

Project Initiation Report

To

Request Programming in the 2020 SHOPP

In Los Angeles County at Various Locations

APPROVAL RECOMMENDED:


(Javad Rahimzadeh), PROJECT MANAGER

APPROVAL RECOMMENDED:

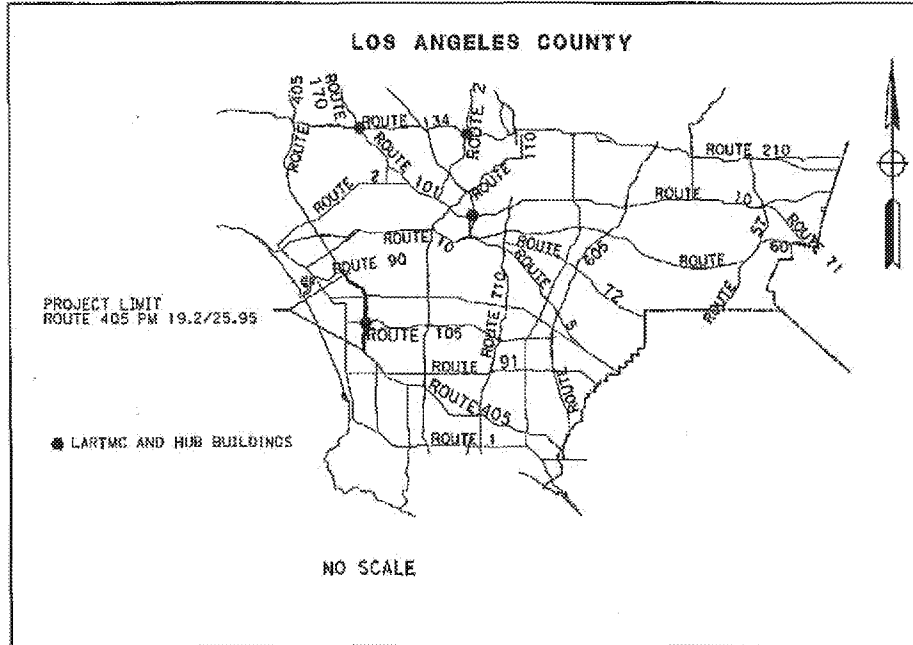

(Paul Marquez), PLANNING DEPUTY DIRECTOR

APPROVED:


for (John Bulinski), DISTRICT DIRECTOR

6/26/19
DATE

Vicinity Map



This 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.


REGISTERED CIVIL ENGINEER

616119
DATE



PDT MEMBERS

<u>Name</u>	<u>Title</u>	<u>Division /Office</u>	<u>Phone Number</u>
Heather Liang	TE	Office of ITS	213-897-9824
Candace Fung	STEE	Office of ITS	213-897-0068
Allen Chen	Chief	Office of ITS	213-897-8922
Javad Rahimzadeh	STE	Project Management	213-897-6846

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I. INTRODUCTION, WORK DESCRIPTION AND SUMMARY TABLE**Project Description:**

This project proposes to add Active Traffic Management (ATM) and Corridor Management (CM) strategies such as Queue Warning, Speed harmonization, Dynamic Corridor Adaptive Ramp Metering, Traveler Information, and others on Route 405 from Rosecrans Avenue (PM 19.2) to Route 90 (PM 25.95). This project also proposes to upgrade Transportation Management System (TMS) elements; including the existing closed circuit television (CCTV) cameras, changeable message signs (CMS), vehicle detection stations (VDS), and ramp metering systems (RMS) to lifecycle within the project limits. The communication system will be upgraded at the Los Angeles Regional Transportation Management Center (LARTMC) on Route 2 (PM R18.7), East Los Angeles (ELA) Hub on Route 5 (PM 18.3), Los Angeles Airport (LAX) Hub on Route 105 (PM R2.0), and North Hollywood (NHD) Hub on Route 101 (PM 11.8).

Project Limits	07-LA-405 PM 19.2/PM25.95
Number of Alternatives	2
Programmable Project Alternative	Alternative 1- ATM/CM
Funding Source*	SHOPP Mobility 315 TMS
Funding Year	2023/2024
Type of Facility	6 lane Freeway
Number of Structures	N/A
SHOPP Project Output	See Attachment J for SHOPP Performance Measures
Anticipated Environmental Determination or Document	Categorical Exemption and Categorical Exclusion
Legal Description	In Los Angeles County on Route 405 from PM 19.2 to 25.95, On Route 2 at PM R18.7, on Route 5 at PM 18.3, on Route 101 at PM 11.8 and on Route 105 at PM R2.0
Project Development Category	Category 5 Project
PIR Level	Level 2

Capital and Support Cost	Current Cost Estimate with Risk amount: (\$1000)	Escalated Cost Estimate: (\$1000)	% Support vs Capital*	Historical Support %
PA&ED Support	2,934	3,076	10.3%	4.4%
PS&E Support	5,870	6,377	21.3%	9.4%
Construction support	6,331	7,227	24.2%	17.2%
R/W (Right of Way) support	67	73	0.2%	0.5%
Construction Capital	23,947	29,854		
R/W Capital	36	66		
Totals	39,185	46,673	56.0%	31.5%

* PA&ED Support cost includes \$1 M service contract for modelling. Additional support is needed for the contract management of that service contract during PS&E stage.

2. PURPOSE AND NEED

Purpose:

The purpose of this project is to maximize corridor wide system performance and make full use of the freeway system capacity to address the congestion increase by deploying ATM strategies and upgrading the existing TMS with life cycle replacements for the TMS field elements to ensure the corridor is in operational and monitoring condition.

Need:

There is a need to maximize corridor wide system performance and make full use of the freeway system capacity to meet the increase of congestion the District will face over the next 10 to 20 years. There is also a need to accommodate the increase of congestion with the Los Angeles World Airport's proposed an Automated People Mover (APM) system and a Consolidated Rent-A-Car Center (CONRAC), anticipated completion date of 2023. The new facilities will be located on southbound 405 at Century Blvd./La Cienega Blvd. on/off-ramps.

The Los Angeles World Airport (LAWA) has proposed an Automated People Mover (APM) system to connect passenger from a Consolidated Rent-A-Car Center (CONRAC) to an Intermodal Transportation Facility and then to the Central Terminal Area of the Los Angeles International Airport (LAX). The proposed APM and CONRAC will be located at southbound 405 near Century Blvd./La Cienega Blvd.

3. RECOMMENDATION

It is recommended that this report be approved and the project programmed using the estimate and schedule for the Programmable Project Alternative.

4. RISK SUMMARY

See Attachment I for the Risk Register.

5. BACKGROUND

The continued growth in travel along congested urban freeway corridors is exceeding the ability of transportation agencies to provide sufficient roadway capacity in major metropolitan areas with limited public funding for roadway expansion and improvement projects. High construction costs, constrained right-of-way, and environmental factors are pushing agencies to explore context-sensitive solutions, such as managed lanes, to mitigate the detrimental effects of congestion while optimizing the use of limited public funding.

6. ASSET MANAGEMENT

The proposed project will upgrade assets to increase the level of operation service and reduce operations and maintenance cost. See Attachment J for SHOPP Performance Measure.

7. CORRIDOR AND SYSTEM COORDINATION

The proposed project is identified as a Transportation Management System (TMS) project and as such is consistent with plans, programs and goals of the Transportation Management system for District 7 congestion Relief Program.

8. EXISTING FACILITY CONDITION

Corridor Geometric Information and Condition

Utilities

Utilities are to be maintained and protected in place. No utility work will be required.

Traffic management systems

New CMS, DMS (for Queue warning, variable advisory speed, and lane management signs), CCTV cameras, and VDS will be installed throughout the project limits. Existing TMS elements will be replaced and upgraded for life cycle replacement.

Traffic volumes

Traffic volumes including bicycle, pedestrian, and transit volumes do not have a known impact on the project's cost schedule or program's requirements.

Twenty (20) year Traffic counts and projection for the project limit are:

	Interchange	2017 Traffic Count Ahead AADT	Projected 2039 Ahead AADT
LA-405	Rosecrans Ave	311,000	319,240
LA-405	El Segundo Blvd	252,000	257,241
LA-405	Rte 105	326,000	328,182
LA-405	Century Blvd	323,000	331,984
LA-405	Manchester Blvd	283,000	291,753
LA-405	La Tijera Blvd	309,000	321,688
LA-405	Rte 90	316,000	323,065

Roadway Geometric Information and ConditionTraveled way, Shoulders, and Median Geometric Information

Traveled way, shoulders and median geometric information are not collected at this stage.

9. ALTERNATIVES**Alternative A1 – Programmable Project Alternative****Active Traffic Management/Corridor Management**

This proposed project alternative consists of Speed Harmonization, Queue Warning, and Dynamic Corridor Adaptive Ramp Metering. The objective of speed harmonization is to avoid sudden change in speed due to congestion or roadway conditions, thereby improving safety and enhancing throughput. Queue warning is to inform travelers of the presence of downstream stop-and-go traffic using warning signs and flashing beacons. Differences in speed tend to cause vehicle conflicts and can lead to abrupt stopping and slowing leading to increased congestion and potential for collisions. Dynamic ramp metering system will consider the entire corridor as whole to adjust metering rates to increase the capacity of the corridor. Platoons of merging vehicles can disrupt the smooth flow of traffic on a freeway. Ramp metering seeks to break up such entering platoons so that they can merge onto the facility efficiently and safely.

This alternative proposes to install variable speed advisory signs (VSAS) and lane management signs (LMS) on the gantries, closed circuit television (CCTV) cameras, changeable message signs (CMS), dynamic message signs (DMS) and flashing beacons for queue warning, vehicle detection stations (VDS), and maintenance vehicle pullouts (MVP). It also proposes to upgrade the existing transportation management system (TMS) with life cycle replacements for the TMS field elements consists of ramp metering system (RMS), CCTV cameras, CMS, and VDS.

Alternative B – No Build Alternative

The "No-Build" alternative was considered in developing and analyzing system alternatives, but was eliminated because it does not satisfy the purpose and need for the project.

10. COMPLETE STREETS

Complete Streets was considered but this project has no impact on pedestrian, bicyclist, park and ride, nor transit facilities.

11. CLIMATE CHANGE CONSIDERATION

This project will have Green House Gas (GHG) reduction due to improvement in operational efficiency of the Transportation Management System.

12. ENVIRONMENTAL COMPLIANCE

The Mini Preliminary Environmental Assessment (Mini-PEAR) was prepared. This project is not anticipated to result in environmental impacts. Based on Mini-PEAR, Categorical Exemption is anticipated for the next stage. See Attachment G for Mini-PEAR.

Hazardous Waste Assessment

A preliminary hazardous waste assessment has been prepared and approved for this report on April 17, 2019. See Attachment H.

13. RIGHT-OF-WAY

All work planned for this project is within the State's existing right of way. There will be no utility relocation anticipated. See Attachment F for Right of Way Data Sheet.

14. STORMWATER

A Stormwater Data Report has been prepared and approved on May 16, 2019. See Attachment B.

15. TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) Data Sheet has been prepared on March 18, 2019. The hours available for contractor's operations will be regulated to off-peak hours and detailed within the Special Provisions to minimize the impact on existing traffic flows. Special Provisions will regulate the contractor's operations in the event that ramp or lane closures are required and the traveling public will be informed of the time and location where such construction will take place. See Attachment E.

16. BROADBAND AND ADVANCE TECHNOLOGIES

Advance technologies will be included in this project such as queue warning system, speed harmonization, and dynamic corridor adaptive ramp metering system. Data from the field elements will be communicated to our LARTMC.

17. ADDITIONAL CONSIDERATIONS

Contaminated material including regulated, designated and hazardous waste

Components of the proposed work, such as the CIDH piles for gantries, CMS, DMS, CCTV cameras and the maintenance vehicle pullout would require a subsurface investigation to characterize soil and groundwater contamination. The impact of this issue has been mitigated in the project cost, schedule and program's requirement.

Material and/or disposal site

An offsite commercial disposal facility determined by the contractor will be used to disposed of unwanted materials. The impact of this issue has been mitigated in the project cost, schedule and program's requirement.

18. ESTIMATE, FUNDING AND PROGRAMMINGEstimate

The preliminary estimated construction capital cost of June 2019 and the support cost for each component are shown in the table below. The support cost is escalated to the middle of each component at a rate of 3.20% per year for the first three years and 2% per year after third year. The construction capital cost is escalated to mid construction, at a rate of 3.2% per year. R/W capital cost is escalated at a rate of 8.0% per year.

Estimated Capital & Support Cost (\$1,000s)- Programmable Alternative									
Component	(A) ¹ Total Min	(B) ¹ Total Max	(C) Total Most Likely	(D) Risk Amount	(E) Total including Risk (C+D)	(F) # Years to Mid Yr of Component	(G) Escalation Rate	(H) Escalation Amount	(I) Total Escalated Cost (E + H)
Support									
PA&ED ²			2,760	174	2,934	1.5	3.20%	142	3,076
PS&E			5,336	534	5,870	3.0	2.80%	507	6,377
Right of Way			61	6	67	3.0	2.80%	6	73
Construction			5,670	661	6,331	5.5	2.43%	896	7,227
Capital									
Right of Way ¹			36		36			30	66
Construction			20,785	3,162	23,947	7.0	3.2%	5,907	29,584
Totals			34,648	4,537	39,185			7,487	46,673

Funding

It has been determined that this project is eligible for Federal-aid funding. This project will be submitted in the 2020 SHOPP cycle under Mobility Transportation Management System Code 20.20.XXX.315.

Programming

Below table shows the estimated cost and proposed year for each component to be programmed

Capital Outlay Support and Capital Project Cost Estimates

Fund Source SHOPP	Fiscal Year Estimate for the Programmable Alternative						Total
	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
SHOPP							
Component	In thousands of dollars (\$1,000)						
PA&ED Support		3,076					3,076
PS&E Support			6,377				6,377
Right-of-Way Support			73				73
Construction Support					7,227		7,227
Total Support							16,753
Right-of-Way					66		66
Construction					29,854		29,854
Total		3,076	6,450		37,147		46,673

The support cost ratio is 56.0%

19. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015	04/01/2020	Target
BEGIN ENVIRONMENTAL	M020	08/03/2020	Target
PA & ED	M200	08/13/2021	Target
Start PS&E	M210	08/13/2021	Target
Pre-60% PS&E		11/24/2022	Target
60% PS&E	M313	01/05/2023	Target
Pre-95% PS&E		05/18/2023	Target
95% PS&E	M315	06/29/2023	Target
PS&E TO DOE	M377	08/10/2023	Target
Draft Structures PS&E	M378	03/15/2023	Target
Project PS&E	M380	09/21/2023	Target
RIGHT OF WAY CERTIFICATION	M410	09/19/2023	Target
READY TO LIST	M460	10/19/2023	Target
FUND ALLOCATION	M470	12/14/2023	Target
HEADQUARTERS ADVERTISE	M480	01/18/2024	Target

AWARD	M495	05/24/2024	Target
APPROVE CONTRACT	M500	07/23/2024	Target
CONTRACT ACCEPTANCE	M600	05/21/2027	Target
END PROJECT	M800	02/09/2029	Target

20. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

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

21. PROJECT REVIEWS

Scoping team field review	<u>Heather Liang, Mohammed Alam</u>	Date <u>2-11-19</u>
List participants of the scoping team field review.		
Safety field review		Date _____
List participants of the safety field review.		
District Program Advisor	<u>Binh Nguyen</u>	Date <u>2-15-19</u>
Headquarters SHOPP Program Advisor	<u>Abdel Beshair</u>	Date _____
District Maintenance	<u>Jacqueline Tan</u>	Date <u>2-15-19</u>
Headquarters Project Delivery Coordinator		Date _____
Project Manager	<u>Javad Rahimzadeh</u>	Date <u>2-15-19</u>
FHWA		Date _____
District Safety Review		Date _____
Constructability Review		Date _____
Other		Date _____

22. PROJECT PERSONNEL

Name,	Title,	Functional Area,	Phone Numbers
Heather Liang	TE	Office of ITS	213-897-9824
Candace Fung	STEE	Office of ITS	213-897-0068
Javad Rahimzadeh	STE	Project Manager	213-897-6846
Allen Chen	Chief	Office of ITS	213-897-8922

23. ATTACHMENTS (Number of Pages)

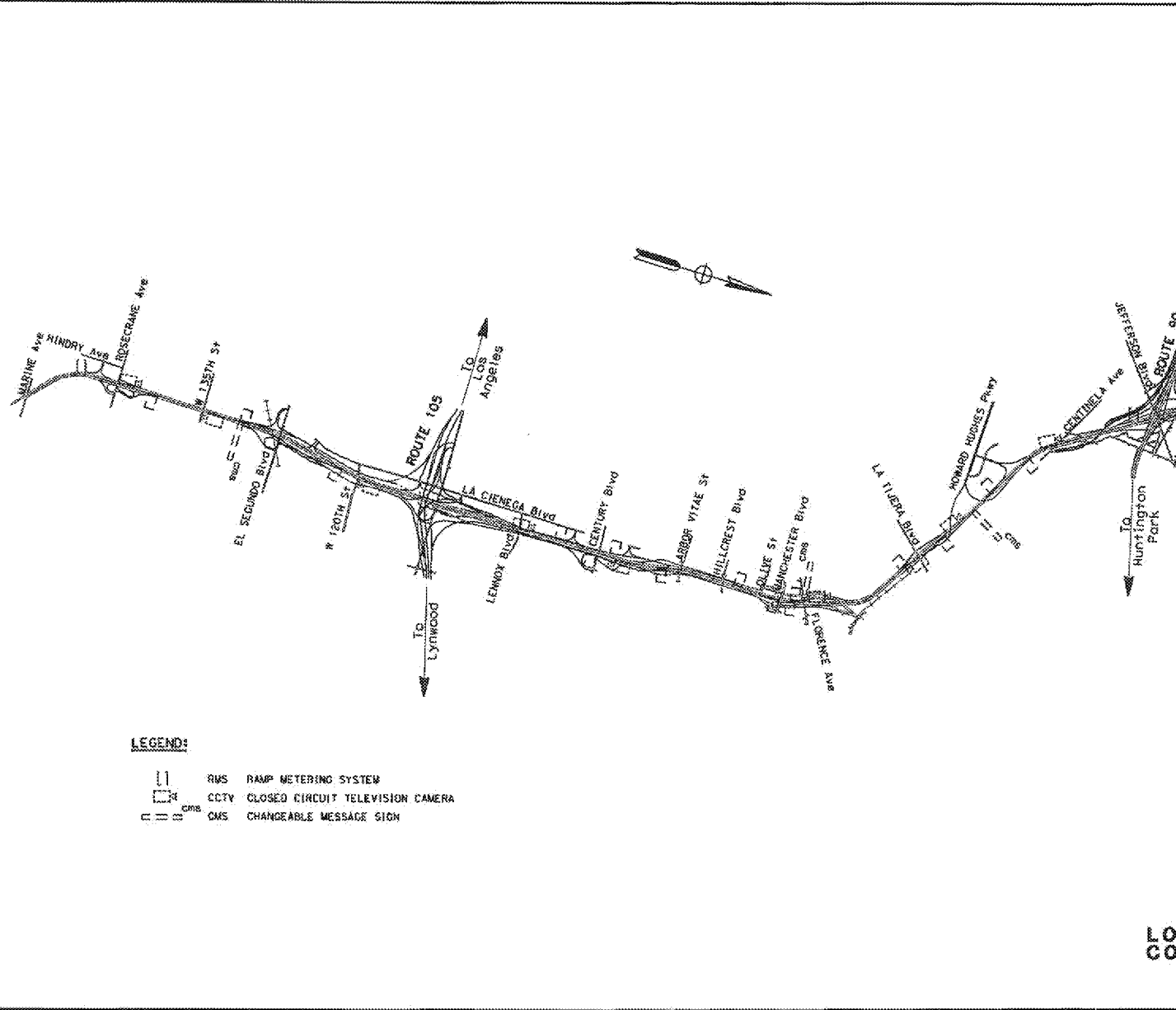
- A. Location map
- B. PIR Storm Water Data Report
- C. Cost Estimate (10)
- D. List of proposed and existing TMS elements
- E. Traffic Management Plan Data Sheet
- F. Right of Way Data Sheet / Conceptual Cost Estimate
- G. Mini-Preliminary Environmental Analysis Report
- H. Preliminary Hazardous Waste Assessment
- I. Risk Register
- J. SHOPP Performance Measures

ATTACHMENT A

Location Map

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
California
 OFFICE OF ITS

FUNCTIONAL SUPERVISOR
 CALCULATED BY
 CHECKED BY
 REVISED BY
 DATE REVISED



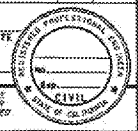
- LEGEND:**
- RMS RAMP METERING SYSTEM
 - CCTV CLOSED CIRCUIT TELEVISION CAMERA
 - CMS CHANGEABLE MESSAGE SIGN

Dist	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET TOTAL SHEETS
07	LA	405		

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE SEAL OF CALIFORNIA OR ITS OFFICER OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED ON THIS PLAN SHEET.



