

Metro

*Los Angeles County Service Authority for Freeway Emergencies
Motorist Aid
One Gateway Plaza, Los Angeles, CA 90012,
3rd Floor, Metro Board Conference Room*



Agenda - Final

Thursday, June 25, 2015

9:00 AM

**One Gateway Plaza, Los Angeles, CA 90012,
3rd Floor, Metro Board Room**

LA SAFE

Eric Garcetti, Chair

Mark Ridley-Thomas, 1st Vice Chair

John Fasana, 2nd Vice Chair

Michael Antonovich

Mike Bonin

James Butts

Diane DuBois

Jacquelyn Dupont-Walker

Don Knabe

Paul Krekorian

Sheila Kuehl

Ara Najarian

Hilda Solis

Carrie Bowen, non-voting member

METROPOLITAN TRANSPORTATION AUTHORITY BOARD RULES (ALSO APPLIES TO BOARD COMMITTEES)

PUBLIC INPUT

A member of the public may address the Board on agenda items, before or during the Board or Committee's consideration of the item for one (1) minute per item, or at the discretion of the Chair. A request to address the Board should be submitted in person at the meeting to the Board Secretary. Individuals requesting to speak on more than three (3) agenda items will be allowed to speak up to a maximum of three (3) minutes per meeting. For individuals requiring translation service, time allowed will be doubled.

The public may also address the Board on non-agenda items within the subject matter jurisdiction of the Board during the public comment period, which will be held at the beginning and/or end of each meeting. Each person will be allowed to speak for up to three (3) minutes per meeting and may speak no more than once during the Public Comment period. Speakers will be called according to the order in which the speaker request forms are received. Elected officials, not their staff or deputies, may be called out of order and prior to the Board's consideration of the relevant item.

In accordance with State Law (Brown Act), all matters to be acted on by the MTA Board must be posted at least 72 hours prior to the Board meeting. In case of emergency, or when a subject matter arises subsequent to the posting of the agenda, upon making certain findings, the Board may act on an item that is not on the posted agenda.

CONDUCT IN THE BOARD ROOM - The following rules pertain to conduct at Metropolitan Transportation Authority meetings:

REMOVAL FROM THE BOARD ROOM The Chair shall order removed from the Board Room any person who commits the following acts with respect to any meeting of the MTA Board:

- a. Disorderly behavior toward the Board or any member of the staff thereof, tending to interrupt the due and orderly course of said meeting.
- b. A breach of the peace, boisterous conduct or violent disturbance, tending to interrupt the due and orderly course of said meeting.
- c. Disobedience of any lawful order of the Chair, which shall include an order to be seated or to refrain from addressing the Board; and
- d. Any other unlawful interference with the due and orderly course of said meeting.

INFORMATION RELATING TO AGENDAS AND ACTIONS OF THE BOARD

Agendas for the Regular MTA Board meetings are prepared by the Board Secretary and are available prior to the meeting in the MTA Records Management Department and on the Internet. Every meeting of the MTA Board of Directors is recorded on CD's and as MP3's and can be made available for a nominal charge.

DISCLOSURE OF CONTRIBUTIONS

The State Political Reform Act (Government Code Section 84308) requires that a party to a proceeding before an agency involving a license, permit, or other entitlement for use, including all contracts (other than competitively bid, labor, or personal employment contracts), shall disclose on the record of the proceeding any contributions in an amount of more than \$250 made within the preceding 12 months by the party, or his or her agent, to any officer of the agency, additionally PUC Code Sec. 130051.20 requires that no member accept a contribution of over ten dollars (\$10) in value or amount from a construction company, engineering firm, consultant, legal firm, or any company, vendor, or business entity that has contracted with the authority in the preceding four years. Persons required to make this disclosure shall do so by filling out a "Disclosure of Contribution" form which is available at the LACMTA Board and Committee Meetings. Failure to comply with this requirement may result in the assessment of civil or criminal penalties.

ADA REQUIREMENTS

Upon request, sign language interpretation, materials in alternative formats and other accommodations are available to the public for MTA-sponsored meetings and events. All requests for reasonable accommodations must be made at least three working days (72 hours) in advance of the scheduled meeting date. Please telephone (213) 922-4600 between 8 a.m. and 5 p.m., Monday through Friday. Our TDD line is (800) 252-9040.

LIMITED ENGLISH PROFICIENCY

A Spanish language interpreter is available at all Board Meetings. Interpreters for Committee meetings and all other languages must be requested 72 hours in advance of the meeting by calling (213) 922-4600 or (323) 466-3876.

HELPFUL PHONE NUMBERS

Copies of Agendas/Record of Board Action/Recordings of Meetings - (213) 922-4880 (Records Management Department)
General Information/Rules of the Board - (213) 922-4600
Internet Access to Agendas - www.metro.net
TDD line (800) 252-9040

NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA

CALL TO ORDER**ROLL CALL**

1. APPROVE **Minutes of the Regular Board Meeting on May 22, 2014.** [2015-0962](#)
Attachments: [L.A. Safe Board Meeting Minutes on May 22, 2014](#)

2. CONSIDER: [2015-0442](#)
 - A. authorizing the Chief Executive Officer to execute Modification No. 36 to Contract No. 06SAFE035 - **Motorist Aid Travelers Information System (MATIS) with the IBI Group Inc. (IBI)** to extend the period of performance by 24 months from July 1, 2015 to June 30, 2017, and increase the contract value by \$7,795,919, from \$36,111,432 to \$43,907,351; and

 - B. approving an increase to Contract Modification Authority (CMA) for Contract No. 06SAFE035, MATIS with IBI to support the system improvements in the amount of \$779,592; thereby, increasing the total CMA from \$5,656,106 to \$6,435,698.**Attachments:** [Attachment A - PROCUREMENT SUMMARY](#)
[Attachment B- CONTRACT MODIFICATION /CHANGE ORDER LOG](#)

3. ADOPT the **Fiscal Year 2015-2016 (FY16) budget** in the amount of \$12,309,099 for the operation and administration of the Los Angeles County Service Authority for Freeway Emergencies (SAFE). This budget amount includes the annual funding allocations to: [2015-0444](#)
 - A. the agreement with the Public Transportation Services Corporation (PTSC) for direct labor and administrative support services in the amount of \$2,176,099; and

 - B. the agreement with the Los Angeles County Metropolitan Transportation Authority (MTA) for Freeway Service Patrol (FSP) in the amount of \$2,000,000.**Attachments:** [ATTACHMENT A-Proposed Fiscal Year 2015-2016 Budget Summary](#)
[ATTACHMENT B - FREEWAY EMERGENCIES](#)
[Freeway Emergencies Notes and Assumption](#)

4. AUTHORIZE the **restructuring of the Los Angeles County Kenneth Hahn Call Box System** as outlined, based upon the findings and recommendations of the recently concluded Call Box Assessment Study (Attachment A). [2015-0445](#)
Attachments: [Attachment A-Call Box Assessment Study](#)

Consideration of items not on the posted agenda, including: items to be presented and (if requested) referred to staff; items to be placed on the agenda for action at a future meeting of the Committee or Board; and/or items requiring immediate action because of an emergency situation or where the need to take immediate action came to the attention of the Committee subsequent to the posting of the agenda.

Adjournment



Metro

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Board Report

File #: 2015-0962, **File Type:** Informational Report

Agenda Number: 1.

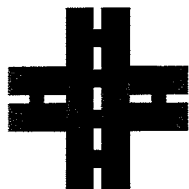
**SAFE BOARD MEETING
JUNE 25, 2015**

SUBJECT: LA SAFE BOARD MEETING MINUTES HELD MAY 22, 2014.

APPROVE Minutes of the LA Safe Board Meeting on May 22, 2014.

ATTACHMENTS

Attachment A - Regular Board Meeting Minutes on May 22, 2014



LASAFE

Los Angeles County Service Authority for Freeway Emergencies

Motorist Aid

One Gateway Plaza

Los Angeles, California 90012-2952

213.922.5652 | lasafe.net

MINUTES

**LOS ANGELES COUNTY
SERVICE AUTHORITY FOR FREEWAY EMERGENCIES
(SAFE)
REGULAR BOARD MEETING
BOARD OF DIRECTORS
Metro Headquarters
3rd Floor - Board Room
One Gateway Plaza
Los Angeles**

Thursday, May 22, 2014 - 9:30 a.m.

Called to order at 9:50 a.m.

Directors Present:

Diane Dubois, Chair
Eric Garcetti, 1st Vice Chair
Mark Ridley-Thomas, 2nd Vice Chair
Mike Bonin
John Fasana
Don Knabe
Paul Krekorian
Ara J. Najarian
Carrie Bowen, non-voting member

Chief Executive Officer – Arthur T. Leahy
Board Secretary - Michele Jackson
Acting Ethics Officer - Karen Gorman
Inspector General – Karen Gorman
General Counsel - County Counsel

1. APPROVED **Minutes** of Regular Board Meeting held February 27, 2014.

JF	PK	MA	PO	ZY	EG	DD	DK	MRT	AN	GM	JDW	MB
Y	Y	A	A	A	Y	Y	Y	Y	Y	A	A	Y

2. AUTHORIZED the Chief Executive Officer to award a 6-year base with two, 2-year options, firm fixed price Contract No. PS14SAFE005 to Case Systems, Inc. to provide **maintenance services to the Kenneth Hahn Call Box System** in an amount not-to-exceed \$10,219,598.

JF	PK	MA	PO	ZY	EG	DD	DK	MRT	AN	GM	JDW	MB
Y	Y	A	A	A	Y	Y	Y	Y	Y	A	A	Y

3. ADOPTED the **Fiscal Year 2014 - 2015 (FY15) budget in the amount of \$16,609,503 for the operation and administration of the Los Angeles County Service Authority for Freeway Emergencies (SAFE)**. This budget amount includes the annual funding allocations to

A. the agreement with the Public Transportation Services Corporation (PTSC) for direct labor support in the amount of \$2,427,903; and

B. the agreement with the Los Angeles County Metropolitan Transportation Authority (MTA) for Freeway Service Patrol (FSP) in the amount of \$5,000,000.

JF	PK	MA	PO	ZY	EG	DD	DK	MRT	AN	GM	JDW	MB
Y	Y	A	A	A	Y	Y	Y	Y	Y	A	A	Y

4. **Public Comment** – none.

ADJOURNED at 9:54 a.m.

JF = J. Fasana	ZY = Z. Yaroslavsky	MRT = M. Ridley-Thomas	PK = P. Krekorian
MB = M. Bonin	EG = E. Garcetti	AN = A. Najarian	
MA = M. Antonovich	DD = D. DuBois	GM = G. Molina	
PO = P. O'Connor	DK = D. Knabe	JDW = J. Dupont-Walker	

LEGEND: Y = YES , N = NO, C = CONFLICT, ABS = ABSTAIN, A = ABSENT, P = PRESENT
C = Soft Conflict; C = Hard Conflict

Prepared by: Collette Langston, Board Specialist


Michele Jackson, Board Secretary



Board Report

File #: 2015-0442, File Type: Contract

Agenda Number: 2.

SAFE BOARD MEETING
JUNE 25, 2015

SUBJECT: CONTRACT NO. 06SAFE035 MOTORIST AID TRAVELER INFORMATION SYSTEM

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATION

CONSIDER:

- A. authorizing the Chief Executive Officer to execute Modification No. 36 to Contract No. 06SAFE035 - **Motorist Aid Travelers Information System (MATIS) with the IBI Group Inc. (IBI)** to extend the period of performance by 24 months from July 1, 2015 to June 30, 2017, and increase the contract value by \$7,795,919, from \$36,111,432 to \$43,907,351; and
- B. approving an increase to Contract Modification Authority (CMA) for Contract No. 06SAFE035, MATIS with IBI to support the system improvements in the amount of \$779,592; thereby, increasing the total CMA from \$5,656,106 to \$6,435,698.

ISSUE

Southern California 511, a component of the MATIS Program, is an operational system that provides real-time traveler information and motorist aid services. The current vendor operates the system. Since program implementation, technology has progressed to a point where the current system is outdated and becoming more difficult to maintain. While staff is focused on procurement, development, integration and deployment of a new 511 system; in the interim, the requested modification is necessary to address the following:

- The current contract is set to expire on June 30, 2015, requiring a 24 month extension to provide sufficient time to retain a new contractor and to seamlessly transition the service. The time extension will allow for concurrent operation of the two systems to ensure a smooth migration from the existing to the new system.
- Since 511 is an operational system, there are a number of unforeseen issues that arise requiring additional funding. Examples of these are:
 - Transit Partners Joining

- Application Program Interface update
- Telephone System updates
- Real-time arrivals predictions from transit providers
- Interactive Voice Recognition Call Flow Improvements
- Support of the TAP program
- Mobile Application Improvements
- ExpressLanes, ExpressPark, Veterans Transportation and Community Living Initiative and Motorist Aid Support

All proposed updates subject to negotiation prior to implementation to ensure fiscal responsibility by LA SAFE.

Additionally if the selected contractor completes the development, integration, and deployment of the new 511 system prior to the conclusion of this extension, the extension will be terminated resulting in a cost savings.

DISCUSSION

Background

On February 28, 2008, the Los Angeles Service Authority for Freeway Emergencies (LA SAFE) Board awarded a 10-year, Fixed Price, indefinite quantity contract to IBI Group, Inc. for the development, deployment, operation, and maintenance of MATIS in an amount not-to exceed \$34,000,000, inclusive of two, two-year options, and a 10% CMA. MATIS evolved to become the Southern California 511 Program, an operational system that provides real-time traveler information and motorist aid services to approximately 400,000 users per month. Southern California 511 was designed and developed by LA SAFE in partnership with Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority, Ventura County Transportation Commission, California Highway Patrol and the California Department of Transportation. In accordance with the mandates of § 5306 of the 2005 Federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the regional 511 system ensures that the Los Angeles County region meets the requirement regarding deployment of a national, inter-operable 511 Traveler Information system. Over the past years through board approved modifications, the contract amount has been increased to \$36,111,432.

Existing Technology

Technology has progressed to a point where the current system is outdated and is becoming difficult to maintain. The requested modification is necessary to allow staff to extend the contract to June 30, 2017, to allow for the development, procuring and implementation of a new state-of-the-art 511 system.

As a result of user feedback, requests from partner agencies, and technological changes to improve the reliability/accuracy of data, the original design and development of Southern California 511 has undergone changes. Additional funding is required to support pending and unforeseen operational

needs, maintenance requirements, and system improvements due to the addition of new transit partners and traffic data sources.

As an on-going operation and technology based service, it was anticipated that there will be a continuing need to improve services and provide additional features. The improvements to date have resulted in the provision of more reliable information to the public enabling Southern California 511 to support major events such as:

- Amber Alerts
- 405 Bridge Bash
- 60 Summer Slam
- 405 Construction closure updates
- Carmageddon I&II
- Caltrans reoccurring maintenance closures
- Unanticipated major incidents

Currently, there are a number of additional improvements slated for 2015 that will further enhance the types of information and quality of service provided by Southern California 511. The following are improvements either pending or under consideration for which the new CMA is requested:

- Integration of Torrance Transit-Bus Arrival Information System;
- Integration of Montebello Transit-Bus Arrival Information System;
- Integration of Antelope Valley Transit-Bus Arrival Information System;
- Integration of Real-time traffic data from Nokia for the 5 County Area
- Integration of Veterans' transportation information (VetsGo511);
- Improvements of the web-site;

Next Generation 511

It is anticipated that by June 2017, the next generation Southern California 511 system will be fully implemented and operational. The updated system will utilize current and expandable technologies and be scalable to accommodate the anticipated rapid growth in partners. Lessons learned from the initial deployment will be incorporated into the work plan for the next generation 511 as staff strives to make the new system more agile, responsive, user-friendly and easier to maintain.

DETERMINATION OF SAFETY IMPACT

A critical role of effectively managing freeway incidents is the prompt and accurate dissemination of information to the public. This action will enable MATIS to improve its operations to provide enhanced and more actionable information to the public thereby reducing congestion and possible safety impacts.

FINANCIAL IMPACT

LA SAFE budgeted \$3,600,000 in the FY 16 proposed budget for this effort in cost center 3351, LA

SAFE, 300209, Traveler Information Services - Contract Services.

Since this is a multi-year contract, the cost center manager and Executive Officer will be accountable for budgeting the cost in future years, including any options exercised.

ALTERNATIVES CONSIDERED

The SAFE Board may elect not to approve these recommendations. This option is not recommended as SAFE will no longer be able to provide this service on which approximately 300 thousand monthly users and many partner agencies rely.

NEXT STEPS

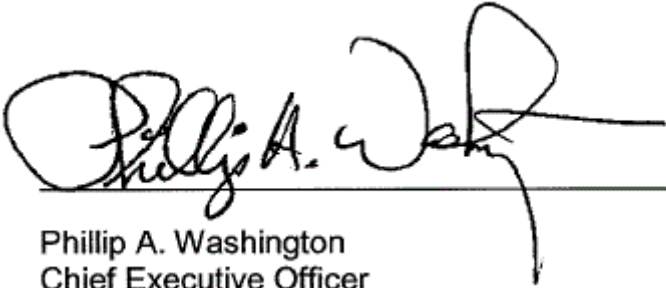
Upon Board approval, staff will execute the Modification.

ATTACHMENTS

- A. Procurement Summary
- B. Contract Modification/Change Order Log

Prepared by: Iain Fairweather, Sr. Program Manager LA SAFE, (213) 922-5650
Ken Coleman, Deputy Executive Officer LA SAFE, (213) 922-2951

Reviewed by: Shahrzad Amiri, Executive Officer LA SAFE, (213) 922-3061
Ivan Page, Executive Director (Interim), Vendor/Contract Management (213) 922-6383



Phillip A. Washington
Chief Executive Officer

PROCUREMENT SUMMARY

MOTORIST AID TRAVELER INFORMATION SYSTEM/
CONTRACT NO. 06SAFE035

1.	Contract Number: 06SAFE035		
2.	Contractor: IBI Group, Inc.		
3.	Mod. Work Description: Continued operations from 7/1/15 to 6/30/17 and expansion of Motorist Aid Traveler and Information System (MATIS).		
4.	Contract Work Description: Development, deployment, operation and maintenance of MATIS		
5.	The following data is current as of: 4/24/15		
6.	Contract Completion Status		Financial Status
	Contract Awarded:	3/1/08	Contract Award Amount: \$30,880,680
	Notice to Proceed (NTP):	3/1/08	Total of Modifications Approved: \$5,230,752
	Original Complete Date:	2/28/14	Pending Modifications (including this action): \$7,795,919
	Current Est. Complete Date:	6/30/17	Current Contract Value (with this action): \$43,907,351
7.	Contract Administrator: Victor Zepeda		Telephone Number: (213) 922-1458
8.	Program Manager: Iain Fairweather		Telephone Number: (213) 922-5650

A. Procurement Background

This Board Action is to approve Modification No. 36 to continue operations of MATIS from July 1, 2015 to June 30, 2017. Further, staff recommends additional Contract Modification Authority (CMA) for expansion of the program by adding additional transportation partners and maintaining or upgrading current transportation information features.

This contract modification and future modifications will be processed in accordance with LA SAFE's Acquisition Policy and the contract type is a Firm Fixed Price.

On February 28, 2008, the LA SAFE Board awarded a six-year base Contract No. 06SAFE035 to IBI Group, Inc. for the development, deployment, operation and maintenance of MATIS for \$30,880,680 with two, two-year options.

Attachment B shows that 35 modifications have been issued to date.

B. Cost/Price Analysis

The recommended price is determined to be fair and reasonable based upon a current independent cost estimate, cost analysis, technical evaluation, clarifications, and fact finding. IBI has agreed to continue the service for the two-year extension at no increase to their rates.

Proposed Amount	Metro ICE	Negotiated Amount
\$7,795,919	\$7,822,935	\$7,795,919

Additionally, LA SAFE and IBI Group Inc. negotiated and agreed to end the contract early with a 30 day written notice, if the selected contractor develops, implements, and deploys the new 511 system prior to the 24 month period of performance.

C. Small Business Participation

IBI Group, Inc., made a 5.10% Small Business Enterprise (SBE) commitment. The current SBE participation is 6.33%. IBI is exceeding their SBE goal commitment.

SMALL BUSINESS COMMITMENT	5.10% SBE	SMALL BUSINESS PARTICIPATION	6.33% SBE
----------------------------------	------------------	-------------------------------------	------------------

	SBE Subcontractors	% Committed	Current Participation¹
1.	InterBase Corporation	5.10%	2.93%
2.	AAMCOM (added)	0.00%	3.40%
	Total	5.10%	6.33%

¹Current Participation = Total Actual Amount Paid-to-Date to DBE firms ÷ Total Actual Amount Paid-to-date to Prime.

D. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy has not been adopted by LA SAFE; therefore, the policy will not apply to this modification.

