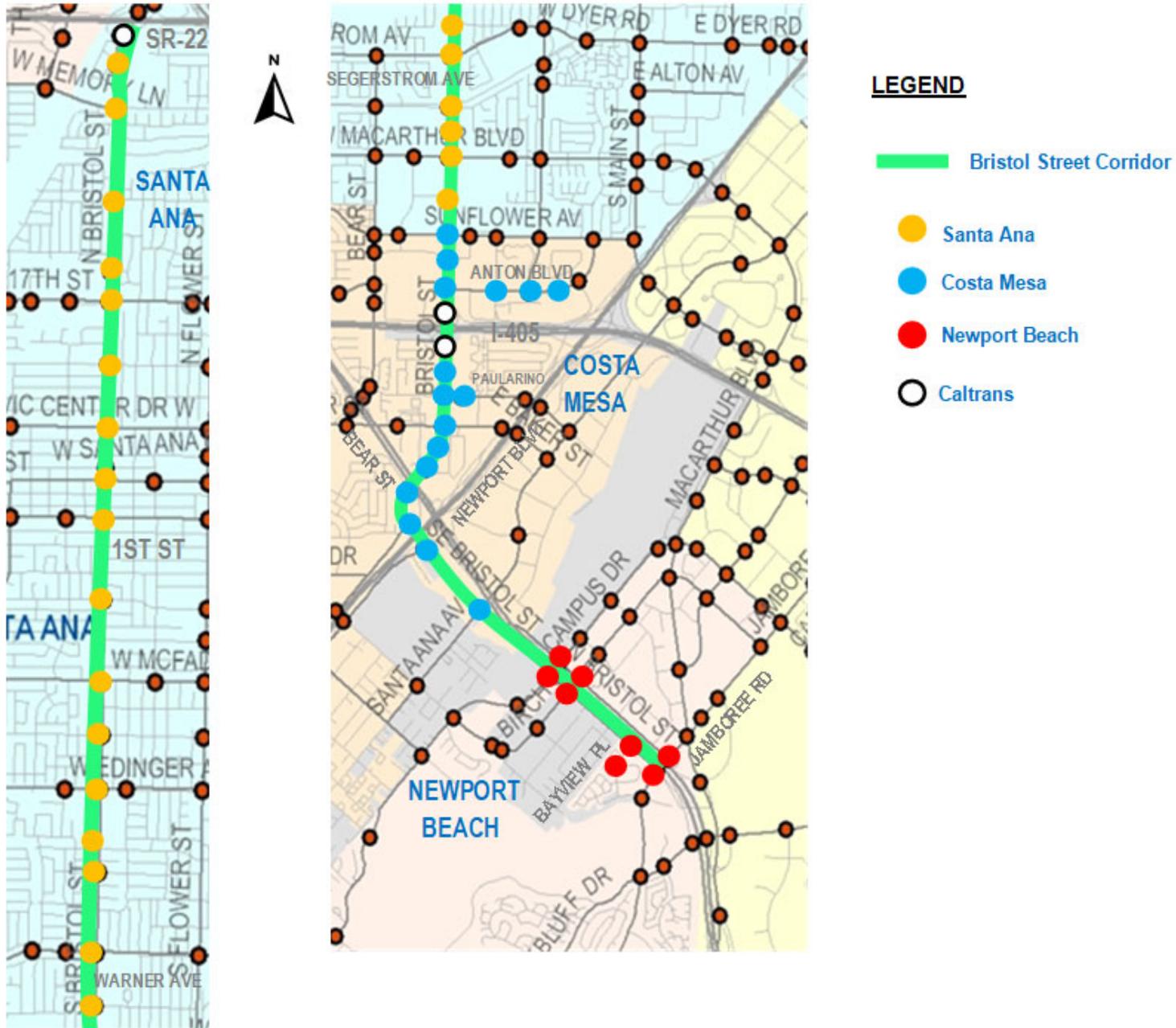
Bristol Street corridor is located in Central Orange County encompassing a wide range of land uses. At the northern limit in City of Santa Ana, the arterial primarily serves a mix of residential, retail, and schools including Mater Dei High School and Santa Ana College. Since 2015, Bristol Street in Santa Ana has experienced many physical roadway changes including street widening along several segments, new traffic signals, installation of bike lanes, and ongoing construction of the OC Streetcar along Santa Ana Blvd. This area experiences high morning and evening peak traffic volumes and requires a well balanced traffic signal system that serves both daily vehicle commuters and local pedestrian and bike users.

In City of Costa Mesa, the corridor primarily serves a mix of small and large retail shopping, restuarants, hotels, theatres and the popular South Coast Plaza Mall. This area of the Bristol Street corridor attracts visitors from all over Orange County and beyond and requires a traffic signal network that serves the local weekly commuters and the weekend guests that visit the area for shopping or entertainment.

At the southern limit in City of Newport Beach, the corridor serves a mix of retail, hotels, commercial businesses and the John Wayne Airport. The John Wayne airport serves over 11 million passengers annually and was ranked number 1 in the 2024 Airport Satisfaction Study. The airport is a critical HUB for transporation in Orange County and thus important that the traffic signal network is optimized to meet the demand. This area sees high morning, evening and seasonal peak traffic with high speeds and demands a well-synchronized network to meet the traffic demand.

The original signal timing and improvements on Bristol Street corridor has decayed and needs to be revisited. Therefore, it is imperative that this very important corridor be considered for the 2025 Call for Projects from OCTA.

m. Project Map Depicting the Project Limits and Offset Signals



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, tracking of cost by agency, 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 Lead 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 Lead 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. Data Collection and Field Review Memos shall be provided to all participating agencies.

- Check this box to indicate all agencies on this application will opt out of the data collection portion of Task 3 due to participation in the Countywide Baseline Project. A Before/After study is still required. A memorandum shall be submitted to indicate completion of this task.**

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS**Task 3: System Design and Construction**

The Lead Agency 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.

Task 4: Signal Timing Optimization and Implementation

All agencies on this application will opt out of the Signal Timing Optimization and Implementation portion of Task 4 due to participation in the Countywide Baseline Project. However, Signal Timing Optimization and Implementation will be conducted at the three (3) Caltrans intersections and coordinated with the Countywide Baseline Project. Cities of Santa Ana and Costa Mesa are committed to executing a Cooperative Agreement with Caltrans for the Signal Timing Optimization and Implementation efforts. Funding for Signal Timing Optimization and Implementation at the Caltrans intersection is included in the respective Agency Task 4.

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 that will be developed will 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.

- Check this box to indicate all agencies on this application (excluding Caltrans) will opt out of the Signal Timing Optimization and Implementation task (Task 4) due to participation in the Countywide Baseline Project. The Final PI Report shall still include a section on timing optimization and implementation from the Baseline Project. Task 4 for Caltrans signals is the responsibility of the applicant.***

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*

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS

- 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:

All agencies on this application will opt out of the Data Collection portion of Task 2 and Signal Timing Optimization and Implementation portion of Task 4 due to participation in the Countywide Baseline Project. However, Data Collection and Signal Timing Optimization and Implementation will be conducted at the three (3) Caltrans intersections. These efforts will be closely coordinated with the Countywide Baseline Project. Cities of Santa Ana and Costa Mesa are committed to executing a Cooperative Agreement with Caltrans for the Data Collection and Signal Timing Optimization/Implementation efforts. A Before/After study will be completed for the entire corridor including the Caltrans locations. No system construction is proposed at the Caltrans locations. Funding for Data Collection and Signal Timing Optimization/Implementation at the Caltrans intersection is included in the respective Agency Task 2 and 4.

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

SECTION 3: ACKNOWLEDGEMENT OF REQUIRED TASKS

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:**
O&M Tasks 6-8 will be completed for the entire corridor including the Caltrans locations. Funding for O&M at the Caltrans intersection is included in the respective Agency Task 6-8.