LOCATIONS OF CONSTRUCTION
 NO SCALE
 LC-1

EXHIBIT DATE PLOTTED: 07/13/10
 05-13-10 THE PLOTTED: 07/13/10

ATTACHMENT B

Stormwater Data Report



Dist-County-Route: 07-LA-405, 2, 5, 101, 105
Post Mile Limits: Various
Project Type: Active Traffic Management
Project ID (EA): 0719000039 (07-35070K)
Program Identification: PPNO 5410
Phase: PID (PIR)

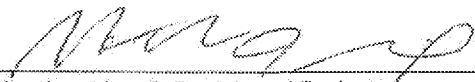
Regional Water Quality Control Board(s): Los Angeles Region 4

- 1. Does the project disturb 5 or more acres of soil? Yes No
- 2. Does the project disturb 1 or more acres of soil and not qualify for the Rainfall Erosivity Waiver? Yes No
- 3. Is the project required to implement Treatment BMPs? Yes No
- 4. Does the project impact existing Treatment BMPs? Yes No


If the answer to any of the preceding questions is "Yes", prepare a Long Form – Stormwater Data Report. Unless otherwise agreed upon by the District/Regional Design Stormwater Coordinator.

Total Disturbed Soil Area: 0.8 acres New Impervious Surface: 0.8 acres
Estimated Const. Start Date: 12/24/24 Estimated Const. Completion Date: 12/23/28

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

 5/16/19
[Heather Liang], Registered Project Engineer/Landscape Architect Date

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

[Stamp Required at PS&E only]  05/17/2019
[Sunny Liem], District/Regional Design SW Coordinator or Designee Date

1. Project Description

- * This project proposes to add Active Traffic Management (ATM) and Corridor Management (CM) strategies such as Queue Warning, Speed harmonization, Dynamic Corridor Adaptive Ramp Metering, Traveler Information, and others on Route 405 from Rosecrans Avenue (PM 19.2) to Route 90 (PM 25.95). This project also proposes to upgrade Transportation Management System (TMS) elements; including the existing closed circuit television (CCTV) cameras, changeable message signs (CMS), vehicle detection stations (VDS), and ramp metering systems (RMS) to lifecycle within the project limits.
- * NNI = 0.8 acres (Maintenance Vehicle Pullouts)
RIS = 0.0 acres
ATA = 0.0 acres
- * Mini-PEAR has been prepared on 5/15/19 for this project.
- * Additional information will be provided during next phase.

2. Site Data and Stormwater Quality Design Issues

- * Additional information will be provided during next phase.

3. Construction Site BMPs

- * This project requires a Water Pollution Control Program (WPCP) since the total Disturbed Soil Area (DSA) created by the project is less than 1 acre.
- * There is no right of way needed for construction site BMP placement.
- * Project specific BMP measures will be specified and quantified during later phases of the project. Temporary construction BMPs have been estimated at (1.25%) of the total project cost (\$ 26,018,000) in accordance with the Project Initiation Cost Estimate Method, Appendix F.3.1, 2017 PPDG.
- * On March 27, 2018, Hussein Saad, District 7 Construction Stormwater Coordinator, agrees to the budgetary fund for the temporary construction site BMP strategy used (at PID phase) for the scope of work of this project.
- * Additional information will be provided during next phase.

Required Attachments:

- * Evaluation Documentation Form

¹ Additional attachments may be required as applicable or directed by the District/Regional Design Storm Water Coordinator (e.g., BMP line item estimate, SW, DPP, and CS Checklists).

DATE: 5-1-19

Project ID (EA): 0719000039 (07-35070K)

No.	Criteria	Yes ✓	No ✓	Supplemental Information for Evaluation
1.	Begin Project evaluation regarding requirement for implementation of Treatment BMPs	✓		See Figure 4-1, Project Evaluation Process for Consideration of Treatment BMPs. Continue to 2.
2.	Is the scope of the Project to install Treatment BMPs (e.g., Alternative Compliance or TMDL Compliance Units)?		✓	If Yes, go to 8. If No, continue to 3.
3.	Is there a direct or indirect discharge to surface waters?	✓		If Yes, continue to 4. If No, go to 9.
4.	As defined in the WQAR or ED, does the project:		✓	If Yes to any, contact the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to discuss the Department's obligations, go to 8 or 5. <u>SL</u> (Dist./Reg. Coordinator Initials) <u>05/17/19</u> If No to all, continue to 5.
	a. discharge to areas of Special Biological Significance (ASBS), or			
	b. discharge to a TMDL watershed where Caltrans is named stakeholder, or	✓		
	c. have other pollution control requirements for surface waters within the project limits?		✓	
5.	Are any existing Treatment BMPs partially or completely removed? (ATA condition #1, Section 4.4.1)		✓	If Yes, go to 8 AND continue to 6. If No, continue to 6.
6.	Is this a Routine Maintenance Project?		✓	If Yes, go to 9. If No, continue to 7.
7.	Does the project result in an increase of <u>one acre or more</u> of new impervious surface (NIS)?		✓	If Yes, go to 8. If No, go to 9.
8.	Project is required to implement Treatment BMPs.	Complete Checklist T-1, Part I.		
9.	Project is not required to implement Treatment BMPs. <u>SL</u> (Dist./Reg. Design SW Coord. Initials) <u>SL</u> (Project Engineer Initials) <u>5/16/19</u> (Date)	Document for Project Files by completing this form and attaching it to the SWDR.		

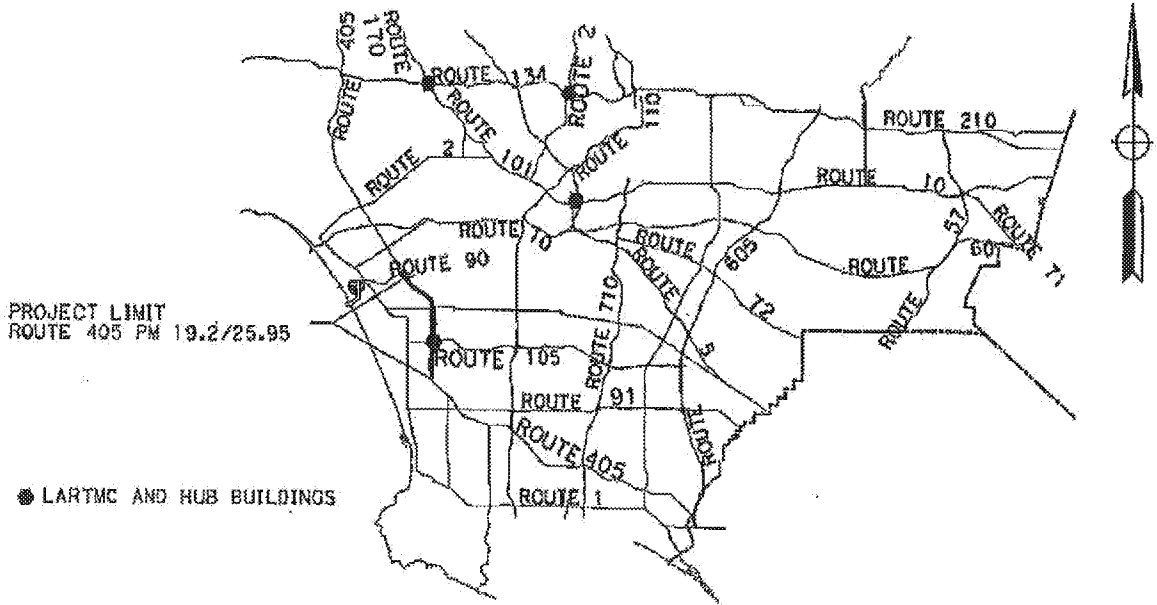
RECEIVED

MAY 1 2019

San Diego State University
 Environmental Engineering Department

Vicinity Map

LOS ANGELES COUNTY



NO SCALE

07-LA-405, 2, 5, 101, 105

Post Mile: Various

EA 35070K

EFIS: 0719000039

ATTACHMENT C

Cost Estimate

**PROJECT
PLANNING COST ESTIMATE** ©

EA: DS-0735070K

EA: DS-0735070K PID: 07-19000039

PID: 07-19000039

District-County-Route: 07-LA-405

PM: 19.2/25.95

Type of Estimate : PIR Cost Estimate

Program Code : SHOPP

Project Limits : 07-LA-405-19.2/25.95, 07-LA-2-R18.7, 07-LA-5-18.3, 07-LA-101-11.8, 07-LA-105-R2.0

Project Description: Active Traffic Management/Corridor Management

Scope :

Alternative : Alternative # 1

SUMMARY OF PROJECT COST ESTIMATE

	<u>Current Year Cost</u>	<u>Escalated Cost</u>
TOTAL ROADWAY COST	\$ 23,947,000	\$ 29,854,000
TOTAL STRUCTURES COST	\$ -	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 23,947,000	\$ 29,854,000
TOTAL RIGHT OF WAY COST	\$ 36,000	\$ 68,000
TOTAL CAPITAL OUTLAY COSTS	\$ 23,983,000	\$ 29,920,000
PA/ED SUPPORT	\$ 2,934,000	\$ 3,076,000
PS&E SUPPORT	\$ 5,870,000	\$ 6,377,000
RIGHT OF WAY SUPPORT	\$ 67,000	\$ 73,000
CONSTRUCTION SUPPORT	\$ 6,331,000	\$ 7,227,000
TOTAL SUPPORT COST	\$ 15,202,000	\$ 16,753,000

TOTAL PROJECT COST	\$ 39,200,000	\$ 46,700,000
---------------------------	----------------------	----------------------

Programmed Amount

Month / Year

Date of Estimate (Month/Year) _____ 8 / 2019

Estimated Construction Start (Month/Year) _____ 12 / 2024

Number of Working Days = 500

Estimated Mid-Point of Construction (Month/Year) _____ 12 / 2025

Estimated Construction End (Month/Year) _____ 12 / 2026

Number of Plant Establishment Days 0

Estimated Project Schedule

PID Approval	6/7/2019
PA/ED Approval	8/13/2021
PS&E	9/21/2023
RTL	10/19/2023
Begin Construction	7/23/2024

PROJECT COST ESTIMATE

EA: DS-0735070K PID: 07-19000039

I. ROADWAY ITEMS SUMMARY

	Section	Cost
1	Earthwork	\$ 610,000
2	Pavement Structural Section	\$ 350,000
3	Drainage	\$ -
4	Specialty Items	\$ 10,000
5	Environmental	\$ 320,000
6	Traffic Items	\$ 12,520,000
7	Detours	\$ -
8	Minor Items	\$ -
9	Roadway Mobilization	\$ 1,381,000
10	Supplemental Work	\$ 990,900
11	State Furnished	\$ 3,222,500
12	Time-Related Overhead	\$ 1,381,000
13	Total Roadway Contingency	\$ 3,162,000
TOTAL ROADWAY ITEMS		\$ 23,947,400

Estimate Prepared By : Heather Liang 6/6/19 213-897-9824
 Heather Liang Date Phone

Estimate Reviewed By : for Candace Fung 6/6/19 213-897-0068
 Candace Fung 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.

PROJECT COST ESTIMATE

EA: DS-0735070K PID: 07-19000039

SECTION 1: EARTHWORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
190105 Roadway Excavation (Type Z-2)	CY	2,000	x 300.00 = \$	600,000
152320 Lead Compliance Plan	LS		x = \$	-
194001 Ditch Excavation	CY		x = \$	-
19801X Imported Borrow	CY/TON		x = \$	-
192037 Structure Excavation (Retaining Wall)	CY		x = \$	-
193013 Structure Backfill (Retaining Wall)	CY		x = \$	-
193031 PerVIOUS Backfill Material (Retaining Wall)	CY		x = \$	-
16010X Clearing & Grubbing	LS	1	x 10,000.00 = \$	10,000
170101 Develop Water Supply	LS		x = \$	-
19801X Imported Borrow	CY/TON		x = \$	-
210130 Duff	ACRE		x = \$	-
XXXXXX Some Item	Unit		x = \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 610,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code	Unit	Quantity	Unit Price (\$)	Cost
401050 Jointed Plain Concrete Pavement	CY		x = \$	-
400050 Continuously Reinforced Concrete Pavement	CY		x = \$	-
404092 Seal Pavement Joint	LF		x = \$	-
404093 Seal Isolation Joint	LF		x = \$	-
413117 Seal Concrete Pavement Joint (Silicone)	LF		x = \$	-
413118 Seal Pavement Joint (Asphalt Rubber)	LF		x = \$	-
280010 Rapid Strength Concrete Base	CY		x = \$	-
410095 Dowel Bar (Drill and Bond)	EA		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON	800	x 300.00 = \$	240,000
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON		x = \$	-
39300X Geosynthetic Pavement Interlayer (Type X)	SQYD		x = \$	-
26020X Class 2 Aggregate Base	CY	1,100	x 100.00 = \$	110,000
290201 Asphalt Treated Permeable Base	CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON		x = \$	-
397005 Tack Coat	TON		x = \$	-
377501 Slurry Seal	TON		x = \$	-
3750XX Screenings (Type XX)	TON		x = \$	-
374492 Asphaltic Emulsion (Polymer Modified)	TON		x = \$	-
370001 Sand Cover (Seal)	TON		x = \$	-
731530 Minor Concrete (Textured Paving)	CY		x = \$	-
731502 Minor Concrete (Miscellaneous Construction)	CY		x = \$	-
39407X Place Hot Mix Asphalt Dike (Type X)	LF		x = \$	-
160771 Remove Asphalt Concrete Dike	LF		x = \$	-
420201 Grind Existing Concrete Pavement	SQYD		x = \$	-
150960 Remove Base and Surfacing	CY		x = \$	-
390095 Replace Asphalt Concrete Surfacing	CY		x = \$	-
15312X Remove Concrete	LF/CY/LS		x = \$	-
394090 Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x = \$	-
153103 Cold Plane Asphalt Concrete Pavement	SQYD		x = \$	-
39405X Shoulder Rumble Strip (HMA, X-in indentations)	STA		x = \$	-
413113 Repair Spalled Joints, Polyester Grout	SQYD		x = \$	-
420102 Groove Existing Concrete Pavement	SQYD		x = \$	-
390136 Minor Hot Mix Asphalt	TON		x = \$	-
394095 Roadside Paving (Miscellaneous Areas)	SQYD		x = \$	-
XXXXXX Some Items	Unit		x = \$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$ 350,000
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SECTION 3: DRAINAGE

Item code	Unit	Quantity	Unit Price (\$)	Cost
15080X	Remove Culvert	EALF	x	= \$ -
150820	Modify Inlet	EA	x	= \$ -
155232	Sand Backfill	CY	x	= \$ -
15020X	Abandon Culvert	EALF	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" Thi	LF	x	= \$ -
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF	x	= \$ -
70XXXX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF	x	= \$ -
7050XX	XX" Steel Flared End Section	EA	x	= \$ -
703233	Grated Line Drain	LF	x	= \$ -
72XXXX	Rock Slope Protection (Type and Method)	CY/TON	x	= \$ -
72901X	Rock Slope Protection Fabric (Class X)	SQYD	x	= \$ -
721420	Concrete (Ditch Lining)	CY	x	= \$ -
721430	Concrete (Channel Lining)	CY	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
080050	Progress Schedule (Critical Path Method)	LS	1 x 5,000.00	= \$ 5,000
582001	Sound Wall (Masonry Block)	SQFT	x	= \$ -
510530	Minor Concrete (Wall)	CY	x	= \$ -
15325X	Remove Sound Wall	LF/LS	x	= \$ -
070030	Lead Compliance Plan	LS	1 x 5,000.00	= \$ 5,000
141120	Treated Wood Waste	LB	x	= \$ -
153221	Remove Concrete Barrier	LF	x	= \$ -
150662	Remove Metal Beam Guard Railing	LF	x	= \$ -
150668	Remove Flared End Section	EA	x	= \$ -
8000XX	Chain Link Fence (Type XX)	LF	x	= \$ -
80XXXX	XX" Chain Link Gate (Type CL-6)	EA	x	= \$ -
832001	Metal Beam Guard Railing	LF	x	= \$ -
839301	Single Thrie Beam Barrier	LF	x	= \$ -
839310	Double Thrie Beam Barrier	LF	x	= \$ -
839521	Cable Railing	LF	x	= \$ -
8395XX	Terminal System (Type CAT)	EA	x	= \$ -
839585	Alternative Flared Terminal System	EA	x	= \$ -
839584	Alternative In-line Terminal System	EA	x	= \$ -
4906XX	CIDH Concrete Piling (Insert Diameter)	LF	x	= \$ -
839XXX	Crash Cushion (Insert Type)	EA	x	= \$ -
83XXXX	Concrete Barrier (Insert Type)	LF	x	= \$ -
520103	Bar Reinforced Steel (Retaining Wall)	LB	x	= \$ -
510060	Structural Concrete, Retaining Wall	CY	x	= \$ -
513553	Retaining Wall (Masonry Wall)	SQFT	x	= \$ -
511035	Architectural Treatment	SQFT	x	= \$ -
598001	Anti-Graffiti Coating	SQFT	x	= \$ -
203070	Rock Stain	SQFT	x	= \$ -
5138XX	Reinforced Concrete Crib Wall (Type X)	SQFT	x	= \$ -
83954X	Transition Railing (Type X)	EA	x	= \$ -
597601	Prepare and Stain Concrete	SQFT	x	= \$ -
839561	Rail Tensioning Assembly	EA	x	= \$ -
83958X	End Anchor Assembly (Type X)	EA	x	= \$ -
XXXXXX	Some Item	Unit	x	= \$ -

