SHOPP Asset Management Pilot Request Form

SHOPPCPR: Ver 3 11/14

Submittal Date: 08/14/2015

Caltrans

Division of Transportation Programming
State Highway Operation and Protection Program (SHOPP)

Project Manager: Steve Tran

Phone: (213) 897-0126

Dist	County	Route	Prefix	PM	Prefix	PM	EA	PPNO	Project ID
07	Los Angeles	5		13.6		26.7			

☒ Includes Multiple Locations (Complete Page 2 of this Form)

MPO: SCAG

Project Location/Description (Include the nearest city, town or landmark)

In City of Los Angeles on Route 5 between JCT 710/5 Separation and JCT 134/5 Separation.

Need for project and proposed improvements (Elaborate using PID language)

This multi-objectives pilot project proposes the use of asset management principles to address the overall transportation needs of a major transportation project on I-5 in Los Angeles County from post-mile 13.6 to R26.7, from Route 710 to Route 134. This pilot project will quantify the combined benefits of collision reduction, transportation management system (TMS), and roadside safety improvements. The proposed improvements include trimming the slope embankments, widen the shoulders, installing overhead signs, and LED lighting systems to improve safety and operation; installing auxiliary lanes by improving the deceleration lanes approaching the off-ramps; upgrading roadside features to eliminate or reduce the need for recurring maintenance activities. This multi-objective project will eliminate the redundancy in project development and construction related efforts, and minimize the inconvenience to the motoring public.

PA&ED / M200	01/15/2019	R/W Cert / M410	08/10/2021	CCA / M600	08/01/2023
PS&E / M380	06/01/2021	RTL / M460	09/13/2021	END Project / M800	02/01/2025

Capital ($1,000)
(Escalated to FY of Programming)

	FY	Cost
R/W	2021/22	$50
Construction	2021/22	$14,960
	Total Capital	$15,010

Support ($1,000)

	FY	Cost
PA & ED	2018/19	$800
PS & E	2018/19	$2,000
R/W	2020/21	$20
Construction	2021/22	$2,000
	Total Support	$4,820

Legislative District Numbers
(Separate multiple Districts with a comma)

State Assembly	43, 51, 53
State Senate	24, 25
Congressional	28, 34, 40

☐ Approved ☐ Denied

CAPITAL CONSTRUCTION COST ESCALATION RATE: 0%

District SFP (Print)	Robert So	District SFP (Sign)	Robert So	Phone	(213) 897-0691
District Director (Print) for	Carrie Bowen	District Director (Sign)	Shirley Choate	Phone	(213) 897-0362
SHOPP Exec. (Print)		SHOPP Exec. (Sign)		Phone	

SHOPP Long Lead Request Form Attachment

07 - Los Angeles - 5	
EA:	PPNO:
EFIS:	

Multiple Locations Listing

Location	Perf Measure #	Performance Measure	County	Route	Prefix	PM	Prefix	PM	Bridge Number If Applicable
1	110	1.000 Vehicle Hours	Los Angeles	5		15		15.2	
2	9	Collisions Reduced	Los Angeles	5		15.2		15.2	
3	48	Field Elements	Los Angeles	5		16.4		26.9	
4	64	Collisions Reduced	Los Angeles	5		16.9		16.9	
5	34	Location(s)	Los Angeles	5		17		26.7	
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Asset Management Pilot Project Nomination

Project Name:	Asset Management Pilot Nomination for I-5
Location:	**07-LA- Route PM13.60 TO PM R26.7**
CONGRESSIONAL DISTRICTS:	28 and 29
Type of Application:	**Candidates for SHOPP Asset Management Project Nomination** (2018 SHOPP Projects)
Amount Requested:	$20 million
Planning Activity:	I-5 pilot project would enhance the safety and operational of the State highway system and is located in densely developed, low-income communities in the heart of metropolitan area of southeast and northeast Los Angeles County
Contact Information:	Carrier Bowen, District Director 100 S. Main Street, Los Angeles, CA 90012 Phone No.: 213-897-0362

This pilot project is consistent with Caltrans updated Mission, Vision and Goals. Caltrans is committed to improving the safety and reliability of the transportation system in a sustainable way.

Mission Statement: "Caltrans provides a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability."

Sustainability principles focus on people, planet, prosperity, partnerships and innovation. This means enhancing the economy and livability of Californians by meeting today's transportation needs, without compromising the prosperity and environment of our future generations.

Caltrans

FOREWORD

National Context in a "Snap Shot"

Disadvantaged Communities

- *The hub of the region's working class neighborhoods, all communities within the project limits are considered "disadvantaged communities," as defined by California's annual Median Household Income (MHI); with several communities having the highest percentage of Latino population in the nation.*

Traffic Congestion/Safety

- *The Los Angeles freeway system is more congested than highways in any other city in the United States, as well as United Kingdom, France, Germany, Belgium and the Netherlands.*

- *More than 52 incidents (crashes) per day take place along freeways within the study area and over 3900 crashes occurred along local roadways from 2008 to 2012 within the cities of Burbank, Los Angeles, County of Los Angeles and City of Commerce.*

Freight/Goods Movement

- *With the two (2) busiest seaports and terminals in the nation nearby, freeways and other transportation infrastructure in the study area serve unprecedented levels of truck traffic; vital not only to California's economy but also vital to the national and global economics.*

- *Los Angeles has five (5) of the ten (10) worst truck bottlenecks in the U.S. Truck vehicle miles traveled (VMT) and VMT is expected to double by 2030.*

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I. Introduction

This pilot project proposes the use of asset management principles to address the overall transportation needs of a major transportation project on Interstate Route 5 (I-5) in Los Angeles County from Route 710 PM15.00 to Route 134 PM R26.7. The proposed project is developed to effectively and efficiently enhancing the safety reducing traffic congestion; improving connectivity among modes and providing more mobility options throughout the heart of southeast and northeast area of the Los Angeles County. This pilot project will quantify the capacity increasing, safety, improving the existing infrastructures; rehabilitation needs; and will propose the corresponding programming for each need. This pilot project is a multi-agency partnership between the Los Angeles County Metropolitan Transportation Authority MTA, City of Los Angeles Department of Transportation, City of Commerce, County of Los Angeles Department of Public Works, City of Los Angeles, City of Glendale, Caltrans HQ Programming and Caltrans District 7.

The scope of this pilot project has been modeled from several complex comprehensive multi-modal corridor studies prepared over the past several years by district 7.

1. Roadway Improvements are consisted of the following's:
   - ❖ Improving the safety and operation of the SB I-5 connector to EB I-10 by trimming the slope embankments, widening the shoulders, installing overhead signs, and installing LED lighting systems.
   - ❖ Installing auxiliary lanes by improving the deceleration lanes approaching to the off-ramps, widening the right shoulders, reconfiguring the exit ramps at NB and SB I-5 to Ditman Avenue and Indiana Avenue, respectively.
2. Effective management of the roadside improves worker safety and reduces ongoing maintenance efforts and cost. The placement of roadside features to eliminate or reduce the need for recurring maintenance activities such as vegetation control, herbicide application, pruning, mowing, and graffiti removal to reduce a maintenance worker's exposure to traffic.
   - ❖ Improving the roadside features would improve worker's safety and reduce ongoing maintenance efforts and cost associated along I-5 within the project limits.
3. The project proposes the use of asset management principles to address the overall transportation needs of a major transportation project on I-5 in Los Angeles County from post-mile 13.6 to R26.7, from Route 710 to Route 134. This pilot project will quantify the combined benefits of collision reduction, transportation management system (TMS), and eliminate or reduce the need for recurring maintenance activities.

II. Project Background

Within the project limits, I-5 is an Interstate Freeway and has 8 to 10 lanes (four to five lanes in each direction). This section of the freeway is mostly divided by concrete median barrier. The existing freeway's traveled way of the segments PM 13.6/16.0 and PM 23.7/26.7 is generally constructed of asphalt concrete (AC) and other segment of PM 16.0/23.7 is generally constructed of PCC. Shoulders on both sides of the roadway are mostly constructed of asphalt concrete. All ramps are AC pavement and most connectors are PCC pavement.

I-5 is a major north and south freeway of the Interstate Highway System. This freeway links major California cities: San Diego, Los Angeles, Stockton, and Sacramento and Redding. This segment of I-5 (PM 13.7/26.7) is the main arterial for many commuters within the Los Angeles County and provides a connection to other major freeways such as Route 710 (Long Beach Freeway), Route 60 (Pomona Freeway), Route 10 (Santa Monica Freeway), Route

101(Hollywood Freeway), Route 110 (Harbor Freeway), Route 2 (Glendale Freeway), and Route 134 (Ventura Freeway).

The project will address existing traffic congestion, safety (over turn collisions and run-off the road collisions), pavement, signage, and transportation management system upgrades, and will improve the safety of maintenance workers by reducing their exposure to traffic. Furthermore,

III. Safety and Health

"Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities."

I. Within the project limits there are multiple concentrated accident locations where the actual accident rates exceeded the statewide average accident rates.
   - The collision patterns at SB I-5 to EB I-10 connector are due to overturn crashes. Although, short terms improvements had been implemented, however, the improvements did not achieve the level of safety as was anticipated and therefore widening the shoulders, trimming the slope embankments, installing over head guide signs, installing LED lighting system should enhance the safety and operation of the connector. Based on a 30% reduction factor, 21 rear-end and side-swipe accidents are expected to be reduced over five years.
   - The collision patterns at SB and NB I-5 off-ramps to Ditman Avenue and Indiana Avenue are due to overturn, sight swipe, and run-off-road hit objects crashes. Although, short term improvements had been implemented, however, the improvements did not achieve the level of safety as was anticipated. Installing auxiliary lanes (improving deceleration lanes), enhancing the horizontal and vertical alignment of the ramps, installing LED lighting system, and installing overhead guide signs should further enhance the safety and operation of these ramps. See attachment 3 and 4 for collision diagrams. Based on a 30% reduction factor, 10 rear-end and side-swipe accidents are expected to be reduced over five years. See attachment 3, 4, and 5 of collision diagram for details.

2. Improve the safety and health of maintenance workers by reducing their exposure to traffic by; installing vandalism deterrent devices (i.e. pull boxes, backflow preventer cages) so continuous replacements caused by theft are reduced
   a. Install graffiti deterrent plantings to reduce graffiti maintenance effort
   b. Replace existing irrigation controllers with smart controllers so that scheduling can be done remotely rather than on-site
   c. Install cable railing on top of existing retaining walls to provide safe access
   d. Pave narrow exposed soil areas to reduce maintenance weeding/fuel (fire) control efforts
   e. Provide safer parking options off mainline by installing maintenance vehicle pullouts
3. By converting the communications system to an all fiber optic communications system, this Rte 5 communication system will be less vulnerable to copper theft and have less electronic repeater type of equipment to maintain, thus the maintenance worker exposure can be reduced. Also, the digital communication system will be more reliable, easier to maintain and trouble shoot operation problems, reduce field work time and trips

- **Accident Analysis:**

The Traffic Accident Surveillance and Analysis System-Transportation System Network (TASAS), Table B for the 5-years period of 07-01-2008 through 6-30-2013 is shown below.

	Accidents			Table B Accident Rate MV/MVM					
				Actual			Average		
	Fatal	Injury	Total	Fat	F+I	Tot	Fat	F+I	Tot
1000 ft. before the Connector from SB 5 to EB 10 (SB Route 5, PM 18.806/18.995)	0	14	80	0.0	0.34	1.97	0.004	0.32	1.05
1st segment of the Connector from SB 5 to EB 10 (Route 5, PM 18.741)	0	2	7	0.0	0.04	0.17	0.001	0.07	0.21
2nd segment of the Connector from SB 5 to EB 10 (Route 5, PM 18.067)	0	6	11	0.0	0.10	0.19	0.001	0.06	0.24
3rd segment of the Connector from SB 5 to EB 10 (Route 10, PM 18.570)	0	47	57	0	0.14	0.81	0.003	0.14	0.41
1000 ft. after the Connector from SB 5 to EB 10 (EB Route 10, PM 18.637/18.826)	0	4	13	0.0	0.11	0.35	0.004	0.33	1.07
1000 ft. before the NB Route 5 Off to Indiana/ Calzona (NB Route 5, PM 14.914/15.103)	0	17	97	0	0.38	2.17	0.005	0.36	1.14
NB Route 5 Off to Indiana/ Calzona (Route 5, PM 15.118)	0	3	8	0.0	1.8	4.81	0.003	0.24	0.84
1000 ft. before the SB Route 5 Off to Indiana/ Calzona (SB Route 5, PM 15.181/15.370)	0	5	16	0.0	0.63	2.88	0.005	0.36	1.16
NB Route 5 Off to Indiana/ Calzona (Route 5, PM 15.118)	0	8	19	0.0	1.17	2.79	0.001	0.17	0.54
Route 5 from PM 14.914 to PM 26.7	**27**	**2132**	**5657**	**0.006**	**0.42**	**1.43**	**0.005**	**0.36**	**1.17**

- **Connector SB I-5 to EB I-10**

The TASAS history analysis reveals a total of 13 collisions in the five-year period. There were 0 fatal, 5 injury and 8 property damaged (PDO) and 5 persons injured. The primary collision factors identified were: improper turns and speeding. Types of collision identified were: sideswipe, rear end, broadside and hit object. Object struck were: struck the side of bridge railing, guardrails, hit walls (except sound wall), and crash cushions. Location of collision: occurred beyond shoulder driver left, left lane, right lane, beyond shoulder driver right and gore area.

- **NB Route 5 Off-ramp to Indiana/ Calzona Avenue**

The TASAS history analysis reveals a total of 31collisions in the five-year period. There were 0 fatal, 8 injury and 23 property damaged (PDO) and 14 persons injured. The primary collision factors identified were: improper turns and excessive speeds. Types of collision identified were: sideswipe, rear end, and hit object.

- **SB Route 5 Off to Indiana/ Calzona Avenue**

The TASAS history analysis reveals a total of 19 collisions in the five-year period. There were 0 fatal, 8 injury and 11 property damaged (PDO). The primary collision factors identified were: improper turns and excessive speeds. Types of collision identified were: 2 sideswipes, 3 rear ends, 14 hit object crashes.

- **Mainline Route 5 from PM 14.912/26.67**

The TASAS history analysis reveals a total of 7,814 collisions in the five-year period. There were 25 fatal, 2,132 injury and 5,657 property damaged (PDO). The primary collision factors identified were: improper turns and speeding. Types of collision identified were: 4,561rear end, 1,889 sideswipes, 122 broadsided, 95 over turned, 999 hit objects. 21 Auto-Pedestrian crashes, and 30 head-on crashes. The Object struck crashes were: struck the side of bridge railing, guardrails, hit walls (except sound wall), and crash cushions. Location of collision: occurred beyond shoulder driver left, left lane, right lane, beyond shoulder driver right and gore area.