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
Task 1: Project Management - PI Phase	\$ 110,000.00
Task 2: Data Collection	\$ 58,400.00
Task 3: System Design and Construction	\$ 3,845,257.00
Task 4: Signal Timing Optimization and Implementation	\$ 15,000.00
Task 5: Project Report	\$ 50,000.00
Task 6: Project Management - O&M Phase	\$ 20,000.00
Task 7: Continuing Support	\$ 105,000.00
Task 8: Final Technical Memorandum	\$ 15,000.00
Total Project Cost:	\$ 4,218,657.00

Match Commitment: (minimum 20%)

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

	Project Total
<i>Total M2 Request:</i>	\$ 3,374,925.60
<i>Total Agency Match:</i>	\$ 843,731.40
Total Project Cost:	\$ 4,218,657.00

	PI Total
<i>Total M2 Request for PI Phase:</i>	\$ 3,262,925.60
<i>Total Agency Match for PI Phase:</i>	\$ 815,731.40
Total PI Cost:	\$ 4,078,657.00

	O&M Total
<i>Total M2 Request for O&M Phase:</i>	\$ 112,000.00
<i>Total Agency Match for O&M Phase:</i>	\$ 28,000.00
Total O&M Cost:	\$ 140,000.00

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

b. Summary of Cost by Agency

Santa Ana

		Agency	Caltrans	Offset	Total	
Number of Signals:		23	1		24	
Project Tasks (Santa Ana)					Cost / Int	Total Cost
Task 1: Project Management - PI Phase					\$ 2,200.00	\$ 52,800.00
Task 2: Data Collection					\$ 1,200.00	\$ 28,800.00
Task 3: System Design and Construction					-	\$ 2,070,269.00
Task 4: Signal Timing Optimization and Implementation					\$ 5,000.00	\$ 5,000.00
Task 5: Project Report					\$ 1,000.00	\$ 24,000.00
Task 6: Project Management - O&M Phase					\$ 400.00	\$ 9,600.00
Task 7: Continuing Support					\$ 2,100.00	\$ 50,400.00
Task 8: Final Technical Memorandum					\$ 300.00	\$ 7,200.00
		M2 Requested	Match	Total Cost		
PI	\$	1,744,695.20	\$ 436,173.80	\$	2,180,869.00	
O&M	\$	53,760.00	\$ 13,440.00	\$	67,200.00	

Costa Mesa

		Agency	Caltrans	Offset	Total	
Number of Signals:		12	2	4	18	
Project Tasks (Costa Mesa)					Cost / Int	Total Cost
Task 1: Project Management - PI Phase					\$ 2,200.00	\$ 39,600.00
Task 2: Data Collection					\$ 1,200.00	\$ 21,600.00
Task 3: System Design and Construction					-	\$ 1,290,746.00
Task 4: Signal Timing Optimization and Implementation					\$ 5,000.00	\$ 10,000.00
Task 5: Project Report					\$ 1,000.00	\$ 18,000.00
Task 6: Project Management - O&M Phase					\$ 400.00	\$ 7,200.00
Task 7: Continuing Support					\$ 2,100.00	\$ 37,800.00
Task 8: Final Technical Memorandum					\$ 300.00	\$ 5,400.00
		M2 Requested	Match	Total Cost		
PI	\$	1,103,956.80	\$ 275,989.20	\$	1,379,946.00	
O&M	\$	40,320.00	\$ 10,080.00	\$	50,400.00	

Newport Beach

		Agency	Caltrans	Offset	Total	
Number of Signals:		7		1	8	
Project Tasks (Newport Beach)					Cost / Int	Total Cost
Task 1: Project Management - PI Phase					\$ 2,200.00	\$ 17,600.00
Task 2: Data Collection					\$ 1,000.00	\$ 8,000.00
Task 3: System Design and Construction					-	\$ 484,242.00
Task 4: Signal Timing Optimization and Implementation					\$ -	\$ -
Task 5: Project Report					\$ 1,000.00	\$ 8,000.00
Task 6: Project Management - O&M Phase					\$ 400.00	\$ 3,200.00
Task 7: Continuing Support					\$ 2,100.00	\$ 16,800.00
Task 8: Final Technical Memorandum					\$ 300.00	\$ 2,400.00
		M2 Requested	Match	Total Cost		
PI	\$	414,273.60	\$ 103,568.40	\$	517,842.00	
O&M	\$	17,920.00	\$ 4,480.00	\$	22,400.00	

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

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

c. Summary of Intersection Improvement Costs

LOC.	AGENCY	PROJECT CROSS STREETS	TASK 3 IMPROVEMENT TOTALS			
			Design	Construction	TOTAL	Average Score
1	Santa Ana	SR-22 EB Ramps *	\$ -	\$ 2,500.00	\$ 2,500.00	50.0
2	Santa Ana	Riverglen Lane	\$ 12,200.00	\$ 157,563.00	\$ 169,763.00	27.5
3	Santa Ana	Memory Lane	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
4	Santa Ana	Santa Clara Avenue	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
5	Santa Ana	Bristol Market Place/19th Street	\$ 7,300.00	\$ 94,279.50	\$ 101,579.50	36.3
6	Santa Ana	17th Street	\$ 2,300.00	\$ 29,704.50	\$ 32,004.50	38.3
7	Santa Ana	Washington Avenue	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
8	Santa Ana	Civic Center Drive	\$ 2,000.00	\$ 25,830.00	\$ 27,830.00	31.7
9	Santa Ana	Santa Ana Boulevard	\$ 1,300.00	\$ 16,789.50	\$ 18,089.50	22.5
10	Santa Ana	1st Street	\$ 1,600.00	\$ 20,664.00	\$ 22,264.00	32.5
11	Santa Ana	Bishop Street	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
12	Santa Ana	McFadden Avenue	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
13	Santa Ana	Wilshire Avenue	\$ 7,200.00	\$ 92,988.00	\$ 100,188.00	26.7
14	Santa Ana	Edinger Avenue	\$ 7,100.00	\$ 91,696.50	\$ 98,796.50	32.5
15	Santa Ana	St. Andrew Place	\$ 700.00	\$ 9,040.50	\$ 9,740.50	50.0
16	Santa Ana	Glenwood Place	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
17	Santa Ana	Warner Avenue	\$ -	\$ -	\$ -	
18	Santa Ana	Central Avenue	\$ 12,200.00	\$ 157,563.00	\$ 169,763.00	27.5
19	Santa Ana	Hemlock Way	\$ 12,200.00	\$ 157,563.00	\$ 169,763.00	27.5
20	Santa Ana	Seegerstrom Avenue	\$ 1,100.00	\$ 14,206.50	\$ 15,306.50	50.0
21	Santa Ana	Alton Avenue	\$ 1,200.00	\$ 15,498.00	\$ 16,698.00	32.5
22	Santa Ana	Bristol Plaza	\$ 6,200.00	\$ 80,073.00	\$ 86,273.00	31.7
23	Santa Ana	MacArthur Boulevard	\$ 1,100.00	\$ 14,206.50	\$ 15,306.50	50.0
24	Santa Ana	Callens Common	\$ 6,200.00	\$ 80,073.00	\$ 86,273.00	31.7
25	Costa Mesa	Sunflower Avenue	\$ 6,900.00	\$ 89,113.50	\$ 96,013.50	31.3
26	Costa Mesa	Town Center Drive	\$ 6,900.00	\$ 89,113.50	\$ 96,013.50	31.3
27	Costa Mesa	Anton Boulevard	\$ 6,900.00	\$ 89,113.50	\$ 96,013.50	31.3
28	Costa Mesa	I-405 NB Ramps *	\$ -	\$ 2,500.00	\$ 2,500.00	50.0
29	Costa Mesa	I-405 SB Ramps *	\$ -	\$ 2,500.00	\$ 2,500.00	50.0
30	Costa Mesa	Hotel Way	\$ 2,700.00	\$ 34,870.50	\$ 37,570.50	31.7
31	Costa Mesa	Paularino avenue	\$ 6,900.00	\$ 89,113.50	\$ 96,013.50	31.3
32	Costa Mesa	Baker Street	\$ 2,700.00	\$ 34,870.50	\$ 37,570.50	31.7
33	Costa Mesa	Sobeca Way	\$ 1,600.00	\$ 20,664.00	\$ 22,264.00	22.5
34	Costa Mesa	Randolph Avenue	\$ 6,900.00	\$ 89,113.50	\$ 96,013.50	31.3
35	Costa Mesa	Bear Street	\$ 12,300.00	\$ 158,854.50	\$ 171,154.50	28.0
36	Costa Mesa	Newport Boulevard SB	\$ 7,600.00	\$ 98,154.00	\$ 105,754.00	35.0
37	Costa Mesa	Newport Boulevard NB	\$ 3,400.00	\$ 43,911.00	\$ 47,311.00	36.3
38	Costa Mesa	Santa Ana Avenue/ Redhill Avenue	\$ 2,700.00	\$ 34,870.50	\$ 37,570.50	31.7
39	Newport Beach	Campus Drive / Irvine Avenue	\$ 2,100.00	\$ 27,121.50	\$ 29,221.50	31.7
40	Newport Beach	Campus Drive/ Irvine Avenue	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
41	Newport Beach	Birch Street	\$ 2,100.00	\$ 27,121.50	\$ 29,221.50	31.7
42	Newport Beach	Birch Street	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
43	Newport Beach	Bayview Place	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
44	Newport Beach	Jamboree Road	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
45	Newport Beach	Jamboree Road	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
46	Costa Mesa	Paularino Avenue @ Jian Way	\$ 2,700.00	\$ 34,870.50	\$ 37,570.50	31.7
47	Costa Mesa	Anton Boulevard @ Park Center Drive	\$ 3,400.00	\$ 43,911.00	\$ 47,311.00	36.3