TOTAL SPECIALTY ITEMS \$ 10,000

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
	LS		x = \$	-
130670	LF	x	= \$	-
141000	LF	x	= \$	-
<i>Subtotal Environmental Mitigation</i>				\$ -

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
20XXXX	LS	x	= \$	-
20XXXX	LS	x	= \$	-
204089	LS	x	= \$	-
204101	LS	x	= \$	-
20XXXX	LS	x	= \$	-
150685	LS	x	= \$	-
20XXXX	LS	x	= \$	-
206400	LS	x	= \$	-
21011X	CY/TON	x	= \$	-
20XXXX	SQFT/SQYD	x	= \$	-
200122	SQYD	x	= \$	-
208304	EA	x	= \$	-
2087XX	LF	x	= \$	-
20890X	LF	x	= \$	-
<i>Subtotal Landscape and Irrigation</i>				\$ -

5C - EROSION CONTROL

Item code	Unit	Quantity	Unit Price (\$)	Cost
210010	EA	x	= \$	-
210350	LF	x	= \$	-
210380	LF	x	= \$	-
2102XX	SQFT	x	= \$	-
21025X	SQFT/ACRE	x	= \$	-
210300	SQFT	x	= \$	-
210420	SQFT	x	= \$	-
210430	SQFT	x	= \$	-
210600	SQFT	x	= \$	-
210630	SQFT	x	= \$	-
<i>Subtotal Erosion Control</i>				\$ -

5D - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
130300	LS	x	= \$	-
130200	LS	1	x 5,000.00 = \$	5,000
130100	LS	1	x 315,000.00 = \$	315,000
130330	EA	x	= \$	-
130310	EA	x	= \$	-
130320	EA	x	= \$	-
130520	SQYD	x	= \$	-
130550	SQYD	x	= \$	-
130505	EA	x	= \$	-
130640	LF	x	= \$	-
130900	LS	x	= \$	-
130710	EA	x	= \$	-
130810	LF	x	= \$	-
130620	EA	x	= \$	-
130730	LS	x	= \$	-
<i>Subtotal NPDES</i>				\$ 320,000

TOTAL ENVIRONMENTAL	\$ 320,000
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Supplemental Work for NPDES

086595	LS	x	= \$	-
086596	LS	1	x 5,000.00 = \$	5,000
086597	LS	x	= \$	-
XXXXXX	LS	x	= \$	-
<i>Subtotal Supplemental Work for NPDES</i>				\$ 5,000

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMP's.

**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
860990	LS	18	x 100,000.00 = \$	1,800,000
86110X	LS	14	x 94,000.00 = \$	1,316,000
	LS	2	x 250,000.00 = \$	500,000
	EA	14	x 12,000.00 = \$	168,000
	EA	14	x 12,000.00 = \$	168,000
	LS	7	x 50,000.00 = \$	350,000
	EA	43	x 8,000.00 = \$	344,000
	EA	11	x 150,000.00 = \$	1,650,000
	EA	10	x 50,000.00 = \$	500,000
	EA	3	x 70,000.00 = \$	210,000
	EA	9	x 70,000.00 = \$	630,000
	EA	5	x 50,000.00 = \$	250,000
	EA	2	x 50,000.00 = \$	100,000
	EA	5	x 20,000.00 = \$	100,000
	LS	1	x 100,000.00 = \$	100,000
XXXXX	Unit		x	= \$ -
Subtotal Traffic Electrical				\$ 8,186,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
56XXXX	EA	7	x 500,000.00 = \$	3,500,000
566012	EA		x = \$	-
5602XX	SQFT		x = \$	-
568010	SQFT		x = \$	-
150711	LF		x = \$	-
141101	LS	1	x 84,000.00 = \$	84,000
150712	SQFT		x = \$	-
150742	EA		x = \$	-
152320	EA		x = \$	-
152390	EA		x = \$	-
82010X	EA		x = \$	-
840502	LF		x = \$	-
846012	SQFT		x = \$	-
120090	LS	1	x 250,000.00 = \$	250,000
84XXXX	LS		x = \$	-
Subtotal Traffic Signing and Striping				\$ 3,834,000

6C - Traffic Management Plan

Item code	Unit	Quantity	Unit Price (\$)	Cost
12885X	EA/LS		x = \$	-
Subtotal Traffic Management Plan				\$ -

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120189	EA		x = \$	-
12016X	EA		x = \$	-
120120	EA		x = \$	-
129100	EA		x = \$	-
120100	LS	1	x 500,000.00 = \$	500,000
129110	EA		x = \$	-
129000	LF		x = \$	-
120149	SQFT		x = \$	-
82010X	EA		x = \$	-
XXXXXX	Unit		x = \$	-
Subtotal Stage Construction and Traffic Handling				\$ 500,000

TOTAL TRAFFIC ITEMS	\$ 12,520,000
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PROJECT COST ESTIMATE

EA: DS-0735070K PID: 07-19000039

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY		x = \$	-
19801X Imported Borrow	CY/TON		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON		x = \$	-
26020X Class 2 Aggregate Base	TON/CY		x = \$	-
260401 Class 4 Aggregate Subbase	CY		x = \$	-
130620 Temporary Drainage Inlet Protection	EA		x = \$	-
129000 Temporary Railing (Type K)	LF		x = \$	-
128801 Temporary Signal System	LS		x = \$	-
120149 Temporary Pavement Marking (Paint)	SQFT		x = \$	-
80010X Temporary Fence (Type X)	LF		x = \$	-
XXXXXX Some Item	LS		x = \$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS	\$	-
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SUBTOTAL SECTIONS 1 through 7	\$	13,810,000
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SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items

ADA Items	0.0%	\$	-
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8B - Bike Path Items

Bike Path Items	0.0%	\$	-
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8C - Other Minor Items

Other Minor Items	0.0%	\$	-
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Total of Section 1-7	\$	13,810,000	x	0.0%	=	\$	-
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TOTAL MINOR ITEMS	\$	-
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SECTIONS 9: ROADWAY MOBILIZATION

Item code	Total Section 1-8	\$	13,810,000	x	10%	=	\$	1,381,000
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TOTAL ROADWAY MOBILIZATION	\$	1,381,000
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SECTION 10: SUPPLEMENTAL WORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
066670 Payment Adjustments For Price Index Fluctuations	LS		x = \$	-
068094 Value Analysis	LS	1	x 10,000.00	= \$ 10,000
066070 Maintain Traffic	LS	1	x 250,000.00	= \$ 250,000
068919 Dispute Resolution Board	LS	1	x 22,500.00	= \$ 22,500
066921 Dispute Resolution Advisor	LS	1	x 5,000.00	= \$ 5,000
068015 Federal Trainee Program	LS	1	x 96,000.00	= \$ 96,000
068610 Partnering	LS	1	x 50,000.00	= \$ 50,000
066204 Remove Rock and Debris	LS		x = \$	-
066222 Locate Existing Crossover	LS		x = \$	-
XXXXXX Some Item	Unit		x = \$	-

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

Total Section 1-8	\$	13,810,000	4%	=	\$	552,400
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TOTAL SUPPLEMENTAL WORK	\$	990,900
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SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
066106	Resident Engineers Office	LS	1	x	334,300.00	=	\$334,300
066063	Traffic Management Plan - Public Information	LS		x		=	\$0
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	612,000.00	=	\$612,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065	Tow Truck Service Patrol	LS		x		=	\$0
066916	Annual Construction General Permit Fee	LS		x		=	\$0
XXXXXX	ATMS Equipment and Integration	LS	1	x	2,000,000.00	=	\$2,000,000
Total Section 1-8			\$ 13,810,000		2%	=	\$ 276,200
TOTAL STATE FURNISHED							\$3,222,500

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	\$13,810,000	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	\$19,404,400	(used to check if project is greater than \$5 million excluding contingency)
Estimated Time-Related Overhead (TRO) Percentage (0% to 10%)	=	10%

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
090100	Time-Related Overhead	WD	500	X	\$2,762	=	\$1,381,000
TOTAL TIME-RELATED OVERHEAD							\$1,381,000

SECTION 13: ROADWAY CONTINGENCY

Risk Amount from Risk Register		(for Known Risks)	15%	\$3,162,000
Additional or Residual Contingency		(for Unknown/Undefined Risks)	-15%	(\$3,162,000)
Total Section 1-12	\$ 20,785,400	x	0%	= \$3,162,000
TOTAL CONTINGENCY*				\$3,162,000

II. STRUCTURE ITEMS

	<u>Bridge 1</u>	<u>Bridge 2</u>	
DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Bridge Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF	0 LF	0 LF
Total Bridge 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)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$150	\$150	\$0
COST OF EACH	\$0	\$0	\$0

	<u>Building 1</u>		
DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Building Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF	0 LF	0 LF
Total Building 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)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$300	\$0	\$0
COST OF EACH	\$0	\$0	\$0

TOTAL COST OF BRIDGES	\$0
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TOTAL COST OF BUILDINGS	\$0
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STRUCTURES MOBILIZATION	10%	\$0
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STRUCTURES CONTINGENCY*	25%	\$0
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TOTAL COST OF STRUCTURES	\$0
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Estimate Prepared By: _____
 XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

_____ Date

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)	\$	0
	C2) Potholing (Design Phase)	\$	36,000
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 <u>0%</u>	\$	0
J)	Design Appreciation Factor <u>0%</u>	\$	0
K)	Utility Relocation (Construction Cost)	\$	0

L)

TOTAL RIGHT OF WAY ESTIMATE	\$36,000
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M)

TOTAL R/W ESTIMATE: Escalated	\$66,000
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N)

RIGHT OF WAY SUPPORT	\$61,300
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Support Cost Estimate
Prepared By _____ Project Coordinator¹ _____ Phone _____

Utility Estimate Prepared
By _____ Utility Coordinator² _____ Phone _____

R/W Acquisition Estimate
Prepared By _____ Right of Way Estimator³ _____ 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 D

List of proposed and existing TMS elements

RAMP METER UPGRADES/MODIFICATIONS

County	Route	Direction	Location	PM	E #	Line #	Controller #	Ramp Type	# of Lanes	Storage	Ramp HOV			Convert	
											LT	RT	Meter	Mix	Meter
LA	405	S	Jefferson Bl.	25.83	3195	51	6	Angle	3	25	X			X	
LA	405	S	La Tijera Bl.	24.25	3359	51	13	Angle	2	12	X			X	
LA	405	S	Imperial Hwy. WB	21.30	3364	58	15	Hook	2	20	X			X	
LA	405	S	Imperial Hwy. EB	21.08	3365	58	16	Hook	2	25	X			X	
LA	405	S	El Segundo WB	20.60	4521	38	18	Hook	2	15	X			X	
LA	405	S	El Segundo EB	20.30	3366	58	8	Slip	2	20	X			X	
LA	405	N	El Segundo EB	20.13	3057	58	7	Loop	2	15	X			X	
LA	405	N	El Segundo WB	20.39	3058	38	17	Hook	2	15	X			X	
LA	405	N	Imperial Hwy. EB	21.10	3353	58	2	Loop	2	25	X			X	
LA	405	N	Imperial Hwy. WB	21.39	3352	58	1	Hook	2	20	X			X	
LA	405	N	Century Bl. EB	22.68	3354	58	5	Loop	2	15	X			X	
LA	405	N	Manchester EB	23.36	3356	51	3	Loop	2	25	X			X	
LA	405	N	La Tijera Bl.	24.25	3358	51	5	Angle	2	30	X			X	
LA	405	N	Howard Hughes Pkwy	24.80	4555	107	10	Hook	2	35	X			X	

APPRXOMATE EMS AND CAMERA LOCATIONS

County	Route	Direction	Post Mile	Approximate Location Description
LA	405	S	25.83	Jefferson Bl.
LA	405	S	24.25	La Tijera Bl.
LA	405	S	23.70	Manchester Blvd
LA	405	S	22.20	Century Blvd
LA	405	S	21.30	Imperial Hwy. WB
LA	405	S	21.08	Imperial Hwy. EB
LA	405	S	20.60	El Segundo WB
LA	405	S	20.30	El Segundo EB
LA	405	S	19.30	Rosecrans Ave
LA	405	N	19.20	Rosecrans Ave
LA	405	N	20.13	El Segundo EB
LA	405	N	20.39	El Segundo WB
LA	405	N	21.10	Imperial Hwy. EB
LA	405	N	21.39	Imperial Hwy. WB
LA	405	N	22.68	Century Bl. EB
LA	405	N	23.36	Manchester EB
LA	405	N	24.25	La Tijera Bl.
LA	405	N	24.80	Howard Hughes Pkwy

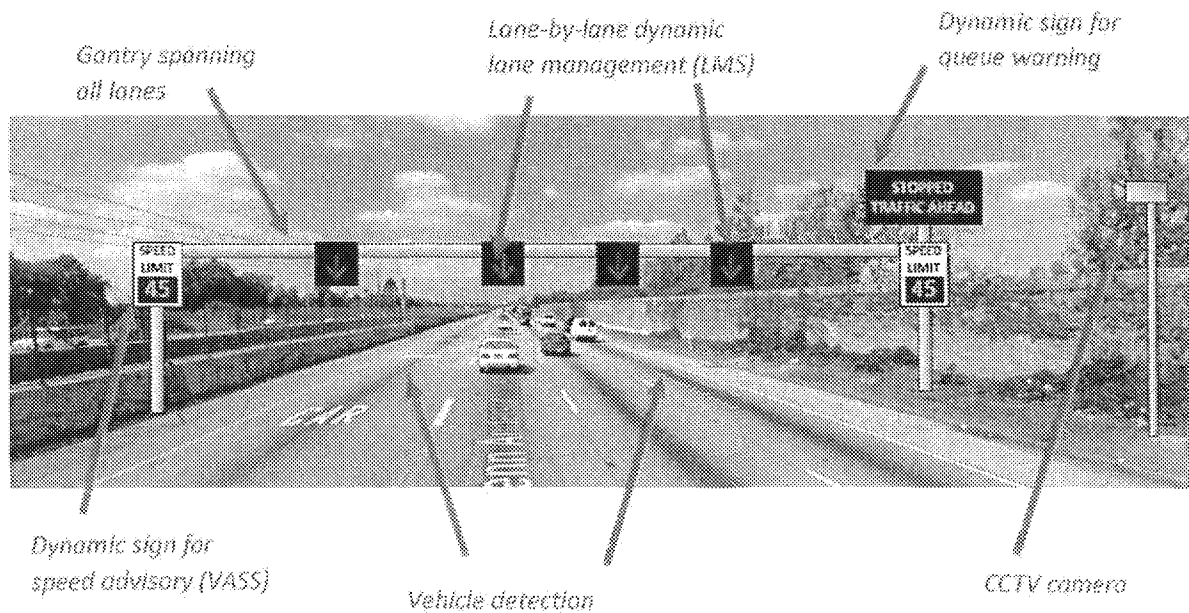
PROPOSED CMS LOCATIONS

Route/Dir	PM	Location
405/SB	20.1	El Segundo Blvd
405/SB	24.95	Howard Hughes Pkwy

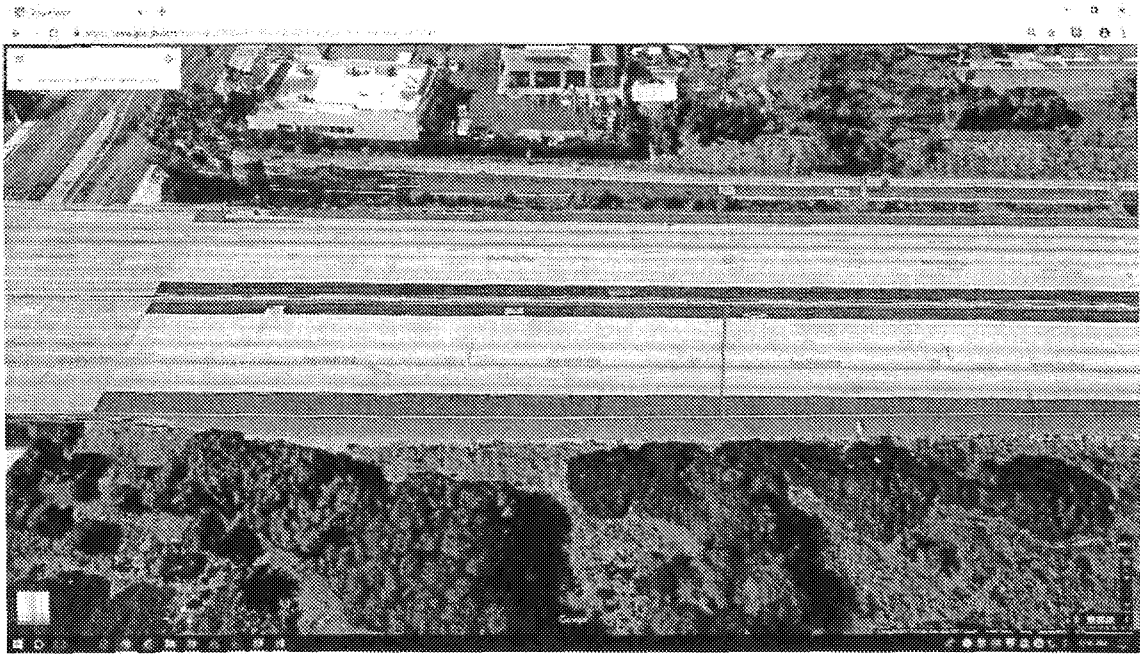
Proposed Gantry Locations (with signs)

