South Bay SBHP & MSP Candidate Project Fact Sheet

PROJECT TITLE:
South Bay Forum Traffic Signal Corridors Project, LACMTA Call for Projects F7310 / MR312.52

PROJECT LOCATION:
The project is located in the South Bay subregion. Jurisdictions include the Cities of Gardena, Hawthorne, Lawndale, Manhattan Beach, Redondo Beach and unincorporated areas of Los Angeles County.

PROJECT LIMITS:
This project's limits are Normandie Avenue between 92nd Street and El Segundo Boulevard, Manhattan Beach Boulevard between Manhattan Avenue and Van Ness Avenue, and Hawthorne Boulevard between Imperial Highway and Manhattan Beach Boulevard. This project also includes Intelligent Transportation Systems (ITS) and intersection operational improvements across the South Bay region.

NEXUS TO HIGHWAY OPERATION, DEFINITION/PROJECT PURPOSE:
This project will complete Traffic Signal Synchronization (TSSP) improvements on Normandie Avenue between 92nd Street and El Segundo Boulevard, Manhattan Beach Boulevard between Manhattan Avenue and Van Ness Avenue, and Hawthorne Boulevard between Imperial Highway and Manhattan Beach Boulevard. Other project components include systemwide coordination timing, Intelligent Transportation Systems (ITS) and intersection operational improvements. The TSSP component of the project will improve traffic signal operations along these routes by upgrading each traffic signal to federal and state standards, providing additional vehicle detection to enable operation as a fully traffic- actuated signal, and install the appropriate components to enable each signal to be capable of time-based coordination. The traffic signals along these routes will be retimed to improve the overall progression of traffic. Additionally, this project will install any warranted and feasible roadway improvements along the routes to improve overall progression which may include: installation of parking restrictions, modification of signing and striping, and/or minor roadway widening within existing right-of-way to provide for additional lanes. In addition, the Project includes the expansion of the ITS components, including devices to support traffic control system operations and arterial performance measurements. This could include the installation of system detection, additional Closed-Circuit Television (CCTV) cameras, Changeable Message Signs (CMS), and Connected Vehicle (CV) technology. This project should result in an overall improvement in mobility within the region, which will reduce costs associated with moving people and goods, pollution, and other congestion-related factors.

Funds are for design and construction costs. Project sponsor will be required, upon completion of the project, to demonstrate congestion reduction and transit travel time reduction benefits. In addition, project sponsor will be required to credit to LACMTA, as cost savings in proportion to the LACMTA share of the total cost of this grant, any element of the work scope for this project that can utilize previously-installed signal infrastructure (interconnect, signal equipment, etc.)

PROJECT BACKGROUND:

The TSSP routes in their existing condition are unsynchronized or synchronized on the basis of a single arterial, not accounting for crossing arterials. Most intersections along these routes operate exclusively with loop detection and may not be fully actuated. Some intersections feature out-of-standard, smaller traffic signal bulbs which need upgrading, this upgrade my result in mast-arm upgrade requirements. Also, some intersections contain median noses which encroach on sidewalk limits. These existing conditions, among others to be addressed by these projects, contribute to inefficiencies in progression and operation of the subject roadways in the South Bay region.

REQUESTED FUNDING SOURCE:
Please indicate the program from which you are requesting funds.

__X__Measure R South Bay Highway Program

_____Measure M Highway Efficiency and Operational Improvements Program

_____Measure M Transportation System and Mobility Improvements Program

PROJECT BUDGET:

Funding Source	**Total Amount**	**Requested**
PA/ED	$ -	$
PS&E	$ 1,331,000	$
R/W Support	$ -	$
R/W Capital	$ -	$
Construction Support	$ 380,000	$
Construction Capital	$ 3,392,402	$ 1,400,000
Total	**$ 5,103,402**	**$ 1,400,000**

JUSTIFICATION FOR WAIVER OF ANY ELIGIBILITY REQUIREMENTS: [please provide a detailed justification for a requested waiver of any program eligibility rules, such as the Measure R SBHP requirement that the project be within one mile of a state highway or freeway. If no waiver is being requested, this section may be skipped.]