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

c. Summary of Intersection Improvement Costs

LOC.	AGENCY	PROJECT CROSS STREETS	TASK 3 IMPROVEMENT TOTALS			
			Design	Construction	TOTAL	Average Score
48	Costa Mesa	Anton Boulevard @ Avenue of the Arts	\$ 3,400.00	\$ 43,911.00	\$ 47,311.00	36.3
49	Costa Mesa	Anton Boulevard @ Sakioka Drive	\$ 3,400.00	\$ 43,911.00	\$ 47,311.00	36.3
50	Newport Beach	Bayview Place @ Bayview Circle	\$ 5,100.00	\$ 65,866.50	\$ 70,966.50	27.0
-	Santa Ana	TMC Improvements	\$ 59,500.00	\$ 768,442.50	\$ 827,942.50	30.0
-	Costa Mesa	TMC Improvements	\$ -	\$ 166,980.00	\$ 166,980.00	30.0
SIGNAL IMPROVEMENT TOTAL =					\$ 3,845,257.00	33.2

SECTION 5: DETAILED LOCAL MATCH COMMITMENT

PART 1: AGENCY TOTAL MATCH SUMMARY

Agency	CASH		IN-KIND		TOTAL MATCH	
	PI	OMM	PI	OMM	PI	OMM
Santa Ana	\$396,173.80	\$13,440.00	\$40,000.00	\$0.00	\$436,173.80	\$13,440.00
	\$409,613.80		\$40,000.00		\$449,613.80	
Costa Mesa	\$275,989.20	\$10,080.00	\$0.00	\$0.00	\$275,989.20	\$10,080.00
	\$286,069.20		\$0.00		\$286,069.20	
Newport Beach	\$103,568.40	\$4,480.00	\$0.00	\$0.00	\$103,568.40	\$4,480.00
	\$108,048.40		\$0.00		\$108,048.40	
TOTAL MATCH	\$775,731.40	\$28,000.00	\$40,000.00	\$0.00	\$815,731.40	\$28,000.00
	\$803,731.40		\$40,000.00		\$843,731.40	

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

A. Cash Match

Agency	Funding Source	Amount of Cash Contribution
Santa Ana	M2 Fairshare	\$409,613.80
Costa Mesa	Traffic Impact Fee	\$286,069.20
Newport Beach	General Fund	\$108,048.40
TOTAL CASH MATCH:		\$803,731.40

B. In-Kind Services

i. Specific Improvements (List items and Cost):

Agency	Description	Expenditure
Select a City		
Total Specific Improvements (i):		\$0.00

ii. Staffing Commitment:

Agency	Staff Position	Type of Service to Project	No. of Hours	Fully Burdened Hourly Rate	Total*
Santa Ana	Sr. Civil Engineer	Project Oversight, Construction Engineering	100	\$170.00	\$17,000.00
	Assistant Signal Operations Engineer	Equipment configuration, installation and integration/ Construction Engineering	100	\$140.00	\$14,000.00
	Assistant Engineer	Equipment configuration, installation and integration/ Construction Engineering	90	\$100.00	\$9,000.00
<i>Total for City of Santa Ana:</i>					\$40,000.00
Total Staffing Commitment (ii):					\$40,000.00

TOTAL IN-KIND MATCH* (i + ii):					\$40,000.00
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*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 shall be included with the in-kind report submittals. Records will be subject to auditing. In-kind match can be converted to Cash Match, but Cash Match cannot be converted to in-kind match.

SECTION 6: PROJECT SCHEDULE BY TASK

a. Projected Start and End Dates:

Project start date: April 1, 2026

Project end date: September 30, 2029

b. Projected Schedule by Task

Task	Starting Date	Ending Date
Task 1: Project Management - PI Phase	April 1, 2026	September 30, 2027
Task 2: Data Collection	April 1, 2026	September 30, 2026
Task 3: System Design and Construction	April 1, 2026	September 30, 2027
Task 4: Signal Timing Optimization and Implementation	April 1, 2026	September 30, 2027
Task 5: Project Report	April 1, 2026	September 30, 2027
Task 6: Project Management - O&M Phase	October 1, 2027	September 30, 2029
Task 7: Continuing Support	October 1, 2027	September 30, 2029
Task 8: Final Technical Memorandum	August 1, 2029	September 30, 2029

Appendix A

CALCULATIONS AND ESTIMATED POINTS

APPENDIX A: CALCULATIONS AND ESTIMATED POINTS

Criteria (Max Points)	Estimated Points
<p>1. Transportation Significance (25 points)</p> <p><u>Yes</u>, all agencies are participating in the Countywide Baseline Project</p> <p>Inclusion of offset signals on MPAH w/in 2,700'</p> <p><u># of offset signals on project / total # of offset signals:</u> <u>5</u> / <u>74</u> = <u>100.0%</u></p> <p style="text-align: right;">= 10</p> <p style="text-align: right;"><u>Vehicle Miles Traveled (VMT):</u> <u>373,623</u> = 15</p>	25
<p>2. Economic Effectiveness (Cost to Benefit Ratio): (10 points)</p> <p>Calculation for Total Project Cost / VMT = <u>\$4,218,657</u> / <u>373,623</u> = <u>11.29</u></p>	7
<p>3. Project Characteristics: (20 points)</p> <p style="text-align: right;"><u>Average project improvement score</u> = <u>33.2</u></p>	10
<p>4. Project Scale: (20 points)</p> <p style="text-align: right;"><u># of signals along entire length of corridor(s):</u> <u>45</u> = 8</p> <p style="text-align: right;"><u># of signals being synched / total # of corridor signals:</u> <u>45</u> / <u>45</u> = <u>100.0%</u></p> <p style="text-align: right;">= 10</p>	18
<p>5. Number of Jurisdictions: (15 points)</p> <p style="text-align: center;"><u>4</u> Participating Jurisdiction(s)</p>	11
<p>6. Current Project Status (5 points)</p> <p style="text-align: right;"><u>Re-timing at least 75% of previous project</u> = 5</p>	5
<p>7. Funding Match: (5 points)</p> <p style="text-align: right;"><u>\$843,731.40</u> / <u>\$4,218,657.00</u> = <u>20.00%</u></p>	0
Total Estimated Points:	76

Appendix B

AGENCY IMPROVEMENT CALCULATIONS

Is this a timing-only project (no improvements)?

Yes No

Auto-Fill	Input Only
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TABLE I: AGENCY IMPROVEMENT PREFERENCES

CATEGORIES	ID	ITEM DESCRIPTION	UNIT PRICE (MATERIAL + LABOR)			APPLICABLE DESIGN COST PER UNIT			VENDOR/BRAND & ADDITIONAL NOTES		
			Santa Ana	Costa Mesa	Newport Beach	Santa Ana	Costa Mesa	Newport Beach	Santa Ana	Costa Mesa	Newport Beach
Comm	2	Fiber Optic underground	\$5,000	\$8,000	\$6,000	\$500	\$800	\$600	Etherwan Switch w/ SFPs	12 SMFO Fiber Optic Drop Cable In Existing Conduit, Fiber Splicing (FDU and Splice Enclosure), Etherwan Switch w/ SFPs, No. 6E Pullbox, Hub Switch with SFPs at Hub Location	Cisco Switch w/ SFP's
	4	ATC signal controller	\$7,000	\$7,000	\$7,000	\$700	\$700	\$700	Econolite Cobalt w/ EOS Software	Econolite Cobalt w/ EOS Software	Econolite Cobalt w/ EOS Software
Field Elements	6	Signal cabinet on new foundation	\$60,000	\$54,000		\$6,000	\$5,400		Econolite ATCC w/ Service and SCE Design Fee	Econolite or Western Systems (NEMA TS2-1 P Cabinet with Service and SCE Design Fee)	
	8	BBS/UPS on existing foundation			\$15,000			\$1,500			Marathon (in existing Cabinet)
	10	CCTV	\$8,000	\$8,000	\$8,000	\$800	\$800	\$800	Axis or Cohu	Axis or Cohu	Axis
	13	Vehicle detection + bicycle detection	\$50,000	\$42,000		\$5,000	\$4,200		Econolite Vision or Iteris Apex	Econolite or Iteris Vantage Vector	
	16	Pedestrian detection (audible)	\$11,000	\$11,000		\$1,100	\$1,100		Polara (iN2S APS System)	Polara (iN2S APS System)	
	21	EVP (infrared)			\$15,000			\$1,500			GTT Opticom
TMC/TOC	27	Central System (server, licenses, workstations)	\$325,000	\$110,000		\$32,500			Relocate Servers to New TMC, Install New Fiber to New TMC, Server Racks, Centracs Licensing, Dell Workstations, Console/ Furniture	Work Stations, Centracs Server, Centracs Licensing, TMC Core Switch, Hub Switch at Newport/Fair for Connection back to TMC, Field Rugged Laptop with Econolite Local Edition Software, TMC Furniture, and NTP Server	
	28	Display (video wall, VMS, etc.)	\$250,000	\$18,000		\$25,000			Video Wall Display, Video Wall Software and Server	Genetec VMS Licenses	
	29	UPS for TMC	\$20,000	\$4,000		\$2,000			APC Rack Mounted UPS including External Batteries	APC Rack Mounted UPS	
Caltrans	34	Caltrans Cooperative Agreement	\$2,500	\$2,500	\$2,500						