	Route/Dir	PM	Span (LF)	VASS (EA)	DMS (EA)	Note
1	405/NB	19.25	70'	2	6	@ Rosecrans Ave, at the end of ingress
2	405/NB	20.17	70'	2	6	@ El Segundo Blvd
3	405/NB	20.75	76'	2	6	@ Imperial Hwy off-ramp, at the end of bridge railing
4	405/SB	23.0	120'	2	8	@ Hillcrest Blvd OC
5	405/SB	23.4	70'	1	6	@ Manchester Blvd, at existing CMS location Combine with existing CMS
6	405/SB	24.36	60'	2	5	@ La Tijera Blvd off-ramp
7	405/SB	24.8	76'	2	6	@ Howard Hughes Pkwy

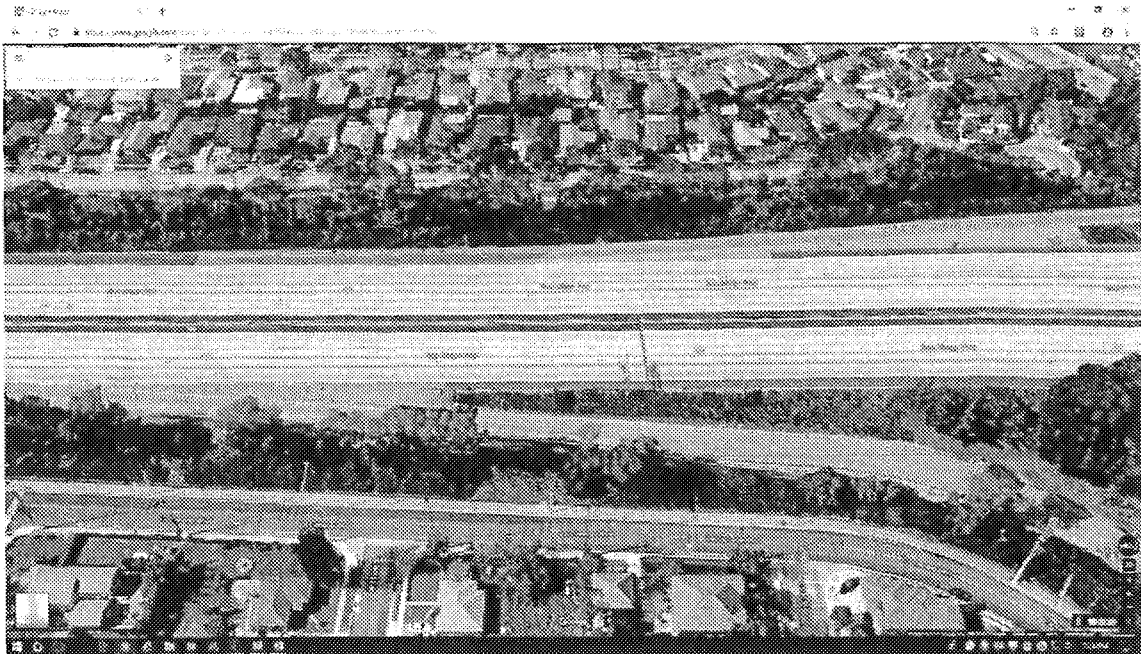
Typical Gantry Diagram



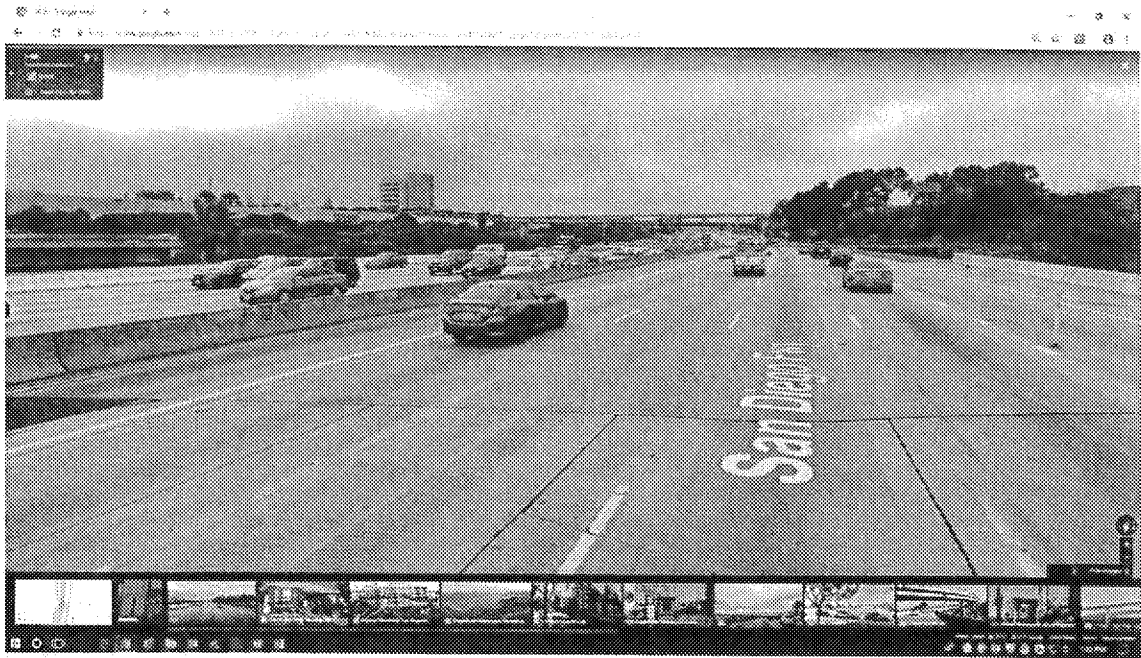
Location 1



Location 2



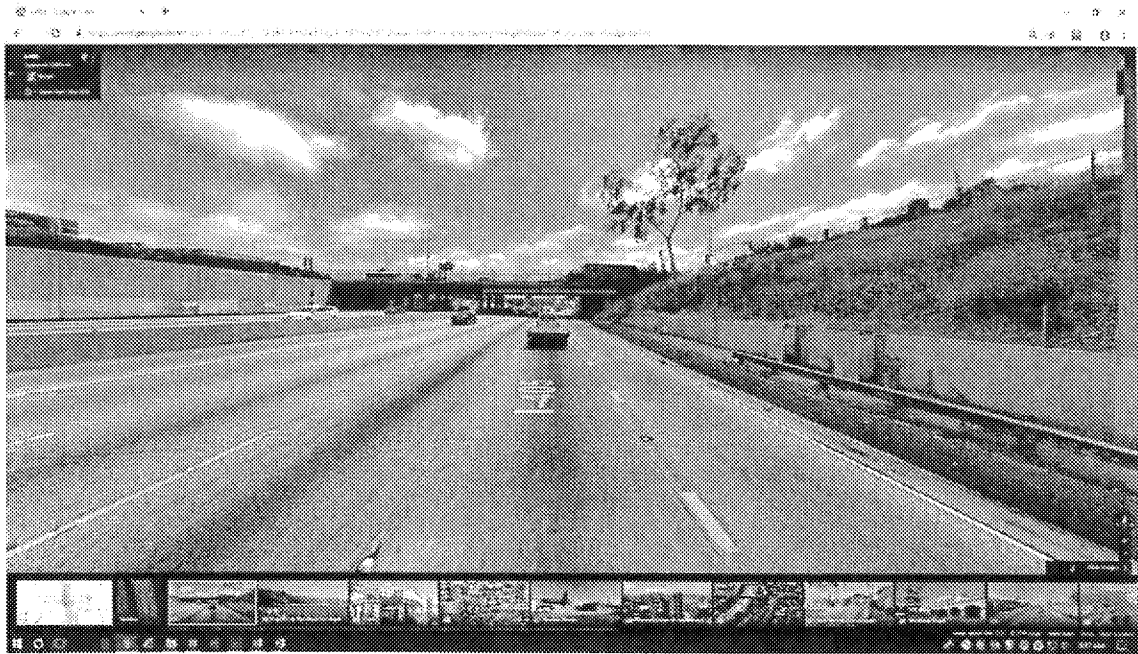
Location 3



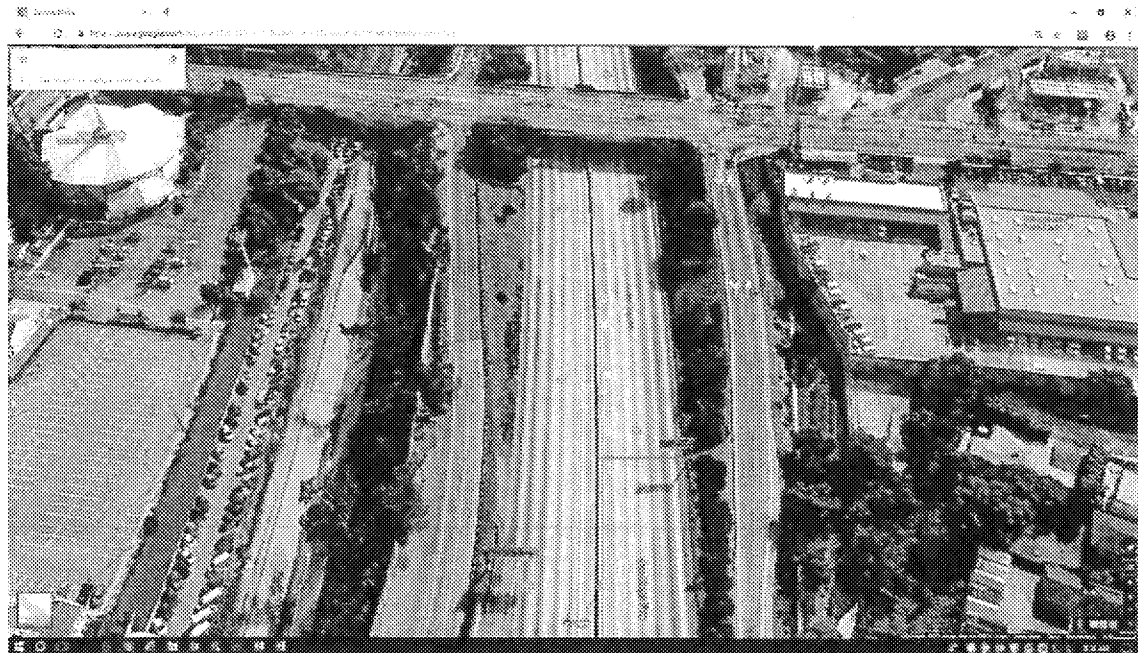
Location 4



Location 5



Location 6



Location 7



RAMP METER UPGRADES/MODIFICATIONS

County	Route	Direction	Location	PM	F #	Line #	Controller #	Ramp Type	# of Lanes	Storage	Ramp HOV			Convert	
											LT	RT	Meter	Mix	Meter
LA	405	S	Jefferson Bl.	25.83	3195	51	6	Angle	3	25	X			X	
LA	405	S	La Tijera Bl.	24.25	3359	51	13	Angle	2	12	X			X	
LA	405	S	Imperial Hwy. WB	21.30	3364	58	15	Hook	2	20	X			X	
LA	405	S	Imperial Hwy. EB	21.08	3365	58	16	Hook	2	25	X			X	
LA	405	S	El Segundo WB	20.60	4521	38	18	Hook	2	15	X			X	
LA	405	S	El Segundo EB	20.30	3366	58	8	Slip	2	20	X			X	
LA	405	N	El Segundo EB	20.13	3057	58	7	Loop	2	15	X			X	
LA	405	N	El Segundo WB	20.39	3058	38	17	Hook	2	15	X			X	
LA	405	N	Imperial Hwy. EB	21.10	3353	58	2	Loop	2	25	X			X	
LA	405	N	Imperial Hwy. WB	21.39	3352	58	1	Hook	2	20	X			X	
LA	405	N	Century Bl. EB	22.68	3354	58	5	Loop	2	15	X			X	
LA	405	N	Manchester EB	23.36	3356	51	3	Loop	2	25	X			X	
LA	405	N	La Tijera Bl.	24.25	3368	51	5	Angle	2	30	X			X	
LA	405	N	Howard Hughes Pkwy	24.80	4555	107	10	Hook	2	35	X			X	

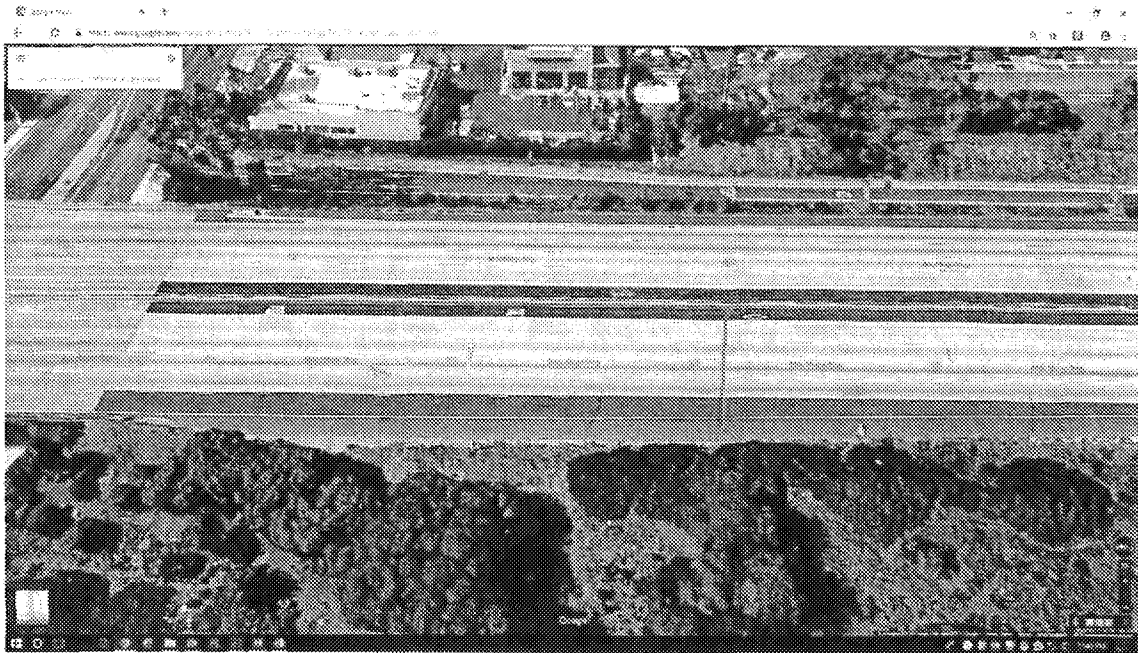
APPRXOMATE EMS AND CAMERA LOCATIONS

County	Route	Direction	Post Mile	Approximate Location Description
LA	405	S	25.83	Jefferson Bl.
LA	405	S	24.25	La Tijera Bl.
LA	405	S	23.70	Manchester Blvd
LA	405	S	22.20	Century Blvd
LA	405	S	21.30	Imperial Hwy. WB
LA	405	S	21.08	Imperial Hwy. EB
LA	405	S	20.60	El Segundo WB
LA	405	S	20.30	El Segundo EB
LA	405	S	19.30	Rosecrans Ave
LA	405	N	19.20	Rosecrans Ave
LA	405	N	20.13	El Segundo EB
LA	405	N	20.39	El Segundo WB
LA	405	N	21.10	Imperial Hwy. EB
LA	405	N	21.39	Imperial Hwy. WB
LA	405	N	22.68	Century Bl. EB
LA	405	N	23.36	Manchester EB
LA	405	N	24.25	La Tijera Bl.
LA	405	N	24.80	Howard Hughes Pkwy

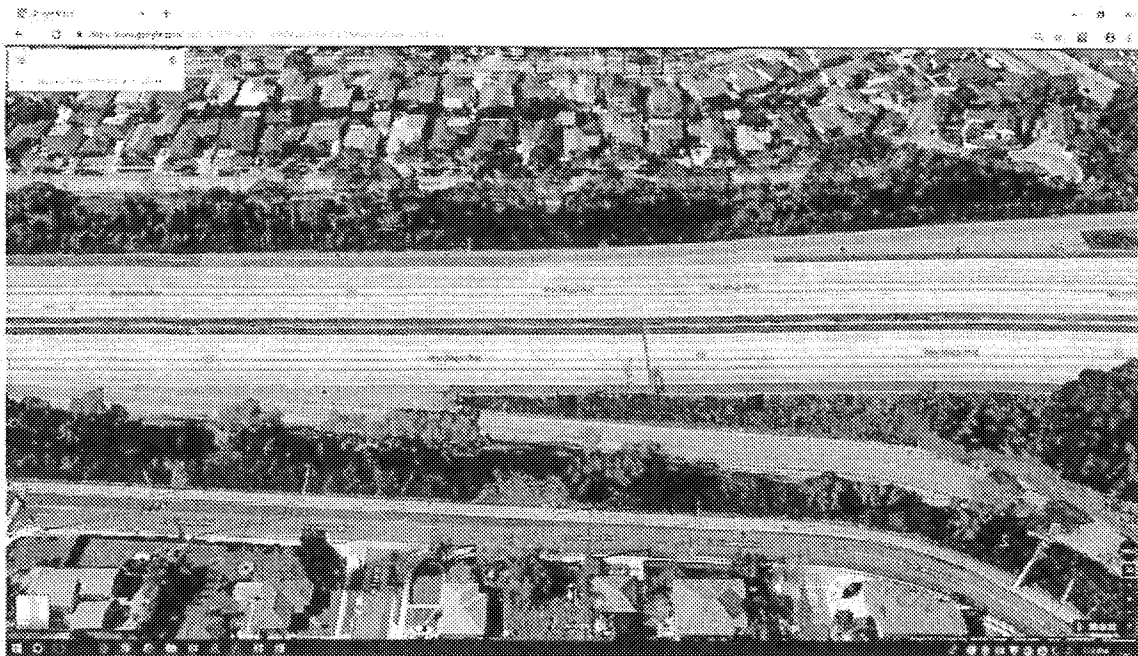
PROPOSED CMS LOCATIONS

Route/Dir	PM	Location
405/SB	20.1	El Segundo Blvd
405/SB	24.95	Howard Hughes Pkwy