QUALITATIVE PROJECT PERFORMANCE EVALUATION *(FOR MEASURE M MSP PROJECT REQUESTS ONLY)*: [For Measure M MSP project requests, please use the Harvey Ball assessment process to include a projection of the anticipated performance of the project for each of the following five themes: mobility, economy, accessibility, safety, and sustainability/quality of life**.** Within each of the five themes, the appropriate Harvey Ball should be used to reflect the following criteria:

To achieve the following score in a single theme:	Project must meet the corresponding criterion:
● HIGH BENEFIT (100% score)	Significantly benefits one or more theme goals or metrics on a subregional scale
◑ MEDIUM BENEFIT (50% score)	Significantly benefits one or more theme goals or metrics on a corridor or activity center scale
◔ LOW BENEFIT (25% score)	Address one or more theme goals or metrics on a limited/localized scale (e.g., at a single intersection)
○ NEUTRAL BENEFIT (0% score)	Has no cumulative positive or negative impact on theme goals or metrics
— NEGATIVE IMPACT	Results in cumulative negative impact on one or more theme goals or metrics

Copy and paste the following into the chart below for this project:

● ◑ ◔ ○ —

Project's Harvey Ball Assessment Projection:

Mobility	Economy	Accessibility	Safety	Sustainability/ Quality of Life

SCOPE: [in a narrative, please describe the scope of the proposed improvements. The proposed improvements should directly address the deficiency and problem identified above] (example: redesign center median between X and X to add an additional 20ft of storage in the left turn lane. Protected left turn signal phase will also be added to help clear the queues)

TIER I PROJECTS – TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM (TSSP):

There are three TSSP projects in this grant: Normandie Avenue, Manhattan Beach Boulevard and Hawthorne Boulevard. The completion of traffic signal synchronization improvements on these routes will complement other synchronization projects in the area and is part of a long-range plan to synchronize and improve all major corridors in

the area. These synchronization projects are the first step toward building a smarter system of roadways.

These three TSSP projects will improve traffic signal operation along the routes by upgrading each traffic signal, providing additional vehicle detection to enable operation as a fully traffic actuated signal, and installing the appropriate components to enable each signal to be capable of time-based coordination. The traffic signals will be retimed to improve the overall progression of traffic along and crossing the route. Additionally, these components of the Project will install any warranted and feasible roadway improvements along the routes to improve overall progression which may include: modification of signing and striping; and/or minor roadway widening within existing right-of-way to provide for additional lanes. Lastly, this project will upgrade equipment necessary to ensure the operational safety of all traffic signals along the routes which may include: upgrade of highway safety lights; cut back of median noses out of crosswalks; upgrade signal standards and mast arms to increase visibility of mast arm-mounted vehicle heads; and, modify signal phasing.

I. Normandie Avenue TSSP

Tasks to be performed include, but are not limited to, the following:

A. Begin preparation of plans, specifications, and estimate
B. Complete preparation of plans, specifications, and estimate,
C. Advertise construction contract
D. Award construction contract
E. Begin construction
F. End Construction

This TSSP project involves synchronizing the traffic signals at the 11 intersections on Normandie Avenue between 92nd Street to El Segundo Boulevard. The following are the signalized intersections on Normandie Avenue to be included in this TSSP project.

92nd Street
95th Street
98th Street
Century Boulevard
104th Street
106th Street
108th Street
110th Street
Imperial Highway
120th Street
El Segundo Boulevard

II. Manhattan Beach Boulevard TSSP

Tasks to be performed include, but are not limited to, the following:

A. Begin preparation of plans, specifications, and estimate
B. Complete preparation of plans, specifications, and estimate,
C. Advertise construction contract
D. Award construction contract

E. Begin construction
F. End Construction

This TSSP project involves synchronizing the traffic signals at the 24 intersections on Manhattan Beach Boulevard between Manhattan Avenue to Van Ness Avenue. The following are the signalized intersections on Redondo Beach Boulevard to be included in this TSSP project.