APPENDIX B: AGENCY IMPROVEMENT CALCULATIONS

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	DESCRIPTION OF WORK												
			Fiber Optic underground	ATC signal controller	Signal cabinet on new foundation	BBS/UPS on existing foundation	CCTV	Vehicle detection + bicycle detection	Pedestrian detection (audible)	EVP (infrared)	Central System (server, licenses, workstations)	Display (video wall, VMS, etc.)	UPS for TMC	Caltrans Cooperative Agreement	
			2	4	6	8	10	13	16	21	27	28	29	34	
1	Santa Ana	SR-22 EB Ramps *												1	
2	Santa Ana	Riverglen Lane	1	1	1			1							
3	Santa Ana	Memory Lane	1	1											
4	Santa Ana	Santa Clara Avenue	1	1											
5	Santa Ana	Bristol Market Place/19th Street	1	1				1	1						
6	Santa Ana	17th Street	1	1					1						
7	Santa Ana	Washington Avenue	1	1											
8	Santa Ana	Civic Center Drive	1	1			1								
9	Santa Ana	Santa Ana Boulevard	1				1								
10	Santa Ana	1st Street	1						1						
11	Santa Ana	Bishop Street	1	1											
12	Santa Ana	McFadden Avenue	1	1											
13	Santa Ana	Wilshire Avenue	1	1	1										
14	Santa Ana	Edinger Avenue			1				1						
15	Santa Ana	St. Andrew Place		1											
16	Santa Ana	Glenwood Place	1	1											
17	Santa Ana	Warner Avenue													
18	Santa Ana	Central Avenue	1	1	1			1							
19	Santa Ana	Hemlock Way	1	1	1			1							
20	Santa Ana	Seegerstrom Avenue							1						
21	Santa Ana	Alton Avenue	1	1											
22	Santa Ana	Bristol Plaza	1	1				1							
23	Santa Ana	MacArthur Boulevard							1						
24	Santa Ana	Callens Common	1	1				1							
25	Costa Mesa	Sunflower Avenue	1				1	1	1						
26	Costa Mesa	Town Center Drive	1				1	1	1						
27	Costa Mesa	Anton Boulevard	1				1	1	1						
28	Costa Mesa	I-405 NB Ramps *												1	
29	Costa Mesa	I-405 SB Ramps *												1	
30	Costa Mesa	Hotel Way	1				1		1						
31	Costa Mesa	Paularino avenue	1				1	1	1						
32	Costa Mesa	Baker Street	1				1		1						
33	Costa Mesa	Sobeca Way	1				1								
34	Costa Mesa	Randolph Avenue	1				1	1	1						
35	Costa Mesa	Bear Street	1		1		1	1	1						
36	Costa Mesa	Newport Boulevard SB	1	1			1	1	1						
37	Costa Mesa	Newport Boulevard NB	1	1			1		1						
38	Costa Mesa	Santa Ana Avenue/ Redhill Avenue	1				1		1						
39	Newport Beach	Campus Drive / Irvine Avenue	1	1			1								

APPENDIX B: AGENCY IMPROVEMENT CALCULATIONS

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	DESCRIPTION OF WORK											
			Fiber Optic underground	ATC signal controller	Signal cabinet on new foundation	BBS/UPS on existing foundation	CCTV	Vehicle detection + bicycle detection	Pedestrian detection (audible)	EVP (infrared)	Central System (server, licenses, workstations)	Display (video wall, VMS, etc.)	UPS for TMC	Caltrans Cooperative Agreement
			2	4	6	8	10	13	16	21	27	28	29	34
40	Newport Beach	Campus Drive/ Irvine Avenue	1	1		1	1			1				
41	Newport Beach	Birch Street	1	1			1							
42	Newport Beach	Birch Street	1	1		1	1			1				
43	Newport Beach	Bayview Place	1	1		1	1			1				
44	Newport Beach	Jamboree Road	1	1		1	1			1				
45	Newport Beach	Jamboree Road	1	1		1	1			1				
46	Costa Mesa	Paularino Avenue @ Jian Way	1				1		1					
47	Costa Mesa	Anton Boulevard @ Park Center Drive	1	1			1		1					
48	Costa Mesa	Anton Boulevard @ Avenue of the Arts	1	1			1		1					
49	Costa Mesa	Anton Boulevard @ Sakioka Drive	1	1			1		1					
50	Newport Beach	Bayview Place @ Bayview Circle	1	1		1	1			1				
-	Santa Ana	TMC Improvements									1	1	1	
-	Costa Mesa	TMC Improvements									1	1	1	
QUANTITY TOTAL =			42	30	6	6	26	13	21	6	2	2	2	3