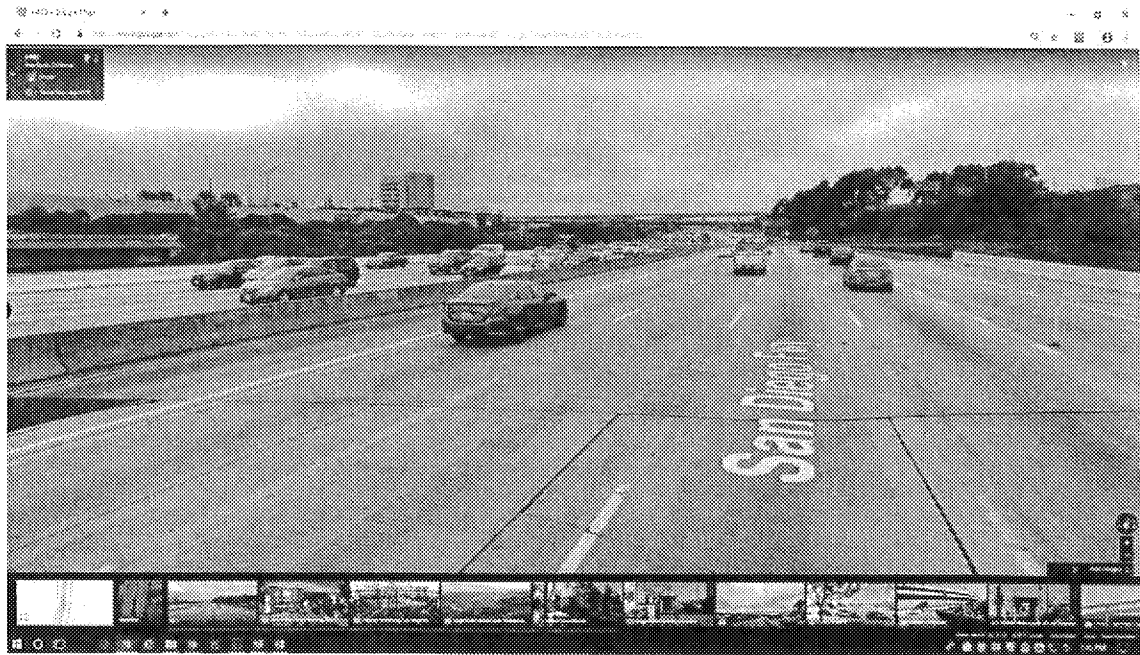
Location 1



Location 2



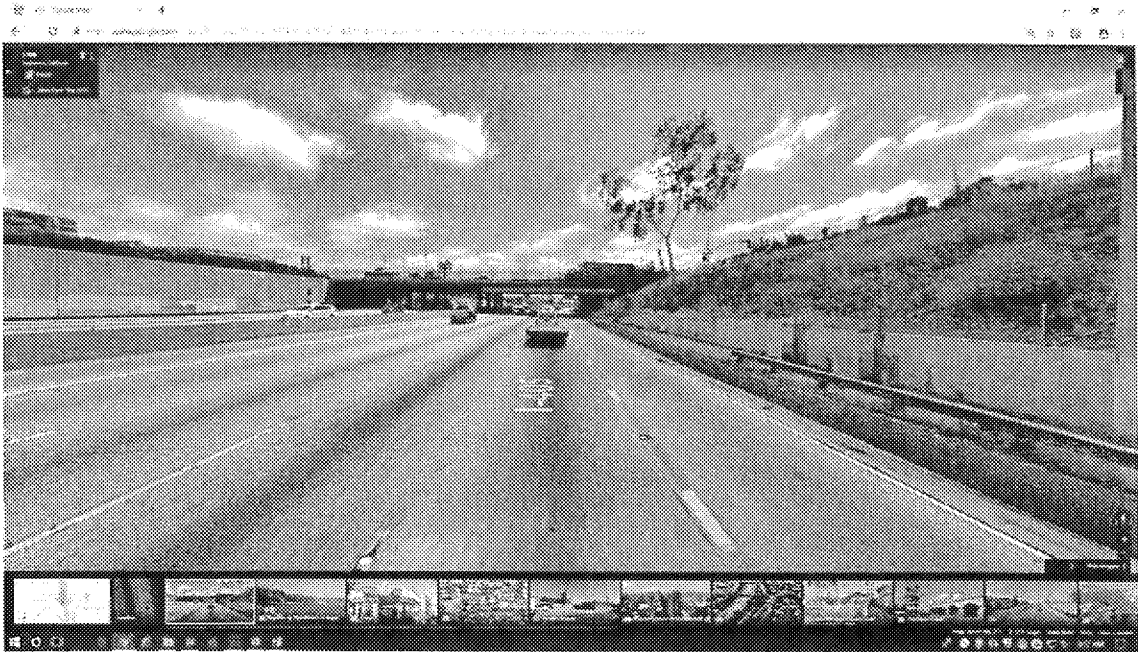
Location 3



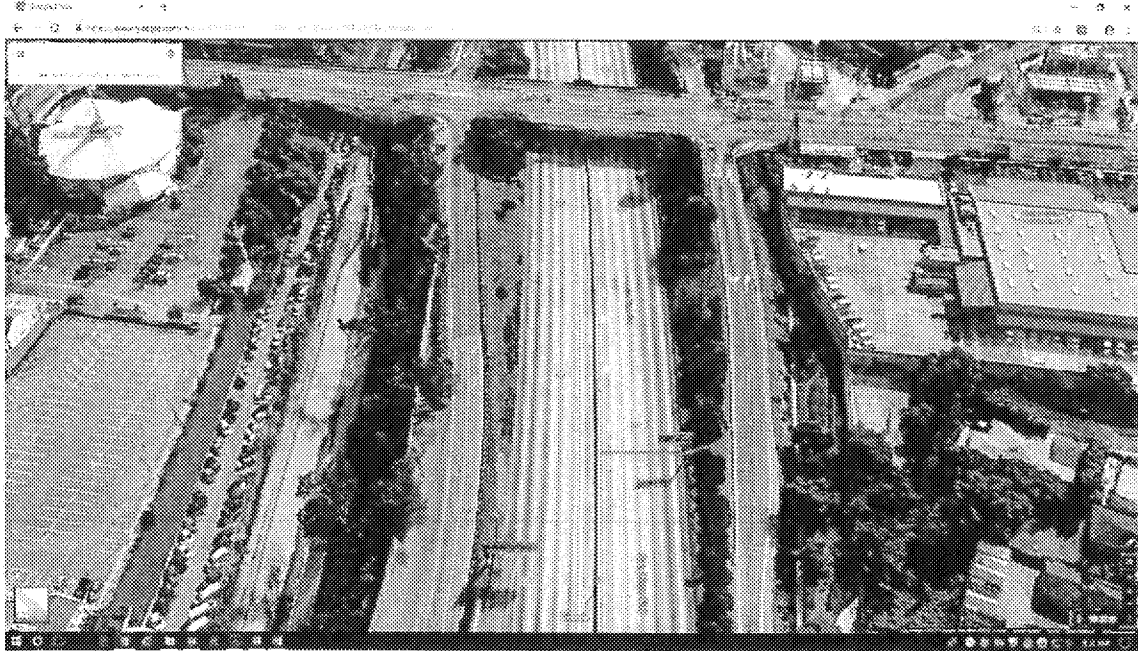
Location 4



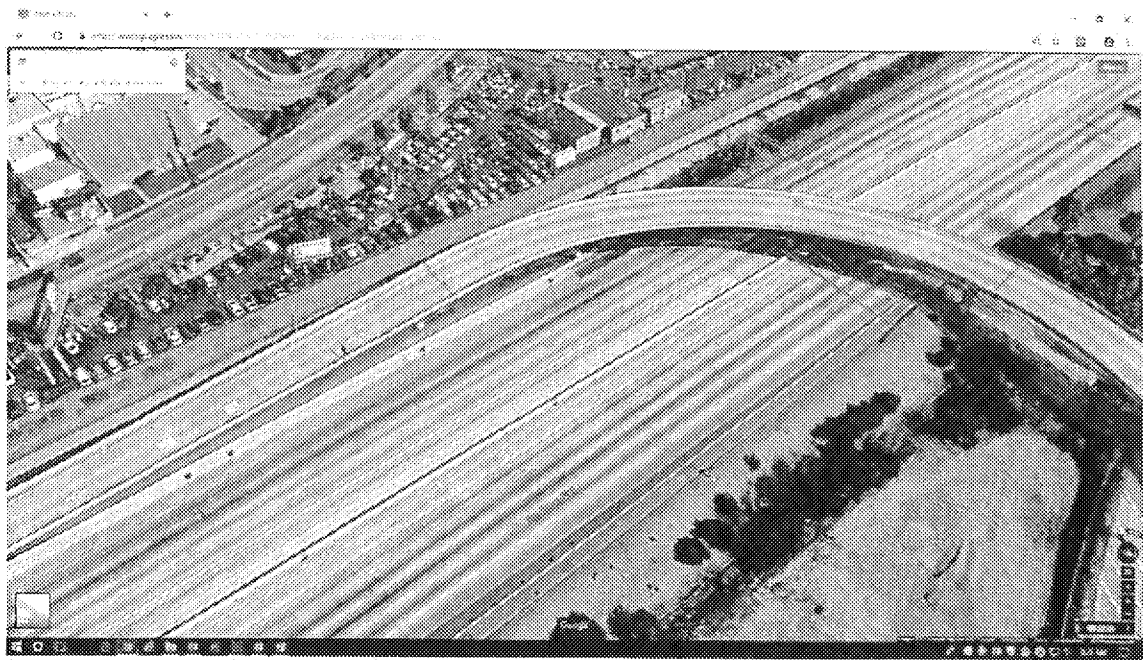
Location 5



Location 6



Location 7



ATTACHMENT E

TMP Data Sheet

Memorandum

*Making Conservation
a California Way of Life.*

To: **CANDACE FUNG, Senior**
Transportation Electrical Engineer
Office of ITS

Date: March 18, 2019

File: 07-LA-405-19.2/25.92
Roadside Safety
Improvement
BA 35070K
E-FIS 0719000039

From: **DENIS KATAYAMA**
Senior Transportation Engineer
Division of Operations

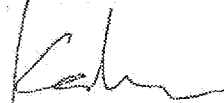
Subject: **APPROVED TRANSPORTATION MANAGEMENT PLAN (TMP) DATA SHEET**

Attached is the approved Transportation Management Plan (TMP) Data Sheet for the above referenced project. The approved TMP Data Sheet was developed to reflect proposed work shown on the draft project initiation report and cost estimate which were received on February 20, 2019.

The following TMP element is to be included in the "State Furnished Materials" of the Basic Engineering Estimating System:

• 066062	COZEEP CONTRACT	\$612,000
----------	-----------------	-----------

If you have any questions, please call me at (213) 897-6143 or Ka Lun Ng of my staff at (213) 897-9826.



Denis Katayama, P.E.
Office of District Traffic Manager (South)

Attachment
TMP Data Sheet
C: File

ATTACHMENT F

Right of Way Data Sheet

Memorandum

*Serious Drought!
Help Save Water!*

To: Candace Fung , Design Manager
Office of Design
District 7, Los Angeles Office

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

Date: 4/30/2019
EA: 35070K
Data Sheet ID NO: ds4082
Project ID # 0719000039

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 Heather Liang 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 filed 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)
12/29/2019	8/13/2021	4/12/2022	6/23/2022	12/23/2026

TO Candace Fung
 ATTN: Heather Liang

R/W DATA SHEET

ID NO ds4082

SENIOR R/W P&M Javad Rahimzadeh

Date of Data Sheet 4/30/2019

ROUTE 425
 PM_KM 19.2/25.92
 EA 35070K

Project Description

Project ID #

ALT 1

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 the 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 Candace Fung to the Data Sheet Request Form.

	YES	NO	Not known at this time
Utilities are depicted on plans			
Railroads are depicted on plans			
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		
RAP (cont rate.)		
Escrow costs (cont rate.)		
Utility relocation costs	\$36,000	\$65,092
Estimate of Reimbursed Appraisal Fee		
Total estimated cost	\$36,000	\$65,092

No Right of Way

Escalation Rate R/w .07
 Escalation Rate Utilities .08
 Cert.date 4/12/22

Parcel Count and Py Info

PARCEL DUAL TYPES APPR

A		
B		
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
228 & 246	Appraisals	
228 & 246	Acquisitions	
200	Utilities	
195,20,40	Utility Potholing	135
205	Railroads	
228 & 246	Condemnation	
228 & 246	Clearance	
228 & 246	Relocation	
228 & 306	RW Engineering	
	Total	135

UTILITY INFORMATION

- | | | | | |
|-----|---|---|------|---------|
| 1) | 2- Test Hole for 5'x4' RCB Str Dr on Sta. 1062 (SHEET 4 627V13C12) (ea) | 2 | 3000 | \$6,000 |
| 2) | 2-Test Hole for 3'x3' RCB Str Dr on sta. 1088 (SHEET 6 627V13C12) (ea) | 2 | 3000 | \$6,000 |
| 3) | 2-Test Hole for 30" H SC Gas on sta. 1150 (SHEET 11 627V13C12) (ea) | 2 | 3000 | \$6,000 |
| 4) | 2- Test Hole for 2-8" CPS CHC San Swr on sta. 1300 (SHEET 2 627V13C44) (ea) | 2 | 3000 | \$6,000 |
| 5) | 2-Test Hole for 12' R/W Std Oil Co on sta. 1308 (SHEET 3 627V13C44) (ea) | 2 | 3000 | \$6,000 |
| 6) | 2-Test Hole for 12' R/W Std Oil Co on sta. 1309 (SHEET 3 627V13C44) (ea) | 2 | 3000 | \$6,000 |
| 7) | | | | |
| 8) | | | | |
| 9) | | | | |
| 10) | | | | |
| 11) | | | | |
| 12) | | | | |
| 13) | | | | |
| 14) | | | | |
| 15) | | | | |

Are utility easements required? No
 Are Utility agreements required? No

Total Cu Ent Cost \$36,000
 Const. Completion Date 12/23/2026
 Utility Escalation Rate 8%
 Total Escalated Cost \$65,092

RR INFORMATION

Are RR affected No

Describe the RR facilities affected, and ownership: Rail on plans - unaffected
(i.e. RR name, RR spurs, branch lines, at grade crossings?)

Will construction work be performed in RR right of way? Y/N If yes, describe:

What types of agreements are anticipated to be required from the RR?

Will Temporary Construction Easement (TCE) rights be required for the project construction? If yes, explain.

<p>Phase 4 costs: RR Flagging related to construction activity. This cost is a phase 4 construction contract cost. Though noted on the RW datasheet, the estimated flagging cost is not a RW cost, and not a part of the RW Capital. This estimate is provided so it can be added to the engineer's estimate for construction – RR flagging estimate is based on the number of days flagging is needed for construction activity.</p>	
<p>Phase 9 costs: Purchase of rights for construction, agreements, Preliminary Engineering Contracts, RR re-arrangement costs. This figure is included in the RW Capital estimate total.</p>	\$0

	<u>DATE</u>
Right of Way Estimate prepared by <u>Victor Lee</u>	<u>2/20/19</u>
Estimate prepared by <u>Steve Johnson</u>	<u>2/20/19</u>
Utilities Estimate prepared by <u>Michelle Graves</u>	<u>4/16/19</u>

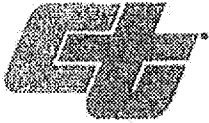
I have personally reviewed this RW Data Sheet and all supporting information I certify that the probable highest and best use estimated values and assumptions are reasonable and proper subject to the limiting conditions set forth and I find this Data Sheet complete and current.

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 _____

ATTACHMENT G

Mini-PEAR



Mini-PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

1. Project Information

District: 7	County: LA	Route: 405	PM: 19.200/25.950	EA: 07-35070
				Proj ID: 0719000039
Project Title: SHOPP Mobility 315 TMS				
Project Manager	Javad Rahimzadeh	Phone # 213-897-6846		
Env. Senior	Eduardo Aguilar	Phone # 213-897-8492		
Planner	Elizabeth Florence	Phone # 213-897-2915		
				Phone #

2. Project Description

Purpose and Need

Purpose:

The purpose of this project is to maximize corridor wide system performance and make full use of the freeway system capacity to address the congestion increase by deploying Active Traffic Management (ATM) strategies and upgrading the existing Transportation Management System (TMS) with life cycle replacements for the TMS field elements to ensure the corridor is in operational and monitoring condition.

Need:

There is the need to maximize corridor wide system performance and make full use of the freeway system capacity to meet the increase of congestion the District will face over the next 10 to 20 years. There is also the need to accommodate the increase of congestion with the Los Angeles World Airport's proposed Automated People Mover (APM) system and a Consolidated Rent-A-Car Center (CONRAC), anticipated completion date of 2023. The new facilities will be located on southbound 405 at Century Blvd./La Cienega Blvd. on/off-ramps.

Description of Work

This project proposes to add Active Traffic Management (ATM) and Corridor Management (CM) strategies such as Queue Warning, Speed harmonization, Dynamic Corridor Adaptive Ramp Metering, Traveler Information, and others on Route 405 from Rosecrans Avenue (PM 19.2) to Route 90 (PM 25.95). This project also proposes to upgrade transportation Management System (TMS) elements; including the existing closed circuit television (CCTV) cameras, changeable message signs (CMS), vehicle detection stations (VDS), and ramp metering systems (RMS) to lifecycle within the project limits. The communication system will be upgraded at the Los Angeles Regional Transportation Management Center (LARTMC) on Route 2 (PM 18.7), East Los Angeles (ELA) Hub on Route 5 (PM 18.3), Los Angeles Airport (LAX) Hub on Route 105 (PM R2.0), and North Hollywood (NHD) Hub on Route 101 (PM 11.8).

3. Anticipated Environmental Approval

CEQA

CE

NEPA

CE(23 USC 326)

Estimated length of time (in months)

1

4. Summary Statement

In order to identify environmental issues, constraints, costs, and resource needs, a Mini-PEAR was prepared for the project. Potential disposal, staging, and borrow sites will need to be identified in the PA&ED phase for complete environmental review. Field studies were not conducted and technical studies have been deferred to the PA&ED phase.

The anticipated environmental document for the proposed project is a CE/CE. This document level has been selected based on preliminary environmental analysis. The California Department of Transportation would act as the lead agency in the preparation of a joint NEPA/CEQA (National Environmental Policy Act/California Environmental Quality Act) environmental document. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 U.S. Code 326. The estimated time to obtain environmental approval is one month from the start of environmental studies. Assuming environmental studies begin November 2019, after project preliminary maps are provided, final environmental document would be anticipated by January 2020.

