South Bay Cities Council of Government

August 28, 2014

TO: SBCCOG Board of Directors

FROM: Measure R Oversight Committee

SUBJECT: Metro Measure R South Bay Highway Program (SBHP) Arterial Baseline Performance Analysis Intelligent Transportation System (ITS) Study

ADHERENCE TO STRATEGIC PLAN:
Goal A: Environment, Transportation and Economic Development. Facilitate, implement and/or educate members and others about environmental, transportation and economic development programs that benefit the South Bay.

BACKGROUND
Measure R requires SBHP projects to demonstrate a nexus to operational improvement of the South Bay Freeway and State Highway network. Projects that are allocated Measure R SBHP funding must be on the South Bay freeways and state highways or on arterial corridors that serve or provide useful alternatives to the freeways / state highways. To provide guidance on how these funds should be invested, the SBCCOG developed a Strategic Transportation Element (STE) for the SBHP. The STE identified the need to create a performance database and a performance evaluation methodology for South Bay arterials comparable to the information that Caltrans currently maintains on its freeway and state highway network through the Caltrans' Performance Measurement System (PEMS), or through other existing sources. No similar methodology or database exists for the South Bay arterials.

The SBCCOG Board and the Los Angeles County Metropolitan Transportation Authority (Metro) previously approved an allocation of $7 million in Measure R SBHP funding to develop and implement the STE as an element of the South Bay Intelligent Transportation System (SB ITS) Plan in the South Bay Highway Program (SBHP project #312.31) beginning in FY 13-14 with the SBCCOG as lead agency. Since the SBCCOG is not typically a project lead agency, the SBCCOG was identified as lead agency as a place holder with the understanding among participating agencies that the SBCCOG would not lead the project implementation, but would transition the lead agency role to another willing lead agency once a project scope, schedule and budget were determined and before the project was initiated.

The decision to combine the STE and ITS Plan envisioned a state-of-the-art Highway Management System (HMS) capable of gathering traffic system performance data using the same technology suite that would be used for real-time adaptive management of an integrated automated South Bay traffic control system and motorist communications network. However, several local agencies expressed concern with the complexity of the ambitious ITS Plan, questioned the benefits to be derived from an active traffic management system in the South Bay, and were concerned about ongoing operating and maintenance costs that would be borne by the local agencies that own and operate the signal systems. Although there was general acknowledgement that the SB ITS Plan provides a long term framework for development of advanced signal synchronization, active traffic corridor management, and advanced communication with motorists in the South Bay, no South Bay agency agreed to lead the ambitious $7 million project. Absent a local agency willing to lead the study, at its July 24, 2014 meeting the SBCCOG Board approved deferral of SB ITS project 312.31 and de-obligated the $7

million in South Bay Highway Program. SBCCOG staff noted it would return to the Measure R Committee and Board in August with a recommendation to undertake a more limited implementation study to begin the SB ITS Plan development.

CURRENT STATUS

Deliberations between Metro, L. A. County Department of Public Works, the City of Los Angeles, Caltrans, SBCCOG staff, and other South Bay jurisdictions have led to a recommended scope of work, schedule and budget for implementation of an initial STE ITS project. The initial SBCCOG-funded STE study will establish a baseline reference point for arterial conditions that can be used to prioritize SBHP Measure R operational improvement projects in the near term and supplement the end goal of deploying a Highway Monitoring System (HMS) for the South Bay that integrates performance measurement of the Caltrans freeway network and the Measure R-eligible arterial corridor network. The baseline conditions analysis will complement and be consistent with the SBHP STE.

The initial study scope will be to develop a South Bay Arterial Performance Measure Framework and to complete a South Bay Arterial Baseline Conditions Analysis. The analysis will identify and evaluate suitable arterial performance measures / baseline indicators, evaluate the applicability and use of third-party data evaluation, establish a baseline conditions analysis methodology and complete the baseline conditions analysis. Once these baseline conditions are documented, an ITS implementation strategy that incorporates the active traffic management and advanced motorist communications technologies can be defined for high-priority South Bay traffic corridors.

A major task of the recommended initial study will be to complete baseline arterial traffic volume counts at 104 South Bay locations. The counts are to be conducted one time over a 7 day period in 15 minute intervals. To avoid any skewing of the baseline data, the counts need to be completed during September and October, after the summer vacation period and before the year-end holidays. The proposed study scope of work is included in Exhibit 1. The proposed study schedule and not-to-exceed study budget of $250,000 are included in Exhibit 2.