APPENDIX B: AGENCY IMPROVEMENT CALCULATIONS

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	SIGNAL IMPROVEMENT COSTS						NOTES
			Design	Construction	Construction Management & Inspection	Contingency	Caltrans Cooperative Agreement Fees (\$2,500)	TOTAL	
					15%				
1	Santa Ana	SR-22 EB Ramps *	\$ -	\$ -	\$ -	\$ -	\$ 2,500.00	\$ 2,500.00	
2	Santa Ana	Riverglen Lane	\$ 12,200.00	\$ 122,000.00	\$ 20,130.00	\$ 15,433.00	\$ -	\$ 169,763.00	City will configure and Install Controller and Ethernet Switch.
3	Santa Ana	Memory Lane	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
4	Santa Ana	Santa Clara Avenue	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
5	Santa Ana	Bristol Market Place/19th Street	\$ 7,300.00	\$ 73,000.00	\$ 12,045.00	\$ 9,234.50	\$ -	\$ 101,579.50	City will configure and Install Controller and Ethernet Switch.
6	Santa Ana	17th Street	\$ 2,300.00	\$ 23,000.00	\$ 3,795.00	\$ 2,909.50	\$ -	\$ 32,004.50	City will configure and Install Controller and Ethernet Switch.
7	Santa Ana	Washington Avenue	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
8	Santa Ana	Civic Center Drive	\$ 2,000.00	\$ 20,000.00	\$ 3,300.00	\$ 2,530.00	\$ -	\$ 27,830.00	City will configure and Install Controller and Ethernet Switch.
9	Santa Ana	Santa Ana Boulevard	\$ 1,300.00	\$ 13,000.00	\$ 2,145.00	\$ 1,644.50	\$ -	\$ 18,089.50	City will configure and Install Ethernet Switch.
10	Santa Ana	1st Street	\$ 1,600.00	\$ 16,000.00	\$ 2,640.00	\$ 2,024.00	\$ -	\$ 22,264.00	City will configure and Install Ethernet Switch.
11	Santa Ana	Bishop Street	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
12	Santa Ana	McFadden Avenue	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
13	Santa Ana	Wilshire Avenue	\$ 7,200.00	\$ 72,000.00	\$ 11,880.00	\$ 9,108.00	\$ -	\$ 100,188.00	City will configure and Install Controller and Ethernet Switch.
14	Santa Ana	Edinger Avenue	\$ 7,100.00	\$ 71,000.00	\$ 11,715.00	\$ 8,981.50	\$ -	\$ 98,796.50	
15	Santa Ana	St. Andrew Place	\$ 700.00	\$ 7,000.00	\$ 1,155.00	\$ 885.50	\$ -	\$ 9,740.50	City will configure and Install Ethernet Switch.
16	Santa Ana	Glenwood Place	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
17	Santa Ana	Warner Avenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
18	Santa Ana	Central Avenue	\$ 12,200.00	\$ 122,000.00	\$ 20,130.00	\$ 15,433.00	\$ -	\$ 169,763.00	City will configure and Install Controller and Ethernet Switch.
19	Santa Ana	Hemlock Way	\$ 12,200.00	\$ 122,000.00	\$ 20,130.00	\$ 15,433.00	\$ -	\$ 169,763.00	City will configure and Install Controller and Ethernet Switch.
20	Santa Ana	Seegerstrom Avenue	\$ 1,100.00	\$ 11,000.00	\$ 1,815.00	\$ 1,391.50	\$ -	\$ 15,306.50	
21	Santa Ana	Alton Avenue	\$ 1,200.00	\$ 12,000.00	\$ 1,980.00	\$ 1,518.00	\$ -	\$ 16,698.00	City will configure and Install Controller and Ethernet Switch.
22	Santa Ana	Bristol Plaza	\$ 6,200.00	\$ 62,000.00	\$ 10,230.00	\$ 7,843.00	\$ -	\$ 86,273.00	City will configure and Install Controller and Ethernet Switch.
23	Santa Ana	MacArthur Boulevard	\$ 1,100.00	\$ 11,000.00	\$ 1,815.00	\$ 1,391.50	\$ -	\$ 15,306.50	
24	Santa Ana	Callens Common	\$ 6,200.00	\$ 62,000.00	\$ 10,230.00	\$ 7,843.00	\$ -	\$ 86,273.00	City will configure and Install Controller and Ethernet Switch.
25	Costa Mesa	Sunflower Avenue	\$ 6,900.00	\$ 69,000.00	\$ 11,385.00	\$ 8,728.50	\$ -	\$ 96,013.50	
26	Costa Mesa	Town Center Drive	\$ 6,900.00	\$ 69,000.00	\$ 11,385.00	\$ 8,728.50	\$ -	\$ 96,013.50	
27	Costa Mesa	Anton Boulevard	\$ 6,900.00	\$ 69,000.00	\$ 11,385.00	\$ 8,728.50	\$ -	\$ 96,013.50	
28	Costa Mesa	I-405 NB Ramps *	\$ -	\$ -	\$ -	\$ -	\$ 2,500.00	\$ 2,500.00	
29	Costa Mesa	I-405 SB Ramps *	\$ -	\$ -	\$ -	\$ -	\$ 2,500.00	\$ 2,500.00	
30	Costa Mesa	Hotel Way	\$ 2,700.00	\$ 27,000.00	\$ 4,455.00	\$ 3,415.50	\$ -	\$ 37,570.50	
31	Costa Mesa	Paularino avenue	\$ 6,900.00	\$ 69,000.00	\$ 11,385.00	\$ 8,728.50	\$ -	\$ 96,013.50	
32	Costa Mesa	Baker Street	\$ 2,700.00	\$ 27,000.00	\$ 4,455.00	\$ 3,415.50	\$ -	\$ 37,570.50	
33	Costa Mesa	Sobeca Way	\$ 1,600.00	\$ 16,000.00	\$ 2,640.00	\$ 2,024.00	\$ -	\$ 22,264.00	
34	Costa Mesa	Randolph Avenue	\$ 6,900.00	\$ 69,000.00	\$ 11,385.00	\$ 8,728.50	\$ -	\$ 96,013.50	
35	Costa Mesa	Bear Street	\$ 12,300.00	\$ 123,000.00	\$ 20,295.00	\$ 15,559.50	\$ -	\$ 171,154.50	
36	Costa Mesa	Newport Boulevard SB	\$ 7,600.00	\$ 76,000.00	\$ 12,540.00	\$ 9,614.00	\$ -	\$ 105,754.00	Controller: includes convert timing to new format and integrate with Centracs.
37	Costa Mesa	Newport Boulevard NB	\$ 3,400.00	\$ 34,000.00	\$ 5,610.00	\$ 4,301.00	\$ -	\$ 47,311.00	Controller: includes convert timing to new format and integrate with Centracs.
38	Costa Mesa	Santa Ana Avenue/ Redhill Avenue	\$ 2,700.00	\$ 27,000.00	\$ 4,455.00	\$ 3,415.50	\$ -	\$ 37,570.50	
39	Newport Beach	Campus Drive / Irvine Avenue	\$ 2,100.00	\$ 21,000.00	\$ 3,465.00	\$ 2,656.50	\$ -	\$ 29,221.50	City will configure and Install Controller and Ethernet Switch.

APPENDIX B: AGENCY IMPROVEMENT CALCULATIONS

TABLE II: DESCRIPTION OF WORK BY INTERSECTION

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	SIGNAL IMPROVEMENT COSTS						NOTES
			Design	Construction	Construction Management & Inspection	Contingency	Caltrans Cooperative Agreement Fees (\$2,500)	TOTAL	
					15%				
40	Newport Beach	Campus Drive/ Irvine Avenue	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
41	Newport Beach	Birch Street	\$ 2,100.00	\$ 21,000.00	\$ 3,465.00	\$ 2,656.50	\$ -	\$ 29,221.50	City will configure and Install Controller and Ethernet Switch.
42	Newport Beach	Birch Street	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
43	Newport Beach	Bayview Place	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
44	Newport Beach	Jamboree Road	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
45	Newport Beach	Jamboree Road	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
46	Costa Mesa	Paularino Avenue @ Jian Way	\$ 2,700.00	\$ 27,000.00	\$ 4,455.00	\$ 3,415.50	\$ -	\$ 37,570.50	
47	Costa Mesa	Anton Boulevard @ Park Center Drive	\$ 3,400.00	\$ 34,000.00	\$ 5,610.00	\$ 4,301.00	\$ -	\$ 47,311.00	Controller: includes convert timing to new format and integrate with Centrac.
48	Costa Mesa	Anton Boulevard @ Avenue of the Arts	\$ 3,400.00	\$ 34,000.00	\$ 5,610.00	\$ 4,301.00	\$ -	\$ 47,311.00	Controller: includes convert timing to new format and integrate with Centrac.
49	Costa Mesa	Anton Boulevard @ Sakioka Drive	\$ 3,400.00	\$ 34,000.00	\$ 5,610.00	\$ 4,301.00	\$ -	\$ 47,311.00	Controller: includes convert timing to new format and integrate with Centrac.
50	Newport Beach	Bayview Place @ Bayview Circle	\$ 5,100.00	\$ 51,000.00	\$ 8,415.00	\$ 6,451.50	\$ -	\$ 70,966.50	City will configure and Install Controller and Ethernet Switch.
-	Santa Ana	TMC Improvements	\$ 59,500.00	\$ 595,000.00	\$ 98,175.00	\$ 75,267.50	\$ -	\$ 827,942.50	Refer to Appendix E for TMC Improvement Details
-	Costa Mesa	TMC Improvements	\$ -	\$ 132,000.00	\$ 19,800.00	\$ 15,180.00	\$ -	\$ 166,980.00	Refer to Appendix E for TMC Improvement Details
QUANTITY TOTAL =			SIGNAL IMPROVEMENT TOTAL =					\$ 3,845,257.00	

TABLE III: PROJECT AVERAGE IMPROVEMENT SCORES

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	DESCRIPTION OF WORK																	AVERAGE IMPROVEMENT SCORE				
			Above ground (e.g. wireless, cellular, etc.)	Fiber Optic underground	All other (e.g. copper, aerial fiber, GPS, etc.)	ATC signal controller	Signal cabinet on existing foundation	Signal cabinet on new foundation	BBS/USP (attached)	BBS/UPS on existing foundation	BBS/UPS on new foundation	CCTV	Vehicle detection + bicycle detection	Pedestrian detection (audible)	EVP (infrared)	Central System (server, licenses, workstations)	Display (video wall, VMS, etc.)	UPS for TMC	Timing Only		Timing + Traffic Responsive (license only)	Timing + Peer-to-Peer (configuration only)	Timing + Traffic Adaptive (license only)	Caltrans Cooperative Agreement
			Time Source	None/5+ Years or Within 5 Years							0/10+ or < 10			Online or Offline			Y/N							
1	Santa Ana	SR-22 EB Ramps *																				50	50.0	
2	Santa Ana	Riverglen Lane		15		50		15																27.5
3	Santa Ana	Memory Lane		15		50																		32.5
4	Santa Ana	Santa Clara Avenue		15		50																		32.5
5	Santa Ana	Bristol Market Place/19th Street		15		50							30	50										36.3
6	Santa Ana	17th Street		15		50								50										38.3
7	Santa Ana	Washington Avenue		15		50																		32.5
8	Santa Ana	Civic Center Drive		15		50							30											31.7
9	Santa Ana	Santa Ana Boulevard		15									30											22.5
10	Santa Ana	1st Street		15										50										32.5
11	Santa Ana	Bishop Street		15		50																		32.5
12	Santa Ana	McFadden Avenue		15		50																		32.5
13	Santa Ana	Wilshire Avenue		15		50		15																26.7
14	Santa Ana	Edinger Avenue						15						50										32.5
15	Santa Ana	St. Andrew Place				50																		50.0
16	Santa Ana	Glenwood Place		15		50																		32.5
17	Santa Ana	Warner Avenue																						
18	Santa Ana	Central Avenue		15		50		15					30											27.5
19	Santa Ana	Hemlock Way		15		50		15					30											27.5
20	Santa Ana	Segerstrom Avenue												50										50.0
21	Santa Ana	Alton Avenue		15		50																		32.5
22	Santa Ana	Bristol Plaza		15		50							30											31.7
23	Santa Ana	MacArthur Boulevard												50										50.0
24	Santa Ana	Callens Common		15		50							30											31.7
25	Costa Mesa	Sunflower Avenue		15								30	30	50										31.3
26	Costa Mesa	Town Center Drive		15								30	30	50										31.3
27	Costa Mesa	Anton Boulevard		15								30	30	50										31.3
28	Costa Mesa	I-405 NB Ramps *																					50	50.0
29	Costa Mesa	I-405 SB Ramps *																					50	50.0
30	Costa Mesa	Hotel Way		15								30		50										31.7
31	Costa Mesa	Paularino avenue		15								30	30	50										31.3
32	Costa Mesa	Baker Street		15								30		50										31.7
33	Costa Mesa	Sobeca Way		15								30												22.5
34	Costa Mesa	Randolph Avenue		15								30	30	50										31.3
35	Costa Mesa	Bear Street		15				15				30	30	50										28.0
36	Costa Mesa	Newport Boulevard SB		15		50						30	30	50										35.0
37	Costa Mesa	Newport Boulevard NB		15		50						30		50										36.3
38	Costa Mesa	Santa Ana Avenue/ Redhill Avenue		15								30		50										31.7
39	Newport Beach	Campus Drive / Irvine Avenue		15		50						30												31.7
40	Newport Beach	Campus Drive/ Irvine Avenue		15		50						30												27.0