5. Special Considerations

Cultural Resources

This review identified little to no cultural resource sensitivity in any of the project locations. A search of the Caltrans Cultural Resources Database (CCRD) identified the following resources within one mile of the project area: LA-405 PM 19.2 - 25.95, LA-2 PM R18.7, LA-5 PM 18.3, LA-101 PM 11.8, LA-105 PM R2.0. This project would qualify as a Screened Undertaking (classes 6, 13, 18, 19, 20, 21, and 22) where a Caltrans PQS staff will need to review the project again at the 0 phase and prepare a screened undertaking memo. Should the scope of the project change from the activities identified in this review, additional studies may be necessary, including the preparation of a Historic Property Survey Report (HPSR) and Archeological Survey Report (ASR). Should these studies identify cultural resources within the project area, additional studies may be required.

Hazardous Waste/Materials

Based on the Environmental Database review, the reported groundwater depth, within the project vicinity, ranges between 30 and 90 feet below ground surface (bgs) at street surface level (below freeway grade). Office of Environmental Engineering does not anticipate construction dewatering is required for the proposed Gantry, RMS, CCTV, DMS, and CMS footing pile construction work as the recommended pile depths range between 8 feet and 22 feet bgs. Excess soil will be generated from the construction of Gantry; RMS, CCTV, CMS, DMS, electrical controller cabinets and MVPs at unpaved areas. The excess soil is suspected to have elevated lead and other heavy metals concentrations that may exceed California and/or Federal hazardous waste threshold limits. Special handling and/or waste management will be required from the proposed construction/excavation activities. A site investigation will need to be conducted during PS&E to adequately determine the Aerially Deposited Lead (ADL) contamination and to assist the General Contractor in development and preparation of a task-specific Excavation and Transportation Plan (ETP) and Lead Compliance Plan (LCP) and implementation of lead awareness training in conformance with 8CCR, Section 1532.1 "Lead", Cal-OSHA Construction Safety Order and Caltrans SSPs prior to

commencement of construction activities. There will be some minimally disturbed soil containing hazardous waste concentrations of ADL. All soil disturbed must remain in the immediate area of disturbance and not be transported elsewhere. The existing yellow thermoplastic painted and/or lead based painted traffic stripe and pavement markings at the intersection will be disturbed/removed as part of the project improvements. Yellow thermoplastic painted traffic stripe and/or pavement marking contain elevated lead and chromium, which is regulated as California Hazardous Waste. Removal of such material shall be properly collected, stored, transported and disposed of in accordance with State and Federal Guidelines. Residues from the removal of existing non-yellow thermoplastic painted and/or lead-based painted traffic stripe and/or pavement marking at the intersection can be classified as non-hazardous waste and disposed of at a permitted non-hazardous waste disposal facility (Class II or III facilities).

Biological Environment

No impacts to biological resources are expected due to the limits of the project and the environmental setting. The impacts include minimal ground disturbing activities for Maintenance Vehicle Pullouts (MVP), and installation of overhead signage for Traffic Management Systems (TMS). No vegetation removal is expected due to the projects work type and location. This project will result in no impacts to federal/state threatened/endangered species, per the federal species list and the California Natural Diversity Database. Indirect impacts from roadway runoff will be minimized through incorporation of all appropriate Storm-water and Erosion Control Best Management Practices, such as protecting all drain inlets and outlets to prevent construction debris from entering drainage courses. No resource agency permits are required as a result of this project, as there will be no impacts to sensitive biological resources or drainages. If the project scope should change for any reason, the Division will be notified to determine whether current environmental documentation is adequate.

6. Disclaimer

This report is not an environmental document or determination. The above information and recommendations are based on the project description provided in this report. The discussion and conclusions provided by this Mini-PEAR are approximate and based on a cursory review of existing records, databases, and mapping tools to estimate the potential for probable environmental effects. The purpose of this report is to provide a preliminary level of environmental analysis to support the Project Initiation Document. Changes in project scope, alternatives, existing environmental conditions, and/or environmental laws or regulations will require a reevaluation of this report.

7. Preparers

		Date Scoping Complete
Planner	Elizabeth Florence	5/1/2019
Haz Waste Specialist	Hung Pham	4/17/2019
Archaeologist	Kimberly Harrison	3/22/2019

8. Approval

Parkme Lee
 FOR Eduardo Aguilar
 Environmental Branch Chief

5/15/19
 Date

Rahimzadeh, Javad
 Rahimzadeh, Javad
 Project Manager

5/15/19
 Date

Headquarters Coordinator's Class of Action Concurrence has been obtained (e-mail concurrence is attached) - required for environmental documents only and not CEs

ATTACHMENTS:

- Attachment A: PEAR Environmental Studies Checklist
- Attachment B: Estimated Resources by WBS Code
- Attachment C: Schedule (Gantt Chart)
- Attachment D: PEAR Mitigation and Compliance Cost Estimate (MCCE)

ATTACHMENT H

Preliminary Hazardous Waste Assessment

Memorandum

*Making Conservation
a California Way of Life*

To: Candace Fung, STEE
Office of ITS
Division of Traffic

Date: April 17, 2019

Attn: Heather Liang, P.E.
Project Engineer

File: 07-LA-405 PM
19.2/25.92
07-LA-2 PM R18.7
07-LA-5 PM 18.3
07-LA-101 PM 11.8
07-LA-105 PM R2.0
Upgrade
Transportation
Management System
and Active Traffic
Management and
Corridor
Management
strategies at various
locations on routes
2, 5, 101, 105, and
405 in Los Angeles
County

PN: 1846-0719000039-K
EA: 07-333-35070K

From: DEPARTMENT OF TRANSPORTATION
OEE-HAZARDOUS WASTE BRANCH, SOUTH REGION
DIVISION OF ENVIRONMENTAL PLANNING

Subject: PRELIMINARY HAZARDOUS WASTE ASSESSMENT FOR PROJECT
INITIATION REPORT (PIR)

The Office of Environmental Engineering (OEE) is in receipt of your memorandum dated February 15, 2019, requesting a Preliminary Hazardous Waste Assessment for the subject Project Initiation Report (PIR). The purpose of this project is to maximize corridor wide system performance and make full use of the freeway system to address the congestion increase by deploying Active Traffic Management (ATM) strategies and upgrading the existing Transportation Management System (TMS) with life cycle replacements for the TMS field elements to ensure the corridor is in operational and monitoring condition at various locations on SR-2 (PM R18.7), I-5 PM (18.3), I-101 (PM 11.8), I-105 (PM R2.0), and I-405 (PM 19.2/25.95) in Los Angeles County. The project will be funded by SHOPP Mobility 315 TMS in Fiscal Year 2013/2024.

Per OEE review of the latest draft PIR, dated February 2019, the project proposes to install Variable Speed Advisory Signs (VSAS) and Lane Management Sign (LMS) on the gantries,

Closed Circuit Television (CCTV) cameras, Changeable Message Signs (CMS), Dynamic Message Signs (DMS) and flashing beacons for queue warning, vehicle detection stations (VDS), and Maintenance Vehicle Pullouts (MVP). The project also proposes to upgrade the existing Transportation Management System (TMS) with life cycle replacements for the TMS field elements consists of Ramp Metering System (RMS), CCTV camera, CMS, and VDS. Additionally, the communication system will be upgraded at the Los Angeles Regional Transportation Management Center (LARTMC) on SR-2, East Los Angeles (ELA) Hub on I-5, Los Angeles Airport (LAX) Hub on I-105, and North Hollywood (NHD) Hub on I-101.

The specific project scope of work consists of the following:

- Install seven Gantries, seven Vehicle Detection Stations, Lane Management Signs (LMS), Variable Speed Advisory Signs (VSAS), and flashing beacons;
- Install 18 Closed Circuit Television (CCTV) cameras, two Changeable Message Signs (CMS), and 14 Ramp Metering System;
- Upgrade communication system on SR-2, I-5, SR-101, and I-105 hubs;
- Install 82 Dynamic Message Signs (DMS);
- Install new electrical controller cabinets;
- Construct new Maintenance Vehicle Pullouts (MVPs);
- Remove existing and install new traffic stripe and pavement marking (both yellow and/or non-yellow thermoplastic traffic stripes); and
- Install temporary stationary mounted construction area signs for traffic staging/control.

All works are to be performed and completed within existing State Right of Way (R/W). In reviewing the draft PIR and discussion with the Project Engineer, the followings are potentially hazardous waste of concerns associate with the planned scope of work:

Environmental Database Review:

The Los Angeles Regional Water Quality Control Board (LARWQCB)'s *GeoTracker* and California Department of Toxic Substances Control (DTSC) *EnviroStor* environmental database were reviewed to identify potential Recognized Environmental Concern (REC) with respect to potential soil, soil vapor and groundwater related to planned improvements. The focus of the environmental database search primarily is for the installation of Gantry, CCTV, CMS, RMS, and DMS piles as well as construction of MVPs work. The objective of the environmental database search is to evaluate/determine if there are reported REC sites exist that may impact the planned improvements which include impacting the drinking water aquifer(s) and determine whether construction dewatering will be needed. Additionally, the information will be used to evaluate whether a groundwater investigation is necessary/required during PS&E phase to determine the groundwater condition.

Based on the database review, the reported groundwater depth, within the project vicinity, ranges between 30 and 90 feet below ground surface (bgs) at street surface level (below freeway grade). OEE does not anticipate construction dewatering is required for the proposed Gantry, RMS, CCTV, DMS, and CMS footing pile construction work as the recommended pile depths range between 8 feet and 22 feet bgs.

Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead (ADL):

Per OEE's review of the Project scope of work, excess soil (potentially containing hazardous waste concentrations of ADL) will be generated from the construction of Gantry, RMS, CCTV, CMS, DMS, electrical controller cabinets and MVPs at unpaved areas. OEE's reviewed relevant information/data obtained for ADL site investigations at/near the project vicinity and indicated that elevated ADL concentrations exist at the upper shallow soil layer at the unpaved areas due to particulate emissions from historical leaded gasoline usage. The excess soil is suspected to have elevated lead and other heavy metals concentrations that may exceed the California and/or Federal hazardous waste threshold limits. Special handling and/or waste management will be required from the proposed construction/excavation activities. It is recommended that a project-specific ADL site investigation (SI) be conducted in PS&E phase to adequately evaluate and determine the lateral and vertical and extent of ADL contamination and to assist the General Contractor (GC) in development and preparation of a task-specific Excavation and Transportation Plan (ETP) and Lead Compliance Plan (LCP) and implementation of lead awareness training in conformance with 8CCR, Section 1532.1, "Lead", Cal-OSHA Construction Safety Order, and Caltrans Standard Specifications prior to commencement of construction activities. For the PIR preliminary cost estimate, it is recommended to assume all excess/excavated soils generated at the unpaved areas to be classified as California hazardous waste (*Roadway/Structural Excavation Type Z-2*) and shall be disposed at a California permitted Class I hazardous waste disposal facility.

Minimal Disturbance of Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead (ADL):

This project will involve installation of temporary stationary mounted construction area signposts (for traffic control/staging), new conduits and restoration of landscaping and irrigation system (if required) at unpaved areas. According to Caltrans' ADL guidance document (2010), US EPA allows certain discrete areas of generally dispersed contamination to be considered as individual waste management unit. These discrete areas are defined as Areas of Contaminations (AOCs). An AOC is equated to a single unit, and therefor movement, consolidation, or in-situ treatment of hazardous waste within the AOC does not create of new point of hazardous waste generation. For an AOC, contamination must be contiguous but can have various concentrations. The Department of Toxic Substances Control (DTSC) allows Caltrans to apply AOC approach to projects that will only cause minimal disturbance of soil containing hazardous waste concentrations of aerially deposited lead. All soil disturbed must remain in the immediate area of disturbance and not be transported elsewhere. Health and Safety precautions and dust control for hazardous waste must be implemented. It is important to notify the GC that lead is present and allow for preparation of task-specific LCP and lead awareness training as required by 8CCR, Section 1532.1, "Lead", Cal-OSHA Construction Safety Order, and Caltrans Standard Specifications.

Remove Yellow Traffic Stripe and Pavement Marking With Hazardous Waste Residue:

The existing yellow thermoplastic painted and/or lead-based painted traffic stripe and pavement markings at the intersection will be disturbed/removed as part of the project improvements. Yellow thermoplastic painted traffic stripe and/or pavement marking contain elevated lead and

chromium, which is regulated as California Hazardous Waste (non-RCRA waste). Residue produced when these materials are disturbed may contain heavy metals in concentration that exceed hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. Removal of such material shall be properly collected, stored, transported, and disposed of in accordance with State and Federal guidelines. It is Caltrans policy to require the GC to prepare a task-specific LCP and Debris Containment and Disposal Work Plan (WP) as required by Caltrans Standard Specification and 8CCR. The LCP and WP are prepared to address worker safety and waste handling/management procedure of the generated residue from the removal operation.

Remove Traffic Stripes and Pavement Markings Containing Lead (Non-Hazardous):

Residues from the removal of existing non-yellow (i.e. white, blue, etc.) thermoplastic painted and/or lead-based painted traffic stripe and/or pavement marking at the intersection can be classified as non-hazardous waste and disposed of at a permitted non-hazardous waste disposal facility (Class II or III facilities). However, the GC is required to develop a task-specific LCP and training program in conformance with 8CCR and Caltrans Standard Specifications prior to start the removal operation.

OEE recommends referencing <http://sv08doweb1/contractcost/> for Engineer's bid cost estimate per the preliminary hazardous waste assessment provided above.

OEE RESOURCE ESTIMATE FOR PROJECT (CC 1846):

WBS 165.10 = 120 hours (PAED support)
WBS 235.10 = 1,000 hours (300 hours for SI support and 700 hours for Consultant SI work)
WBS 255.05 = 120 hours (PS&E support including preparation of assessment, SSPs/NSSPs)
WBS 270.66 = 100 hours (Construction support)
WBS 280.10 = 40 hours (Project close-out and ECR completion)

Upon completion of the final draft PIR, please provide a copy to OEE for review. Please note that this preliminary hazardous waste assessment is only applicable to the scope of work defined in the PIR and it is not intended as a final hazardous waste assessment/clearance for project clearance. Please notify our office should the scope of work change after issuance of this preliminary assessment.

If you have any questions, I can be reached at steve.chan@dot.ca.gov, (213) 897-3646, or contact Hung Pham of my staff at hung.t.pham@dot.ca.gov, (213) 897-0936.



Steve Chan, P.E., STE
District Hazardous Waste Branch (South Region)
Office of Environmental Engineering (OEE)
Division of Environmental Planning

EA: 07-35070K (PN: 1846-0719000039-K)
Preliminary Hazardous Waste Assessment (PIR)
April 17, 2019
Page 5 of 5

Reference(s):

Site Investigation Report, Interstate Route 405 Highway Improvement Project, Post Mile 21.3 to 26.0, Los Angeles County, County, California, December 12, 2001, Prepared for California Department of Transportation, District 7, Prepared by IT Corporation, Task Order No. 04, EA No. 07-119851, Contract No. 43A0023, IT Project No. 829965 (E-Report).

Attachment(s):

Site Photos


File

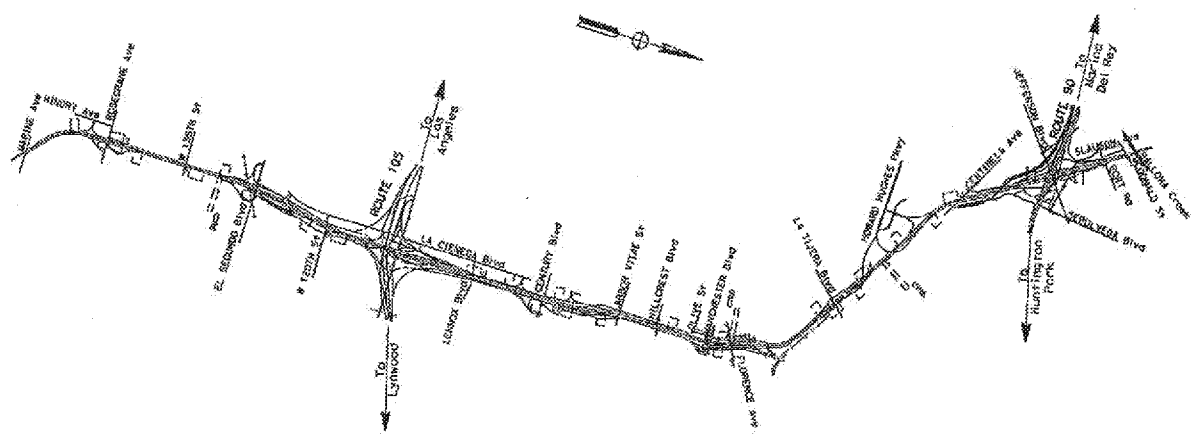
D07EnvPlngDocs




Gloria Taylor, Division of Environmental Planning

Liz Florence, Division of Environmental Planning

Javad Rahimzadeh, Division of Management

STATE COUNTY	ROUTE	LOCAL PROJECT	SHEET NO.	TOTAL SHEETS
07 LA	405			
REGISTERED CIVIL ENGINEER		DATE		
PROJECT APPROVAL CODE		DATE		
				



- LEGEND:**
-  RNS RAMP METERING SYSTEM
 -  CCTV CLOSED CIRCUIT TELEVISION CAMERA
 -  EMS EXCHANGEABLE MESSAGE SIGN

LOCATIONS OF CONSTRUCTION
NO SCALE

LC-1

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION OFFICE OF ITS

PROJECT SUPERVISOR CHECKED BY

DESIGNED BY DATE REVISED

DATE REVISED

DATE REVISED

DATE REVISED

DATE REVISED

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REVISIONS EAST REVISION 7/27/2010

