

## Project Study Report (PSR)

To

**Request Programming in the 2018 STIP for Capital Support for:  
Project Approval and Environmental Document  
Plans, Specifications, and Estimates  
Construction Management**

And

**Request for Programming in the 2018 STIP for Right of Way and  
Construction Capital**

On Route Local Arterials Parallel to US 101 and I-280; SR82; SR1; SR35

Between I-380 (101 PM 20.36, I-280 PM 20.70)  
San Bruno Avenue (SR 82 – PM 18.58)  
Skyline Boulevard (SR 1 – PM 46.63)  
Hickey Boulevard (SR 35 – PM 27.90)  
I-280 (SR 35 – PM 22.76)

And San Francisco County Line (101 PM 26.11, 280 PM 27.42);  
John Daly Boulevard (SR 82 – PM 24.78)  
I-280 (SR 1 – PM 48.25)  
SR 1 (SR 35 – PM 28.76)  
John Daly Boulevard (SR 35 – PM 30.83)

APPROVAL RECOMMENDED BY:

  
\_\_\_\_\_  
NANDINI N. SHRIDHAR, CALTRANS PROJECT MANAGER

10/31/17  
\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
JEAN FINNEY, DEPUTY DISTRICT DIRECTOR  
DIVISION OF PLANNING AND LOCAL ASSISTANCE

10/31/17  
\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
SANDY WONG, EXECUTIVE DIRECTOR, C/CAG

10/31/17  
\_\_\_\_\_  
DATE

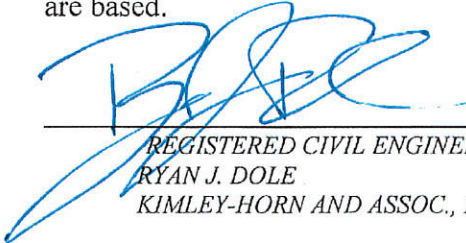
APPROVED:

  
\_\_\_\_\_  
BIJAN SARTIPI, DISTRICT DIRECTOR

10/31/2017  
\_\_\_\_\_  
DATE

for


This project study 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  
RYAN J. DOLE  
KIMLEY-HORN AND ASSOC., INC.

10/31/2017  
DATE

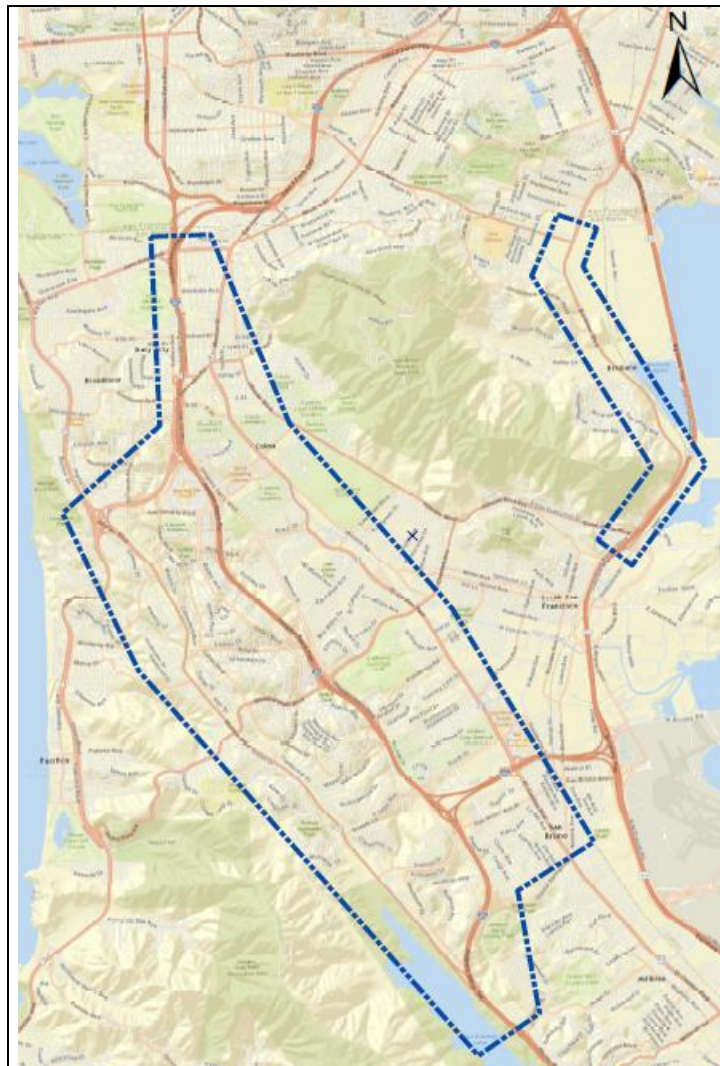


REVIEWED BY:

  
CELIA McCUAIG, OFFICE CHIEF  
OFFICE OF ADVANCED PLANNING

10/31/17  
DATE

## Vicinity Map



### Project Limits:

- Bayshore Boulevard from US 101 (SF County Line) to Oyster Point Boulevard
- Tunnel Avenue from Beatty Avenue to Bayshore Boulevard
- Beatty Avenue from US 101 to Tunnel Avenue
- Lagoon Road from US 101 to Tunnel Avenue
- Junipero Serra Boulevard from John Daly Boulevard to Avalon Drive
- SR 1 from I-280 to SR 35 (Skyline Boulevard)
- SR 35 (Skyline Boulevard) from John Daly Boulevard to I-280
- SR 82 (El Camino Real) from John Daly Boulevard to San Bruno Avenue
- Hickey Boulevard from SR 35 (Skyline Boulevard) to I-280
- Westborough Boulevard from SR 35 (Skyline Boulevard) to SR 82 (El Camino Real)

- Sneath Lane from SR 35 (Skyline Boulevard) to SR 82 (El Camino Real)
- Serramonte Boulevard from Junipero Serra Boulevard to SR 82 (El Camino Real) – communications connection to Public Works Building
- 90<sup>th</sup> Street from Junipero Serra Boulevard to Edgeworth Avenue – communications connection to Public Works Building
- Westlake Avenue from Junipero Serra Boulevard to the Daly City Corporation Yard – communications connection
- 111 Grand Avenue, Oakland, CA (Caltrans District 4)



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## 1. INTRODUCTION

This Project (ITS Improvements in San Mateo County Northern Cities – Daly City, Brisbane, and Colma) continues the implementation efforts of City/County Association of Governments of San Mateo County (C/CAG), California Department of Transportation (Caltrans District 4) and the partner agencies that originally was initiated with previous segments of the San Mateo County Smart Corridors project - expanding along the US 101 corridor to the San Francisco County line, and on Interstate 280 from Interstate 380 to the San Francisco County Line. The North County Expansion project will utilize the previous Smart Corridor Projects as a basis for design.