The traffic count schedule is driving the need for the study to be initiated by the end of August. The Metro Highway Section staff has agreed to procure and manage a consultant that Metro will select from its Highway Planning Bench to complete the study. However, Metro cannot issue a contract notice to proceed until the SBCCOG Board approves funding for the study to be allocated from the South Bay Highway Program fund in an amount not to exceed $250,000.

Sufficient FY 14-15 funding for the study is included in the 2015 SBHP Metro Budget Request that was approved by the SBCCOG Board in February 2014 and by Metro in March 2014. Similar to an arrangement that Metro has with the Gateway Cities Council of Governments to use GCCOG's sub-regional funds, Metro staff will establish a contract control number within the Metro accounting system for the study and will prepare required SBHP monthly and quarterly progress reports. The study scope, schedule and budget must be approved by the SBCCOG Board but does not require approval of the Metro Board.

RECOMMENDATION

Approve the actions of the August 6 Measure R Oversight Committee that:

1. Metro will be the lead agency for the South Bay Arterial Performance Measure Framework and Arterial Baseline Conditions Analysis consistent with the scope of work, schedule and budget identified in Exhibits 1 and 2; and,
2. Metro will use SBHP project development funds in an amount not to exceed $250,000 and Metro's Highway Planning Bench to complete the study.

Metro South Bay Performance Measurement Baseline Conditions Analysis: Draft Scope of Work

Contents

South Bay Cities Arterial Performance Measurement Baseline Conditions Analysis

1. Introduction

In 2008, voters in Los Angeles County approved Measure R, a one-half percent sales tax dedicated to improving mobility in the region. A part of these funds (approximately $906 million in 2008 dollars) is dedicated to funding operational improvements on state freeways/highways and adjacent arterials in the South Bay region of Los Angeles County. To provide guidance on how these funds should be invested, the South Bay Cities Council of Governments (SBCOG) has developed a Strategic Transportation Element (STE) for the South Bay Measure R Highway Program (SBHP).

Measure R requires SBHP projects to demonstrate a nexus to operational improvement of the South Bay Freeway network. These projects must be on the South Bay freeways or on arterial corridors that serve or provide useful alternatives to the freeways. As part of the development of the STE a series of performance measures were identified to support the evaluation and assessment of projects which are part of the SBHP. During this performance measurement assessment it was determined that the necessary data to support these measures for the freeways in the South Bay are already available, either through the Caltrans' Performance Measurement System (PEMS), or through other existing sources. This is not the case for the arterials. To address the lack of data available on the arterial network, a SBHP Intelligent Transportation System (ITS) project has been identified to enable the collection of the data need to support the calculation of the SBHP arterial performance measures.

While the SBCOG has begun to evaluate technology options for collecting the necessary data to support arterial performance measures (APMs), project deployment options, and estimated project costs, additional work is needed to develop consensus on how to proceed with the collection and reporting of APMs that is cost effective and institutionally feasible. While the SBCOG continues to work with regional and sub-regional stakeholders to address these matters, it has become clear that a preliminary assessment of current arterial corridor operating conditions is needed to establish a performance baseline as SBHP projects are being prioritized and constructed.

2. Overview

The SBCOG is attempting to establish a reference point for arterial conditions that can be used to prioritize SBHP Measure R operational improvement projects in the near term and supplement the end goal of deploying a Highway Monitoring System (HMS) for the South Bay that integrates performance measurement of the Caltrans freeway network and the Measure R eligible arterial corridor network. This Scope of Work outlines the tasks for consultant services to assist the SBCOG in the completion of an arterial baseline conditions analysis. It is expected that this baseline conditions analysis will complement and be consistent with the SBHP STE.

3. Arterial Performance Baseline Conditions Analysis

The SBCOG is seeking a qualified consultant or consultant team to conduct an arterial performance baseline conditions analysis. The analysis shall include all of the roadway corridors identified in the SBHP STE.