CONTRACT MODIFICATION/CHANGE ORDER LOG

**MOTORIST AID TRAVELER INFORMATION SYSTEM/
CONTRACT NO. 06SAFE035**

Mod. No.	Description	Date	Mod. Amount
1.	Revised Contractor Key Personnel	3-1-08	\$0
2.	<ul style="list-style-type: none"> Revised Pricing Schedule Extended Phase I - Baseline Start-up Schedule 	3-13-08	\$0
3.	<ul style="list-style-type: none"> Extended Period of Performance - Base Contract Extended Period of Performance – Phase I MATIS Development and Deployment Reallocated level of efforts: Re-scoped Phase I Design and Development and De-scoped Phase II Call Center O&M 	3-6-09	\$0
4.	<ul style="list-style-type: none"> Revised Statement of Work to add a Point-to-Point Data Link between Caltrans District 8 TMC and the MATIS Hosting Facility Increased Contract Pricing Schedule 	7-22-09	\$16,159
5.	<ul style="list-style-type: none"> Extended Period of Performance - Base Contract Extended Period of Performance – Phase I Project Management Reallocated level of efforts: Re-scoped Phase I Design and Development and De-scoped Phase II Call Center O&M 	6-1-09	\$0
6.	Expanded the Southern California 511 Interactive Voice Response (IVR) Automated Trip Transit Planner service to include Orange County per March 25, 2010 Board Approval	6-26-09	\$704,114
7.	Revised Contractor Key Personnel	9-8-09	\$0
8.	Revised Statement of Work to include transfer of toll free numbers to LA SAFE at Contract completion	9-14-09	\$0
9.	Revised Statement of Work for added IVR Report Requirements	10-22-09	\$20,000
10.	<ul style="list-style-type: none"> Revised Statement of Work to include the Traveler Information Center (TIC) development and O&M. 	1-15-10	

	<ul style="list-style-type: none"> • Reallocated funds from Phase II for TIC development; and from Year 10 for TIC O&M 		\$927,603
11.	Extended TIC O&M Performance period	10-21-10	\$210,383
12.	Expanded IVR and Web to include Bus Arrival Information System (BAIS) Design and Development	3-23-11	\$107,321
13.	Extended TIC O&M Performance period	6-21-11	\$414,845
14.	Extended TIC O&M Performance period	12-27-11	\$276,563
15.	Incorporated Design, Development, and Deployment of Application Programming Interface (API) in support of a 511 mobile application	4-17-12	\$125,000
16.	Incorporated Design, Development, and Deployment of CHP CAD Interface	4-5-12	\$34,731
17.	Extended TIC O&M Performance period	6-20-12	\$276,563
18.	Advanced Change Order Rates (FY 12/13)	8-1-12	\$0
19.	Revised Contractor Key Personnel	8-5-12	\$0
20.	Extended TIC O&M Performance period	12-20-12	\$138,282
21.	Extended TIC O&M Performance period	4-29-13	\$270,000
22.	Incorporate the Design, Development, and Deployment of Access Services	12-2-13	\$163,924
23.	Incorporate the development of: <ul style="list-style-type: none"> • Metro Express Lanes; Phases 1, 2 and 3 • Los Angeles Department of Transportation • Express Park • #399 mobile call box/motorist aid services • Call Center Agent Training 	1-17-14	\$352,792
24.	Extended TIC O&M Performance period	2-5-14	\$76,832
25.	Revised Contractor Key Personnel	3-26-14	\$0
26.	Extended TIC O&M Performance period	4-11-14	\$48,531
27.	Extended TIC O&M Performance period	5-8-14	\$72,799
28.	Change order to include: O&M services for: <ul style="list-style-type: none"> • Express Lanes • Access Services – IVR only • Polylines for Web application • Stale data • ERS Snapping • Third party data feeds • Call center call volume Design, Development, and	6-25-14	\$399,631

	Implementation of Pasadena ARTS, Glendale Beeline and Nextrip		
29.	De-scope of Fleet Monitoring Services	6-25-14	-\$161,501
30.	Advanced Change Order Rates (FY 14/15)	7-18-14	\$0
31.	Extended TIC O&M Performance period	8-18-14	\$439,769
32.	Revised Statement of Work to include Express Lanes Main Menu & Transfer option	8-28-14	\$11,859
33.	Revised Statement of Work to include Local Project Manager services	12-9-14	\$304,552
34.	Incorporate: <ul style="list-style-type: none"> • Near Term Enhancements De-scope (-\$765,661.90) • Re-scope Extension of Services to June 30, 2015 (reallocate \$488,033.46) • Re-scope Web Enhancements (reallocate \$230,687.53) • Re-scope Access Services IVR O&M (reallocate \$26,142.22) 	In-process (5-16-15)	\$0
35.	Advanced Change Order Rates (FY 15/16)	In-process (5-16-15)	\$0
36	Extend MATIS Operations (Pending Board Approval)		\$7,795,919
	Total Modifications and Pending:		\$13,026,671
	Prior CMA Authorized by Board		\$5,656,106
	Increased CMA for this Recommended Action		\$779,592
	Remaining CMA for Future Changes		\$1,911,481



Metro

Board Report

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2015-0444, File Type: Budget

Agenda Number: 3.

SAFE BOARD MEETING JUNE 25, 2015

SUBJECT: FISCAL YEAR BUDGET

ACTION: ADOPT THE FISCAL YEAR 2015 - 2016 BUDGET

RECOMMENDATION

ADOPT the **Fiscal Year 2015-2016 (FY16) budget** in the amount of \$12,309,099 for the operation and administration of the Los Angeles County Service Authority for Freeway Emergencies (SAFE). This budget amount includes the annual funding allocations to:

- A. the agreement with the Public Transportation Services Corporation (PTSC) for direct labor and administrative support services in the amount of \$2,176,099; and
- B. the agreement with the Los Angeles County Metropolitan Transportation Authority (MTA) for Freeway Service Patrol (FSP) in the amount of \$2,000,000.

ISSUE

SAFE was created in 1988, pursuant to California Streets and Highway Code Section 2550 et.seq. and is responsible for providing motorist aid services in Los Angeles County. In order to fulfill its mission SAFE needs an annual budget and requires administrative support services, which is provided via a Memorandum of Understanding (MOU), from the PTSC. A summary of the proposed FY16 budget is provided as Attachment A.

DISCUSSION

During FY15, SAFE continued to fund, develop, implement and operate a variety of motorist aid services, programs and activities. These programs, services and activities included:

- Operation of the Kenneth Hahn Call Box System
- Operation and continued development of Southern California 511 - new services/enhancements introduced include real-time transit information for Pasadena Arts and Glendale Beeline as well as the incorporation of improved Metro Rail information.
- Funding for the Metro FSP program
- Partnering with MTA to develop and implement the One Call-One Click Veterans

Transportation and Community Living Initiative (VTCLI)

- Continued coordination with MTA, Caltrans and CHP on a variety of motorist service programs including Metro FSP, the Regional Integration of Intelligent Transportation Systems (RIITS) and other regional projects that focus on improving mobility throughout Los Angeles County.

For FY16, SAFE is recommending the funding, implementation and/or operation of the following projects and activities:

- Implement the approved restructuring plan for the Kenneth Hahn Call Box System;
- Continue operation of the restructured call box system;
- Manage, improve, operate and maintain Southern California 511;
- Develop and implement new services under Southern California 511 (includes improvements to the existing system as well as funding for the development of the next generation 511 system.);
- Continue funding for the Metro Freeway Service Patrol program;
- Work with MTA and Caltrans to continue developing the new regional data environment, includes updating RIITS, integrating the Archived Data Management System (ADMS), monitoring and supporting the Waze agreement and developing other data sources;
- Work with our regional partners to identify and implement improvements to existing programs and develop new services that will improve mobility within the region - including Intelligent Transportation Systems (ITS), Connected Vehicle, and corridor management projects;

The FY16 budget of \$12.3 million represents a decrease of approximately \$4.3 million or 26% compared to the adopted FY15 budget. Specifically, the FY16 budget variances for each major budget category are as follows:

<u>Category</u>	<u>Increase/ (Decrease)</u>
Administration	(\$ 69,100)
Direct Labor	(\$ 251,804)
Programs & Services	(\$4,015,000)

The decrease in Administration is due to a reduction in budgets for computer equipment and travel. Additionally, in FY15 there was a budget allocation for the replacement of a non-revenue service vehicle that is not being budgeted this fiscal year. The remaining Administration budget provides funding for insurance and office supplies.

The decrease in Direct Labor is a due to lower overhead, fringe and non-work costs allocated to SAFE by PTSC. These costs are allocated annually by PTSC based upon their formulas and are not controlled by SAFE. Despite this decrease, the Direct Labor budget includes a request for one new FTE in FY16 to support the management and upgrade of the Regional Integration of Intelligent Transportation Systems (RIITS) program. With the implementation of Southern California 511 and the growing impact of technology in transportation, SAFE's reliance on RIITS to gather, compile, manage and provide a vast array of transportation related data has increased. This additional FTE to support RIITS will assist in the modernization of RIITS and enable RIITS to more efficiently integrate new data sources, such as real-time transit data from municipal bus agencies. This data can then be

compiled and provided to Southern California 511 for distribution to the public.

The decrease for Programs & Services is due to reductions in the Call Box budget, the Traveler Information budget and the annual funding allocation to MTA in support of Metro FSP operations. The Call Box operations budget is proposed to decrease due to lower anticipated maintenance cost as a result of implementing the planned system restructuring. The decrease to the Traveler Information budget is attributable to lower advertising and new service development costs. During this fiscal year, staff will be focused on maintaining the current system while securing a new contractor to support the development and implementation of the new 511 system. While there will be continued improvements to the 511 system, the scope of the improvements are not anticipated to be as large due to the need to transition to a new system.

Finally, the largest decrease is associated with a lower allocation of SAFE funds to Metro for FSP operations. In FY15, SAFE provided, at Metro's request, \$5 million in support of FSP operations. This year, Metro requested additional funding above the historical \$1 million provided by SAFE and it was agreed that staff would recommend allocating \$2 million in FY16 to support Metro FSP operations. This additional funding will enable MTA to continue improving the outdated communications systems while continuing to fully fund and improve current FSP operations. As this is an annual allocation, LA SAFE and MTA will continue to meet and discuss the funding needs for FSP and the availability of LA SAFE funds and present the recommended allocation to the Board for approval each year.

A more detailed summary of each project/service as well as a breakdown of the FTE allocation is provided as part of the Five-Year Financial Forecast (Attachment B).

DETERMINATION OF SAFETY IMPACT

None

FINANCIAL IMPACT

Funding in the amount of \$12,309,099 million has been included in the FY16 proposed budget in project 300209 and allocated to cost center 3351 (SAFE), 7140 (Marketing) and 0921 (Non-Departmental ITS). The Five-Year Financial Forecast demonstrates the financial capacity of SAFE to use its existing fund balance and projected revenue to fully fund the proposed FY16 budget.

ALTERNATIVES CONSIDERED

The Board has two alternatives. It can (a) decide to not adopt the proposed budget or (b) make a modification, either a decrease or an increase, to the proposed budget. Neither of these options is recommended.

To ensure the continued operation of SAFE and its programs an annual budget is required. Without the budget, SAFE will be unable to administer its programs and fulfill its statutory motorist aid mission. Modification of the proposed budget is also not recommended. The proposed budget was

developed to ensure that SAFE is sufficiently funded for FY16 and has a certain amount of flexibility to adapt to situations and opportunities as they arise. The proposed budget ensures SAFE's ability to properly fulfill its mission and comply with all existing legal and statutory requirements.

NEXT STEPS

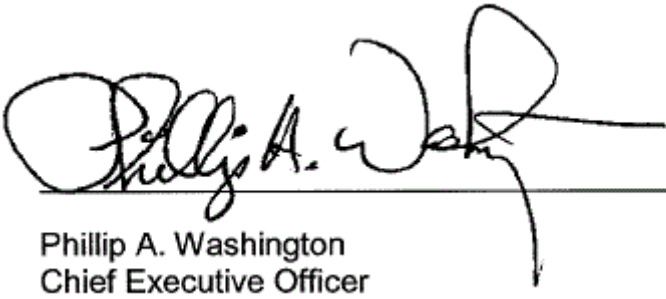
Upon approval of the proposed FY16 budget, staff will begin implementing the projects and work for FY16. Staff will monitor the budget and projects to ensure SAFE meets all its requirements in a fiscally responsible manner.

ATTACHMENTS

- A. Proposed Fiscal Year 2015 - 2016 Budget Summary
- B. Five Year Financial Forecast

Prepared by: Kenneth Coleman, DEO Congestion Reduction Programs (213) 922-2951

Reviewed by: Shahrzad Amiri, Executive Officer Congestion Reduction, (213) 922-3061



Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

**Proposed Fiscal Year 2015-2016 Budget Summary
Total Expenditure Categories**

CATEGORY	FY16 PROPOSED BUDGET	PERCENTAGE
Administration	147,500	1%
Direct Labor	2,176,099	18%
Programs & Services	9,985,500	81%
Call Box Operations	1,235,000	12%
Traveler Information System	6,250,500	63%
Metro Freeway Service Patrol	2,000,000	20%
Motorist Services Improvements	500,000	5%
Total	12,309,099	

**Proposed Fiscal Year 2015-2016 Budget Summary
Comparison FY15 Budget vs. FY16 Budget**

CATEGORY	FY15 BUDGET	FY16 PROPOSED BUDGET	VARIANCE
Administration	216,600	147,500	(69,100)
Direct Labor	2,427,903	2,176,099	(251,804)
Programs & Services	13,965,000	9,985,500	(3,979,500)
Call Box Operations	1,790,000	1,235,000	(555,000)
Traveler Information System	6,675,000	6,250,500	(424,500)
Metro Freeway Service Patrol	5,000,000	2,000,000	(3,000,000)
Motorist Services Improvements	500,000	500,000	0
Total	16,609,503	12,309,099	(4,300,404)

ATTACHMENT B

**LOS ANGELES COUNTY SERVICE AUTHORITY FOR FREEWAY EMERGENCIES
FINANCIAL FORECAST (\$000)
FISCAL YEAR 2015-2016**

	PROJECTE D YEAR- END 2014/2015	PROPOSED BUDGET 2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
SAFE FUNDS							
Projected Registration Surcharge	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500
Projected SAFE Fund Balance	\$29,723	\$24,405	\$19,852	\$15,819	\$12,528	\$9,231	\$5,879
Projected Interest	\$307	\$257	\$215	\$178	\$146	\$112	\$79
FUNDS AVAILABLE	\$37,530	\$32,162	\$27,567	\$23,497	\$20,173	\$16,844	\$13,458
EXPENSES/OBLIGATIONS							
Administration	\$175	\$148	\$150	\$150	\$150	\$150	\$150
Direct Labor	\$2,000	\$2,176	\$2,198	\$2,220	\$2,242	\$2,264	\$2,287
Programs & Services	\$10,950	\$9,986	\$9,400	\$8,600	\$8,550	\$8,550	\$8,550
Call Box Program	\$1,000	\$1,235	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Traveler Information	\$4,825	\$6,251	\$6,700	\$5,900	\$5,850	\$5,850	\$5,850
Metro Freeway Service Patrol	\$5,000	\$2,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Motorist Services Improvements	\$125	\$500	\$500	\$500	\$500	\$500	\$500
TOTAL EXPENSE/OBLIGATIONS	\$13,125	\$12,310	\$11,748	\$10,970	\$10,942	\$10,964	\$10,987
PROJECTED YEAR END BALANCE	\$24,405	\$19,852	\$15,819	\$12,528	\$9,231	\$5,879	\$2,471

Los Angeles County
Service Authority for Freeway Emergencies
Five-Year Financial Forecast
Fiscal Year 2015 – 2016

Notes and Assumptions

The FY16 Five-Year Financial Forecast has been developed to provide a snapshot of SAFE's current financial situation and project the impact of the proposed FY16 budget to the overall financial condition of SAFE. The forecast is based upon the assumptions and notes listed herein.

The use of SAFE funds is strictly limited per California Streets and Highways Code Section 2550 et.seq. which requires SAFE to first use its dedicated funds to support the call box system and then enables the use of funds to support other motorist aid services.

The forecast demonstrates that SAFE currently has sufficient financial capacity to fully fund the call box system as well as other motorist aid services as proposed in the FY16 budget. SAFE has the current financial capability to absorb the impact of the FY16 budget for the next five years. However, the forecast also shows a decrease in available SAFE funds for each successive fiscal year. Staff will closely monitor the financial status of SAFE and identify and implement solutions to alleviate any potential negative financial situation in a timely manner.

This forecast includes the projected costs of operating the call box system, operating and enhancing Southern California 511, funding for Metro Freeway Service Patrol operations and funding improvements to motorist services programs. All financial figures will be refined as better information is obtained and more accurate projections can be made.

SAFE FUNDS

This section provides a summary of the projected funds available to SAFE.

- Projected Registration Surcharge

This refers to the projected annual revenue generated by the \$1.00 vehicle registration surcharge. The forecast is based upon historical figures. The forecast is a conservative forecast based upon long-term historical actuals. Overall, the registration surcharge is projected to remain relatively constant for the next five years.

- Projected SAFE Fund Balance

The SAFE fund balance shows the available funds from the end of the previous fiscal year.

- Projected Interest

This references the projected interest income for SAFE, based upon a conservative 1.0% rate of return on the investment base. The investment base is defined as the total funds available less 50% of the projected fiscal year expenditures. The total funds available are defined as the "Projected Registration Surcharge" + "Projected SAFE Fund Balance".

EXPENSES/OBLIGATIONS

- Administration

These are funds programmed for general administrative support services and equipment costs. Items such as travel, training, office supplies, computer equipment, insurance, legal, and other general services required for the administration of SAFE are included in this category. The cost for administration is projected to remain relatively constant at an allocation of \$150,000 for the purposes of this forecast. The forecast presumes the current general operating parameters for SAFE will remain constant with the potential variable being equipment replacement and insurance costs. However, as SAFE recently replaced one of its vehicles during FY15 and as insurance costs have remained relatively stable for SAFE the cost for these items are not projected to increase during the period of the forecast. As this is an annual forecast the impact of the variable cost items will be updated each year as new information is received.

The FY16 budget for administrative services is proposed to decrease by \$69,100 compared to the adopted FY15 budget. This decrease is due to the elimination of the cost of procuring a replacement non-revenue service vehicle as well as reductions to the computer equipment and travel budgets. There are no anticipated negative impacts as a result of this budget decrease.

- Direct Labor

These funds are programmed to cover the projected costs associated with SAFE's staffing resource needs. This includes overhead, salary, fringe benefits and as-needed labor costs. During FY16, SAFE will continue to fund the program management staffing needs for both SAFE and Motorist Services Unit (includes FSP, RIITS and other related motorist services projects). The FY16 budget for this category is \$251,804 less than FY15 primarily due to changes in the overhead and related labor costs allocated to SAFE by PTSC. All of the staff provided under this category will be obtained from the Public Transportation Services Corporation (PTSC) via the existing MOU.

The FY16 FTE allocation is comprised of the following positions:

Position	FY16 Request	FY15 Authorized	Existing - New
DEO – Hwy Ops	1	1	Existing
Sr. Hwy Ops PM	1	1	Existing
Motorist Services PM	1	1	Existing
Hwy Ops PM	1	1	Existing
Trans. Planning Mgr. III	2	2	Existing
Motorist Services Tech Administrator	1	1	Existing
Sr. Hwy Ops Program Administrator	1	1	Existing
Administrative Aide	1	1	Existing
Trans. Planning Mgr. V	1	0	New
Total	10	9	

For FY16, SAFE is requesting one new FTE, a Transportation Project Manager V, to support the on-going improvement, development and operation of the Regional Integration of Intelligent Transportation Systems program (RIITS). RIITS currently has one FTE allocated to manage the program and this additional FTE is needed to ensure that RIITS is able to manage its existing operations as well as updating its aging system. RIITS is a regional transportation program that obtains, manages and distributes a variety of transportation data to and from multiple regional partners. RIITS is a primary source of transportation data for Southern California 511 and the upgrade and continued improvement of RIITS operations and data is critical to the future success of 511. This position will ensure that RIITS has additional resources to make the needed improvements to its aging system and provide an expanded level of services and data to 511 and other regional partners.

Costs for outlying years are projected to slightly increase over the forecast period. The forecast predicts a 1% annual increase in Direct Labor costs for the duration of the forecast period.

- **Programs & Services**

Funds programmed in direct support of the programs, projects and services operated by or to be funded by SAFE. The programs and services SAFE proposes to support during FY16 include the Kenneth Hahn Call Box System, Southern California 511 traveler information system, Metro FSP operations and Motorist Services Improvements.

The FY16 budget for this category has decreased by \$4,015,000 compared to the adopted FY15 budget. This decrease is attributable to reductions in the budget allocation for Call Box Operations, Traveler Information System and the annual allocation to the Metro Freeway Service Patrol. Funding for Programs & Services is projected to decrease slightly over the next five year forecasted period. It is anticipated that the major cost associated with the operation of the traveler information system will initially increase due to the development and transition to the

next generation 511 system and then decrease in FY18 as the development activity is concluded. As funds become available and/or as new motorist aid projects are identified, SAFE will evaluate the ability to fund and/or operate new projects and incorporate the projects into the forecast as the Board authorizes them. The following is a breakdown of each program and service to be funded and/or operated by SAFE during FY16:

Call Box Program

Funds programmed to cover the costs to operate, maintain and improve the Kenneth Hahn Call Box System. The FY16 funding for the Call Box Program is proposed to decrease by \$555,000 compared to the adopted FY15 budget. This decrease is attributable to the anticipated impact of the planned system restructuring. The restructuring is anticipated to result in the removal of 412 call boxes which will result in an overall decrease in the operational cost for the system.

Operational cost to fund the call box system include all day-to-day requirements to operate and maintain the call box system and is based on contractual and supplier costs to supply the services and parts to operate and maintain the system. Items include call answering services, cellular service and maintenance operations. Funding for call box operations is projected to remain stable during the course of this forecast. Should additional system restructuring occur during this period the operational cost of the system will be adjusted accordingly.

Traveler Information System – Southern California 511

Funds programmed to support the operation of the current Southern California 511 and the development of the next generation 511 system. Southern California 511 is a regional traveler information system operated in partnership with MTA, the Orange County Transportation Authority, the Ventura County Transportation Commission, CHP and Caltrans. The system provides individuals with the ability to obtain traffic, transit, commuter services and other general traveler information via their phone or the Internet. The system was deployed in June 2010 and since the launch, Southern California 511 has been used by over 11 million users. This system represents the first iteration and steps are being taken to evaluate and determine the best path forward for the next generation of Southern California 511. Items currently under consideration include:

- o improve the quality of the 511 phone system;
- o improve the performance of the website;
- o expand the capability of the real-time transit information (Nextrip);
- o improve the quality and amount of data and information available;
- o develop a general emergency platform for 511 to support in emergency situations;
- o improve the alert and announcement information;
- o identify how to better integrate with MTA and their enhanced customer focused initiatives;
- o and a variety of other items

The FY16 allocation for this system is proposed to decrease by \$460,000 compared to the FY15 allocation; however, this decrease will not negatively impact the ability of the program to operate or improve. The FY16 request includes funds for the continued development, deployment and operation of the system. The decrease is primarily due to a reduction in the funds allocated to support the marketing and advertising of Southern California 511 as well as a slight reduction in the budget for development efforts in support of the current 511 system. Allocations for FY17 shows an increase to account for the development cost of the next generation 511 system and while in FY18 the allocation is forecasted to decrease due to the completion of the initial next generation development and transition. While the operating costs are projected to remain stable from FY18 and beyond it is anticipated that there will be efficiencies realized that will lead to lower operating costs. Staff will closely monitor 511 operations to ensure that the highest quality service is provided to the public and to ensure that the system adapts to meet the needs of the region.