<b>Project Limits</b>	District 4 – San Mateo County – Arterials parallel to and intersecting US 101 (PM 20.36-26.11) and I-280 (20.70-27.42)	
<b>Number of Alternatives</b>	Two (One Build + No Build)	
<b>Programmable Project Alternative</b>	Alternative B – Build Alternative (Phase 1)	
	<b>Current Cost Estimate:</b>	<b>Escalated Cost Estimate:</b>
<b>Capital Outlay Support</b>	\$1,988,000 (Phase 1) \$4,207,000 (Phase 2&3)	\$2,296,000 (Phase 1) \$5,386,000 (Phase 2&3)
<b>Capital Outlay Construction</b>	\$6,954,000 (Phase 1) \$15,373,000 (Phase 2&3)	\$8,661,000 (Phase 1) \$19,677,000(Phase 2 &3)
<b>Capital Outlay Right-of-Way</b>	\$0	\$0
<b>Funding Source</b>	STIP and Local Funds	
<b>Funding Year</b>	2022/2023 (RTL)	
<b>Type of Facility</b>	Arterial Highway	
<b>Number of Structures</b>	0	
<b>Anticipated Environmental Determination or Document</b>	CEQA Categorical Exemption NEPA Categorical Exclusion	
<b>Legal Description</b>	San Mateo County Smart Corridor Project – North County Expansion	
<b>Project Development Category</b>	5	

The North County Expansion project will extend the San Mateo County Smart Corridor concept north to include the Alternate Routes located in the Cities of Daly City, Brisbane, South San Francisco, and San Bruno along the following major arterials: El Camino Real (SR 82 – PM 18.58-20.67), Highway 1 (PM 46.63-48.05), Skyline Boulevard (SR 35 – PM 27.90-28.76, 22.76-26.25), Bayshore

Boulevard, Tunnel Avenue, Airport Boulevard, Gateway Boulevard, Grand Avenue, Spruce Avenue, Westborough Boulevard, and Hickey Boulevard. The North County Expansion project will encompass the design of Intelligent Transportation System (ITS) infrastructure that will support the overall San Mateo County Smart Corridors program, and include the design of fiber optic cable in new and existing conduit, wireless communications, traffic signal controller upgrades and replacement, Closed Circuit Television (CCTV) cameras, system detection, Arterial Dynamic Message Signs (ADMS), and Trailblazer Signs along the project corridors. Preliminary device locations are illustrated in **Attachment A**.

## 2. BACKGROUND

C/CAG, in partnership with Caltrans District 4 and the cities in San Mateo County initiated an effort to develop a countywide traffic management system comprised of alternate routes Plans along several key arterial corridors that parallel state highway corridors. A Traffic Incident Management Committee (TIMC) was formed in 2006, which was comprised of representatives from local cities, California Department of Transportation (Caltrans), California Highway Patrol (CHP), Metropolitan Transportation Commission (MTC), San Mateo County Office of Emergency Services (OES), as well as C/CAG and San Mateo County Transportation Authority (SMCTA).

The TIMC facilitated the development of the Alternate Routes for Traffic Incident (ARTI) Guide (April 2008) to identify arterial streets that would best serve as alternative routes for moving traffic during incidents and minimizing the impacts of diverted traffic on the local street network across multijurisdictional boundaries. During normal operations, each local agency will control its respective signalized intersections and have access to the CCTV cameras. During a major freeway incident on US 101 or I-280, operators at the District 4 TMC will implement previously developed special-event signal timing plans and activate Trailblazer Signs (TBS) and Arterial Dynamic Message Signs (ADMS) along the appropriate ARTI route(s) and notify the local agencies that the management of the alternate route(s) is in effect. The ARTI Guide has subsequently been revised (June 2009) with the assistance of Caltrans staff.

The ARTI Guide identified Intelligent Transportation System (ITS) strategies along key arterial corridors to provide improved coordinated operation of the freeway and arterial systems in San Mateo County to provide improved operations during incidents and non-recurrent congestion.

In 2008, C/CAG was awarded Traffic Light Synchronization Program (TLSP) funds to implement Phase 1 of the Smart Corridors project. C/CAG and Caltrans District 4 commenced construction on the initial phases of the Smart Corridors program to deploy ITS system elements along alternate routes identified in the ARTI from the Santa Clara County line to I-380 interchange. Jurisdictions that were part of initial

Smart Corridor phases include: cities of South San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, Atherton, Menlo Park, and East Palo Alto, and San Mateo County. A Project Study Report (PSR) for those phases of the project was approved on March 28, 2008 and the Project Report was approved February 22, 2010. A Supplemental PSR for the adjacent South San Francisco segment was approved March 15, 2017. To specifically address project limits and scope not included in the original Phase 1 of the Smart Corridors, this North County Expansion PSR has been prepared.

The Smart Corridor Program enables stakeholders to implement traffic management strategies through the deployment of ITS elements along state arterial routes and major local streets. These routes will have tools to manage recurring and non-recurring traffic congestion and improve mobility during normal operating conditions, major freeway incidents, and special events. The development and successful implementation of this project will help to fulfill the long-term direction of ITS deployment in the region as exemplified by the expansion of the Smart Corridor into north San Mateo County.

The impact mitigation of non-recurring traffic congestion on local streets within San Mateo County during major freeway incidents was identified as a high-priority project in the Smart Corridor Program. This project includes the installation of CCTV cameras, trailblazer signs, ADMS, and traffic signal modifications throughout the corridor to monitor and manage traffic flow on local streets.

### **3. PURPOSE AND NEED**

#### **PURPOSE**

Prior to the Smart Corridors project, San Mateo County had limited deployment of ITS tools to proactively manage traffic congestion—ITS deployment was limited to freeway Traffic Operations System (TOS) elements along US 101 and SR 92. The purpose of this project is to expand the San Mateo County Smart Corridor from its current northern terminus of I-380 further north to the San Francisco County line, encompassing arterials along US 101 and I-280. The objectives of the Smart Corridors expansion are as follows:

- Enable Daly City, Brisbane, South San Francisco, and San Bruno to proactively manage traffic on local streets that has diverted off the freeway due to a major freeway incident;
- Enable Daly City, Brisbane, South San Francisco, and San Bruno to proactively manage traffic on local streets during normal operating conditions;
- Minimize the delay that traffic experiences on local streets during major freeway incidents;
- Provide traffic managers and operators with tools to proactively manage diverted traffic due to an incident;

- Enhance the communications and coordination between city public safety and public works, other Smart Corridor cities, Caltrans, and CHP to create a regional approach to managing incident traffic; and
- Enable the cities and Caltrans to share information and control strategies with other Smart Corridor cities to enhance traffic management both during an incident and under normal operating conditions.