TABLE III: PROJECT AVERAGE IMPROVEMENT SCORES

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	DESCRIPTION OF WORK																	AVERAGE IMPROVEMENT SCORE				
			Above ground (e.g. wireless, cellular, etc.)	Fiber Optic underground	All other (e.g. copper, aerial fiber, GPS, etc.)	ATC signal controller	Signal cabinet on existing foundation	Signal cabinet on new foundation	BBS/USP (attached)	BBS/UPS on existing foundation	BBS/UPS on new foundation	CCTV	Vehicle detection + bicycle detection	Pedestrian detection (audible)	EVP (infrared)	Central System (server, licenses, workstations)	Display (video wall, VMS, etc.)	UPS for TMC	Timing Only		Timing + Traffic Responsive (license only)	Timing + Peer-to-Peer (configuration only)	Timing + Traffic Adaptive (license only)	Caltrans Cooperative Agreement
			Time Source	None/5+ Years or Within 5 Years							0/10+ or < 10			Online or Offline			Y/N							
41	Newport Beach	Birch Street		15		50					30													31.7
42	Newport Beach	Birch Street		15		50			10	30			30											27.0
43	Newport Beach	Bayview Place		15		50			10	30			30											27.0
44	Newport Beach	Jamboree Road		15		50			10	30			30											27.0
45	Newport Beach	Jamboree Road		15		50			10	30			30											27.0
46	Costa Mesa	Paularino Avenue @ Jian Way		15						30		50												31.7
47	Costa Mesa	Anton Boulevard @ Park Center Drive		15		50				30		50												36.3
48	Costa Mesa	Anton Boulevard @ Avenue of the Arts		15		50				30		50												36.3
49	Costa Mesa	Anton Boulevard @ Sakioka Drive		15		50				30		50												36.3
50	Newport Beach	Bayview Place @ Bayview Circle		15		50			10	30			30											27.0
-	Santa Ana	TMC Improvements												40	30	20								30.0
-	Costa Mesa	TMC Improvements												40	30	20								30.0
												AVERAGE SCORE =					33.2							

TABLE III: PROJECT AVERAGE IMPROVEMENT SCORES

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	NOTES
1	Santa Ana	SR-22 EB Ramps *	
2	Santa Ana	Riverglen Lane	
3	Santa Ana	Memory Lane	
4	Santa Ana	Santa Clara Avenue	
5	Santa Ana	Bristol Market Place/19th Street	
6	Santa Ana	17th Street	
7	Santa Ana	Washington Avenue	
8	Santa Ana	Civic Center Drive	
9	Santa Ana	Santa Ana Boulevard	
10	Santa Ana	1st Street	
11	Santa Ana	Bishop Street	
12	Santa Ana	McFadden Avenue	
13	Santa Ana	Wilshire Avenue	
14	Santa Ana	Edinger Avenue	
15	Santa Ana	St. Andrew Place	
16	Santa Ana	Glenwood Place	
17	Santa Ana	Warner Avenue	
18	Santa Ana	Central Avenue	
19	Santa Ana	Hemlock Way	
20	Santa Ana	Seegerstrom Avenue	
21	Santa Ana	Alton Avenue	
22	Santa Ana	Bristol Plaza	
23	Santa Ana	MacArthur Boulevard	
24	Santa Ana	Callens Common	
25	Costa Mesa	Sunflower Avenue	
26	Costa Mesa	Town Center Drive	
27	Costa Mesa	Anton Boulevard	
28	Costa Mesa	I-405 NB Ramps *	
29	Costa Mesa	I-405 SB Ramps *	
30	Costa Mesa	Hotel Way	
31	Costa Mesa	Paularino avenue	
32	Costa Mesa	Baker Street	
33	Costa Mesa	Sobeca Way	
34	Costa Mesa	Randolph Avenue	
35	Costa Mesa	Bear Street	
36	Costa Mesa	Newport Boulevard SB	
37	Costa Mesa	Newport Boulevard NB	
38	Costa Mesa	Santa Ana Avenue/ Redhill Avenue	
39	Newport Beach	Campus Drive / Irvine Avenue	
40	Newport Beach	Campus Drive/ Irvine Avenue	

TABLE III: PROJECT AVERAGE IMPROVEMENT SCORES

LOCATION	IMPLEMENTING AGENCY	PROJECT CROSS STREETS	NOTES
41	Newport Beach	Birch Street	
42	Newport Beach	Birch Street	
43	Newport Beach	Bayview Place	
44	Newport Beach	Jamboree Road	
45	Newport Beach	Jamboree Road	
46	Costa Mesa	Paularino Avenue @ Jian Way	
47	Costa Mesa	Anton Boulevard @ Park Center Drive	
48	Costa Mesa	Anton Boulevard @ Avenue of the Arts	
49	Costa Mesa	Anton Boulevard @ Sakioka Drive	
50	Newport Beach	Bayview Place @ Bayview Circle	
-	Santa Ana	TMC Improvements	
-	Costa Mesa	TMC Improvements	

Appendix C

VEHICLE MILES TRAVELED (VMT)

APPENDIX C: VEHICLE MILES TRAVELED (VMT)

	Segment	ADTs	Distance	VMT
Santa Ana	SR-22 Off Ramp/ Hesperian Wy to Memory Ln	49,808	0.34	16,935
	Memory Ln to Santa Clara Ave	50,719	0.43	21,809
	Santa Clara Ave to 17th St	44,528	0.47	20,928
	17th St to Civic Center Dr	53,024	0.60	31,814
	Civic Center Dr to 1st St	45,205	0.42	18,986
	1st St to McFadden Ave	41,775	0.75	31,331
	McFadden Ave to Edinger Ave	40,762	0.50	20,381
	Edinger Ave to Warner Ave	39,252	0.75	29,439
	Warner Ave to Segerstrom Ave	37,384	0.60	22,430
	Segerstrom Ave to Alton Ave	40,477	0.26	10,524
	Alton Ave to MacArthur Blvd	41,057	0.26	10,675
	MacArthur Blvd to Sunflower Ave	39,854	0.40	15,942
Costa Mesa	Sunflower Ave to I-405 NB Ramps	40,062	0.39	15,624
	I-405 NB Ramps to Baker St	28,434	0.59	16,776
	Baker St to Bear St	21,098	0.38	8,017
	Bear St to Newport Blvd SB	23,115	0.19	4,392
	Newport Blvd SB to Santa Ana Ave/ Redhill Ave	20,233	0.57	11,533
Newport Beach	Santa Ana Ave/ Redhill Ave to Campus Dr/Irvine Ave (Bristol St S)	25,161	0.51	12,832
	Santa Ana Ave/ Redhill Ave to Campus Dr/Irvine Ave (Bristol St N)	25,310	0.51	12,908
	Campus Dr/Irvine Ave to Jamboree Rd (Bristol St S)	31,324	0.77	24,119
	Campus Dr/Irvine Ave to Jamboree Rd (Bristol St N)	21,074	0.77	16,227
Total Project VMT:			10.46	373,623