Metro Freeway Service Patrol Operations

Funds programmed to assist MTA with the operation of the Metro Freeway Service Patrol (FSP). Funding of the FSP program from SAFE funds is authorized as FSP is a motorist aid service. Based on discussions with MTA, staff is recommending a decrease in the allocation compared to FY15. The funding allocation is considered on an annual basis and is determined by a combination of MTA's request and available funding. For FY16, MTA requested an increase to the allocation as compared against the historical average of \$1.0 million and after discussion it was agreed that staff would proceed with a recommendation to provide \$2 million. The allocation for FY17 and beyond have been reduced to the \$1.0 million but may be modified as MTA and SAFE meet annually to review the needs of FSP and the ability of SAFE to provide funds.

Motorist Services Improvements

Funds programmed to enable SAFE to support improvements to existing motorist services programs and/or develop new services. In the past these funds have been used to develop the Southern California 511 mobile app as well as support MTA's Veteran's Transportation grant. For FY16, these funds may be used to develop and deploy new non-planned improvements to Southern California 511; support the development of new ITS related projects which will reduce congestion and improve mobility; and develop a strategic roadmap to support current and future SAFE activities. The funding for service improvements will be allocated on an annual basis depending upon available funds, identified needs or the ability to secure new third party/grant funds.



Metro

Board Report

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2015-0445, File Type: Contract

Agenda Number: 4.

SAFE BOARD MEETING JUNE 25, 2015

SUBJECT: CALL BOX SYSTEM RESTRUCTURING

ACTION: APPROVE THE RESTRUCTURING OF THE CALL BOX SYSTEM

RECOMMENDATION

AUTHORIZE the **restructuring of the Los Angeles County Kenneth Hahn Call Box System** as outlined, based upon the findings and recommendations of the recently concluded Call Box Assessment Study (Attachment A).

ISSUE

As part of the overall management of the Call Box System, an assessment Study was completed in 2014. The Study recommends that LA SAFE proceed with a four phase restructuring of the call box system resulting in the removal of approximately 412 call boxes in phase 1 from service or a 23% reduction. This recommendation is being brought to the Board for approval prior to implementation.

DISCUSSION

The Call Box system was established to provide a motorist aid service to the public. In 2007, the Board authorized an initial restructuring that transitioned the call box system from a primary motorist aid resource to a secondary safety net. This resulted in a decrease of approximately 2,500 call box sites from the initial base of 4,500 call boxes. At the time the usage of the call box system had decreased from an average of 20,000 calls per month in the year 2000 to approximately 5,000 calls per month in 2007. Current call box system usage averages approximately 1,700 calls per month spread over an installed base of approximately 1,800 call boxes.

Due to the decrease in usage and the continued proliferation of cell phones, as well as the implementation of new motorist aid services, the call box system was further evaluated to identify call boxes that are no longer useful in meeting program goals, as well as those that present a safety risk due to their location. A field site assessment of all existing locations (1,786 sites at the time of the assessment) was conducted. The field assessments were conducted during the months of May 2013, June 2013, and March 2014 and consisted of the following tasks:

1. Verification of the location and sign number data;

2. Verification of the call box site type;
3. Assessment of the availability of cell phone coverage to determine if sufficient service is available to support personal cell phone usage;
4. Confirmation of the width of the shoulder;
5. Identification of any unusual conditions such as poor sight distance, steep grade, vegetation covering the site, etc. that can pose a safety hazard to call box users and/or the motoring public;

In addition to the field assessment, a review of the maintenance history and usage data for each call box was also conducted. Utilizing the results of the field assessment, maintenance history and usage data, three main criteria were used to evaluate each call box location and determine if the box should be removed:

1. Site Type - Due to safety concerns, Caltrans has recommended the phased removal of Type B and C call boxes where they are no longer effectively used. These call box types were cut into an existing hillside (Type B) or built over an existing down slope (Type C). As such, an assessment of Type B and C call boxes with low utilization was conducted and locations identified.
2. Knockdowns - Call boxes with a history of multiple knockdowns in a year indicate a potential problematic location or site and as such were identified for removal.
3. Program Goals - The Call Box program goals are to provide motorist aid service to the public. For various reasons, primarily the proliferation of the usage of cellular telephones and other alternative emergency services available to the motorists, there are call boxes with a pattern of little or no usage.

As a result of the evaluation, a total of 412 type B and C call box sites have been recommended for removal within Phase I.

In addition to the recommendation to remove the 412 identified type B and C call box sites, the assessment also provides a working roadmap to continue identifying call box sites that are candidates for removal and/or relocation under the above criteria.

DETERMINATION OF SAFETY IMPACT

Removal of the identified call boxes is not anticipated to present any negative safety impacts. The recommendations have been reviewed by our partner agencies, Caltrans and CHP, for safety implications and both agencies concur with the findings.

FINANCIAL IMPACT

Funding of \$500,000 for implementation of the restructuring has been included in the FY16 budget

request under Cost Center 3351, Project 300209 for LA SAFE.

Since this is a multi-year project, the cost center manager and Executive Officer will be accountable for budgeting the cost in future years, including any options exercised.

ALTERNATIVES CONSIDERED

The Board could elect not to approve the restructuring. Staff is not recommending this alternative, since the restructuring will ensure a more efficient, effective and safe system for the motoring public.

NEXT STEPS

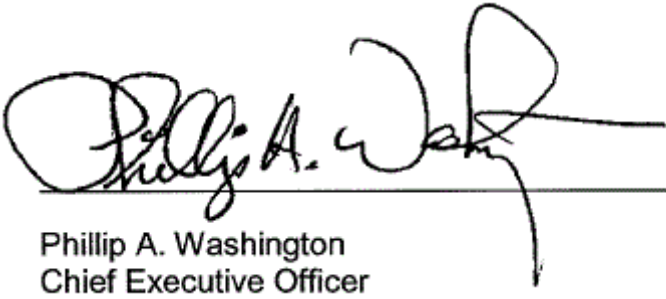
Upon approval, staff will begin steps to restructure the call box system. Additionally staff will continue monitoring the system and move forward with additional call box removals as warranted and report to the Board annually of any implemented changes.

ATTACHMENTS

A. Call-Box Assessment Study

Prepared by: Iain Fairweather, Sr. Program Manager LASAFE, (213) 922-5650
Ken Coleman, Deputy Executive Officer LASAFE, (213) 922-2951

Reviewed by: Shahrzad Amiri, Executive Officer LA SAFE, (213) 922-3061



Phillip A. Washington
Chief Executive Officer



Call Box Assessment Study

May 27, 2014

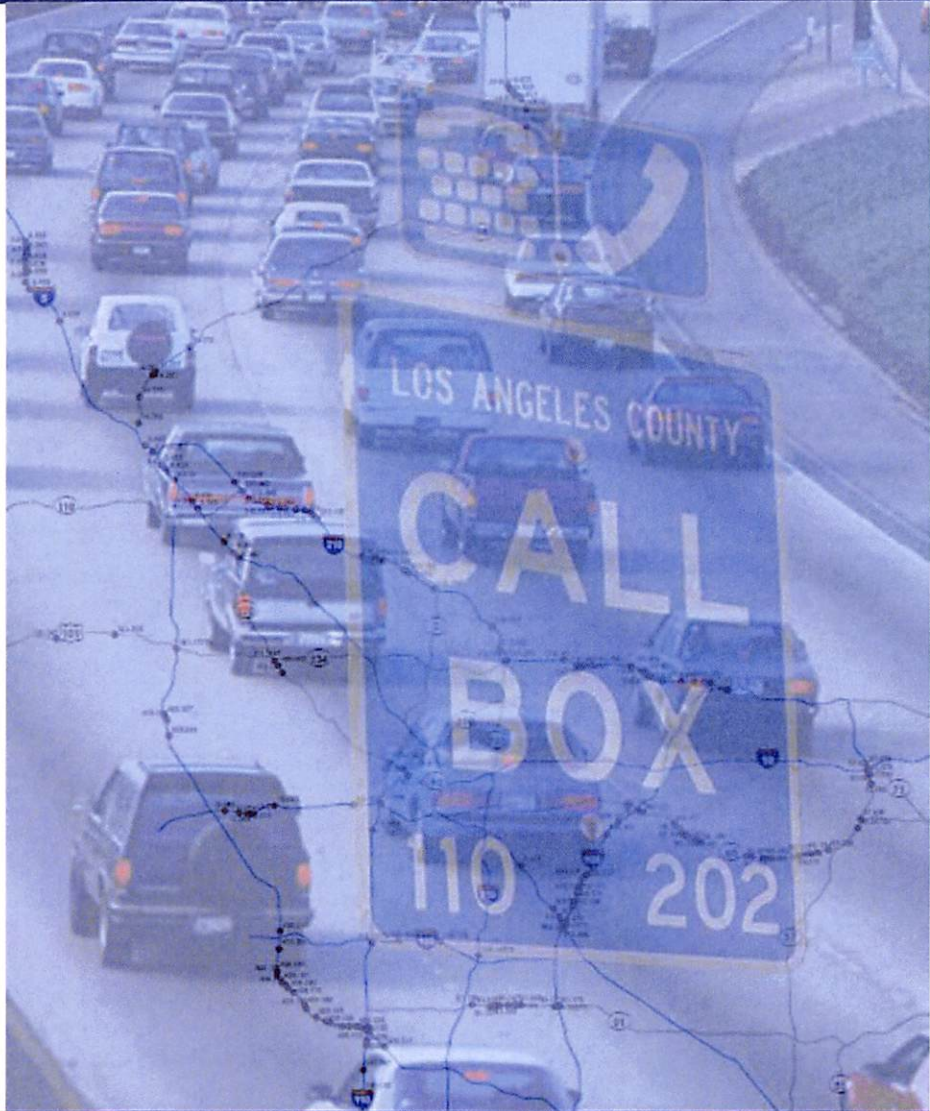


TABLE OF CONTENTS

Table of Contents	i
Appendices.....	i
List of Tables.....	ii
List of Figures	ii
1.0 Introduction.....	1
1.1 BACKGROUND.....	1
1.2 PROGRAM GOALS.....	6
2.0 Current Call Box System Environment.....	6
2.1 MOTORIST AID ALTERNATIVE TO CALL BOXES.....	8
2.2 STATEWIDE CALL BOX GUIDELINES.....	9
3.0 Field Site Assessment.....	11
4.0 System Evaluation Methodology.....	12
4.1 SITE TYPE.....	14
4.2 KNOCKDOWNS.....	17
4.3 PROGRAM GOALS.....	17
4.4 APPROACHES TO SYSTEM EVALUATION OF OTHER SAFES.....	18
5.0 Recommendations	19
5.1 FUTURE ADDITIONAL PHASED REDUCTION.....	22
5.2 NEXT STEPS.....	24

APPENDICES

- Appendix A: Recommendations for Removal
- Appendix B: Remaining Type B/C Sites
- Appendix C: Remaining Non Type B/C Sites

LIST OF TABLES

Table 1: 2012 Call Types..... 5
Table 2: Summary of Call Box Removal Program by Selected California SAFE Agencies 19
Table 3: Summary of Recommendations for Removal 21

LIST OF FIGURES

Figure 1: Pew Research Center Surveys on Cell Phone Ownership..... 2
Figure 2: CTIA-The Wireless Association Data on Cellphone Subscribers in US..... 3
Figure 3: CTIA-The Wireless Association Data on Reported Cell Sites in US 4
Figure 4: Call Box Call Usage From 2004 to 2012 5
Figure 5: Current Call Box System..... 7
Figure 6: Type B and Type C Examples 15
Figure 7: Location of Type B & Type C Call Boxes 16
Figure 8: Los Angeles County Past and Projected Call Box Usage (2004 to 2023) 23

1.0 INTRODUCTION

The Los Angeles County Service Authority for Freeway Emergencies (LA SAFE) is responsible for call boxes that are located within Los Angeles County's freeway and highway system. The goal of this project is to evaluate the status and provide recommendations on the current deployment of the Los Angeles County Kenneth Hahn Call Box System, with an emphasis on ensuring that the call box system will continue to provide a safe, efficient, and effective service to the motoring public. One of the main objectives is to develop and establish a methodology/guideline to determine the optimal placement of call box sites given present conditions and needs, and the reduction of those call box sites that do not meet the established guidelines.

Based on the data presented in this report, it will become clear that the Call Box program, including its associated guidelines, has become inconsistent with its original intentions and that the physical boxes on the side of the road may be nearing obsolescence. This assessment study will lay out a plan for the immediate removal of call boxes that, for various reasons, no longer serve the purpose of the program. The plan will also address the future removal of boxes, potential alternative uses for sites where call boxes have been removed, and the next steps towards developing guidelines for how the program could more efficiently utilize the funding available to best serve the public with motorist aid.

1.1 BACKGROUND

The Call Box program in the State of California was created in 1986 and is governed by individual regions and/or counties through local SAFE agencies. The program is currently funded through a \$1.00 per vehicle annual registration fee and maintenance for the program is privately contracted. The annual \$1.00 fee also supports other motorist aid programs within the individual counties/regions.

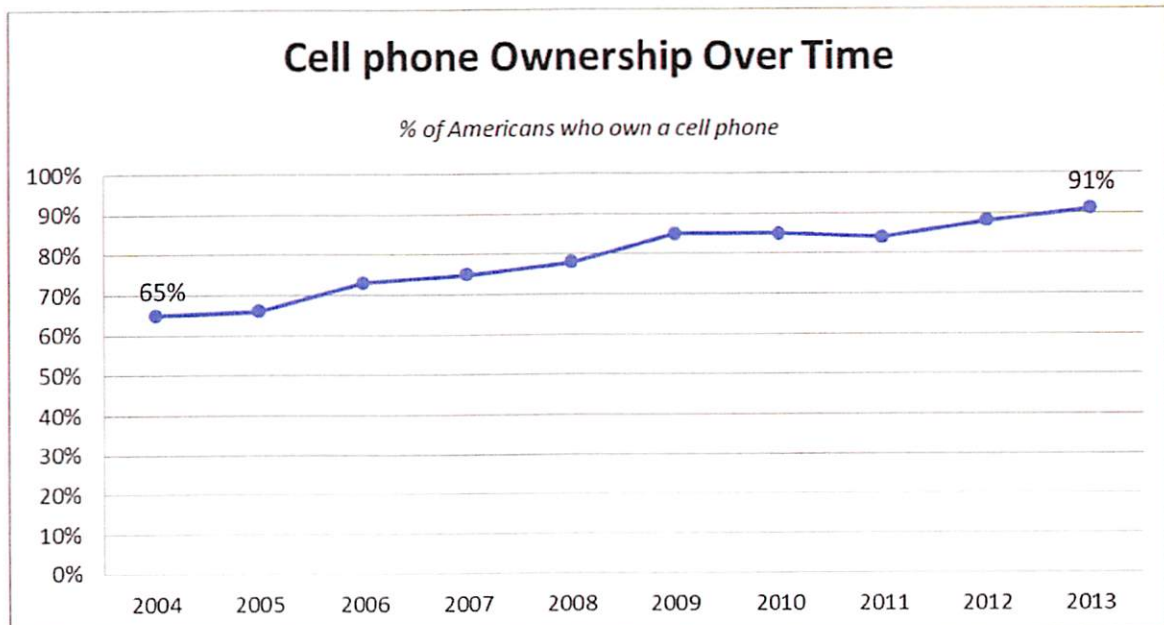


At its inception, the Call Box program was established for the purposes of providing motorist aid, improving safety, and incident detection. Call boxes were placed as close as one-quarter mile apart on highways in many urban areas. The call box site was intended to give the stranded motorist a feeling of security, suggesting that help would soon be on the way. Like phone booths, the call boxes were intended to provide communications access in order for stranded motorist to request for help when assistance is needed, thereby reducing exposure time and impact of the vehicle on the roadway and potentially reducing related traffic congestion. This was at a time when many other options to get assistance were not available to the general motoring public. The mobile cellular telephones or in-vehicle communications systems were just coming on the market and were not available to most people. In addition, the Metro Freeway Service Patrol (FSP), as well as the Caltrans and California Highway Patrol (CHP) Transportation Management Center (TMC) 24-hour 7-day incident management programs, did not get implemented until the 1990s.

Los Angeles County Call-Box Assessment Study

Conditions have changed in recent years such that the need for an extensive call box system and program has been called to question. Today, there are many more options available to a stranded motorist to get expedited assistance. The Los Angeles urban freeway corridors are now extensively instrumented and equipped with sensors and cameras for active incident management systems and are monitored by Caltrans and the CHP from Transportation Management Centers (TMC) 24 hours a day, seven days a week. The corridors are also monitored by the Metro FSP during busy traffic hours, on weekdays as well as weekends. The development of the Metro 511 program allows for other motorists to call in and notify the 511 call center of a stranded vehicle or a motorist in need of assistance. At the same time, the conventional highways are now more developed with commercial businesses, such as gas stations, mini-marts, shopping centers, and restaurants, which allow a stranded motorist to seek help. The most compelling change, however, is the advancement of technology and the widespread (almost universal) use of mobile cellular telephones by the motoring public. Where portable or mobile cellular telephones were just being invented in the 1980s and introduced for the few in the 1990s, they are now widely used by the masses, basically as a necessity of life. According to a 2013 Pew Research Center survey, approximately 91% of adults in the United States currently own cell phones, up from 88% in 2012 and 83% in 2011. Figures 1 through 3 below present survey data showing the growth of cell phone ownership and usage over the years. In addition, the survey showed that 56% of all cell phone owners currently own a smartphone, up from 46% in 2012 and 35% in 2011. These percentages are likely to be much higher in Southern California; where the median income is relatively higher and where cellular network coverage is superior to most other regions in the nation, and owning a cell phone is often regarded as a necessary personal accessory such as watches, hand bags, or wallets.

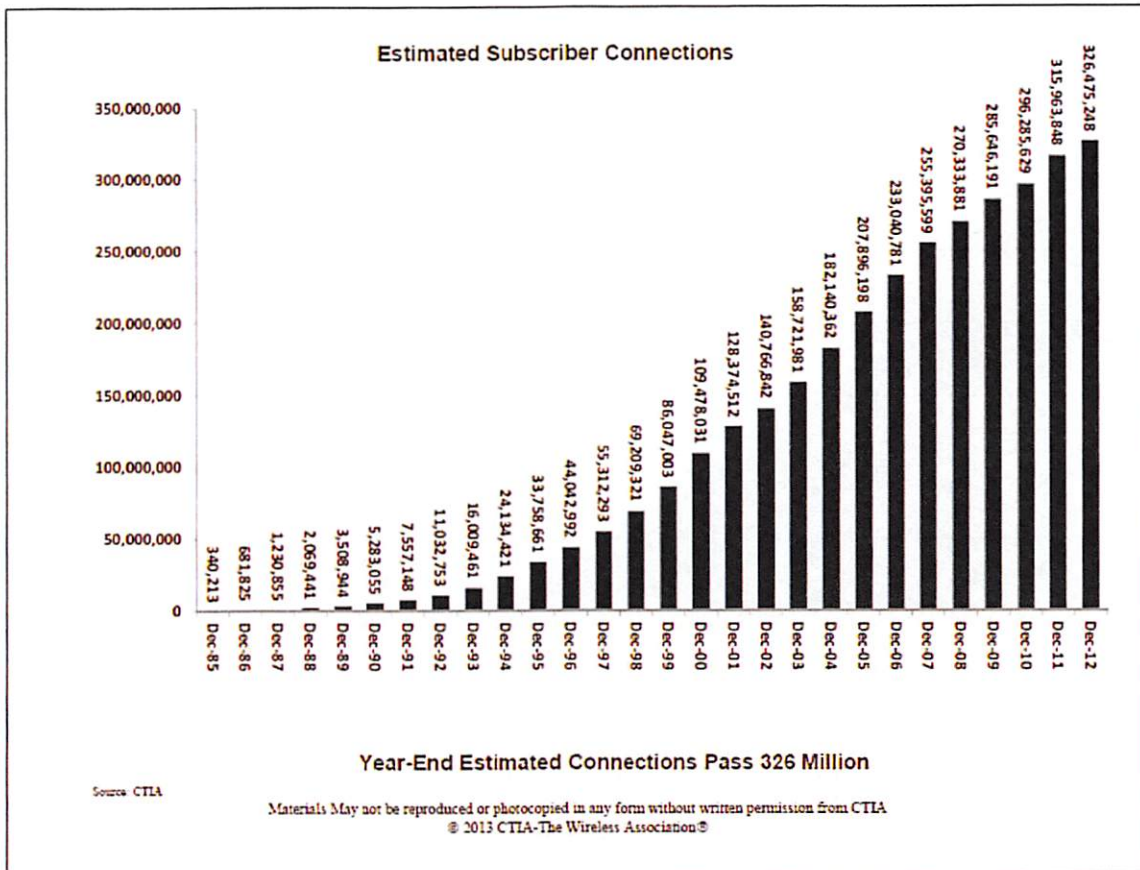
FIGURE 1: PEW RESEARCH CENTER SURVEYS ON CELL PHONE OWNERSHIP



Source: www.pewresearch.org

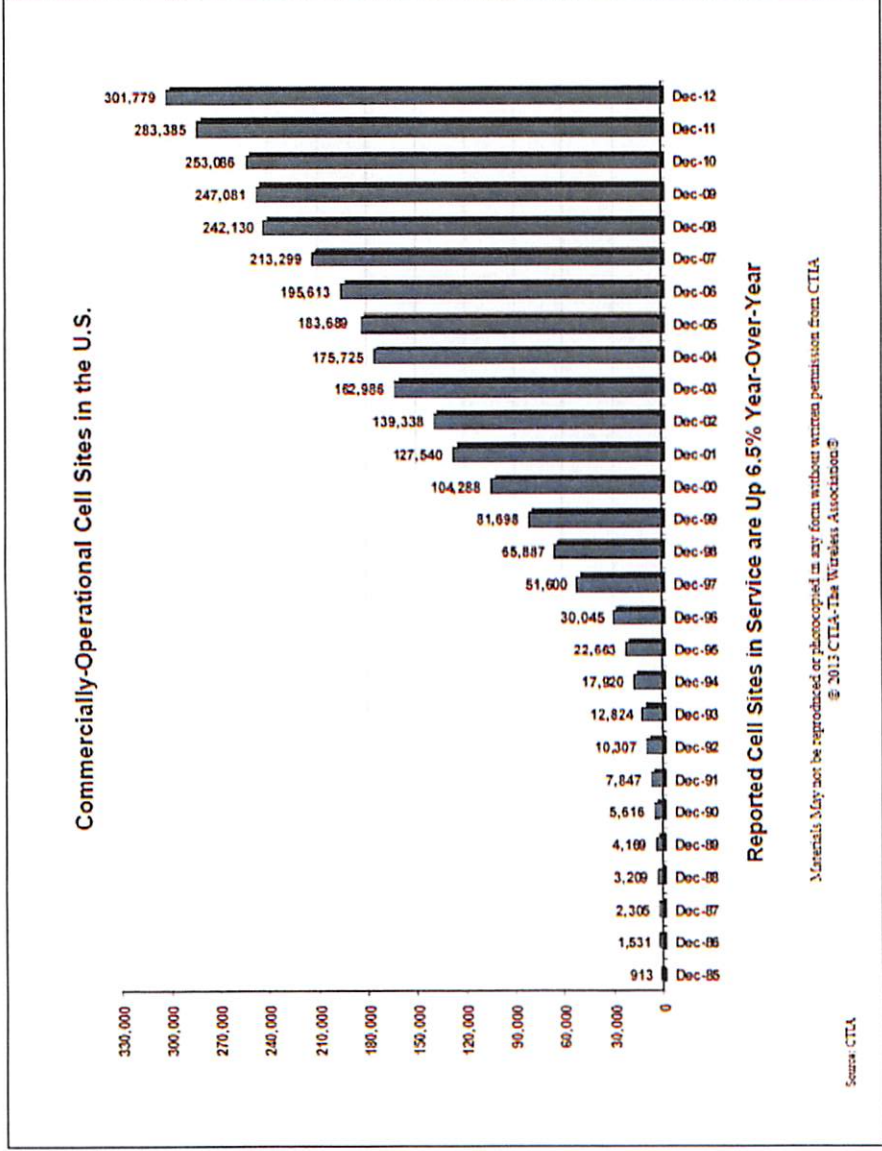
Los Angeles County Call-Box Assessment Study