Through installation of ITS equipment along the alternate routes, stakeholders will have tools and strategies to do the following:

- Change route guidance signs to guide incident traffic along a specific alternate route to avoid situations where drivers seek unknown routes;
- Increase green time along an alternate route during an incident to reduce arterial travel time;
- Monitor traffic on local streets;
- Share data and video between agencies to create a regional partnership to manage traffic; and
- Coordinate operations between Caltrans and the cities and during major incidents.

By clearly designating routes that traffic can follow to bypass a freeway incident, and providing cities and Caltrans the tools to proactively manage the traffic on the local streets, there is an opportunity to improve traffic operations on the network during major incidents on freeway as well as non-incident situations.

#### **NEED**

US 101 and I-280 are part of the National Highway System, classified as strategic highway network routes to provide defense access, continuity, and emergency capability for transporting personnel, materials, and equipment during both peace and war times.

US 101 and I-280 create significant traffic impacts on local streets during major traffic incidents on the freeway. When a major incident occurs, significant traffic typically exits the freeway in search of a route to bypass the incident. There are currently no clearly designated routes that traffic can follow today to bypass a freeway incident, so traffic filters through the local network seeking a viable route around the incident. The cities to date have no tools on the local streets to proactively manage incident traffic that has exited the freeway, and with existing infrastructure is no opportunity to improve the poor level of service on the local network during major incidents.

Smart Corridor is currently implemented throughout the county south of I-380 to the Santa Clara County line, and expansion of the Smart Corridor in the cities of Daly City, Brisbane, South San Francisco, and San Bruno is needed to integrate



these municipalities with the rest of the Smart Corridor cities and enable the Smart Corridor deployment to extend to the San Francisco County line.

#### **4. DEFICIENCIES**

The Smart Corridor project, from its outset, was created to address unstable traffic flow throughout the corridor, both recurring and non-recurring traffic congestion due to major incidents along the freeways. With the population forecasted to grow throughout the Bay Area, congestion and the associated rate of incidents along the corridor are expected to rise. Prior to the Smart Corridor, there was a lack of adequate incident management tools to address issues in the corridor. This project extends the successful Smart Corridor through sections of North County, bringing operational improvements to the US 101 and I-280 corridors.

A Traffic Operations Analysis Report (TOAR) will be prepared as part of the Project Approval/Environmental Document (PA/ED) phase of the project and will integrate performance data from the existing Smart Corridor deployment along the SR 82, US 101 and I-380 corridors.

#### **EXISTING CONDITIONS**

Caltrans Performance Measurement System (PeMS) traffic volume and speed data was collected during the months of May through July 2017 on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays to show the operational conditions of the I-280 and US 101 corridors in the project area.

**Table 1: I-280 Northbound AM and PM Peak Hours and Average Daily Traffic**

PeMS ID	CA PM	Station	AM Peak Hour	PM Peak Hour	Daily
400276	21.19	Sneath Ln rm-n-diag/loop	3,201	3,781	43,005
403062	21.21	WB 380	2,197	3,774	56,257
401213	21.95	Avalon Dr off-n-diag	5,091	6,370	87,704
401016	22.58	Westborough Blvd. rm-n-loop	5,275	6,896	91,246
400028	22.96	Westborough Blvd	5,708	6,953	94,698
403327	23.88	oppo Hickey blvd off-n-diag	5,589	6,877	91,776
400703	24.13	Hickey Blvd. rm-n-loop	5,556	6,806	90,782
400338	24.75	Serramonte Blvd rm-n-diag	6,004	7,049	101,017

**Table 2: I-280 Southbound AM and PM Peak Hours and Average Daily Traffic**

PeMS ID	CA PM	Station	AM Peak Hour	PM Peak Hour	Daily
403904	21.96	Avalon Dr rm-s-diag	6,893	6,076	98,548
403906	22.58	Westborough Blvd rm-s-diag	5,892	5,535	87,000
403328	23.88	oppo Hickey blvd off-n-diag	6,859	6,945	103,375
403908	24.11	Hickey Blvd rm-s-diag	5,883	5,985	88,615
403910	25.1	NB 1 rm-s-diag	5,537	5,801	87,101
401512	R25.26	Sullivan Ave rm-s-diag	5,928	6,242	89,630
403902	27.01	John Daly Blvd rm-s-diag	3,179	4,775	58,117

**Table 3: US 101 Northbound AM and PM Peak Hours and Average Daily Traffic**

PeMS ID	CA PM	Station	AM Peak Hour	PM Peak Hour	Daily
408093	22.56	Oyster Point Blvd rm-s-fly	6,016	5,832	102,293
402390	22.7	4A5324 LOC 86	5,284	5,726	95,032
401448	22.92	Oyster Point Blvd rm-n	6,411	6,694	114,080
402391	23.1	4A5324 loc 87	5,960	6,401	107,790
400497	23.53	Sierra Pt Prkwy off-n-diag	6,388	6,880	122,630
405841	23.88	S Sierra Point Prkwy rm-n-diag	6,270	7,071	114,165
404520	24.77	S of Sierra Point Pkwy/Lagoon	6,376	7,247	115,427
400183	24.81	2400' N of Sierra Point Prkwy	6,343	7,259	115,298
401469	24.9	Sierra Point Parkway rm-s-diag	6,268	7,154	112,432
401472	25.55	Sierra Pt Parkway & Lagoon Wy	6,327	7,237	114,785
405838	25.78	Harney Way rm-n-loop	6,087	6,744	110,875
400260	25.98	oppo Harney Way rm-s-diag	6,283	6,862	112,075

**Table 4: US 101 Southbound AM and PM Peak Hours and Average Daily Traffic**

PeMS ID	CA PM	Station	AM Peak Hour	PM Peak Hour	Daily
408101	22.58	Oyster Point Blvd rm-s-fly	6,171	5,910	107,046
401451	22.93	Oyster Point Blvd rm-n-diag	6,210	5,849	108,321
408098	22.96	Bayshore Blvd rm-s-diag/hook	5,624	5,167	96,240
402392	23.1	4A5324 loc 87	5,200	4,886	91,725
400781	23.48	oppo Sierra Pt Prkwy	6,263	5,731	109,363
405900	23.86	S Sierra Point Prkwy rm-n-diag	6,944	6,406	116,107
404575	24.77	S of Sierra Point Pkwy/Lagoon	7,259	6,699	117,387
400744	24.81	2400' N of Sierra Point Prkwy	7,248	6,687	116,795
401462	24.88	Sierra Point Pkwy rm-s-hook	7,057	6,322	113,402
401501	25.55	Sierra Pt Parkway & Lagoon Wy	7,228	6,541	117,894
405870	25.77	oppo Harney Way rm-n-loop	7,366	6,568	117,671
400641	25.97	Harney Way rm-s-diag	6,882	6,287	111,053

