ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
Upgrade Changeable Message Signs LA&Ventura Counties(07-35030)

Resolution SHOPP-P-2223-01B
(will be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☒ State Highway Operation and Protection Program
- ☐ Trade Corridor Enhancement Program

2. PARTIES AND DATE

2.1 This Project Baseline Agreement (Agreement) for the *Upgrade Changeable Message Signs LA&Ventura Counties(07-35030)*, effective on, August 17, 2022 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the "Parties".

3. RECITAL

3.2 Whereas at its March 17, 2022 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *Upgrade Changeable Message Signs LA&Ventura Counties(07-35030)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.

3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.

4.2 To adhere, as applicable, to the provisions of the Commission:

- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Active Transportation Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Local Partnership Program", dated
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
- ☒ Resolution G-22-29, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated March 17, 2022
- ☐ Resolution *Insert Number*, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.

4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.

4.5 The Caltrans agrees to secure funds for any additional costs of the project.

4.6 The Caltrans agrees to report to Caltrans on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.

4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.

4.8 The Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Other Project Specific Provisions and Conditions

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Upgrade Changeable Message Signs LA&Ventura Counties (07-35030)

Resolution SHOPP-P-2223-01B

Dariusz Chmielewski Digitally signed by Dariusz Chmielewski Date: 2022.06.03 08:38:39 -07'00' June 3, 2022

Dariusz A Chmielewski — Date

Project Manager

Project Applicant

06/03/2022

Kelly Lamare — Date

Chief, Office of Program Management

Implementing Agency

06/13/2022

Tony Tavares — Date

District Director

California Department of Transportation

07/28/2022

Tony Tavares — Date

Director

California Department of Transportation

Mitchell Weiss — Date

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT | **Date:** 07/01/22 09:17:38 AM

District	EA	Project ID	PPNO	Project Manager
07	35030	0718000179	5413	CHMIELEWSKI, DARIUSZ A

County	Route	Begin Postmile	End Postmile	Implementing Agency	
LA	Var			PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

7-LA/VEN-Various PMs Changeable Message Signs(CMS) Replacement Project

Location/Description

In Los Angeles and Ventura Counties, at various locations. Upgrade Transportation System Management (TMS) elements, upgrade overhead sign structures, construct guardrail, and enhance highway worker safety. (G13 Contingency)

Legislative Districts

Assembly:	51	Senate:	24	Congressional:	34

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Transportation Management Systems (Elements)	70	0	170		240	Each
Programmed Condition	Transportation Management Systems (Elements)	240	0	0	0	240	Each

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	05/05/22	
Right of Way Certification Milestone		02/01/24
Ready to List for Advertisement Milestone		03/01/24
Begin Construction Milestone (Approve Contract)		09/27/24

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	20/21	2,102					2,102
PS&E	21/22	10,585					10,585
RW Support	21/22	364					364
Const Support	23/24	16,686					16,686
RW Capital	23/24	464					464
Const Capital	23/24	86,363					86,363
Total		116,564					116,564

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

To: Susan Chang
Deputy District Director
Program/Project Management
District 7

Date: July 5, 2022

File: 07-350300
07-VAR
PID: 0718000179

From: DAREK CHMIELEWSKI
Project Manager
District 7

Subject: **SUPPLEMENTAL TO PROJECT REPORT – PROJECT COST**

EXECUTIVE SUMMARY

This Supplemental to the Project Report (PR) identifies the change in Project Cost. Programming Document CTIPS will match the Supplemental Project Report (PR) following approval of this document. The original PR was approved on May 5, 2022.

This supplement to the PR will update:

1. Section 1 (07-350300 INTRODUCTION – Summary Table)
2. Section 8 (FUNDING, PROGRAMMING AND ESTIMATE – Programming Table)

Section 1 – Summary Table

Project Limits	*07-LA, Ven-Various Routes* *At various post miles and locations*	
Number of Alternatives	*Two*	
	Current Cost Estimate:	**Escalated Cost Estimate:**
Capital Outlay Support	*$26,579,000*	*$29,737,000*
Capital Outlay Construction	*$73,225,500*	*$86,363,000*
Capital Outlay Right-of-Way	*$292,000*	*$464,443*

Funding Source	*SHOPP Mobility 315* *Transportation Management Systems (TMS) Program*
Funding Year	2023/2024 FY
Type of Facility	*Freeways and highways*
Number of Structures	*None*
SHOPP Project Output	*Refer to Attachment K*
Environmental Determination or Document	*Refer to Attachment H*
Legal Description	*In Los Angeles and Ventura Counties, at various locations*
Project Development Category	*Category 5*

Section 8 – Programming Table:

Fund Source	Programming by Fiscal Year								Current Estimate (Escalated)
20.XX.201.315	Prior	20/21	21/22	22/23	23/24	24/25	Future	Programmed Total	At PAED Total
Component	In thousands of dollars ($1,000)								
PA&ED Support		2,102						2,102	2,102
PS&E Support			10,585					10.585	10,585
Right-of-Way Support			364					364	364
Construction Support					16,686			16,686	16,686
Right-of-Way					464			464	464
Construction					86,363			86,363	86,363
Total		2,102	10,949		103,513			116,564	116,564

APPROVAL RECOMMENDED:

Sheik Moinuddin

for Darek Chmielewski, Project Manager

APPROVED BY:

Eduardo Alvarez 07/05/2022

for Kelly Lamare
Chief, Office of Program Management Date

Project Report For Project Approval

On Route Various

Between Various locations

And At various post miles

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:

EDWARD FRANCIS
Deputy District Director, Division of Right of Way

APPROVAL RECOMMENDED:

Dariusz Chmielewski

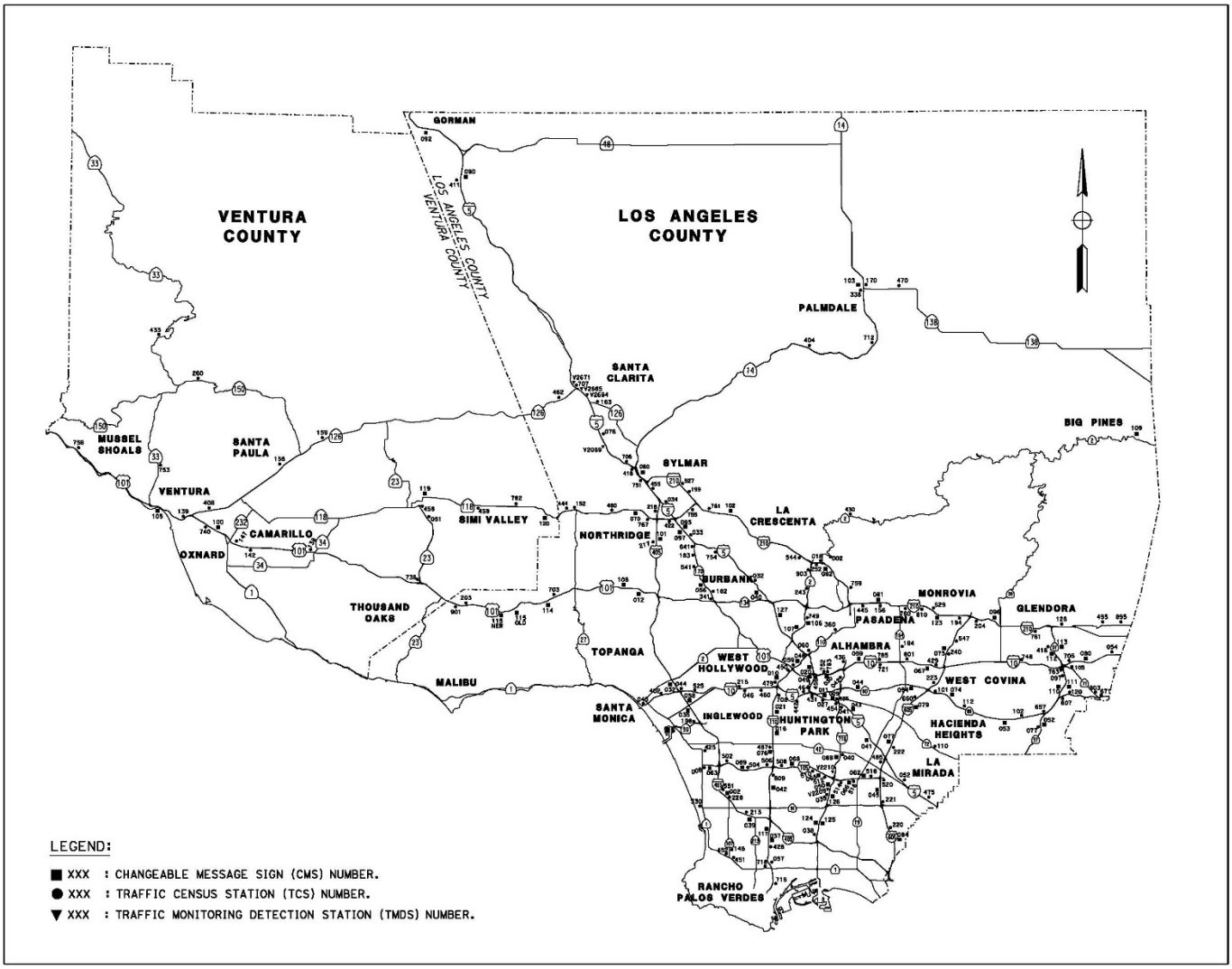
DARIUSZ A. CHMIELEWSKI
Project Manager, Division of Program and Project Management

PROJECT APPROVED:

TONY TAVARES
District Director

5-5-2022
Date

Vicinity Map



This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Lorenzo Sevidal

REGISTERED CIVIL ENGINEER

03/04/2022

DATE

Table of Contents

1. INTRODUCTION

Project Description:
This project proposes to replace the existing Changeable Message Signs (CMS) which has reached the end of their life cycle with the new Color CMS on various routes and at various post miles and locations in Los Angeles and Ventura Counties. One of the CMS will need a new overhead sign structure and foundation. This project also proposes to upgrade and perform a life-cycle replacement for the Traffic Census Stations (TCS) and the Traffic Monitoring Detection Stations (TMDS). System integration work at the Los Angeles Regional Transportation Management Center (LARTMC) and at other hub buildings may be needed to complete the CMS, TCS, and TMDS life cycle replacement work. Relocation of the existing controller cabinets and adjustment of the existing communication pull boxes will also be involved. In addition, Maintenance Vehicle Pullouts (MVP), Midwest Guardrail Systems (MGS), concrete barriers, and crash cushions will also be constructed and installed.

Project Limits	*07-LA, Ven-Various Routes* *At various post miles and locations*	
Number of Alternatives	*Two*	
	Current Cost Estimate:	**Escalated Cost Estimate:**
Capital Outlay Support	*$26,579,000*	*$27,436,000*
Capital Outlay Construction	*$73,225,500*	*$86,363,000*
Capital Outlay Right-of-Way	*$292,000*	*$464,443*
Funding Source	*SHOPP Mobility 315* *Transportation Management Systems (TMS) Program*	
Funding Year	2023/24 FY	
Type of Facility	*Freeways and highways*	
Number of Structures	*None*	
SHOPP Project Output	*Refer to Attachment K*	
Environmental Determination or Document	*Refer to Attachment H*	
Legal Description	*In Los Angeles and Ventura Counties, at various locations*	
Project Development Category	*Category 5*	

2. RECOMMENDATION

This Project is already in the 2022 SHOPP. As soon as PAED is approved it is recommended to move project into the PS&E and Right of Way phases to make fiscal year 23/24 delivery.

3. BACKGROUND

The TMS for District 7 Congestion Relief Program was updated in 2007 to help alleviate traffic congestion.

Since 1990, the Southern California Association of Government (SCAG) region was consistently ranked as the most congested Metropolitan region in the nation. With high traffic volume, CMS hold an important role in giving motorists real-time traffic safety and guidance information about the planned and unplanned events that significantly impact traffic on the State's highways. Currently, most of the existing CMS panels considered in this project are obsolete based on older technology such as analog communication and light bulb matrix panels that consume a lot of electricity. The existing Monochrome CMS are unable to provide messages clearly in addition to the fact of difficulty in procurement of obsoleted spare parts to maintain the CMS functionality.

Regarding the TCS and the TMDS, they are parts of the nine (9) core units of TMS. Traffic census data (traffic counts) are required by Title 23 USC Sec. 500.201-204. They also provide essential data for roadway design, project prioritization, safety analysis, and other key activities that enable the Department to manage the transportation system. Automated Vehicle Classification (AVC) Traffic Census Stations collect classification of traffic data into an axle-based classification system, installed at specific locations with permanent vehicle classifiers using axle sensors, using piezoelectric sensor technology, often in conjunction with inductive loops. Currently, 204 out of the 226 TCS in District 7 are in poor condition (beyond expected life cycle or is not meeting functional availability because of chronic downtime).

According to the Department's mission, safety is the priority. Thus, besides the technology and functionality aspects of the TMS elements, all the related roadside safety elements such as MVP, MGS and vegetation control, concrete barriers, and crash cushions will also be upgraded, installed, and/or constructed per latest standards and requirements. Since 2016, there have been many updates and new standards for the mentioned roadside safety elements. Traffic Safety Systems Guidance of March 2019 requires a longer Length of Need (LON) for MGS, which is an option besides the concrete barrier that is used to shield the fixed objects when they cannot be moved out of the Clear Recovery Zone (CRZ) or made breakaway. Latest Standard Plans and Revised Standard Plans (RSP) of 2018 require the MGS to be higher and the associated Asphalt Concrete (AC) dikes or concrete curbs to be the right type and at the right locations. Manual for Assessing Safety Hardware (MASH) requires the use of newly approved products of guardrail end treatments, crash cushions, and concrete barriers. In addition, Maintenance worker's safety is always a concern and MVP are needed. Lane closures are not always convenient and are normally the second choice or an additional measure.

4. PURPOSE AND NEED

Purpose:

The purpose of this TMS project is to maximize the State's highway system performance by upgrading TMS elements, such as existing Amber CMS that can only display bulb matrix text, with the new Color CMS, which incorporate the latest reliable communication technology to provide a clearer display of both text and graphic messages to the traveling public. Upgrading the TCS and TMDS will provide valuable information to the Department for future planning. In addition, it is also the purpose of the project to enhance the safety of the traveling public and Maintenance workers by constructing and installing or upgrading the related roadside safety elements such as MVP, MGS, concrete barriers, and crash cushions associated with affected TMS elements.

Need:

The need of this TMS project is to improve the travel reliability, reduce the impacts of traffic congestion, minimize the duration of non-recurring congestion, and to maximize the overall efficiency and operations by upgrading the existing TMS elements of CMS, TCS, and TMDS. Also, when the CRZ at the existing TMS elements cannot be achieved by relocation, severity of hitting the fixed objects needs to be reduced by constructing and installing or upgrading the MGS, concrete barriers, and crash cushions. Maintenance workers' safety needs to be improved by constructing the MVP that can help them to stay farther from traffic or at a protected location.

A. Problem, Deficiencies, Justification

Currently, most of the existing CMS panels in this project are old types and cannot display messages clearly. Few of them are not functioning and many are coming to the end of life cycle and are needing frequent maintenance. Moreover, due to the lack of availability of spare parts to properly maintain the functionality of the existing CMS panels, replacement to the new and improved Color CMS panels is deemed necessary.

159 TCS in poor condition are included in this project for life cycle replacement. Other projects are also programmed to upgrade and repair all remaining 45 TCS in poor condition.

Besides the existing TMS elements, many of the related roadside safety elements such as MVP, MGS, concrete barriers, and crash cushions are missing and substandard. At some locations, MGS or concrete barriers are not there to shield the existing TMS elements that are within the CRZ. At other locations, the existing Metal Beam Guard Railings (MBGR) are either too low or do not meet the LON per latest standards. Existing AC dikes or concrete curbs that are directly underneath, in front, and/or within the approaching area of the MBGR are not the right types or meeting the standard heights and may cause vaulting issue. In addition, existing

MVP for Maintenance workers' safety are not available at every location of TMS elements or where possible.

B. Regional and System Planning

This project will meet the needs and objectives of the TMS for District 7 Congestion Relief Program. Incidentally, this project will also satisfy the performance objectives of the Roadside Safety Program.

C. Traffic

This project is not a capacity increasing project. It helps to reduce traffic congestions and improve traffic operations and safety.

5. ALTERNATIVES

5A. Viable Alternative

The Programmed Project Alternative consists of the upgrades of 75 CMS including one new, 159 TCS, and 6 TMDS. It also consists of the upgrade, installation, and construction of barriers such as MGS (about 8,900ft), concrete barriers (about 70ft), and crash cushions (2 locations). In addition, construction of 11 MVP and relocation of 6 controller cabinets and some TCS controller cabinets are also included.

With the clearer display of messages and advanced information to the motorists that the new Color CMS provide, the sight will be improved, which in turn helps the overall traffic flow to be smoother and less interrupted. With the upgraded TCS and TMDS, reliable traffic data can be collected for the Department's use of analysis. With the installed or upgraded MGSs and the constructed concrete barriers and crash cushions, severity of hitting fixed object accidents will be reduced. These are necessary when the fixed objects that are within the CRZ cannot be relocated. And with the provided MVP, Maintenance workers can have a safer place to park and an easier place to access the TMS field elements. Additionally, maintenance time and the need for maintenance lane closures will also be reduced. Driving comfort of traveling motorists will be enhanced despite their close proximity to maintenance personnel and equipment.

This Programmed Project Alternative does not have any nonstandard features or need a Design Standard Decision Document (DSDD). The new CMS structure will be designed in accordance with standards for vertical and horizontal clearances. All proposed barriers including MGS, concrete barriers, and crash cushions will be in accordance with the latest standards, approved devices, and Manual for Assessing Safety Hardware (MASH).

Design Standards Risk Assessment			
Alternative	Design Standard from Highway Design Manual Tables 82.1A & 82.1B	Probability of Nonstandard Design Feature Approval (None, Low, Medium, High,)	Justification for Probability Rating
1	303.3, 309.1(1)(2)(3), and 309.2(2)	None	Studies showed that all related standards can be applied.

5B. Rejected Alternative

The "No-Build" Alternative was considered in developing and analyzing system alternatives but was eliminated because of the lack of technology and quality, high maintenance costs, and the unavailability of parts in the future.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

Refer to Attachment I (Preliminary Hazardous Waste Re-Assessment (PA&ED) of October 11, 2021), which addresses the concerns regarding the following:

- Aerially Deposited Lead (ADL) in the top 3 feet of excavated soil in the unpaved area that is within 30 feet from the Edge of Travel Way (ETW),
- Treated wood waste of removed Metal Beam Guard Rail's (MBGR) wood posts and blocks,
- Removed electrical items, and
- Ground water.

6B. Value Analysis

Value Analysis Study for this project was done on February 9, 2022.

In the meeting with Project Management on November 3, 2021, it is anticipated that the project will need to be split into three at the next phase for the ease of construction administration. The three are based on the areas of responsibility of Electrical Construction Offices, which include Sylmar (North Area), Covina (East Area), and Santa Fe Spring (South Area).

6C. Resource Conservation

Resource conservation efforts will be maximized throughout the life of this project.

6D. Right-of-Way Issues

Refer to Attachment F (Right of Way Data Sheet and Support Estimate of DS5492). All work proposed in this project are within the State's existing right of way. Per 10/12/2021 R/W Data Sheet of DS5492, utility conflicts and relocation are anticipated. Current and escalated costs of utility relocation are estimated at **$292,000** and **$464,443**, respectively.

6E. Environmental Compliance

Refer to Attachment H (Environmental Document). Per Caltrans CEQA determination, this project is Categorically Exempt – Class 1. And per Caltrans NEPA determination, this project is Categorically Excluded as it has no significant impact on the environment as defined by NEPA, and no unusual circumstances as described in CFR 771.117(b) are present.

6F. Air Quality Conformity

Per 40 CFR 93.126 published in the Federal Register (volume 69, page 40004) on July 1, 2004, Table 2 allows certain projects to be exempt from all emissions analyses. Based on the project scope of work, the proposed project is deemed listed in Table 2 under the subtitle "Safety" and classifications "Traffic control devices and operating assistance other than signalization projects" and "shoulder improvements". Therefore, pursuant to 40 CFR 93.126, this project is deemed classified and exempt from the requirements to determine conformity.