Goal 1: Safety and Health

"Provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities."

Strategic Objectives	Performance Measures	Targets
Zero worker fatalities.	Number of work zone-related worker fatalities per calendar year.	Zero work zone-related worker's fatalities per calendar year.
	7.6 Number of accidents in work zones per calendar year.	At least 60% (4 reductions in number of accidents) in work zones along I-5 in calendar year.
Reduce employee injury and illness rates.	Number of Department employee work-related injuries and illnesses in previous 12 months per 200,000 employee hours is zero.	5.45 or less injuries/illness per 200,000 employee hours.
Reduce user fatalities and injuries by adopting a "Toward Zero Deaths" practice.	Number of 0.6 auto travel fatalities per 100 million vehicle miles traveled.	0.2 or less fatalities per 100 million vehicle miles traveled along Route 5 within the project limits every year.
	6 fatalities for bicycle, pedestrian, and transit modes of travel.	20% reduction in number of fatalities in a calendar year in each of the following mode types; car, transit, pedestrian, and bicyclist.
	43 injuries for auto, bicycle, pedestrian, and transit modes of travel.	4 auto, bicycle, pedestrian, and transit modes of travel in calendar year.
Promote community health through active transportation and reduced pollution in communities.	Increase and improvement in opportunities for safe and accessible active transportation.	100% of funds of allocated vs. programmed. 100% of projects being allocated for construction awarded within six months.
	Percent reduction of transportation system-related air pollution for criteria pollutant emissions.	85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2030

IV. Stewardship and Efficiency Needs

Money counts. Responsibly manage California's transportation-related assets. As stewards of a transportation system that is vital to the economy and livability of our state, Caltrans is committed to the most effective and efficient use of every transportation dollar. Caltrans will keep California's transportation system in the best condition possible and advocate for adequate resources.
The following SHOPP related needs exist within the project limits of LA 5-13.7/R26.9

- Addressing road safety and capacity issues through better planning, design, and construction.
- Upgrading the ITS elements using travel demand management (TDM) approaches strategies would maximize the efficiency of transportation investments.
- Maximizing and expanding new technologies such as intelligent transportation systems (ITS), green infrastructure, and quiet pavement.
- Developing fast, frequent, and dependable public transportation to foster economic development and accessibility to a wide range of housing and employment choices.
- Enhancing the natural environment through improved storm water mitigation, enhanced air quality, and decreased greenhouse gas (GHG) emissions.

Sustainability is frequently defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."Sustainability incorporates the "triple bottom line" concept, which involves maximizing the positive effect of decisions on three factors: equity (also known as social or people), ecology (also known as environment), and economy. The goal of sustainability is "the satisfaction of basic social and economic needs, both present and future and the responsible use of natural resources, all while maintaining or improving the well-being of the environment and ecology on which life depends." In practice, elements of livability and sustainability are closely related, and the transportation solutions that support each area are likely to be similar. Both livability and sustainability address issues of social equity and human health and seek to promote more environmentally friendly travel options and economic activities.

The proposed improvements would reduce the life-cycle costs and support the asset pilot management strategies, provide integrated transportation services and promote economic vitality of local communities through resilient and integrated transportation system. In addition, it is fostering effective partnerships with governmental entities and stakeholders that are essential to statewide sustainability and improve the department's sustainability programs. Furthermore, the improvements would include a long-term, multigenerational focus that addresses larger environmental goals such as reducing climate impacts by recycling the material and pavement, and reducing natural resource use.

By upgrading the communications system and CCTV cameras, the life cycle replacement needs will be extended over 10 years with the planned upgrades, thereby reducing operations and maintenance costs and maintenance worker exposure as the newer communication system will have built in checks for fiber cuts and other equipment failure along with the versatility and visibility of the newer CCTV cameras.

Asset	Total Quantity	Pre-Project Condition				Post- Project Condition		
		Good	Fair	Poor		Good	Fair	Poor
installing aux and lengthening the deceleration lanes and ramps widening	112 lane miles	0	112	0		2	110	0
Existing fiber communication line	14.24 miles	0	0	14.24		14.24	0	0
Fiber optic line	14.24 miles	0	0	0		6.2	0	0
Existing MBGRs	12,600 LF	0	6,000	6,600		0	6,000	6,600
Overhead signs (170)	78 Each	0	72	5		5	72	0
Effective Management of the roadside features (235)	14.24 miles	0	0	12.24		12.24	0	0

Item (Program)	Performance Measures	Description of Work	Cost (1,000)
Widening, Pavement (015)	2 lane-widening, aux lanes, ramp improvements	Costs include: remove the damaged pavement, installing aux lanes, ramp widening	$5,200
ITS (315)	14.24 miles of communication system upgrades	Cost include: upgrade the communication system over the project limits and traffic control	$6,800
Effective Management of roadside improvements (235)	25 injury and 35 PDO crashes	vegetation control, herbicide application, pruning, mowing, and graffiti removal	$3,000
Concrete Barrier (015)	1,600 LF of concrete barrier	Costs include: constructing concrete barrier, drainage associated with barrier, and traffic control.	$2,000
Midwest Guard Railing System (015)	16,000 LF	Cost include: constructing new terminal systems, crash cushions, concrete blocks, Midwest guard railing systems (MGRS), removal of MBGRs, drainage associated with MGRS	0
Overhead Signs (170)	5 new overhead signs	Costs include: sign structures, sign panels, removal of existing signs, electrical work associated with signs	$3,000

Total **$20,000,000**

Goal 2: Stewardship and Efficiency

"Money counts. Responsibly manage California's transportation-related assets."

Strategic Objectives	Performance Measures	Targets
Effectively manage transportation assets by implementing the asset management plan, embracing a fix-it-first philosophy.	30 Percentage of distressed lane miles on the State Highway System.	By 2020, no more than 12% of total system area of pavement is distressed.
	Bridge Health Index.	By 2020, maintain 95 or better rating on bridge health index.
	Measure of ITS elements health, system operability, and equipment workability.	By 2020, maintain 90% or better ITS elements health.
	Percentage of projects including a life cycle cost analysis methodology for point of evaluation in project selection.	By 2020, 100% of SHOPP projects to include a life cycle cost analysis methodology.
Effectively manage taxpayer funds and maximize the use of available financial resources.	federal funds used in year of availability.	Use 100% of federal funds could be available each year.
Efficiently deliver projects and services on time and on budget.	Percentage of planned projects delivered in the fiscal year.	Deliver 100% of planned projects for each fiscal year.
Efficiently manage operations of the transportation system.	Percentage of transportation permits approved or denied within 14 days from the submittal date.	Issue or deny 95% of permits within 14 days from submittal date.
	Percentage of encroachment permits approved or denied within 30 days of receiving completed application.	Issue or deny 95% of permits within 30 days from submittal date of completed application.
Assign ownership of transportation facilities, including roads and streets, to the appropriate level of government.	Number of lane miles of State Highway System relinquished.	By 2020, relinquish 50 lane miles of State Highway System.

V. Sustainability, Livability and Economy

Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

Sustainability is a central element of our new Mission. Caltrans has chosen to define sustainability as the consideration of these three areas:

- People– fostering community health and vitality,
- Planet – preserving and restoring environmental and ecological systems,
- Prosperity – promoting economic development.

This project will reduce the use of potable water for irrigation, resulting in conservation of our water resources by:

- Converting some potable irrigation water sources to recycled water sources
- Replacing existing irrigation controllers with smart controllers for, i.e., early detection of leaks, coordination of watering with real-time weather conditions
- Replacing old irrigation components with new technology water efficient irrigation components

Livability and sustainability are two closely related and overlapping societal goals that can be supported, in part, through transportation planning and operations.

Livability in transportation is about using transportation facilities and services to help achieve broader community goals, such as increasing travel choices, improving economic competitiveness, and enhancing unique community characteristics. The Livability directly benefits people who live in, work in, or visit an area. Therefore, improving the safety and operation of the I-5 SB connector to EB I-10, SB and NB I-5 off-ramps, upgrading the ITS elements would enhanced the balanced of multimodal transportation networks that offer multiple transportation choices. In addition, the project is expected to provide reliable and timely access to local traffic while helping enhancing the safety and mobility of State highway system. Specifically, livability in relation to the proposed improvements includes:

The TMS communication upgrade and life cycle replacement of the CCTV cameras in the project will extend the life of the communications system and the TMS field element to over 10 years and be sustainable, thus reducing operations and maintenance costs.

The following defines the elements of the project that reduce the environmental impacts of the transportation system on the environment.

Air quality is expected to improve over the existing conditions with the construction of the proposed project. Long term green house emissions and congestion are expected to be reduced through the upgraded communications system and CCTV cameras and improved data and video management for the TMS field elements. This will result in less down time for the communication system, detection system, closed circuit television (CCTV) cameras, and the changeable message signs (CMS) along the project limits, which will improve traffic incident verification/management dispatch, traveler information and system performance measurement with more consistent traffic management strategies.

Goal 3: Sustainability, Livability and Economy

"Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl."

Strategic Objectives	Performance Measures	Targets
PEOPLE: Improve the quality of life for the southeast and northeast of Los Angeles County by providing mobility choice, increasing accessibility to all modes of transportation and creating transportation corridors not only for convey-ance of people, goods, and services, but also as livable public spaces.	Percentage by 10 increase of non-auto modes for: Bicycle Pedestrian Transit	By 2020, increase non-auto modes*: Triple bicycle; Double pedestrian; and Double transit. (2010-12 California Household Travel survey is baseline.)
	Accessibility Score (To be determined considering e.g., multimodal transportation proximity to jobs, disadvantaged communities, housing services, transit-oriented communities, etc.)	By December 2016, develop and adopt Caltrans Accessibility Score.
	Livability Score (To be determined considering, e.g., quality of life, noise, safety, localized emissions, environmental justice concerns, etc.)	By December 2016, develop and adopt Caltrans Livability Score.
	Percentage of top 3 priority corridor system master plans completed to enhance sustainability of transportation system.	By 2017, 3 complete corridor system plans for routes in district 7. By 2020, complete top 5 corridor system management plans.
PLANET: Reduce environ-mental impacts from the transportation system with emphasis on supporting a statewide reduction of greenhouse gas emissions to achieve 80% below 1990 levels by 2050.	Per capita vehicle miles traveled. (Reported statewide by District.)	By 2020, achieve 15% reduction (3% per year) of statewide per capita VMT relative to 2010 levels reported by District.
	Percent reduction of transportation system-related air pollution for: Greenhouse gas (GHG) emissions Criteria pollutant emissions	15% reduction (from 2010 levels) of GHG to achieve 1990 levels by 2020. 85% reduction (from 2000 levels) in diesel particulate matter emissions statewide by 2020. 80% reduction (from 2010 levels) in NOx emissions in South Coast Air Basin by 2023.

System Performance

System Performance: *Utilize leadership, collaboration, and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers.*
A transportation system must be safe, well-maintained, and high-performing. System Performance is managed on a regional and corridor basis. We must work with our partners to ensure the State's transportation system is contributing to an efficient and interconnected network.

There are various aspects of the project that will improve system performance. Within the project limits, there are three CMSs, nineteen CCTV cameras, and twenty-eight ramp meter and detection stations, all communicating with the Los Angeles Regional Transportation Management Center through the Caltrans District 7 communication system. With the upgrade of the communication system, data and video management for the TMS field elements will be improved, resulting in less down time and maintenance repairs for the communication system, detection system, closed circuit television (CCTV) cameras, and the changeable message signs (CMS) along the project limits. The fifteen CCTV cameras will be replaced with newer, more versatile cameras with internet protocol capabilities. With the TMS life cycle replacement upgrades, the transportation management strategies will help to improve travel reliability, reduce traffic congestion, improve system optimization, and improve overall mobility and access to destinations within and beyond the project limits.

Goal 4: System Performance

"Utilize leadership, collaboration and strategic partnerships to develop an integrated transportation system that provides reliable and accessible mobility for travelers."

Strategic Objectives	Performance Measures	Targets
Improve travel time reliability for all modes.	Travel time reliability on four commute directions (SR-57, US-110, I-80 and I-210).	By 2020, improve buffer time index (BTI) reliability ranking by one level (unreliable to moderately reliable or moderately reliable to reliable) on four commute directions (SR-57, US-110, and I-210).
	Reporting time and percentage of accurate traveler information on travel times, construction activity, incidents, and adverse weather.	By 2020, report within 10 minutes in metro areas, and 20 minutes outside metro areas. For all information: 85% accurate, 90% availability.
	Average endpoint on-time performance (OTP) for intercity rail.	By 2020, achieve 90% on-time performance (Metro's data).
Reduce peak period travel times and delay for all modes through intelligent transportation systems, operational strategies, demand management, and land use/ transportation integration.	Rate of growth in Daily Vehicle Hours of Delay (DVHD) statewide.	By 2020, reduce to an 8% rate of growth in Daily Vehicle Hours of Delay (DVHD) under 35 miles per hour on urban State highways. See attachment.
	Average All-Stations On-Time performance (OTP) for intercity rail.	By 2020, achieve 90% average on-time performance (metro's data).
Improve integration and operation of the transportation system.	Percentage of 3 top integrated corridors with real-time multimodal system information available to the public.	By 2020, provide real-time multimodal system information to the public on 50% of the top integrated corridors.
Increase the number of Complete Streets features on State highways that are also local streets in urban, suburban, and small town settings.	Percentage of projects that include Complete Streets features.	By 2016, establish baseline and by 2020, increase annual number of Complete Streets projects by 20%.
	Number of Complete Streets features on State highway system.	By 2016, establish baseline and by 2020, increase annual number of Complete Streets features by 5%.
	Percentage of high-focus actions fully implemented from the Complete Streets Implementation Action Plan 2.0.	By 2016, implement 80% of the 14 high-focus actions. By 2018, implement 100% of the 14 high-focus actions.
Develop integrated corridor management strategies for those of highest statewide significance.	Number of completed 2 implementation plans for Integrated Corridor Management (ICM).Weighting mechanism are developed.	By 2018, complete 3 ICM implementation plans.
	Number of corridors where ICM has been implemented.	By 2020, implement three ICM corridors.
	Rate of growth in Daily Vehicle Hours of Delay (DVHD) on top four integrated corridors.	By 2020, reduce to a 6% rate of growth in Daily Vehicle Hours of Delay.