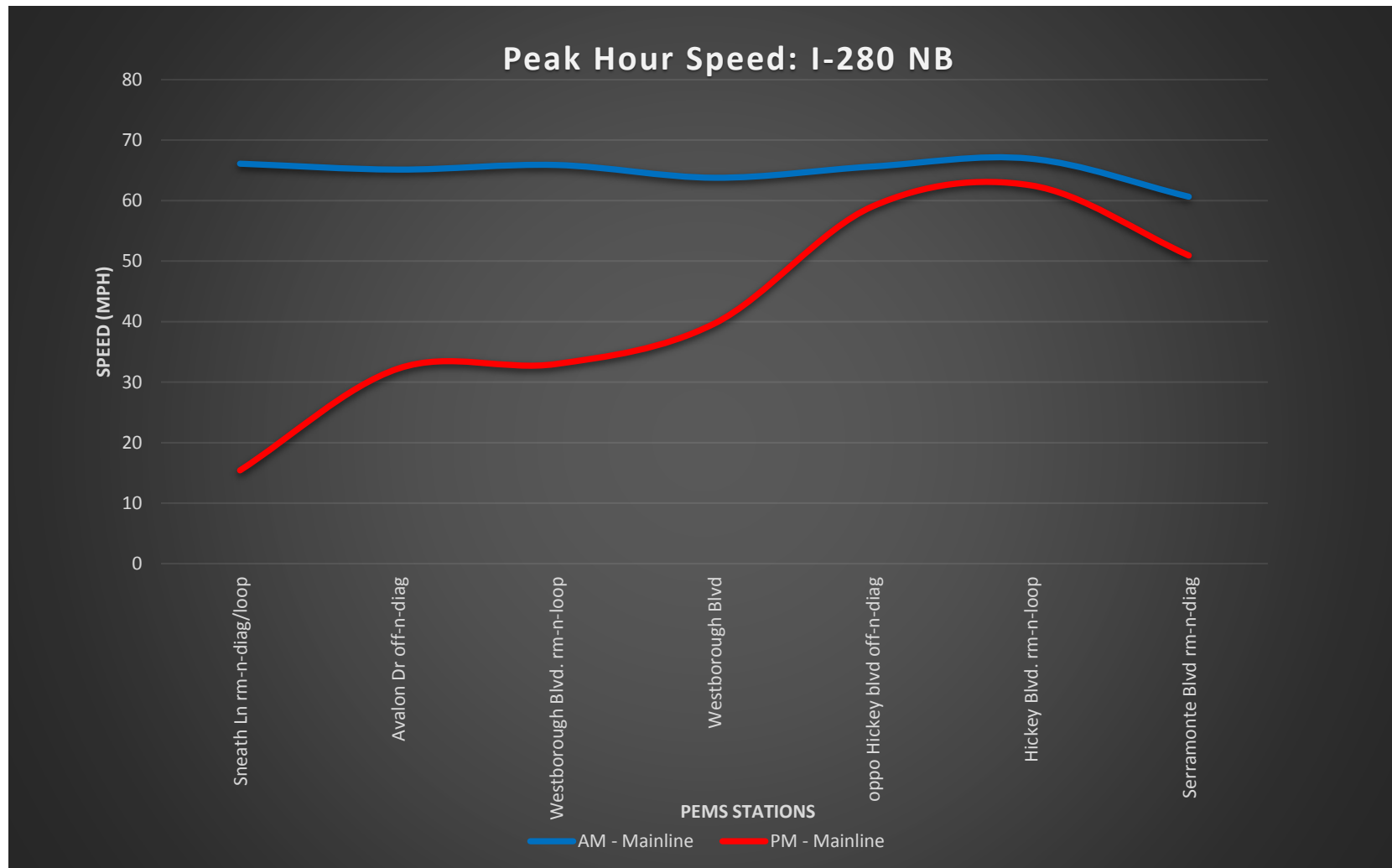
As shown in **Tables 1-4**, the average daily traffic peaks at about 101,000-103,000 vehicles per day per direction on I-280 between Hickey Boulevard and Serramonte Boulevard; and between 115,000 and 118,000 vehicles per day per direction on US 101 near Sierra Point Parkway.

**Tables 5-8** and **Figures 1-4** show peak hour slowing on I-280 in the northbound direction from Sneath Lane to Hickey Boulevard during the PM peak hour, and from Sullivan to Hickey Boulevard in the southbound direction during the AM peak hour. I-280 is at or near free flow conditions in the opposite directions during those times. On US 101, both directions experience peak hour slowing during the AM and PM peak hours throughout the entire corridor.

**Table 5: I-280 Northbound Hourly Average Speed**

CA PM	Station	Hour of the day																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
21.19	Sneath Ln rm-n- diag/loop	67	66	66	65	66	67	68	67	66	66	66	67	67	67	66	59	31	15	18	53	68	67	67	67
21.95	Avalon Dr off-n-diag	67	67	67	66	66	67	68	66	65	65	65	66	65	66	64	57	41	32	33	55	67	66	67	67
22.58	Westborough Blvd. rm-n- loop	67	67	67	67	67	68	69	67	66	65	65	66	66	66	64	56	41	33	34	55	68	67	68	68
22.96	Westborough Blvd	66	65	65	64	65	66	67	65	64	63	63	63	63	63	61	55	45	40	40	56	66	66	67	66
23.88	oppo Hickey blvd off-n- diag	68	68	67	67	68	68	69	67	66	66	66	66	66	66	64	63	61	59	59	64	68	68	68	68
24.13	Hickey Blvd. rm-n-loop	68	68	67	67	68	68	69	68	67	67	67	67	67	67	66	65	64	63	63	66	68	68	68	68
24.75	Serramonte Blvd rm-n- diag	67	67	67	67	67	67	63	60	61	63	63	64	63	63	59	56	54	51	54	61	64	65	67	67