Source: 2024- Costa Mesa, Newport Beach; 2023- Newport Beach; 2022 - Santa Ana, Costa Mesa, and Newport Beach

Appendix D

AGENCY RESOLUTIONS AND LETTERS OF SUPPORT

RESOLUTION NO. 2024-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA APPROVING THE SUBMITTAL OF IMPROVEMENT PROJECTS TO THE ORANGE COUNTY TRANSPORTATION AUTHORITY FOR FUNDING UNDER THE REGIONAL TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

- A. The Measure M2 Regional Traffic Signal Synchronization Program targets over 2,000 signalized intersections across Orange County to maintain traffic signal synchronization, improve traffic flow, and reduce congestion across jurisdictions.
- B. The City of Santa Ana has been declared by the Orange County Transportation Authority to meet the eligibility requirements to receive revenues as part of Measure M2.
- C. The City of Santa Ana must include all projects funded by Net Revenues in the seven-year Capital Improvement Program as part of the Renewed Measure M Ordinance eligibility requirement.
- D. The City of Santa Ana authorizes a formal amendment to the seven-year Capital Improvement Program to add projects approved for funding upon approval from the Orange County Transportation Authority Board of Directors, if necessary.
- E. The City of Santa Ana has currently adopted a Local Signal Synchronization Plan consistent with the Regional Traffic Signal Synchronization Master Plan as a key component of local agencies' efforts to synchronizing traffic signals across local agencies' boundaries.
- F. The City of Santa Ana will provide matching funds for each project as required by the Comprehensive Transportation Funding Programs Procedures Manual.
- G. The City of Santa Ana will not use Renewed Measure M funds to supplant Developer Fees or other commitments.

G. The City of Santa Ana desires to implement multi-jurisdictional signal synchronization listed below.

Section 2. The City Council of the City of Santa Ana hereby approves the formal submissions of the projects described below to the Orange County Transportation Authority for funding under the OCTA's Regional Traffic Signal Synchronization Program and requests that the OCTA allocate funds in the amounts specified in the City's submissions. Said funds shall be matched by funds from Santa Ana as required and shall be used as supplemental funding to aid the City in signal synchronization along the following street(s):

PROJECT	PROGRAM	FY
Bristol Street Traffic Signal Synchronization	RTSSP	25/26

Section 3. The City Council of the City of Santa Ana appoints the City Manager, or his or her designee, as agent for the City of Santa Ana to conduct all negotiations, and execute and submit all documents, including but not limited to applications, agreements, amendments, payment requests and so on, which may be necessary for allocation of the requested funds to Santa Ana.

Section 4. This Resolution shall take effect immediately upon its adoption by the City Council, and the Clerk of the Council shall attest to and certify the vote adopting this Resolution.

ADOPTED this ____ day of _____, 2024.

Valerie Amezcua
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho, City Attorney

By: _____
Jonathan T. Martinez
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, Jennifer L. Hall, City Clerk, do hereby certify the attached Resolution No. 2024- _____ to be the original resolution adopted by the City Council of the City of Santa Ana on _____, 2024.

Date: _____

City Clerk
City of Santa Ana



CITY OF COSTA MESA

CALIFORNIA 92628-1200

P.O. Box 1200

FROM THE OFFICE OF THE TRANSPORTATION SERVICES MANAGER

Mr. Zdenek Kekula
Principal Civil Engineer
City of Santa Ana
PWA – Traffic Engineering
20 Civic Center Plaza, M-43
Santa Ana, CA 92702

October 10, 2024

Subject: Letter of Intent for Regional Traffic Signal Synchronization
Program Application – Bristol Street Corridor

Dear Mr. Kekula:

The Orange County Transportation Authority recently issued the 2025 Comprehensive Transportation Funding Program Call for Projects for Regional Traffic Signal Synchronization Program to coordinate traffic signals across jurisdictional boundaries in the County.

The City of Costa Mesa, in coordination with participating cities identified the Bristol Street corridor for Project P application. Signal synchronization on this corridor between State Route-22 EB Ramp/ Hesperian Way in the City of Santa Ana and Jamboree Road in the City of Newport Beach will improve the signal coordination along this heavily traveled corridor.

The City of Costa Mesa is in support of City of Santa Ana's effort in pursuing Renewed Measure M funds for this project.

The City of Costa Mesa is committed to provide the required matching funds and will be seeking City Council adoption of a resolution on November 19, 2024 in support of implementing and funding this project. We will forward the adopted resolution as soon as it is available.

Sincerely,

Raja Sethuraman
Public Works Director

ATTACHMENT 1

RESOLUTION NO. 2024-xx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COSTA MESA, CALIFORNIA, APPROVING THE SUBMITTAL OF A FUNDING APPLICATION TO THE ORANGE COUNTY TRANSPORTATION AUTHORITY FOR FUNDING UNDER THE COMPETITIVE MEASURE M2 REGIONAL TRAFFIC SYNCHRONIZATION PROGRAM (RTSSP)

THE CITY COUNCIL OF THE CITY OF COSTA MESA, CALIFORNIA DOES HEREBY FIND AND DECLARE AS FOLLOWS:

a) WHEREAS, the Measure M2 Regional Traffic Signal Synchronization Program targets over 2,000 signalized intersections across Orange County to maintain traffic signal synchronization, improve traffic flow, and reduce congestion across jurisdictions; and

b) WHEREAS, the City of Costa Mesa has been declared by the Orange County Transportation Authority to meet the eligibility requirements to receive revenues as part of Measure M2; and

c) WHEREAS, the CITY must include all projects funded by Net Revenues in the seven-year Capital Improvement Program as part of the Renewed Measure M Ordinance eligibility requirement; and

d) WHEREAS, the CITY authorizes a formal amendment to the seven-year Capital Improvement Program to add projects approved for funding upon approval from the Orange County Transportation Authority Board of Directors, if necessary; and

e) WHEREAS, the City of Costa Mesa has currently adopted a Local Signal Synchronization Plan consistent with the Regional Traffic Signal Synchronization Master Plan as a key component of local agencies' efforts to synchronizing traffic signals across local agencies' boundaries; and

f) WHEREAS, the City of Costa Mesa will provide matching funds for each project as required by the Comprehensive Transportation Funding Programs Procedures Manual; and

g) WHEREAS, the City of Costa Mesa will not use Renewed Measure M funds to supplant Developer Fees or other commitments; and

h) WHEREAS, the City of Costa Mesa desires to implement multi-jurisdictional signal synchronization listed below.

NOW, THEREFORE, BE IT RESOLVED THAT:

The City Council of the City of Costa Mesa hereby requests the Orange County Transportation Authority allocate funds in the amounts specified in the City's application to said City from the Regional Traffic Signal Synchronization Program. Said funds, if approved, shall be matched by funds from said City as required and shall be used as

ATTACHMENT 1

supplemental funding to aid the City in signal synchronization along the following street(s):

PROJECT	PROGRAM	FY
Bristol Street Traffic Signal Synchronization	RTSSP	25/26

PASSED AND ADOPTED this 19th day of November, 2024.

John Stephens, Mayor

ATTACHMENT 1

ATTEST:

APPROVED AS TO FORM:

Brenda Green, City Clerk

Kimberly Hall Barlow, City Attorney

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss
CITY OF COSTA MESA)

I, **BRENDA GREEN**, City Clerk of the City of Costa Mesa, DO HEREBY CERTIFY that the above and foregoing is the original of Resolution No. 2024-xx and was duly passed and adopted by the City Council of the City of Costa Mesa at a regular meeting held on the 19th day of November, 2024, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

IN WITNESS WHEREOF, I have hereby set my hand and affixed the seal of the City of Costa Mesa this 19th day of November 2024.

BRENDA GREEN, CITY CLERK

(SEAL)



CITY OF NEWPORT BEACH

100 Civic Center Drive
Newport Beach, California 92660
949 644-3311 | 949 644-3308 FAX
newportbeachca.gov/publicworks

October 17, 2024

Mr. Zdenek Kekula
Principal Civil Engineer
City of Santa Ana
PWA – Traffic Engineering
20 Civic Center Plaza, M-43
Santa Ana, CA 92702

Subject: Letter of Intent for Bristol Street OCTA Regional Traffic Signal Synchronization Program – P

Dear Mr. Kekula:

This letter documents the City of Newport Beach's support of the City of Santa Ana application for the 2024 call for projects for the OCTA Regional Traffic Signal Synchronization Program (Project P) for Bristol Street from SR-22 to Jamboree Road.

The City of Newport Beach is committed to provide the required matching funds and will be seeking City Council adoption of a resolution in support of this project by the end of 2024. We will forward the adopted resolution as soon as it is available.