SYSTEM PERFORMANCE GOAL – Enhance the performance of the transportation system					
Objective		**Performance Measure**	**Current Data**	**Target**	**Example Strategies**
1	Reduce travel delay.	a) Daily vehicle hours of delay1	012 DVHD = 330,000	2018 projected DVHD (without SHOPP)= 390,000.2018 projected DVHD (with SHOPP, Fix It First) = 380,000.Reduction = 10,000 hrs, 2.5%.	Expand use of technology, such as corridor-adaptive ramp metering. Develop consistent technology framework. Reduce incident clearance times. Improve project coordination. Ensure that transportation management system elements are operating and functioning properly. (Includes maintain 90% accurate and reliable traveler information within 10 minutes in urban areas and 20 minutes in other areas.)Install operational improvements such as auxiliary lanes, shoulder widening, truck climbing lanes. Develop statewide managed lanes master plan.

2	Improve travel reliability.	a) Reduce the percentage of unreliable travel time as measured by the Buffer Time Index2.	Buffer Time Index data is available is calculated	By December 2015, will establish corridor reliability baselines for route 5	Develop informed practitioners and partners.
	b) Establish trends for travel time reliability in all 30 corridors.			By December 2015, report reliability trends for route 5 corridor.	Expand use of technology such as decision support systems or "playbooks" for proactively or predictively managing incidents and events. Implement real time system management strategies to reduce the impact of incidents and events that cause unpredictable travel times. Update technical policies and guidance and develop marketing approach. Determine ideal goods movement routes.

SYSTEM PERFORMANCE GOAL – Enhance the performance of the transportation system					
	Objective	**Performance Measure**	**Current Data**	**Target**	**Example Strategies**
3	Proposed connected corridor management plans for 3 corridors in Los Angeles County.	Develop Connected Corridor Management Plans on highly congested highway segments.	Corridors identified in the 2010 Mobility Performance Report. Rte 210 is the pilot underway in D7.	By December 2018, develop 3 connected corridor management plans.	Identify statewide priority corridors for Connected Corridors Program (CCP) (integrated corridor management or ICM). Develop regional and local partnerships for CCP. Develop management plans where priority CCP partnerships exist. Encourage expansion of Traffic signal synchronization on arterials parallel to major congested and unreliable corridors. Implement SHRP2 technical assistance and guidance for Transportation System Management and Operations Agency Capability Maturity. Communicate and coordinate with local transit, and local and intercity rail services. Develop statewide methodology and guidelines for "Concept of Operations."Develop methodology and guidelines for "Operations" Concept in Transportation Concept Reports.
	1. DVHD is measured on Route. The data will expanded when additional data becomes available.Other metrics that can be derived and reported include person delay, traveler costs, fuel costs, and air quality impacts (including carbon/GHG reduction). Therefore the Daily person hours of delay performance measure was deleted.				
	2. Buffer Time Index (BTI) is a measure of travel time reliability and calculated as: [(95th Percentile Travel Time – Median Travel Time) / Median Travel Time] x 100, expressed as a percentage. The larger the BTI, the more unreliable the corridor.				

July - September 2013						AM (5 AM - 10 AM)							PM (3 PM - 8 PM)						
District	County	Route	Dir	Distance (Miles)	Approximate Segment Location	Total 5-Min Periods	# Reliable Periods (BTI < 0.2)	% Reliable	# Moderately Reliable Periods (0.2 ≤ BTI ≤ 0.4)	% Moderately Reliable	# Unreliable Periods (BTI > 0.4)	% Unreliable	Total 5-Min Periods	# Reliable Periods (BTI < 0.2)	% Reliable	# Moderately Reliable Periods (0.2 ≤ BTI ≤ 0.4)	% Moderately Reliable	# Unreliable Periods (BTI > 0.4)	% Unreliable
7	Los Angeles	5	N	14	Artesia Blvd to I-710	60	11	18.3%	37	61.7%	12	20.0%	60	32	53.3%	28	46.7%	0	0.0%
7	Los Angeles	5	S	14	I-710 to Artesia Blvd	60	18	30.0%	32	53.3%	10	16.7%	60	0	0.0%	52	86.7%	8	13.3%
7	Los Angeles	5	N	21	I-10 to SR-118	60	49	81.7%	11	18.3%	0	0.0%	60	50	83.3%	10	16.7%	0	0.0%
7	Los Angeles	5	S	21	SR-118 to I-10	60	26	43.3%	34	56.7%	0	0.0%	60	0	0.0%	19	31.7%	41	68.3%
District 7 Total						**240**	**104**	**43.3%**	**114**	**47.5%**	**22**	**9.2%**	**240**	**82**	**34.2%**	**109**	**45.4%**	**49**	**20.4%**

Goal 5: Organizational Excellence

"Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability."

	Total Need	Currently Programmed in the STIP	Currently Un-programmed SHOPP Needs	Currently Un-programmed STIP Needs
PAED				
PS&E				
Right of Way Support				
Right of Way Capital				
Construction Support				
Construction Capital				
Total Project Cost				

SHOPP Funded
STIP Funded

Recommendation

In an effort to promote asset management, it is proposed to program from the 15/16FY of the SHOPP $20.0M (construction capital) and $2.89M (construction support); along with $8.9M in SRTA funded STIP/RIP shares (construction capital) from the 16/17FY. This project is currently on track for delivery in the 15/16 FY. It is proposed that the CTC will vote both the 15/16 SHOPP funded portion and 16/17 STIP funded portion at the June 2016 CTC meeting.

a. Transportation Challenges

i. Freeways

The primary study area is bounded by Interstates Route 110, Route 2, and Route 134 to the north, the San Bernardino Freeway (I-10) and Pomona Freeway to the east, Hollywood Freeway (Route 101) to the west, Long Beach Freeway (I-710) and San Gabriel Freeway (I-605) to the south, and the Harbor Freeway (I-110) to the west.

I-5 Freeway – One of the most heavily used freeways in the state. A major North-South Interstate route that traverses from Mexico to Canada; it is used for international, interstate, interregional travel and shipping. In addition, it is a major commuter route. The I-5 corridor, in particular, experiences high levels of congestion; meaning loss of personal and/or professional time, environmental impacts (fuel consumption and emissions), and traveler dissatisfaction.

- **I-10 Freeway** - The I-10 is an East-West route that extends across the country; it serves as an interregional and intra-regional travel and shipping route. It is identified as a Major International Trade Highway Route in the Caltrans 2007 Goods Movement Action Plan and the Draft Interregional Transportation Strategic Plan of 2012 , in conjunction with other routes (I-10, I-105, I-110, I-405, I-605, I-710), seaports and airports in the area. I-10 serves as a part of the Intermodal Corridors of Economic Significance (ICES). High Occupancy Toll (HOT) Lanes were recently added to the freeway.
- **I-110 Freeway -** This is a major North-South state route that traverses through Los Angeles County and is used for international, interstate, interregional and intraregional travel and shipping through an urbanized corridor, serving the four major import-export terminals of Long Beach Municipal Airport, Los Angeles International Airport, and the ports of Long Beach and Los Angeles. In addition, it is heavily used as a commuter route. Two (2) lanes in each direction were converted from High Occupancy (HOV) to two High Occupancy Toll (HOT) Lanes.
- **I-710 Freeway** - Both the seaports of Los Angeles and Long Beach as well as rail and truck transfer facilities all use this North-South route for goods movement in addition to local commuters. Average Daily Traffic (ADT) volumes were as high as 286,900 in 2008, and continue growing. Several rehabilitation projects are underway as the roadway suffers severe wear and tear from heavy use by large trucks.

Congestion in the aforementioned freeway corridors causes significant delays and bottlenecks. Travel reliability and travel time fluctuations are impacted by the sheer number of vehicles in the corridor. The freeways have recurrent, severe congestion and bottlenecks due to commute traffic as well as non-recurrent traffic due to incidents or events.

According to INRIX, the "Los Angeles area's freeway system is more congested than that of any other city in the United States, United Kingdom., France, Germany, Belgium and the Netherlands, by all measures." (http://scorecard.inrix.com/scorecard/keyfindings.asp)

As shown in the table below, Los Angeles continues to experience the most delay in the nation.

According to the latest available INRIX "scorecard", the Top 10 Worst Cities for Traffic in America in 2013, along with total annual hours wasted in traffic, were:

1. Los Angeles (64 hours, up 5 hours from 2012)
2. Honolulu (60 hours, up 10 hours from 2012)
3. San Francisco (56 hours, up 7 hours from 2012)
4. Austin (41 hours, up 3 hours from 2012)
5. New York (53 hours, up 3 hours from 2012)
6. Bridgeport (42 hours, up 3 hours from 2012)
7. San Jose (35 hours, up 4 hours from 2012)
8. Seattle (37 hours, up 2 hours from 2012)
9. Boston (38 hours, up 7 hours from 2012)
10. Washington, D.C. (40 hours, down 1 hour from 2012)

"INRIX combines the best data from the largest traffic network in the world with innovative technologies to help businesses accelerate and differentiate their solutions."

Source: http://scorecard.inrix.com/scorecard/keyfindings.asp

The existing and projected peak period congestion operating conditions on I-110, I-5, I-10, and I-710 are predominantly during peak hours. Congestion is primarily directional, with only the area either parallel to the local streets having congestion in both directions during the peak period.

Annual Average Daily Traffic (AADT) typically ranges from 200,000 to 319,000 vehicles. The directional splits indicate most of the traffic is going to Los Angeles in the morning and away from the Los Angeles Commercial Business District (LACBD) south towards San Pedro, north towards Pasadena, east toward I-710, west toward I-605. Typically, Level of Service (LOS) conditions are F0 or lower. LOS F0 refers to virtually gridlock conditions; frequent slowing required; travel time cannot be predicted; with more demand than capacity.

Anticipated growth rates translate to ever increasing travel demand. Various constraints limit the opportunities to improve future travel conditions significantly over existing levels. Consequently, since the system typically operates at a LOS of F0 to F3 (peak period of congestion from "for up to one hour" to "over 3 hours"), LOS F0 is the minimum performance conditions accepted on the metropolitan freeways in the district. Typically, LOS conditions are F or lower on the majority of the I-110, I-105, I-5, I-10, and I-710 within the study area.
Maps and tables on the following pages show typical freeway congestion levels and patterns in this area of Los Angeles.

CONGESTED FREEWAYS IN CALIFORNIA - VEHICLE HOURS OF DELAY (VHD) AT 35 MPH, 2010			
Route	**County**	**Annual VHD at 35 mph**	**Rank**
I-5	Los Angeles	7,010,717	2
I-10	Los Angeles	4,871,963	4
I-105	Los Angeles	2,007,953	13
I-110	Los Angeles	3,670,371	6
I-710	Los Angeles	1,929,349	14

Source: Caltrans District 7 Traffic Operations, PeMS Data

Exhibit G-1 - Level of Freeway Congestion in Study Area

Route	County	Number of Incidents 2012	VMT 2012	Incidents/ Day	Incidents/ million VMT
10	Los Angeles	19,147	3,268,044,611	52.46	5.86
110	Los Angeles	12,661	1,926,028,520	34.69	6.57
105	Los Angeles	5,906	1,276,090,934	16.18	4.63
710	Los Angeles	5,720	1,147,104,484	15.67	4.99

Source: Caltrans District 7 Traffic Operations, PeMS Data

Exhibit G-2 - Freeway Vehicle Miles Traveled (VMT) and Incidents in Study Area

(Compiled from freeways with automated data devices (detection))

Freeway AM Bottlenecks

Freeway PM Bottlenecks

I-5, I-10, I-105, I-110, and I-710 are all designated as Major Goods Movement routes. With the nation's two (2) busiest seaports (Ports of Los Angeles and Long Beach) and terminals nearby, the freeways in the study area, as well as the local system serve unprecedented levels of truck traffic; vital not only to California's economy but also to the national and world's economies. Los Angeles has five (5) of the ten (10) worst truck bottlenecks in the U.S. Truck vehicle miles traveled (VMT) and VMT is expected to double by 2030.

The roadway system in the Southern California region is a critical connection to manufacturing and warehouse and distribution facilities that are largely located along key highway corridors (SR-91, SR-60, I-10, I-210 and I-5) that connect to the interstate system, intermodal rail facilities, and air cargo facilities.

http://www.freightworks.org/DocumentLibrary/CRGMPIS_Summary_Report_Final.pdf

Hobart Yard, located in Commerce near the junction of I-710 and SR-60, is the largest intermodal rail yard in the United States, with 1 million containers and over 40,000 locomotives a year.
http://www.dot.ca.gov/hq/tpp/offices/ogm/district_freight_fact_sheets/updated_092412/District_7_GM_Fact_Sheet_061312.pdf#zoom=65

The southeastern portion of the study area is in close proximity to four rail yards located in Commerce, which was the subject of a 2007 California Air Resources Board health risk assessment study which evaluated the health impacts associated with toxic air contaminants emitted. The study focused on the rail yard's emissions from locomotives, on-road trucks, off- road vehicles, cargo handling equipment, portable equipment, and stationary sources. The main pollution source of concern is diesel emissions.

Similarly, the Alameda Corridor [in a trench] passes through Huntington Park's western edge, with 17,824 trains carrying 4.7 million TEU (twenty-foot equivalent units) of containers.

Current levels of congestion are detrimental to this economic vitality, and future projections indicate that this situation will get much worse. The Truck vehicle miles traveled (VMT) is expected to double by 2030, with virtually no capacity available to handle this added volume.

Significant actions have been taken to protect the economic well being of the region. These include improved rail service, including more grade separations; additional and improved intermodal transfer facilities; truck lanes on major truck routes; improved intermodal transfer facilities; truck lanes on major truck routes; improved access to and enhanced cargo handling capabilities at seaports: and improved air cargo accessibility with separation from passenger activities at airports.