6G. Title VI Considerations

This project will not affect low mobility and minority groups. All work will be within the State's right-of-way.

6H. Noise Abatement Decision Report

The proposed project may have a little impact on noise pollution for residences. However, Noise Abatement Decision Report is not needed.

6I. Life-Cycle Cost Analysis

Life-cycle cost analysis is not applicable.

6J. Reversible Lanes

This project does not qualify as a capacity increasing, a major street or highway realignment project. Thus, reversible lanes have not been considered.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7A. Public Hearing Process

Public Hearing is not needed as this project does not have a significant impact.

7B. Route Matters

Route matter is not applicable to this project as there is no such involvement of route adoptions, new connections, access control modifications, and relinquishments.

7C. Permits

All proposed work will be done within the State's right-of-way. Therefore, permits are not anticipated to be needed.

7D. Cooperative Agreements

There is no Cooperative Agreement needed. This project is fully funded by the State and there is no right-of-way acquisition.

7E. Other Agreements

There are no agreements anticipated on this project.

7F. Transportation Management Plan

Work will be performed in accordance with the Lane Closure Charts that is normally provided in the Maintain Traffic Specifications under the Temporary Traffic Control section. The hours available for the Contractor's operation will be regulated to off-peak hours and detailed within the special provisions to minimize the impact on existing traffic flows.

It is anticipated that most of the proposed work requires shoulder closures. Lane closures may be needed at the work locations of new CMS structure, MVP, and loop detection repair/replacement, if any. Traffic handling with Temporary Railings (Type K) and temporary crash cushion may be needed for the construction of concrete barriers and crash cushions. When lane closures are required, the traveling public will be informed of the time and location where the construction takes place. In addition, the newly issued Design Information Bulletin (DIB) 91 of June 25, 2021 regarding the guidelines on the use of Positive Work zone Protection (PWP) and mitigation measures will be followed and complied with.

According to the updated Transportation Management Plan (TMP) Data Sheet of November 17, 2021, costs for Public Information and Incident Management that includes Construction Zone Enhanced Enforcement Program (COZEEP) are $60,000 and $2,100,000, respectively. See Attachment G (Transportation Management Plan Data Sheet) and Attachment E (Cost Estimates) for more information.

In addition, portable radar speed feedback signs and portable CMS are also assumed to be needed. Costs for these are included in the cost estimates as well.

7G. Stage Construction

It is anticipated that Stage Construction is not needed.

7H. Accommodation of Oversize Loads

The prefabricated reinforcing bars for new CMS foundation and the overhead sign truss structure and post are considered as oversize loads. These will need to be transported to the sites with escort cars at off-peak hours and per special provisions.

7I. Graffiti Control

Graffiti control including anti-graffiti protective coatings and anti-graffiti devices is assumed to be needed. Costs for these are included under Specialty Items in the cost estimates, Attachment E.

7J. Asset Management

The goal of TMS Asset Management is to meet the target of 90% of TMS units in good condition by 2027 as set forth in Senate Bill 1 (SB 1) and as included in the Transportation Asset Management Plan (TAMP) and State Highway System Management Plan (SHSMP).

The TMS elements of CMS, TCS, and TMDS that are proposed for upgrade in this project belong to the nine (9) core TMS units listed in the TMS Guide of 2021 and are appropriate for the goal.

In addition, another goal of Roadside Asset Management is incidentally met when the roadside safety improvements in relation to the TMS elements are performed. Those assets are the MVP and the equipment shielding such as concrete barriers and MGS along with its vegetation control.

TMS elements comparison between PIR and PA&ED are shown below:

PIR	PA&ED
Upgrade 133 CMS Locations	Upgrade 75 CMS Locations
Install 7,000 feet of MGS	Install 9,000 feet of MGS
	Upgrade 159 TCS Locations
	Upgrade 6 TMDS Locations
	Install 11 MVPs

Note: The PA&ED improvements above will eventually be split into three separate contracts based on District 7's Electrical Construction office's boundary map: Sylmar Electrical (North), Covina Electrical (East), and Santa Fe Springs Electrical (South).

7K. Complete Streets

This project is at various spot locations along various freeways and highways where bicycle, pedestrians, and other non-motorized transportation are prohibited. Transit facilities and park and ride facilities are not within the area of work. Complete Street requirements are not applicable to this project.

7L. Climate Change Considerations

This project will not increase the vehicle carrying capacity but improve the efficiency, allowing the traffic to flow better. In other words, this project will reduce the Green House Gas (GHG) emissions due to the reduction of overall traffic congestion, delay, and fuel consumption.

7M. Broadband and Advance Technologies

This project is at various spot locations along various freeways and highways where facilities for wired broadband, zero-emission vehicle fueling, and autonomous vehicle communications are not available. Broadband and advance technology requirements are not applicable to this project.

7O. Other Appropriate Topics

There are no other topics that have been brought up for discussion and consideration.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that this project is eligible for Federal-aid funding.

Programming

The table below provides the current programmed information for the project cost component, and the current cost estimate by component. The current cost estimate for support is escalated to the middle of each component at a rate of 2.0% per year for the first fiscal year after the approval of this report, and 3.0% per year after that for each component. The construction capital cost is escalated to mid construction at a rate of 3.2% per year. The Right of Way capital is escalated at 8% to the end of construction.

Fund Source	Programming by Fiscal Year								Current Estimate (Escalated)
20.XX.201.315	Prior	20/21	21/22	22/23	23/24	24/25	Future	Programmed Total	At PAED Total
Component	In thousands of dollars ($1,000)								
PA&ED Support		2,102						2,102	2,102
PS&E Support			10,585					10,585	8,449
Right-of-Way Support			364					364	199
Construction Support					16,686			16,686	16,686
Right-of-Way					1,465			1,465	464
Construction					87,493			87,493	86,363
Total		**2,102**	**27,635**		**88,958**			**118,695**	**114,263**

The support to capital cost ratio is 31.60%.

Estimate

Preliminary cost estimate has been prepared and attached. See Attachment E.

9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	04/26/2021	Actual
BEGIN PAED	M020	09/01/2021	Actual
PA & ED	M200	03/15/2022	Target
START PS&E	M210	05/01/2022	Target
PRE-60% PS&E		07/23/2023	Target
60% PS&E	M313	09/01/2023	Target
PRE-95% PS&E		11/03/2023	Target
95% PS&E	M315	10/13/2023	Target
PS&E TO DOE	M377	03/11/2023	Target
DRAFT STRUCTURES PS&E	M378	08/02/2023	Target
PROJECT PS&E	M380	02/01/2024	Target
RIGHT OF WAY CERTIFICATION	M410	02/01/2024	Target
READY TO LIST	M460	03/01/2024	Target
FUND ALLOCATION	M470	05/10/2024	Target
HEADQUARTERS ADVERTISE	M480	06/14/2024	Target
AWARD	M495	09/13/2024	Target
APPROVE CONTRACT	M500	09/27/2024	Target
CONTRACT ACCEPTANCE	M600	05/14/2027	Target
END PROJECT	M800	11/14/2028	Target

10. RISKS

Refer to Attachment L for the Risk Register.

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This project is considered as an Assigned Project in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

Regional Water Quality Control Board

There are no permits required from the Regional Water Quality Control Board.

Local Agency

There are no Cooperative Agreements needed.

Railroads

Railroad Agreement for at-grade or separated-grade crossings is not needed.

12. PROJECT REVIEWS

Scoping team field review _____ Date _____
Scoping team field review attendance roster attached.
District Program Advisor *Candace Fung* Date 01/07/2022
Headquarters SHOPP Program Advisor *Abdelrahman Beshair* Date _____
District Maintenance *Jacqueline Tan* Date 01/11/2022
Headquarters Project Delivery Coordinator _____ Date _____
Project Manager *Dariusz A. Chmielewski* Date 01/10/2022
FHWA _____ Date _____
District Roadside Safety Program Advisor *Kathleen Ledesma* Date 02/01/2022
Quality Review _____ Date _____
Other _____ Date _____

13. PROJECT PERSONNEL

DARIUSZ A. CHMIELEWSKI (213) 760-7359
Project Manager/ Office of Project Management

CESAR A. HERNANDEZ (213) 266-6861
Design Manager/ Office of ITS

PATRICK LUI (213) 628-6132
Transportation Engineer (Electrical)/ Office of ITS

VUONG TRAN (213) 598-6972
Transportation Engineer (Civil)/ Office of ITS

LORENZO SEVIDAL (213) 269-1028
Transportation Engineer (Civil)/ Office of ITS

14. ATTACHMENTS (Number of Pages)

A - List of Existing CMS for Upgrade (2)
B - List of Existing TCS and TMDS for Upgrade (4)
C - List of Roadside Safety Items (2)
D - Conceptual Layout Plan of CMS, MGS, and MVP (1)
E - Cost Estimates (10)
F - Right of Way Data Sheet and Support Estimate – DS5492 (7)
G - Transportation Management Plan Data Sheet (3)
H - Environmental Document (3)
I - Preliminary Hazardous Waste Re-Assessment (PA&ED) (3)
J - SWDR (1)
K - SHOPP Project Performance Measures (2)
L - Risk Register (5)

ATTACHMENT A

List of Existing CMS for Upgrade

ATTACHMENT A

LIST OF EXISTING CHANGEABLE MESSAGE SIGNS (CMS) FOR UPGRADE

Order No.	CMS			LOCATION						TOTAL
	No.	ID	TYPE	Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
1	107	767473	M	Hwy	LA	2	WB	16.34	S/O VERDUGO Rd	**3**
2	106	767472	M	Hwy	LA	2	EB	R 16.74	VERDUGO Rd	
3	109	769121	M	Hwy	LA	2	WB	81.00	2MI W/O S-LA Co LINE	
4	041	726720	M	Fwy	LA	5	SB	9.29	N/O PARAMOUNT Blvd	**11**
5	043	726722	M	Fwy	LA	5	NB	12.20	S/O ATLANTIC Blvd	
6	009	726692	M	Fwy	LA	5	NB	14.78	INDIANA St	
7	020	726702	M	Fwy	LA	5	SB	19.48	BROADWAY St	
8	127	773641	M	Fwy	LA	5	NB	24.30	LOS FELIZ Blvd	
9	040	726719	M	Fwy	LA	5	SB	27.74	WESTERN Ave	
10	095	726751	M	Fwy	LA	5	NB	37.37	OSBORNE St	
11	097	765423	M	Fwy	LA	5	SB	37.90	TERRA BELLA St	
12	060	726736	M	Fwy	LA	5	NB	R 44.42	S/O RTE 14	
13	090	768734	M	Fwy	LA	5	NB	R 78.10	SMOKEY BEAR Rd	
14	092	768735	M	Fwy	LA	5	SB	R 85.70	GORMAN	
15	030	759120	M	Fwy	LA	10	EB	19.81	W/O CITY TERRACE Dr	**4**
16	059	726735	M	Fwy	LA	10	WB	23.64	S/O ATLANTIC Blvd	
17	067	726743	M	Fwy	LA	10	EB	28.59	SANTA ANITA Ave	
18	080	759129	M	Fwy	LA	10	WB	44.66	W/O WHITE Ave	
19	103	14001	M	Fwy	LA	14	SB	R 61.32	Avenue P	**1**
20	052	726731	M	Fwy	LA	57	NB	R 2.11	DIAMOND BAR Blvd	**5**
21	110	769611	M	Fwy	LA	57	SB	5.35	S/O TEMPLE Ave	
22	111	769612	M	Fwy	LA	57	NB	5.55	TEMPLE Ave	
23	112	769613	M	Fwy	LA	57	SB	R 9.45	S/O VIA VERDE	
24	113	769614	M	Fwy	LA	57	NB	R 9.75	S/O COVINA Blvd	
25	011	726694	M	Fwy	LA	60	EB	R 1.92	INDIANA St	**5**
26	044	726723	M	Fwy	LA	60	WB	R 5.58	GARFIELD Ave	
27	094	762698	M	Fwy	LA	60	EB	10.10	SANTA ANITA Ave	
28	074	759124	M	Fwy	LA	60	WB	14.44	SEVENTH Ave	
29	053	762695	M	Fwy	LA	60	EB	19.50	FULLERTON Rd	
30	012	726695	M	Fwy	LA	101	SB	20.22	WHITE OAK Ave	**4**
31	108	768879	M	Fwy	LA	101	NB	24.50	DE SOTO Ave	
32	114	771128	M	Fwy	LA	101	SB	28.10	PARKWAY CALABASAS	
33	115	771129	M	Fwy	LA	101	SB	32.00	LOST HILLS Rd	
34	063	726739	M	Fwy	LA	105	EB	R 1.40	W/O Rte 405	**6**
35	069	726745	M	Fwy	LA	105	WB	R 4.23	CRENSHAW Blvd	
36	068	726744	M	Fwy	LA	105	WB	R 9.19	W/O WILMINGTON Ave	
37	065	726741	M	Fwy	LA	105	EB	R 11.44	LONG BEACH Blvd	
38	066	726742	M	Fwy	LA	105	EB	R 15.26	W/O LAKEWOOD Blvd	
39	062	726738	M	Fwy	LA	105	WB	R 15.72	LAKEWOOD Blvd	
40	037	726716	M	Fwy	LA	110	NB	6.35	S/O CARSON St	**3**
41	117	771622	M	Fwy	LA	110	SB	7.44	N/O CARSON St	
42	042	726721	M	Fwy	LA	110	NB	11.15	REDONDO BEACH Blvd	

Order No.	CMS			LOCATION						TOTAL
	No.	ID	TYPE	Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
43	076	759127	M	Fwy	LA	110	SB	15.70	MANCHESTER Ave	
44	016	759117	M	Fwy	LA	110	NB	17.40	GAGE Ave	
45	021	759119	M	Fwy	LA	110	NB	20.54	EXPOSITION Dr	**5**
46	010	726693	M	Fwy	LA	110	SB	22.38	NINTH St	
47	046	726725	M	Fwy	LA	110	SB	25.21	ACADEMY Rd	
48	070	765424	M	Fwy	LA	118	EB	R 8.50	HAYVENHURST Ave	**1**
49	056	726732	M	Fwy	LA	170	SB	R 16.10	BURBANK Blvd	**1**
50	102	767665	M	Fwy	LA	210	WB	R 9.01	WHEATLAND Ave	
51	082	759131	M	Fwy	LA	210	EB	R 21.02	FOOTHILL Blvd	
52	081	759130	M	Fwy	LA	210	WB	R 27.55	ALLEN Ave	**6**
53	123	772540	M	Fwy	LA	210	EB	R 33.40	W/O MYRTLE Ave	
54	096	762699	M	Fwy	LA	210	WB	R 38.80	VERNON Ave	
55	055	762697	M	Fwy	LA	210	EB	R 43.00	W/O SUNFLOWER Ave	
56	039	726718	M	Fwy	LA	405	SB	14.54	WESTERN Ave	
57	002	726685	M	Fwy	LA	405	NB	17.91	S/O INGLEWOOD Ave	
58	035	726715	M	Fwy	LA	405	SB	27.76	S/O VENICE Blvd	**6**
59	058	726734	M	Fwy	LA	405	NB	28.09	N/O VENICE Blvd	
60	032	726712	M	Fwy	LA	405	SB	30.76	SANTA MONICA Blvd	
61	101	766763	M	Fwy	LA	405	NB	44.88	NORDOFF St	
62	084	759133	M	Fwy	LA	605	NB	R 1.31	S/O CARSON St	
63	045	726724	M	Fwy	LA	605	SB	R 6.77	ROSECRANS Ave	
64	077	759125	M	Fwy	LA	605	SB	R 11.09	S/O SLAUSON Ave	**5**
65	079	759128	M	Fwy	LA	605	NB	R 14.89	N/O BEVERLY Blvd	
66	075	765425	M	Fwy	LA	605	SB	21.90	LOWER AZUSA Rd	
67	124	773607	M	Fwy	LA	710	SB	11.40	N/O DEL AMO Blvd	
68	125	773606	M	Fwy	LA	710	NB	11.50	N/O DEL AMO Blvd	
69	126	773608	M	Fwy	LA	710	NB	13.90	ALONDRA Blvd	**5**
70	050	726729	M	Fwy	LA	710	SB	14.46	N/O COMPTON Blvd	
71	088	759135	M	Fwy	LA	710	SB	18.54	N/O FIRESTONE Blvd	
72	100	767638	M	Fwy	Ven	101	NB	R 24.10	S/O VICTORIA Ave	**2**
73	105	767639	M	Fwy	Ven	101	SB	30.20	S/O Rte 33	
74	119	772059	M	Fwy	Ven	118	WB	R 21.40	COLLINS Dr	**2**
75	120	772066	M	Fwy	Ven	118	EB	R 31.30	KEUHNER Dr	
TOTAL										**75**

Abbreviations: *E/O: East of, N/O: North of, S/O: South of, and W/O: West of.*

ATTACHMENT B

List of Existing TCS and TMDS for Upgrade

LIST OF EXISTING TRAFFIC CENSUS STATIONS (TCS)
AND TRAFFIC MONITORING DETECTION STATIONS (TMDS) FOR UPGRADE

Order No.	TCS & TMDS ID	LOCATION						TOTAL
		Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
1	07-TCS-718-HQ	Hwy	LA	1	BO	11.80	WILMINGTON, N/O Jct Rte 110, HARBOR Fwy	6
2	07-TCS-451-HQ	Hwy	LA	1	BO	15.90	TORRANCE, S/O HAWTHORNE Blvd (Jct Rte 107)	
3	07-TCS-452-HQ	Hwy	LA	1	BO	16.20	N/O HAWTHORNE Blvd (Rte 107)	
4	07-TCS-330-HQ	Hwy	LA	1	BO	21.92	N/O ARTESIA Blvd-LEG A	
5	07-TCS-008-HQ	Hwy	LA	1	BO	25.92	LOS ANGELES, Jct Rte 105, GLENN ANDERSON Fwy	
6	07-TCS-425-HQ	Hwy	LA	1	BO	27.10	LOS ANGELES, N/O 98TH St	
7	07-TCS-749-HQ	Hwy	LA	2	BO	R 17.78	At ROUND TOP Rd UC, W/O Rte 134	6
8	07-TCS-243-HQ	Hwy	LA	2	BO	R 20.57	At SHERER Ln; W/O Jct Rte 210, FOOTHILL Fwy	
9	07-TCS-903-HQ	Hwy	LA	2	BO	R 21.90	W/O Jct Rte 210	
10	07-TCS-018-HQ	Hwy	LA	2	BO	24.53	E/O Jct Rte 210	
11	07-TCS-002-HQ	Hwy	LA	2	BO	25.98	W/O STARLIGHT CREST Dr	
12	07-TCS-430-HQ	Hwy	LA	2	BO	33.70	W/O ANGELES FOREST Hwy	
13	07-TCS-475-HQ	Fwy	LA	5	BO	0.70	N/O ORANGE COUNTY LINE	16
14	07-TCS-052-HQ	Fwy	LA	5	BO	3.97	At SILVER BOW POC, S/O NORWALK	
15	07-TCS-454-HQ	Fwy	LA	5	BO	13.88	N/O Jct Rte 710	
16	07-TCS-027-HQ	Fwy	LA	5	BO	15.33	At ESPERANZA St	
17	07-TCS-431-HQ	Fwy	LA	5	BO	16.15	N/O JCT RTE 5	
18	07-TCS-032-HQ	Fwy	LA	5	BO	29.39	MAGNOLIA Ave OC (BURBANK)	
19	07-TCS-754-HQ	Fwy	LA	5	BO	33.98	N/O SUNLAND Blvd, at OLINDA St	
20	07-TCS-033-HQ	Fwy	LA	5	BO	36.90	N/O Jct Rte 170; BRANFORD St	
21	07-TCS-034-HQ	Fwy	LA	5	BO	41.00	S/O Jct Rte 405; N/O RINALDI St	
22	07-TCS-455-HQ	Fwy	LA	5	BO	43.00	S/O Jct Rte 210, N/O ROXFORD	
23	07-TCS-751-HQ	Fwy	LA	5	BO	R 44.50	MAINLINE S/O Jct Rte 14	
24	07-TCS-418-HQ	Fwy	LA	5	BO	C 45.73	Jct Rte 14, ANTELOPE VALLEY Fwy	
25	07-TCS-706-HQ	Fwy	LA	5	BO	R 46.55	N/O Jct Rte 14; WELDON CANYON	
26	07-TCS-076-HQ	Fwy	LA	5	BO	R 52.00	N/O MC BEAN Pkwy	
27	07-TCS-707-HQ	Fwy	LA	5	BO	R 55.48	N/O Jct Rte 126 WEST	
28	07-TCS-411-HQ	Fwy	LA	5	BO	R 79.20	N/O SMOKEY BEAR Rd UC	
29	07-TCS-049-HQ	Fwy	LA	10	BO	S 0.10	E/O MACY St OC	18
30	07-TCS-043-HQ	Fwy	LA	10	BO	R 2.16	SANTA MONICA, Jct Rte 1, LINCOLN Blvd INTERCHANGE	
31	07-TCS-402-HQ	Fwy	LA	10	BO	R 3.89	W/O CENTINELA, DORCHESTER PUC	
32	07-TCS-044-HQ	Fwy	LA	10	BO	R 5.45	LOS ANGELES, Jct Rte 405, SAN DIEGO Fwy INTERCHANGE	
33	07-TCS-525-HQ	Fwy	LA	10	BO	R 6.75	E/O OVERLAND Ave, at MOTOR Ave UC	
34	07-TCS-215-HQ	Fwy	LA	10	BO	R 10.43	LOS ANGELES, LA BREA Ave INTERCHANGE	
35	07-TCS-046-HQ	Fwy	LA	10	BO	R 10.71	E/O MACY St OC	
36	07-TCS-460-HQ	Fwy	LA	10	BO	R 13.54	E/O NORMANDIE Ave, at BUDLONG	
37	07-TCS-442-HQ	Fwy	LA	10	BO	17.00	E/O ALAMEDA ST; BEGIN BUSWAY	
38	07-TCS-456-HQ	Fwy	LA	10	BO	18.41	LOS ANGELES, Jct Rte 5, GOLDEN STATE Fwy INTERCHANGE	
39	07-TCS-752-HQ	Fwy	LA	10	BO	19.67	EAST LOS ANGELES CITY LIMITS	
40	07-TCS-783-HQ	Fwy	LA	10	BO	19.71	BUSWAY; EAST LA CITY LIMITS	
41	07-TCS-785-HQ	Fwy	LA	10	BO	24.31	BUSWAY; E/O GARFIELD Ave	
42	07-TCS-721-HQ	Fwy	LA	10	BO	24.32	E/O GARFIELD Ave	
43	07-TCS-801-HQ	Fwy	LA	10	BO	27.50	E/O ROSEMEAD Blvd (Rte 164)	
44	07-TCS-429-HQ	Fwy	LA	10	BO	30.30	E/O PECK Rd	
45	07-TCS-748-HQ	Fwy	LA	10	BO	37.72	E/O CITRUS St	
46	07-TCS-705-HQ	Fwy	LA	10	BO	43.12	E/O Jct Rte 57/71	