Sincerely,

David Webb
Public Works Director

CC: Brad Sommers,

RESOLUTION NO. 2024 - _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NEWPORT BEACH, CALIFORNIA SUPPORTING AN APPLICATION BY THE CITY OF SANTA ANA FOR THE ORANGE COUNTY TRANSPORTATION AUTHORITY'S MEASURE M2 TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM FUNDING FOR THE BRISTOL STREET PROJECT

WHEREAS, the Orange County Transportation Authority's ("OCTA") Measure M2 Regional Traffic Signal Synchronization Program ("Program") targets over two thousand (2000) signalized intersections across Orange County to maintain traffic signal synchronization, improve traffic flow, and reduce congestion across jurisdictions;

WHEREAS, the City of Newport Beach ("City") has been declared by OCTA to meet the eligibility requirements to receive revenues as part of the Program;

WHEREAS, City must include all projects funded by the net revenues in the City's seven-year Capital Improvement Program as part of OCTA's Renewed Measure M Local Transportation Authority Ordinance eligibility requirements;

WHEREAS, City has a currently adopted a Local Signal Synchronization Plan consistent with the countywide Regional Traffic Signal Synchronization Master Plan as a key component of the City's efforts to synchronize traffic signals across its boundaries;

WHEREAS, City desires to support the funding application of the City of Santa Ana to implement a multi-jurisdictional traffic signal synchronization project for the Bristol Street.

WHEREAS, by this resolution, the City Council for the City intends to authorize a formal amendment to its seven-year Capital Improvement Program to add the Project for funding upon approval from OCTA's Board of Directors to fund the Project as part of the Program;

WHEREAS, by this resolution, the City Council for the City intends to agree to provide matching funds for the primary implementation and ongoing maintenance and monitoring of Project, as required by the Guidelines Manual for OCTA's Comprehensive Transportation Funding Programs; and

WHEREAS, City will not use renewed Program funds to supplant developer fees or other commitments.

NOW, THEREFORE, the City Council of the City of Newport Beach resolves as follows:

Section 1: The City Council does hereby support the funding application of the City of Santa Ana to implement the Project.

Section 2: The City Council does hereby authorize a formal amendment to its seven-year Capital Improvement Program to add the Project for funding upon approval from OCTA’s Board of Directors to fund the Project as part of the Program.

Section 3: The City Council does hereby agree to provide matching funds for the primary implementation and ongoing maintenance and monitoring of the Project, as required by the Guidelines Manual for OCTA’s Comprehensive Transportation Funding Programs.

Section 4: The recitals provided in this resolution are true and correct and are incorporated into the operative part of this resolution.

Section 5: If any section, subsection, sentence, clause or phrase of this resolution is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this resolution. The City Council hereby declares that it would have passed this resolution, and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

Section 6: The City Council finds the adoption of this resolution is not subject to the California Environmental Quality Act (“CEQA”) pursuant to Sections 15060(c)(2) (the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment) and 15060(c)(3) (the activity is not a project as defined in Section 15378) of the CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly.

Section 7: This resolution shall take effect immediately upon its adoption by the City Council, and the City Clerk shall certify the vote adopting the resolution.

ADOPTED this 19th day of November, 2024.

Will O’Neill
Mayor

ATTEST:

Leilani I. Brown
City Clerk

APPROVED AS TO FORM:
CITY ATTORNEY’S OFFICE

Aaron C. Harp
City Attorney

California Department of Transportation

DISTRICT 12
1750 East 4th Street, Suite 100 | SANTA ANA, CA 92705
(657) 328-6000 | FAX (657) 328-6522 TTY 711
<https://dot.ca.gov/caltrans-near-me/district-12>



October 7, 2024

Zdenek Kekula
Principal Civil Engineer
City of Santa Ana
PWA – Traffic Engineering
20 Civic Center Plaza, M-43
Santa Ana, CA 92702

Subject: Letter of Support for Regional Traffic Signal Synchronization Program
Application – Bristol Street Corridor

Dear Mr. Kekula:

The Orange County Transportation Authority recently issued the 2024 Comprehensive Transportation Funding Program Call for Projects for the Regional Traffic Signal Synchronization Program to coordinate traffic signals across jurisdictional boundaries in the County.

The State of California Department of Transportation (Caltrans) is in support of the City of Santa Ana's submittal of the Call for the Projects application for signal synchronization on the Bristol Street corridor from SR-22 Ramps in the City of Santa Ana to Jamboree Road in the City of Newport Beach.

Caltrans Signal on Bristol St. Corridor:

1. SR-22 EB Ramps
2. I-405 NB Ramps
3. I-405 SB Ramps

If you have any questions or require additional information, please contact Mr. Mansour Feiz at (949) 279-9169 or by email at Mansour.Feiz@dot.ca.gov.

Sincerely,

A handwritten signature in cursive script that reads 'Peter Ngo'.

Peter Ngo, P.E.
Branch Chief, Traffic Signals/Ramp Metering/Census
Caltrans District 12
6681 Marine Way
Irvine, CA 92618
Mobile: (949) 285-4262

Appendix E

ADDITIONAL INFORMATION

(Fiber Optic Underground and TMC Improvement Details, Cabinet Pictures, and As-Built Plans)

Bristol RTSSP

Additional Improvement Details

Agency: City of Santa Ana

Fiber Optic Underground

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
Etherwan Fiber Optic Ethernet Switch (w/ SFP's and Power Supply)	EA	18	\$5,000	\$90,000	\$90,000

Total	\$90,000
Intersections	18
Total Per Intersection	\$5,000
USE	\$5,000

Central System (server, licenses, workstations)

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
Dell Workstation with Dual Monitors	EA	3	\$15,000	\$45,000	\$325,000
Central System Licenses	LS	1	\$90,000	\$90,000	
Relocate Servers to New TMC	LS	1	\$15,000	\$15,000	
Remove and Discard old TMC Equipment	LS	1	\$10,000	\$10,000	
Server Racks (bolt down)	LS	1	\$15,000	\$15,000	
Install New Fiber to New TMC (including Splicing, FDU, and Terminations)	LS	1	\$50,000	\$50,000	
Console/ Furniture	LS	1	\$100,000	\$100,000	

Total	\$325,000
USE	\$325,000

Display (Video Wall, VMS, etc..)

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
Video Wall	LS	1	\$175,000	\$175,000	\$250,000
Video Wall Software	EA	1	\$50,000	\$50,000	
Video Wall Server	EA	1	\$25,000	\$25,000	
			\$0	\$0	

Total	\$250,000
USE	\$250,000

Bristol RTSSP

Additional Improvement Details

Agency: City of Costa Mesa

Fiber Optic Underground

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
Etherwan Switch with SFP Modules	EA	16	\$5,000	\$80,000	\$126,500
New Hub Switch with SFP Modules at Hub Location (Bristol/Sunflower Hub)	EA	1	\$15,000	\$15,000	
Furnish and Install 12 SMFO Drop Cable *	EA	3	\$1,000	\$3,000	
Furnish and Install New #6E Pull Box *	EA	3	\$3,000	\$9,000	
Furnish and Install New Fiber Patch Panel with Fiber Optic Pigtails/cabling *	EA	3	\$1,500	\$4,500	
Furnish and Install Splice Enclosure *	EA	3	\$2,500	\$7,500	
Fusion Splice Strands of SMFO Cable & Testing *	EA	3	\$2,500	\$7,500	

* Anton/Park Center Dr, Anton/Ave of the Arts, and Anton/Sakioka

Total	\$126,500
Intersections	16
Total Per Intersection	\$7,906
USE	\$8,000

Central System (server, licenses, workstations)

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
New Workstations for TMC	EA	2	\$10,000	\$20,000	\$110,000
New Centracis Server and Maintenance Agreement Renewal	LS	1	\$47,000	\$47,000	
Core TMC Switch	EA	1	\$15,000	\$15,000	
Hub Switch for Newport/Fair for Connection back to TMC	EA	1	\$15,000	\$15,000	
Field Rugged Laptop with Econolite Local Edition Software	LS	1	\$5,000	\$5,000	
TMC Furniture	LS	1	\$4,000	\$4,000	
NTP Server	LS	1	\$4,000	\$4,000	

Total	\$110,000
USE	\$110,000

Bristol RTSSP

Additional Improvement Details

Agency: Newport Beach

Fiber Optic Underground

System Improvement	Unit	Quantity	Unit Cost	Amount	Total
Cisco Fiber Optic Ethernet Switch (w/ SFP's and Power Supply)	EA	7	\$6,000	\$42,000	\$42,000

Total	\$42,000
Intersections	7
Total Per Intersection	\$6,000
USE	\$6,000