

FY 2024 Call for Projects

Regional Traffic Signal Synchronization Program

Project P

Supplemental Application

Paseo De Valencia - Moulton Parkway Confluence Bypass Corridor

10/26/2023

Application Deadline

Project Overview

Length of Corridor (mi): 4.1
Number of signals: 18
Total Project Cost: \$1,685,132.40
M2 funds requested: \$1,348,105.92
Total Match: \$337,026.48
Cash Match: \$337,026.48
In-kind Match: \$11,016.00
Participating Agencies: Laguna Hills
Laguna Woods

Applicant Agency: Select (Laguna Hills

Contact Name: Joe Ames

Contact Number: 949-707-2655

Contact Email: james@lagunahillsca.gov

SECTION 1: KEY TECHNICAL INFORMATION

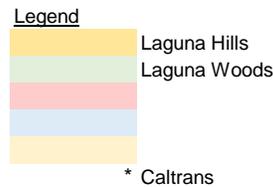
- a. Project **Route**
Paseo De Valencia - Moulton Parkway Confluence Bypass Corridor
-
- b. Project Limits:
from **Moulton Parkway at Lake Forest Dr** to **Paseo de Valencia at Alicia Parkway**
-
- c. Project Length (*miles*):
4.06
-
- d. Number of signalized intersections along the corridor (include all Caltrans intersections):
18 number of signals on project corridor(s) **12** 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 type="checkbox"/> Santa Ana |
| <input type="checkbox"/> Brea | <input type="checkbox"/> Fountain Valley | <input type="checkbox"/> Laguna Beach | <input type="checkbox"/> Newport Beach | <input type="checkbox"/> Seal Beach |
| <input type="checkbox"/> Buena Park | <input type="checkbox"/> Fullerton | <input checked="" type="checkbox"/> Laguna Hills | <input type="checkbox"/> Orange | <input type="checkbox"/> Stanton |
| <input type="checkbox"/> Caltrans | <input type="checkbox"/> Garden Grove | <input type="checkbox"/> Laguna Niguel | <input type="checkbox"/> Placentia | <input type="checkbox"/> Tustin |
| <input type="checkbox"/> Costa Mesa | <input type="checkbox"/> Huntington Beach | <input checked="" 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
 Laguna Hills
- g. Designation of the corridor to synchronize:
 Signal Synchronization Network Corridor / Priority Corridor Master Plan of Arterial Highways Corridor
- h. Project Start Date: **October 1, 2024** Project End Date: **September 30, 2027**
- i. Select any that apply:
 Re-timing at least 75% of previous project Timing at least 75% of new eligible project None
 All participating agencies are participating in the Countywide Baseline Project
- j. Contact Information (Include name, title, agency, phone, email, and address)

| | |
|--|---|
| Joe Ames, P.E., T.E. Public Works Director/City Engineer City of Laguna Hills 24035 El Toro Road Laguna Hills, CA 92653 949-707-2655 james@lagunahillsca.gov | Christopher Macon City Manager City of Laguna Woods 24264 El Toro Road Laguna Woods, CA 92637 (949) 639-0525 cmacon@cityoflagunawoods.org |
| | |
| | |
| | |

k. Signalized intersections that are part of the project:

| <u>Main Corridor</u> | <u>Cross Street</u> | |
|----------------------|----------------------------------|----|
| 1 Moulton Parkway | Lake Forest Drive | 40 |
| 2 Moulton Parkway | El Pacifico | 41 |
| 3 Moulton Parkway | Ridge Route Drive | 42 |
| 4 Moulton Parkway | Santa Maria Avenue | 43 |
| 5 Moulton Parkway | Gate 12 | 44 |
| 6 Moulton Parkway | El Toro Road | 45 |
| 7 El Toro Road | Luthern/St. Nicholas | 46 |
| 8 El Toro Road | Avenida Sevilla | 47 |
| 9 Paseo De Valencia | El Toro Road | 48 |
| 10 Paseo De Valencia | Calle De La Plata | 49 |
| 11 Paseo De Valencia | Calle De La Magdalena | 50 |
| 12 Paseo De Valencia | Health Center | |
| 13 Paseo De Valencia | Los Alisos Boulevard | |
| 14 Paseo De Valencia | Kennington Drive | |
| 15 Paseo De Valencia | Avenida Seville/Beckenham Street | |
| 16 Paseo De Valencia | Laguna Hills Dr/Stockport Street | |
| 17 Paseo De Valencia | Hawk Highway | |
| 18 Paseo De Valencia | Alicia Parkway | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |
| 39 | | |