Table 1 - SBHP STE Roadway Corridors

	Facility	From	To	#
Highways	Western Ave (SR-123)	25th St	I-405	1
	Hawthorne Blvd (SR-107)	SR-1 (PCH)	I-405	2
	PCH/Lincoln Blvd/Sepulveda Blvd	I-110	Imperial Hwy	3
	Ocean Blvd (SR-47)	I-110	Navy Way	4
Primary Arterials	Manchester Blvd	SR-1 (PCH)	Central Ave	5
	La Cienega Blvd	El Segundo Blvd	Centinela Ave	6
	Imperial Hwy	Vista Del Mar	Central Ave	7
	El Segundo Blvd	SR-1 (PCH)	Central Ave	8
	Vermont Ave	SR-1 (PCH)	Gage Ave	9
	Figueroa St	SR-1 (PCH)	Gage Ave	10
	Inglewood Ave	190th St	Florence Ave	11
	Artesia Blvd	SR-1 (PCH)	Vermont Ave	12
	190th St	Inglewood Ave	Central Ave	13
	La Brea Ave	Century Blvd	Centinela Ave	14
	Hawthorne Blvd	I-405	Century Blvd	15
	Rosecrans Ave	Vistal Del Mar	Central Ave	16
	Century Blvd	SR-1 (Sepulveda Bl)	Central Ave	17
Secondary Arterials	Manhattan Beach Blvd	SR-1 (Sepulveda Bl)	Van Ness Ave	18
	Florence Ave	Manchester Blvd	Central Ave	19
	Sepulveda Blvd	Hawthorne Blvd	Alameda St	20
	Carson St	Hawthorne Blvd	Alameda St	21
	Normandie Ave	SR-1 (PCH)	Gage Ave	22
	Aviation Blvd	Artesia Blvd	Manchester Blvd	23
	Crenshaw Blvd	Palos Verdes Dr	Florence Ave	24
	Torrance Blvd	SR-1 (PCH)	Main St	25
	Gaffey St	25th St	Vermont Ave	26
	Hawthorne Blvd	Palos Verdes Dr	SR-1 (PCH)	27

Period of Performance

The period of performance to complete the Arterial Performance Baseline Conditions analysis is six months from notice to proceed. The consultant proposal shall contain a task management schedule indicating how the complete scope of work can be accomplished within the specified time frame.

Project Oversight

Working with the SBCOG, the Consultant will create a Project Development Team (PDT) with representatives from the SBCOG, LA County Public Works, Metro, and other sub-regional stakeholders. PDT meetings will be conducted on an as needed basis, but at least every four weeks. The Consultant shall be responsible for coordinating PDT meetings including but not limited to setting the agendas, scheduling meetings, taking meeting minutes, and following up with PDT members to collect comments on deliverables.

Communications Protocol

During the execution of the Arterial Performance Baseline Conditions Analysis, communications with the Consultant and PDT members will be through the SBCOG unless directed otherwise. The Consultant shall be responsible for making informational presentations and/or conducting workshops at the request of the SBCOG and may be directed to work directly with specific PDT members as needed.

Task 1 – Project Management

The Project Manager (PM) will act as the principal contact for the SBCOG and the PDT and will be responsible for the completion of activities associated with the performance of this project. The PM is expected to oversee and participate in the day-to-day activities of this scope of work and should, therefore, have no concurrent assignments that would interfere with the successful and timely completion of all Tasks related to this Work. Additional responsibilities include management of project planning activities and tracking of resources associated with each aspect of the project. In addition, the PM will be responsible for preparations of invoices, billings, and other financial information for review and approval by SBCOG, as required. Task 1 Deliverables will be paid on a time and materials basis. Project management activities described under this task will be performed only up to the budget limit of this task.

Project Management activities for this task includes the following:

- Attend meetings as requested by the SBCOG and PDT
- Prepare meeting minutes summarizing discussions at all meetings attended. Minutes should include summaries and follow-up action items.
- Preparation of invoices
- Preparation of monthly progress reports related to current phase of work
- Communication with SBCOG and PDT staff
- Discussions related to contractual questions, scope, schedule, and financial issues
- Developing presentation materials, brochures, and newsletters related to project, as requested by the SBCOG

Monthly Reporting

The PM shall prepare and submit written monthly progress reports to the SBCOG detailing the status of work being performed. The reports shall include:

- A narrative of the Tasks accomplished in that month
- A review of any incomplete Tasks and the reasons why they were not completed
- An outline of the Tasks anticipated to be accomplished in the next month
- A list and status of outstanding issues, Deliverables and Invoices as required by this Contract
-

Quality Assurance / Quality Control

The Consultant shall have internal quality assurance/quality control procedures and will apply these to their work. QA/QC reviews must be completed prior to submission of all documentation to the SBCOG. The products must be prepared and reviewed by experienced professional staff to verify the methods, procedures, assumptions, conclusions, and recommendations are appropriate and accurate.