FIGURE 2: CTIA-THE WIRELESS ASSOCIATION DATA ON CELLPHONE SUBSCRIBERS IN US



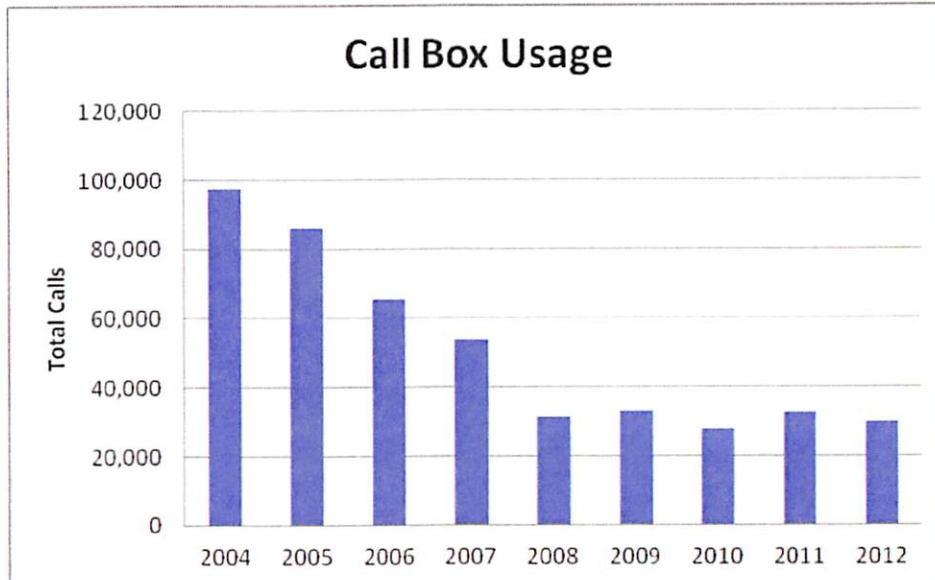
Los Angeles County Call-Box Assessment Study

FIGURE 3: CTIA-THE WIRELESS ASSOCIATION DATA ON REPORTED CELL SITES IN US



As expected, with the increase in cell phone ownership call box usage has significantly declined during the recent years. Figure 4 shows the general trend of total calls received on the Los Angeles County Call Box System during the past nine years. As shown in the figure, from 2004 to 2012, calls made on the system dropped from approximately 97,000 to 30,000, at an average of 13% per year.

FIGURE 4: CALL BOX CALL USAGE FROM 2004 TO 2012



Source: LA SAFE

The Call Box system receives calls of different types. Table 1 summarizes the total number of calls per call type in 2012.

TABLE 1: 2012 CALL TYPES

Emergency Calls	890
Non-Emergency Request for Aid Calls	<u>6,104</u>
<i>Subtotal</i>	<i>6,994</i>
Non-Aid Related Incidental Calls	
Call Box Check	10,544
Duplicate Calls	1,513
Inappropriate Calls	111
No Help Calls	1,402
Incidental Calls	<u>7,347</u>
<i>Subtotal</i>	<i>20,917</i>
TOTAL	27,911

As indicated in Table 1 above, out of the 27,911 composite call data for 2012, only 6,994 calls (approximately 25%) were for emergency related calls or calls requesting motorist aid. Emergency calls include calls related to accidents, ambulance requests, crime, fire, first responder, medical, road blocked, roadway hazard, or other special circumstances. Non-emergency request for motorist aid calls

include Auto Club, company dispatch, friends and family, Freeway Service Patrol, tow request, roadway hazard, and other special circumstances. Incidental calls include ghost calls, maintenance test, system runaway, training test, special circumstances, and unknown. As indicated above only about 25 percent of all call box usage data is related to actual motorist aid calls. Given the total number of 1,786 operating call boxes in Los Angeles County, on average for the entire 2012, this translates to less than 4 calls per call box.

The call box system was initiated and developed before the proliferation of the cellular telephones as a means to motorist aid. With the recent trend of ownership of cellular telephone, the widespread coverage of the cellular service with the growth of cell sites, and the provisions of other motorist aid services such as FSP, Metro go511 program, and Caltrans/CHP incident management, the call boxes are now nearing obsolescence much like the pay phones and phone booths. As such, the call box system should continuously be reevaluated and usage data analyzed to consider slowly phasing out the sites that are no longer being used or effective, and save the cost and valuable resources to operate and maintain them.

1.2 PROGRAM GOALS

As described in the CHP/Caltrans Call Box and Motorist Aid Guidelines, the California Legislature passed Senate Bill 1190 in 1985 to enable counties to generate revenue for the purpose of purchasing, installing, operating and maintaining an emergency motorist aid system. As stipulated in the Streets and Highway Code Chapter 14, Section 2550, "the Legislature declares that its intent in enacting this chapter is to encourage the placement of call boxes along the California Freeway and Expressway System to enable motorists in need of aid to obtain assistance. However, it is not intended that a motorist aid system of call boxes be considered an emergency telephone system." As such, it is acknowledged that the purpose and goal of the call box system is to provide motorist aid.

2.0 CURRENT CALL BOX SYSTEM ENVIRONMENT

In order to meet the project goals and develop a methodology for evaluating the current system, it is first necessary to discuss the current system. The Los Angeles County SAFE is the largest and most active motorist aid call box system in California. The program currently consists of 1,786 operating call boxes. The general locations of these call boxes are shown on Figure 5. Since the inception of the call box program, transportation system conditions and technology environment have changed over time, most significantly in recent years, and thus an evaluation of the overall call box system is necessary to ensure the program continues to stay relevant and meets its goals while operating in the most efficient manner possible.

In the years since the previous assessment study was conducted, various motorist aid options other than call boxes have emerged that have had a profound effect on the usage of the call box system and will affect how the overall call box program would operate in the coming years.

Los Angeles County SAFE
Call Box Assessment Study

Figure 5
Current Call Box System



2.1 MOTORIST AID ALTERNATIVE TO CALL BOXES

- **Cellular Phone Usage** – Cell phone usage has likely had the largest impact on the usage of the overall call box system. Within the past five years, the advent of “smart phone” ownership has allowed motorists to not only use their phones as a means to call or text for aid, but also as a GPS (Global Positioning System) device to identify and/or transmit their location. Accompanying cellular telephone service features include the ability to make 911 emergency calls to the CHP or other law enforcement and the 511 calls to the Metro call center. Many motorists also have roadside emergency service call centers offered by the Auto Club, insurance carriers, vehicle manufacturers, and credit card companies.

- **Freeway Service Patrol (FSP)** – Metro, in partnership with the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) manages the largest fleet of tow and service trucks in the country, known as the Los Angeles County Metro Freeway Service Patrol (FSP). This elite team of tow truck drivers spots incidents, disabled vehicles and motorists who are in need of assistance during their “patrols” and



provides help to stranded motorists and removes vehicles involved in and debris from traffic accidents to keep traffic moving. This free service also greatly reduces the chances of further incidents caused by onlookers and impatient drivers. FSP trucks operate on over 400 miles of LA County freeways based on specially designed “beats”. Service levels (number of trucks) vary by day of week/time of day.

- **Advanced Freeway Service Technologies** – Advanced communication systems such as the General Motor’s “On Star” service, generally regarded as the nation’s leading in-vehicle safety, security, and communication service, have also played a role in the reduced usage of call boxes. Other advanced technology is continuously evolving including smart phone and tablet applications. For many luxury vehicles, the vehicle computer system diagnoses problems and sends trouble notices to a call center even before the vehicle driver is aware, often including GPS coordinates.
- **Incident Management** – Caltrans and the CHP monitor the Los Angeles County freeway system 24 hours a day, 7 days a week from their joint Transportation Management Center (TMC). Most of the urban freeway corridors are instrumented with vehicle detection sensors, closed-circuit television cameras, and electronic message signs, to detect, locate and verify incidents and disabled vehicles. In many cases, CHP dispatch sends a patrol officer to a disabled vehicle even before a call for help is completed.

- **Commercial Development along Highways** – Since the late 1980s when the call boxes were introduced, commercial businesses have developed significantly along State highways. There are many more shops and businesses available now to get help rather than taking the longer walk to find the next call box along the highway.

2.2 STATEWIDE CALL BOX GUIDELINES

A set of motorist aid guidelines were originally developed by the California Highway Patrol (CHP) and Caltrans to guide statewide consistency of the call box systems, which are developed and operated on a county-by-county basis. The latest guidelines developed by CHP, Caltrans, and various SAFE agencies in California can be found in *CHP/Caltrans Call Box and Motorist Aid Guidelines* (November 2007).

The guidelines outline the roles and responsibilities of the various agencies involved in providing motorist aid services in California. The guidelines also provide guidance on the physical aspects of the call box system, such as spacing of boxes and design of the call box sites. The following paragraphs summarize some key information contained in the “Design and Construction” section of the guidelines, as they pertain to this study:

Call Box Site Requirements

- Within spacing requirements, call box locations will be selected to have minimal impact on highway operation. A call box will not be located where there is less than an eight foot shoulder. Any exceptions shall be reviewed and approved by the local district at Caltrans.

Where the highway shoulders are narrow, it is recognized that the liability is greater for a motorist to walk along the freeway to find the closest call box to use. This factor is more relevant today where there are many more options to call boxes for motorist aid. Motorists in need of assistance are more likely to use their cellular telephone, in vehicle communication system, wait for a passerby to call in to the 511 or 911 Call Centers, or wait for the FSP/CHP in the safety and comfort of their vehicle rather than get out to walk to a roadside call box. Even if the motorist does not have a cell phone, most motorists passing by will have a cell phone to call in for help, particularly if the vehicle is blocking a lane or is in a hazardous/emergency condition.

Call Box Spacing

- Within the guidelines, call box spacing should ensure motorist safety by providing the closest feasible spacing to reduce pedestrian and vehicle exposure time. Closer spacing also contributes to congestion relief by providing faster notification and clearing of disabled vehicles from the roadway.
- Variation in terrain, available revenue, urban/rural characteristics, and proximity for roadside services are factors in the decision of spacing between call boxes. For existing systems in place for two or more years, call box usage may also be considered when determining spacing. In order to allow flexibility and still maintain consistency in these installations, the county SAFEs should adhere to the following suggested spacing guidelines:

Los Angeles County Call-Box Assessment Study

- A reasonable spacing on rural highways with low ADTs may be based on geometric and economic needs. Other factors may include the cellular coverage area and isolation. Spacing does not constitute a system of call boxes but rather a service. These call boxes should only be placed in an area where adequate safe clearance from the roadway is available.
- On Caltrans toll bridges, call boxes should be spaced between 600 to 1,200 feet, depending on whether or not adequate shoulders are provided. Special situations and deviations from this should be discussed with the district traffic liaison.

Considering the alternative motorist aid options available, call box spacing may no longer be appropriate or relevant. Where the guidelines suggest closer spacing in urban areas with higher traffic volumes, it is likely that the cellular coverage is also highest and alternatives are most abundant, including FSP service and incident management and monitoring. Where there is higher traffic volume, there are also more motorists passing by that can call for help on their cell phone, if the stranded motorist does not have one. There is less need or urgency for a motorist to walk along the freeway of a quarter mile to get to a call box today.

Call Box Removal, Relocation, and Repairs

- There may be factors, including, but not limited to, significant decreases in annual call volume, administrative issues, and operational issues, that warrant the need to remove call boxes on a systemwide basis. The SAFE will develop a systemwide call box removal plan that shall include a list of recommended call box sites to be removed, the resulting spacing between remaining adjacent sites, and justification for removal. If call boxes are being removed as a result of low call box usage, call box usage data for each call box shall also be provided. However, it should be noted that a call box may be removed due to systemwide decreases in call volume. The SAFE shall submit the call box removal plan to the CHP and Caltrans for a 60-day review and approval. With the exception of removal for construction, a removal that is planned or in existence for more than six months is considered a permanent removal and requires an approved removal plan.
- A SAFE does not need to submit a removal plan to the CHP and Caltrans for the removal of individual call boxes. However, removal of greater than 10 percent of the number of installed call boxes on any one corridor does require a removal plan.
- Where a call box has been removed, the site shall be restored to its original pre-installation conditions. All call box materials (e.g., pedestrian pads, asphalt paths, retaining walls, handrails, etc.) shall be removed from the site. The surface area where the call box was installed shall be graded flush with the surrounding soil.
- Along freeways, expressways, and divided conventional highways, call boxes shall be removed from both sides of the roadway to maintain call box pairing.

Presently, phone booths and pay phones are generally considered obsolete. The cost to operate and maintain them can no longer be offset by the benefit of the service provided with their very low usage.

Similarly, removal of call boxes should be considered now for locations where low usage cannot offset the cost to operate and maintain them, not to mention the cost of potential liability.

3.0 FIELD SITE ASSESSMENT

The first step was to conduct a field site assessment of all 1,786 locations listed in the database by physically visiting each location and conducting a site survey. The site assessments were conducted by a combination of Iteris and Wiltec staff during the months of May 2013, June 2013, and March 2014.

All field site surveys were conducted by two staff members, a driver and a passenger. At each call box location, the field staff members performed the following tasks:

1. Verified if the box existed with the sign number matching the previous database;
2. Verified the call box site type;
3. Checked the cell phone coverage in the area to determine if an adequate alternative was available;
4. Measured the width of the shoulder;
5. Noted any unusual conditions such as poor sight distance, steep grade, vegetation covering the site, etc.;

In addition, digital pictures were taken at each call box site visited for database update and future verification purposes. For those locations with construction activities along some of the freeway routes, field staff could only conduct the survey passing by the site in their vehicle and were not able to stop and measure at those locations. At some locations, field staff were able to locate and stop at the call box site, but no call box was found at the site or the box was disabled, even though the sign was present (as shown in the pictures to the right). Some



of the surveyed boxes were located on transition roads where the field staff could not stop and measure. The following is a summary of the field surveys:

- 1,786 boxes were surveyed
- Of the 1,786 boxes surveyed, 1,287 boxes were verified, documented and evaluated
- 82 boxes initially listed in the database as a Type B or C were identified in the field as having a non Type B or C site type.
- 25 boxes initially listed in the database as a non Type B or C were identified in the field as being a Type B or C site type
- As a result of the adjusted site types per the field survey, it was confirmed that 229 Type B Call Boxes and 183 Type C Call Boxes currently exist.

The results of the field surveys showed that approximately 28 percent of the boxes identified in the original database did not exist in the field or could not be found by the field survey staff.

4.0 SYSTEM EVALUATION METHODOLOGY

In light of Section 1 and 2, and the results obtained from Section 3, the overall Los Angeles County Kenneth Hahn Call Box System was evaluated comprehensively. The purpose of the evaluation was to assess the call box program for effectiveness and develop a plan for efficiency moving forward into the future, considering the changes in today's climate in regards to highway motorist aid. Those locations that are still effective and needed were identified and those that are not as effective and may no longer be needed were also identified. Recommendations are then made for removal of those locations that no longer serve their purpose where the costs and potential liability far outweigh any potential benefits.

Rather than evaluating the system parameters (such as type, number, or spacing requirements), a more appropriate approach would be to re-evaluate the system as a whole in a systematic approach to consider eliminating call boxes that are no longer useful or meeting program goals and/or present an unnecessary potential liability risk, and then evaluate the system parameters as needed. The call box system right-sizing process starts by identifying and moving potentially unnecessary call boxes into a category called "call box candidate for removal" (CFR) using a systematic process. Once all of the CFR boxes have been identified, an additional "filtering"/screening process would take place to make a final determination and recommendation on which call boxes to keep and which ones to consider removing.

Three main criteria were used to place the existing call boxes verified into the CFR category. These criteria, based on the site type, knockdown history, and recent past usage of the call boxes, include the following:

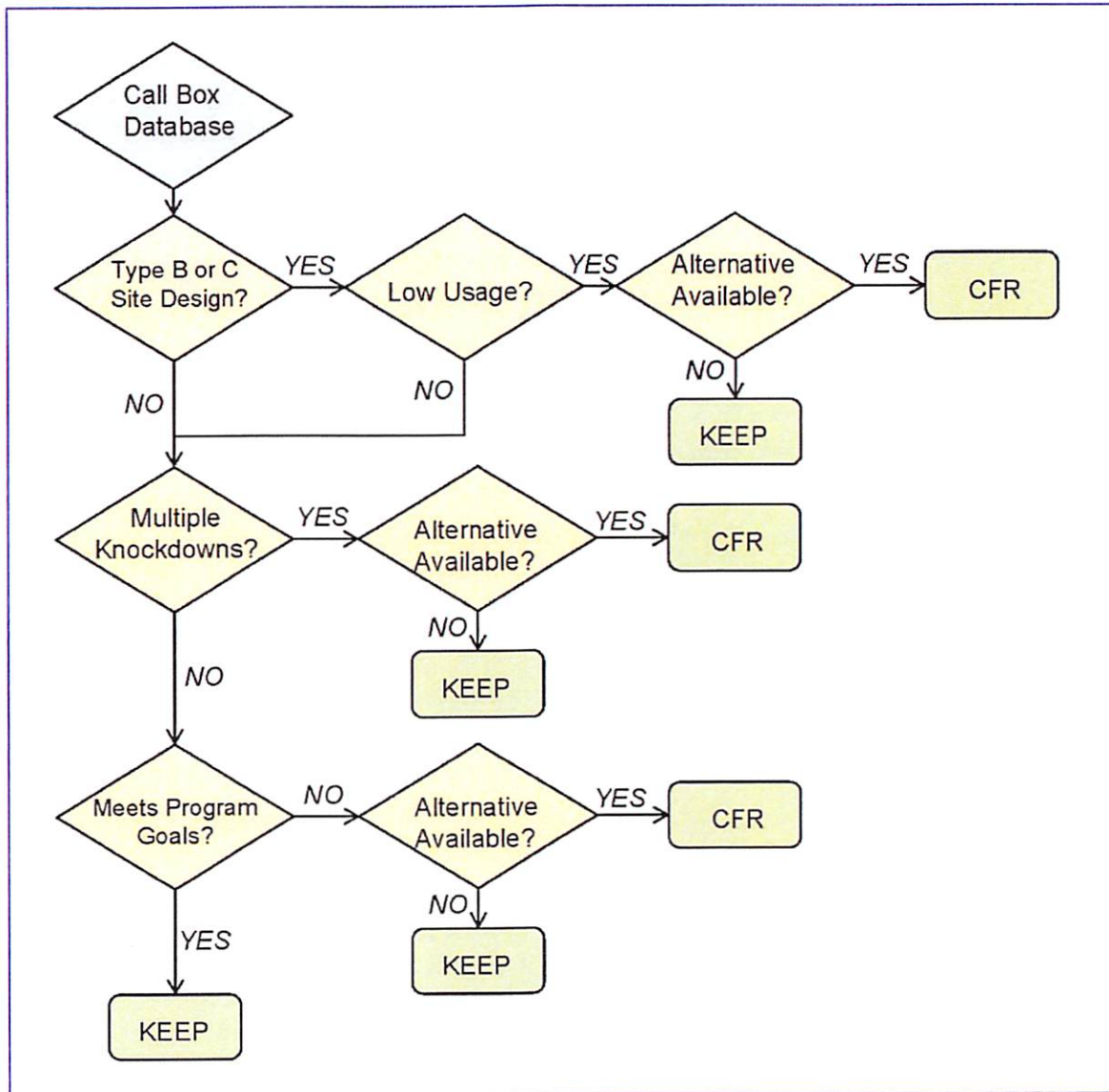
1. **Site Type** – Caltrans has recommended phased removal of all Type B and C call boxes where they are no longer effectively used. As such, an assessment of Type B and C call boxes was made where low utilization sites were identified as CFR.
2. **Knockdowns** – Call boxes with a history of multiple knockdowns in a year indicate a potential problematic location or site, posing a liability risk for traffic safety, and were identified for removal.
3. **Program Goals** – The Call Box program goals are to provide motorist aid service to the public. For various reasons such as the proliferation of cell phone usage and other alternative help avenues, there are call boxes with a pattern of little or no usage. If these boxes are not being used, then they do not meet program goals any longer and were identified for removal.