Main Corridor Cross Street



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

| <u>Main Street</u> | <u>Cross Street</u> | |
|-------------------------|-----------------------------|----|
| 1 Lake Forest Drive | Avenida de Carlota/I-5 Ramp | 13 |
| 2 Lake Forest Drive | Research | 14 |
| 3 Lake Forest Drive | Scientific | 15 |
| 4 Ridge Route | Peralta Drive | 16 |
| 5 Moulton Parkway | Via Campo Verde | 17 |
| 6 El Toro Road | Town Center | 18 |
| 7 El Toro Road | Calle Sonora | 19 |
| 8 El Toro Road | Regional Center | 20 |
| 9 El Toro Road | Avenida De La Carlota | |
| 10 Paseo De Valencia | Avenida de Carlota | |
| 11 Los Alisos Boulevard | Avenida de Carlota | |
| 12 Laguna Hills Drive | Indian Hills Lane | |

Main Street Cross Street

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 | \$ 54,000.00 |
| Task 2: Data Collection | \$ 60,000.00 |
| Task 3: System Design and Construction | \$ 1,329,332.40 |
| Task 4: Signal Timing Optimization and Implementation | \$ 120,000.00 |
| Task 5: Project Report | \$ 30,000.00 |
| Task 6: Project Management - O&M Phase | \$ 13,800.00 |
| Task 7: Continuing Support | \$ 60,000.00 |
| Task 8: Final Technical Memorandum | \$ 18,000.00 |
| Total Project Cost: | \$ 1,685,132.40 |

Match Commitment: (minimum 20%)

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

| | Project Total |
|----------------------------|------------------------|
| <i>Total M2 Request:</i> | \$ 1,348,105.92 |
| <i>Total Agency Match:</i> | \$ 337,026.48 |
| Total Project Cost: | \$ 1,685,132.40 |

| | PI Total |
|---|------------------------|
| <i>Total M2 Request for PI Phase:</i> | \$ 1,274,665.92 |
| <i>Total Agency Match for PI Phase:</i> | \$ 318,666.48 |
| Total PI Cost: | \$ 1,593,332.40 |

| | O&M Total |
|--|----------------------|
| <i>Total M2 Request for O&M Phase:</i> | \$ 73,440.00 |
| <i>Total Agency Match for O&M Phase:</i> | \$ 18,360.00 |
| Total O&M Cost: | \$ 91,800.00 |

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

b. Summary of Cost by Agency

Laguna Hills

| | Agency | Caltrans | Offset | Total | |
|---|---------------------|-------------------|----------------------|-------------------|---------------------|
| Number of Signals: | 13 | 0 | 9 | 22 | |
| Project Tasks (Laguna Hills) | | | | Cost / Int | Total Cost |
| Task 1: Project Management - PI Phase | | | | \$ 1,800.00 | \$ 39,600.00 |
| Task 2: Data Collection | | | | \$ 2,000.00 | \$ 44,000.00 |
| Task 3: System Design and Construction | | | | - | \$ 956,828.40 |
| Task 4: Signal Timing Optimization and Implementation | | | | \$ 4,000.00 | \$ 88,000.00 |
| Task 5: Project Report | | | | \$ 1,000.00 | \$ 22,000.00 |
| Task 6: Project Management - O&M Phase | | | | \$ 460.00 | \$ 10,120.00 |
| Task 7: Continuing Support | | | | \$ 2,000.00 | \$ 44,000.00 |
| Task 8: Final Technical Memorandum | | | | \$ 600.00 | \$ 13,200.00 |
| | M2 Requested | | Match | Total Cost | |
| PI | \$ | 920,342.72 | \$ 230,085.68 | \$ | 1,150,428.40 |
| O&M | \$ | 53,856.00 | \$ 13,464.00 | \$ | 67,320.00 |