Deliverables: Meeting minutes, Monthly progress reports, Invoices, QA/QC Plan

Task 2 – Evaluate and Identify Suitable Performance Measures/Indicators

The Consultant shall review existing high level arterial performance measures identified by Metro as well as the performance indicators identified in the SBHP STE and determine what data and what specific performance measures/indicators are able to be collected immediately based on existing conditions and which are most suitable for the baseline conditions analysis. The Consultant shall work directly with the SBCOG and PDT members to determine the specific performance measures based upon the anticipated limitations of the data types identified in Tasks 3 and 4. During the course of this evaluation, the Consultant shall map the performance measures tied to the baseline conditions analysis to the requirements identified in the SBHP STE for the purposes of establishing purpose and need.

Upon final agreement, the Consultant shall develop a final list of arterial performance measures that will be used to guide the development of the baseline conditions analysis methodology and shape the selection of third party data sources and the collection of traffic count data as identified in Tasks 3 & 4.

Deliverable: Arterial performance measures list, definitions and data requirements

Task 3 – Third Party Data Evaluation, Recommendation and Purchase

The Consultant shall evaluate available third party traffic data capable of supporting the key performance indicators tied to the Arterial Baseline Conditions Analysis. The Consultant shall focus this evaluation on the accuracy and integrity of the different sources of data as well as the ease of use of the data for analytical purposes. Furthermore, the Consultant shall document how the data is generated by the different third party data providers and evaluate the cost of the data needed to support the baseline conditions analysis. The findings from this evaluation will be presented to the SBCOG and the PDT, and a decision will be made on what data provider to use and what type of dataset to acquire. Upon final selection, the Consultant shall procure the agreed upon dataset from the selected third party provider.

Deliverables: Third party traffic data evaluation and recommendation report

Procured third party data set

Task 4 – Traffic Volume Counts

The Consultant shall collect bi-directional tube counts at the following locations to support the baseline conditions analysis. While the locations for the counts have been predefined, the identified count locations will be re-evaluated by the SBCOG and the PDT and refined if necessary.

#	Main Street	Location	Cross Street
1	Western Ave	S/O	Carson St
		S/O	SR-1 (PCH)
		N/O	25th St
2	Hawthorne Blvd	S/O	Artesia Blvd
		N/O	Torrance Blvd
3	SR-1 (PCH)	S/O	Imperial Hwy
		S/O	Rosecrans Ave
		S/O	Artesia Blvd
		S/O	Anita St
		W/O	Hawthorne Blvd
		W/O	Western Ave
		E/O	Vermont Ave
		W/O	Avalon Blvd
4	Ocean Blvd	E/O	Harbor Blvd
5	Manchester Blvd	E/O	SR-1 (PCH)
		W/O	La Cienega Blvd
		W/O	Prairie Ave
		E/O	Vermont Ave
		W/O	Avalon Blvd
6	La Cienega Blvd	S/O	Centinela Ave
		N/O	Lennox Blvd
7	Imperial Hwy	E/O	Main Street
		E/O	Douglas St
		E/O	Hawthorne Blvd
		W/O	Crenshaw Blvd
		E/O	Vermont Ave
		W/O	Avalon Blvd
8	El Segundo Blvd	W/O	Aviation Blvd
		W/O	Hawthorne Blvd
		W/O	Western Ave
		E/O	Vermont Ave
		W/O	Avalon Blvd

#	Main Street	Location	Cross Street
9	Vermont Ave	N/O	Manchester Blvd
		N/O	Imperial Hwy
		N/O	El Segundo Blvd
		S/O	Artesia Blvd
		S/O	190th St
		N/O	Carson St
		S/O	Sepulveda Blvd
10	Figueroa St	S/O	Florence Ave
		N/O	Imperial Hwy
		S/O	El Segundo Blvd
		S/O	Alondra Blvd
		S/O	190th St
		N/O	Carson St
		N/O	Sepulveda Blvd
11	Inglewood Ave	S/O	Century Blvd
		S/O	El Segundo Blvd
		N/O	Manhattan Beach Bl
		N/O	Artesia Blvd
12	Artesia Blvd	E/O	Sepulveda Blvd
		W/O	Hawthorne Blvd
		W/O	Crenshaw Blvd
		E/O	Vermont Ave
13	190th St	W/O	Hawthorne Blvd
		E/O	Van Ness Ave
		E/O	Western Ave
		E/O	Normandie Ave
		E/O	Avalon Blvd
14	La Brea Ave	S/O	Manchester Blvd
15	Hawthorne Blvd	S/O	Century Blvd
		N/O	El Segundo Blvd
		N/O	Manhattan Beach Bl
16	Rosecrans Ave	E/O	Pacific Ave
		E/O	Aviation Blvd
		W/O	Hawthorne Blvd
		W/O	Crenshaw Blvd
		E/O	Vermont Ave
		W/O	Avalon Blvd