**Figure 1: I-280 Northbound Hourly Average Speed**

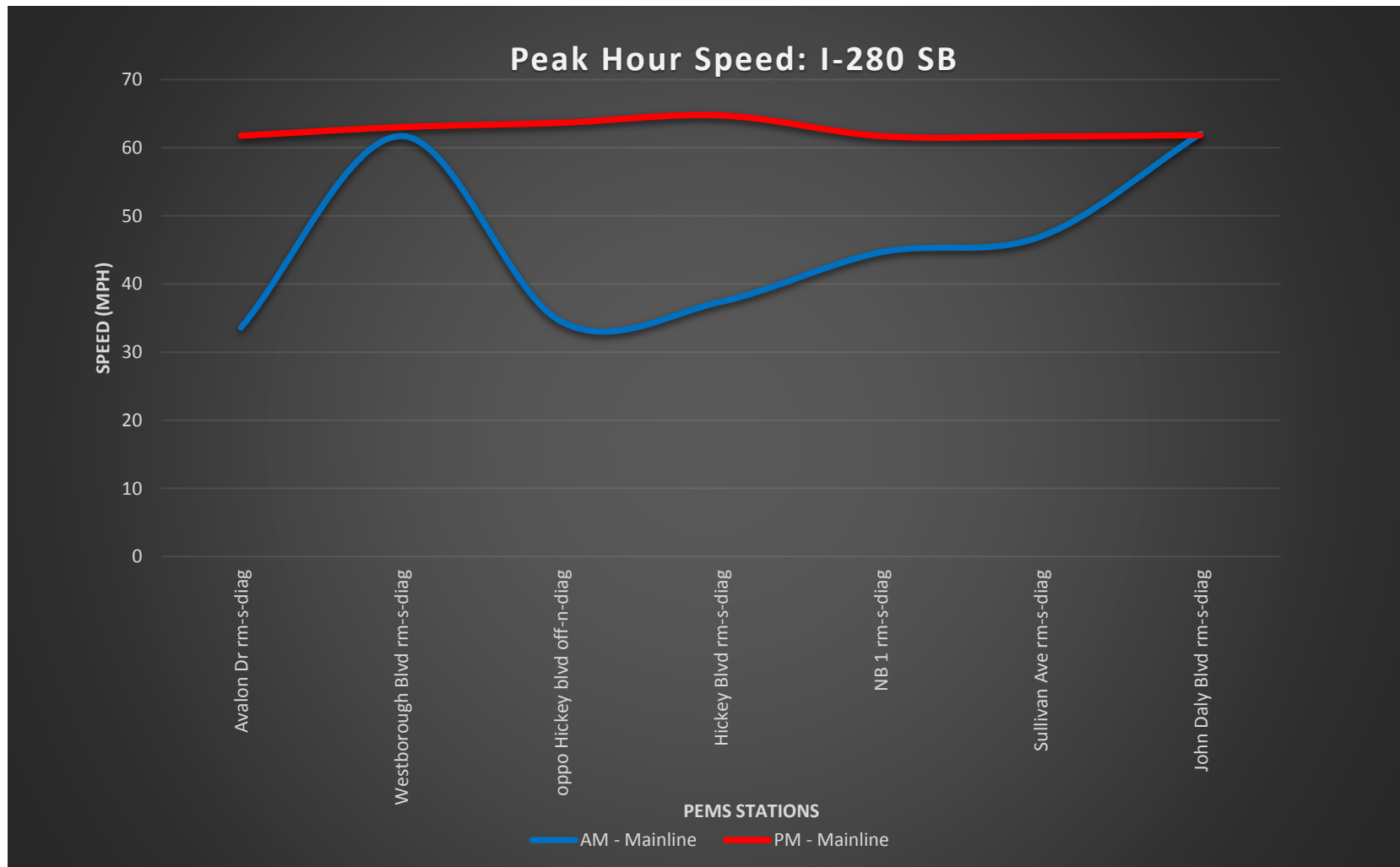




**Table 6: I-280 Southbound Hourly Average Speed**

CA PM	Station	Hour of the day																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
21.96	Avalon Dr rm-s-diag	66	66	66	66	66	67	56	37	34	44	60	62	62	62	61	61	62	62	62	64	65	66	67	67
22.58	Westborough Blvd rm-s-diag	59	62	61	60	61	61	61	63	62	60	62	60	60	61	62	62	66	63	59	63	60	61	63	63
23.88	oppo Hickey blvd off-n-diag	67	67	66	67	67	69	66	44	35	47	63	63	63	63	63	63	63	64	64	66	66	67	68	67
24.11	Hickey Blvd rm-s-diag	68	67	67	67	68	69	67	47	37	50	64	64	65	64	64	64	64	65	65	66	67	67	68	68
25.1	NB 1 rm-s-diag	64	63	63	63	65	67	65	52	45	54	62	62	62	62	61	62	62	62	62	63	64	65	66	65
R25.26	Sullivan Ave rm-s-diag	67	67	67	68	68	69	67	54	47	56	62	62	62	62	61	62	62	62	62	65	67	67	68	68
27.01	John Daly Blvd rm-s-diag	67	67	67	67	67	67	68	65	62	62	64	64	64	63	62	62	62	62	63	66	67	67	67	67