Order No.	TCS & TMDS ID	LOCATION						TOTAL
		Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
47	07-TCS-054-HQ	Fwy	LA	10	BO	47.11	W/O INDIAN HILL Blvd	1
48	07-TCS-404-HQ	Fwy	LA	14	BO	R 47.35	RED ROVER MINE Rd	3
49	07-TCS-712-HQ	Fwy	LA	14	BO	R 54.20	S/O ANGELES FOREST Hwy	
50	07-TCS-338-HQ	Fwy	LA	14	BO	R 59.80	N/O PALMDALE Blvd (Jct Rte 130)	
51	07-TCS-077-HQ	Fwy	LA	57	BO	R 3.17	S/O PATHFINDER, at COLD SPRINGS	4
52	07-TCS-097-HQ	Fwy	LA	57	BO	R 6.85	S/O Jct Rte 10/71	
53	07-TCS-763-HQ	Fwy	LA	57	BO	R 7.72	Jct Rte 10/71	
54	07-TCS-416-HQ	Fwy	LA	57	BO	R 9.82	At SAN DIMAS Ave UC	
55	07-TCS-464-HQ	Fwy	LA	60	BO	0.28	BOYLE Ave OC	7
56	07-TCS-101-HQ	Fwy	LA	60	BO	12.20	E/O Jct 605, W/O CROSSROADS Pkwy	
57	07-TCS-112-HQ	Fwy	LA	60	BO	16.55	E/O HACIENDA Blvd; BARFORD POC	
58	07-TCS-102-HQ	Fwy	LA	60	BO	20.92	E/O NOGALES St, W/O FAIRWAY Dr	
59	07-TCS-607-HQ	Fwy	LA	60	BO	R 25.46	DIAMOND BAR, Jct Rte 57 NORTH, ORANGE Fwy INTERCHANGE	
60	07-TCS-120-HQ	Fwy	LA	60	BO	R 26.57	E/O Jct Rte 57 NORTH	
61	07-TCS-671-HQ	Fwy	LA	60	BO	R 29.39	E/O Jct Rte 71	
62	07-TCS-105-HQ	Fwy	LA	71	BO	R 0.90	S/O Jct Rte 10/57	2
63	07-TCS-803-HQ	Fwy	LA	71	BO	R 4.31	POMONA, Jct Rte 60, POMONA Fwy INTERCHANGE	
64	07-TCS-110-HQ	Hwy	LA	72	BO	1.85	WHITTIER, COLIMA Rd	1
65	07-TCS-198-HQ	Hwy	LA	90	BO	2.08	W/O Jct Rte 405, at INGLEWOOD	1
66	07-TCS-703-HQ	Fwy	LA	101	BO	27.60	S/O PARKWAY CALABASAS	3
67	07-TCS-203-HQ	Fwy	LA	101	BO	36.18	N/O REYES ADOBE Rd OC	
68	07-TCS-901-HQ	Fwy	LA	101	BO	37.54	N/O LINDERO CANYON Rd	
69	07-TCS-502-HQ	Fwy	LA	105	BO	R 2.60	E/O Jct Rte 405	10
70	07-TCS-504-HQ	Fwy	LA	105	BO	R 4.75	E/O CRENSHAW Blvd, W/O VERMONT	
71	07-TCS-506-HQ	Fwy	LA	105	BO	R 7.20	W/O Jct Rte 110, E/O VERMONT	
72	07-TCS-508-HQ	Fwy	LA	105	BO	R 8.45	E/O Jct Rte 110, W/O STANFORD	
73	07-TCS-510-HQ	Fwy	LA	105	BO	R 11.00	E/O WILMINGTON Blvd, W/O STATE	
74	07-TCS-512-HQ	Fwy	LA	105	BO	R 12.60	W/O Jct Rte 710, E/O HARRIS Ave	
75	07-TCS-514-HQ	Fwy	LA	105	BO	R 14.37	E/O Jct 710, FACADE Ave	
76	07-TCS-516-HQ	Fwy	LA	105	BO	R 15.60	W/O LAKEWOOD Blvd	
77	07-TCS-518-HQ	Fwy	LA	105	BO	R 17.00	E/O BELLFLOWER Blvd; W/O Rte 605	
78	07-TCS-520-HQ	Fwy	LA	105	BO	R 18.10	W/O STUDEBAKER Rd; END Fwy	
79	07-TCS-146-HQ	Hwy	LA	107	BO	0.00	N/O Jct Rte 1 (TORRANCE)	1
80	07-TCS-715-HQ	Fwy	LA	110	BO	2.77	LOS ANGELES, C STREET INTERCHANGE	11
81	07-TCS-057-HQ	Fwy	LA	110	BO	4.63	N/O PACIFIC COAST Hwy (Rte 1)	
82	07-TCS-428-HQ	Fwy	LA	110	BO	6.14	228TH St	
83	07-TCS-809-HQ	Fwy	LA	110	BO	12.90	LOS ANGELES, EL SEGUNDO Blvd INTERCHANGE	
84	07-TCS-487-HQ	Fwy	LA	110	BO	16.50	N/O MANCHESTER; S/O FLORENCE	
85	07-TCS-708-HQ	Fwy	LA	110	BO	20.72	S/O Jct Rte 10; ADAMS Blvd	
86	07-TCS-479-HQ	Fwy	LA	110	BO	21.44	LOS ANGELES, Jct Rte 10, SANTA MONICA Fwy INTERCHANGE	
87	07-TCS-450-HQ	Fwy	LA	110	BO	23.50	S/O Jct Rte 101	
88	07-TCS-059-HQ	Fwy	LA	110	BO	23.96	ALPINE St; N/O Jct Rte 101	
89	07-TCS-060-HQ	Fwy	LA	110	BO	26.50	PASADENA Ave; N/O Jct Rte 5	
90	07-TCS-360-HQ	Fwy	LA	110	BO	29.50	S/O YORK Blvd, N/O Ave 64	
91	07-TCS-444-HQ	Fwy	LA	118	BO	R 1.19	LOS ANGELES/VENTURA COUNTY LINE	4
92	07-TCS-152-HQ	Fwy	LA	118	BO	R 1.80	LOS ANGELES, Jct Rte 27, TOPANGA CANYON Blvd INTERCHANGE	
93	07-TCS-480-HQ	Fwy	LA	118	BO	R 5.20	E/O TAMPA Ave, at WILBUR Ave OC	
94	07-TCS-767-HQ	Fwy	LA	118	BO	R 9.10	E/O WOODLEY Ave	

Order No.	TCS & TMDS ID	LOCATION						TOTAL
		Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
95	07-TCS-422-HQ	Fwy	LA	118	BO	R 10.80	E/O Jct Rte 405, at FOX St UC	1
96	07-TCS-755-HQ	Fwy	LA	118	BO	R 13.44	W/O Jct Rte 210; BORDEN Ave	1
97	07-TCS-462-HQ	Hwy	LA	126	BO	R 3.56	WOLCOTT WAY	2
98	07-TCS-163-HQ	Hwy	LA	126	BO	R 5.85	E/O SOUTH Jct Rte 5	
99	07-TCS-170-HQ	Hwy	LA	138	BO	43.42	E/O Jct Rte 14 (PALMDALE)	2
100	07-TCS-470-HQ	Hwy	LA	138	BO	47.30	E/O 35TH St EAST	
101	07-TCS-184-HQ	Hwy	LA	164	BO	6.64	ROSEMEAD, LOWER AZUSA Rd	1
102	07-TCS-341-HQ	Fwy	LA	170	BO	R 14.75	N/O Jct Rte 101/134	5
103	07-TCS-182-HQ	Fwy	LA	170	BO	R 15.70	N/O MAGNOLIA Blvd	
104	07-TCS-541-HQ	Fwy	LA	170	BO	R 17.62	S/O SHERMAN WAY; VAN OWEN St	
105	07-TCS-183-HQ	Fwy	LA	170	BO	R 19.72	ROSCOE Blvd INTERCHANGE	
106	07-TCS-641-HQ	Fwy	LA	170	BO	R 20.40	S/O Jct Rte 5	
107	07-TCS-527-HQ	Fwy	LA	210	BO	R 3.57	E/O POLK St; ASTORIA St PED OC	17
108	07-TCS-199-HQ	Fwy	LA	210	BO	R 4.94	MACLAY St INTERCHANGE	
109	07-TCS-781-HQ	Fwy	LA	210	BO	R 7.19	TERRA BELLA St UC	
110	07-TCS-544-HQ	Fwy	LA	210	BO	R 17.70	W/O Jct Rte 2 Fwy, at ROSEMONT	
111	07-TCS-252-HQ	Fwy	LA	210	BO	R 18.87	E/O Jct Rte 2 Fwy	
112	07-TCS-759-HQ	Fwy	LA	210	BO	R 23.55	W/O MOUNTAIN Ave	
113	07-TCS-445-HQ	Fwy	LA	210	BO	R 26.50	E/O LAKE Ave OC	
114	07-TCS-156-HQ	Fwy	LA	210	BO	R 27.409	PASADENA, ALLEN Ave INTERCHANGE	
115	07-TCS-760-HQ	Fwy	LA	210	BO	R 30.45	E/O ROSEMEAD Blvd	
116	07-TCS-810-HQ	Fwy	LA	210	BO	R 31.46	SANTA ANITA Ave UC (ARCADIA)	
117	07-TCS-529-HQ	Fwy	LA	210	BO	R 32.42	E/O SANTA ANITA Ave	
118	07-TCS-194-HQ	Fwy	LA	210	BO	R 35.24	DUARTE, BUENA VISTA St INTERCHANGE	
119	07-TCS-204-HQ	Fwy	LA	210	BO	R 37.00	E/O Jct Rte 605	
120	07-TCS-761-HQ	Fwy	LA	210	BO	R 42.66	At BONNIE COVE Ave UC	
121	07-TCS-128-HQ	Fwy	LA	210	BO	R 46.21	W/O FOOTHILL Blvd	
122	07-TCS-495-HQ	Fwy	LA	210	BO	R 51.85	W/O BASELINE Rd, E/O TOWNE Ave	
123	07-TCS-895-HQ	Fwy	LA	210	BO	R 52.15	BASELINE Rd	
124	07-TCS-213-HQ	Fwy	LA	405	BO	14.92	N/O WESTERN Ave, at VAN NESS Ave	5
125	07-TCS-228-HQ	Fwy	LA	405	BO	17.59	HAWTHORNE Blvd INTERCHANGE N/O Jct Rte 107	
126	07-TCS-551-HQ	Fwy	LA	405	BO	18.63	N/O INGLEWOOD Ave, at MARINE Ave	
127	07-TCS-217-HQ	Fwy	LA	405	BO	44.27	N/O ROSCOE Blvd, at PARTHENIA St	
128	07-TCS-218-HQ	Fwy	LA	405	BO	47.60	N/O Jct Rte 118, S/O RINALDI	
129	07-TCS-220-HQ	Fwy	LA	605	BO	R 2.31	N/O CARSON St, at CENTRALIA Ave	8
130	07-TCS-221-HQ	Fwy	LA	605	BO	R 5.58	N/O Jct Rte 91, S/O ALONDRA Blvd	
131	07-TCS-485-HQ	Fwy	LA	605	BO	R 8.90	S/O Jct Rte 5	
132	07-TCS-222-HQ	Fwy	LA	605	BO	R 11.00	N/O TELEGRAPH Rd, S/O SLAUSON	
133	07-TCS-660-HQ	Fwy	LA	605	BO	R 16.10	S/O PECK Rd, N/O ROSE HILLS Rd	
134	07-TCS-223-HQ	Fwy	LA	605	BO	R 17.75	N/O Jct Rte 60	
135	07-TCS-240-HQ	Fwy	LA	605	BO	21.62	N/O RAMONA Blvd	
136	07-TCS-547-HQ	Fwy	LA	605	BO	22.92	At SAN GABRIEL RIVER BRIDGE	
137	07-TCS-038-HQ	Fwy	LA	710	BO	10.31	N/O Jct Rte 405, S/O DEL AMO	7
138	07-TCS-039-HQ	Fwy	LA	710	BO	14.40	N/O ALONDRA Blvd, 2 COMPTON Blvd	
139	07-TCS-040-HQ	Fwy	LA	710	BO	19.10	N/O FIRESTONE Blvd	
140	07-TCS-041-HQ	Fwy	LA	710	BO	23.28	S/O Jct Rte 5	
141	07-TCS-435-HQ	Fwy	LA	710	BO	23.75	S/O Jct Rte 60	
142	07-TCS-042-HQ	Fwy	LA	710	BO	25.21	N/O FLORAL Dr	
143	07-TCS-436-HQ	Fwy	LA	710	BO	R 27.11	N/O Jct Rte 10, at GRAVOIS Ave	
144	07-TCS-736-HQ	Fwy	Ven	23	BO	R 3.32	S/O Jct Rte 101	1

Order No.	TCS & TMDS ID	LOCATION						TOTAL
		Type of Facility	Co	Rte	Dir	PM	DESCRIPTION	
145	07-TCS-051-HQ	Fwy	Ven	23	BO	R 10.78	S/O NEW LOS ANGELES Ave	1
146	07-TCS-753-HQ	Hwy	Ven	33	BO	R 4.05	At VENTURA Ave UC	2
147	07-TCS-433-HQ	Hwy	Ven	33	BO	17.35	S/O WHEELER SPRINGS	
148	07-TCS-138-HQ	Fwy	Ven	101	BO	14.13	N/O LEWIS Rd (Jct Rte 34)	5
149	07-TCS-147-HQ	Fwy	Ven	101	BO	20.20	N/O SANTA CLARA Ave	
150	07-TCS-740-HQ	Fwy	Ven	101	BO	R 25.17	N/O VICTORIA Ave	
151	07-TCS-139-HQ	Fwy	Ven	101	BO	27.25	N/O Jct Rte 126, S/O LEMON OH, N/O Jct Rte 126, S/O LEMON OH	
152	07-TCS-758-HQ	Fwy	Ven	101	BO	R 40.03	N/O SEACLIFF Dr UC	
153	07-TCS-458-HQ	Fwy	Ven	118	BO	T 18.50	W/O PRINCETON Ave/LA Ave	3
154	07-TCS-459-HQ	Fwy	Ven	118	BO	R 23.60	E/O MADERA Rd, W/O FIRST St	
155	07-TCS-782-HQ	Fwy	Ven	118	BO	R 27.81	TAPO St UC	
156	07-TCS-158-HQ	Fwy	Ven	126	BO	R 10.63	LAURIE Ln PED OC; E/O PECK Rd	3
157	07-TCS-408-HQ	Fwy	Ven	126	BO	1.83	HILL Rd POC	
158	07-TCS-159-HQ	Fwy	Ven	126	BO	R 13.53	EAST SANTA PAULA RR XING	
159	07-TCS-260-HQ	Hwy	Ven	150	BO	18.58	OJAI, GRIDLEY/OAK GLEN ROADS	1
160	07-V2089	Fwy	LA	5	SB	R 49.50	S/O WABUSKA	4
161	07-V2684	Fwy	LA	5	NB	R 54.70	N/O TRUCK SCALES	
162	07-V2685	Fwy	LA	5	NB	R 55.00	NB 5 TO RTE 126	
163	07-V2671	Fwy	LA	5	NB	R 55.30	N/O RTE 126	
164	07-V2209	Fwy	LA	710	SB	14.38	COMPTON	2
165	07-V2210	Fwy	LA	710	SB	R 16.50	KING 2	
TOTAL								165

Abbreviations *: BO: Both, E/O: East of, N/O: North of, S/O: South of, and W/O: West of.*