Laguna Woods

| | Agency | Caltrans | Offset | Total | |
|---|---------------------|-------------------|---------------------|-------------------|-------------------|
| Number of Signals: | 5 | 0 | 3 | 8 | |
| Project Tasks (Laguna Woods) | | | | Cost / Int | Total Cost |
| Task 1: Project Management - PI Phase | | | | \$ 1,800.00 | \$ 14,400.00 |
| Task 2: Data Collection | | | | \$ 2,000.00 | \$ 16,000.00 |
| Task 3: System Design and Construction | | | | - | \$ 372,504.00 |
| Task 4: Signal Timing Optimization and Implementation | | | | \$ 4,000.00 | \$ 32,000.00 |
| Task 5: Project Report | | | | \$ 1,000.00 | \$ 8,000.00 |
| Task 6: Project Management - O&M Phase | | | | \$ 460.00 | \$ 3,680.00 |
| Task 7: Continuing Support | | | | \$ 2,000.00 | \$ 16,000.00 |
| Task 8: Final Technical Memorandum | | | | \$ 600.00 | \$ 4,800.00 |
| | M2 Requested | | Match | Total Cost | |
| PI | \$ | 354,323.20 | \$ 88,580.80 | \$ | 442,904.00 |
| O&M | \$ | 19,584.00 | \$ 4,896.00 | \$ | 24,480.00 |

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

c. Summary of Intersection Improvement Costs

| LOC. | AGENCY | PROJECT CROSS STREETS | TASK 3 IMPROVEMENT TOTALS | | | |
|-----------------------------------|--------------|----------------------------------|---------------------------|--------------|------------------------|---------------|
| | | | Design | Construction | TOTAL | Average Score |
| 1 | Laguna Hills | Lake Forest Drive | \$ 7,799.00 | \$ 95,147.80 | \$ 102,946.80 | 35.0 |
| 2 | Laguna Hills | El Pacifico | \$ 3,999.00 | \$ 48,787.80 | \$ 52,786.80 | 31.7 |
| 3 | Laguna Hills | Ridge Route Drive | \$ 5,199.00 | \$ 63,427.80 | \$ 68,626.80 | 31.3 |
| 4 | Laguna Woods | Santa Maria Avenue | \$ 4,500.00 | \$ 54,900.00 | \$ 59,400.00 | 37.5 |
| 5 | Laguna Woods | Gate 12 | \$ 4,500.00 | \$ 54,900.00 | \$ 59,400.00 | 37.5 |
| 6 | Laguna Woods | El Toro Road | \$ 4,500.00 | \$ 54,900.00 | \$ 59,400.00 | 37.5 |
| 7 | Laguna Woods | Luthern/St. Nicholas | \$ 4,500.00 | \$ 54,900.00 | \$ 59,400.00 | 37.5 |
| 8 | Laguna Woods | Avenida Sevilla | \$ 4,500.00 | \$ 54,900.00 | \$ 59,400.00 | 37.5 |
| 9 | Laguna Hills | El Toro Road | \$ 6,599.00 | \$ 80,507.80 | \$ 87,106.80 | 36.3 |
| 10 | Laguna Hills | Calle De La Plata | \$ 5,199.00 | \$ 63,427.80 | \$ 68,626.80 | 31.3 |
| 11 | Laguna Hills | Calle De La Magdalena | \$ 7,799.00 | \$ 95,147.80 | \$ 102,946.80 | 35.0 |
| 12 | Laguna Hills | Health Center | \$ 6,999.00 | \$ 85,387.80 | \$ 92,386.80 | 31.3 |
| 13 | Laguna Hills | Los Alisos Boulevard | \$ 5,199.00 | \$ 63,427.80 | \$ 68,626.80 | 31.3 |
| 14 | Laguna Hills | Kennington Drive | \$ 6,999.00 | \$ 85,387.80 | \$ 92,386.80 | 31.3 |
| 15 | Laguna Hills | Avenida Seville/Beckenham Street | \$ 5,199.00 | \$ 63,427.80 | \$ 68,626.80 | 31.3 |
| 16 | Laguna Hills | Laguna Hills Dr/Stockport Street | \$ 3,999.00 | \$ 48,787.80 | \$ 52,786.80 | 31.7 |
| 17 | Laguna Hills | Hawk Highway | \$ 3,999.00 | \$ 48,787.80 | \$ 52,786.80 | 31.7 |
| 18 | Laguna Hills | Alicia Parkway | \$ 1,399.00 | \$ 17,067.80 | \$ 18,466.80 | 25.0 |
| - | Laguna Hills | TMC Improvements | \$ 2,100.00 | \$ 25,620.00 | \$ 27,720.00 | 40.0 |
| - | Laguna Woods | TMC Improvements | \$ 5,720.00 | \$ 69,784.00 | \$ 75,504.00 | 40.0 |
| SIGNAL IMPROVEMENT TOTAL = | | | | | \$ 1,329,332.40 | 34.1 |

SECTION 6: PROJECT SCHEDULE BY TASK

a. Projected Start and End Dates:

Project start date: October1,2024

Project end date: September 30, 2027

b. Projected Schedule by Task

| Task | Starting Date | Ending Date |
|---|----------------------|--------------------|
| Task 1: Project Management - PI Phase | October1,2024 | September 30, 2025 |
| Task 2: Data Collection | October1,2024 | September 30, 2025 |
| Task 3: System Design and Construction | October1,2024 | September 30, 2025 |
| Task 4: Signal Timing Optimization and Implementation | October1,2024 | September 30, 2025 |
| Task 5: Project Report | October1,2024 | September 30, 2025 |
| Task 6: Project Management - O&M Phase | October 1,2025 | September 30, 2027 |
| Task 7: Continuing Support | October 1,2025 | September 30, 2027 |
| Task 8: Final Technical Memorandum | July 1,2026 | September 30, 2027 |

- 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. This is not applicable to projects requesting OCTA to lead and Baseline Project participants.)***

TABLE I: AGENCY IMPROVEMENT PREFERENCES

Yes No

| CATEGORIES | ID | ITEM DESCRIPTION | UNIT PRICE (MATERIAL + LABOR) | | | | APPLICABLE DESIGN COST PER UNIT | | | | VENDOR/BRAND & ADDITIONAL NOTES | | | | | | |
|-------------------------|-------------------------------|--|-------------------------------|--------------|------------------|------------------|---------------------------------|--------------|--------------|------------------|---------------------------------|--------------|---|--|------------------|------------------|--|
| | | | Laguna Hills | Laguna Woods | Select an Agency | Select an Agency | Select an Agency | Laguna Hills | Laguna Woods | Select an Agency | Select an Agency | Laguna Hills | Laguna Woods | Select an Agency | Select an Agency | Select an Agency | |
| Comm | 1 | Above ground (e.g. wireless, cellular, etc.) | | | | | \$0 | \$0 | | | | | | | | | |
| | 2 | Fiber Optic underground | \$13,990 | \$39,000 | | | \$1,399 | \$3,900 | | | | | Remove Ex. TWP, conduits, Install SMFO Cable, E/S, FPP, Splice Enclosure with new PBs | Conduits, SMFO cable, E/S, FPP, Splice Enclosures with new PBs | | | |
| | 3 | All other (e.g. copper, aerial fiber, GPS, etc.) | | | | | \$0 | \$0 | | | | | | | | | |
| Field Elements | 4 | ATC signal controller | \$6,000 | \$6,000 | | | \$600 | \$600 | | | | | Econolite Cobalt with EOS Software | Econolite Cobalt with EOS Software | | | |
| | 5 | Signal cabinet on existing foundation | \$30,000 | \$32,000 | | | \$3,000 | \$3,200 | | | | | Econolite Cabinet | Type P cabinet | | | |
| | 6 | Signal cabinet on new foundation | | | | | \$0 | \$0 | | | | | | | | | |
| | 7 | BBS/USP (attached) | \$20,000 | | | | \$2,000 | \$0 | | | | | Econolite Blue BBS | | | | |
| | 8 | BBS/UPS on existing foundation | | | | | \$0 | \$0 | | | | | | | | | |
| | 9 | BBS/UPS on new foundation | | | | | \$0 | \$0 | | | | | | | | | |
| | 10 | CCTV | \$12,000 | | | | \$1,200 | \$0 | | | | | | Bosch MIC 7100i PTZ Starlight Video/Radar Vendor TBD | | | |
| | 11 | Vehicle detection (ATSPM inputs + counts) | \$26,000 | | | | \$2,600 | \$0 | | | | | | | | | |
| | 12 | Vehicle detection (ATSPM inputs) | | | | | \$0 | \$0 | | | | | | | | | |
| | 13 | Vehicle detection + bicycle detection | | | | | \$0 | \$0 | | | | | | | | | |
| | 14 | Vehicle detection | | | | | \$0 | \$0 | | | | | | | | | |
| | 15 | Bicycle detection | | | | | \$0 | \$0 | | | | | | | | | |
| | 16 | Pedestrian detection (audible) | | | | | \$0 | \$0 | | | | | | | | | |
| | 17 | Pedestrian detection | | | | | \$0 | \$0 | | | | | | | | | |
| | 18 | Active transportation/pedestrian safety | | | | | \$0 | \$0 | | | | | | | | | |
| | 19 | Transit Signal Priority | | | | | \$0 | \$0 | | | | | | | | | |
| | 20 | EVP (hybrid or GPS) | | | | | \$0 | \$0 | | | | | | | | | |
| | 21 | EVP (infrared) | | | | | \$0 | \$0 | | | | | | | | | |
| | 22 | Speed feedback signs (existing post) | | | | | \$0 | \$0 | | | | | | | | | |
| | 23 | Speed feedback signs (new post) | | | | | \$0 | \$0 | | | | | | | | | |
| 24 | Signal Performance Monitoring | | | | | \$0 | \$0 | | | | | | | | | | |
| Minor Signal Op Improve | 25 | Channelization | | | | | \$0 | \$0 | | | | | | | | | |
| | 26 | Signal phasing improvement | | | | | \$0 | \$0 | | | | | | | | | |