Manhattan Avenue
Rindge Lane
Highland Avenue
Vail Avenue/Redondo Beach Avenue
Ardmore Avenue/Valley Drive
Dow Avenue
Pacific Avenue
Inglewood Avenue
Poinsettia Avenue
Firmona Avenue
Sepulveda Boulevard
Hawthorne Boulevard
Target Driveway
Freeman Avenue
Meadows Avenue
Prairie Avenue
Peck Avenue
Doty Avenue
Redondo Avenue
Lemoli Avenue
Aviation Boulevard
Crenshaw Boulevard
Doolittle Drive
Van Ness Avenue

III. Hawthorne Boulevard TSSP

Tasks to be performed include, but are not limited to, the following:

A. Begin preparation of plans, specifications, and estimate
B. Complete preparation of plans, specifications, and estimate,
C. Advertise construction contract
D. Award construction contract
E. Begin construction
F. End Construction

This TSSP project involves synchronizing the traffic signals at the 15 intersections on Hawthorne Boulevard between Imperial Highway to Manhattan Beach Boulevard. The following are the signalized intersections on Hawthorne Boulevard to be included in this TSSP project.

Imperial Highway
135th Street
118th Street
138th Street
119th Street
Rosecrans Avenue
120th Street

147th Street
Mall Entrance/122nd Street
Marine Avenue
Broadway
154th Street
El Segundo Boulevard
Manhattan Beach Boulevard

IV. System-Wide Coordination Timing

This project will augment the scope and magnitude of the system wide coordination timing to be implemented on various arterial routes in the South Bay Forum. The implementation of the traffic signal synchronization improvements identified in this Scope of Work will alter the traffic signal timing of intersecting arterial streets currently operating under coordinated timing. Therefore, revisions to the timing of the crossing arterials will be necessary. If not revised, these existing synchronized routes will experience deterioration in the effectiveness of their current signal timing plans, since the timing was designed on the basis of a single arterial and did not account for crossing arterials. The existing routes will need to be retimed employing timing methods based on a network of synchronized routes.

The project will determine the optimal cycle lengths, phase splits, and offsets for the a.m. peak, p.m. peak, and off-peak periods for the three routes, which may require the use of a modeling software package such as Synchro to be accepted by some of the affected agencies. This funding will be used to complete the optimizing model, prepare time-space diagrams, prepare timing sheets, install timing in the field controllers, and adjust timing in the field as necessary.

V. Operational Improvements

This element of the scope of work will design and construct appropriate operational improvements that may be recommended during the preliminary engineering and design of the aforementioned arterial routes in the South Bay Forum. This project will implement warranted and feasible operational or intersection improvements to increase the overall capacity, efficiency, and safety of these routes. Typical improvements include: left turn phasing; restriping to provide for additional lanes; minor widening within existing right of way; signing and striping modifications; traffic channelization improvements; and, new traffic signals.

These operational improvements are in addition to the improvements recommended in the scope of work for the arterial route. Additional operational improvements may be identified during pre-design interviews with the affected cities or during field reviews which occur during plan preparation. These operational improvements will only be implemented if they improve the operation and/or safety of the route.

TIER III & IV PROJECTS – INTELLIGENT TRANSPORTATION SYSTEM IMPROVEMENTS:

I. Intelligent Transportation System Improvements

Tasks to be performed include, but are not limited to, the following:

A. Begin preparation of plans, specifications, and estimate

B. Complete preparation of plans, specifications, and estimate,
C. Advertise construction contract
D. Award construction contract
E. Begin construction
F. End Construction

This element of the scope of work will implement Intelligent Transportation Systems (ITS) improvements to increase the capacity of the major arterials without adding lanes to enable the current transportation system in the South Bay Forum to operate at its maximum efficiency. Using advanced technologies for communications and information processing, the project will expand the improvements installed with prior grants including an Advanced Transportation Management System (ATMS) which is expected to improve the overall regional traffic mobility and reduce traffic delays at County and City maintained intersections along arterial corridors.

The ATMS expansion will provide traffic signal controller upgrades, traffic signal timing revisions, and communications infrastructure necessary to monitor and control the operation and timing of traffic signals; collect and manage real-time traffic information; exchange data and information with other jurisdictions; and monitor signal equipment status. The ATMS will also include the installation of closed circuit television (CCTV) cameras to detect incidents and monitor traffic conditions, communications system(s) to provide field-to-center and center-to-center connections and may include the installation of Changeable Message Signs (CMS) for providing drivers real time traveler information. Once installed, these CCTV locations are proposed to be connected to the County's Video Distribution System which will enable the exchange of camera images in real time across jurisdictional boundaries. Appropriate security measures and levels of authority will be incorporated into these ITS elements to prevent any undesired access to data or control of field devices.