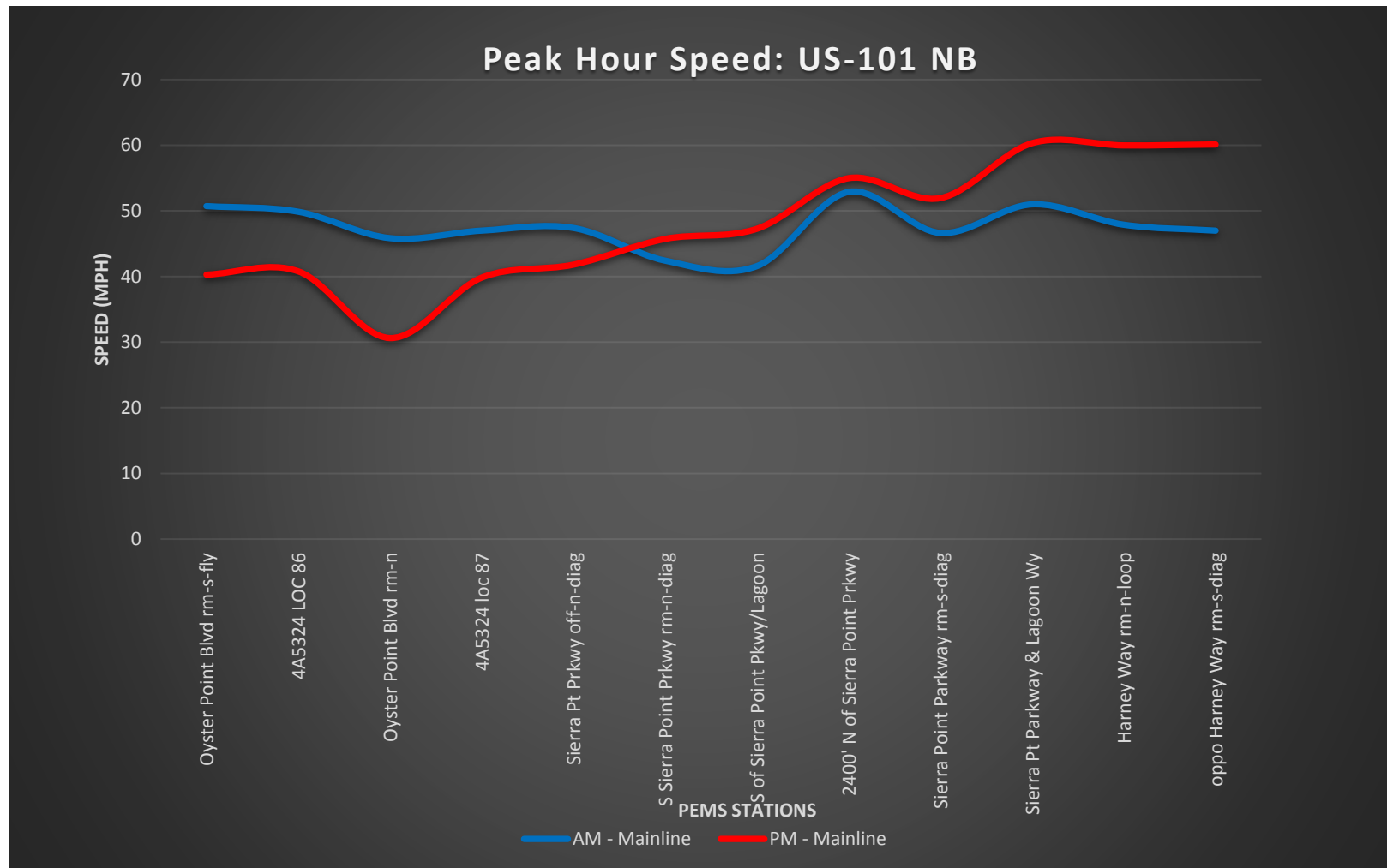
**Figure 2: I-280 Southbound Hourly Average Speed**



**Table 7: US 101 Northbound Hourly Average Speed**

CA PM	Station	Hour of the day																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22.56	Oyster Point Blvd rm-s-fly	66	65	65	65	65	66	61	52	51	59	60	60	60	62	62	62	56	40	44	59	64	65	65	65
22.7	4A5324 LOC 86	64	64	64	64	64	64	59	51	50	57	58	59	59	61	60	62	54	41	44	57	64	64	64	64
22.92	Oyster Point Blvd rm-n	68	67	67	67	68	69	63	48	46	60	61	61	61	64	62	64	51	31	36	56	67	68	68	67
23.1	4A5324 loc 87	66	65	65	64	65	67	60	50	47	58	59	60	59	62	61	63	54	40	43	58	66	66	67	66
23.53	Sierra Pt Prkwy off-n-diag	68	68	67	67	67	69	63	52	47	60	61	59	59	61	60	62	54	42	45	60	66	68	69	68
23.88	S Sierra Point Prkwy rm-n-diag	69	68	68	68	69	70	64	50	42	59	61	60	60	63	61	64	57	46	45	59	67	69	69	68
24.77	S of Sierra Point Pkwy/Lagoon	68	68	68	68	68	69	63	48	42	57	61	60	60	62	62	64	58	47	46	58	67	68	68	67
24.81	2400' N of Sierra Point Prkwy	69	69	68	68	69	70	68	58	53	64	66	65	65	66	66	66	62	55	54	62	68	69	69	68
24.9	Sierra Point Parkway rm-s-diag	68	68	68	67	68	69	64	53	47	58	62	61	62	63	63	63	59	52	51	61	67	68	69	67
25.55	Sierra Pt Parkway & Lagoon Wy	71	71	71	71	72	73	67	60	51	60	63	64	65	66	66	67	65	60	60	66	70	71	72	70
25.78	Harney Way rm-n-loop	67	67	66	66	67	68	64	57	48	57	62	63	63	63	64	65	63	60	60	64	66	67	68	66
25.98	oppo Harney Way rm-s-diag	67	66	66	65	67	68	63	56	47	55	60	62	62	62	63	65	63	60	60	64	67	67	67	65