Laguna Hills

| Item Description | Unit | Qty | Unit Price | Total |
|---|------|--------|---|----------------|
| Furnish and install new digital CCTV camera complete. Reuse | EA | 6 | \$ 12,000 | \$ 72,000 |
| Furnish and install new Econolite Cobalt controller with EOS | EA | 13 | \$ 6,000 | \$ 78,000 |
| Furnish and install new Econolite Cabinet | EA | 2 | \$ 30,000 | \$ 60,000 |
| Remove existing switch. Furnish and install new Actelis | EA | 20 | \$ 3,200 | \$ 64,000 |
| Install 3" schedule 80 PVC conduit | LF | 500 | \$ 30 | \$ 15,000 |
| Remove existing interconnect. Furnish and install 72 SMFO fiber | LF | 31,627 | \$ 5 | \$ 158,135 |
| Furnish and install fiber optic patch panel in controller cabinet | EA | 20 | \$ 200 | \$ 4,000 |
| Furnish and install fiber optic cable splice hub in new 6E pullbox | EA | 20 | \$ 500.00 | \$ 10,000 |
| TMC Splice panels, fiber, switches | LS | 1 | \$ 21,000 | \$ 21,000 |
| Furnish and install 12SMFO fiber optic cable between splice hub | LF | 355 | \$ 4 | \$ 1,420 |
| Furnish and install Econolite Blue BBS in controller cabinet | EA | 12 | \$ 20,000 | \$ 240,000 |
| Remove existing VDS. Furnish and install new VDS with Radar capable | EA | 7 | \$ 26,000 | \$ 182,000 |
| Furnish and install new Actelis ML6916E with hardened power supply and 2 ea 1 Gb SFP's. | EA | 1 | \$ 6,200 | \$ 6,200 |
| Laguna Hills - General Comm Improvements Total | | | \$ | 911,755 |
| | | | Estimated Unit Price for Fiber Optic Underground * \$ 13,988 | |
| *For the applicaion purposes, Unit Price was driven by average of 20 locations with fiber optic improvement with or without new conduit. | | | | |

Laguna Woods

| Item Description | Unit | Qty | Unit Price | Total |
|--|------|-------|---|----------------|
| Install Ethernet Switch | LS | 5 | \$ 4,000 | \$ 20,000 |
| Install 3" schedule 80 PVC conduit | LF | 75 | \$ 75 | \$ 5,625 |
| Install 72-SMFO cable | LF | 9,400 | \$ 5 | \$ 47,000 |
| Install 12-strand SMFO Cable | LF | 5 | \$ 200 | \$ 1,000 |
| Install type 6E pullbox | EA | 5 | \$ 3,500 | \$ 17,500 |
| F/O Splice Enclosures | EA | 5 | \$ 2,000 | \$ 10,000 |
| nstall 12-Port fiber distribution unit | EA | 5 | \$ 1,800 | \$ 9,000 |
| Remove/Replace pull box; Cut/Connect Conduit | EA | 23 | \$ 2,800 | \$ 64,400 |
| Install Router/Ethernet Switch at City Hall | EA | 1 | \$ 15,000 | \$ 15,000 |
| Install Conduit into City Hall | LF | 400 | \$ 100 | \$ 40,000 |
| Install 4U fiber distribution unit at City Hall | EA | 1 | \$ 2,500 | \$ 2,500 |
| Install new cabinets with controllers | LF | 2 | \$ 32,000 | \$ 64,000 |
| Install Coblat ATC Controllers | EA | 5 | \$ 6,000 | \$ 30,000 |
| Laguna Hills - General Comm Improvements Total | | | \$ | 326,025 |
| | | | Estimated Unit Price for Fiber Optic Underground * \$ 38,405 | |
| *For the applicaion purposes, Unit Price was driven by average of 5 locations with fiber optic improvement with or without new conduit. | | | | |