As part of the CFR determination process, each call box was subject to a final check at each of the three criteria levels. This check consisted of an evaluation of other motorist aid alternatives that would be available to a stranded motorist if the box was removed. These alternatives include FSP coverage, strong cellular phone coverage, incident management instrumentation and monitoring coverage, and/or

Los Angeles County Call-Box Assessment Study

nearby commercial uses at which to seek help in the absence of the other alternatives. While it is rare that none of these alternatives would be available within Los Angeles County, some boxes located in relatively less urban and/or rural areas such as on State Routes 2, 27, and 38 were identified in the initial stage and were kept off the CFR list.

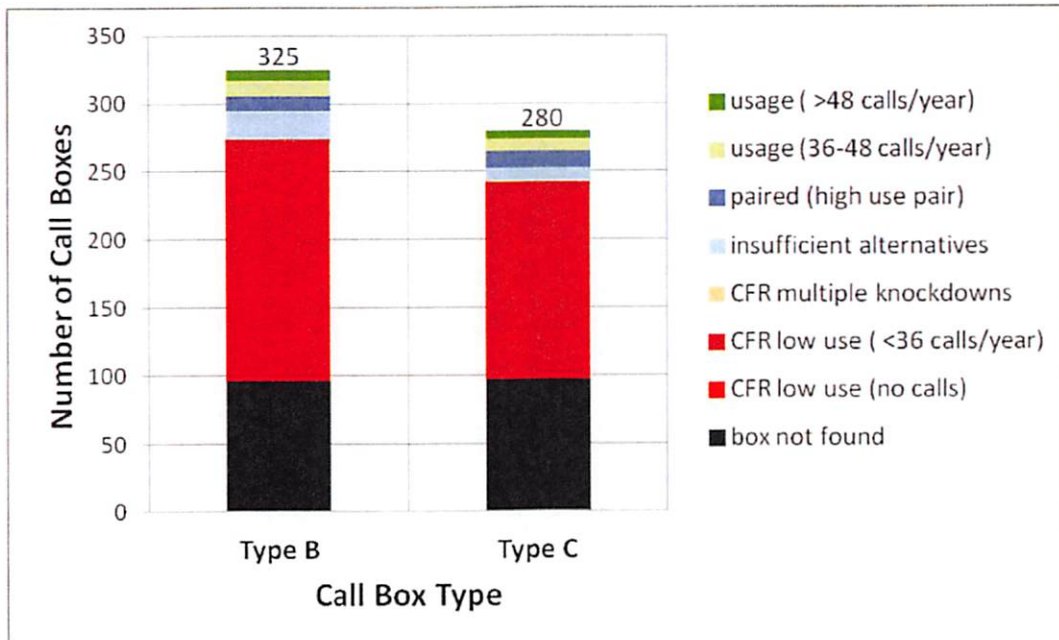
The flow chart presented below illustrates the process used for developing the CFR list, including whether to remove or keep a call box, and is described in further detail in this section.



A total of 669 existing field-verified boxes were identified for initial removal considerations as part of this initial evaluation. The following subsections provide a detailed summary of the methodology used to derive the 669 boxes.

4.1 SITE TYPE

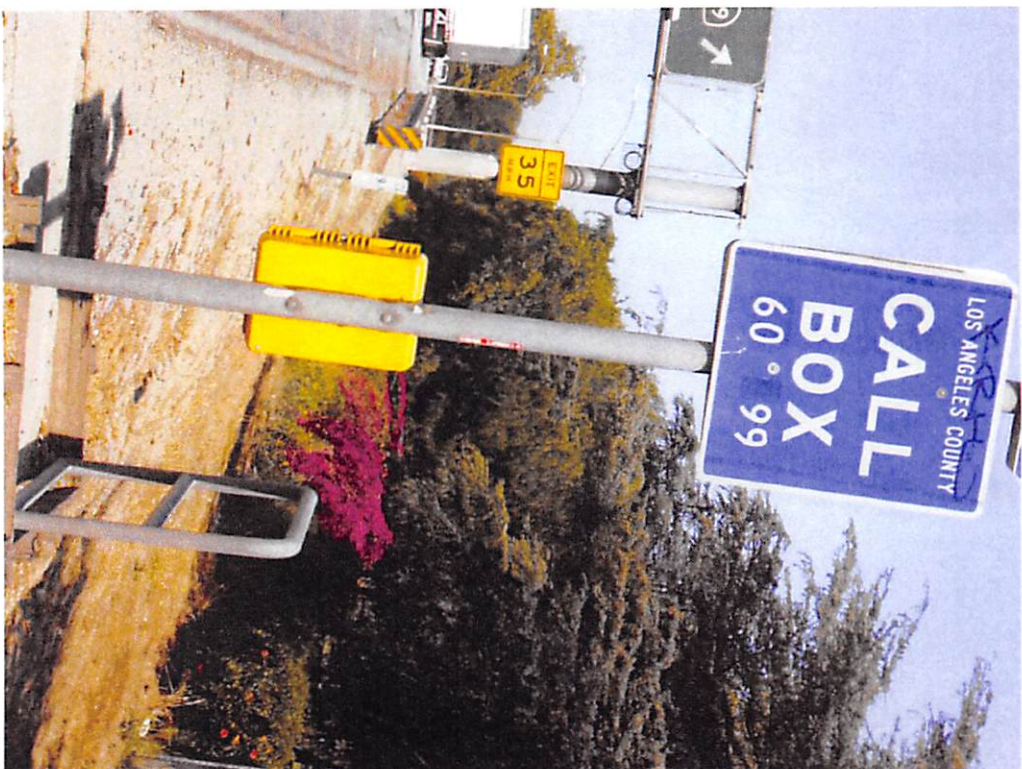
The first criterion was to evaluate Type B and C Call Boxes with low usage which had sufficient alternatives (other motorist aid methods) available. Type B and C call boxes were identified where the average number of calls was less than 36 per year, or on the average less than three calls per month. Based on review of the call statistics for the last two years, the number of calls that pertain to actual motorist aid calls was less than half of the total calls on the system, as shown in Table 1. In addition, a filter was applied to those identified for potential removal by conducting a call box alternative analysis. For each of these locations, the availability of Metro Freeway Service Patrol (FSP) service along the corridor covering the call box location was investigated. In addition, the analysis evaluated each location’s cellular telephone service coverage and incident management capabilities (with intelligent transportation systems) coverage and monitoring by Caltrans and CHP. If the site was on a highway arterial, then proximity to commercial businesses was considered. Out of the identified 412 Type B and C call box locations verified in the field, 376 were identified to have less than 36 calls per year on average within the last three year’s call records. Of these 376 locations, it was concluded that 31 locations did not have sufficient alternative motorist aid options available to the call boxes, if they were removed. Therefore, only the remaining 345 identified locations were recommended for removal. The chart below illustrates the results of the above analysis, indicating the number of Type B and C call boxes and their recent annual call usage records. Examples of Type B and Type C Call Box Sites are shown on Figure 6. The general locations of the Type B and Type C Call Box Sites are shown on Figure 7.



It should be noted from the above chart, call boxes receiving in excess of 24 calls per year on average are less than 20 percent of the total system. Trends indicate that calls are progressively decreasing each year.



Site Type B
(Cut slope)



Site Type C
(Fill slope)

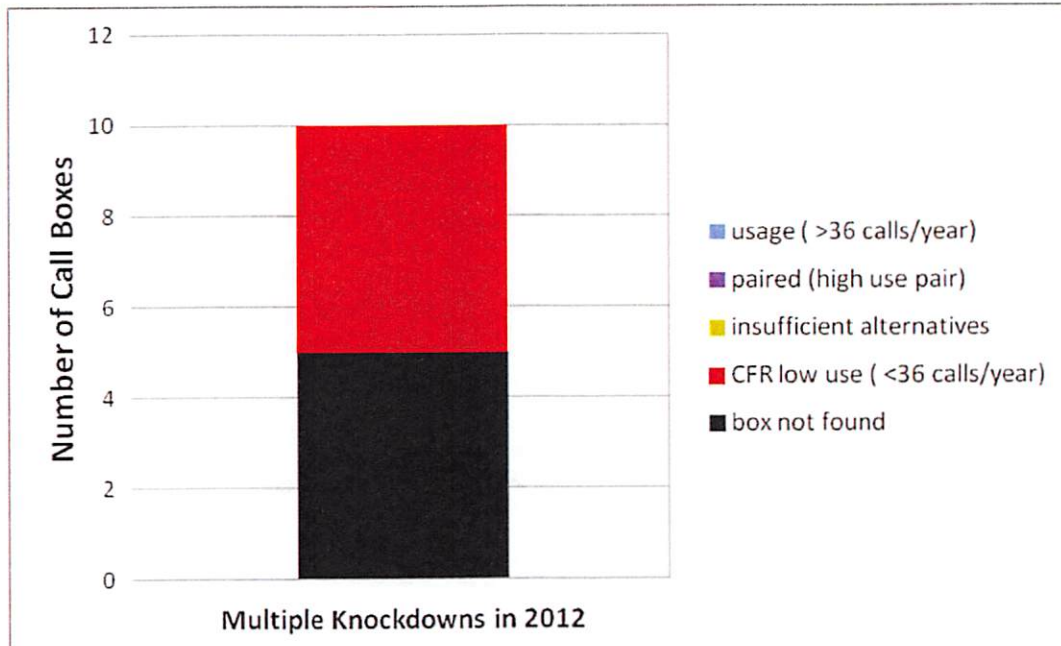


Los Angeles County SAFE
Call Box Assessment Study

Figure 7
Location of Type B and Type B Call Boxes

4.2 KNOCKDOWNS

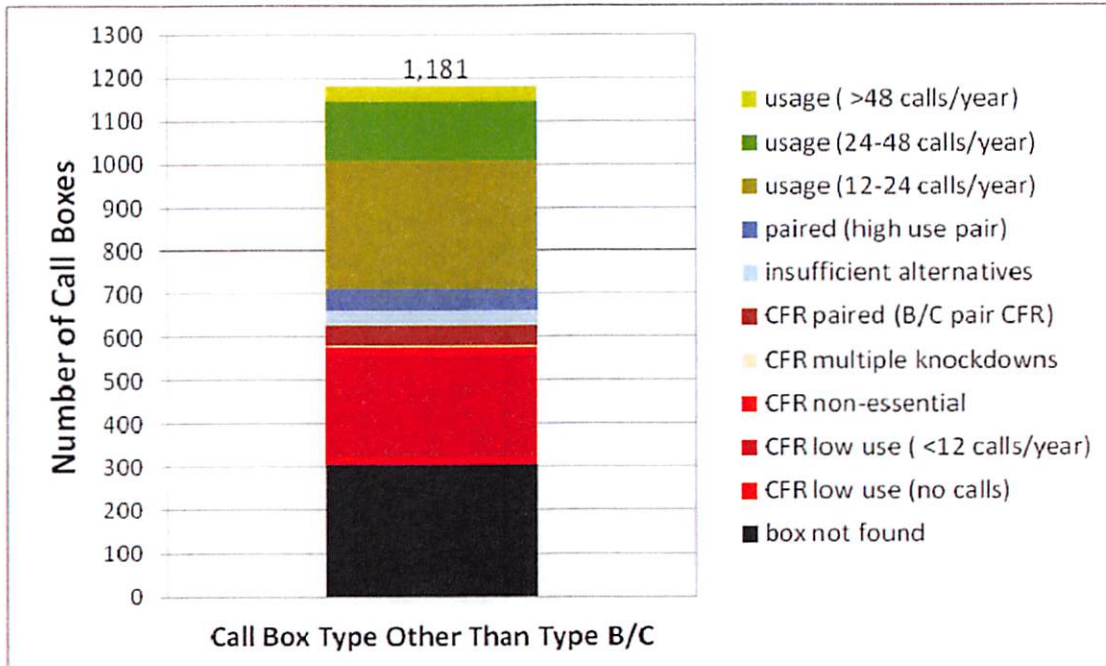
The second criterion was to identify those call boxes that have a history of repeated knockdowns. Analysis of the maintenance records indicated that there were 136 locations with a knockdown record in 2012. Of those, 10 locations had repeated knockdowns. This indicates a potential problem at this location for various reasons such as roadway geometrics, visibility, etc. Of the 10 locations, five were verified in the field and five were not found. Of the five that were verified in the field, one was a Type C location and four were other non-Type B/C. For any location that has a history of multiple knockdowns, their removal is recommended. It was concluded that two locations had sufficient alternatives available and recommended for removal, while three locations need to be considered for relocation. Below is a chart illustrating the results of the above analysis, indicating the number of knockdown locations and their recent annual call usage records.



4.3 PROGRAM GOALS

The third criterion was to identify call boxes that do not meet Program Goals. This was defined as call boxes which had no calls recorded during the last 3 years. The initial analysis identified 156 locations with zero calls during the last three years, with 142 of these being boxes that did not exist per the field survey and 14 that did exist. These are the non-Type B and C call boxes, as the Type B and C with low usage have already been assessed in the first step. Once the 14 locations were identified, a filtering process was used to identify whether these locations had sufficient alternatives for motorist aid. Out of the 14 locations, it was concluded that all 14 locations did have sufficient alternatives available. Therefore, it is recommended to consider removing the 14 locations with no calls during the last 3 years. Below is a chart illustrating the analysis results, indicating the 14 call box locations with no calls in the last three years, shown in red, as well as the other usage results.

Los Angeles County Call-Box Assessment Study



It should be noted from the above chart that, as with the Type B and C call boxes, call boxes receiving in excess of 24 calls per year on average are less than 20 percent of the total. Trends indicate that the number of calls is decreasing each year.

4.4 APPROACHES TO SYSTEM EVALUATION OF OTHER SAFES

Other California SAFE Agencies have developed guidelines and/or undertaken call box system evaluation and/or re-sizing efforts since the last call box system study. To gather information on the approach and methodology of other agencies within the last few years, Iteris staff contacted several major SAFEs and collected and reviewed pertinent reports and documents. **Table 3** summarizes this research. As shown, other California SAFE agencies have also identified call box locations for removal within the last several years.

Los Angeles County Call-Box Assessment Study

**TABLE 2: SUMMARY OF CALL BOX REMOVAL PROGRAM
BY SELECTED CALIFORNIA SAFE AGENCIES**

Agency	Total	Removed/ Identified for Removal	Average Call Box Spacing	
			From	To
Bay Area MTC	2,086	500	1 box/mile	1 box/2 miles
SANBAG	1,700	450	Varies	No change
Riverside County Transportation Commission (RCTC)	594	36	2 boxes/mile (urban) 1 box/2 miles	1 box/mile (urban) No change (rural)
San Diego	1,770	None	1 box/mile	No change
OCTA	633	12	1 box/mile	No change
VCTC	564	None	2 boxes/mile	No change

5.0 RECOMMENDATIONS

From the Metro database list of current existing call boxes and their supposed locations, the whereabouts of the 499 physically missing call boxes or boxes that could not be found in the field visits is unknown. Regardless, we recommend including these locations for removal, if not physically then from the Metro’s database, since they meet the criteria for removal. Construction activities and other freeway/highway work can, at times, remove call boxes without informing Metro and Metro staff will need to use the call backs to verify active responses and identify those without responses as potential broken or removed call boxes. A plan for periodic reassessment is described later in Section 5.2, and would include new visual inventory surveys.

Los Angeles County Call-Box Assessment Study

For the 1,287 boxes that were found in the field, 669 were initially recommended for removal (“CFR” category) and 618 were initially recommended to be kept (“Keep” category). Consistent with the guidelines, if a call box is to be considered for removal, then its pair box in the opposite direction should also be considered for removal, and the same criteria assessment be made for the paired location. The following additional filter was used to make the final call box removal recommendations using the pair box criteria from the guidelines:

- For a Type B/C box listed in the CFR category, a check into the status and previous usage of its working pair was conducted:
 - If the working pair existed in the field and was listed in the “Keep” category, it was recommended for removal only if it received less than 72 calls over the three year period.
 - If the working pair had received more than 72 calls over the three year period, it remained in the “Keep” category and the Type B/C CFR was moved into the “Keep” category and flagged for potential retrofit.
- For a non Type B/C box listed in the CFR category, a check into the status and previous usage of its working pair was also conducted.
 - If the working pair existed in the field and was listed in the “Keep” category, it was recommended for removal if it received less than 36 calls over the three year period.
 - If the working pair had received more than 36 calls over the three year period, it remained in the “Keep” category and the CFR was moved into the “Keep” category.

This refinement resulted in 70 boxes added to the “Keep” category from the “CFR” category and 45 boxes being moved to the “CFR” category from the “Keep” category. As a result, a total of 646 boxes are recommended for removal. The final database of call boxes recommended for removal that were found and verified in the field is provided in **Appendix A**. A total of 641 boxes are recommended to be kept, 88 of which are Type B/C boxes. It is recommended that a mitigation measure plan be developed to address the retaining wall heights and removal of handrails for the remaining 88 Type B/C site locations. **Appendix B** provides a list of the 88 Type B/C boxes to remain and **Appendix C** provides a list of the non Type B/C boxes to remain.

Table 3 summarizes the number of boxes recommended for removal by freeway route.

Los Angeles County Call-Box Assessment Study

TABLE 3: SUMMARY OF RECOMMENDATIONS FOR REMOVAL

Route	Total Existing Boxes Before Removal	Recommended for Removal	% To be removed
SR-1	17	1	6%
I-10	66	38	58%
US-101	89	32	36%
SR-103	4	4	100%
I-105	55	34	62%
I-110	87	32	37%
SR-118	35	21	60%
SR-134	6	0	0%
SR-14	30	21	70%
SR-170	11	0	0%
SR-2	94	39	41%
SR-210	12	12	100%
SR-22	4	0	0%
SR-23	36	20	56%
SR-27	162	99	61%
I-405	0	0	0%
SR-47	6	0	0%
I-5	2	0	0%
SR-57	103	51	50%
SR-60	7	7	100%
I-605	150	45	30%
SR-71	28	25	89%
I-710	54	37	69%
SR-90	74	44	59%
SR-91	7	5	71%
Cornell Wy (CN)	40	26	65%
Elizabeth Lake Rd (EL)	9	9	100%
Encinal Cyn Rd (EN)	42	18	43%
La Cienega Blvd (LC)	1	0	0%

Los Angeles County Call-Box Assessment Study

Lake Hughes Rd (LH)	1	0	0%
Mulholland Hwy (MU)	0	0	0%
Angeles Forest Hwy (N3)	4	4	100%
Kanan Dume Rd (N9)	5	0	0%
Park n' Ride (PR)	8	0	0%
San Francisquito Canyon Rd (SF)	9	0	0%
Stocker St (STK)	6	0	0%
Total	1,287	646	50%

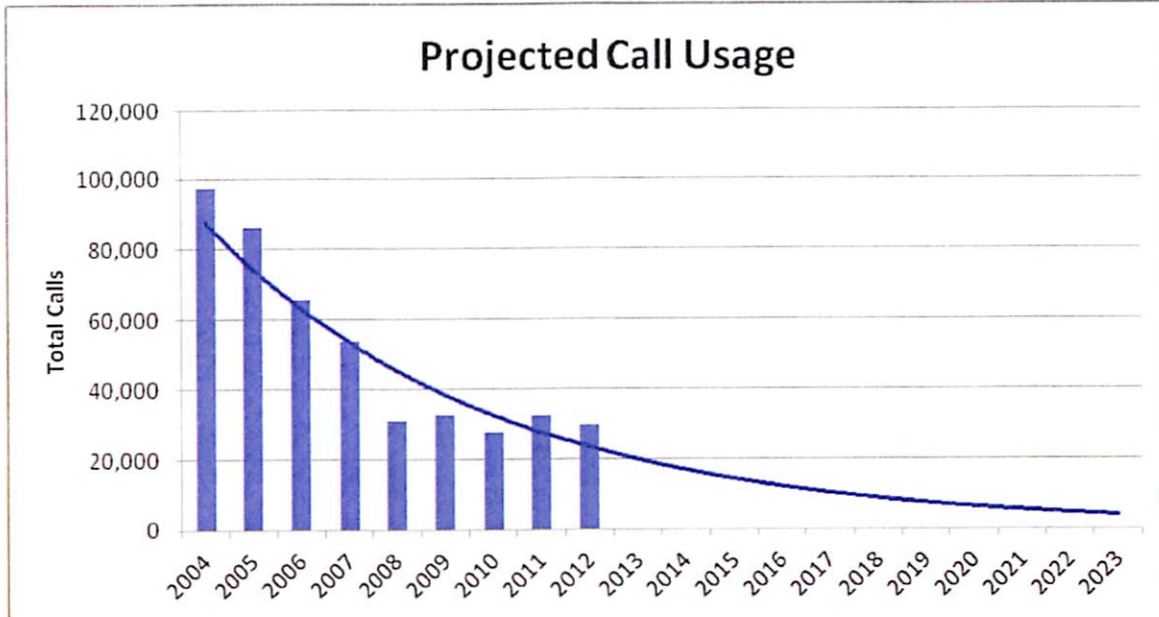
As shown in Table 3, the percentages of call boxes to be removed per individual corridor are all above ten percent, with the exception of SR-14. The final database of call boxes recommended for removal that were found and verified in the field is provided in Appendix A.

5.1 FUTURE ADDITIONAL PHASED REDUCTION

Moving forward, a phased approach is recommended to reevaluate the overall call box program and make necessary adjustments as conditions change over the next ten years. A total of 646 call boxes are recommended for removal now as part of Phase I, to be implemented as quickly as possible. As part of subsequent phases, Phase II, III, and IV, it is recommended that a similar evaluation and analysis be conducted every few years or more frequently as needed to determine if any of the 641 remaining sites meet the criteria described in Section 3 and considered no longer effective or useful. It is anticipated that continuous advancement in cellular telephone, in-vehicle communications, and incident management technology would eventually render all call boxes obsolete and no longer needed. The funds saved could be better utilized in support of the new technology alternatives in providing motorist aid rather than to continuously operate and maintain call boxes that are no longer useful.