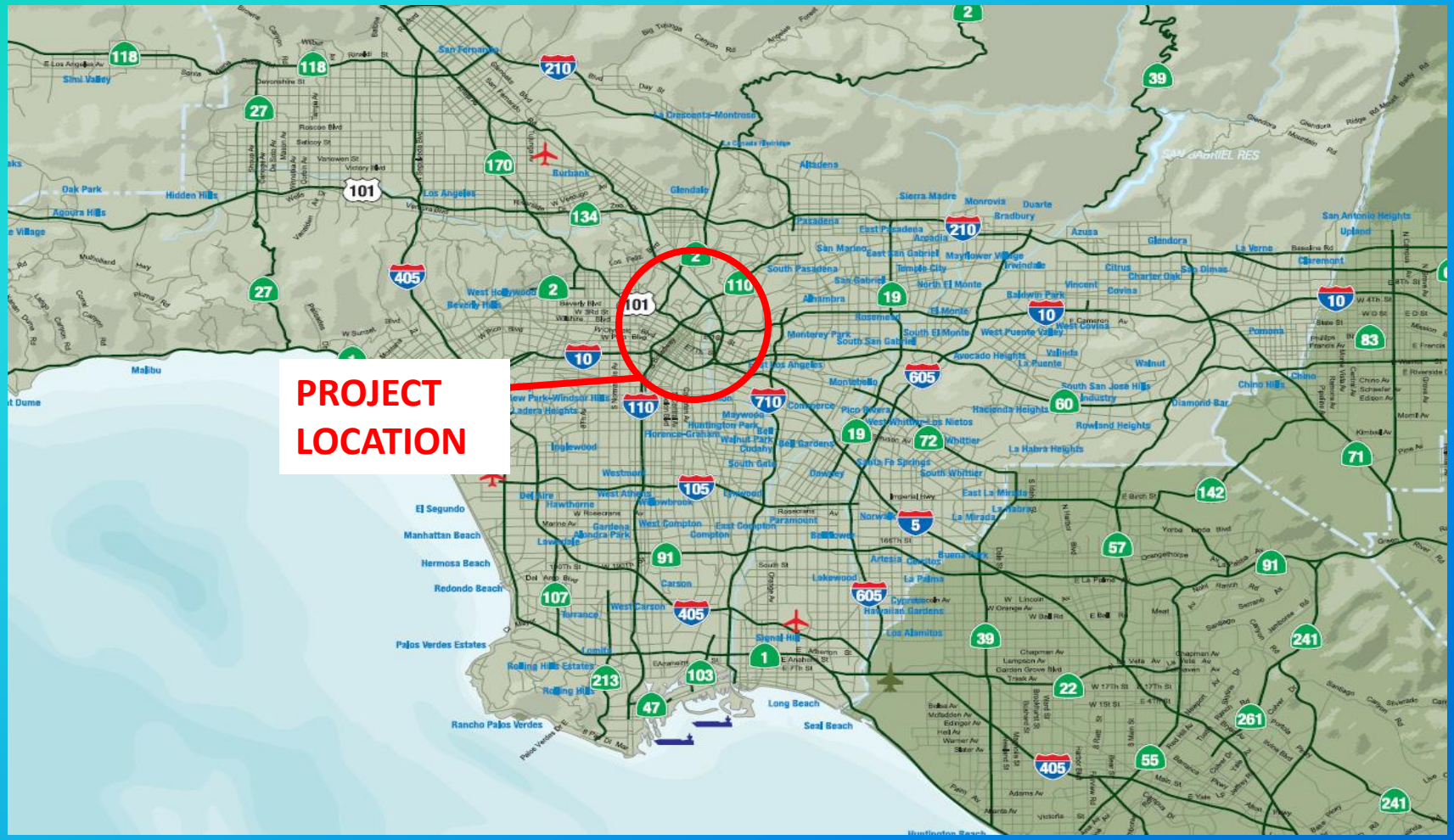
Seaports: As part of the Southwest Compact Multi-Modal Corridor, I-10 will handle some of the freight from the ports of Los Angeles and Long Beach. It is expected that most port cargo going less than 800 miles will be transported by truck. These are full service ports, handling in particular containers, autos, and bulk cargo. Together they are the third busiest in the world, and are forecasted to triple in both domestic and international cargo volumes by 2025.

Asset Management Pilot Project Nomination

07-LA-5-PM 15.0/ 26.9
Between Rte 710 to Rte 134

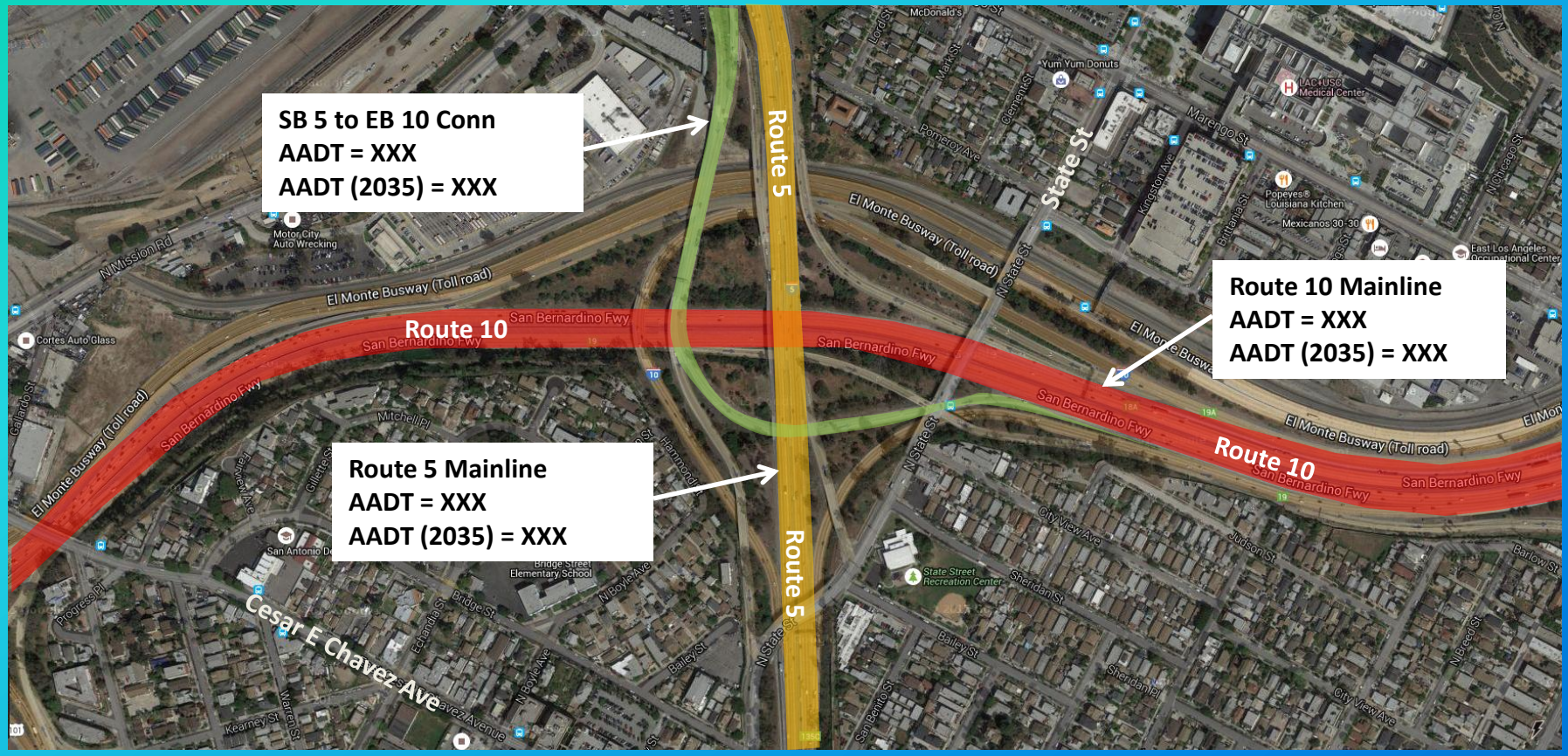
August 10, 2015

Project Location

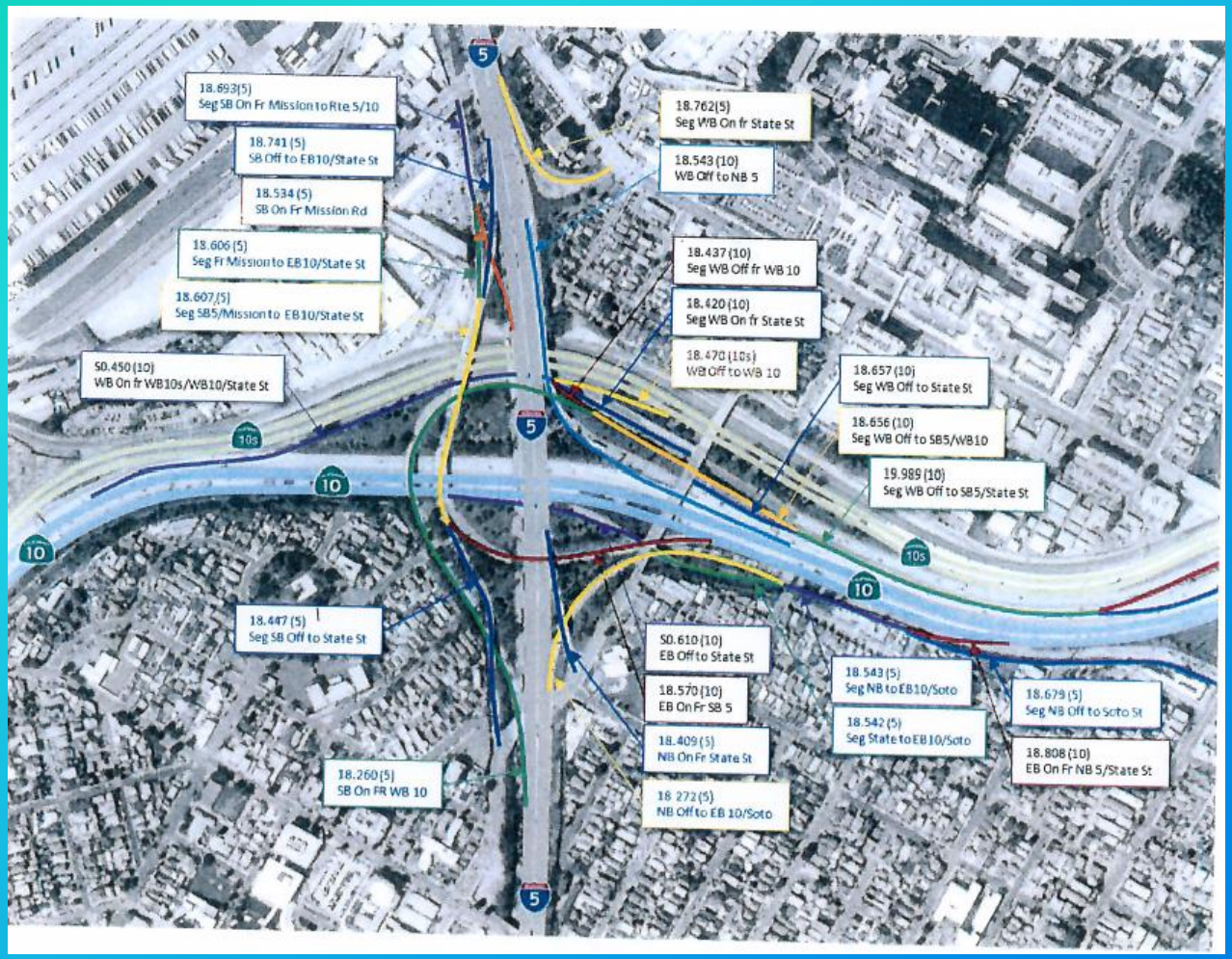


Rte 5 Between Rte 2 and Rte 710

I-5/I-10 INTERCHANGE



Improvements on SB Rte 5 to EB Rte 10
Widen and Reconstruct the shoulder by trimming the slope embankments