Other ITS components to be implemented in this project include the deployment of arterial system detection to support traffic control system operations and arterial performance measurements. These improvements build upon the benefits achieved by the time-based signal synchronization. Arterial system detection allows for the collection of real-time traffic-flow information such as volume, speed and occupancy. This can be coupled with other travel time measurement devices, such as Bluetooth/Wi-fi and Microwave Radar, to provide data to enable more detailed analysis to determine delay, stops, and queue lengths. Calculating and analyzing travel time data from these devices will result in travel time savings and travel time reliability improvements. In addition, the ATMS expansions may include the deployment of elements associated with a Connected Corridors Decision Support System intended to reduce congestion and improve mobility. Furthermore, the project may also include the deployment of Dedicated Short-Range Communications (DSRC), providing the foundation to implement the next generation of Connected Vehicle (CV) technology.

Expansion of the ATMS provides two-way communications, real-time database management, and control and monitoring functions between the traffic signal controllers and each affected agency. The ATMS allows an agency to control traffic signal operations from its Traffic Management Center and monitor traffic signal operations for malfunctions. This information can assist in both preparing and fine-tuning coordination plans, which are considered a valuable additional tool for use by system operators.

This project may also include the installation and support of elements for the County's Information Exchange Network (IEN) which will enhance inter-jurisdictional data-sharing for the implementation of arterial traffic management strategies, cooperative efforts in timing plan development and coordinated response to arterial incidents, congestion and special events. These strategies will result in a substantial enhancement of traffic signal

coordination and event management capabilities for the affected cities. This project is a significant step towards building a smarter system of roadways.

Due to unforeseen complications, field conditions, actual engineering costs, actual consultant contract amounts, construction bids, and a variety of other factors, it may become necessary to make adjustments to the scope of work and revise the estimated costs as the project progresses. Upon completion of the design phase, detailed summaries of the improvements and cost estimates will be submitted to the Metro project manager and any project adjustments will be made with the Metro project manager's approval.

II. Program Management

Project Management

Program management involves overseeing the day-to-day activities of the Project. Specifically, this involves the management of consultants, coordination and meetings with stakeholders, and quality control/quality assurance of deliverables. The work will include reviewing deliverables, preparing contracts, project status reporting and invoicing, schedule control, internal budget control, and internal quality control and quality assurance.

Meetings and Presentations

This work consists of interfacing and coordinating our overall efforts on a regularly scheduled basis with the affected jurisdictions through the South Bay Council of Governments' Infrastructure Working Group (IWG). The IWG, which meets monthly, is composed of members from key South Bay cities and works closely with MTA, Caltrans and LA County to help ensure that the regional transportation needs of the South Bay Area are addressed. The IWG oversees the development and implementation of all transportation infrastructure related projects such as those included in this Grant. In addition to meeting with affected jurisdictions, this work will include meeting with the project administrators of other ITS projects to interface and coordinate the deployment of computer software and hardware, communications infrastructure, and field devices.

Tracking Expenditures/Adhering to Project Schedule

This work consists of tracking expenditures and reviewing project schedules to ensure all projects adhere to their respective scopes of work and project milestones. The activities include: managing the distribution of Grant funds, preparing spreadsheets which track both actual and projected expenditures, maintaining status reports, and overseeing contracts for consultant services.

City Coordination Activities

The coordination activities include: distributing draft and final plans and reports to cities and following up to ensure timely comments on reports, and disseminating information on and enlisting participation of city staff and other interested parties in MTA or County sponsored training courses on ITS. This work also includes LA County staff meeting with individual cities to review the type, amount, and cost of ITS components which are recommended to be deployed within their respective jurisdictions.