With the continued increase in cell phone ownership and widespread usage it is expected that call box usage would continue to decline rapidly to insignificant numbers. At the current rate of decline, shown in Figure 8, it is projected that the system usage could dwindle to less than 10,000 yearly by 2016 and less than 2,000 yearly by 2023.

FIGURE 8: LOS ANGELES COUNTY PAST AND PROJECTED CALL BOX USAGE (2004 TO 2023)

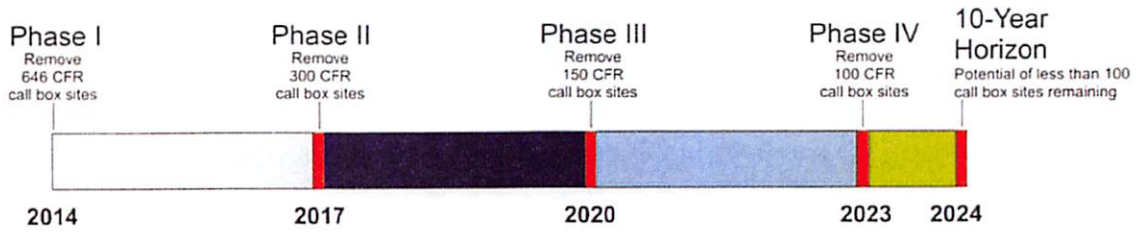


Based on the trend of total calls made per year over the last decade, the number of boxes that could fall in the candidate for removal (CFR) criteria in subsequent phases is projected. The total number of calls could drop 60% by 2017 from 2012, 75% by 2020, and 90% by 2024. Applying the same criteria described in Section 3.0 to the projected usage, the following are estimated:

- At 2016 – Approximately 300 boxes.
- At 2019 – Approximately 150 boxes.
- At 2022 – Approximately 100 boxes.

By the ten-year horizon of 2024, less than 100 call boxes could remain, if all of the additional projected CFR locations are removed. Again, the projections are based on the trend of the total calls made over the last decade. The projected calls over the next ten years, however, could actually be much lower as the cell phone, in-vehicle communications, and motorist aid technology is advancing very quickly. It is not too unreasonable to expect call boxes to be used for motorist-aid very little or none at all in the next few years, essentially rendering them completely obsolete.

Los Angeles County Call-Box Assessment Study



Currently, the operations and maintenance cost of the call box system is approximately \$400,000 annually, as according to recent LASAFE records. Implementation of Phase I could potentially reduce this cost by nearly 50 percent.

There are other call box programs in the nation that have eliminated all physical call boxes and replaced them with other services including information service, providing emergency phones (as shown on the right), and cellular call services. Where call boxes were initiated in the 1980's before the introduction of cellular phones or mobile phones, technology is advancing very quickly, particularly with the motorist aid services. We now have smart phones with motorist aid applications, the go511 Program, On Star vehicle call service, and other GPS motorist aid services, where these services are getting better and better each year. It is likely that there is a horizon in the near future for the physical call boxes where they will no longer be useful. However, as long as vehicles are driven, motorist aid will still be needed. The call box program could be replaced with other advanced services that are more useful or convenient, in line with the current technology, for motorists in the future. In the meantime, a phased evaluation process over the next several years is recommended to ensure that the call box system stays relevant, effective, and efficient.



5.2 NEXT STEPS

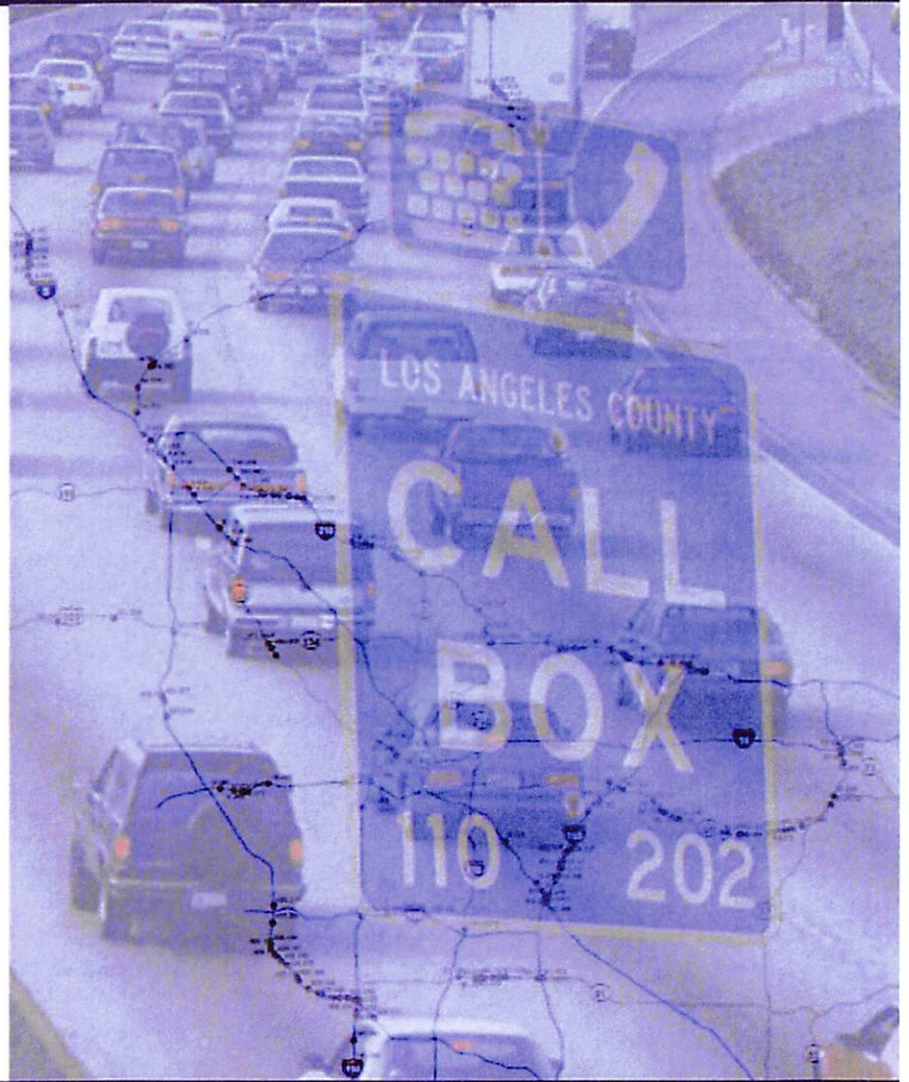
Based on the results of this study and the rapidly declining usage in recent years, the statewide guidelines may need to be reviewed to reassess regulations and/or legislature, policy and directives, program goals and objectives, and overall effectiveness of the call box program for motorist-aid. Modifications to the statewide guidelines may be necessary to adjust to the changes in conditions, usage, and technology that have taken place since the inception of the program. The modifications should take into account impact and program changes experienced by other regions in California.

With any removal of call boxes, the dollars saved from future operations and maintenance costs could be applied to other essential motorist aid-related services and should be addressed. In addition, the call box sites with removed call boxes also have the potential for other uses. The sites could still be utilized for signage for 511 call center or for other motorist aid uses. For example, technology application could be implemented at the sites, such as Bluetooth vehicle detection, to improve communication as well as collect and transfer data for motorist aid programs.



Call Box Assessment Study

APPENDIX



APPENDIX A: RECOMMENDATIONS FOR REMOVAL

Appendix A - Recommended for Removal

Route	Segment	Physical Location	Start Latitude	End Latitude	Revised Stop Type
10	10-024	EB RD TO LINCOLN BLVD, ACC 4TH ST			B
10	10-025	WB RD TO LINCOLN BLVD, ACC 20TH ST			B
10	10-066A	EB RD AND S LA CRENDA BLVD, ACC FROM NATIONAL BLVD	34.03653	-118.27688	B
10	10-021R	WB US101 AND E 1ST ST, ACC FROM BROADWAY	34.05002	-118.24512	B
10	101-0147A	WB US101 TO NB SR101 CON, ACC BROADWAY	34.05612	-118.24758	B
101	101-024	NB US101 TO NB GLENDALE BLVD, ACC 110 OR SR101	34.05617	-118.25692	B
101	101-025	SB US101 AND N BENTON WY, ACC SILVERLAKE BLVD	34.07983	-118.25607	B
101	101-095	SB US101 AND N BENTON WY, ACC SILVERLAKE BLVD	34.07983	-118.25607	B
101	101-114	EB RD TO LA BREA AV, ACC CRESHAM BLVD			B
101	101-119	WB RD AND ARLINGTON AV, ACC WESTERN AV			B
101	101-199	EB US101 TO WHITE OAK AV, ACC WHITE OAK AV			B
101	101-354	WB RD AND WEST COVINA PKWY, ACC 121 ST (E OF COVINA PARKWAY) (WB101 AND WEST COVINA PKWY)	34.0543	-117.22545	B
101	101-415	WB RD TO VIA VERDE, ACC KELLWOOD DR			B
10	10-4297B	WB RD TO SB 5857 CON, ACC FAIRBANK BLVD			B
105	105-022	EB RD TO INGLEWOOD AV			B
105	105-023T	WB RD TO NB 1605 CON, ACC IMPERIAL HWY			B
105	105-033TA	WB RD TO NB PARKWAY DR, ACC CRESHAM BLVD	33.9326	-118.34727	B
105	105-056	WB RD AND S VERMONT AV, ACC CRESHAM BLVD			B
105	105-067	WB RD AND S VERMONT AV, ACC CENTRAL AV			B
105	105-066TE	WB RD TO SB 110 CON, ACC CENTRAL AV			B
105	105-066T	EB RD TO SB 110 CON, ACC CRESHAM BLVD			B
105	105-066	EB RD AND S VERMONT AV, ACC CRESHAM BLVD			B
105	105-075	WB RD TO SB 110, ACC CENTRAL AV			B
105	105-094	EB RD TO NB 110, ACC VERMONT AV			B
105	105-098	EB RD TO WASHINGTON AV, ACC CENTRAL AV			B
105	105-099	WB RD TO WASHINGTON AV, ACC LONG BEACH BLVD			B
105	105-124TA	EB RD TO SB 1710 CON, ACC LONG BEACH BLVD			B
105	105-143TA	WB RD TO NB 1710 CON, ACC LAKELWOOD BLVD			B
105	105-144	EB RD TO GARFIELD AV, ACC SR 1710			B
105	105-164	EB RD AND BELFLOWER BLVD, ACC LAKELWOOD BLVD			B
105	105-165	WB RD AND BELFLOWER BLVD, ACC SR 1605			B
105	105-174T	EB RD TO SB 1605 CON, ACC BELFLOWER BLVD			B
110	110-054	WB RD AND W SEPULVEDA BLVD, ACC SEPULVEDA BLVD			B
110	110-055	SB RD AND W 223RD ST, ACC 223RD ST			B
110	110-058	NB RD AND W CARSON ST, ACC CARSON ST			B
110	110-078	NB RD AND W TORRANCE BLVD, ACC CARSON ST			B
110	110-079	SB RD AND W TORRANCE BLVD, ACC SR 1605			B
110	110-098	NB RD AND W 1581 ST, ACC 190TH ST			B
110	110-098T	WB SR891 TO NB 1110 CON, ACC 190TH ST			B
110	110-125	SB RD AND EL SEGUNDO BLVD, ACC EL SEGUNDO BLVD			B
110	110-128	NB RD AND W EL SEGUNDO BLVD, ACC EL SEGUNDO BLVD			B
110	110-132	NB RD AND EB RD, ACC EL SEGUNDO BLVD			B
110	110-132TC	NB RD TO EB RD CON, ACC EL SEGUNDO BLVD			B
110	110-136T	NB RD TO WB RD CON, ACC SR 43			B
110	110-143T	SB RD TO WB RD CON, ACC SR 43			B
110	110-143TA	SB RD TO WB RD CON, ACC SR 43			B
110	110-143TE	SB RD TO WB RD CON, ACC MANCHESTER AV			B
110	110-239T	SB SR120 TO SB US101 CON, ACC STADIUM WAY			B
110	110-004	EB SR118 TO LAGO VECO COUNTY LINE, ACC ROCKY PEAR RD			B
110	110-005	WB SR118 TO LAGO VECO COUNTY LINE, ACC TORRANCE CANYON BLVD			B
110	110-048	EB SR118 AT TAMPA AV, ACC SR 1070 AV			B
110	110-049	WB SR118 AT TAMPA AV, ACC REDDA BLVD			B
110	110-055	WB SR118 TO TAMPA AV, ACC REDDA BLVD			B
110	110-059	WB SR118 AT REDSEA BLVD, ACC BALBOA BLVD			B
110	110-084	EB SR118 TO BALBOA BLVD, ACC BALBOA BLVD			B
110	110-095	WB SR118 AND SB 1605, ACC SEPULVEDA BLVD			B
110	110-134	EB SR118 TO GLENDALE BLVD, ACC GLENDALE BLVD			B
110	110-135	EB SR118 AND G10, ACC GLENDALE BLVD			B
110	110-136	EB SR118 AND G10, ACC GLENDALE BLVD			B
110	110-138	EB SR118 TO EB 1210 CON, ACC GLENDALE BLVD			B
110	110-074	EB SR114 TO W OLIVE AV, ACC MOUNTWOOD WAY			B
110	110-078	EB SR114 AND N GLENDALE AV, ACC GRAND BLVD			B
110	110-128	EB SR114 AND ORANGE GROVE BLVD, ACC SAN RAFAEL AV			B
110	110-135	WB SR114 AND WB 1210, ACC FARM OAKS AV			B
110	110-284	NB SR114 AND PLACENTA CANYON RD, ACC PLACENTA CANYON RD			B
110	110-306T	NB SR114 ON SERRA HWY DR, ACC GOLDEN VALLEY			B
110	110-328	NB SR114 AND SAND CANYON RD, ACC 1/2 MI ACC VIA PRINCESSA			B
110	110-458	NB SR114 AND WARD RD, ACC WARD RD, ACC SR 43			B
110	110-544	NB SR114 AT ANGLES FOREST HWY, ACC SERRA HWY			B
110	110-545	SB SR114 AT ANGLES FOREST HWY, ACC AVENUE 5			B
110	110-569	SB SR114 AT VISTA POINT, ACC AVENUE 5, ACC SR 43			B
110	110-639	SB SR114 AND AVENUE N, 3/4 MI ACC AVENUE N			B
110	110-645	SB SR114 AND AVENUE N, 3/4 MI ACC AVENUE N			B
110	110-649	SB SR114 AND AVENUE N, 3/4 MI ACC AVENUE N			B
110	110-655	SB SR114 AND AVENUE L, ACC AVENUE L			B
110	110-658	NB SR114 AT AVENUE L, ACC AVENUE L			B
110	110-668	NB SR114 AT AVENUE K, ACC AVENUE K			B
110	110-699	SB SR114 AND SHERMAN WY, ACC ROSCOE BLVD			B
110	110-028	EB RD AND GLENDALE ST, ACC ROSCOE ST			B
110	110-029	WB RD AND GLENDALE ST, ACC ROSCOE ST			B
110	210-038	EB RD AND HUBBARD ST, ACC POIK ST	34.1112	-118.49317	B

Route	Segment	Physical Location	Site Latitude	Site Longitude	Revised Site Type
210	210-048	EB 1210 JEO MARAVIA ST, ACC HUSBAND ST	34.29533	-118.41993	A
210	210-169	WB 1210 JEO PENNSYLVANIA AV, ACC OCEAN VIEW BLVD	34.2225	-118.24607	A
210	210-195	WB 1210 JEO ANGELS CREST HWY, ACC ANGELS CREST HWY	34.2071	-118.21052	A
210	210-209	WB 1210 JEO GOLIAD AV, ACC BERSHIRE PL			A
210	210-198	EB 1210 JEO ANGELS CREST HWY, ACC SB ANGELS CREST HWY			A
210	210-254	EB 1210 JEO FARFAR AV, ACC ORANGE GROVE BLVD			A
210	210-367	WB 1210 JEO NB 1505, ACC IRVINGDALE AV			A
210	210-394	EB 1210 AT S AZUSA AV, ACC VERNON AV			A
2	2-168	NB 582 JEO VERDUGO RD, ACC EAGLE ROCK BLVD			A
2	2-186	NB 582 JEO COLONIA BLVD, ACC YORK BLVD			A
2	2-287A	NB 582 TO WB 1210 CON, ACC MOUNTAIN ST			A
405	405-108	NB 1405 JEO E CARSON ST, ACC CARSON ST	33.84817	-118.25778	A
405	405-1987C	NB 1405 TO EB 1105 CON, ACC 9th			A
405	405-236	NB 1405 TO WB 1105 CON, ACC 9th			A
405	405-2567B	NB 1405 TO WB 5890 CON, ACC LA TURBA BLVD			A
405	405-2237	SB 1405 ON W CENTURY BLVD OFF, ACC LA CENEGA BLVD			A
405	405-236	NB 1405 JEO S LA CENEGA BLVD, ACC MANCHESTER BLVD			A
47	47-003	SB 5847 TO NB 1110 CON			A
47	47-003T	SB 5847 ON SB N GARREY ST OFF, WB 5847 ON GARREY ST OFF			A
47	47-005	NB 5847 JEO SB 1110, ACC TERRAZZO BLVD			A
47	47-052	NB 58103 JEO W PACIFIC COAST HWY, ACC PACIFIC COAST HWY	33.79065	-118.2238	A
5	5-089	SB 15 JEO PARAMOUNT BLVD, ACC SALMON AV			A
5	5-1587A	NB 15 TO WB 110 CON, ACC CALZADA ST			A
5	5-399	SB 15 JEO SUNLAND BLVD, ACC PERKINS ST			A
5	5-4197C	SB 15 TO SB 1405 CON, SB 5 TRX LN TO SB 405			A
5	5-545	SB 15 JEO THE ROAD, ACC APPROX 1/2 MI, ACC THE OLD RD			A
5	5-669	SB 15 JEO HASLEY CANYON RD, ACC ESCAPE CANYON RD	34.45037	-118.61472	A
57	57-034	NB 5857 JEO PATRICK RD, ACC DIAMOND BAR BLVD			A
57	57-049T	SB 5857 TO WB 5890 CON, ACC SUMMIT CROSSING RD			A
57	57-055	SB 5857 JEO TEMPLE AV, ACC WB 110 ON VIA VERDE			A
57	57-082	NB 5857 JEO WB 110, ACC TEMPLE			A
60	60-007T	WB 5850 TO NB 1510 CON, ACC LORENA ST			A
60	60-0097A	WB 5850 TO NB 15 CON, ACC LORENA ST	34.02968	-118.21275	A
60	60-0327B	EB 5850 TO SB 1710 CON, ACC DOWNEY RD			A
60	60-0377A	WB 5850 TO NB 1710 CON, ACC ATLANTIC			A
60	60-0377B	WB 5850 TO SB 1710 CON, ACC ATLANTIC			A
60	60-079	WB 5850 JEO PARAMOUNT BLVD, ACC SAN GABRIEL BLVD			A
60	60-095	WB 5850 JEO ROSEBUD BLVD, ACC ROSEBUD BLVD	34.04157	-118.07967	A
60	60-1167B	EB 5850 TO NB 1405 CON, ACC PECK RD			A
60	60-253	WB 5850 JEO GARD AV, ACC ACC DIAMOND BAR BLVD			A
60	60-294	EB 5850 JEO 5871, ACC PHILIPS RANCH RD			A
60	60-295	WB 5850 JEO 5871, ACC RESERVOIR ST			A
605	605-066	NB 1405 AT EB 1105, ACC ALONDA BLVD			A
605	605-1747B	NB 1405 TO WB 5850 CON, ACC PECK RD			A
605	605-257	SB 1405 AT WB 1210, ACC HUNTINGTON DR			A
605	605-2597A	SB 1405 TO WB 1210 CON, ACC HUNTINGTON DR			A
71	71-013	SB 5871 AT W VALLEY BLVD, ACC SB 1210 OR EB 110	34.06273	-117.79198	A
710	710-153	SB 1710 JEO ROSEBUD AV, ACC 30th			A
710	710-157	SB 1710 JEO E IMPERIAL HWY, ACC 30th			A
710	710-255	SB 1710 JEO FLORAL DR, ACC 110	34.04612	-118.16852	A
710	710-326	WB 58710 JEO COLONIA BLVD, ACC DEL MAR BLVD			A
90	90-019	WB 5890 JEO S CENTINELA AV, ACC RENA SB 805 ON STATION AV			A
91	91-108	EB 5891 JEO N LONG BEACH BLVD, ACC SANTA FE AV			A
91	91-178	EB 5891 JEO MONTER BLVD, ACC STUDEBAKER RD			A
91	91-204	EB 5891 JEO CARPENTER RD, ACC SHOEBAKER AV			A
PR-004	PR-004	S GRANT AV AT EB 1105, PARK N RIDE			A
PR-006	PR-006	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-007	PR-007	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-008	PR-008	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-009	PR-009	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-010	PR-010	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-011	PR-011	STUDEBAKER RD SO WB 1105, STUDEBAKER PARK AND RIDE			A
PR-013	PR-013	5819 SO WB 1105, LAKEWOOD PARK & RIDE			A
PR-014	PR-014	LONG BEACH BLVD AND EB 1105, LONG BEACH BLVD PARK & RIDE			A
PR-015	PR-015	WILMINGTON AV SO WB 1105, WILMINGTON PARK AND RIDE			A
PR-016	PR-016	VALIANT BLVD AT EB 1105, PARK AND RIDE ON VALIANT			A
PR-017	PR-017	S VERMONT AV AND EB 1105, VERMONT PARK & RIDE			A
PR-018	PR-018	S VERMONT AV AND EB 1105, VERMONT PARK & RIDE			A
PR-019	PR-019	CRESNAP BLVD AT W 120TH ST, CRESNAP PARK & RIDE	33.92463	-118.32712	A
PR-021	PR-021	LONG BEACH BLVD AND WB 1105, PARK & RIDE LOT	33.9243	-118.3296	A
PR-022	PR-022	LONG BEACH BLVD AND WB 1105, PARK & RIDE LOT			A
PR-023	PR-023	S HAWTHORNE BLVD AND WB 1105, PARK & RIDE LOT			A
PR-024	PR-024	S HAWTHORNE BLVD AND WB 1105, PARK & RIDE LOT			A
PR-025	PR-025	S HAWTHORNE BLVD AND WB 1105, PARK & RIDE LOT			A
101R	101R	SB 1510 JEO E 4TH ST, ACC MISSION RD			D
101	101-068	NB 1510 JEO N OGDEN ST, ACC HOLLWOOD BLVD			D
101	101-108	EB 110 JEO S LA BREA AV, ACC WASHINGTON BLVD			D
101	101-244	WB 1510 AT WILKINSON AV, ACC TAMPA AV	34.1717	-118.57288	D
10	10-219	WB 110 TO NB 1710 CON, ACC FREEMONT AV	34.0649	-118.15833	D
10	10-239	WB 110 JEO N ATLANTIC BLVD, ACC ATLANTIC BLVD	34.07183	-118.14288	D
10	10-469	WB 110 JEO N SAN ANTONIO AV, ACC KIDMAN HILL BLVD	34.08037	-117.74583	D
105	105-041T	CRESNAP BLVD AND WB 1105, ACC CRESNAP BLVD			D