#	Main Street	Location	Cross Street
17	Century Blvd	W/O	Airport Blvd
		W/O	La Cienega Blvd
		W/O	Prairie Ave
		E/O	Vermont Ave
		W/O	Avalon Blvd
18	Manhattan Beach Bl	E/O	Sepulveda Blvd
		W/O	Inglewood Ave
		E/O	Hawthorne Blvd
		W/O	Crenshaw Blvd
19	Florence Ave	W/O	Inglewood Ave
		E/O	Vermont Ave
		W/O	Avalon Blvd
20	Sepulveda Blvd	E/O	Crenshaw Blvd
		E/O	Western Ave
		W/O	Wilmington Ave
21	Carson St	E/O	Crenshaw Blvd
		E/O	Vermont Ave
		W/O	Avalon Blvd
		W/O	Wilmington Ave
22	Normandie Ave		No Counts
23	Aviation Blvd	N/O	Imperial Hwy
		N/O	Rosecrans Ave
		N/O	Artesia Blvd
24	Crenshaw Blvd	S/O	Manchester Blvd
		S/O	Imperial Hwy
		N/O	Rosecrans Ave
		S/O	Artesia Blvd
		N/O	190th St
		N/O	Sepulveda Blvd
		S/O	SR-1 (PCH)
25	Torrance Blvd	W/O	Hawthorne Blvd
		W/O	Vermont Ave
		W/O	Main Street
26	Gaffey St	N/O	9th Street
27	Hawthorne Blvd	S/O	SR-1 (PCH)

The counts shall be conducted one time over a 7 day period in 15 minute intervals. The Consultant shall be responsible for obtaining necessary city approvals prior to the deployment of the tube counters. If permits are required, it will be the responsibility of the Consultant to obtain the permits. For cost proposal purposes, it should be anticipated that any needed permits will be no-fee in nature.

Deliverable: Consolidated traffic volume counts report and raw data export

Task 5 – Arterial Performance Baseline Conditions Analysis Methodology

The Consultant shall develop a methodology for using the data procured under Task 3 and the traffic volume counts collected under Task 4 to generate the baseline performance measurement report identified under Task 2. In developing this methodology, the Consultant will clearly define the data inputs, data aggregation processes, data analytics approach, and the methodology outputs. The proposed methodology shall be developed in a manner that it can be readily duplicated without the use of overly sophisticated application tools, utilizing only those data elements collected and deployed through this contract. The methodology recommendations shall be presented to the SBCOG and the PDT for final review and approval.

Deliverables: Draft and final baseline arterial performance measurement report

Task 6 – Arterial Performance Baseline Conditions Analysis

The Consultant shall apply the methodology developed under Task 5 to the 27 arterial corridors identified in the SBHP STE. The findings from this analysis shall be presented as a written report and summarized in a PowerPoint presentation. In addition, the Consultant will graphically represent the analysis finding on a layered GIS map. The Consultant shall present the analysis to the SBCOG and the PDT for review and will work with them to adjust the findings to address any anomalies. The Consultant shall deliver any electronic databases, GIS files, standalone graphics, and spreadsheet files developed to support the analysis to the SBCOG.

The Consultant shall be prepared to support the SBCOG with the presentation of the findings at a maximum of four meetings. The Consultant shall be responsible for preparing and printing of all presentation materials.

Deliverables: *Draft arterial performance baseline conditions analysis report*
Final arterial performance baseline conditions analysis report
Arterial performance baseline conditions analysis PowerPoint presentation
Meeting materials
Raw GIS files, spreadsheets, databases, graphics, etc.

South Bay Arterial Performance Baseline Conditions Analysis Tasks	14-Sep	14-Oct	14-Nov	14-Dec	14-Jan	14-Feb	Cost $
Kick-off Meeting							1,000
Project Management							40,000
Evaluation and Identify Suitable Performance Measures/Indicators							13,000
Third Party datat Evaluation, Recommendation and Purchase							46,000
Traffic Volume Counts							60,000
Arterial Performance Baseline Conditions Analysis Methodology							25,000
Aretrial Performance Baseline Conditions Analysis.							40,000
Total							225,000