MILESTONES: The implementation schedule for this project will be as follows. [**Please include all applicable milestones and provide any additional specific activities that are not listed, under "other."**]

	START DATE	COMPLETION DATE
SOLICITATION (BID/PROPOSAL)		
Develop Solicitation Package		
Solicitation Response		
Evaluations		
Selection		
Board Approval		
Contract Award		
Fully Executed Contract		
PLANNING		
Prepare Concept Report		
Prepare Feasibility Study		
Prepare Project Study Report		
Intelligent Transportation System (ITS)		
Feasibility Study		
Concept Exploration		
Insert other planning milestones		
PA&ED	**July 2020**	**March 2022**
Prepare Environmental Document Document Type:_____		
Scoping		
Technical Studies		
Draft Environmental Document		
Final Environmental Document		
Community Outreach		
Secure Project Approval		
Intelligent Transportation System (ITS)		
Categorical Exemption Filing		
Insert other PAED milestones		
PRELIMINARY DESIGN	**March 2022**	**July 2023**
Prepare Detailed Design Plans		
Prepare Detailed Construction Plans		
Prepare Project Cost Estimate		
Intelligent Transportation System (ITS)		
Concept of Operations		
System Requirements		
High Level Design		
Insert other prelim design milestones		
PS&E	**July 2023**	**April 2024**
35% PS&E		
Preliminary Investigations		
Preliminary Foundation		
Geometric Drawings		
Bridge Type Selection Roadway and Retrofit Strategy		
ADL Review		
Utilities		
Right-of-Way		
Estimating		
Civic Design		
Structural Design		
Intelligent Transportation System (ITS)		

Detailed Design		
ITS Drawings		
System Plans		
Communications Plans		
Systems Integrations Plans		
Software Specifications		
Project Review & Comments		
65% PS&E		
Civil Design Plans		
Right-of-Way Engineering		
Structural Design		
Prepare Project Cost Estimate		
Intelligent Transportation System (ITS		
Detailed Design		
ITS Drawings		
System Plans		
Communications Plans		
Systems Integrations Plans		
Equipment Specifications		
Software Specifications		
Project Review & Comments		
95% PS&E		
Civil Design Plans		
Structural Design		
Intelligent Transportation System (ITS)		
Detailed Design		
ITS Drawings		
System Plans		
Communications Plans		
Systems Integrations Plans		
Equipment Specifications		
Software Specifications		
Submittals & Reviews		
Submit Final PS&E		
Outside Agency Review		
Insert other PS&E Milestones		
RIGHT OF WAY SUPPORT	-	-
Certification/Mapping		
Appraisal		
RIGHT OF WAY ACQUISITION	-	-
Certification/Mapping		
Title Report		
Meet with Property Owners		
Appraisal		
Environmental Investigation		
Closing/Acquire Property/Relocation		
Physical Possession		
Remediation		
Insert other ROW milestones		
Utility Relocation		
Third Party Coordination		
Design Utilities		
Relocate Utilities		

CONSTRUCTION MILESTONES: The implementation schedule for this project will be as follows**. Please include all applicable milestones and provide any additional specific activities that are not currently listed under "other."**

	START DATE	COMPLETION DATE
Solicitation (Bid/Proposal)	**October 2024**	**January 2025**
Develop Solicitation Package		
Solicitation Response		
Evaluations		
Selection		
Board Approval Process		
Contract Award		
Fully Executed Contract		
Excavation		
Clear/Grub		
Survey		
Sample Borings		
Grading		
Compaction		
Drainage		
Environmental		
Hazardous Materials Handling		
Archaeological		
Air Quality Monitoring		
Concrete		
Form Work		
Rebar Placement		
Pole Placement		
Traffic Control	**January 2025**	**June 2027**
TMP		
Structural		
False Work		
Iron Placement		
Pole Placement		
Utilities		
DWP		
SCE		
LADOT		
Materials		
Long-Lead Equipment		
Staging		
Material Lay Down Area		
Signage		
Electrical		
Power U/G Communication		
A/G Testing/Acceptance		

	START DATE	COMPLETION DATE
Landscape		
Clearing		
Planting		
Plant Establishment		
Irrigation		
Testing		
General Construction/close out project	**June 2027**	**May 2028**
Change Orders		
P.O. Processing Time		
Weather		
Third Party Issues		
Strike Labor Walk Outs		
Force Majeure		
Claims		

ATTACHMENT C -Location Map(s)