ATTACHMENT C

List of Roadside Safety Items

LIST OF ROADSIDE SAFETY ITEMS

Order No.	CMS No.	CMS ID	Exist CMS TYPE	Exist CMS LOCATION					Exist CMS REFERENCE			PROPOSED CIVIL WORK AND RECOMMENDATION							
				Co	Rte	Dir	PM	DESCRIPTION	GOOGLE MAP	COORDINATES		REMOVE GUARDRAIL (FT)	MGS		Conc BARRIER		MVP	CRASH CUSHION	NUMBER OF LOCATIONS RECOMMENDED FOR CABINET RELOCATION
										LATITUDE	LONGITUDE		NUMBER OF LOCATIONS	LENGTH (FT) [2]	NUMBER OF LOCATIONS	LENGTH (FT)	NUMBER OF LOCATIONS	NUMBER OF LOCATIONS	
1	107	767473	M	LA	2	WB	16.34	S/O VERDUGO Rd	Glendale Fwy - Google Maps	34.107443	-118.257245		1	175.00					
2	106	767472	M	LA	2	EB	R 16.74	VERDUGO Rd	Glendale Fwy - Google Maps	34.156296	-118.228776		1	175.00					
3	109	769121	M	LA	2	WB	81.00	2MI W/O S-LA Co LINE	CA-2 - Google Maps	34.372177	-117.673658		1	225.00					
4	041	726720	M	LA	5	SB	9.29	N/O PARAMOUNT Blvd	I-5 - Google Maps	33.968783	-118.122052	137.50	1	175.00			1		
5	009	726692	M	LA	5	NB	14.78	INDIANA St	Los Angeles, California - Google Maps	34.020143	-118.189181	100.00	1	175.00					2
6	020	726702	M	LA	5	SB	19.48	BROADWAY St	Golden State Fwy - Google Maps	34.069796	-118.217530	100.00	1	175.00			1		
7	040	726719	M	LA	5	SB	27.74	WESTERN Ave	Glendale, California - Google Maps.	34.163608	-118.295203	125.00	1	175.00			1		1
8	090	768734	M	LA	5	NB	R 78.10	SMOKEY BEAR Rd	I-5 - Google Maps	34.709657	-118.796863	137.50	1	337.50					
9	092	768735	M	LA	5	SB	R 85.70	GORMAN	I-5 - Google Maps	34.794857	-118.850638	137.50	1	537.50			1		
10	067	726743	M	LA	10	EB	28.59	SANTA ANITA Ave	San Bernardino Fwy - Google Maps	34.069022	-118.043714								2
11	103	14001	M	LA	14	SB	R 61.32	Ave P	Aerospace Hwy - Google Maps	34.600810	-118.141777		1	175.00			1		
12	110	769611	M	LA	57	SB	5.35	S/O TEMPLE Ave	Orange Fwy - Google Maps	34.033480	-117.808497	87.50	1	175.00					
13	111	769612	M	LA	57	NB	5.55	TEMPLE Ave	Orange Fwy - Google Maps	34.035981	-117.806777	87.50	1	175.00					
14	112	769613	M	LA	57	SB	R 9.45	S/O VIA VERDE	Orange Fwy - Google Maps	34.087094	-117.819600	50.00	1	150.00					
15	113	769614	M	LA	57	NB	R 9.75	S/O COVINA Blvd	Orange Fwy - Google Maps	34.091587	-117.819499	25.00	1	125.00					
16	094	762698	M	LA	60	EB	10.10	SANTA ANITA Ave	Pomona Fwy - Google Maps	34.040165	-118.054161	75.00	1	175.00					
17	108	768879	M	LA	101	NB	24.50	DE SOTO Ave	US-101 - Google Maps	34.168502	-118.591273	75.00	1	250.00					
18	114	771128	M	LA	101	SB	28.10	PARKWAY CALABASAS	US-101 - Google Maps	34.154626	-118.649187	50.00	1	125.00			1		
19	115	771129	M	LA	101	SB	32.00	LOST HILLS Rd	US-101 - Google Maps	34.140415	-118.701587	112.50	1	175.00					
20							33.81	Cheeseboro Canyon/ Palo Comado Canyon Rd	Ventura Fwy - Google Maps	34.142935	-118.740241	87.50	1	175.00					
21	069	726745	M	LA	105	WB	R 4.23	CRENSHAW Blvd	Century Fwy - Google Maps	33.925064	-118.335191	300.00	1	350.00			1		
22	065	726741	M	LA	105	EB	R 11.44	LONG BEACH Blvd	Glenn Anderson Fwy - Google Maps	33.925472	-118.211982	375.00	1	675.00			1	1	

Order No.	CMS No.	CMS ID	Exist CMS TYPE	Exist CMS LOCATION					Exist CMS REFERENCE			PROPOSED CIVIL WORK AND RECOMMENDATION							
				Co	Rte	Dir	PM	DESCRIPTION	GOOGLE MAP	COORDINATES		REMOVE GUARDRAIL (FT)	MGS		Conc BARRIER		MVP	CRASH CUSHION	NUMBER OF LOCATIONS RECOMMENDED FOR CABINET RELOCATION
										LATITUDE	LONGITUDE		NUMBER OF LOCATIONS	LENGTH (FT) [2]	NUMBER OF LOCATIONS	LENGTH (FT)	NUMBER OF LOCATIONS	NUMBER OF LOCATIONS	
23	066	726742	M	LA	105	EB	R 15.26	W/O LAKEWOOD Blvd	Century Fwy - Google Maps	33.912532	-118.140067	275.00	1	300.00					
24	062	726738	M	LA	105	WB	R 15.72	LAKEWOOD Blvd	Century Fwy - Google Maps	33.913398	-118.140067	100.00	1	175.00					
25	037	726716	M	LA	110	NB	6.35	S/O CARSON St	Harbor Fwy - Google Maps	33.821895	-118.287122	75.00	1	175.00					
26	076	759127	M	LA	110	SB	15.70	MANCHESTER Ave	Harbor Fwy - Google Maps	33.956405	-118.281250				1	15			
27	070	765424	M	LA	118	EB	R 8.50	HAYVENHURST Ave	Ronald Reagan Fwy - Google Maps	34.273376	-118.491627		1	175.00					1
28	056	726732	M	LA	170	SB	R 16.10	BURBANK Blvd	Hollywood Fwy - Google Maps	34.172868	-118.390010		1	175.00			1		
29	082	759131	M	LA	210	EB	R 21.02	FOOTHILL Blvd	San Fernando Fwy - Google Maps	34.196702	-118.185040	112.50	1	212.50					
30	096	762699	M	LA	210	WB	R 38.80	VERNON Ave	William H. Lancaster Memorial Hwy - Google Maps	34.127708	-117.917585	62.50	1	350.00					
31	039	726718	M	LA	405	SB	14.54	WESTERN Ave	San Diego Fwy - Google Maps	33.859955	-118.311627	262.50	1	262.50				1	
32	101	766763	M	LA	405	NB	44.88	NORDOFF St	San Diego Fwy - Google Maps	34.237034	-118.472787	250.00	1	462.50					
33	084	759133	M	LA	605	NB	R 1.31	S/O CARSON St	San Gabriel River Fwy - Google Maps	33.825050	-118.081568	137.50	1	175.00			1		
34	079	759128	M	LA	605	NB	R 14.89	N/O BEVERLY Blvd	I-605 - Google Maps	33.009018	-118.057890	(REMOVE CRASH CUSHION)			1	55			
35	075	765425	M	LA	605	SB	21.90	LOWER AZUSA Rd	San Gabriel River Fwy - Google Maps	34.090421	-117.993432	212.50	1	350.00					
36	124	773607	M	LA	710	SB	11.40	N/O DEL AMO Blvd	Long Beach Fwy - Google Maps	33.855517	-118.204147	137.50	1	175.00					
37	125	773606	M	LA	710	NB	11.50	N/O DEL AMO Blvd	Long Beach Fwy - Google Maps	33.855285	-118.203587	212.50	1	437.50					
38	050	726729	M	LA	710	SB	14.46	N/O COMPTON Blvd	Long Beach Fwy - Google Maps	33.896491	-118.187880	125.00	1	175.00					
39	088	759135	M	LA	710	SB	18.54	N/O FIRESTONE Blvd	Long Beach Fwy - Google Maps	33.951250	-118.170601	62.50	1	175.00					
40	105	767639	M	Ven	101	SB	30.20	S/O Rte 33	CA-1 - Google Maps	34.277357	-119.294003	87.50	1	175.00					
41	119	772059	M	Ven	118	WB	R 21.40	COLLINS Dr	CA-118 - Google Maps	34.293679	-118.841251						1		
TOTAL												**4,175.00**	**37**	**8,825.00**	**2**	**70**	**11**	**2**	**6**
ROUNDED-UP												**4,180**	**37**	**8,900**	**2**	**70**	**11**	**2**	**6**

Abbreviations: *E/O: East of; N/O: North of; S/O: South of; W/O: West of.*

ATTACHMENT D

Conceptual Layout Plan
of CMS, MGS, and MVP

ATTACHMENT D

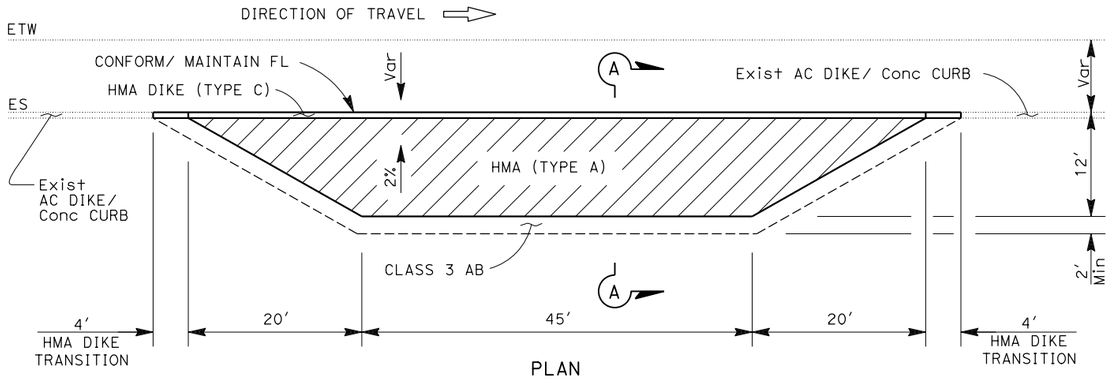
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA, Ven	Var	Var		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

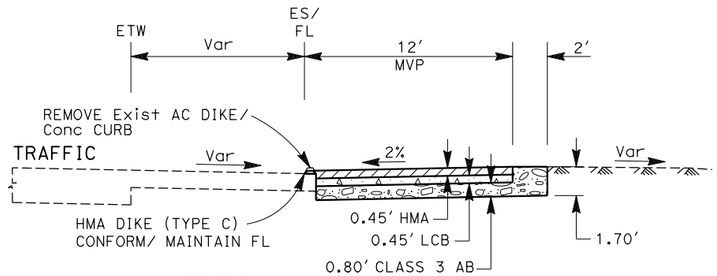
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



PLAN

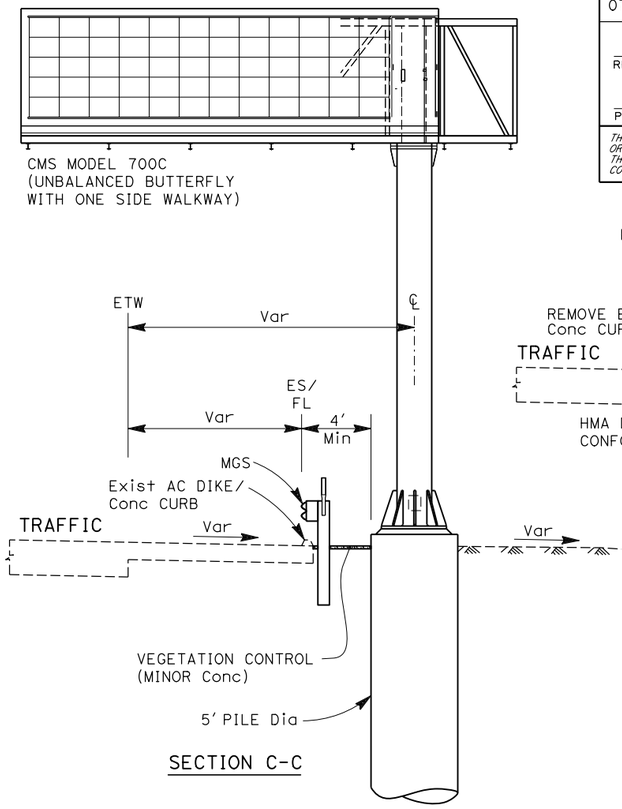
TYPICAL MVP LAYOUT

(Approx 930sqft DSA)

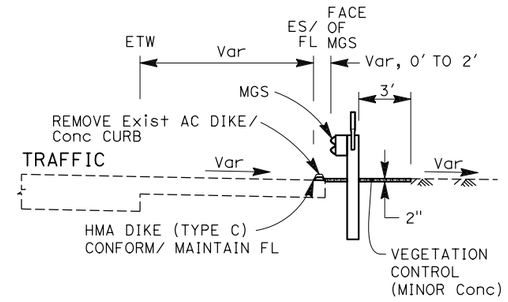


SECTION A-A

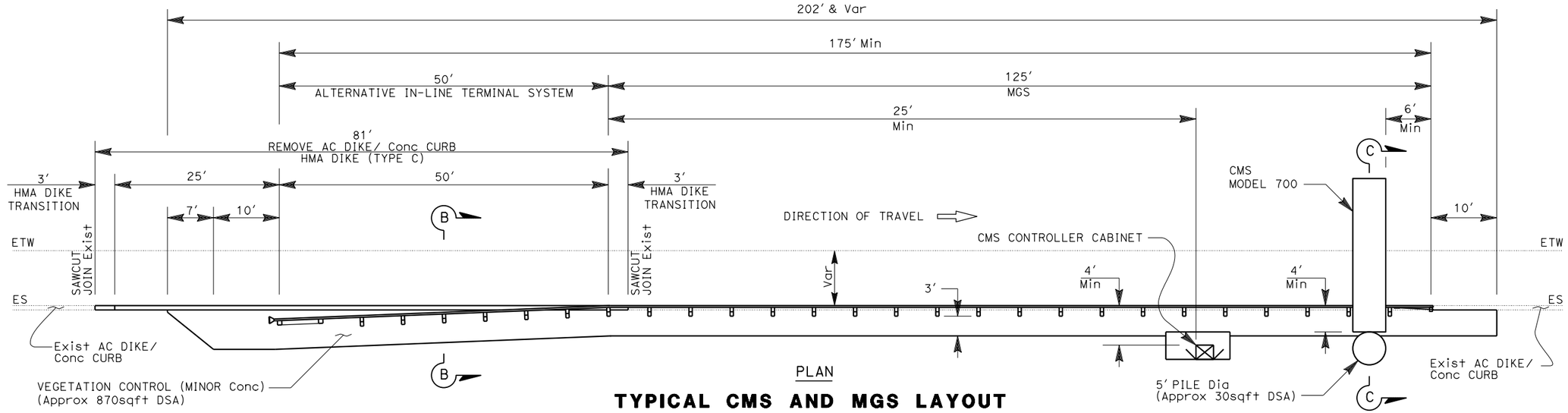
NOTE: THICKNESS OF STRUCTURAL SECTIONS SHOWN IS ASSUMED AND WILL BE DETERMINED AT PS&E PHASE.



SECTION C-C



SECTION B-B



PLAN

TYPICAL CMS AND MGS LAYOUT

(Approx 960sqft TOTAL DSA)

CONCEPTUAL LAYOUT PLAN OF CMS, MGS, AND MVP

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
OFFICE OF ITS
Caltrans

FUNCTIONAL SUPERVISOR: CESAR A. HERNANDEZ

CALCULATED-DESIGNED BY: VUONG TRAN
CHECKED BY:

REVISED BY | DATE REVISED

LAST REVISION 11-30-21
DATE PLOTTED => 30-NOV-2021
TIME PLOTTED => 04:57

BORDER LAST REVISED 7/2/2010

USERNAME => s102249
DGN FILE => 350301_Conceptual Layout Plan.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1885

PROJECT NUMBER & PHASE 07180001791

ATTACHMENT E

Cost Estimates

PROJECT

EA: 350300

EA: 350300 EFIS: 0718000179

EFIS: 0718000179

District-County-Route: 07-LA, Ven-Var

PM: Var

Type of Estimate : PA&ED

Program Code : 20.XX.201.315 SHOPP Mobility 315 TMS Program

Project Limits : Various locations in LA and Ven Counties

Project Description: Upgrade existing Changeable Message Signs (CMS) to new Color CMS, upgrade Traffic Census Stations (TCS) and Traffic Monitoring Detection Stations (TMS), and install barriers and Maintenance Vehicle Pullouts (MVP).

Scope : Replace existing CMS panels with new Color CMS panels (75 total), replace existing CMS structure (1 total), replace TCS (159 total), replace TMDS (6 total), relocate controller cabinets (6 locations), install MGS (37 locations), install concrete barriers (2 locations), install crash cushions (2 locations), and construct MVPs (11 locations).

Alternative : No. 1

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	$ 73,225,500	$ 86,362,689
TOTAL STRUCTURES COST	$ -	$ -
SUBTOTAL CONSTRUCTION COST	$ 73,225,500	$ 86,362,689
TOTAL RIGHT OF WAY COST	$ 292,000	$ 464,443
TOTAL CAPITAL OUTLAY COSTS	$ 73,518,000	$ 86,828,000
PA/ED SUPPORT	$ 2,088,000	$ 2,102,000
PS&E SUPPORT	$ 7,899,000	$ 8,449,000
RIGHT OF WAY SUPPORT	$ 189,000	$ 199,000
CONSTRUCTION SUPPORT	$ 16,403,000	$ 16,686,000
TOTAL SUPPORT COST	$ 26,579,000	$ 27,436,000
TOTAL PROJECT COST	$ 101,000,000	$ 115,000,000

If Project has been programmed enter Programmed Amount $ 118,695,000

	Month	/	Year
Date of Estimate (Month/Year)	3	/	2022
Estimated Construction Start (Month/Year)	12	/	2024
Number of Working Days	=		500
Estimated Mid-Point of Construction (Month/Year)	04	/	2026
Estimated Construction End (Month/Year)	05	/	2027
Number of Plant Establishment Days			0

Estimated Project Schedule

PID Approval	10/08/2018
PA/ED Approval	12/01/2021
PS&E	02/01/2024
RTL	03/01/2024
Begin Construction	12/02/2024

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier **Date** **Phone**

Approved by Project Manager

Project Manager **Date** **Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost	
1	**Earthwork**	$	1,296,100	
2	**Pavement Structural Section**	$	2,750,000	
3	**Drainage**	$	-	
4	**Specialty Items**	$	2,270,700	
5	**Environmental**	$	1,675,400	
6	**Traffic Items**	$	31,821,100	
7	**Detours**	$	-	
	7603000			######
8	**Minor Items**	$	199,100	
9	**Roadway Mobilization**	$	4,001,300	
10	**Supplemental Work**	$	2,581,400	
11	**State Furnished**	$	9,424,500.00	
12	**Time-Related Overhead**	$	4,001,300.00	
13	**Roadway Contingency**	$	13,204,600.00	
	TOTAL ROADWAY ITEMS	**$**	**73,225,500**	

Estimate Prepared By :	Vuong Tran, PE	1/25/2022	(213) 598-6972
	Name and Title	Date	Phone
Estimate Reviewed By :	Cesar Hernandez, Design Manager	1/27/2022	(213) 266-6861
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
170101	Develop Water Supply	LS		x		=	$	-
170103	**Clearing & Grubbing**	**LS**	**LS**	**x**	**267,600.00**	**=**	**$**	**267,600**
190101	**Roadway Excavation**	**CY**	**30**	**x**	**700.00**	**=**	**$**	**21,000**
190105	**Roadway Excavation (Type Z-2) ADL**	**CY**	**1,550**	**x**	**650.00**	**=**	**$**	**1,007,500**
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
210130	Duff	ACRE		x		=	$	-
XXXXXX	Some Item	Unit						

TOTAL EARTHWORK SECTION ITEMS	**$**	**1,296,100**

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)	##		Cost
150860	Remove Base and Surfacing	CY		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD		x		=	$	-
15312X	Remove Concrete	LF/CY/LS		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
26020X	Class 2 Aggregate Base	CY		x		=	$	-
260303	**Class 3 Aggregate Base**	**CY**	**310**	**x**	**350.00**	**=**	**$**	**108,500**
280000	**Lean Concrete Base**	**CY**	**130**	**x**	**600.00**	**=**	**$**	**78,000**
280010	Rapid Strength Concrete Base	CY		x		=	$	-
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
390132	**Hot Mix Asphalt (Type A)**	**TON**	**450**	**x**	**550.00**	**=**	**$**	**247,500**
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x		=	$	-
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		=	$	-
394090	**Place Hot Mix Asphalt (Miscellaneous Area)**	**SQYD**	**900**	**x**	**250.00**	**=**	**$**	**225,000**
394074	**Place Hot Mix Asphalt Dike (Type C)**	**LF**	**3,800**	**x**	**35.00**	**=**	**$**	**133,000**
394077	**Place Hot Mix Asphalt Dike (Type F)**	**LF**	**7,630**	**x**	**35.00**	**=**	**$**	**267,050**
397005	**Tack Coat**	**TON**	**1.0**	**x**	**18,000.00**	**=**	**$**	**18,000.00**
398000	**Remove Asphalt Concrete Pavement**	**CY**	**49**	**x**	**600.00**	**=**	**$**	**29,400**
398100	**Remove Asphalt Concrete Dike**	**LF**	**11,500**	**x**	**25.00**	**=**	**$**	**287,500**
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
401050	Jointed Plain Concrete Pavement	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404093	Seal Isolation Joint	LF		x		=	$	-
410095	Dowel Bar (Drill and Bond)	EA		x		=	$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		=	$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		=	$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
731502	**Minor Concrete (Miscellaneous Construction)**	**CY**	**18**	**x**	**2,000.00**	**=**	**$**	**36,000**
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
832070	**Vegetation Control (Minor Concrete)**	**SQYD**	**8,800**	**x**	**150.00**	**=**	**$**	**1,320,000**
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	**$**	**2,750,000**