DESIGNED BY DATE REVISED

DATE REVISED

DATE REVISED

DATE REVISED

DATE REVISED

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DATE REVISED

DATE REVISED

RELATIVE GRAPHIC SCALE 1" = 100 FEET

SHEET 1008

PROJECT NUMBER & PHASE

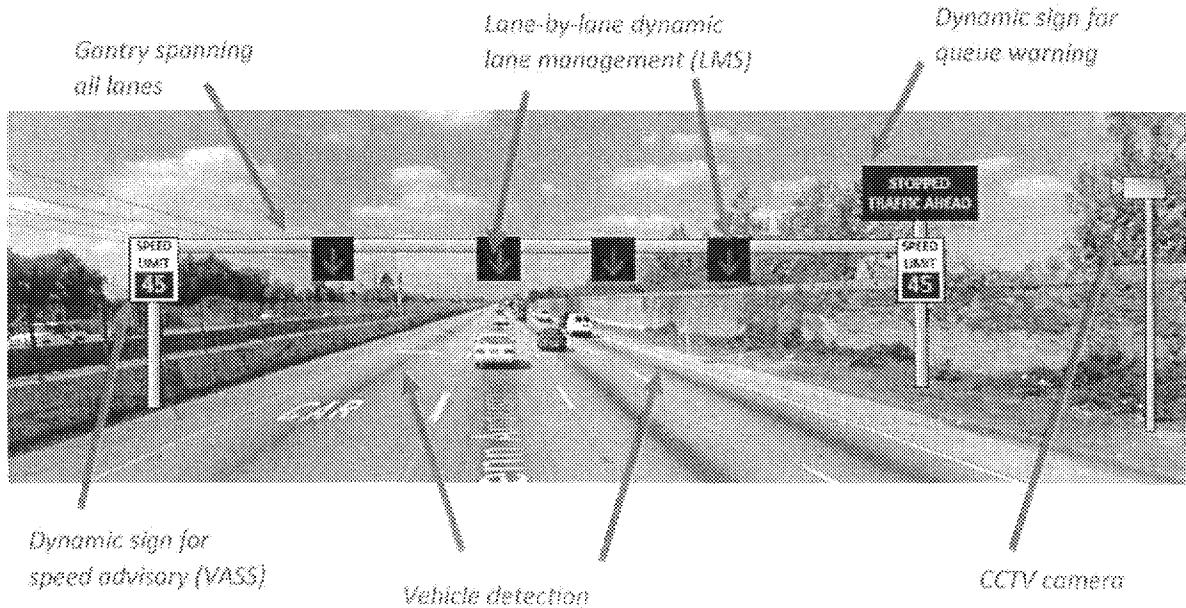
01130001611

DATE REVISED

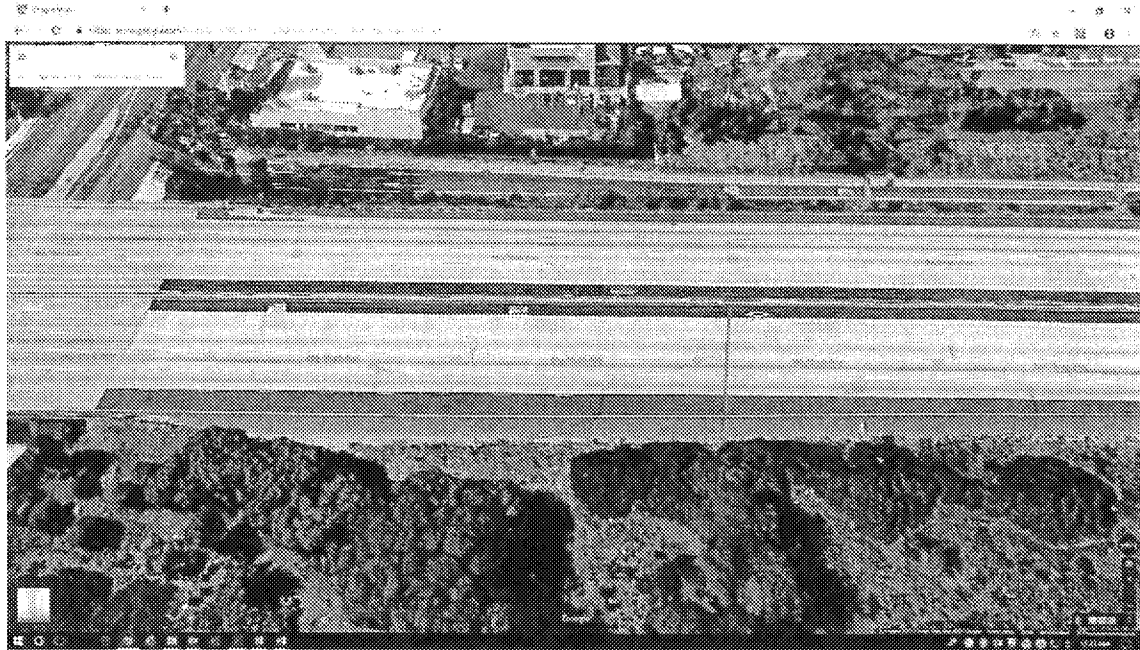
Proposed Gantry Locations (with signs)

	Route/Dir	PM	Span (LF)	VASS (EA)	DMS (EA)	Note
1	405/NB	19.25	70'	2	6	@ Rosecrans Ave, at the end of ingress
2	405/NB	20.17	70'	2	6	@ El Segundo Blvd
3	405/NB	20.75	76'	2	6	@ Imperial Hwy off-ramp, at the end of bridge railing
4	405/SB	23.0	120'	2	8	@ Hillcrest Blvd OC
4	405/SB	23.4	70'	1	6	@ Manchester Blvd, at existing CMS location Combine with existing CMS
6	405/SB	24.36	60'	2	5	@ La Tijera Blvd off-ramp
7	405/SB	24.8	76'	2	6	@ Howard Hughes Pkwy

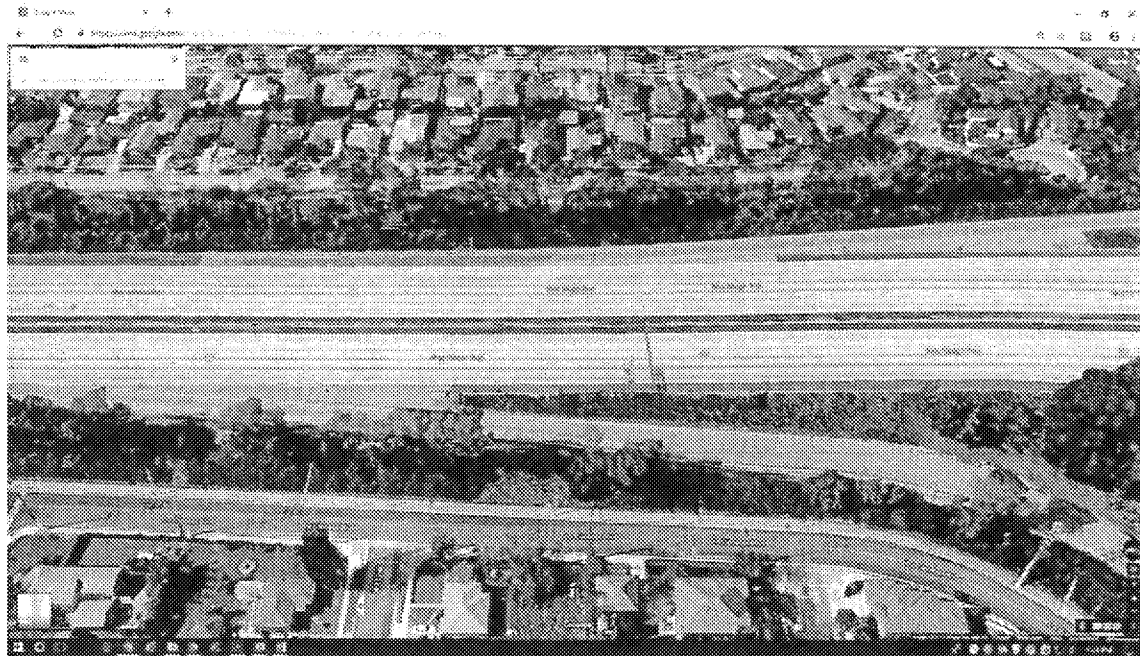
Typical Gantry Diagram



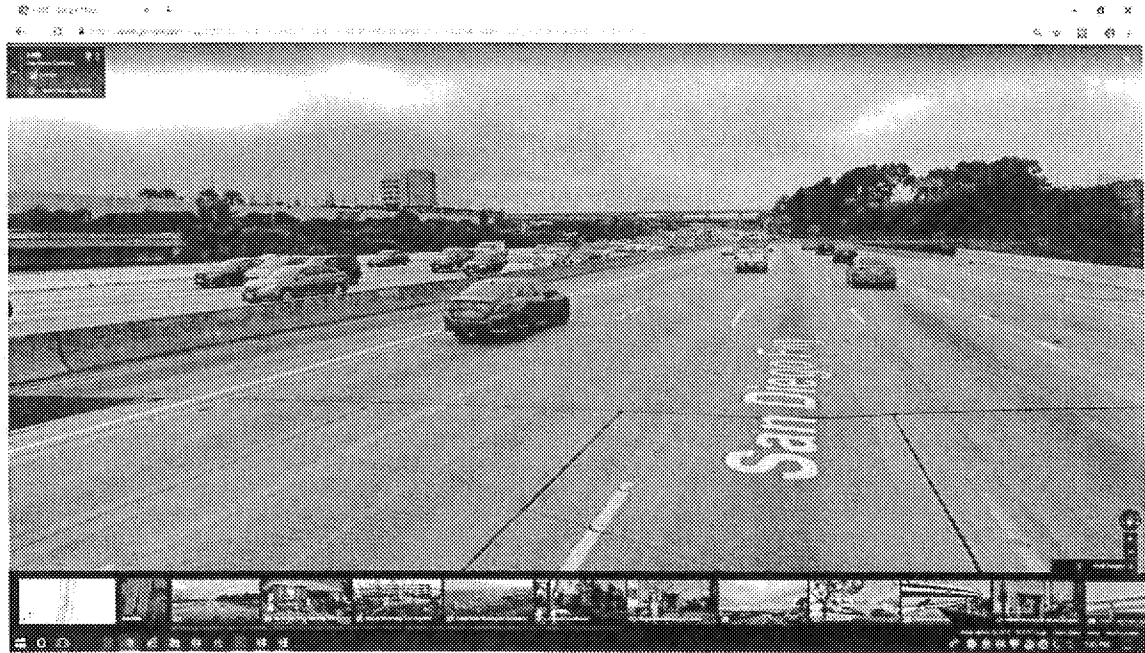
Location 1



Location 2



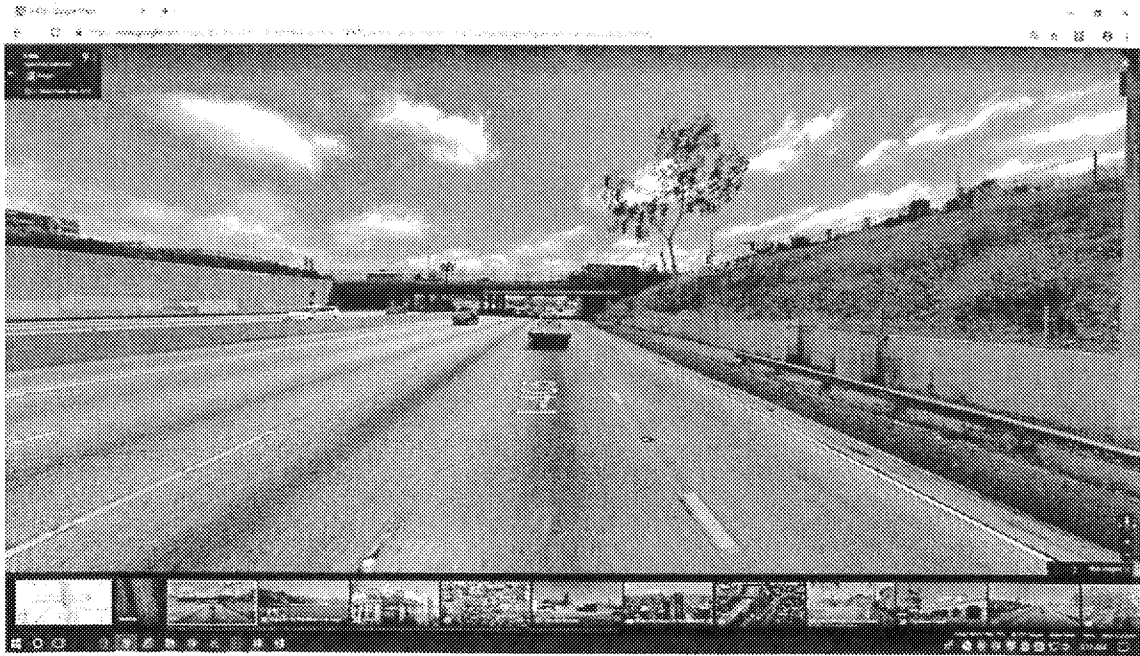
Location 3



Location 4



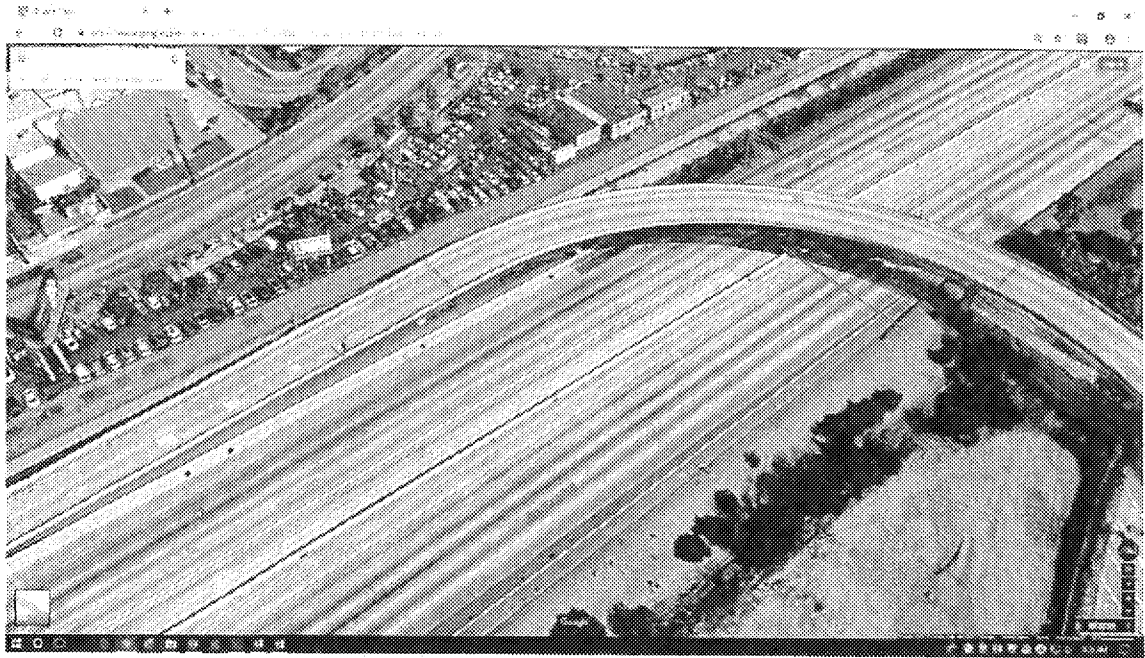
Location 5



Location 6



Location 7



RAMP METER UPGRADES/MODIFICATIONS

County	Route	Direction	Location	PM	E #	Line #	Controller #	Ramp Type	# of Lanes	Storage	Ramp HOV			Convert	
											LT	RT	Meter	Mix	Meter
LA	405	S	Jefferson Bl.	25.83	3195	51	6	Angle	3	25	X			X	
LA	405	S	La Tijera Bl.	24.25	3359	51	13	Angle	2	12	X			X	
LA	405	S	Imperial Hwy. WB	21.30	3364	58	15	Hook	2	20	X			X	
LA	405	S	Imperial Hwy. EB	21.08	3365	58	16	Hook	2	25	X			X	
LA	405	S	El Segundo WB	20.60	4521	38	18	Hook	2	15	X			X	
LA	405	S	El Segundo EB	20.30	3366	58	8	Slip	2	20	X			X	
LA	405	N	El Segundo EB	20.13	3057	58	7	Loop	2	15	X			X	
LA	405	N	El Segundo WB	20.39	3058	38	17	Hook	2	15	X			X	
LA	405	N	Imperial Hwy. EB	21.10	3353	58	2	Loop	2	25	X			X	
LA	405	N	Imperial Hwy. WB	21.39	3352	58	1	Hook	2	20	X			X	
LA	405	N	Century Bl. EB	22.68	3354	58	5	Loop	2	15	X			X	
LA	405	N	Manchester EB	23.36	3356	51	3	Loop	2	25	X			X	
LA	405	N	La Tijera Bl.	24.25	3358	51	5	Angle	2	30	X			X	
LA	405	N	Howard Hughes Pkwy	24.80	4555	107	10	Hook	2	35	X			X	

APPRXOMATE EMS AND CAMERA LOCATIONS

County	Route	Direction	Post Mile	Approximate Location Description
LA	405	S	25.83	Jefferson Bl.
LA	405	S	24.25	La Tijera Bl.
LA	405	S	23.70	Manchester Blvd
LA	405	S	22.20	Century Blvd
LA	405	S	21.30	Imperial Hwy. WB
LA	405	S	21.08	Imperial Hwy. EB
LA	405	S	20.60	El Segundo WB
LA	405	S	20.30	El Segundo EB
LA	405	S	19.30	Rosecrans Ave
LA	405	N	19.20	Rosecrans Ave
LA	405	N	20.13	El Segundo EB
LA	405	N	20.39	El Segundo WB
LA	405	N	21.10	Imperial Hwy. EB
LA	405	N	21.39	Imperial Hwy. WB
LA	405	N	22.68	Century Bl. EB
LA	405	N	23.36	Manchester EB
LA	405	N	24.25	La Tijera Bl.
LA	405	N	24.80	Howard Hughes Pkwy

PROPOSED CMS LOCATIONS

Route/Dir	PM	Location
405/SB	20.1	El Segundo Blvd
405/SB	24.95	Howard Hughes Pkwy




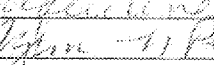
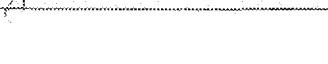
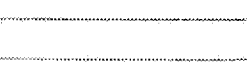
ATTACHMENT I

Risk Register

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS) FORM

PPM-D07-0001 (REV 09/2018)

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.