**Figure 3: US 101 Northbound Hourly Average Speed**

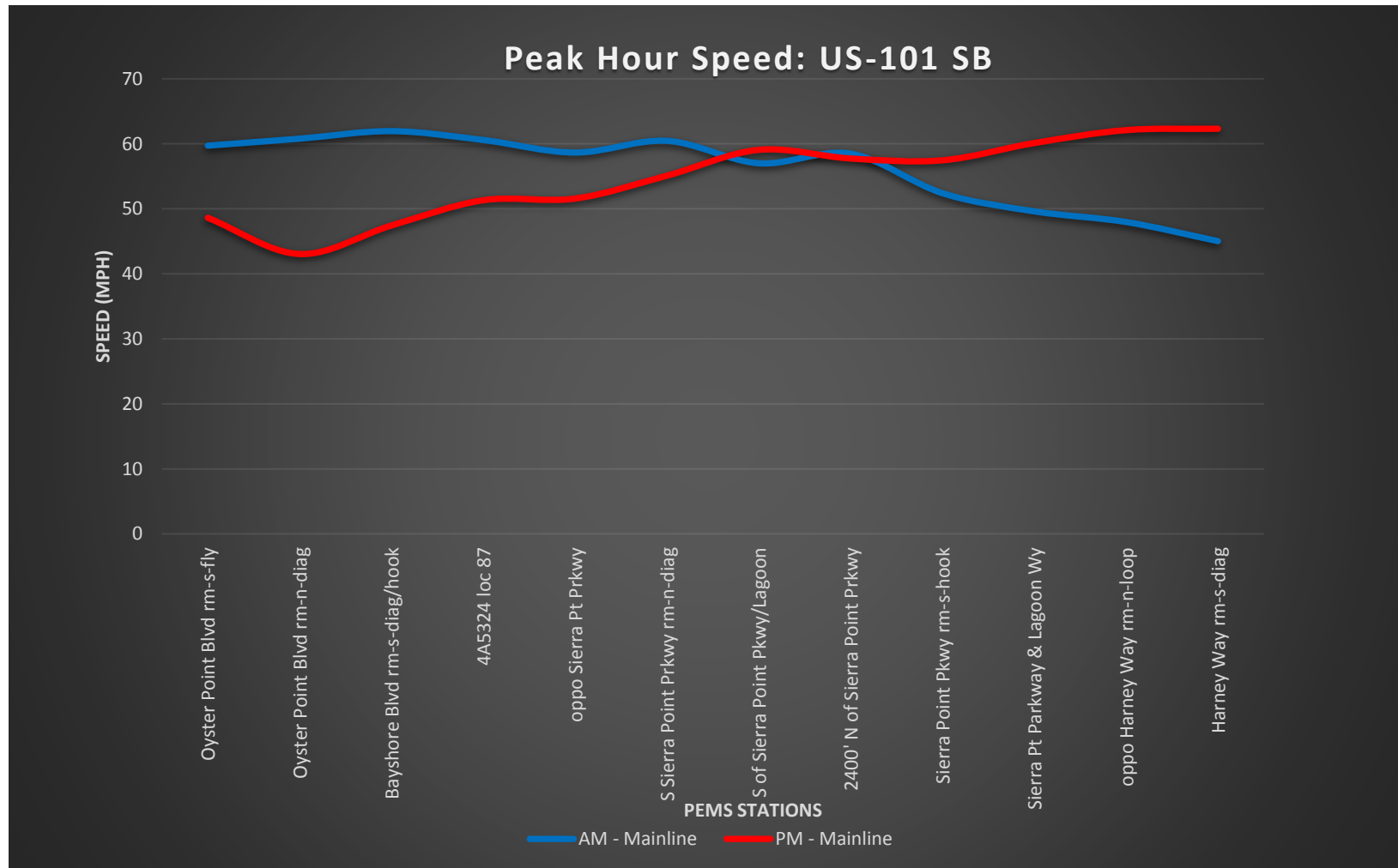


**Table 8: US 101 Southbound Hourly Average Speed**

CA PM	Station	Hour of the day																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22.58	Oyster Point Blvd rm-s-fly	65	65	64	64	65	65	64	61	60	59	58	59	59	59	58	57	56	49	52	61	62	64	65	65
22.93	Oyster Point Blvd rm-n-diag	66	65	65	65	66	67	65	62	61	60	59	60	60	60	60	59	59	43	47	62	63	66	66	66
22.96	Bayshore Blvd rm-s-diag/hook	67	67	66	66	66	67	66	64	62	61	60	61	61	62	61	61	61	47	50	63	65	66	66	66
23.1	4A5324 loc 87	65	65	64	64	64	65	64	62	61	59	58	59	59	59	60	60	61	51	54	63	64	65	65	65
23.48	oppo Sierra Pt Prkwy	65	65	66	66	66	67	61	60	59	58	57	59	59	59	59	60	60	52	55	61	61	65	66	66
23.86	S Sierra Point Prkwy rm-n-diag	66	66	65	65	67	68	66	62	60	60	59	60	61	61	61	61	62	55	57	65	65	67	67	66
24.77	S of Sierra Point Pkwy/Lagoon	67	67	67	67	69	69	65	59	57	58	59	61	62	62	60	61	62	59	60	65	65	67	68	66
24.81	2400' N of Sierra Point Prkwy	68	68	68	67	68	69	65	61	58	58	58	59	60	60	60	60	62	58	59	65	66	67	68	66
24.88	Sierra Point Pkwy rm-s-hook	67	67	67	67	68	69	64	55	52	54	56	59	60	60	58	58	60	57	58	65	66	67	67	66
25.55	Sierra Pt Parkway & Lagoon Wy	63	62	61	61	65	67	61	52	50	53	58	60	62	62	59	59	62	60	59	66	66	65	63	62
25.77	oppo Harney Way rm-n-loop	68	67	67	67	68	69	63	52	48	50	57	61	62	61	59	59	62	62	61	65	66	68	67	66
25.97	Harney Way rm-s-diag	68	68	67	67	69	69	62	49	45	46	56	61	62	61	59	58	61	62	61	65	66	68	68	66



**Figure 4: US 101 Southbound Hourly Average Speed**



## CONGESTION

According to the 2015 San Mateo County Congestion Management Program (CMP) the section of US 101 from the San Francisco County line to I-380 has a level of service lower than the established standard in the AM peak period northbound and southbound and in the PM peak period northbound. The CMP also demonstrates an increase in travel time for all types of vehicles from one end of San Mateo County to the other from 2009 to 2015 in both directions in both peak commuting periods along US 101.

The US 101 South Corridor System Management Plan (CSMP) identified 2015 baseline recurrent congestion in the southbound direction on US 101 throughout the City of South San Francisco with a system bottleneck identified just north of I-380/San Francisco International Airport. The 2030 Baseline conditions identified recurrent congestion in both directions of US 101 with one northbound and three southbound bottlenecks within the City of South San Francisco.

Congestion in the north section of US 101 is forecasted to increase in congestion and decrease in operations over time. The CSMP forecasts vehicle miles traveled (VMT) from 2009 to 2030 in the section of US 101 between the San Francisco County line and I-380 will grow by 115% in the AM peak and 103% in the PM peak. This forecast is a much higher rate of growth as compared to the other sections of US 101 in San Mateo County. By way of example, the section of US 101 between I-380 and SR 92 is forecasted to grow by only 3% in the AM peak and only 6% in the PM peak. The section of US 101 between the San Francisco County line and I-380 is forecasted to grow by 42% in the AM peak and 39% in the PM peak. This is presented in the **Table 9** below.

**Table 9: Summary of Freeway Vehicle Miles Traveled by Segment on US 101**

Period	Freeway	Stretch	2009	2030	Growth
AM	US 101	SM/SF to I-380	252,630	544,399	115%
AM	US 101	I-380 to SR 92	462,153	477,175	3%
AM	US 101	SR 92 to SM/SC	793,917	1,126,081	42%
Subtotal			1,508,701	2,147,655	42%
PM	US 101	SM/SF to I-380	366,927	743,314	103%
PM	US 101	I-380 to SR 92	621,548	657,308	6%
PM	US 101	SR 92 to SM/SC	1,005,248	1,398,965	39%
Subtotal			1,993,723	2,799,588	40%
<b>Total</b>			<b>3,502,424</b>	<b>4,947,243</b>	<b>41%</b>

Source: San Mateo US 101 Freeway Corridor Technical Analysis–Exhibit 65.

## INTERSECTION OPERATIONS

Per various city standards, the lowest acceptable level of service (LOS) for signalized and all-way-stop intersections is LOS D, with the lowest acceptable LOS on Bayshore Boulevard (Brisbane) being LOS C. The lowest acceptable LOS for two-way unsignalized intersections is LOS E. **Table 10** shows existing and 2030 LOS at critical intersections within the study area.