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
15080X	Remove Culvert	EA/LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
155232	Sand Backfill	CY		x		=	$	-
15020X	Abandon Culvert	EA/LF		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY		x		=	$	-
5105XX	Minor Concrete (Type XX)	CY		x		=	$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF		x		=	$	-
6411XX	XX" Plastic Pipe	LF		x		=	$	-
65XXXX	XX" Reinforced Concrete Pipe (Type X)	LF		x		=	$	-
6650XX	XX" Corrugated Steel Pipe (0.XXX" Thick)	LF		x		=	$	-
68XXXX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
69011X	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thick)	LF		x		=	$	-
70XXXX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF		x		=	$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
703233	Grated Line Drain	LF		x		=	$	-
7050XX	XX" Steel Flared End Section	EA		x		##	$	-
72XXXX	Rock Slope Protection (Type and Method)	CY/TON		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
72901X	Rock Slope Protection Fabric (Class X)	SQYD		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Additional Drainage	LS		x		=	$	-

TOTAL DRAINAGE ITEMS $ -

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
070030	**Lead Compliance Plan**	**LS**	**1**	**x**	**15,000.00**	**=**	**$**	**15,000**
080050	**Progress Schedule (Critical Path Method)**	**LS**	**1**	**x**	**30,000.00**	**=**	**$**	**30,000**
141120	**Treated Wood Waste**	**LB**	**64,400**	**x**	**4.00**	**=**	**$**	**257,600**
153213	**Remove Concrete (Structure)**	**CY**	**10**	**x**	**1,500.00**	**=**	**$**	**15,000**
150763A	**Remove CMS Panel**	**EA**	**75**	**x**	**4,000.00**	**=**	**$**	**300,000**
498052	**60" CIDH Concrete Pile (Sign Foundation)**	**LF**	**27**	**x**	**2,000.00**	**=**	**$**	**54,000**
510060	Structural Concrete, Retaining Wall	CY		x		=	$	-
510502 (F)	**Minor Concrete (Minor Structure)**	**CY**	**14**	**x**	**3,000.00**	**=**	**$**	**42,000**
520103	Bar Reinforced Steel (Retaining Wall)	LB		x		=	$	-
560218 (F)	**Furnish Sign Structure (Truss)**	**LB**	**24,200**	**x**	**7.00**	**=**	**$**	**169,400**
560219 (F)	**Install Sign Structure (Truss)**	**LB**	**24,200**	**x**	**2.00**	**=**	**$**	**48,400**
568046	**Remove Sign Structure**	**EA**	**1**	**x**	**15,000.00**	**=**	**$**	**15,000**
780460 (F)	**Anti-Graffiti Coating**	**SQFT**	**13,500**	**x**	**6.00**	**=**	**$**	**81,000**
780465A	**Anti-Graffiti Device**	**EA**	**75**	**x**	**600.00**	**=**	**$**	**45,000**
810190	**Guard Railing Delineator**	**EA**	**780**	**x**	**60.00**	**=**	**$**	**46,800**
832007	**Midwest Guardrail System (Wood Post)**	**LF**	**8,900**	**x**	**60.00**	**=**	**$**	**534,000**
839543	**Transition Railing (Type WB-31)**	**EA**	**3**	**x**	**7,500.00**	**=**	**$**	**22,500**
839581	**End Anchor Assembly (Type SFT)**	**EA**	**39**	**x**	**1,500.00**	**=**	**$**	**58,500**
839584	**Alternative In-Line Terminal System**	**EA**	**35**	**x**	**7,500.00**	**=**	**$**	**262,500**
839601	**Crash Cushion (Type CAT)**	**EA**	**2**	**x**	**50,000.00**	**=**	**$**	**100,000**
839649	**Concrete Barrier (Type 60MS)**	**LF**	**70**	**x**	**1,000.00**	**=**	**$**	**70,000**
839752	**Remove Guardrail**	**LF**	**4,200**	**x**	**20.00**	**=**	**$**	**84,000**
839783	**Remove Crash Cushion (Sand Filled)**	**EA**	**40**	**x**	**500.00**	**=**	**$**	**20,000**
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL SPECIALTY ITEMS $ 2,270,700

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Biological Mitigation	LS		x		=	$	-		
130670	**Temporary Reinforced Silt Fence**	**LF**	**2,850**	**x**	**6.00**	**=**	**$**	**17,100**		
141000	Temporary Fence (Type ESA)	LF		x		=	$	-		
								Subtotal Environmental Mitigation	*$*	*17,100*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
150685	Remove Irrigation Facility	LS		x		=	$	-		
20XXXX	Follow-up Landscape Project	LS		x		=	$	-		
20XXXX	**Highway Planting**	**LS**	**1**	**x**	**61,425.00**	**=**	**$**	**61,425**		
20XXXX	Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x		=	$	-		
20XXXX	**Irrigation System**	**LS**	**1**	**x**	**147,420.00**	**=**	**$**	**147,420**		
20XXXX	Maintain Existing (Irrigation or Planted Areas)	LS		x		=	$	-		
200122	Weed Germination	SQYD		x		=	$	-		
204099	**Plant Establishment Work**	**LS**	**1**	**x**	**36,855.00**	**=**	**$**	**36,855**		
204101	Extend Plant Establishment Work	LS		x		=	$	-		
206400	Check and Test Existing Irrigation Facilities	LS		x		=	$	-		
208304	Water Meter	EA		x		=	$	-		
2087XX	XX" Conduit (Use for Irrigation x-overs)	LF		x		##	$	-		
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LF		x		=	$	-		
21011X	Imported Topsoil (X)	CY/TON		x		=	$	-		
								Subtotal Landscape and Irrigation	*$*	*245,700*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
210010	Move In/Move Out (Erosion Control)	EA		x		=	$	-		
210350	Fiber Rolls	LF		x		=	$	-		
2102XX	Rolled Erosion Control Product (X)	SQFT		x		=	$	-		
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		=	$	-		
210300	Hydromulch	SQFT		x		=	$	-		
210360	Compost Sock	LF		x		=	$	-		
210420	Straw	SQFT		x		=	$	-		
210430	Hydroseed	SQFT		x		=	$	-		
210600	Compost	SQFT		x		=	$	-		
210630	Incorporate Materials	SQFT		x		=	$	-		
								Subtotal Erosion Control	*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130100	**Job Site Management**	**LS**	**1**	**x**	**330,000.00**	**=**	**$**	**330,000**		
130200	Prepare WPCP	LS		x		=	$	-		
130300	**Prepare SWPPP**	**LS**	**1**	**x**	**210,000.00**	**=**	**$**	**210,000**		
130310	**Rain Event Action Plan (REAP)**	**EA**	**36**	**x**	**1,500.00**	**=**	**$**	**54,000**		
130320	**Storm Water Sampling and Analysis Day**	**EA**	**30**	**x**	**3,000.00**	**=**	**$**	**90,000**		
130330	**Storm Water Annual Report**	**EA**	**2**	**x**	**6,000.00**	**=**	**$**	**12,000**		
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		=	$	-		
130520	Temporary Hydraulic Mulch	SQYD		x		=	$	-		
130550	Temporary Hydroseed	SQYD		x		=	$	-		
130610	Temporary Check Dam	LF		x		=	$	-		
130620	**Temporary Drainage Inlet Protection**	**EA**	**360**	**x**	**400.00**	**=**	**$**	**144,000**		
130640	**Temporary Fiber Roll**	**LF**	**16,600**	**x**	**11.00**	**=**	**$**	**182,600**		
130710	Temporary Construction Entrance	EA		x		=	$	-		
130730	**Street Sweeping**	**LS**	**1**	**x**	**150,000.00**	**=**	**$**	**150,000**		
130900	**Temporary Concrete Washout**	**LS**	**1**	**x**	**240,000.00**	**=**	**$**	**240,000**		
								Subtotal NPDES	*$*	*1,412,600*

TOTAL ENVIRONMENTAL	**$**	**1,675,400**

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS		x		=	$	-		
066596	**Additional Water Pollution Control****	**LS**	**1**	**x**	**18,000.00**	**=**	**$**	**18,000**		
066597	**Storm Water Sampling and Analysis*****	**LS**	**1**	**x**	**15,000.00**	**=**	**$**	**15,000**		
XXXXXX	Some Item	LS		x		=	$	-		
								Subtotal Supplemental Work for NDPS	*$*	*33,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
15075X	Remove Sign Structure	EA/LS		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
498040	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
5602XX	Furnish Sign Structure (Type X)	LB		x		=	$	-
5602XX	Install Sign Structure (Type X)	LB		x		=	$	-
860201	Signal and Lighting	LS		x		=	$	-
860460	Lighting and Sign Illumination	LS		x		=	$	-
86070X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
86080X	Inductive Loop Detectors	EA/LS		x		=	$	-
860925A	**Traffic Census Station**	**EA**	**159**	**x**	**130,000.00**	**=**	**$**	**20,670,000**
870605A	**Traffic Monitoring Detection Station**	**EA**	**6**	**x**	**130,000.00**	**=**	**$**	**780,000**
8609XX	Traffic Monitoring Station (Type X)	LS		x		=	$	-
860990	Closed Circuit Television System	LS		x		=	$	-
86110X	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
870009	**Maintain Existing Traffic Management System Elements During Construction**	**LS**	**1**	**x**	**1,012,100.00**	**=**	**$**	**1,012,100**
872005A	**Interm Communication**	**LS**	**1**	**x**	**400,000.00**	**###**	**$**	**400,000**
872137	**Modifying Changeable Message Sign Systems**	**LS**	**1**	**x**	**6,000,000.00**	**=**	**$**	**6,000,000**
87XXXX	**Relocate Controller Cabinet**	**EA**	**6**	**x**	**15,000.00**	**=**	**$**	**90,000**

Subtotal Traffic Electrical $ *28,952,100*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
566011	Roadside Sign - One Post	EA		x		=	$	-
566012	Roadside Sign - Two Post	EA		x		=	$	-
5602XX	Furnish Sign	SQFT		x		=	$	-
568016	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
150711	Remove Painted Traffic Stripe	LF		x		=	$	-
141101	Remove Yellow Painted Traffic Stripe (Hazardous Waste)	LF		x		=	$	-
150712	Remove Painted Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
820590	**Relocate Roadside Sign-One Post**	**EA**	**5**	**x**	**1,000.00**	**=**	**$**	**5,000**
82010X	Delineator (Class X)	EA		x		=	$	-
840502	Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF		x		=	$	-
846012	Thermoplastic Crosswalk and Pavement Marking (Enhanced Wet Night Visibility)	SQFT		x		=	$	-
120090	**Construction Area Signs**	**LS**	**1**	**x**	**370,000.00**	**=**	**$**	**370,000**
84XXXX	Permanent Pavement Delineation	LS		x		=	$	-

Subtotal Traffic Signing and Striping $ *375,000*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
120204	**Portable Radar Speed Feedback Sign System Day**	**EA**	**1,050**	**x**	**$ 300**	**=**	**$**	**315,000**
128651	**Portable Changeable Message Sign**	**EA**	**73**	**x**	**$ 10,000**	**=**	**$**	**730,000**

Subtotal Traffic Management Plan $ *1,045,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120120	Type III Barricade	EA		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
12016X	Channelizer (Type X)	EA		x		=	$	-
120100	**Traffic Control System**	**LS**	**1**	**x**	**735,000.00**	**=**	**$**	**735,000**
120199	Traffic Plastic Drum	EA		x		=	$	-
129000	**Temporary Railing (Type K)**	**LF**	**3,840**	**x**	**150.00**	**=**	**$**	**576,000**
129100	**Temporary Crash Cushion Module**	**EA**	**230**	**x**	**600.00**	**=**	**$**	**138,000**
129110	Temporary Crash Cushion	EA		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

Subtotal Stage Construction and Traffic Handling $ *1,449,000*

TOTAL TRAFFIC ITEMS **$ 31,821,100**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
128601	Temporary Signal System	LS		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
190101	Roadway Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
26020X	Class 2 Aggregate Base	TON/CY		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON		x		=	$	-
80010X	Temporary Fence (Type X)	LF		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 39,813,300

SECTION 8: MINOR ITEMS

##

8A - Americans with Disabilities Act Items

ADA Items 0.0% $ -

8B - Bike Path Items

Bike Path Items 0.0% $ -

8C - Other Minor Items

Other Minor Items **0.5%** **$ 199,067**

Total of Section 1-7 $ 39,813,300 x 0.5% = $ 199,067

TOTAL MINOR ITEMS **$ 199,100**

SECTIONS 9: MOBILIZATION

Item code							
999990	**Total Section 1-8**	**$ 40,012,400**	**x**	**10%**	**=**	**$**	**4,001,240**

TOTAL MOBILIZATION **$ 4,001,300**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066015	**Federal Trainee Program**	**LS**	**1**	**x**	**90,000.00**	**=**	**$**	**90,000**
066070	**Maintain Traffic**	**LS**	**1**	**x**	**630,000.00**	**=**	**$**	**630,000**
066094	**Value Analysis**	**LS**	**1**	**x**	**30,000.00**	**=**	**$**	**30,000**
066204	Remove Rock and Debris	LS		x		=	$	-
066222	Locate Existing Crossover	LS		x		=	$	-
066610	**Partnering**	**LS**	**1**	**x**	**150,000.00**	**=**	**$**	**150,000**
066670	**Payment Adjustments For Price Index Fluctuations**	**LS**	**1**	**x**	**2,900.00**	**=**	**$**	**2,900**
090205	**Dispute Resolution Board**	**LS**	**1**	**x**	**45,000.00**	**=**	**$**	**45,000**
066921	Dispute Resolution Advisor	LS		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

*Cost of **NPDES** Supplemental Work specified in Section 5D* = $ 33,000

Total Section 1-8 $ 40,012,400 4% = $ 1,600,496

TOTAL SUPPLEMENTAL WORK **$ 2,581,400**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	**Resident Engineers Office**	**LS**	**1**	x	**399,000.00**	=	**$399,000**
066063	**Traffic Management Plan - Public Information**	**LS**	**1**	x	**60,000.00**	=	**$60,000**
066901	Water Expenses	LS		x		=	$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	$0
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	**COZEEP Contract**	**LS**	**1**	x	**2,100,000.00**	=	**$2,100,000**
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS		x		=	$0
066916	**Annual Construction General Permit Fee**	**LS**	**1**	x	**15,000.00**	=	**$15,000**
066888A	**Model 700C Changeable Message System**	**LS**	**1**	x	**5,250,000.00**	=	**$5,250,000**
XXXXXX	Some Item	Unit		x		=	$0

Total Section 1-8	$	40,012,400		4%	= $	1,600,496

TOTAL STATE FURNISHED	**$9,424,500**

##

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	$40,012,400	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	$56,019,600	(used to check if project is greater than $5 million excluding contingency)

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
070018	**Time-Related Overhead**	**WD**	**500**	**x**	**$8,003**	**=**	**$4,001,300**

TOTAL TIME-RELATED OVERHEAD	**$4,001,300**

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

SECTION 13: ROADWAY CONTINGENCY

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-12	$	60,020,900	x	**22%**	=	$13,204,598	

TOTAL CONTINGENCY	**$13,204,600**

EA: 350300 EFIS: 0718000179

II. STRUCTURE ITEMS

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0		$0		$0
COST OF EACH	**$0**	######	**$0**		**$0**

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$100		$0		$0
COST OF EACH	**$0**		**$0**		**$0**

TOTAL COST OF BRIDGES	**$0**
TOTAL COST OF BUILDINGS	**$0**
Structures Mobilization Percentage 10%	**$0**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Structures Contingency Percentage 10%	**$0**
TOTAL COST OF STRUCTURES	**$0**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXXX ------ Division of Structures Date

EA: 350300 EFIS: 0718000179

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees				$	0
	A2)	SB-1210				$	0
B)		Acquisition of Offsite Mitigation				$	0
C)	C1)	Utility Relocation (State Share)				$	
	C2)	Potholing (Design Phase)				$	
D)		Railroad Acquisition				$	0
E)		Clearance / Demolition				$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)				$	0
G)		Title and Escrow				$	0
H)		Environmental Review				$	0
I)		Condemnation Settlements	0%	7603000	10535000	$	0
J)		Design Appreciation Factor	0%			$	0
K)		Utility Relocation (Construction Cost)				$	**292,000**

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$292,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$464,443**
N)	**RIGHT OF WAY SUPPORT**	**$199,000**

Support Cost Estimate Prepared By	Project Coordinator[1]	Phone
Utility Estimate Prepared By	Utiliy Coordinator[2]	Phone
R/W Acquistion Estimate Prepared By	Right of Way Estimator[3]	Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

ATTACHMENT F

Right of Way Data Sheet and Support Estimate
(DS5492)

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Serious Drought!
Help Save Water!

To: Cesar Hernandez , Design Manager
Office of Design
District 7, Los Angeles Office

From: Zoltan Elo, Office Chief
Right of Way Appraisals, and Planning & Management
District 7, Los Angeles Office

Date: 10/12/2021
EA: 35030
Data Sheet ID NO: ds5492
Project ID # 0718000179

Subject: Current Estimated Right of Way Costs for **Project Report**

We have completed an estimate of the Right of Way costs for the above referenced project based on information received from Vuong Tran PE and the following assumptions and limiting conditions apply:

- The mapping did not provide sufficient detail to determine the limits of the right of way required.
- The transportation facilities have not been sufficiently designed, so our estimator could not determine the damages to any of the remainder parcels affected by the project.
- Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the estimate.

Right of Way Certificate (RWC) lead time will require a minimum of NA after maps to appraisal **(MA).** Completed Appraisal maps include HMDD, COS, HW Memo, and RE-49. An executed copy of the new freeway agreement if required for the project. When utility relocation is warranted, utility conflict maps will be required. Additionally a minimum of NA will be required after receiving the last revision to the appraisal map. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be file and present a risk to the RWC project delivery milestone. Due to the passage of Map 21 and the Buy America provision, the Right of Way Certification process will be longer, if Utility Relocation is necessary.

Current Schedule: PRSM

PAED (M 200)	MA (M 224)	RWC (M 410)	RTL (M 460)	CCA (M 600)
12/1/2021	N/A	2/1/2024	3/1/2024	10/14/2027

TO **Cesar Hernandez**
ATTN **Vuong Tran**
SENIOR R/W P&M **Darek Chmielewski**
ROUTE Various
PM_KM Various
EA 35030 Project
ID #0718000179
ALT

R/W DATA SHEET

ID NO ds5492

Date of Data Sheet 10/12/2021

Project Description This project proposes to replace existing Changeable Message Signs (CMSs) with new panels on various routes and at various locations in Los Angeles and Ventura Counties. This project also proposes to upgrade Traffic Census Stations (TCSs) and some Traffic Monitoring Stations (TMSs). Relocation of some controller cabinets will also involve. In addition, Civil work of Maintenance Vehicle Pullouts (MVPs), Midwest Guardrail Systems

This cost estimate is valid for the above scoping report only. This is an estimate only and not an appraisal. It may be based on worse case scenarios.
The estimate is subject to change and revision.
The mapping did not provide sufficient nor adequate detail to determine the limits of thr Right of Way required and effects on the improvements.
The transportation facilities have not been sufficiently designed for our estimator to determine the damages to any of the remainder parcels affected by the project.

This cost estimate is pursuant to the following responses supplied by Cesar Hernandez to the Data Sheet Request Form.