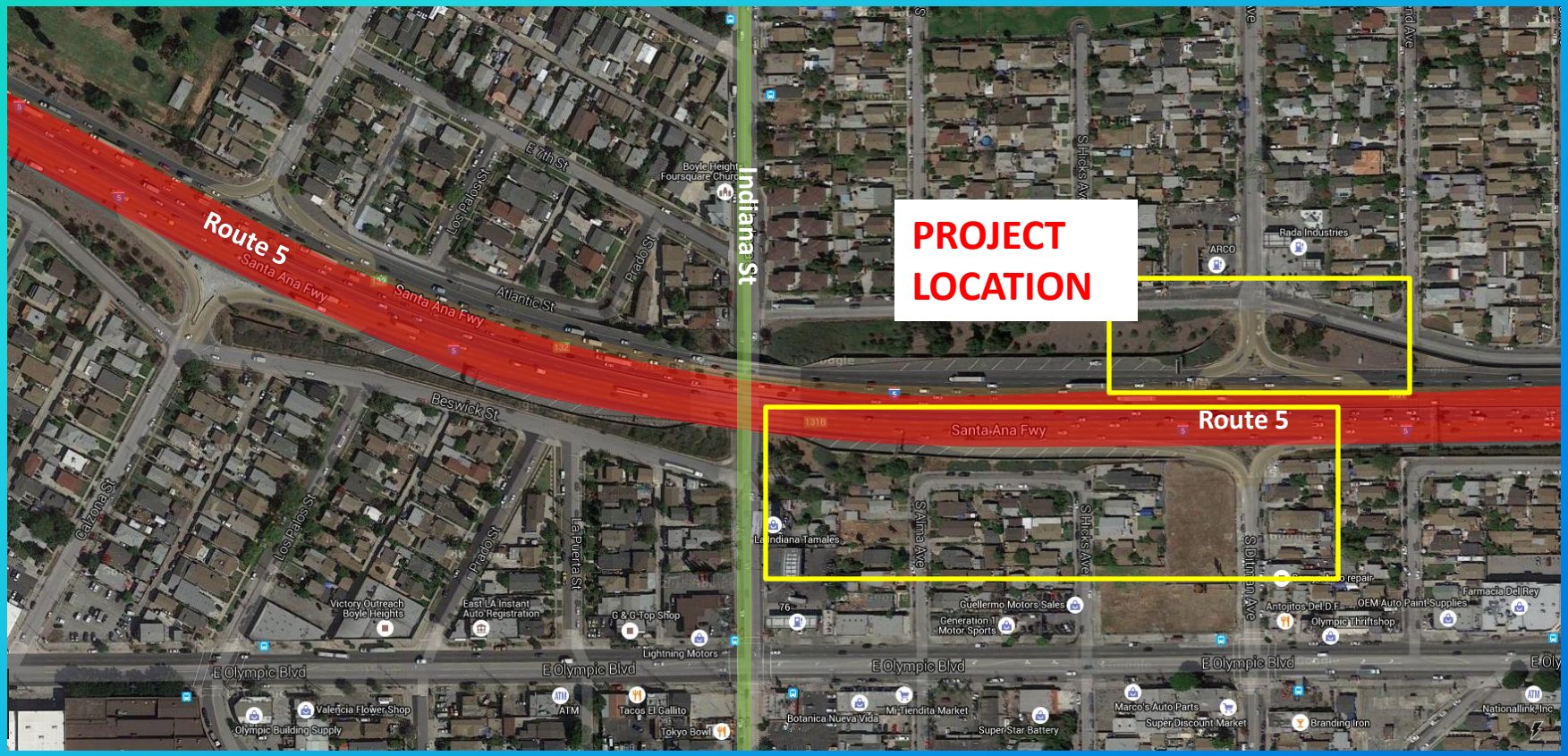


Rte 5 at Rte 10 Connectors
Postmiles

I-5/I-710 INTERCHANGE

Rte 5 at Indiana St Interchange

07-LA-5-PM 14.944



Rte 5 at Ditman Ave Interchange

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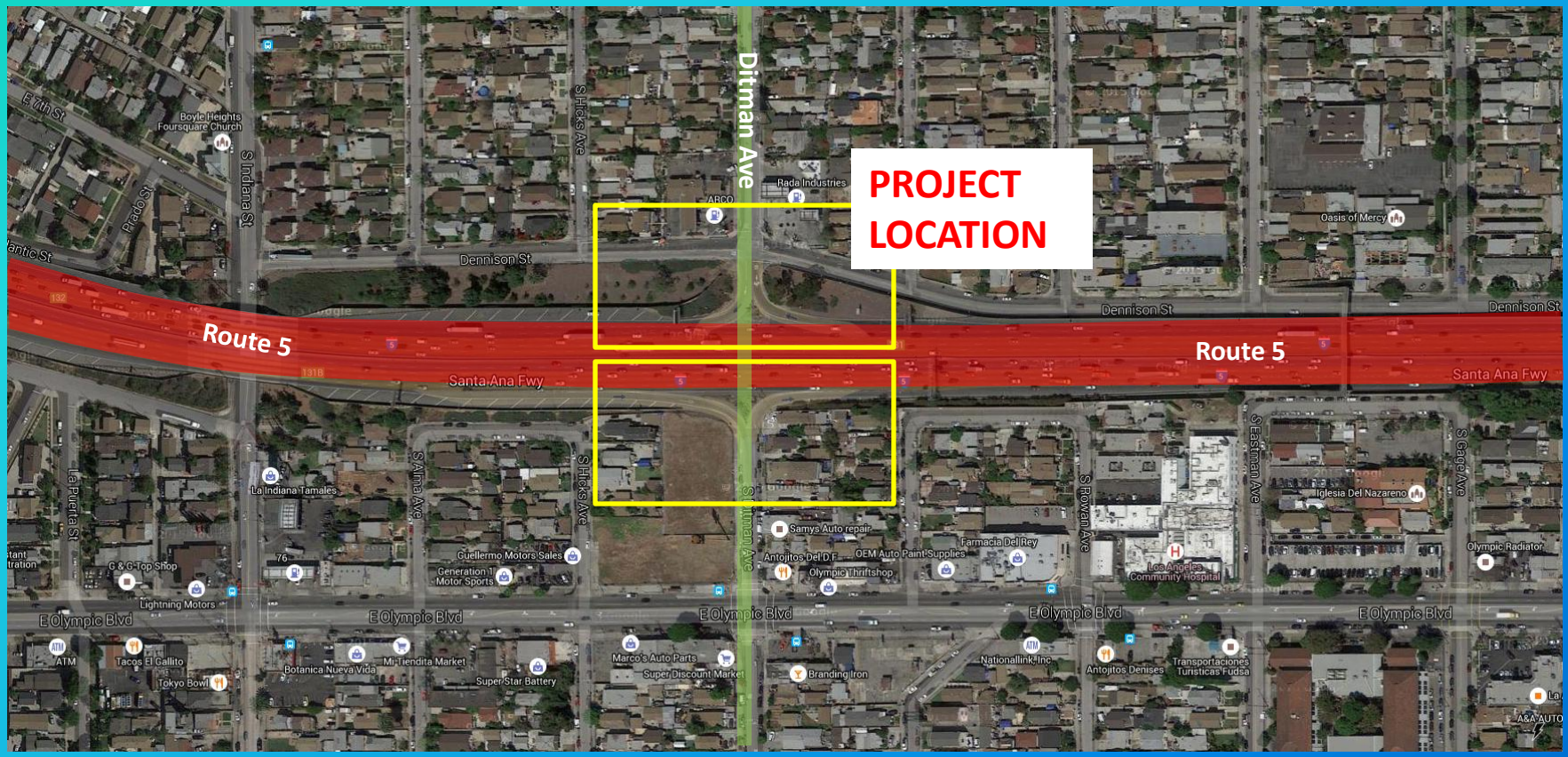
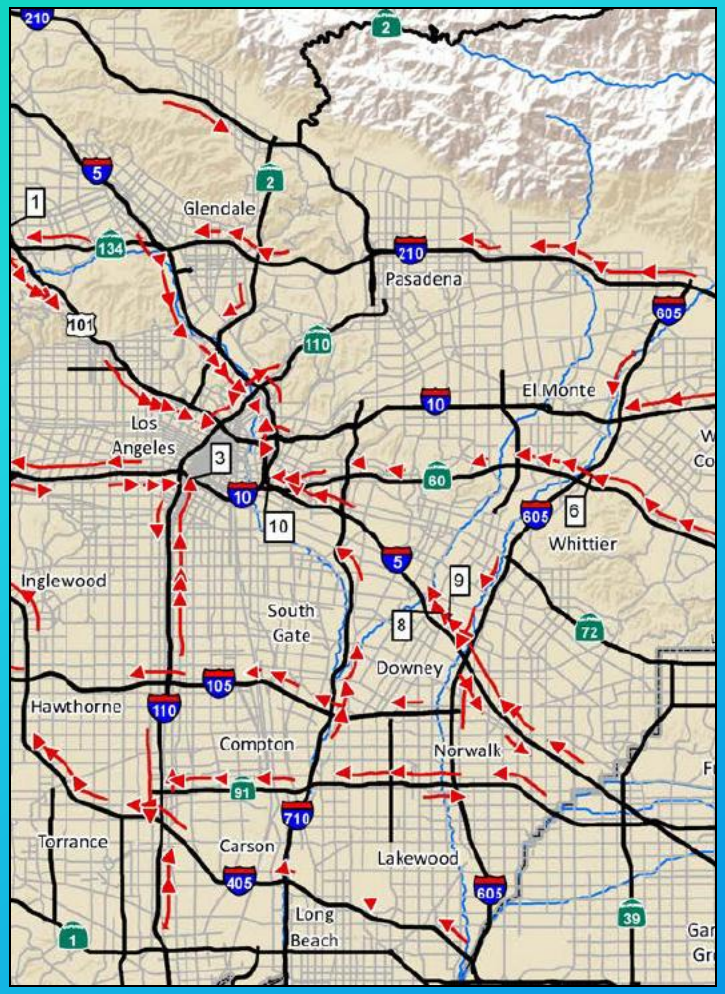