<u>Project Information</u>		<input checked="" type="checkbox"/> Capital Project	<input type="checkbox"/> Major Maintenance Project (Check One)	Total Estimated Cost: \$24,178,172
Project ID/District-EA		Project ID: 0719000039/ EA: 07-35070K		
Project Description		Active Traffic Management (ATM) and Corridor Management (CM) Strategies at Various Locations in Los Angeles County		
Project Manager		Javad Rahimzadeh		
Project Risk Manager		Mumbie Fredson- Cole		
<input type="checkbox"/> 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:
<u>PID (Recommended for Capital Projects Only excluding Minor Projects)</u>				
Project Manager				Date: 6/07/19
Deputy District Director, Planning				Date: 6/7/19
Deputy District Director, Design				Date: 6/5/19
Deputy District Director, Traffic Operations				Date: 6/7/2019
Deputy District Director, Maintenance				Date: 6/7/19
Deputy District Director, Project Management				Date: 6/7/19
<u>PA&ED (Required for Capital Projects Only)</u>				
Project Manager				Date:
Deputy District Director, Environmental				Date:
Deputy District Director, Design				Date:
Deputy District Director, Traffic Operations				Date:
Deputy District Director, Maintenance				Date:
Deputy District Director, Project Management				Date:
<u>Prior to PS&E (Required for Capital Projects and Major Maintenance Projects)</u>				
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:
<u>RE File Hand-off (Recommended for Capital Projects and Major Maintenance Projects)</u>				
Project Manager				Date:
Deputy District Director, Design				Date:
Deputy District Director, Construction				Date:
Deputy District Director, Traffic Operations				Date:
Deputy District Director, Maintenance				Date:
Deputy District Director, Project Management				Date:

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ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information, call (916) 654-6410 or TDD (916) 654-3580 or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814

Risk Register										District SA: 07-0070				Project Manager: Javed Rahmizadeh		Risk Based Right of Way: \$47,382		Risk Based Project Cost: \$24,126,826											
Project Name: On-Road 405 Seismic Restraints And Asset Repair										Begin PM: Rm.2 End PM: 2018				Project Manager: Mumble Fredson-Cole		Total Risk Based Capital Cost: \$24,176,208		Construction Duration: 370											
Project Description: proposes to add active Traffic Management (ATM) and Corridor Management (CM) strategies such as Queue Warning, Speed Harmonization, Dynamic Corridor Adaptive Ramp Metering, Traveler Information, and others on Route 405 from Rosemead Ave. (PM 10.2) to Route 60 (PM 26.8). It also proposes to upgrade Transportation Management System (TMS) elements including the existing closed circuit television (CCTV) cameras, changeable message signs (CMS), vehicle detection stations (VDS), and ramp metering systems (RMS) to be used within the project limits. The communication system will be upgraded at the Los Angeles Regional Transportation Management Center (LARTMC) on Route 2 (PM R16.7), East Los Angeles (ELA) Hub on Route 5 (PM 16.3), Los Angeles Airport (LAX) Hub on Route 105 (PM R2.3), and North Hollywood (NH05) Hub on Route 101 (PM 11.6)										Risk Impact Assessment										Response Strategy									
Risk Identification										Probability				Risk based on Capital Loss (P100 Percent)				Risk based on P100				Risk based on P100				Risk Response			
Risk No.	Subno	Risk ID	Task	Type	Category	Title	Has Occurred	Current Status/Recommendations	Probability of Occurrence	Frequency Type	Discrete Count	Mean Occurrence	Low	Med/High	High	Frequency	Exposure	Risk Impact	Low	Med/High	High	Frequency	Exposure	Time Impact	Rationale	Strategy	Response Action	Risk Owner	Updated
RID-1	Asst	167.0a	160	Task	Cost	scope change	Changes to the assets within the project limits that need to be rehabilitated, which includes the pavement as the anchor asset, bridge rail replacement on State Street, culvert repairs/replacement, bollards, roadways, sign and lighting rehabilitation, advanced guardrail system (MGS), sign panel replacement, and curb ramp upgrades may result in additional cost and time to complete the project.	During detailed design changes and refinement will be made to better fit the purpose and need of the project.	30%	5		\$65,034	174,850	\$1,642,780	1	\$715,177	\$265,108	0	5	10	1	7	2	Refine design concepts, finalize project footprint and secure all fact sheets.	Accept	Project Engineer to work with project development team to refine and finalize design and minimize changes to optimize cost and time impact.	Project Engineer	4/12/2018	
RID-2	Asst	168.0a	150	Task	Cost	Constructability	The design and construction/rehabilitation of the various assets may require other considerations for safety, staging and access rights, that could result in additional cost and time to the project.	All the work necessary to ensure the rights necessary for the safe construction of the project has to be done.	30%	1		\$0	174,930	\$682,854	0	\$267,708	\$0	10	15	20	0	10	0	Refine design concepts, finalize project footprint and secure all fact sheets.	Accept	Project Engineer to work with project development team to refine and finalize design and minimize changes to optimize cost and time impact.	Project Engineer	4/17/2018	
RID-3	Asst	169.0a	140	Task	Cost	Access and Construction	Because there are a number of assets within the project limits that need to be rehabilitated, the nature and extent of rehabilitation required may change during the development of the project, which could result in additional cost and time to the project.	There are no perfect plans, we can strive to minimize errors and omissions.	30%	1		\$104,278	316,046	\$642,030	1	\$680,758	\$411,277	10	15	20	0	10	0	Refine design concepts, finalize project footprint and secure all fact sheets.	Accept	Project Engineer to work with project development team to refine and finalize design and minimize changes to optimize cost and time impact.	Project Engineer	4/17/2018	
RID-4	Asst	170.0a	130	Task	Cost	Site Characterization	Detailed site investigation and observation during the development of the project may uncover site conditions that require changes that could add cost and delay the project.	Design will be adjusted to fit site conditions.	30%	1		\$1,500	1,360	\$8,290	0	\$3,510	\$0	10	10	10	20	0	10	0	Clarification to contract language may be necessary.	Accept	Resident engineer to work with contractor and all functional to optimize changes and minimize cost and time impact.	Project Engineer	4/17/2018
RID-5	Asst	166.0a	180	Task	Cost	Undersized structural work	There may be additional structural work that needs to be done to meet the purpose and need of the project which may add cost and time to the project.	There may be undersized structural work.	30%	1		\$195,000	130,000	\$205,000	0	\$126,247	\$0	10	15	20	0	10	0	Identify all structural work to get those engaged right at the beginning of the project.	Accept	The Project Engineer along with the PIDT will conduct a comprehensive review for the structural needs of the project as soon as the design phase is begun.	Project Engineer	4/17/2018	
RID-6	Asst	174.0a	180	Task	Cost	Permits & Approvals	Securing necessary permits and approvals for other agencies and incorporating comments, inputs and requests from stakeholders may require actions that result in additional cost and time to complete the project.	Public approval and permits from coastal commission and other agencies are required.	20%	1		\$3,200	6,600	\$15,000	1	\$6,000	\$7,200	0	5	10	0	0	0	Time is of the essence and regular follow up especially when it involves external.	Accept	Project Engineer to work with PIDT and all functional to involve all stakeholders and to secure their input or approval in a timely manner.	Project Engineer	4/12/2018	
RID-7	Asst	165.0a	180	Task	Cost	Unclear or ambiguous contract language	Unclear or ambiguous contract language may result in differences in interpretation that could result in additional compensation of money or time to the contractor.	The contract language will be clear and unambiguous.	10%	1		\$125,200	235,440	\$830,700	0	\$266,810	\$0	10	15	20	0	10	0	Plans must be Clear, Complete, Comprehensive and Consistent.	Accept	P.E and PIDT must ensure that plans are readable and suitable.	Project Engineer	4/17/2018	
RID-8	Asst	166.0a	160	Task	Cost	Hazardous Materials Handling	If hazardous materials are discovered within the project limit during the development of the project, in order to handle them, additional cost and time may be required to deliver the project.	It is assumed that ADL which is commonly present in site can be handled on site.	10%	1		\$1,000	2,200	\$5,100	0	\$1,100	\$0	10	10	10	20	0	10	0	All hazardous materials must be safely disposed of.	Accept	Accelerate the preparation of hazardous materials clearance.	Right of Way Engineer	4/17/2018
RID-9	Asst	168.0a	160	Task	Cost	Survey and Mapping Information	Survey and mapping information may necessitate changes that could add cost and delay the project.	Issues uncovered from survey and mapping information must be addressed.	30%	1		\$1,000	2,200	\$5,100	0	\$1,100	\$0	10	10	10	20	1	10	10	The accuracy of survey and mapping information may impact project.	Accept	P.E. must request survey and mapping information, if they are available or inadequate as soon as possible.	Resident Engineer	4/17/2018

Risk Register										Discrete EA:		07-24-07		Project Manager Risk Monitor		Javed Rahimzadeh		Risk Based Right of Way		\$47,362		Risk Based Project Cost		\$24,150,849						
Project Name: La Route 405 between Rosemead Ave. and Flaming Way										Begin PM:		R10.2		End PM:		2018		Munirah Fakhri-Dote		Total Risk Based Capital Cost:		\$24,178,172		Construction Duration:		870				
Project Description: proposes to add active Traffic Management (ATM) and Corridor Management (CM) strategies such as Queue Warning, Speed Harmonization, Dynamic Corridor Adaptive Ramp Metering, Traveler Information, and others on Route 405 from Rosemead Ave. (PM 15.2) to Route 90 (PM 25.6). It also proposes to upgrade Transportation Management System (TMS) elements including the existing closed circuit television (CCTV) cameras, changeable message signs (CMS), vehicle detection studios (VDS), and ramp metering systems (RMS) to lifecycle within the project limits. The communications system will be upgraded at the Los Angeles Regional Transportation Management Center (LARTMC) on Route 2 (PM R10.7), East Los Angeles (ELA) Hub on Route 5 (PM 13.3), Los Angeles Airport (LAX) Hub on Route 106 (PM R2.0), and North Hollywood (NH) Hub on Route 101 (PM 11.8)										Risk Impact Assessment										Response Strategy										
Risk Register										Probability		Risk Based on Capital Cost (\$24 Per Mile)		\$5.1M/MI		Risk Based on ADAMS		Risk Response												
Risk No.	Status	Risk ID	Year	Type	Category	Title	Risk Statement	Current action/contingency	Probability of Occurrence	Frequency Type	Global Count	Area Contingency	Low	Most Likely	High	Frequency	Unbiased	Risk Impact	Low	Most Likely	High	Frequency	Risk/Year	Time Impact	Mitigate	Strategy	Response Action	Risk Owner	Updated	
R10-10	Active	182.2.0	100	Threat	Cost	Traffic handling and control	Maintaining traffic through the construction zone and keeping a specified minimum number of lanes open may require safety measures, detours, changes to construction staging and production rate that could add cost and time to the project delivery.	Traffic flow must be maintained throughout the construction area.	20%	1			\$68,000	\$5,000	\$100,000	0	\$38,376	\$0	0	0	10	0	0	0	0	Flexibility is required to maintain traffic flow.	Mitigate	P.E. to work with traffic to identify construction windows and address constructability issues.	Project Engineer	4/10/2010
R10-11	Active	189.0.0	100	Threat	Cost	Construction Windows - A Public Appearance Issue	The construction windows may restrict construction staging options and impose other conditions that could change the cost and duration to complete the project.	Construction must be responsive to changes in traffic conditions and responsiveness to the adjoining public.	25%	1			\$64,500	\$5,330	\$120,200	0	\$70,825	\$0	0	0	15	1	2	5	0	Effort must be made to respond appropriately to changing conditions during construction.	Mitigate	P.E. to work with traffic to identify construction windows and address constructability issues.	Project Engineer	4/17/2010
R10-12	Active	193.0.0	100	Threat	Cost	Unknown Utility	Discovery of additional utilities that have to be protected in place or relocated during the development of the project may add cost and/or delay the project.	Some utilities within the construction area may be undocumented.	20%	1			\$7,800	3,800	\$5,000	0	\$2,781	\$0	0	0	10	0	0	0	0	Finalize project footprint and do comprehensive review of utility plans.	Mitigate	Facilitate and expedite all utility permits by working with utility engineers and other functional.	Risk of 300K spent	4/17/2010
R10-13	Active	198.0.0	100	Threat	Cost	Right of Way Issues	If additional right of way has to be acquired or the existing rights are not adequate to develop the project additional cost may have to be incurred and/or the time to develop the project may have to be extended.	Additional Rights may be necessary.	10%	1			\$1,800	2,200	\$5,000	1	\$1,420	\$4,000	10	15	20	1	10	14	Finalize footprint and construct staging to ensure rights are adequate.	Mitigate	Facilitate and expedite all right of way issues by working with all functional.	Risk of 100K spent	4/17/2010	
R10-14	Active	199.0.0	100	Threat	Cost	Weather related or Non-working Days	Weather delays or extensions to the contract duration because the contractor has to be granted non-working days may add cost and time to the duration of the contract.	The contractor will have to be granted some weather related or non-working days.	10%	0		40	\$3,412	4,468	\$0,960	30	\$8,248	\$605,414	10	15	20	51	10	60	Develop quality plans and minimize changes during construction.	Avoid	Project Manager to ensure that plans must be Clear, Complete, Comprehensive and Consistent.	Project Manager	4/17/2010	
R10-15	Active	180.0.0	100	Threat	Cost	Project Interference	As a result of construction interference due to owner responsibilities such as design related issues or right of way issues there may be additional cost and time to complete the project.	Contractor has to be compensated for interruptions caused by the owner.	10%	0		4	\$3,453	5,024	\$0,350	0	\$5,842	\$39,214	10	10	20	0	14	30	Develop quality plans and minimize changes during construction.	Avoid	Project Manager to ensure that plans must be Clear, Complete, Comprehensive and Consistent.	Project Manager	4/17/2010	
R10-16	Active	180.0.0	100	Threat	Cost	Bids and Bidders' Competition	Changes in the economic climate or market conditions may reduce competition in the bidding process that could add cost to the project.	Competition in the market place affects bids and the cost of the project.	40%	1			\$402,894	102,700	\$2,041,740	0	\$100,300	\$0	0	0	10	1	0	0	0	Prices of the bids depends on market place competition.	Avoid	Encourage maximum bidders participation.	Project Manager	4/17/2010

ATTACHMENT J

SHOPP Performance Measures

SHOPP Performance Report

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 Tool ID: 18977 Project ID: 0719000039 EA: 35070 Co-Rte-PM: LA-405-19.2/25.95 (Primary Location)

Res In PID WP: 09/04/18 Project Manager: Javid Rahimzadeh, 7-6846

Save to Excel

Bridge
 Pavement
 Drainage
 Facilities
 Safety
 Mobility
 Roadside
 Complete Streets
 Sustainability (Climate Change Mitigation)
 Advance
 Major Damage
 Green-house Gases
 Rating/Qualiment

Performance & Accomplishments (TYP)

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond.	Assets in Fair Cond.	Assets in Poor Cond.	New Asset Added	Comment
Census Station (201.315)	Transportation Management Systems	EA	2.0			2.0		Lifecycle Replacement (2) Census Stations
Changeable Message Sign (201.315)	Transportation Management Systems	EA	5.0			3.0	2.0	Upgrade for lifecycle replacement (3) and Install (2) new CMS
CCTV (201.315)	Transportation Management Systems	EA	28.0			10.0	18.0	Upgrade for lifecycle (10) and install New (18) cameras at some EMSs/CMSs
Vehicle detection (201.315)	Transportation Management Systems	EA	12.0			5.0	7.0	Lifecycle Replacement (5) and new (7) TMS
Ramp Meter (201.315)	Transportation Management Systems	EA	14.0			14.0		Lifecycle Replacement (14) RMS. RMS SOV/HOV Conversion
Extinguishable message sign (201.315)	Transportation Management Systems	EA	81.0			9.0	82.0	Upgrade lifecycle Replacement (8) EMS, new (82) Dynamic DVMS or EMSs for ATM (LAWA to partially fund IC)
DVHD Reduced (201.310)	Operational Improvements	DVHD	2550.0			2550.0		
8 Complete Streets Not Applicable (1)	No Performance Objective in the SHSMP	1						TMS work along freeway
9 Is any location within the project limits Ped/Bike accessible?	No Performance Objective in the SHSMP	Yes/No						NO
10 Qualitative	No Performance Objective in the SHSMP							TMS work along freeway

SHOPP Performance Report

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 Tool ID: 18977 Project ID: 0719000039 EA: 35070 Co-Rte-PM: LA-105-R1.95/R1.95 (Location 2)

Res In PID WP: 09/04/18 Project Manager: Javid Rahimzadeh, 7-6846

Save to Excel

Bridge
 Pavement
 Drainage
 Facilities
 Safety
 Accessibility
 Roadside
 Complete Streets
 Sustainability /Climate Change
 Advance Mitigation
 Major Damage
 Green-house Gases
 Relinquishment

Performance & Accomplishments (TYP)

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	EA	1.0			1.0		IP equipment and CCTV Encoder at Communication HUB
2 Complete Streets Not Applicable (1)	No Performance Objective in the SHSMP							TMS work on freeway
3 Qualitative	No Performance Objective in the SHSMP							TMS work on freeway

SHOPP Performance Report

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 Tool ID: 18977 Project ID: 0719000039 EA: 35070 Co-Rte-PM: LA-010-18.3/18.3 (Location 3)

Res In PID WP: 09/04/18 Project Manager: Javid Rahimzadeh, 7-6846

Save to Excel

Bridge
 Pavement
 Drainage
 Facilities
 Safety
 Mobility
 Roadside
 Complete Streets
 Sustainability /Climate Change
 Advance Mitigation
 Major Damage
 Green-house Gases
 Requisitionment

Performance & Accomplishments (TYP)

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	EA	1.0			1.0		IP equipment and CCTV Encoder at Communication HUB
2 Complete Streets Not Applicable (1)	No Performance Objective in the SHSMP	1						TMS work on freeway
3 Qualitative	No Performance Objective in the SHSMP							TMS work on freeway

SHOPP Performance Report

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 Tool ID: 18977 Project ID: 0719000039 EA: 35070 Co-Rte-PM: LA-002-R18.7/R18.7 (Location 4)

Res In PID WP: 09/04/18 Project Manager: Javid Rahimzadeh, 7-6646

Save to Excel

Bridge
 Pavement
 Drainage
 Facilities
 Safety
 Mobility
 Roadside
 Complete Streets
 Sustainability /Climate Change
 Advance Mitigation
 Major Damage
 Green-house Gases
 Relinquishment

Performance & Accomplishments (TYP)

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1 Central Systems (Hub - 201.315)	No Performance Objective in the SHSMP	EA	1.0			1.0		IP equipment and CCTV Encoder at LARTMC
2 Complete Streets Not Applicable (1)	No Performance Objective in the SHSMP	1						TMS work on freeway
3 Qualitative	No Performance Objective in the SHSMP							TMS work on freeway

SHOPP Performance Report

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 07 Tool ID: 18977 Project ID: 0719000039 EA: 35070 Co-Rte-PM: LA-101-11.8/1.8 (Location 5)

Res In PID WP: 09/04/18 Project Manager: Javid Rahimzadeh, 7-6846

Save to Excel

Bridge
 Pavement
 Drainage
 Facilities
 Safety
 Mobility
 Roadside
 Complete Streets
 Sustainability (Climate Change Mitigation)
 Advance
 Major Damage
 Green-house Gases
 Reinvestment

Performance & Accomplishments (TYP)

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
Central Systems (Hub - 201,315)	No Performance Objective in the SHSMP	EA	1.0			1.0		IP equipment and CCTV Encoder at Communication HUB
2 Complete Streets Not Applicable (1)	No Performance Objective in the SHSMP	I						TMS work on freeway
3 Qualitative	No Performance Objective in the SHSMP							TMS work on freeway