	YES	NO	Not known at this time
Utilities are depicted on plans		x	
Railroads are depicted on plans		x	
There are Material and/or Disposal Sites Required		x	
Caltrans will do the Right of Way work			x
There will be a Cooperative Agreement			x
This is a reimbursable project			x
There is Hazardous Waste potential		x	

RW COST ESTIMATE

	CURRENT VALUE	ESCALATED VALUE
R/ w acq.(incl.contingency G.w-condem.-adm.s'tl.)Permits		
Clearance	No Right of Way	
RAP (cont rate.)		
Escrow costs (cont rate.)		
Utility relocation costs	**$292,000**	**$464,443**
Estimate of Reimbursed Appraisal Fee		
Total estimated cost	**$292,000**	**$464,443**

Escalation Rate Rw .07
Escalation Rate Utilities .08
Cert.date 2/1/24

Data Sheet ID NO: ds5492
ROUTE Various
PM_KM Various
EA 35030
ALT

Parcel Count and Py Info

PARCEL TYPES	DUAL APPR.
A	
B	0
C	
D	
F	

RIGHTS NEEDED	
FEE	
EASE	
TCE	

TAKES	
FULL	
PART	
TOTAL	

DISPLACEMENT OF UNITS	
SFR	
BUS	
MULTI	

PARCELS WITH RAP	POTENTIAL CLEARANCE PARCELS	POTENTIAL CONDEMNATION PARCELS	POTENTIAL EXCESS PARCELS

UTILITY IMPACTS	
u4-1	
u4-2	
u4-3	
u4-4	
u5-7	
u5-8	
u5-9	

Estimate Of Right Of Way Support Hours

Activity Codes	Function	Hours
225 & 245	Appraisals	
225 & 245	Acquisitions	
200	Utilities	
185.20.40	Utility Potholing	1,665
205	Railroads	
225 & 245	Condemnation	
225 & 245	Clearance	
225 & 245	Relocation	
220 & 300	RW Engineering	
	Total	**1,665**

UTILITY INFORMATION

Please See the Utility Conflict Addendum for Complete Utility Information

Are utility easements required? No

Are Utility agreements required? No

Utility types , Facilities & Agreements Description:

CMS 115 NEW LOCATION- NEW FOUNDATION, REPLACE PANEL ONLY FOR THE REST. TRENCH FOR CONDUITS AND NEW CONTROLLER CABINETS.

Total Current Cost $292,000

Const. Completion Date 10/14/2027

Utility Escalation Rate 8%

Total Escalated Cost $464,443

Data Sheet ID NO: ds5492

ROUTE Various

PM_KM Various

EA 35030

ALT

RR INFORMATION

Are RR affected: None

Describe affected RR: None

When Branch Lines Or Spurs Are Affected ,would Acquisition And Or Payment Of Damages To Businesses And Or Industries Served By The Railroad Facility Be More Cost Effective Than Service Contracts ,or Grade Separations Requiring Construction And Maintenance Agreements Involved?

N/A

Explain Branch lines: N/A

Discuss Types Of Agreements And Rights Required From The Railroads. Are Grade Xing Requiring Service Contracts ,or Grade Separations Requiring Construction And Maintenance Agreements Involved.

N/A

RAILROAD COST PERTAINING TO CONSTRUCTION ACTIVITY

The cost of flagging related to project construction activity is a Phase 4 cost (construction contract cost). Though noted on the RW data sheet, the estimated flagging cost is not a RW cost, and is not a part of RW Capital.. The estimate is provided so it can be added to the engineer's estimate for construction -- the RR flagging estimate is based on days needed for construction activity.

		DATE
Right of Way Estimate prepared by	**Victor Lee**	**10/12/21**
Railroad Estimate prepared by	**Mario Zamorano**	**8/27/21**
Utilities Estimate prepared by	**Cesar Aguilar**	**10/4/21**

I have personally reviewed this R/W Data Sheet and all supporting information I certify that the probable highest and best use estimated values and assumptions are reasonable and proper subject to the limiting conditions set forth and I find this Data Sheet complete and current.

This Data Sheet is not to be signed by Chief unless accompanied by final scoping report(PR,PSR,PSSR) for review and/or signature.

CHIEF

Utility Conflicts
Id- ds5492
EA- 35030

	Description	Quantity	$/Unit	Total Cost
1	PH CMS 2 Electrical	2	2000	4000
2	PH CMS 32 12-5" Du LADWP	4	2000	8000
3	PH CMS 36 10.75" OIL	2	2000	4000
4	PH CMS 40 GAS TRANS SCG	4	2000	8000
5	PH CMS 43 4" OIL	4	2000	8000
6	PH CMS 45 8" OIL CRIMSON	4	2000	8000
7	PH CMS 58 10.75" GAS SCG	4	2000	8000
8	PH CMS 6716" GAS SCG SANTA ANITA	2	2000	4000
9	PH CMS 69 16" GAS SCG CRENSHAW	2	2000	4000
10	PH CMS 77 10" GAS SCG	2	2000	4000
11	PH CMS 90 10.75" OIL TORRANCE	2	2000	4000
12	PH CMS 102 5" Du SCE AND 12 Du ATT	8	2000	16000
13	PH TMS 18 4-5" Du SCE, 6" GAS SCG, 9 MTD ATT	6	2000	12000
14	PH TMS 32 12-5" Du BURBANK POWER	2	2000	4000
15	PH TMS 38 14" OIL PLAINS AAS, 10" DOD	4	2000	8000
16	PH TMS 39 6.63" NON-HVL PARAMOUNT	2	2000	4000
17	PH TMS 46 6" CRUDE OIL CRIMSON AT RIMPAU	2	2000	4000
18	PH TMS 57 10" DOD AT LOMA	2	2000	4000
19	PH TMS 59 16" GAS TRANS SCE AT ALPHINE	2	2000	4000
20	PH TMS 110 8.63" GASOLINE EXXON	2	2000	4000
21	PH TMS 163 8" OIL CRIMSON, 16" OIL TORRANCE, 16" GAS SCG	8	2000	16000
22	PH TMS 198 12" OIL CRIMSON AND 30" GAS SCG AT	4	2000	8000
23	PH TMS 221 16", 24" NON-HVL SFFP, 10" OIL CRIMSON	6	2000	12000
24	PH TMS 341 TRANSMISSION GAS SCG AT RIVERSIDE	2	2000	4000
25	PH TMS 425 3-8", 4", 6" AND 10" OIL	10	2000	20000
26	PH TMS 428 8" NON-HVL P66 AND 8.63" OIL TORRANCE	4	2000	8000
27	PH TMS 435 14" OIL PLAINS AA	2	2000	4000
28	PH TMS 442 CRUDE OIL PLAINS AA, 8" AND 12" GAS SCG	6	2000	12000
29	PH TMS 475 6", 8" CRUDE OIL CRIMSON S. OF TROJAN WAY	4	2000	8000
30	PH TMS 480 36" GAS SCG	2	2000	4000
31	PH TMS 504 16" GAS SCG AT CRENSHAW	2	2000	4000
32	PH TMS 512 6" OIL CRIMSON	2	2000	4000
33	PH TMS 706 6" AND 20" CRUDE OIL EXXON	4	2000	8000
34	PH TMS 707 GAS TRANSMISSION, 6.63" CRUDE OIL EXXON	4	2000	8000
35	PH TMS 715 6.63" BUTANE ULTRAMA INC. 10" GAS P66 6" EPL	12	2000	24000

Utility Conflicts
Id- ds5492
EA- 35030

	Description	Quantity	$/Unit	Total Cost
36	PH TMS 752 SCG TRANSMISSION CUMMING TO LOUIS	2	2000	4000
37	PH TMS 763 16", 20" SFPP NON-HVL AT RR	4	2000	8000
38	PH TMS 767 16" OIL EXXON, 30" GAS SCG	4	2000	8000
39	PH TMS 809 12" GAS TESORO AT HOOVER	2	2000	4000

Right of Way Support Estimate

10/13/2021

Project: *LA-002 UPGRADE CHANGEABLE MESSAGE SIGNS (CMS)…*
EA: *35030*
DS: *5492*
Detail: *No parcels, no RRs, potholing*
Phase: *1, 2, 3*

Proj. No. *0718000179*
Issue Date: *10/12/2021*

Cost Center/ Unit	Phase	Activity	Task Name	Estimated Hours: Target ETC Hours in PRSM	Estimated Cost
1897	0	160.10	*Please keep ETC in PRSM unchanged*	-	$ -
1833	0	160.10	*Please keep ETC in PRSM unchanged*	-	-
1897	0	165.10	*Please keep ETC in PRSM unchanged*	-	-
1897	0	180.10	*Please keep ETC in PRSM unchanged*	-	-
1897	1	100.15	Planning & Mgmt./Proj. Coord./PDTs	40	4,000
1897	1	185.20	Utility Potholing	1,665	166,500
1897	1	185.25	R/W Req. Determination/Data Sheets	50	5,000
1833	1	185.25	R/W Req. Determination/Data Sheets	30	3,840
1897	1	205	Railroad Coordination	-	-
1897	1	235	HW Testing Permits	-	-
1897	1	255	R/W Certification	60	6,000
1833	1	255	R/W Certification	30	3,840
1897	2	100.25	Planning & Mgmt./Proj. Coord./PDTs	100	10,000
1897	2	195	RW Property Management/Excess Lands	-	-
1897	2	200	Utility Relocation	-	-
1833	2	220	RW Engineering	-	-
1897	2	225	Pre-Cert. RW Activites	-	-
1897	2	245	Post Cert. RW Actvities	-	-
1833	2	300	Final RW Engineering	-	-
			Total	***1,975***	***$ 199,180***

Please note: Blank cells above mean zero resources needed for that activity, unless otherwise noted. Please update PRSM accordingly.

Estimated Hours By Unit & Phase

Unit	Phase 1	Phase 2	Phase 3	Total
1833	60	-	-	60
1897	1,815	100	-	1,915
Total Hrs.	***1,875***	***100***	***-***	***1,975***
Total $	***$ 189,180***	***$ 10,000***	***-***	***$ 199,180***

ATTACHMENT G

Transportation Management Plan (TMP)
Data Sheet

TRANSPORTATION MANAGEMENT PLAN DATA SHEET
(Preliminary TMP Elements and Costs)

Co/Rte/PM LA-Ven/Var Route/Var PM EA 07-350300 Alternative No. _____

Project Limit Various locations on Various Route.

Project Description Replace existing CMS with new full color light emitting Diode Dynamic Message sign, maintenance vehicle pullouts

1) Public Information		
☐	a. Brochures and Mailers	
☒	b. Press Release	
☐	c. Paid Advertising	
☐	d. Public Information Center/Kiosk	
☐	e. Public Meeting/Speakers Bureau	
☐	f. Telephone Hotline	
☐	g. Internet	
☒	h. Others Fact sheets, Maps, Wed Notice	$60,000
2) Motorists Information Strategies		
☐	a. Changeable Message Signs (Fixed)	
☐	b. Changeable Message Signs (Portable)	
☐	c. Ground Mounted Signs	
☐	d. Highway Advisory Radio	
☐	e. Caltrans Highway Information Network (CHIN)	
☐	f. Others _____	
3) Incident Management		
☒	a. Construction Zone Enhanced Enforcement Program (COZEEP)	$2,100,000
☐	b. Freeway Service Patrol	
☐	c. Traffic Management Team	
☐	d. Helicopter Surveillance	
☐	e. Traffic Surveillance Stations (Loop Detector and CCTV)	
☐	f. Others _____	

4) Construction Strategies

- [x] a. Lane Closure Chart
- [ ] b. Reversible Lanes
- [ ] c. Total Facility Closure
- [ ] d. Contra Flow
- [ ] e. Truck Traffic Restrictions $ _____
- [x] f. Reduced Speed Zone $ _____
- [ ] g. Connector and Ramp Closures
- [ ] h. Incentive and Disincentive $ _____
- [ ] i. Moveable Barrier $ _____
- [ ] j. Others _____ $ _____

5) Demand Management

- [ ] a. HOV Lanes/Ramps (New or Convert) $ _____
- [ ] b. Park and Ride Lots $ _____
- [ ] c. Rideshare Incentives $ _____
- [ ] d. Variable Work Hours
- [ ] e. Telecommute
- [ ] f. Ramp Metering (Temporary Installation) $ _____
- [ ] g. Ramp Metering (Modify Existing) $ _____
- [ ] h. Others _____ $ _____

6) Alternative Route Strategies

- [ ] a. Add Capacity to Freeway Connector $ _____
- [ ] b. Street Improvement (widening, traffic signal... etc.) $ _____
- [ ] c. Traffic Control Officers $ _____
- [ ] d. Parking Restrictions
- [ ] e. Others _____ $ _____

7) Other Strategies

- [ ] a. Application of New Technology $ _____
- [ ] e. Others _____ $ _____

TOTAL ESTIMATED COST OF TMP ELEMENTS = $ 2,160,000.00

Project Notes:

1. The project is located on various routes at various locations within the Los Angeles and Ventura counties. The scope of work involves the following:
   - Replacement of 85 existing Changeable Message Signs with new full color light Emitting Diode Dynamic Message Signs
   - Construction of Maintenance Vehicle Pullouts and installation of Midwest Guardrail Systems
   - Relocation or adjustment of the existing communication pull boxes and controller cabinets
   - Upgrade of 175 Traffic Census Stations

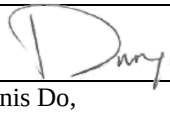
2. The estimated construction cost for this project is about $87.5 million and construction is scheduled to begin on December 2024 and complete by May 2027.

3. Press release announcing the upcoming project will be sent to local media outlets, California trucking association, auto club, and chamber of commerce local transit. The Public Awareness Campaign cost estimate is $60,000.

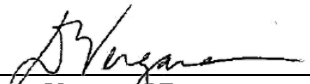
4. Closure of mainline lanes, connectors, ramps and shoulders is expected. The closure will be overnight and/or during the off-peak hours to minimize public impact.

5. The COZEEP cost estimate is $2,100,000.

6. The estimate in this TMP Datasheet is for the Project Approval and Environmental Document (PAED) phase.

PREPARED BY  DATE 11/15/21

Dennis Do,

APPROVAL RECOMMENDED BY  DATE 11/15/2021

Daisy Vergara, PE
Senior Transportation Engineer

APPROVED BY _____ DATE 11/17/2021

Rafael Molina, Acting DTM,
Deputy District Director
Division of Traffic Operations

ATTACHMENT H

Environmental Document

CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM (rev. 05/2020)

Project Information

DIST-CO-RTE: 07-LA, VEN- VAR **PM/PM:** VAR

PROJ ID/EA: 07-35030 **CE Number:** 202106015

EFIS: 0718000179

Project Description

The Office of ITS proposes a project to replace the existing CMS with full-color LED Dynamic Message Signs or Model 700 on various routes, post miles, and locations in Los Angeles and Ventura Counties. It also proposes to install and construct MGS, concrete barriers, and MVPs. Environmental commitments are listed on the continuation pages.

Caltrans CEQA Determination (Check one)

☐ **Not Applicable** – Caltrans is not the CEQA Lead Agency
☐ **Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:
☐ **Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
☒ **Categorically Exempt. Class** 1. (PRC 21084; 14 CCR 15300 et seq.)
  ☒ No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the SER Chapter 34 for exceptions.
☐ **Covered by the Common Sense Exemption**. This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)

Senior Environmental Planner or Environmental Branch Chief

Thoa Le	Thoa Le	10/15/2021
Print Name	Signature	Date

Project Manager

Darek Chmielewski	Dariusz Chmielewski	10/15/2021
Print Name	Signature	Date

Caltrans NEPA Determination (Check one)

Caltrans has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). See SER Chapter 30 for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

☒ **23 USC 326:** Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans has determined that the project is a Categorical Exclusion under:

- ☒ **23 CFR 771.117(c): activity (c)(21)**
- ☐ **23 CFR 771.117(d): activity (d)(Enter activity number)**
- ☐ **Activity Enter activity number listed in Appendix A of the MOU between FHWA and Caltrans**

☐ **23 USC 327:** Based on an examination of this proposal and supporting information, Caltrans has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

Thoa Le	Thoa Le	10/15/2021
Print Name	Signature	Date

Project Manager/ DLA Engineer

Darek Chmielewski	Dariusz Chmielewski	10/15/2021
Print Name	Signature	Date

Date of Categorical Exclusion Checklist completion: N/A
Date of Environmental Commitment Record or equivalent: 10/14/2021

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).

Continuation sheet:

Environmental Commitments are listed below.

- If there are any changes to the proposed activities or if additional locations are added, Environmental Planning must be notified. Additional review and documentation may be required.
- Environmental Planning will be provided the PS&E package for review and comment.

Biology:
- All pollution and litter laws and regulations will be followed by the contractor.

Cultural:
- If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find.

Hazardous Waste:
- A site investigation (SI) will be required for this project during PS&E to determine the actual concentration of lead in soil so that provisions can be made for handling and disposal of the contaminated soils per DTSC lead agreement with Caltrans.
- Special Provisions for handling, storing, transporting, and disposing of treated wood waste will be provided during PS&E.
- An asbestos survey will be required during PS&E due to the removal of MBGR.
- All electrical equipment requiring disposal shall be packaged and transported to an appropriate permitted disposal facility. The Revised Standard Specifications (RSS) 2018 contains the requirements for management of electrical equipment in Section 14-11.15.
- Import borrow-material used for backfill must be tested and free of contaminants.
- During Geotechnical study if Groundwater is encountered, an SI for groundwater testing will be required during PS&E.

ATTACHMENT I

Preliminary Hazardous Waste Re-Assessment
(PA&ED)

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Making Conservation
A California Way of Life.

To: CESAR A. HERNANDEZ
SENIOR TRANSPORTATION ENGINEER - ELECTRICAL
OFFICE OF INTELLIGENT TRANSPORTATION SYSTEMS
DIVISION OF TRAFFIC OPERATIONS

Date: October 11, 2021

File: LA, VEN
Var Routs, Var PM
EA: 07-334-350300
PN: 1847-0718000179

Attn: VUONG TRAN

From: HENRY JONES, P.G.
Senior Engineering Geologist
Hazardous Waste Branch - North Region
Office of Environmental Engineering (OEE)

Subject: **PRELIMINARY HAZARDOUS WASTE RE-ASSESSMENT (PA&ED)**

The Office of Environmental Engineering (OEE) has received the email request from your office dated October 7, 2021, for a preliminary hazardous waste assessment for the above-referenced project. The project proposes to replace the existing Changeable Message Signs (CMS) with full-color Light Emitting Diode (LED) Dynamic Message Signs (DMS) or Model 700 on various routes, post miles, and locations in Los Angeles and Ventura Counties. It also proposes to install and construct Midwest Guardrail Systems (MGS), concrete barriers, crash cushion, and Maintenance Vehicle Pullouts (MVP). This project proposes following:

1. Upgrade 75 CMSs with new panels. One of these CMSs will need to be relocated and need new OHS structure and foundation.
2. Upgrade 165 TCSs and TMSs. Unless safety issues require to relocate or shield with barrier, the TCS and TMS controller cabinets are to be upgraded in-place.
3. Relocate approximately 6 other controller cabinets.
4. Install approximately 9,000ft of MGS at about 37 locations.
5. Install crash cushions at 2 locations.
6. Construct about 70ft of concrete barrier at 2 locations. And,
7. Construct about 11 MVPs.

Based on the information received, we understand that there will be soil excavation in unpaved surface for the proposed CMS (5’ diameter and 22’ depth), MVP (1.90’ depth), and vegetation control under the new MGS works. Excavated soil will be disposed of offsite. No existing traffic stripes and/or marking will be impacted as all the proposed work are at or beyond the existing edge of pavement.

We have completed our review and our hazardous waste assessment is as follows:

ADL concern in unpaved surfaces

A site investigation (SI) will be required for this project during PS&E to determine the actual concentration of lead in soil so that provisions can be made for handling and disposal of the contaminated soils per the Department of Toxic Substances Control (DTSC) lead Agreement with Caltrans. A request to perform the SI should be submitted early in the design phase because it requires three to four months to complete the SI report. For estimating purpose, please consider the top 3 feet of excavated soil in the unpaved areas within 30 feet from the edge of traveled way to be non-RCRA (California) hazardous waste (Type Z-2), per State of California Regulations, and should be disposed of at a California-permitted Class I landfill facility. Please refer to the latest Contract Cost Database (http://sv08web/contractcost/) for the funds that need to be allocated for the removal and disposal of contaminated soil and the lump sum cost of the Contractor's Lead Compliance Plan.