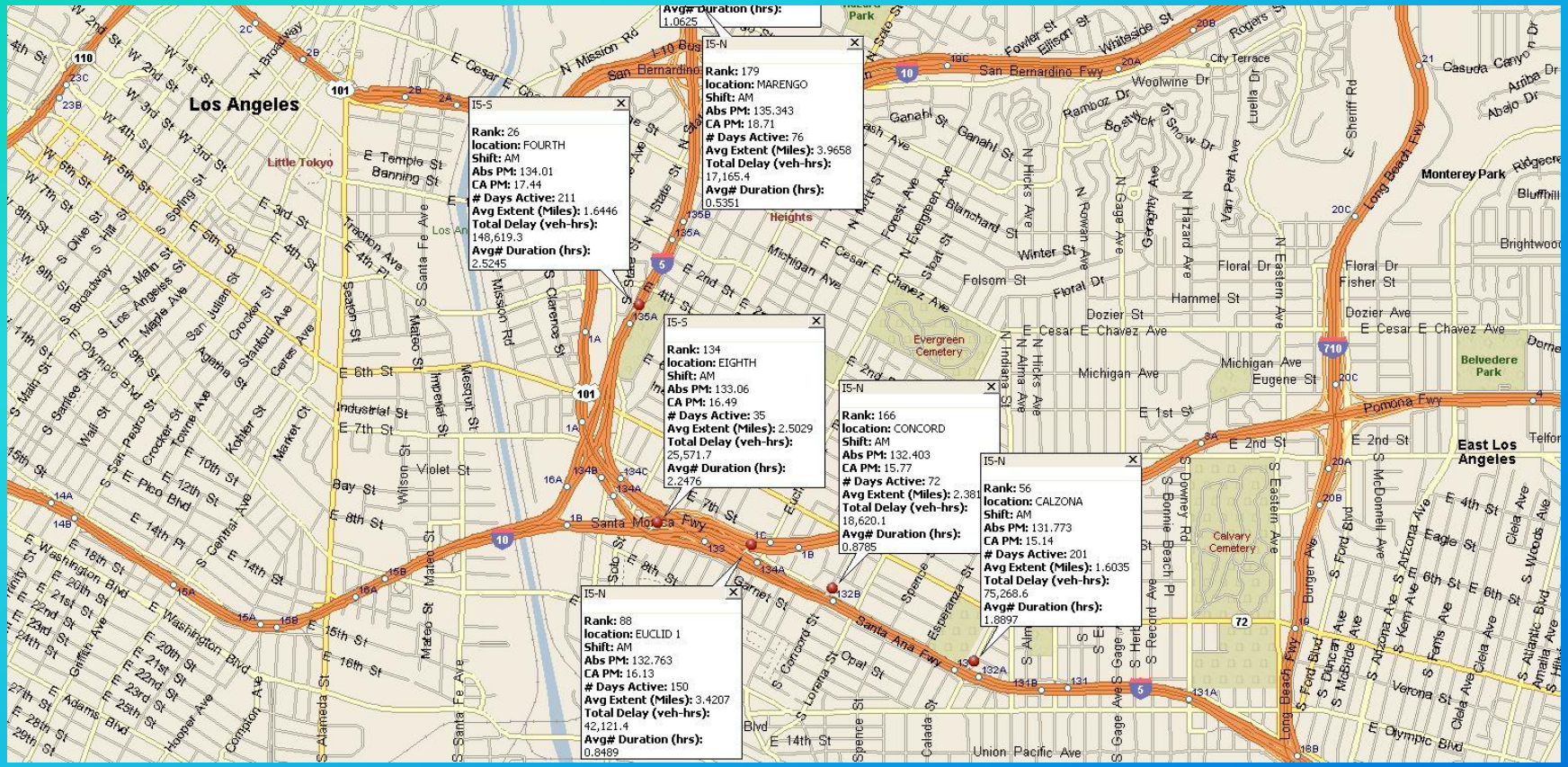
I-5 AM & PM Bottlenecks



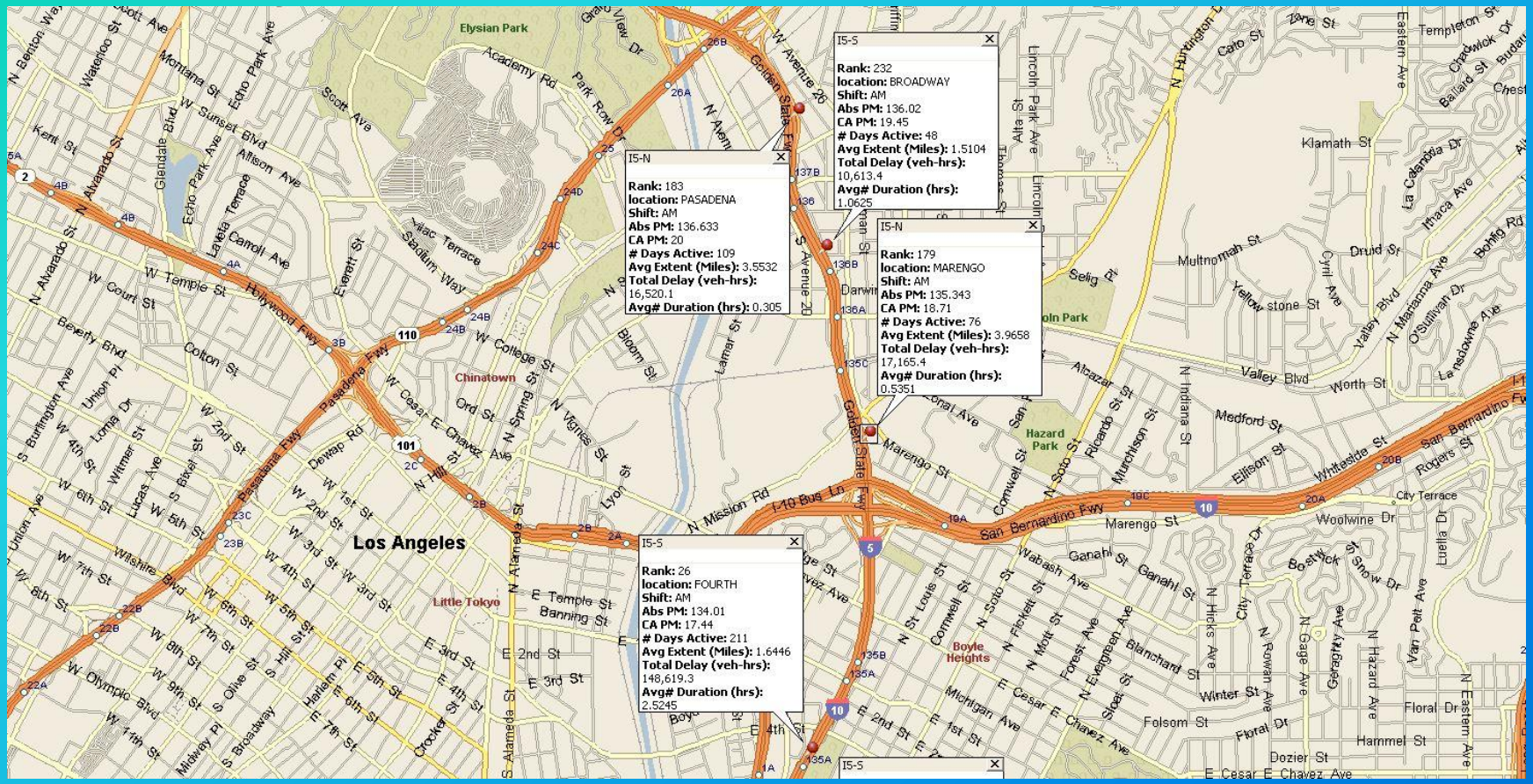
I-5 AM Bottlenecks

I-5 PM Bottlenecks

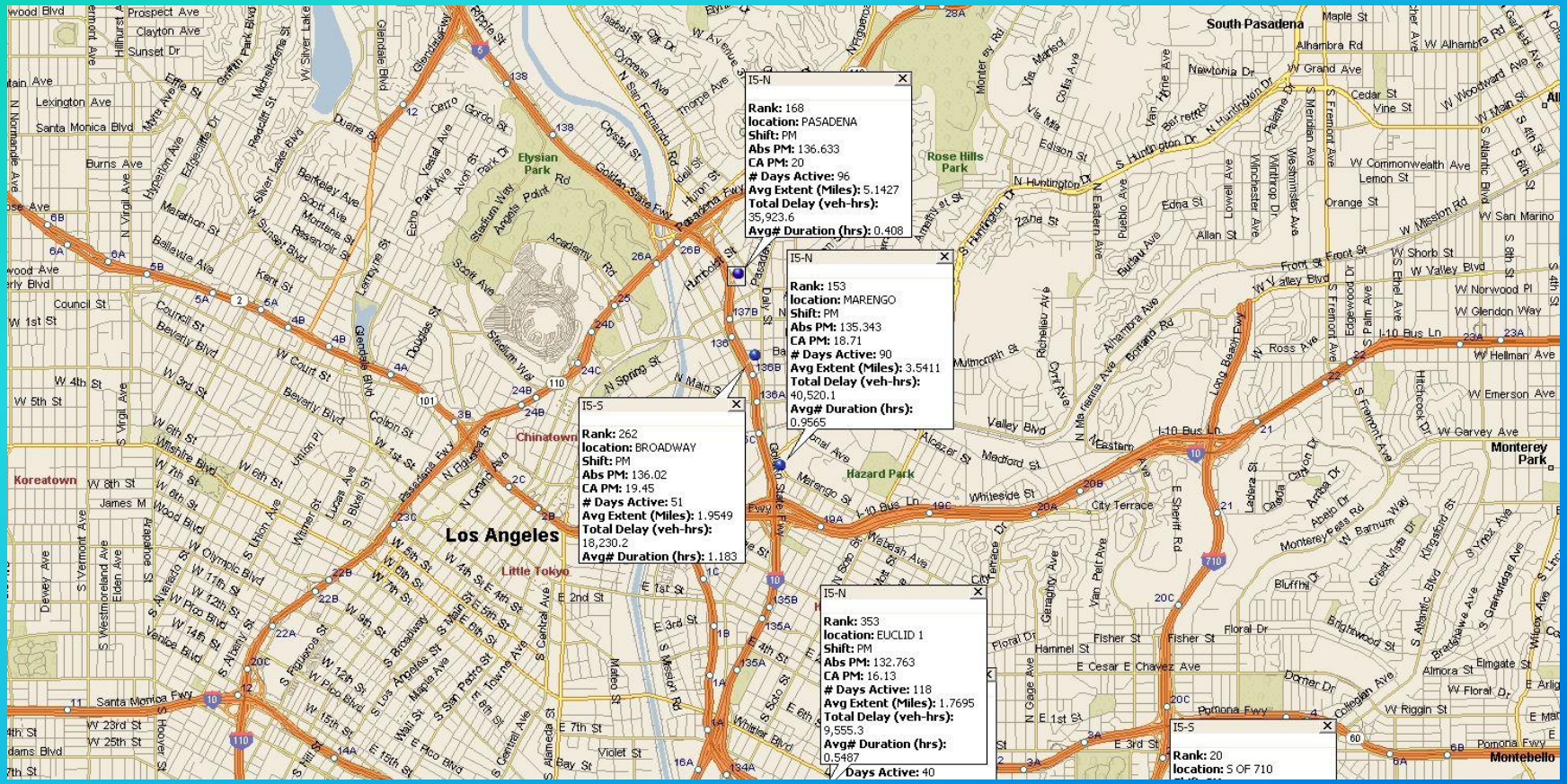
I-5 AM BOTTLENECK MAP, 1 OF 4



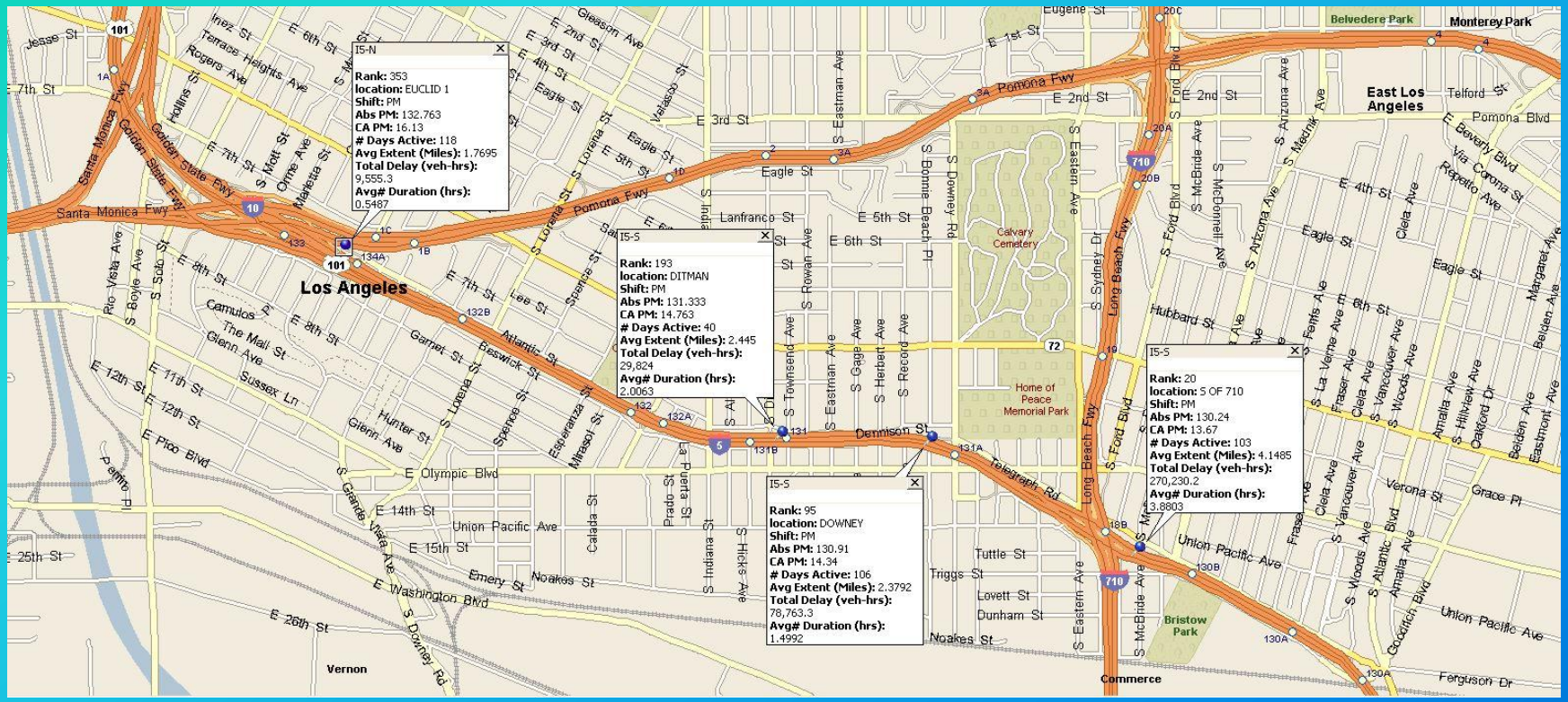
I-5 AM BOTTLENECK MAP, 2 OF 4



I-5 PM BOTTLENECK MAP, 3 OF 4

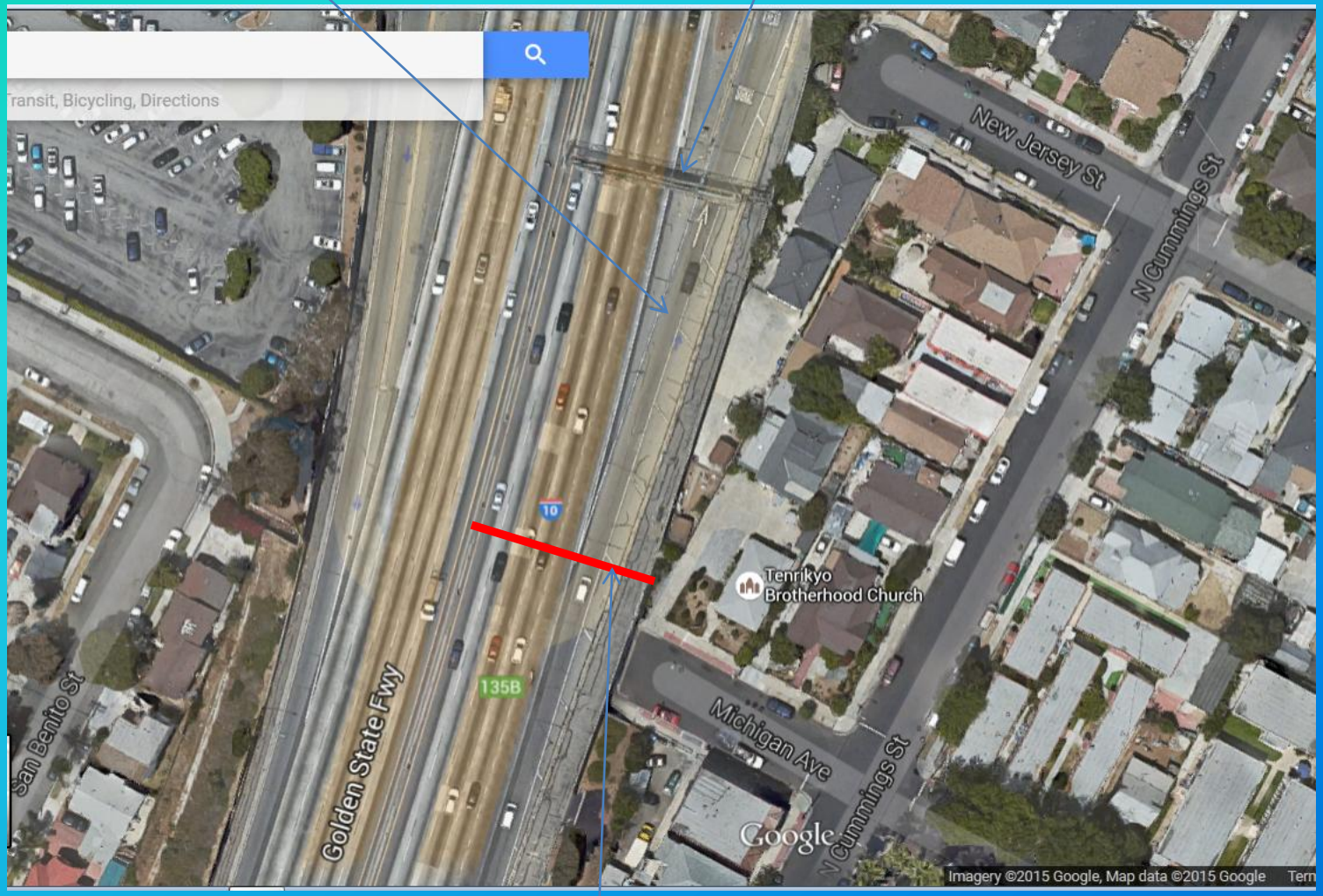


I-5 PM BOTTLENECK MAP, 4 OF 4



NB 5 Off-ramp to Cesar Chavez Ave. (PM 17.960)

Remove overhead sign structure (two posts)



Location No. 1
Install and furnish overhead sign structure (two posts) with sign panels.

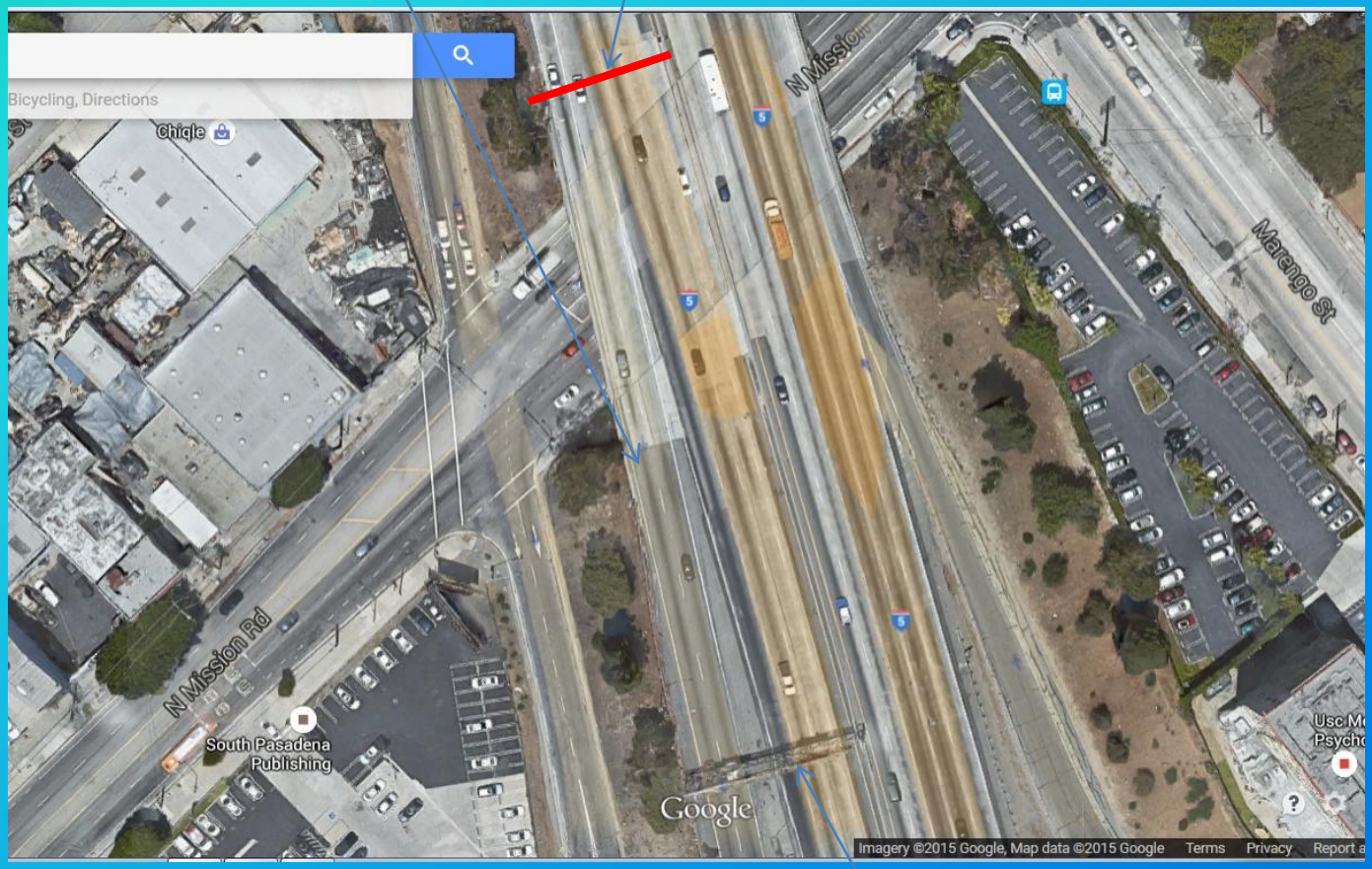
Remove overhead sign structure (two posts)

Location No. 2
Install and furnish overhead sign structure
(two posts) with sign panels .