Route	Stop Number	Physical Location	Stop Latitude	Stop Longitude	Revised Stop Type
105	105-0661C	EB 1105 TO SB 1110 CON. **FSP 39** ACC CRESKAW			D
105	105-182	EB 1105 TO WOODBURY AV. **FSP 40**			D
105	105-183	WB 1105 AT SB 1055. **FSP 40** ACC IMPERIAL HWY			D
110	110-129	SB 1110 AND EL SEGUNDO BLVD. **FSP 43** ACC IMPERIAL HWY	33.923	-118.2853	D
110	110-175	SB 1110 TO W GAGE AV. **FSP 43** ACC GAGE AVE			D
134	134-0957A	SB 5814 TO NB 582 CON. **FSP 35** ACC FIGUEROA ST			D
210	210-228	WB 1210 TWO LINCOLN AV. ACC LINCOLN AV			D
210	210-229	WB 1210 TWO LINCOLN AV. ACC LINCOLN AV			D
210	210-246T	EB 1210 TO SB 5810 CON. ACC 5810 ST			D
210	210-215	WB 1210 TO BENSHEAR PL. ACC WINDSOR AV	34.19135	-118.18007	F
210	210-208	EB 1210 TO GORDON AV. ACC ANGELES CREST HWY			F
210	210-1927B	EB 1210 TO SB 5818 CON. ACC LA CRESCENTA AV			F
210	210-063T	WB 1210 TO WB 5818 CON. ACC OSBORNE ST			F
210	210-063	WB 1210 TO PAXTON ST. ACC OSBORNE ST	34.28658	-118.40477	F
210	210-0587A	EB 1210 TO WB 5818 CON. **FSP 37** ACC MACART ST	34.28907	-118.40922	F
170	170-169	SB 5817 TO VICTORY BLVD. **FSP 27** ACC VICTORY BLVD	34.18307	-118.39888	F
170	170-165	SB 5817 TO OXWARD ST. **FSP 27** ACC VICTORY BLVD	34.17673	-118.39418	F
170	170-159	SB 5817 TO BURBANK BLVD. **FSP 27** ACC OXWARD ST	34.17077	-118.38735	F
14	14-655	SB 5814 AND EB AVENUE H			F
14	14-658	SB 5814 AND AVENUE I, ACC AVENUE J			F
14	14-654	SB 5814 AND AVENUE J, ACC AVENUE I			F
14	14-675	SB 5814 AND 20TH ST W. ACC AVENUE J			F
14	14-674	SB 5814 AND AVENUE H, ACC AVENUE I			F
14	14-664	SB 5814 AND AVENUE K, 1/4 MI ACC AVENUE L			F
14	14-659	SB 5814 AND AVENUE L, ACC AVENUE K			F
14	14-654	SB 5814 AND AVENUE L, 1/4 MI ACC AVENUE M			F
14	14-614	SB 5814 AND MANCHO VISTA BLVD. ACC PALMDALE BLVD			F
14	14-3057B	SB 5814 ON SIERRA ORFANOP			F
1	1-353	EB 1107 MAIN ST. START OF SMT			F
134	134-133	WB 5814 AT ORFANOP GROVE BLVD. **FSP 11** ACC FAIR OAKS AV	34.14785	-118.15945	F
134	134-114	EB 5814 AND FIGUEROA ST. **FSP 35** ACC MAYBEE DR			F
134	134-0587	WB 5814 AND SAN FERNANDO RD. **FSP 22** ACC PACIFIC AV	34.1546	-118.3112	F
134	134-038	EB 5814 AND FOREST LAWN DR. **FSP 22** ACC BUENA VISTA ST			F
134	134-025	WB 5814 TO N HOLLWOOD WY. **FSP 22** ACC BOB HOPE DR			F
134	134-018	EB 5814 AND PASS AV. **FSP 22** ACC CALIFORNIA BLVD	34.15388	-118.34503	F
118	118-135	WB 5818 AND GLENDALE BLVD. **FSP 23** ACC WB 1210			F
118	118-1037C	WB 5818 TO SB 585 CON. **FSP 23** ACC LAUREL CANYON BLVD			F
118	118-094	EB 5818 AND NB 585 CON. **FSP 23** ACC HAVENHURST AV			F
110	110-239	SB 5810 AT W SUNSET BLVD. **FSP 01** ACC STADIUM WY	34.0835	-118.24805	F
110	110-1437B	SB 1110 TO EB 1105 CON. **FSP 43** ACC CENTURY BLVD	33.93058	-118.2814	F
110	110-096T	SB 1110 TO EB 5811 CON. **FSP 43** ACC 190TH ST			F
110	110-028	WB 1110 AND C ST. ACC C ST			F
105	105-0237B	WB 1105 TO SB 1055 CON. **FSP 39**			F
105	105-0127F	EB 1105 TO NB 1055 CON. **FSP 39**			F
105	105-0127A	EB 1105 TO SB 1055 CON. **FSP 39**			F
10	10-4227E	EB 110 TO SB 5857 CON. **FSP 18** ACC VIA VERDE			F
10	10-4227C	EB 110 TO SB 5857 CON. **FSP 18** ACC VIA VERDE AV			F
103	103-004	SB 5810 AND W PACIFIC COAST HWY. ACC ALHAMBRA ST			F
10	10-185	SB 1110 TO WB 110 CON. **FSP 4** ACC 4TH ST			F
10	10-182	EB 1110 TO NB 110 CON. **FSP 3** ACC ALHAMBRA ST	34.03067	-118.222	F
10	10-1427A	EB 110 TO SB 1110 CON. **FSP 3** ACC NORMANDE AV			F
101	101-379	EB 1011 AND W LINCOLN CANYON RD. ACC WESTLAKE BLVD			F
10	10-127	EB 110 ON S NORMANDE AV OR. **FSP 17** ACC ALHAMBRA AV			F
101	101-245	EB 1011 AND DE SOTO AV. **FSP 29** ACC CANOGA AV	34.17917	-118.58375	F
101	101-244	WB 1011 AND DE SOTO AV. **FSP 29** ACC WINKELBA AV	34.18338	-118.58943	F
101	101-225	EB 1011 AND TAMARA AV. **FSP 29** ACC WINKELBA AV			F
101R	101-003R	SB 1011 AND E 4TH ST. **FSP 02** ACC 4TH ST			F
10	10-057T	WB 110 TO SB 1055 CON. **FSP 17** ACC OVERLAND AV			F
405	405-697	SB 1055 TO WB 5818 CON. ACC SAN FERNANDO MISSION BLVD			E
405	405-208	WB 1055 AND EL SEGUNDO BLVD. **FSP 09** ACC EL SEGUNDO BLVD			E
105	105-033T	WB 1055 ON S HAWTHORNE BLVD OR. **FSP 39** ACC IMPERIAL HWY	33.8763	-118.15887	D
91	91-139	WB 5891 AND N PARAMOUNT BLVD. **FSP 13** ACC DOWNER AV			D
90	90-015	WB 5890 AND S CENTRAL AV. ACC CENTRAL AV			D
710	710-135T	SB 1710 TO EB 5891 CON. **FSP 10** ACC ALONDRA BLVD			D
710	710-133T	SB 1710 TO WB 5891 CON. **FSP 10** ACC ALONDRA BLVD			D
605	605-124	NB 1805 AND WASHINGTON BLVD. **FSP 27** ACC WASHINGTON BLVD	33.97788	-118.07825	D
605	605-102T	NB 1805 ON TELEGRAPH RD OR. **FSP 14** ACC FLORENCE AV			D
605	605-0977A	SB 1805 TO NB 1815 CON. **FSP 14** ACC TELEGRAPH RD			D
605	605-089	SB 1805 AT FLORENCE BLVD. **FSP 14** ACC FLORENCE			D
605	605-069	SB 1805 AND ROSECRANS AV. **FSP 14** ACC IMPERIAL HWY	33.90427	-118.10465	D
605	605-067	SB 1805 AND ROSECRANS AV. **FSP 14** ACC ROSECRANS AV			D
605	605-066T	NB 1805 TO WB 1105 CON			D
605	605-064T	NB 1805 AND ALONDRA BLVD. **FSP 14** ACC ALONDRA BLVD			D
60	60-037T	WB 5860 TO NB 1710 CON. **FSP 13** ACC ATLANTIC BLVD			D
57	57-024	NB 5857 AND PATTERSON RD. **FSP 21** ACC BRAMOND BAR BLVD			D
5	5-304	NB 5 AND SAN FERNANDO BLVD. **FSP 31** ACC BURBANK BLVD			D
5	5-195	SB 5 AND N MAIN ST. **FSP 04** ACC SB 58110 OR STADIUM WY			D
5	5-125	SB 5 AND S ATLANTIC BLVD. **FSP 04** ACC SB 1710			D
5	5-085	SB 5 AND ROSECRANS BLVD. **FSP 08** ACC PARAMOUNT BLVD			D
5	5-0687A	NB 5 TO NB 1805 CON. **FSP 16** ACC FLORENCE			D
405	405-294T	EB W MANCHESTER BLVD OR. TO NB 1805. **FSP 06** ACC CENTURY BLVD	34.11998	-117.15167	D
210	210-455	WB 1210 AND N SAN DIMAS AV. (WB 210 AND SAN DIMAS AV)			D
210	210-229	WB 1210 TWO LINCOLN AV. ACC LINCOLN AV			D
210	210-228	EB 1210 TWO LINCOLN AV. ACC ALHAMBRA ST			D
134	134-0957A	SB 5814 TO NB 582 CON. **FSP 35** ACC FIGUEROA ST			D
110	110-175	SB 1110 TO W GAGE AV. **FSP 43** ACC GAGE AVE			D
110	110-129	SB 1110 AND EL SEGUNDO BLVD. **FSP 43** ACC IMPERIAL HWY			D
2	2-1857A	NB 582 TO EB 5814 CON. **FSP 35** ACC YORK BLVD			F

Route	Stop Number	Physical Location	Stop Latitude	Stop Longitude	Revised Stop Type
57	57-109	EB 5857 AND W GARDSTONE ST, **FSP 38** ACC AUTO CENTRE DR	34.10888	-117.82302	L
60	60-008	EB 5850 AND EUCALIA AV, **FSP 03** ACC SANTA FE ST	34.1102	-118.25563	L
5	5-235	SB 5 AND 5TH ST, APPROX 1/3 MI ACC COXMAN	34.7699	-118.00272	C
105	105-112	EB 1105 AND LONG BEACH BLVD, **FSP 40** ACC WILMINGTON AV	33.92527	-118.21148	A
5	5-174	SB 5 AND CALGROVE BLVD	34.34728	-118.5333	A
57	57-115	SB 5857 AND AUTO CENTRE DR			L
10	10-369	WB 110 AND N AZUSA AV, **FSP 12** ACC CITRUS ST			A
110	110-015	SB 110 AND CHARREL ST, ACC C ST	33.75878	-118.29095	A
118	118-054	EB 58118 AND REDDA BLVD, **FSP 33** ACC TAMPA AV			A
14	14-469	SB 5814 AND WARD RD, ACC CROWN VALLEY RD **FSP BEAT 41**			A
14	14-655	SB 5814 AND AVERUE K, 1/4 MI ACC AVENUE K			A
170	170-168	WB 58170 AND VICTORY BLVD, **FSP 27** ACC OXNARD ST	34.1833	-118.39757	A
210	210-154	EB 1210 AND LOWELL AV, ACC LA TUNA CANYON RD			A
210	210-488	EB 210 AND N TOWNE AV			A
5	5-079	SB 5 AND LAKEWOOD BLVD, **FSP 16** ACC PARAMOUNT BLVD			A
57	57-015	SB 5857 AND GLEN CANYON RD, **FSP 21** ACC DIAMOND BAR BLVD			A
57	57-048	WB 5857 AND EB 5850, **FSP 21** ACC GRAND AV			A
60	60-105	WB 5850 AND SANTA ANITA AV, **FSP 13** ACC PECK RD			A
605	605-225	SB 1805 ON LOWER AZUSA RD DR, **FSP 27** ACC LIVE OAK AV	34.0952	-117.98768	A
91	91-089	WB 5891 AND S WILKINSON AV, **FSP 26** ACC ALCIA AV			A
91	91-109	WB 5891 AND N LONG BEACH BLVD, **FSP 21** ACC LONG BEACH BLVD			A
118	118-085	WB 58118 AND HANFORD ST, **FSP 33** ACC WOODLEY AV			A
210	210-089	WB 210 AND WHEATLAND AV, ACC WHEATLAND AV			D
210	210-235	WB 210 AT W WASHINGTON BLVD, ACC S ECD ST	34.17102	-118.15672	D
210	210-284	EB 1210 AND N SERRA MAR BLVD, **FSP 11** ACC ALLEN AV			D
60	60-037	WB 5850 AND N 171A, **FSP 13** ACC ATLANTIC BL			D
110	110-099	SB 110 AT EB 5891, **FSP 27** ACC REDWOOD BEACH			E
2	2-174	WB 5812 AND YORK BLVD, **FSP 35** ACC EMILE ROCK BLVD	34.1286	-118.22737	E
101	101-019	SB 101 AND EB 1315 ST, **FSP 02** ACC ALAMEDA ST	34.0493	-118.2216	F
101	101-194	WB 101 AT BALBOA BLVD, **FSP 07** ACC BALBOA BLVD			F
101	101-414	EB 110 AND KILBOGG DR, **FSP 18** ACC VIA VERDE	34.0682	-117.8254	F
134	134-059	WB 58134 AND SAN FERNANDO RD, **FSP 22** ACC PACIFIC RD			F
134	134-079	WB 58134 AND N GLENDALE AV, **FSP 15** ACC GLENDALE AV	34.15618	-118.24298	F
170	170-155	SB 58170 AND MAGNOLIA BLVD, **FSP 27** ACC BURSAR BLVD			F
210	210-294	EB 210 AND N ROSEMEAD BLVD, **FSP 11** ACC MADRE ST			F
210	210-375	WB 210 AND WINDDALE AV, **FSP 28** ACC WINDDALE AV			F
405	405-205	SB 405 AND EL SEGUNDO BLVD, **FSP 09** ACC DIPERAL HWY			F
5	5-198	WB 5 AND PASADENA AV, **FSP 04** ACC MAIN ST			F
5	5-344	WB 5 AND PENROSE ST, **FSP 34** ACC SUNLAND BLVD			F
605	605-034	WB 605 AND DEL AMO BLVD, **FSP 14** ACC DEL AMO BLVD			F
605	605-054	WB 605 AND ALONDRA BLVD, **FSP 14** ACC EB 5891 OR WB 5891			F
405	405-114	WB 405 AND AVALON BLVD, **FSP 19** ACC CARSON ST			F
405	405-198	WB 405 AND EL SEGUNDO BLVD, **FSP 09** ACC ROSECRANS AV			G
60	60-044	EB 5850 AND S ATLANTIC BLVD, **FSP 13** ACC N3 171D			G
118	118-137	WB 58118 AND EB 1315, **FSP 23** ACC EB 1210			K
14	14-544	WB 5814 AND AVERUE M, 1/4 MI ACC AVENUE N			L
210	210-009	WB 210 AND VARELL ST, ACC ROXFORD ST	34.2322	-118.47727	L
91	91-124	EB 5891 AND ATLANTIC AV, **FSP 26** ACC ATLANTIC AV	33.87658	-118.18318	L

APPENDIX B: REMAINING TYPE B/C SITES

Appendix B - Type B and C Locations to keep

Route	Segment	Physical Location	Site Latitude	Site Longitude	Revised Site Type
134-105	B	WB SR134 AT ARBON DELL PL. ** FSP 25 ** ACC FISHERA ST			B
134-119	B	WB SR134 AND N SAN RAFAEL AV. ** FSP 35 ** ACC SAN RAFAEL AV			B
134-119	B	WB SR134 AND ESCONDIDO CANYON RD. ** FSP 41 ** ACC ESCONDIDO CANYON RD			B
14-519	B	SB SR14 AND SANTARDO RD. 1 MI ACC PEARLOSSOM HWY ** FSP 41 **			B
14-525	B	SB SR14 AND SANTARDO RD. 1 1/2 MI ACC PEARLOSSOM HWY ** FSP 41 **			B
210-139	B	WB SR10 AND LA TURNA CANYON RD. ACC LA TURNA CANYON RD			B
210-425	B	WB SR10 AND N GRAND AV. ** FSP 23 ** ACC SUNFLOWER AV			B
210-428	B	WB SR10 AND S SUNFLOWER AV. ** FSP 28 ** ACC GRAND AV			B
210-485	B	WB SR10 AND N TOWNE AV. (1/2 MI) WB SR10 AND TOWNE AV)			B
605-144	B	WB SR05 AND BEVELLY BLVD. ** FSP 27 ** ACC WHITTIER BLVD			B
101-085	B	SB US01 AT HIGHLAND AV. ** FSP 37 ** ACC BARHAM BLVD			B
105-042	B	SB SR10 AND N CRESHANAW BLVD. ** FSP 39 ** ACC CRESHANAW BLVD ONR			B
110-088	B	WB SR10 AND NB W05. ** FSP 43 ** ACC TORRANCE BLVD			B
14-268	B	WB SR14 AND SAN FERNANDO RD. ** FSP 24 ** ACC NB 15			B
14-458	B	WB SR14 AND WARD RD. 3/4 MI ACC ESCONDIDO CANYON RD. ** FSP 41 **			B
14-548	B	WB SR14 AND ANGELES FOREST HWY. ** FSP 41 ** ACC PEARLOSSOM HWY			B
210-014	C	WB SR10 AND GLENDALES BLVD. ACC VANDERBILT ST			C
210-034	C	WB SR10 AND POLK ST. ACC RICHMOND ST			C
210-104	C	WB SR10 AND WHEATLAND AV. ACC WHEATLAND AV			C
405-039	C	WB SR05 AND N LAUREWOOD BLVD. ** FSP 19 ** ACC SPRING ST			C
91-065	C	WB SR91 AND S MAIN ST. ** FSP 26 ** ACC MAIN ST	33.8731	-118.29833	C
1-302	C	WB SR1 AND CENTRAL CANYON RD. 4/10 MI			C
1-592	C	WB SR1 AND ENOCAL CANYON RD. 4/10 MI			C
1-596	C	PACIFIC COAST HWY AND ENOCAL CANYON RD. 1/10 MI			C
18-019	B	WB SR18 AND 260TH ST E. APPROX 4/10 MI			B
18-029	B	WB SR18 AND SR18. SR18 AND 23RD ST E ** APPROX 1/10 MI **			B
18-043	B	WB SR18 AND SR18. APPROX 3/10 MI			B
23-066	B	DECKER RD AT MURTHOLAND HWY			B
2-787	C	WB SR2 AND CHINA. APPROX 1/2 MI NB M M 78.64			C
5-619	B	SB SR5 AND LAKE HUGHES RD. APPROX 2 1/3 MI ACC TEMPLIN HWY			B
5-629	B	SB SR5 AND CHP RD. APPROX 1 MI ACC TEMPLIN HWY			B
5-654	B	WB SR5 AND TEMPLIN HWY. APPROX 1/2 MI ACC LAKE HUGHES RD			B
5-674	B	WB SR5 AND TEMPLIN HWY. APPROX 1 2/5 MI ACC TEMPLIN HWY			B
5-719	B	SB SR5 AND CHESTER CANYON. APPROX 5 1/2 MI ACC VISTA DEL LAJO RD			B
5-724	B	WB SR5 AND VISTA DEL LAJO RD. ACC TEMPLIN HWY			B
5-728	B	WB SR5 AND VISTA DEL LAJO RD. ACC TEMPLIN HWY			B
5-829	B	SB SR5 AND SR18. APPROX 2 3/4 MI ACC GORDMAN			B
5-835	B	SB SR5 AND SR18. APPROX 1 1/4 MI ACC GORDMAN			B
WB SR05	B	WB SR05 AND MT EMMA RD. 3.5 MILES EAST MT EMMA			B
WB SR05	B	WB SR05 AND MT EMMA RD. 2.0 MILES EAST MT EMMA			B
WB SR05	B	WB SR05 AND ALISO CANYON RD. 0.7 MILES EAST ALISO CYN			B
1-575	C	WB SR1 AND LUNTA RD			C
23-004	C	WB SR23 AND 5223			C
23-039	C	DECKER RD AND PACIFIC COAST HWY			C
23-048	C	DECKER RD AND MURTHOLAND HWY			C
23-087	C	DECKER RD AND PACIFIC COAST HWY. 1 MILE EAST CARLISLE			C
2-747	C	ANGELES CRST HWY NB M M 74.54. TWO VINCENT GULCH OVER RD APPROX 2/10 MI			C
5-659	C	SB SR5 AT TEMPLIN HWY. ACC TEMPLIN HWY			C
5-795	C	SB SR5 AND SMOKEY BEAR RD. APPROX 1 1/10 MI ACC WB SR18			C
5-799	C	SB SR5 AND SR18. APPROX 1 1/3 MI ACC WB SR18			C
5-809	C	SB SR5 AND SR18. APPROX 1 1/4 MI ACC QUAIL LAKE RD OR WB SR18			C
105-095	B	WB SR105 AND WASHINGTON AV. ** FSP 40 ** ACC WASHINGTON AV			B
105-108	B	WB SR105 AND LONG BEACH BLVD. ** FSP 40 ** ACC WASHINGTON AV			B
110-135	B	WB SR110 AND EB RD. ** FSP 43 ** ACC IMPERIAL HWY			B
14-369	B	WB SR14 AND GOLDEN VALLEY RD. ** FSP 44 ** ACC VIA PERKESIA			B
14-378	B	WB SR14 AND SPRING CANYON RD. ** FSP 44 ** 1/3 MI ACC AGUA DEL CANYON RD			B
14-529	B	WB SR14 AND ANGELES FOREST HWY. ** FSP 41 ** ACC AVENUE S			B
1-582	B	PACIFIC COAST HWY AND BROAD BEACH RD. 1/2 MI			B
210-00578	B	WB SR210 AND 58 IS CON. ACC VANDERBILT ST			B
2-272	B	ANGELES CRST HWY AND BAY TREE RD. M M 27.20			B
5-269	B	SB SR5 AND GRIFFIN PARK DR. ** FSP 31 ** ACC COLORADO ST			B
5-4167	B	WB SR05 AND 18 IS CON. ** FSP 34 ** ACC RIVADIST			B
5-664	B	WB SR5 AND WILDON CANYON RD. APPROX 1/2 MI ACC NB SR14			B
5-698	B	WB SR5 AND TEMPLIN HWY. APPROX 3/4 MI ACC TEMPLIN HWY			B
5-694	B	WB SR5 AND TEMPLIN HWY. APPROX 2 1/3 MI ACC TEMPLIN HWY			B
5-718	B	WB SR5 AND CHESTER CANYON. APPROX 5 1/2 MI ACC TEMPLIN HWY			B
5-725	B	WB SR5 AND VISTA DEL LAJO RD. ACC VISTA DEL LAJO RD			B
5-744	B	WB SR5 AT VISTA DEL LAJO RD. ACC TEMPLIN HWY			B
605-248	B	WB SR05 AND ARROW HWY. ** FSP 37 ** ACC ARROW HWY			B
101-094	B	WB US01 AT HIGHLAND AV. ** FSP 37 ** ACC VINE ST			B
118-1187	C	WB SR118 AND 5811A CON. ** FSP 44 ** ACC OSSORNE ST			C
14-474	C	WB SR14 AND CROWN VALLEY RD. 1 MI ACC WARD RD. ** FSP 41 **			C
210-015	C	WB SR210 AND GLENDALES BLVD. ACC RICHMOND ST			C
210-035	C	WB SR210 AND POLK ST. ACC HUBBARD ST			C
210-055	C	WB SR210 AND SR18. ** FSP 33 ** ACC PAXTON ST			C
210-159	C	WB SR210 AND LOWELL AV. AT CITY LIMITS ACC PENNSYLVANIA AV			C
405-104	C	WB SR05 AND E CARSON ST. ** FSP 19 ** ACC WASHINGTON AV			C
5-608	C	WB SR5 AND LAKE HUGHES RD. APPROX 1 1/3 MI ACC LAKE HUGHES RD			C
5-675	C	WB SR5 AND HUNGRY VALLEY RD			C
5-775	C	WB SR5 AND SMOKEY BEAR RD. APPROX 1 1/2 MI ACC SMOKEY BEAR RD			C