Treated Wood Waste

The project involves the removal of metal beam guardrail (MBGR) with wood posts. The wood used for the MBGR is a potential source of hazardous material. The existing wood guardrail posts are treated with chemical preservatives. Arsenic, chromium, copper, and pentachloro-phenol are among the chemicals added to preserve wood. Once these wood posts are removed and become waste, they are treated wood waste (TWW). TWW is non-RCRA (California) hazardous waste and the handling, storage, transportation, and disposal are subject to California hazardous waste regulations. During PS&E upon receiving a request from design we will provide the appropriate Special Provisions for handling, storing, transporting, and disposing of TWW. Please refer to the latest Contract Cost Database (http://sv08web/contractcost/) and allocate appropriate funds for disposal of TWW and the Board of Equalization (BOE) fee. Possible asbestos shims on MBGR, need survey.

The shims between the wood post and the metal rail may contain asbestos. Therefore, an asbestos survey will be required due to the removal of MBGR during PS&E phase.

Electrical Items

There is a hazardous waste concern associated with the existing electrical components requiring removal. Florescent and/or mercury lamps, mercury containing switches and sensors, bulbs, disposal of controller cabinets, pull boxes, ballast and transformer may contain polychlorinated biphenyl (PCB). All electrical equipment requiring disposal shall be packaged and transported to an appropriate permitted disposal facility. The Revised Standard Specifications (RSS) 2018 (4-17-2020) contains the requirements for management of the electrical equipment in Section 14-11.15.

Import borrow – material used for backfill must be tested and free of contaminants.

Ground Water

During Geotechnical study if Groundwater (GW) is encountered, a site investigation (SI) for GW testing will be required during PS&E upon receiving a request from design.

Support Hours

WBS 235.10= 500 hrs.
WBS 255.05= 80 hrs.
WBS 280.10= 80 hrs.

This Hazardous Waste Assessment is applicable to the scope of work described above. Any change in the scope of work will require a Hazardous Waste Re-Assessment. If you have any questions or need additional information, please contact me at (213) 269-1118, Henry.Jones@dot.ca.gov or contact Saba Tesfayohannes of my staff at (213) 266-6917, Saba.Tesfayohannes@dot.ca.gov.

ATTACHMENT J

Storm Water Data Report
(SWDR)

Dist-County-Route: 07-LA-Various & 07-Ven-Various
Post Mile Limits: Various
Type of Work: TMS Upgrade
Project ID (EA): 0718000179 (350300)
Program Identification: 20.XX.20.315 - SHOPP Mobility 315 TMS
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Los Angeles Region 4 and Lahontan Region 6
Total Disturbed Soil Area: 1.67 acres PCTA: N/A
Alternative Compliance (acres): N/A ATA 2 (50% Rule)? Yes ☒ No ☐
Estimated Const. Start Date: 12/02/2024 Estimated Const. Completion Date: 05/14/2027
Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other:
Is MWELO applicable? Yes ☐ No ☒
Is the Project within a TMDL watershed? Yes ☒ No ☐
TMDL Compliance Units (acres): N/A
Notification of ADL reuse (if yes, provide date): Yes ☐ Date: No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

Vuong Tran, Registered Project Engineer/Landscape Architect — 12/22/2021 Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Dariusz Chmielewski — 12/22/2021
Darek Chmielewski, Project Manager *Date*

David Lawrence for J. Villasenor David Lawrence — 12/22/2021
Jose M. Villasenor, Designated Maintenance Representative *Date*

for [signature] — 12/22/2021
Ron Russak, Designated Landscape Architect Representative *Date*

Sunny Liem — 12/23/2021
[Stamp Required at PS&E only] *Sunny Liem, District/Regional Design SW Coordinator or Designee* *Date*

ATTACHMENT K

SHOPP Project Performance Measures

ATTACHMENT K

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 **Tool ID:** 20760 **Project ID:** 0718000179 **EA:** 35030 **Co-Rte-PM:** All Locations View/Print PIR (Performance) Report

☐ Bridge ☐ Pavement ☐ Drainage ☐ Facilities ☑ Safety, Signs & Lighting ☑ Mobility TMS ☐ Roadside ☑ Complete Streets ☐ Sustainability /Climate Change ☐ Advance Mitigation /Mitigation ☐ Major Damage & Betterments ☑ Green-house Gases ☐ Relinquishment

Performance & Accomplishments (PPC)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	E07	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	Linear Feet	12100.000			12100.000		12100.000							Protect controller cabinets and CMSs
2	F01	Census Station (201.315)	No Performance Objective in the SHSMP	Each	159.000	14.000		145.000		159.000							
3	F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	75.000	50.000		25.000		75.000							
4	F05	Vehicle Detection (201.315)	No Performance Objective in the SHSMP	Each	6.000	4.000		2.000		6.000							
5	F37	TMC Improvements (No Facilities) (201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at LARTMC for TMS field elements
6	F38	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at ELA Hub for TMS field elements
7	F38	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at LAX Hub for TMS field elements
8	F38	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at NHD Hub for TMS field elements
9	F38	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at NWK Hub for TMS field elements
10	F38	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at SGV Hub for TMS field elements
11	F46	TMS Technology Component	Transportation Management Systems	Each	240.000	68.000		172.000		240.000							
12	H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	No												No
13	N01	Qualitative	No Performance Objective in the SHSMP	-													TMS work on freeway only

(Last Saved - 09/17/21 @ 12:17 PM by Candace Fung)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.315	Mobility - TMS	Primary	TMS	240.0	Field element(s)	Field element(s)	28.3%	0.0%	71.7%	240.0	100.0%	0.0%	100.0%	0.0%	0.0%	240.0

Notes:

1. The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify AM Tool admins via e-mail at CT-TAM@dot.ca.gov.
2. The data summarized in the table represents the performance reported or to be reported in CTIPS.
3. Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary Asset Classes.
4. Reporting of bridge pre and post conditions may contain errors if the project RTL is before 2024/25.
5. Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
6. Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the AM Tool will change.

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 **Tool ID:** 20760 **Project ID:** 071 000179 **EA:** 35030 **Co-Rte-PM:** ll ocations View/Print PIR (Performance) Report

☐ Bridge ☐ Pavement ☐ Drainage ☐ Facilities ☑ Safety, Signs & Lighting ☑ Mobility TMS ☑ Roadside ☑ Complete Streets ☐ Sustainability /Climate Change ☐ Advance Mitigation /Mitigation ☐ Major Damage & Betterments ☑ Green-house Gases ☐ Relinquishment

Performance & Accomplishments (PPC)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - gree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	E07	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	inear Feet	11 00.000			11 00.000		11 00.000							Protect controller cabinets and CMSs
2	E07	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	inear Feet	300.000			300.000		300.000							Protect controller cabinets and CMSs
3	E56	Proactive Safety Pedestrians	Proactive Safety	nnual Fatal & Serious Injury Collisions	0.200			0.200		0.200							$3.122 M/$776K/20-yr lifecycle = 0.20
4	F01	Census Station (201.315)	No Performance Objective in the SHSMP	Each	153.000	13.000		140.000		153.000							
5	F01	Census Station (201.315)	No Performance Objective in the SHSMP	Each	6.000	1.000		5.000		6.000							
6	F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	72.000	49.000		23.000		72.000							
7	F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	3.000	1.000		2.000		3.000							
	F05	Vehicle Detection (201.315)	No Performance Objective in the SHSMP	Each	6.000	4.000		2.000		6.000							
9	F37	TMC Improvements (No Facilities) (201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at RTMC for TMS field elements
10	F3	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at E Hub for TMS field elements
11	F3	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at X Hub for TMS field elements
12	F3	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at NHD Hub for TMS field elements
13	F3	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at NWK Hub for TMS field elements
14	F3	Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	Each	1.000			1.000		1.000							Upgrade communication equipment at SGV Hub for TMS field elements
15	F46	TMS Technology Component	Transportation Management Systems	Each	231.000	66.000		165.000		231.000							
16	F46	TMS Technology Component	Transportation Management Systems	Each	9.000	2.000		7.000		9.000							
17	G07	Worker Safety - Safe ccess	Roadside Safety Improvements	ocations	11.000			11.000		11.000							11 MVPs
1	G0	Worker Safety - Barriers	Roadside Safety Improvements	ocations	37.350			37.350		37.350							MGS 37 locations and Concrete Barrier 70 F
19	G10	Worker Safety - Vegetation Control	Roadside Safety Improvements	ocations	20.200			20.200		20.200							10,100 F Vegetation Control
20	H32	Is any ocation Within the Project imits Ped/Bike ccessible?	No Performance Objective in the SHSMP	Yes/No	No												No
21	N01	Qualitative	No Performance Objective in the SHSMP	-													TMS work on freeway only

(ast Saved - 11/19/21 @ 3:53 PM by Kathleen edesma)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.315	Mobility - TMS	Primary	TMS	240.0	Field element(s)	Field element(s)	2 .3%	0.0%	71.7%	240.0	100.0%	0.0%	100.0%	0.0%	0.0%	240.0

Notes:

1. The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify M Tool admins via e-mail at CT-T M@dot.ca.gov.
2. The data summarized in the table represents the performance reported or to be reported in CTIPS.
3. Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary sset Classes.
4. Reporting of bridge pre and post conditions may contain errors if the project RT is before 2024/25.
5. Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
6. Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the M Tool will change.

ATTACHMENT L

Risk Register

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS) FORM

PPM-D07-0001 (REV 02/2020)

The risk register is to be approved and signed-off by the District Deputies listed below for all scalability levels. By signing this form, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT.

Project Information ■ Capital Project ☐ Major Maintenance Project (Check One) Total Capital Cost: $71,748,000

Project ID/District-EA	Project ID: 0718000179/ EA: 07- 350300
Project Description	TMS Upgrade project on various Routes (LA 2, 5, 10, 14 ,57, 60, 101, 105, 110, 118, 170, 210, 405, 605, 710) in Los Angeles County and (Ven 23, 101, 118, 126, 150) in Ventura County.
Project Manager	Darek Chmielewski
Project Risk Manager	May Fung

☐ No Risk Register Certification Required - - Check box if project is less than $1 million in total cost and risk register not prepared. Sign below and submit this form with PID, PA&ED, PS&E submittal, and RE Handoff File (as applicable).

Project Manager Signature _____ Date: _____

PID (Recommended for Capital Projects Only excluding Minor Projects)

Project Manager		Date:
Deputy District Director, Planning		Date:
Deputy District Director, Design		Date:
Deputy District Director, Construction		Date:
Deputy District Director, Right of Way		Date:
Deputy District Director, Environmental		Date:
Deputy District Director, Traffic Operations		Date:
Deputy District Director, Maintenance		Date:
Deputy District Director, Project Management		Date:

PA&ED (Required for Capital Projects Only)

Project Manager	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Design	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Construction	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Right of Way	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Environmental	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Traffic Operations	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Maintenance	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21
Deputy District Director, Project Management	Approved via E-mail- See Attached Approval Tracking Document	Date: 12/3/21

Prior to PS&E (Required for Capital Projects and Major Maintenance Projects)

Project Manager		Date:
Deputy District Director, Design		Date:
Deputy District Director, Construction		Date:
Deputy District Director, Right of Way		Date:
Deputy District Director, Environmental		Date:
Deputy District Director, Traffic Operations		Date:
Deputy District Director, Maintenance		Date:
Deputy District Director, Project Management		Date:

From: Shepard, Daeja@DOT
Sent: Friday, December 3, 2021 9:31 AM
To: Yang, John C@DOT; Saadatnejadi, Hamidreza@DOT; Chen, Allen Z@DOT; Alameddine, Sam@DOT; Farr, Gregory L@DOT; Kukla, Dawn E@DOT; Elo, Zoltan@DOT; Chmielewski, Darek A@DOT
Subject: EA 350300 Risk Register [REQUEST FOR DEPUTY DISTRICT DIRECTORS APPROVAL]
Attachments: EA 350300 Risk Register 11.30.2021 (002).pdf

Importance: High

Categories: Risk
Tracking:

Recipient	Delivery	Response
Yang, John C@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 9:32 AM
Saadatnejadi, Hamidreza@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 10:33 AM
Chen, Allen Z@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 9:31 AM
Alameddine, Sam@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 11:09 AM
Farr, Gregory L@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 11:05 AM
Kukla, Dawn E@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 9:31 AM
Elo, Zoltan@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 10:55 AM
Chmielewski, Darek A@DOT	Delivered: 12/3/2021 9:31 AM	Approved as is: 12/3/2021 9:47 AM

Attached please find final Risk Register for your approval to proceed via Email Voting Buttons.

- By approving this request via email vote buttons, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT and you are authorizing the use of the Approval Tracking Document printed from this email request in-lieu of the wet signatures on the Risk Register Certification (Accountability Checkpoints) Form.
- Wet signature on the project Risk Register Certification (Accountability Checkpoints) form will be replaced with the statement “Approved via Email - See attached Approval Tracking Document.”
- The Approval Tracking Document from this email will be attached to project Risk Register Certification (Accountability Checkpoints) Form.

Risk Register Summary:

1. EA: 350300 / Project ID: 0718000179
2. Recommended Contingency @ 70% Confidence: 22%
3. Project Description: Transportation Management Systems Upgrade project on various Routes (LA 2, 5, 10, 14 ,57, 60, 101, 105, 110, 118, 170, 210, 405, 605, 710) in Los Angeles County and (Ven 23, 101, 118, 126, 150) in Ventura County.
4. Project Manager: Darek Chmielewski
5. Project Risk Manager: May Fung

Should you have any questions or require additional information, please call me at (213) 760-7756.

Thank You,
Mirna Dagher, P.E., PMP
Caltrans, District 07
Office of Risk Management

Approving Via Email for:

Construction – *John Yang*	Maintenance – *Hamid Saadatnejadi*	Traffic Ops – *Allen Chen*
Design – *Sam Alameddine*	Prog/Proj Mgmt – *Greg Farr*	Environmental – *Dawn E. Kukla*
Right of Way – *Zoltan Elo*	Proj Mgr – *Darek Chmielewski*	

EA-07-350300, EFIS ID: 0718000179	Milestones					Duration (Days)	Base RW Cap Est (k):	$292	Adjusted Base for Price Uncertainty on RW Cap Est (k) @ 70th Percentile:	$305	PM: Dariusz Chmielewski
Route & Post Mile: Various Routes and Various Post Miles	PID	PA&ED	PS&E	RTL	CCA	Const Working Days: 500	Base Con Cap Est (k):	$59,546	Adjusted Base for Price Uncertainty on Con Cap Est (k) @ 70th Percentile:	$61,731	DM: Cesar Hernandez
Project Name: Transportation Management Systems Upgrade project on various Routes (2, 5, 10, 14 ,57, 60, 101, 105, 110, 118, 170, 210, 405, 605, 710) in Los Angeles County and (Ven 23, 101, 118, 126, 150) in Ventura County.	(M010)	(M200)	(M380)	(M460)	(M600)	Plant Establishment: 0	Base Contingency (k):	$11,909	Risk Impact on Con Cap (k) @ 70th Percentile:	$12923 (22%)	RM: May Fung
	06/28/18	12/15/21	12/01/23	03/01/24	10/14/27	Total Const Duration: 500	Base Total Capital Est (k):	$71,748	Risk-Based Total Capital Est (k) @ 70th Percentile:	$74,958	

Scope Summary: to replace existing Changeable Message Signs (75 CMSs) with new color CMSs and one (1) new sign structure, construct Maintenance Vehicle Pullouts (MVPs), install Midwest Guardrail Systems (MGSs), concrete barriers, and crash cushions, upgrade Traffic Census Stations (159 TCSs) and Traffic Monitoring Detection Stations (6 TMDSs). Integrate various TMS systems at the Los Angeles Regional Transportation Management Center (LARTMC).