Connector from NB 5 to EB 10
(PM 18.272)

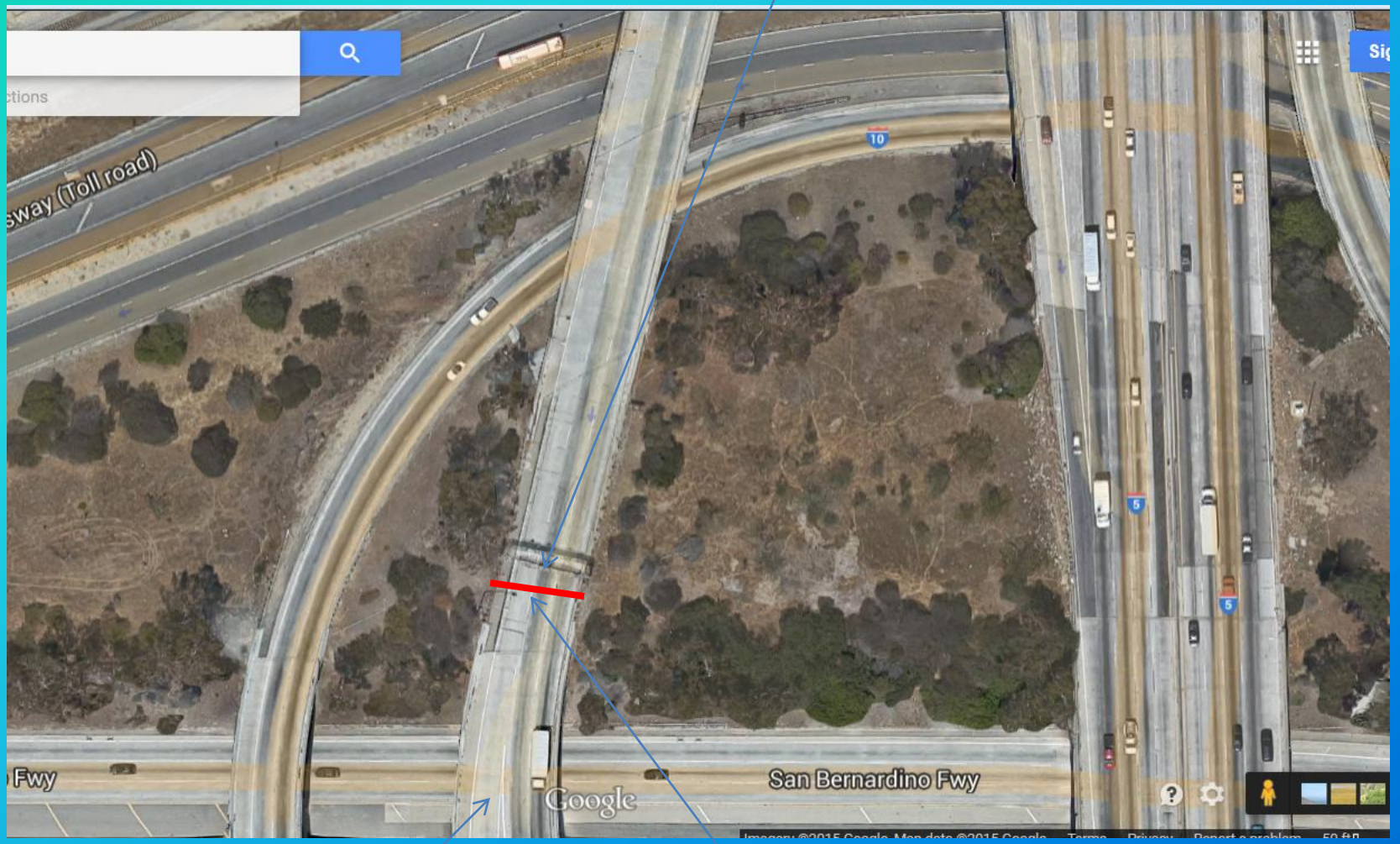
Connector from SB 5 to EB 10
(PM 18.741)

Location No. 3
Install and furnish overhead sign structure (two posts) with sign panels (The foundations of overhead sign structure are outside the bridge area).



Remove overhead sign structure (two posts)

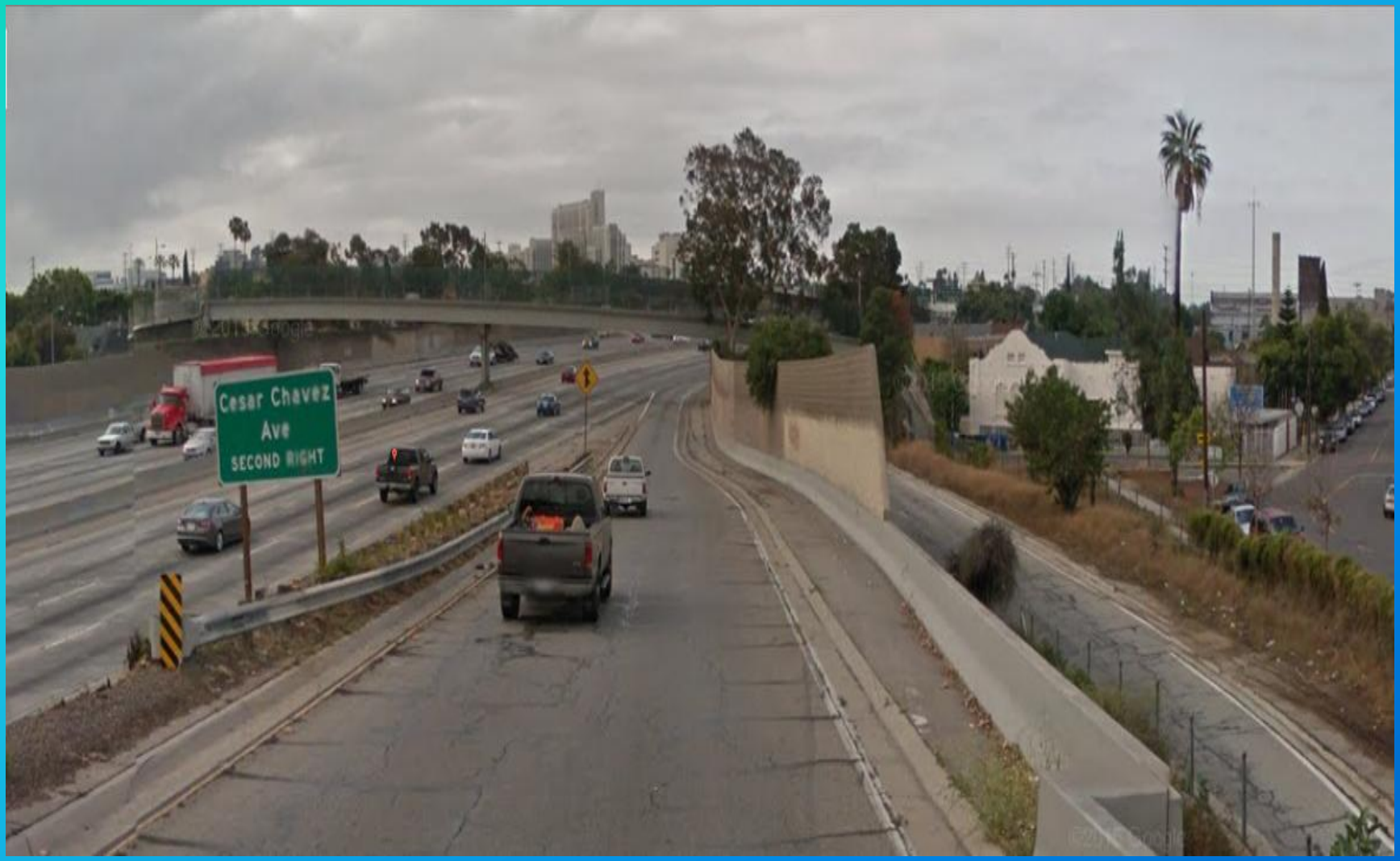
Remove overhead sign structure (two posts)



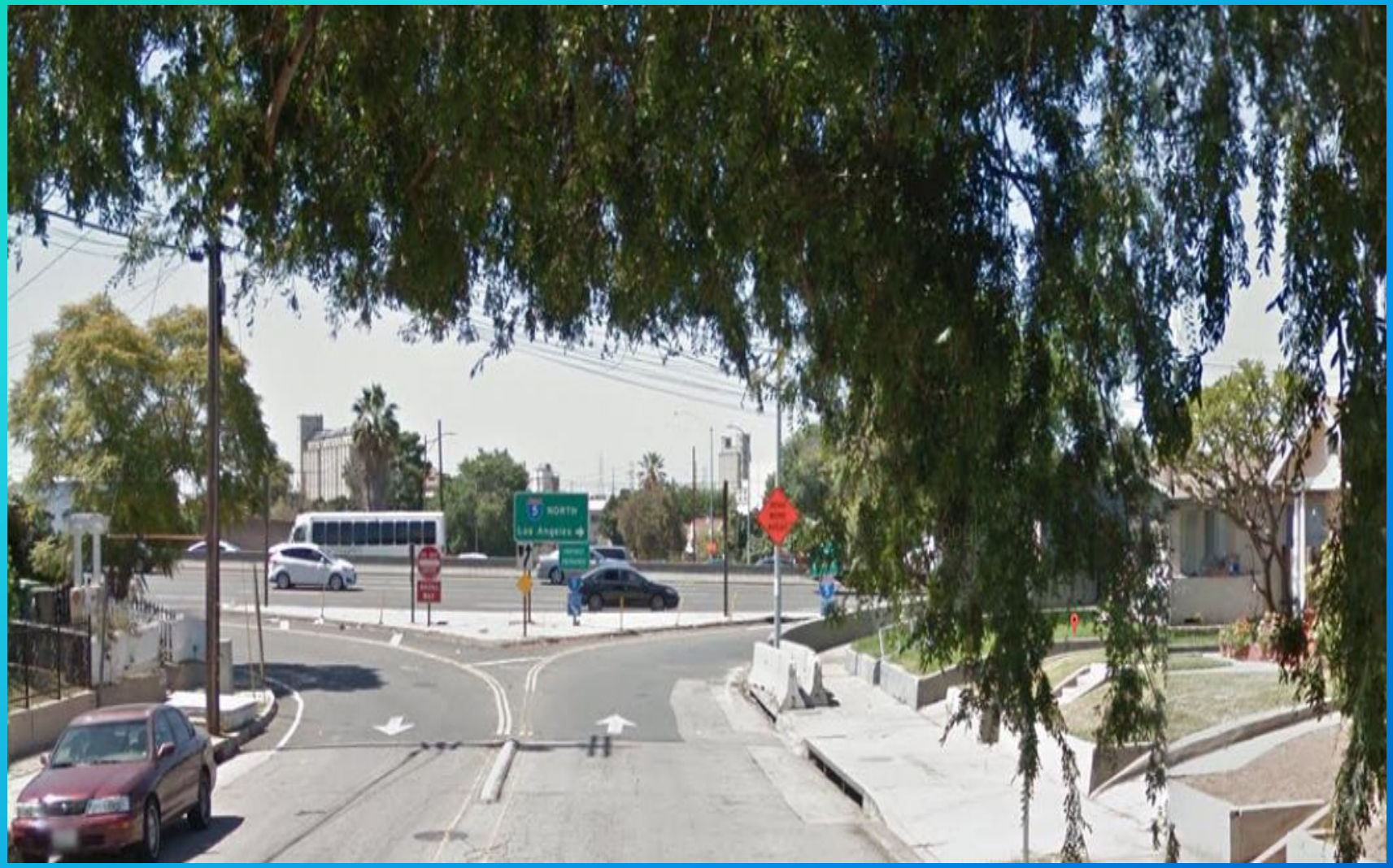
SB 5 Off-ramp to State St.
(PM 18.447)

Location No. 4
Install and furnish overhead sign structure
(two posts) with sign panels

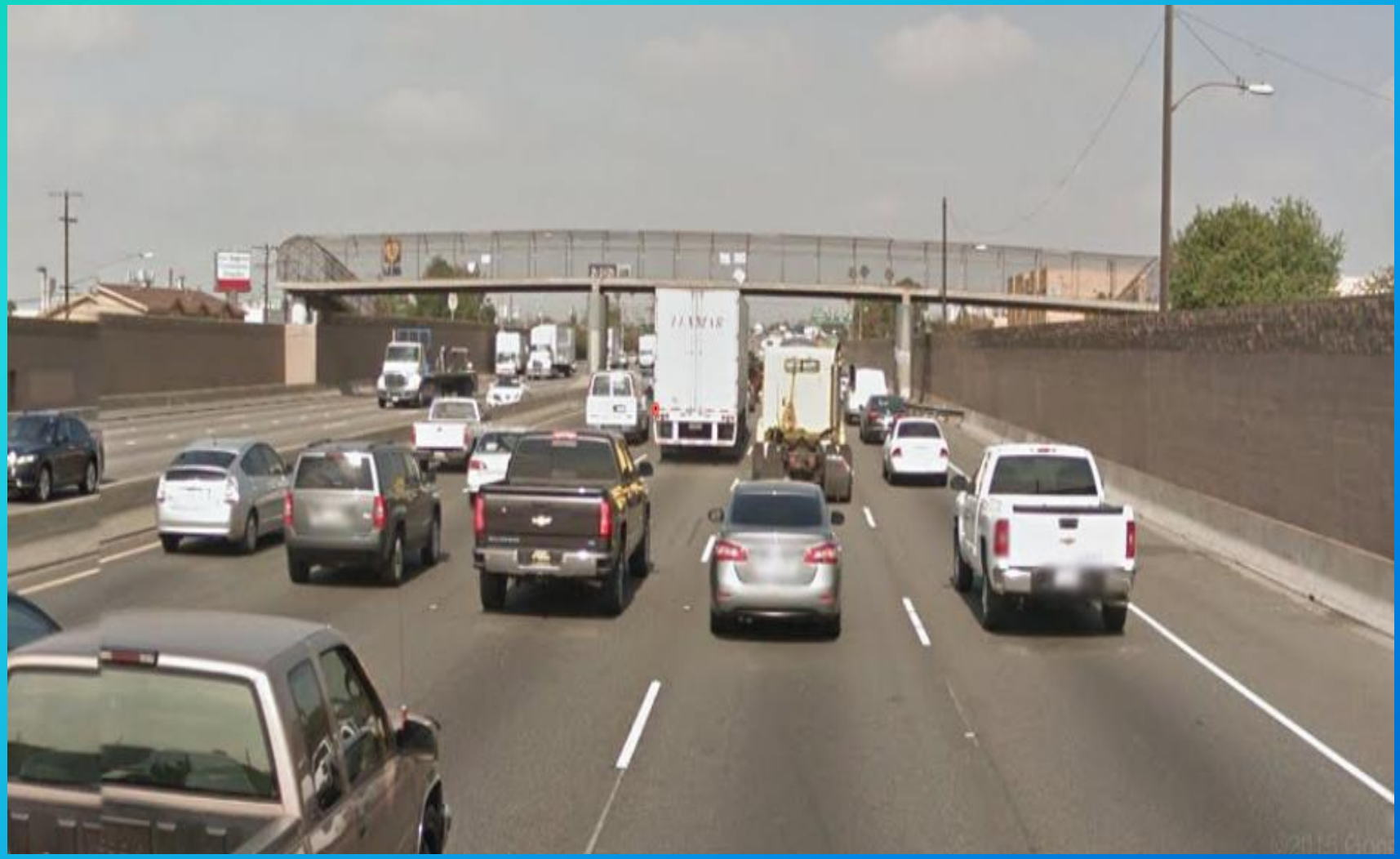
I-5 SB ON RAMP FROM BROADWAY
07-LA-5-PM 19.453



I-5 NB ON RAMP FROM CALZONA
07-LA-5-PM 15.161



I-5 NB AT EASTMAN AVE POC
07-LA-5-PM 14.575



I-5 SB AT WHITTIER BLVD OC (LEFT SIDE)
07-LA-5-PM 17.072

I-5 SB AT WHITTIER BLVD OC (RIGHT SIDE)
07-LA-5-PM 17.072

I-5 SB OFF RAMP TO INDIANA/CALZONA
07-LA-5-PM 15.165

Collision Diagram

TIR Log Number:

Drawing not to scale.