Route	Sign Number	Physical Location	Site Latitude	Site Longitude	Revised Site Type
5	5-798	NB IS ISO SR138, APPROX 1 1/3 MI ACC HUNGRY VALLEY RD			C
605	605-289	SB 1605 ISO VALLEY BLVD, ** F3737 ** ACC VALLEY BLVD			C
605	605-249	SB 1605 ISO EB I210, ** F3737 ** ACC EB I210 OR WB I210			C
710	710-084	NB I710 I RD W Willow St			C

**APPENDIX C: REMAINING NON
TYPE B/C SITES**

Appendix C - Non Type B and C Locations to keep

Route	Segment	Physical Location	Site Latitude	Site Longitude	Revised Site Type
101	101-274	WB US101 AT VALLEY CIRCLE BLVD, ACC WOODLAKE AV			A
101	101-325	WB US101 RD AGOURA RD, ACC LIBERTY CANYON RD			A
101	101-374	WB I10 RD N CTRYS ST, ACC AZUSA AV			A
118	118-098	WB SR18 AT NB I40S, ACC HAVENHURST AV			A
134	134-009	WB SR134 RD E CAMPENGA BLVD, ACC PAKS AV			A
210	210-109	WB I210 AND SUNLAND BLVD, ACC SUNLAND BLVD			A
210	210-115	WB I210 AT SUNLAND BLVD, ACC LA TUNA CANYON RD			A
210	210-239	WB I210 AND MOUNTAIN ST, ACC SICO ST			A
210	210-309	WB I210 AT MOUNTAIN ST, ACC SANTA ANITA AV			A
2	2-199	WB SR2 AT MOUNTAIN ST, ACC VERDUGO BLVD			A
5	5-128	WB I5 AT ATLANTIC BLVD, ACC ATLANTIC BLVD			A
5	5-128	WB SR5 AT ATLANTIC BLVD, ACC ATLANTIC BLVD			A
5	5-128	WB SR5 AT ATLANTIC BLVD, ACC ATLANTIC BLVD			A
60	60-124	WB SR60 AT NB I40S, ACC PECK RD OR NB I60S			A
60	60-278	WB SR60 AND PHILLIPS RANCH RD, ACC PHILLIPS RANCH RD			A
605	605-122	WB SR65 AND WASHINGTON BLVD, ACC TELEGRAPH RD			A
91	91-108	WB SR91 RD NOKWALIK BLVD, ACC MONTEREY BLVD			A
101	101-265	WB US101 AND VENTURA BLVD			A
110	110-119	WB I110 AND W ROSECRANS AV, ACC EL SEGUNDO BLVD			D
210	210-459	WB I210 AND FOOTHILL BLVD, ACC FOOTHILL BLVD			D
405	405-009	WB I405 AND PALM VENUE AV, ACC WOODBRUFF AV			D
405	405-149	WB I405 AND WESTERN AV, ACC CRENSHAW BLVD			D
405	405-163	WB I405 AND ARTESA BLVD, ACC HAWTHORNE BLVD			D
5	5-174	WB I5 AND E 4TH ST, ACC CALZADA ST			D
605	605-064	WB I605 AND ALONDRA BLVD, ACC ALONDRA BLVD			D
91	91-114	WB SR91 TO SB I710 ORN, ACC LONG BEACH BLVD			D
91	91-164	WB SR91 AND SB I60S, ACC BELFLOWER BLVD			D
110	110-064	WB I110 AND NB I40S, ACC I110 ST			E
101	101-038	WB US101 AND SILVERLAKE BLVD, ACC SILVERLAKE BLVD			F
101	101-048	WB US101 AND MERRILL AV, ACC VERMONT AV			F
101	101-075	WB US101 AT WINE ST, ACC HIGHLAND AV			F
101	101-205	WB US101 AND WHITE OAK AV			F
101	101-215	WB US101 AND REBEKA BLVD, ACC VAN ALDEN AV			F
110	110-034	WB I110 AND W ANAHEIM ST, ACC C ST			F
110	110-244	WB SR110 AND STADIUM WY, ACC SUNSET BLVD			F
14	14-678	WB SR14 AND AVENUE LACC AVENUE K			F
5	5-499	WB I5 AND PICO CANYON RD, ACC I40S AV			F
60	60-195	WB SR60 AND NB FULLERTON RD			F
71	71-009	WB SR71 AND VALLEY BLVD, ACC SB I210 OR NB I10			F
710	710-294	WB I710 AND OLYMPIK BLVD, ACC WASHINGTON BLVD			F
91	91-067	WB SR91 AND 3 MAIN ST, ACC WALTON BLVD			F
91	91-144	WB SR91 AT LAUREWOOD BLVD, ACC DOWNNEY AV			F
110	110-095	WB I110 AND EB SR91, ACC REDONDO BEACH BLVD			F
405	405-174	WB I405 AT HAWTHORNE BLVD, ACC REDONDO BEACH BLVD			G
405	405-185	WB I405 AND ROSECRANS AV, ACC ROSECRANS AV			G
710	710-159	WB I710 AND ROSECRANS AV, ACC MILK			G
110P	110P-195	WB I110 AND W 29TH ST, ACC RT 1			K
5	5-529	WB I5 AND VALENCIA BLVD, ACC I40S			L
126	126-002	WB I26 AND ORANGE BLVD, ACC MAGIC MOUNTAIN PIWAY			L
138	138-562	WB I38 AND 96TH ST			A
138	138-642	WB I38 AND 165TH ST E, ACC I38			A
138	138-653	WB I38 AND 175TH ST E, ACC I38			A
138	138-662	WB I38 AND AVENUE W, ACC I38			A
138	138-689	WB I38 AND 217TH ST E, ACC I38			A
138	138-702	WB I38 AND 217TH ST E, ACC I38			A
138	138-713	WB I38 AND 217TH ST E, ACC I38			A
1	1-497	WB I1 AND CENT, ACC I1			A
2	2-077	WB I2 AND WESTLAKE BLVD, ACC I2			A
2	2-698	WB I2 AND DAMON SAVIDE, ACC I2			A
2	2-713	WB I2 AND AMERSON BLVD, ACC I2			A
27	27-033	WB I27 AND ENTRADA BLVD, ACC I27			A
5	5-609	WB I5 AND LAKE HUGHES RD, ACC I5			A
5	5-625	WB I5 AND LAKE HUGHES RD, ACC I5			A
BL	BL-146	WB I5 AND SAN FRANCISCO CANYON RD, ACC I5			A
LH	LH-177	WB I5 AND TAYLOR CANYON RTWY			A
LH	LH-189	WB I5 AND TAYLOR CANYON RTWY			A
10	10-0517B	WB I10 AND S ROBERTSON BLVD, ACC I10			A
10	10-065	WB I10 AND S ROBERTSON BLVD, ACC I10			A
10	10-104	WB I10 AND S VA BREA AV OFR, ACC WASHINGTON BLVD			A

Route	Stop Number	Physical Location	Stop Latitude	Stop Longitude	Revised Stop Type
101	101-508	WB US101 IED LAS VAREZAS RD, ACC PARWAY CALABASAS			F
101	101-519	WB US101 IED LOST HILLS RD, ACC LIBERTY CANYON RD			F
101	101-524	WB US101 IED LIBERTY CANYON RD, ACC LOST HILLS RD			F
10	10-156A	S VERMONT AV ONR TO EB ILLA, FSP 3 ACC FROM VERMONT AV			F
10	10-143T	WB I10 IED S HOOPER ST, ACC LOS ANGELES ST WB I10 IED HOOPER COLLECTOR			F
105	105-494	WB I105 AT CRYSTALWAVE BLVD, FSP 39 ACC VERMONT AV			F
105	105-120T	EB I105 TO SB I710 CON, FSP 49 ACC LONG BEACH BLVD			F
105	105-134	EB I105 IED NB I710, FSP 49 ACC LONG BEACH BLVD			F
105	105-135	WB I105 IED NB I710, FSP 49 ACC GARFIELD AV			F
105	105-174T	EB I105 TO NB I505 CON, FSP 49 ACC BELTFLOWER BLVD			F
110	110-094	NB I110 IED EB I591, FSP 49 ACC RECONDO BEACH BLVD			F
110	110-097	SB I110 IED EB I591, FSP 49 ACC RECONDO BEACH BLVD			F
110	110-136	NB I110 IED EL SEGUNDO BLVD, FSP 49 ACC EL SEGUNDO BLVD			F
110	110-137	SB I110 AT EB I105, FSP 49			F
110	110-195	SB I110 IED MARTIN LUTHER KING JR BLVD, FSP 49 ACC 37TH ST			F
118	118-138T	WB S118 IED NB I5, FSP 33 ACC SAN FERNANDO RD			F
118	118-103T	WB S118 IED SB I5 CON, FSP 33 ACC LAUREL CANYON BLVD			F
118	118-198T	WB S118 IED NB I5, FSP 33 ACC SAN FERNANDO RD			F
124	124-056	EB S124 IED NB I5 CON, FSP 22 ACC FOREST LAWN DR			F
124	124-056T	WB S124 IED NB I5 CON, FSP 22 ACC FOREST LAWN DR			F
134	134-098	EB S134 IED SB I5 I5, FSP 35 ACC HARVEY DR			F
134	134-104	EB S134 IED SB I5 I5, FSP 35 ACC HARVEY DR			F
134	134-118	EB S134 IED FIGUEROA ST, FSP 35 ACC FIGUEROA ST			F
14	14-269	SB S14 IED SAN FERNANDO RD, FSP 24 ACC SAN FERNANDO RD			F
14	14-274	NB S14 IED SAN FERNANDO RD, FSP 24 ACC SAN FERNANDO RD			F
14	14-307T	SEVENA HWY ONR TO SB S14, FSP 24			F
14	14-308	NB S14 IED VIA PRINCESSA, FSP 24 ACC GOLDEN VALLEY RD			F
14	14-318	NB S14 IED VIA PRINCESSA, FSP 24 AT SANTA CLARA RIVER			F
14	14-334	NB S14 AT SAND CANYON RD, FSP 24 ACC VIA PRINCESSA			F
14	14-338	NB S14 IED SAND CANYON RD, FSP 24 ACC SAND CANYON RD			F
14	14-368	NB S14 IED SPRING CANYON RD, FSP 24 ACC 50 LEONARD CANYON RD, TEMPORARY			F
14	14-375	SB S14 IED SPRING CANYON RD, FSP 24 ACC AGUA DULCE CANYON RIBO ZOO			F
14	14-404	SB S14 IED AGUA DULCE CANYON RD, FSP 41			F
14	14-405	SB S14 IED ESCONDIDO CANYON RD, FSP 41			F
14	14-408	NB S14 IED AGUA DULCE CANYON RD, NB I4 IED AGUA DULCE			F
14	14-409	SB S14 IED AGUA DULCE CANYON RD, FSP 41			F
14	14-414	NB S14 IED AGUA DULCE CANYON RD, 1/3 MI ACC AGUA DULCE CANYON RD			F
14	14-424	NB S14 IED ESCONDIDO CANYON RD, 1/3 MI ACC ESCONDIDO CANYON RD			F
14	14-448	NB S14 IED ESCONDIDO CANYON RD, 1/2 MI ACC ESCONDIDO CANYON RD			F
14	14-455	SB S14 IED WARD RD, ACC WARD RD			F
14	14-459	SB S14 IED WARD RD, 3/4 MI ACC WARD RD			F
14	14-465	SB S14 IED WARD RD, FSP 41			F
14	14-475	SB S14 IED CROWN VALLEY RD, 1/4 MI ACC CROWN VALLEY RD			F
14	14-518	NB S14 IED SANITADO RD, FSP 41			F
14	14-524	NB S14 IED ANGEL'S FOREST HWY, FSP 41			F
14	14-554	NB S14 IED ANGEL'S FOREST HWY, FSP 41			F
14	14-558	NB S14 IED ANGEL'S FOREST HWY, FSP 41			F
14	14-565	SB S14 IED AVENUE 5, 1/2 MI ACC AVENUE 5			F
14	14-609	SB S14 IED RANCHO VISTA BLVD, 1/2 MI ACC AVENUE 5			F
14	14-679	SB S14 IED AVENUE 1, ACC AVENUE 1			F
14	14-689	SB S14 IED AVENUE 1, ACC AVENUE H			F
1	1-605	PACIFIC COAST HWY IED DECKER RD, 6/10 MI			F
210	210-004	EB I210 IED I5, ACC I5			F
210	210-005T	WB I210 TO SB I5 CON, ACC VAREZAS ST			F
210	210-105	WB I210 IED WHEATLAND AV, ACC SUNLAND BLVD			F
210	210-128	EB I210 IED LA TURIA CANYON RD, ACC SUNLAND BLVD			F
210	210-134	EB I210 IED LA TURIA CANYON RD, ACC SUNLAND BLVD			F
210	210-135	WB I210 IED LA TURIA CANYON RD, ACC LA TURIA CANYON RD			F
210	210-138	EB I210 IED LA TURIA CANYON RD, ACC SUNLAND BLVD			F
210	210-164	EB I210 IED PENNSYLVANIA AV, ACC LOWELL AV			F
210	210-259	WB I210 IED NB I49E AV, FSP 11 ACC LAURE AV			F
210	210-304	EB I210 IED NB I49E AV, FSP 11 ACC MICHIGAN AV			F
210	210-335	WB I210 IED S MARBLE AV, FSP 28 ACC MARBLE AV			F
210	210-357B	WB I210 TO SB I5 CON, FSP 28 ACC BURNHALL AV			F
210	210-438	EB I210 IED S SUNFLOWER AV, FSP 28 ACC GRAND AV			F
2	2-224	NB S12 IED VERDUGO BLVD, FSP 25 ACC MOUNTAIN ST			F
2	2-225	SB S12 IED VERDUGO BLVD, FSP 25 ACC VERDUGO BLVD			F
27	27-034	SB S12 IED S1, APPROX 3 1/2 MI			F
405	405-014	NB I405 IED PALO VERDE AV, FSP 19 ACC PALO VERDE AV			F
405	405-038	NB I405 IED NB I49E BLVD, FSP 19 ACC LAKEWOOD BLVD			F
405	405-065	SB I405 IED NB I49E BLVD, FSP 19 ACC LONG BEACH BLVD			F
405	405-127	SB I405 IED NB I110, FSP 19 ACC NORMANDE AV			F
405	405-198TB	NB I405 IED EB I105 CON, FSP 9			F
405	405-213	SB I405 IED EB I105, FSP 9			F
405	405-217T	SB I405 IED EB I105 CON, FSP 9 ON COLLECTOR RD			F
405	405-222T	NB I405 IED W CENTURY BLVD, FSP 9			F
405	405-232T	NB I405 IED W MANCHESTER BLVD ONR, FSP 9			F
405	405-255	SB I405 AT SERRA BLVD, FSP 9 ACC IFFERSON BLVD			F
405	405-256TA	NB I405 TO WB S190 CON, FSP 9 ACC LA TURIA BLVD			F

Route	Sign Number	Physical Location	Site Latitude	Site Longitude	Revised Site Type
405	405-105	SB R50 RD E CARSON ST, **FSP 19** ACC CARSON ST			G
405	405-128	SB R50 RD E CARSON ST, **FSP 19** ACC AVILAON BLVD			G
405	405-194	SB R50 RD W INGLEWOOD AV, **FSP 09** ACC MAMWORTH BLVD			G
405	405-194	SB R50 RD W ROSECRANS AV, **FSP 09** ACC ROSECRANS AV			G
405	405-214	SB R50 RD W INGLEWOOD HWY, **FSP 6**			G
405	405-215	SB R50 RD W INGLEWOOD HWY, **FSP 6**			G
405	405-228	SB R50 RD W INGLEWOOD HWY, **FSP 06**			G
405	405-232	SB R50 RD W MANCHESTER BLVD, **FSP 06** ACC CENTURY BLVD			G
405	405-233	SB R50 RD W MANCHESTER BLVD, **FSP 06** ACC LA CIEGA BLVD			G
5	5-265	SB R50 WESTERN AV			G
5	5-298	SB R50 RD DANFORD BAR BLVD, **FSP 21** ACC DANFORD BAR BLVD			G
5	5-419	SB R50 RD DANFORD BAR BLVD, **FSP 21** ACC DANFORD BAR BLVD			G
605	605-145	SB R50 RD BEVERLY BLVD, **FSP 27** ACC BEVERLY BLVD			G
710	710-266	SB R710 RD W B HLD, **FSP 23** ACC FLOREN BL			G
710	710-267	SB R710 RD W B HLD, **FSP 23** ACC VALLEY BLVD			G
91	91-174	SB 9101 AT STUDERMAN RD, **FSP 13** ACC BELLFLOWER BLVD			G
MIU	MIU-155	ACQUICENTIA HWY AT SEMINOLE DR			G
SF	SF-007	SAN FRANCISCO CANYON RD AT LERNA OVERSE FIRE RD			G
110	110-204	SB R110 AT IFFERSON BLVD, **FSP 01** ACC EXPOSITION BLVD	34.02472	-118.27492	K
110P	110P-183	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-184	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-185	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-186	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-187	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-188	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-189	SB R110 RD W SAUJON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-192	SB R110 AT W VERMON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-193	SB R110 AT W VERMON AV, **FSP 43** NB R110 ON CARPOOL OVERPASS			K
110P	110P-194	SB R110 AT MARTIN LUTHER KING JR BLVD, **FSP 43** NB R110 ON CARPOOL O/PASS			K
210	210-075	WB R210 RD TERIA BELLA ST, ACC OSORNE ST			K
210	210-315	WB R210 RD N BALDWIN AV, **FSP 11** ACC SANTA ANITA AV			K
60	60-194	SB R60 RD E FULLERTON RD, **FSP 20** ACC ALZADA AV			K
101	101-178	WB R101 RD W HASKELL AV, **FSP 07** ACC HASKELL AV			L
101	101-239	SB R101 RD DE SOTO AV, **FSP 29** ACC DE SOTO AV			L
101	101-279	SB R101 RD W VALLEY CIRCLE BLVD, **FSP 29** ACC PARKWAY CALABASAS			L
101	101-309	SB R101 RD LAS VIRGENES RD, **FSP 29** ACC SB LAS VIRGENES RD			L
210	210-059	WB R210 RD PAKTON ST, ACC OSORNE ST			L
1	1-178	SRL AT WINTER MEAN RD, 2/10 RD			L
5	5-528	SB R50 MAGIC MOUNTAIN PKWY, **FSP 42** APPROX 1/3 MI ACC VALENCA BLVD			L
5	5-585	SB R50 PARKER RD, **ESCAPE AREA** **FSP 42** APPROX 3/4 MI ACC PARKER RD			L
5	5-624	SB R50 RD 51238, APPROX 1/3 MI ACC QUAIL LAKE RD			L
210	210-379	WB R210 RD DUNDAS AV, **FSP 28** ACC VERNON AV	34.13035	-117.93233	M
1	1-616	SRL RD MOUNTAINLAND HWY			X
NI-049	NI-049	ANGELES FOREST HWY AT MT EMMA RD			X