Risk Identification							Risk Impact Assessment									Response Strategy				
							Contingency (@70th Percentile):			22%										
							Risk Impact on Con Capital (@70th Percentile):			$12,922,578		Risk Impact on Schedule								
Risk No.	Status	Type	Category	Risk Title	Risk Statement	Risk Details with Current Status/Assumptions	Probability of Occurrence	Low ($)	Most Likely ($)	High ($)	Cost Impact	Low	Most Likely	High	Time Impact	Rationale	Strategy	Response Actions	Risk Owner	Updated
1	Active	Threat	DGN	**Price & Economics**	As a result of changes in the demand and supply of materials during the Contracting Phase, material price increases may occur, which would lead to an increase in project costs.	Supply and demand for construction materials are dynamic. The pandemic has caused delays in the current production and in the delivery of many construction materials. The construction industry is in a period of exceptionally fast-rising costs for various construction materials, compounded by the rising price of diesel fuel and major supply-chain disruptions.	65%	$4,800,000	$7,200,000	$12,000,000	$4,940,000	90	180	270	117	Ultimately the market would determine the prices.	Mitigate	The Project Engineer will work with the Construction Estimate Specialist in the PS&E phase to determine the appropriate pricing and cost for the proposed work using recent bids information.	Project Engineer	November 30, 2021
2	Active	Threat	DGN	**Contract Procurement**	Because the worksites are scattered throughout various routes on the D7 SHS in Los Angeles and Ventura County, bidders may be required to get a large bond, which would lead to limiting the number of potential bidders and result in higher project costs.	Because the project limits cover a substantial geographic area on various routes in District 7, the Contractor may be required by the bonding company to purchase a surety bond with a higher value amount covering the entire project limits. Consequently, this cost may pass on to the construction capital cost of the project. It is anticipated that the project will be divided into three (3) smaller projects in the PS&E phase facilitating contract administration.	80%	$1,000,000	$3,000,000	$5,000,000	$2,400,000	30	45	60	36	By breaking up the project into several smaller projects, it will become more manageable contracts and would have less conflict with other ongoing projects. The cost of the bidder bonds would cost less, and the contract bids would be more competitive.	Mitigate	The PDT will consider combining the work with other projects, re-scope, or divide the project into more manageable regions or by routes in the PS&E phase.	Project Manager & PDT	November 30, 2021
3	Active	Threat	CON	**Construction Management**	Because the worksites are scattered throughout various routes on the D7 State Highway System (SHS) in Los Angeles and Ventura County, maintaining effective worksite inspections may be challenging during construction, which could lead to contract change orders, claims, increased project costs and schedule delays.	The project is proposed to replace 75 CMS sign panels and upgrade 165 TCS and TMDS on various routes in District 7. For the current phase, it is assumed that the coordination between construction field offices is feasible, and construction inspection would be performed effectively at each proposed worksite. However, if construction was to occur at multiple proposed locations on various routes concurrently at the same time, there is a possibility that field staff may not be available to cover all the proposed sites.	75%	$2,400,000	$2,700,000	$3,000,000	$2,025,000	45	60	90	47	Field staffing availability and resource limitation are uncertain at this time. The need for field inspection is critical to delivering quality products during construction.	Mitigate	The Project Manager will consider dividing the project into several projects with smaller geographical areas in the PS&E phase. The Resident Engineer will coordinate with the Contractor during construction to schedule inspection effectively. If needed, utilizing additional consultant staff to perform field inspections could also reduce the impact of this risk.	Project Manager & Resident Engineer	November 30, 2021
4	Active	Threat	CON	**Conflict with Existing Electrical Lighting and Communication Conduits**	Because the proposed locations of the new MGS or concrete barriers may conflict with existing communication and lighting conduits, a design change may be necessary during construction, which would lead to an increase in project costs and schedule delays.	It is anticipated that the proposed MGS locations may impact the existing electrical systems (lighting and communication conduits) in some areas. However, the exact locations of impact are uncertain at the current phase. All impacted existing electrical facilities will be identified and modified or relocated if needed during the PS&E phase.	50%	$100,000	$400,000	$500,000	$183,333	10	15	30	8	Thoroughly identifying the impacted existing electrical infrastructure can minimize the impacts of this risk.	Mitigate	Traffic Engineer (Electrical) will identify and show the impacted electrical facilities in the project limits on the project plans during the PS&E phase.	Traffic Engineer (Electrical) & Resident Engineer	November 30, 2021
5	Active	Threat	DGN	**Existing Electronic Equipment & Software Compatibility**	Because the newly installed electronic equipment may not be compatible or able to communicate with the existing systems, replacement or upgrade to the existing equipment may be required during construction, which may lead to an increase in project costs and schedule delays.	There is a possibility that the existing equipment and current software in the LARTMC center may not be compatible with the newly installed equipment. The compatibility of the current software and various electronic systems is unknown at this time. It is anticipated that software upgrade and replacement of the existing electronic equipment may be necessary.	30%	$300,000	$400,000	$500,000	$120,000	60	90	120	27	Verifying the compatibility of the existing electronic equipment during design may reduce the impact of this risk.	Mitigate	Conduct field visits to the LARTMC and verify the types of equipment and version of software currently in use.	Traffic Engineer (Electrical)	November 30, 2021
6	Active	Threat	TRF	**Scope Change**	Changes made to the scope of the project during its development may require additional work that could add cost and time to the project.	The project scope proposes to replace the existing CMSs with new full-color Light Emitting Diode Dynamic Message Signs, install MGS, and construct MVPs on various routes in LA and Ventura Counties. The project scope has been refined to upgrade 75 CMS at the current phase compared to 133 CMS proposed during the PID phase. Additional scope added to the current phase inlcudes replacing TCS (159) and TMDS (6). It is possible that the scope may be refined further in the PS&E phase.	10%	$500,000	$1,000,000	$1,500,000	$100,000	30	50	70	5	Establish a comprehensive scope to address the Purpose and Need of the project.	Mitigate	Work with all the functionals to finalize the project scope as early as possible in the PS&E phase.	Project Engineer & Project Manager	November 30, 2021
7	Active	Threat	DGN	**Stormwater Requirement**	As a result of stormwater requirements, more stringent Best Management Practices (BMP) during construction may occur, which would lead to an increase in project costs and schedule delays.	The project scope proposes to replace the existing CMSs with new full-color Light Emitting Diode Dynamic Message Signs, install MGS, and construct MVPs on various routes in LA and Ventura Counties. The project disturbs an unpaved area (DSA= 1.67 acres) and creates new impervious surfaces (NIS= 0.22 acre). The project will achieve 1.37 acres of Design Pollution Prevention (DPP) BMP credit for vegetation control pads under the MGS. In addition, NPDES Stormwater Permit is currently being reviewed for renewal. Caltrans may need to comply with additional or different requirements when the new Permit goes into effect.	20%	$200,000	$300,000	$400,000	$60,000	80	120	160	24	Stormwater requirements must be incorporated into the project to a maximum extent practicable (MEP).	Mitigate	Ensure that all legislative requirements for stormwater are met.	Project Engineer	November 30, 2021
8	Active	Threat	CON	**Unsheltered Encampment**	As a result of encountering unsheltered people or homeless encampments within the project limits during construction, a need to relocate people experiencing homelessness may occur, which would lead to increased project costs.	Currently, there are possible unsheltered encampments within the project limits on various routes. Future unsheltered encampment during construction in the vicinity of the worksites is possible.	30%	$50,000	$100,000	$200,000	$32,500	15	30	45	9	There may be people experiencing homelessness wandering into the construction site.	Mitigate	The Resident Engineer will work with the Maintenance staff and local partners to promptly assess and address any encampments within the project limits. The contingency funds will be used to cover this risk.	Construction Senior/Maintenance Senior	November 30, 2021
9	Active	Threat	DGN	**Quality, Constructability, & Safety**	Crucial project information (Plans, Specs, Quantities, or Construction Details) may unintentionally be overlooked or omitted during project design, which would lead to contract change orders, potential claims, and schedule delays during construction.	A Quality Review for the PR has been completed. The project development team (PDT) has developed the project scope to meet its Need and Purpose to the best of their knowledge at the current phase. However, minor changes are expected to finalize the design in the subsequent phase. Two (2) Quality Reviews will be conducted in the PS&E phase to reduce the likelihood of such discrepancies.	20%	$100,000	$150,000	$200,000	$30,000	30	45	60	9	By following the Quality Management System (QMS) process, the cost and schedule impacts on the project could be minimized	Mitigate	Monitor design progress in conforming to the QMS process and ensure complete submittals are provided for review.	Project Manager & Project Engineer	November 30, 2021
10	Active	Threat	CON	**Differing Site Condition**	If the existing condition of the structure exterior is found to be different from anticipated, additional work to preserve the structure may be required, which would lead to project cost increases and schedule delays.	The condition of the existing CMS signs and the TMS systems may be damaged or non-functional between now and till the project goes to construction. The existing conditions of the electrical components (i.e., power conductors, conduits, etc.)and equipment may be worst than anticipated.	15%	$100,000	$200,000	$300,000	$30,000	30	60	90	9	Adequately characterizing the project site will minimize the impact of this risk.	Mitigate	Conduct project site visits and perform a comprehensive site investigation. Include all necessary work in the project scope during the PS&E phase.	Project Engineer	November 30, 2021
11	Active	Threat	TRF	**Traffic Management and Handling**	Because public traffic and emergency access need to be maintained throughout the construction zone, and existing traffic management systems need to be protected during construction, modifications to the traffic handling plans may occur, which would result in additional project costs and schedule delays.	The project scope proposes to replace the existing CMSs with new full-color Light Emitting Diode Dynamic Message Signs, install MGS, and construct MVPs on various routes in LA and Ventura Counties. Closures of mainline lanes, connectors, ramps, and shoulders are expected. The closures will be overnight and during off-peak hours to minimize the impacts to the motorists and the public. An amount of $2,100,000 has been included in the current cost estimate for COZEEP. However, any changes to the scope of this project or proposed construction strategies in the PS&E phase will require a re-evaluation of the TMP costs.	15%	$100,000	$150,000	$200,000	$22,500	40	60	80	9	Construction staging would help to determine a more reliable cost estimate.	Mitigate	Coordinate with the Office of DTM in the PS&E phase to verify if the proposed construction strategy is feasible. Develop appropriate staging plans and allow sufficient funds in the cost estimate for traffic handling. Evaluate and consider all project constraints and develop appropriate construction stagings.	DTM Traffic Engineer & Project Engineer	November 30, 2021

EA-07-350300, EFIS ID: 0718000179	Milestones					Duration (Days)	Base RW Cap Est (k):	$292	Adjusted Base for Price Uncertainty on RW Cap Est (k) @ 70th Percentile:	$305	PM: Dariusz Chmielewski
Route & Post Mile: Various Routes and Various Post Miles	PID	PA&ED	PS&E	RTL	CCA	Const Working Days: 500	Base Con Cap Est (k):	$59,546	Adjusted Base for Price Uncertainty on Con Cap Est (k) @ 70th Percentile:	$61,731	DM: Cesar Hernandez
Project Name: Transportation Management Systems Upgrade project on various Routes (2, 5, 10, 14 ,57, 60, 101, 105, 110, 118, 170, 210, 405, 605, 710) in Los Angeles County and (Ven 23, 101, 118, 126, 150) in Ventura County.	(M010)	(M200)	(M380)	(M460)	(M600)	Plant Establishment: 0	Base Contingency (k):	$11,909	Risk Impact on Con Cap (k) @ 70th Percentile:	$12923 (22%)	RM: May Fung
	06/28/18	12/15/21	12/01/23	03/01/24	10/14/27	Total Const Duration: 500	Base Total Capital Est (k):	$71,748	Risk-Based Total Capital Est (k) @ 70th Percentile:	$74,958	

Scope Summary: to replace existing Changeable Message Signs (75 CMSs) with new color CMSs and one (1) new sign structure, construct Maintenance Vehicle Pullouts (MVPs), install Midwest Guardrail Systems (MGSs), concrete barriers, and crash cushions, upgrade Traffic Census Stations (159 TCSs) and Traffic Monitoring Detection Stations (6 TMDSs). Integrate various TMS systems at the Los Angeles Regional Transportation Management Center (LARTMC).

Risk Identification							Risk Impact Assessment									Response Strategy				
							Contingency (@70th Percentile):			22%										
							Risk Impact on Con Capital (@70th Percentile):			$12,922,578		Risk Impact on Schedule								
Risk No.	Status	Type	Category	Risk Title	Risk Statement	Risk Details with Current Status/Assumptions	Probability of Occurrence	Low ($)	Most Likely ($)	High ($)	Cost Impact	Low	Most Likely	High	Time Impact	Rationale	Strategy	Response Actions	Risk Owner	Updated
12	Active	Threat	ENV	**Hazardous Waste**	Because the proposed work may generate more hazardous wastes than anticipated during construction, additional hazardous wastes mitigation may be required during construction, which would lead to increased project costs and schedule delays.	There will be soil excavation in the unpaved area for the proposed CMSs, the MVPs, and vegetation control under the new MGS. For the current cost estimate, the top 3 feet of excavated soil in the unpaved areas within 30 feet from the edge of traveled way are considered to be non-RCRA (California) hazardous waste (Type Z-2), per State of California Regulations, and should be disposed of at a California-permitted Class I landfill facility. In addition, there may be other potentially hazardous waste concerns associated with the proposed work, including Treated Wood Waste, and electronic wastes. OEE will initiate a site investigation (SI) for the project site and provide the appropriate SSPs addressing various hazardous waste concerns during the PS&E phase when requested.	10%	$100,000	$200,000	$300,000	$20,000	10	15	30	2	Effective handling of hazardous waste on-site reduces the cost of disposal.	Mitigate	Perform Site Investigation (SI) and develop appropriate handling plans in the PS&E phase to minimize the disposal costs. In addition, specific protocols of how to contain the debris and directions to the General Contractor would be included in the project's special provisions.	Hazardous Waste Engineer	November 30, 2021
13	Active	Threat	TRF	**Vandalism/ Theft of Electrical Components**	As a result of vandalism or theft of the existing or newly installed electrical systems, additional cost associated with replacement or repairs may be necessary, which would lead to increased project costs and duration.	There is an existing unsheltered population present in some areas within the project limits on various routes. Therefore, theft and vandalism of electrical components have been an issue to previous projects with similar scopes that were located in areas with unsheltered populations. Possible items that may be vandalized include conduits, conductors, metal pullboxes, etc.	30%	$30,000	$50,000	$100,000	$16,500	15	30	45	9	Theft and vandalism have been an issue on previous similar projects, and the worksites are located in areas with an unsheltered population.	Mitigate	The Traffic Engineer (electrical) will consider proposing tampered-resistance or theft deterrence equipment wherever it deems feasible.	Traffic Engineer (Electrical)	November 30, 2021
14	Active	Threat	SUP	**Limited Staff/Functional Support (Emergency Event)**	As a result of Public Health Orders and occasional Regional Stay Home Orders due to the COVID-19 pandemic, staff available to complete all required tasks may be less than anticipated, which would result in schedule delays.	The pandemic has changed the project development processes typical workflow during the design and contract administration process during construction. In our effort to support the Orders, most office staff continue to perform their duties through telework arrangements. Some staff may not be available due to the local public health guidance regarding COVID-19 and Families First Coronavirus Response Act (FFCRA).	30%	$20,000	$40,000	$60,000	$12,000	20	40	60	12	Staffing and productivity would be impacted by the COVID-19 pandemic and may increase project support costs.	Mitigate	Develop a contingency plan to complete the tasks. Re-evaluate the project support cost and schedule, work with all functional units, and make the necessary resource adjustments in the next phase as early as the situation permits.	Project Manager	November 30, 2021
15	Active	Threat	DGN	**Survey and Mapping**	Because surveying data and mapping information are not completed in a timely manner or consistent with existing conditions, adjustments and modifications during construction may be required, which would lead to increased project costs and schedule delays.	The majority of the existing roadway features will be reflected in the available surveying and mapping data. However, since there are over hundreds of work locations within the project limits. It may take a longer time to complete the survey for all the locations.	25%	$10,000	$35,000	$50,000	$8,333	180	240	360	63	Survey data is served as the basis for design.	Mitigate	The Project Engineer will submit a survey request for the project limits as early as possible.	Project Engineer	November 30, 2021
16	Active	Threat	DGN	**Missing Items (Assets) Within the Project Limits**	During the development of the project, additional items (other assets that need to be worked on) within the project limits may have to be included, which could add cost and time to develop the project.	During the project development, there is a possibility that other safety-related work (i.e., other TMS elements and electrical components) may be required to incorporate into the project in the subsequent phases. In addition, there may be an additional requirement (electrical) from local agencies that Caltrans may need to accommodate or comply with during project design.	10%	$20,000	$40,000	$60,000	$4,000	30	60	90	6	Identifying all items of work would improve the reliability of the cost estimate.	Mitigate	Work with all functional units to comprehensively identify all necessary work items. Include the funds in the cost estimate to cover the costs in the PS&E phase.	Project Engineer	November 30, 2021
17	Active	Threat	ROW	**Utilities Identification & Relocation**	As a result of the possible encounter of existing or unknown utilities during construction, relocation may be required, which would lead to project costs increase and schedule delays.	The project is not anticipated to have significant utility impacts. However, potholing may be required for existing utilities (i.e., Exxon oil line, SCG Gas line, SCE electrical, etc.) in the PS&E phase at various nearby CMS and TMS locations. An amount of $292,000 has been allocated in the current phase cost estimate for utility potholing. Utility identification and coordination with the utility owners will be conducted during the PS&E phase to avoid utility impacts.	10%	$3,000	$6,000	$9,000	$0	30	60	90	0	Identify the owners of the impacted utilities and verify if relocation would be necessary to minimize utility conflict.	Mitigate	Identify and verify all the utility impacts in the PS&E phase, contact companies and monitor scope changes.	Utility Engineer	November 30, 2021
18	Active	Threat	ENV	**Environmental Impacts**	If there are changes in the project scope, environmental setting, and/or laws during the design phase, the project may require additional reviews and environmental studies, which may lead to increased project support costs and schedule delays.	The project scope proposes to replace the existing CMSs with new full-color Light Emitting Diode Dynamic Message Signs, install MGS, and construct MVPs on various routes in LA and Ventura Counties. The project is not anticipated to have significant biological and cultural impacts. Expect the project's environmental impact document categorized as Categorical Exemption / Categorical Exclusion (CE/CE). If the project's scope or activities changed in a manner that may impact environmental resources, the Division of Environmental Planning (DEP) may need to re-evaluate or re-validate the environmental impact during the PS&E phase.	15%	$10,000	$35,000	$50,000	$0	30	60	90	0	Based on the information at the current phase (PAED), the project scope, environmental setting, and laws are not expected to change.	Mitigate	Inform the Division of Environmental Planning of any change in scope or means/methods. Initiate the re-validation/re-evaluation process as soon as possible.	Environmental Planner	November 30, 2021
	Retired	Threat	DGN	**Structural Involvement and Design**	As project details emerge, required structural work may change, which would lead to increased project costs and duration.	The project proposes to replace one sign structure (CMS #115) at SB Route 101 PM 33.81. All the structural work has been identified and included in the current phase.														November 30, 2021
	Retired	Threat	CON	**Right of Way**	As a result of the Right of Way acquisition activities may past the contract award date, obstruction of construction activities may occur, which would lead to increased project costs and schedule delays.	All the proposed work is located within the State Right of Way. No R/W acquisition is needed for the project.														November 30, 2021

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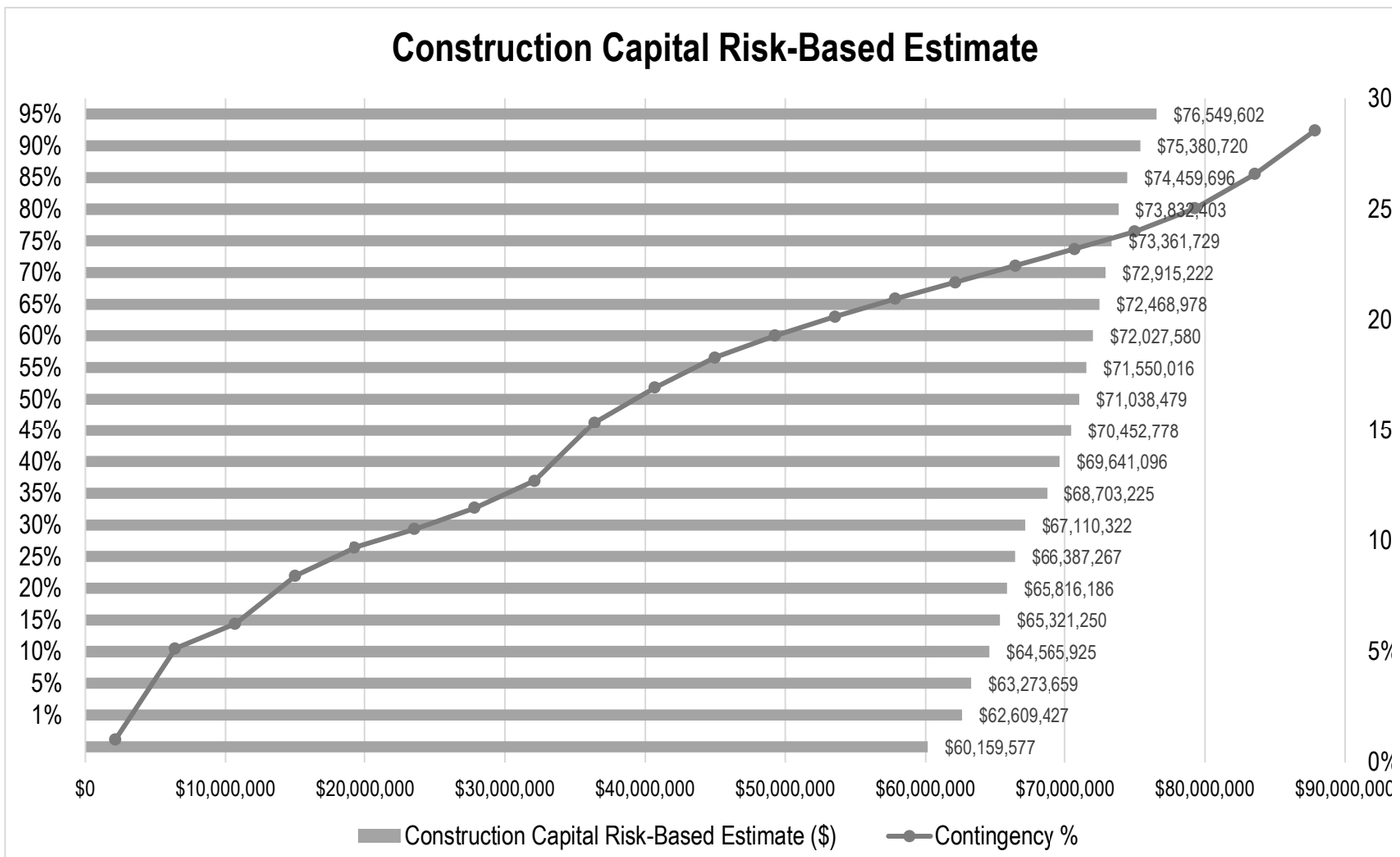
lanagement Systems Upgrade project on various Routes (2, 5, 10, 14 ,57, 60, 101, 105, 110, 118, 170, 210, 405, 605, 710) in Los Angeles County and (Ven 23, 101, 118, 126, 150) in

Construction Capital Cost $ 71,455,700 **Base Construction Capital Cost (w/o Contingency) $ 59,546,400**

Probability of Not Exceeding	Construction Capital Risk-Based Estimate ($)	Contingency %	Contingency ($)
1%	$ 60,159,577	1.03%	$ 613,177
5%	$ 62,609,427	5.14%	$ 3,063,027
10%	$ 63,273,659	6.26%	$ 3,727,259
15%	$ 64,565,925	8.43%	$ 5,019,525
20%	$ 65,321,250	9.70%	$ 5,774,850
25%	$ 65,816,186	10.53%	$ 6,269,786
30%	$ 66,387,267	11.49%	$ 6,840,867
35%	$ 67,110,322	12.70%	$ 7,563,922
40%	$ 68,703,225	15.38%	$ 9,156,825
45%	$ 69,641,096	16.95%	$ 10,094,696
50%	$ 70,452,778	18.32%	$ 10,906,378
55%	$ 71,038,479	19.30%	$ 11,492,079
60%	$ 71,550,016	20.16%	$ 12,003,616
65%	$ 72,027,580	20.96%	$ 12,481,180
70%	$ 72,468,978	21.70%	$ 12,922,578
75%	$ 72,915,222	22.45%	$ 13,368,822
80%	$ 73,361,729	23.20%	$ 13,815,329
85%	$ 73,832,403	23.99%	$ 14,286,003
90%	$ 74,459,696	25.04%	$ 14,913,296
95%	$ 75,380,720	26.59%	$ 15,834,320
99%	$ 76,549,602	28.55%	$ 17,003,202



Construction Capital Risk Based estimate is based on the project cost estimate as well as the PDT's input on the risk register.