TIR Log No:

Page: 1

I-5 CONNECTOR SEGMENT 1
07-LA-5-PM 18.741

Collision Diagram

TIR Log Number:

Drawing not to scale.

District-County-Route-Postmile Limits: 07-LA-005 018.741 - 018.741 | Location: 005/SB OFF TO EB 10/STATE | Drawn by: t7klee | Date: 8/6/2015

Dates under analysis: From 7/1/2008 To 6/30/2013 | Number of Years: 5

	NUMBER OF COLLISIONS				INVOLVEMENT				CONDITIONS			NO. PERS		COLLISION TYPES							
Year	Fatal	Injury	PDO	Total	Single-Vehicle	Multi-Vehicle	Ped	Bike	Day-light	Dark	Wet	Killed	Injured	Rear End	Side-swipe	Hit Object	Broad-side	Over Turn	Head on	Auto Ped	Other
2008	0	0	3	3	2	1	0	0	3	0	0	0	0	1	0	2	0	0	0	0	0
2009	0	1	2	3	0	3	0	0	3	0	0	0	1	2	1	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	1	1	2	0	2	0	0	2	0	0	0	1	2	0	0	0	0	0	0	0
2012	0	0	1	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	7	9	2	7	0	0	9	0	0	0	2	6	1	2	0	0	0	0	0

TIR Log No: Page 1

I-5 CONNECTOR SEGMENT 2
07-LA-5-PM 18.607

Collision Diagram

TIR Log Number:

Drawing not to scale.

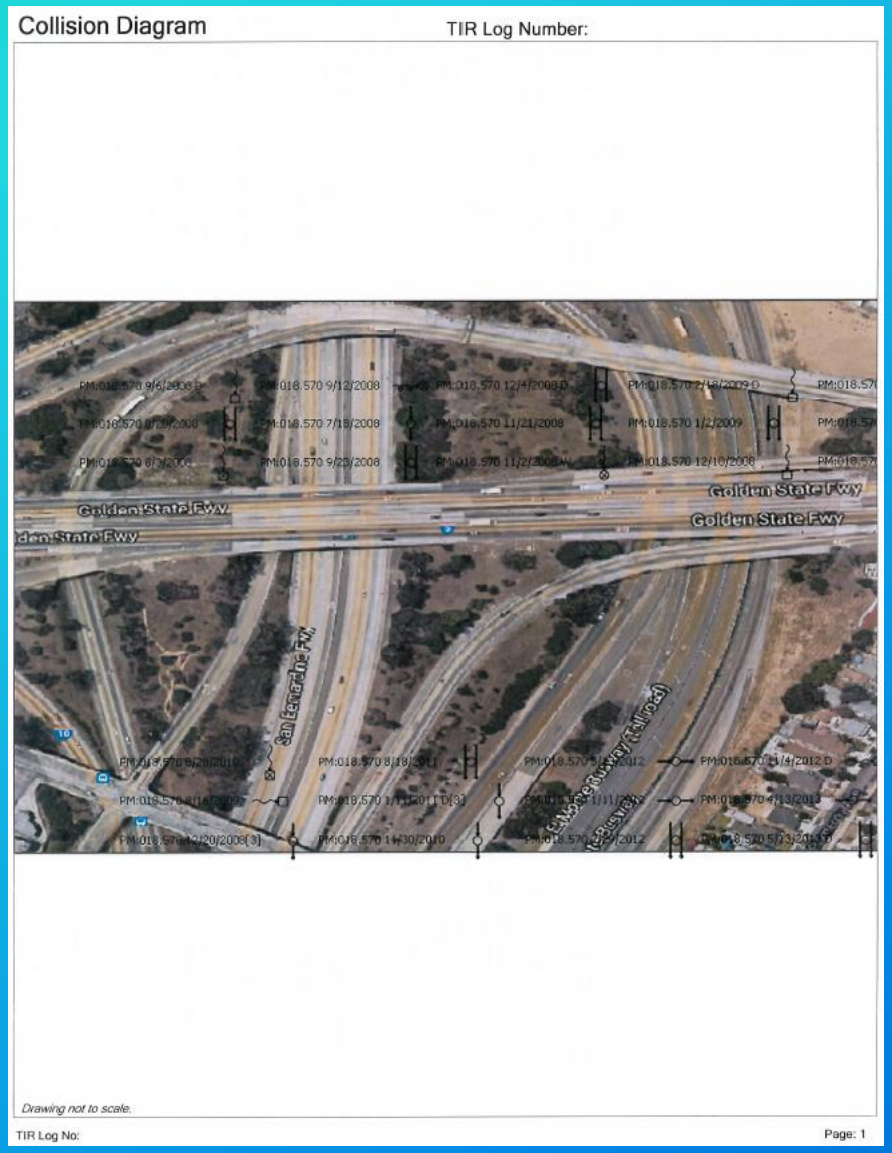
District-County-Route-Postmile Limits: 07-LA-005 018.607 - 018.607 Location: 005/SEG SB 5/MISS TO 10 ST Drawn by: t7klee Date: 8/6/2015

Dates under analysis: From 6/30/2008 To 7/1/2013 Number of Years: 5.01

	NUMBER OF COLLISIONS				INVOLVEMENT				CONDITIONS			NO. PERS		COLLISION TYPES							
Year	Fatal	Injury	PDO	Total	Single-Vehicle	Multi-Vehicle	Ped	Bike	Day-light	Dark	Wet	Killed	Injured	Rear End	Side-swipe	Hit Object	Broad-side	Over Turn	Head on	Auto Ped	Other
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	2	2	4	2	2	0	0	3	1	0	0	2	2	0	1	0	1	0	0	0
2010	0	1	2	3	2	1	0	0	1	2	0	0	1	0	1	2	0	0	0	0	0
2011	0	0	1	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
2012	0	3	0	3	2	1	0	0	1	2	0	0	3	1	0	0	0	2	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	6	5	11	6	5	0	0	6	5	0	0	6	4	1	3	0	3	0	0	0

TIR Log No: Page 1

I-5 CONNECTOR SEGMENT 3
07-LA-5-PM 18.570



Envision Rating System
Self-Assessment Checklist
For Public Comment Only - Not for Project Use

Project:

Sustainability Goal points minimally includes Green Assessment Questions on 5 Tabs (Quality of life, Leadership, Resource Allocation, Natural World, and Climate & Risk). One point is earned for each "Yes" Answer (50 points possible) and bonus points for additional question may be considered (93 additional points). Projects will be ranked for the Sustainability Goal based on these points.

			Caltrans G3 PM's		Y	N	NA		
1	QUALITY OF LIFE	PURPOSE	Livability	QL1.1 Improve community quality of life	2	1	0		2 of 3
2			Livability	QL1.2 Stimulate sustainable growth and development	3	0	0		3 of 3
3			Livability	QL1.3 Develop local skills and capabilities	3	0	0		3 of 3
4		COMMUNITY	Health & Safety	QL2.1 Enhance public health and safety	1	0	0		1 of 1
5			Noise Pollution	QL2.2 Minimize noise and vibration	1	0	0		1 of 1
6			Light Pollution	QL2.3 Minimize light pollution	1	0	0		1 of 1
7			Livability	QL2.4 Improve community mobility and access	3	0	0		3 of 3
8			Mode Shift	QL2.5 Encourage alternative modes of transportation	0	1	1		0 of 1
9			Accessibility	QL2.6 Improve site accessibility, safety and wayfinding	2	0	1		2 of 2
10		WELLBEING	Cultural Resources	QL3.1 Preserve historic and cultural resources	0	0	2		0 of 0
11			Livability	QL3.2 Preserve views and local character	2	0	0		2 of 2
12			Livability	QL3.3 Enhance public space	0	0	2		0 of 0
				TOTAL	**18**	**2**	**6**		18 of 20
13	LEADERSHIP	COLLABORATION	Community Partnership	LD1.1 Provide effective leadership and commitment	3	0	0		3 of 3
14			Community Partnership	LD1.2 Establish a sustainability management system	1	0	0		1 of 1
15			Community Partnership	LD1.3 Foster collaboration and teamwork	3	0	0		3 of 3
16			Community Partnership	LD1.4 Provide for stakeholder involvement	3	0	0		3 of 3
17		MANAGEMENT	Resource Consumption	LD2.1 Pursue by-product synergy opportunities	1	0	0		1 of 1
18			Community Integration	LD2.2 Improve infrastructure integration	3	0	0		3 of 3
19		PLANNING	Environmental	LD3.1 Plan for long-term monitoring and maintenance	0	1	1		0 of 1
20			Community Partnership	LD3.2 Address conflicting regulations and policies	2	0	0		2 of 2
21			Energy	LD3.3 Extend useful life	1	0	0		1 of 1
				TOTAL	**17**	**1**	**1**		17 of 18
22	RESOURCE ALLOCATION	MATERIALS	Resource Consumption	RA1.1 Reduce Net Embodied Energy	2	0	0		2 of 2
23			Resource Consumption	RA1.2 Support Sustainable Procurement Practices	2	0	1		2 of 2
24			Resource Consumption	RA1.3 Use Recycled Materials	2	0	0		2 of 2
25			Resource Consumption	RA1.4 Use Regional Materials	2	0	0		2 of 2
26			Resource Consumption	RA1.5 Divert Waste from Landfills	2	0	1		2 of 2
27			Resource Consumption	RA1.6 Reduce Excavated Materials Taken off Site	1	1	1		1 of 2
28			Resource Consumption	RA1.7 Provide for Deconstruction and Recycling	2	1	0		2 of 3
29		ENERGY	Energy	RA2.1 Reduce energy consumption	3	0	0		3 of 3
30			Energy	RA2.2 Use renewable energy	0	0	2		0 of 0
31			Energy	RA2.3 Commission and monitor energy systems	0	0	3		0 of 0
32		WATER	Water	RA3.1 Protect fresh water availability	2	1	4		2 of 3
33			Water	RA3.2 Reduce potable water consumption	0	0	4		0 of 0
34			Water	RA3.3 Monitor water systems	0	0	4		0 of 0
				TOTAL	**18**	**3**	**20**		18 of 21
35	NATURAL WORLD	SITING	Environmental	NW1.1 Preserve prime habitat	1	2	2		1 of 3
36			Environmental	NW1.2 Protect wetlands and surface water	0	2	1		0 of 2
37			Environmental	NW1.3 Preserve prime farmland	0	1	0		0 of 1
38			Environmental	NW1.4 Avoid adverse geology	0	0	3		0 of 0
39			Environmental	NW1.5 Preserve floodplain functions	0	1	5		0 of 1
40			Environmental	NW1.6 Avoid unsuitable development on steep slopes	2	0	0		2 of 2
41			Environmental	NW1.7 Preserve greenfields	0	0	2		0 of 0
42		LAND & WATER	Water Pollution	NW2.1 Manage stormwater	0	0	2		0 of 0
43			Pollution	NW2.2 Reduce pesticide and fertilizer impacts	3	1	1		3 of 4
44			Water Pollution	NW2.3 Prevent surface and groundwater contamination	4	0	-1		4 of 4
45		BIODIVERSITY	Environmental	NW3.1 Preserve species biodiversity	1	0	3		1 of 1
46			Environmental	NW3.2 Control invasive species	0	1	2		0 of 1
47			Environmental	NW3.3 Restore disturbed soils	2	0	0		2 of 2
48			Environmental	NW3.4 Maintain wetland and surface water functions	1	2	2		1 of 3
				TOTAL	**14**	**10**	**22**		14 of 24
49	CLIMATE	EMISSION	Air Pollution	CR1.1 Reduce greenhouse gas emissions	2	0	0		2 of 2
50			Air Pollution	CR1.2 Reduce air pollutant emissions	2	0	0		2 of 2
51			Resiliency-Climate Change	CR2.1 Assess climate threat	0	1	0		0 of 1
52			Resiliency-Climate Change	CR2.2 Avoid traps and vulnerabilities	2	0	0		2 of 2
53		RESILIENCE	Resiliency-Climate Change	CR2.3 Prepare for long-term adaptability	1	0	0		1 of 1
54			Resiliency-Climate Change	CR2.4 Prepare for short-term hazards	2	0	0		2 of 2
55			Resiliency-Climate Change	CR2.5 Manage heat islands effects	0	1	0		0 of 1
				TOTAL	**9**	**2**	**0**		9 of 11
				Grand Total	**76**	**18**	**49**		

NA	23%
No	8%
Yes	69%
NA	5%
No	5%
Yes	89%
NA	49%
No	7%
Yes	44%
NA	48%
No	22%
Yes	30%
NA	48%
No	22%
Yes	30%