**Table 10: Intersection Level of Service**

Intersection	Existing		Year 2030	
	AM Peak	PM Peak	AM Peak	PM Peak
El Camino Real/Sneath Lane	A	B	C	C
El Camino Real/WB I-380 Ramps	A	A	B	C
SB I-280 Ramps/Sneath Lane	A	A	C	D
Hickey Blvd/Skyline Blvd	E	E	E	E
John Daly Blvd/Junipero Serra Blvd	-	E	-	F

Further analysis of intersection level of service across the corridor will be assessed during the PA/ED phase.

### COLLISIONS

Collision data collected through CHP SWITRS program was tabulated along I-280, US 101, and the project arterials in the study area from January 1, 2013 through December 31, 2015. Overall 658 collisions occurred on the section of I-280 and its ramps while 262 collisions occurred on project arterials. The collisions are tabulated by collision severity in **Table 11**.

**Table 11: I-280 Collision Severity (2013 to 2015)**

Segment	Collision Severity			
	Property Damage	Injury	Fatality	Total
I-280 Northbound	226	112	2	340
I-280 Southbound	191	124	3	318
Arterials	147	115	0	262
<b>Total</b>	564	351	5	920

## 6. CORRIDOR AND SYSTEM COORDINATION

US 101 and I-280 are critical interstate facilities for regional and interregional transportation in the San Francisco Bay Area that are vital for commuting, freight, and recreational traffic. US 101 is one of the most congested freeway facilities in the region. US 101 and I-280 serve as freeway connections between San Francisco and San Jose. The work planned in this extension of the San Mateo County Smart Corridor will help address current needs and purposes already identified in other State, Regional, and Local planning documents.

The Metropolitan Transportation Commission (MTC) functions as both the regional transportation planning agency—a state designation—and, for federal purposes, as the region’s metropolitan planning organization (MPO). As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, and active

transportation facilities. MTC also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. MTC also has played a major role in building regional consensus among the region's transit systems. State and federal laws have also given MTC an important role in financing Bay Area transportation improvements. The MTC's 2013 Regional Transportation Plan (Plan Bay Area 2040) lists programmed and planned projects on US 101 and I-280 corridors within a 25-year planning horizon. Programmed and/or recently completed projects within the project area include:

- RTP Project ID # 21604 – Construct auxiliary lanes (one in each direction) on US 101 from Sierra Point to San Francisco County line (\$7 million)
- RTP Project ID # 21609 – Improve local access from Sneath Lane and San Bruno Avenue to I-280/I-380 interchange – study only (\$2 million)
- RTP Project ID # 21610 – Construct auxiliary lanes (one in each direction) on US 101 from San Bruno Avenue to Grand Avenue (\$60 million)
- RTP Project ID # 21615 – Reconstruct I-280/SR 1 interchange, including ramps (\$70 million)
- RTP Project ID # 22229 – Reconstruct U.S. 101/Sierra Point Parkway interchange (includes extension of Lagoon Way to US 101) (\$31 million)
- RTP Project ID # 22230 – Construct auxiliary lanes (one in each direction) on I-280 from I-380 to Hickey Boulevard (\$88 million)
- RTP Project ID # 22271 – Widen Skyline Boulevard (Route 35) from 2 to 4 lanes between I-280 and Sneath Lane (\$6.5 million)
- RTP Project ID # 22274 - Install an Intelligent Transportation System (ITS) and a Traffic Operation System countywide (\$74 million)

Measure A was passed by San Mateo County voters in 1988 to improve transit and relieve traffic congestion. Voters reauthorized Measure A in 2004, extending the measure until 2033. In 2008, the San Mateo board of directors adopted a Strategic Plan to guide the evaluation of projects that apply for funding. The plan, which was developed after a series of community meetings held throughout the county, provides a policy framework to guide programming and allocation decisions. Measure A continues to fund several projects in the US 101 and I-280 corridors including US 101 Auxiliary lanes from Oyster Point to the San Francisco County Line.

Measure M, a San Mateo County Vehicle Registration Fee, was approved on the November 2, 2010, ballot for voters in San Mateo County as a \$10 fee on registering a new vehicle in the county and is in effect from April 2011 until 2036 (25 years). Its purpose is to fund transportation options, improve traffic circulation and improve county infrastructure. The updated 2014-2019 Strategic Plan for the San Mateo County Transportation Authority describes that Measure M Vehicle Registration fees are purposefully used in part to fund ITS/Smart Corridors.

The US 101 South Corridor System Management Plan (CSMP), a transportation planning document that studies the facility based on comprehensive performance assessments and evaluations, lists phased strategies that include both operational and more traditional long-range capital expansion projects. The US 101 South CSMP states:

*“ITS improvements have been the subject of several extensive studies for the 101 corridor and many of those recommendations are currently being implemented. It is recommended to continue the implementation of Caltrans District 4 ITS deployment approach.”*

Furthermore, the Smart Corridor was a recommended strategy by the US 101 South CSMP Working Group, “...supporting the Smart Corridor implementation...” and “...completion of the ITS infrastructure should be given a top position for funding improvements for the US 101 freeway corridor.”

This project is consistent with the concepts described in the San Mateo Smart Corridor System Concept of Operations (ConOps) Document #21000.007 dated August 2, 2013. The ConOps document provides the foundation for development and expansion of the San Mateo Smart Corridor System. It details what the project is expected to achieve, what systems will be used, and under what conditions the systems will operate.

## **7. ALTERNATIVES**

This proposed project considers two alternatives, a no-build option and a build option.

### **ALTERNATIVE A – NO-BUILD ALTERNATIVE**

This alternative will not address the current deficiencies in congestion and safety which are expected to be exacerbated in the future. The No-Build is not consistent with the regional ITS architecture, the Concept of Operations, or the Systems Engineering Management Plans of the San Mateo County Smart Corridor. The No-Build alternative does not meet the project’s purpose and need.

### **ALTERNATIVE B – BUILD ALTERNATIVE**

This alternative involves an expansion of the prior phases of the San Mateo County Smart Corridors and applying the system architecture along the US 101 and I-280 corridors in the North County area.

The project will be built in three phases, with Phase 2 and Phase 3 to be developed separately as funds become available. Phase 1 includes proposed improvements along US-101 in Brisbane and South San Francisco, as well as elements along the I-280 corridor in the City of Daly City, north of D Street. Phase 2 will be composed of proposed Smart Corridor improvements along the I-280 corridor south of D Street to the southern project limits, located within the cities of Colma, South San

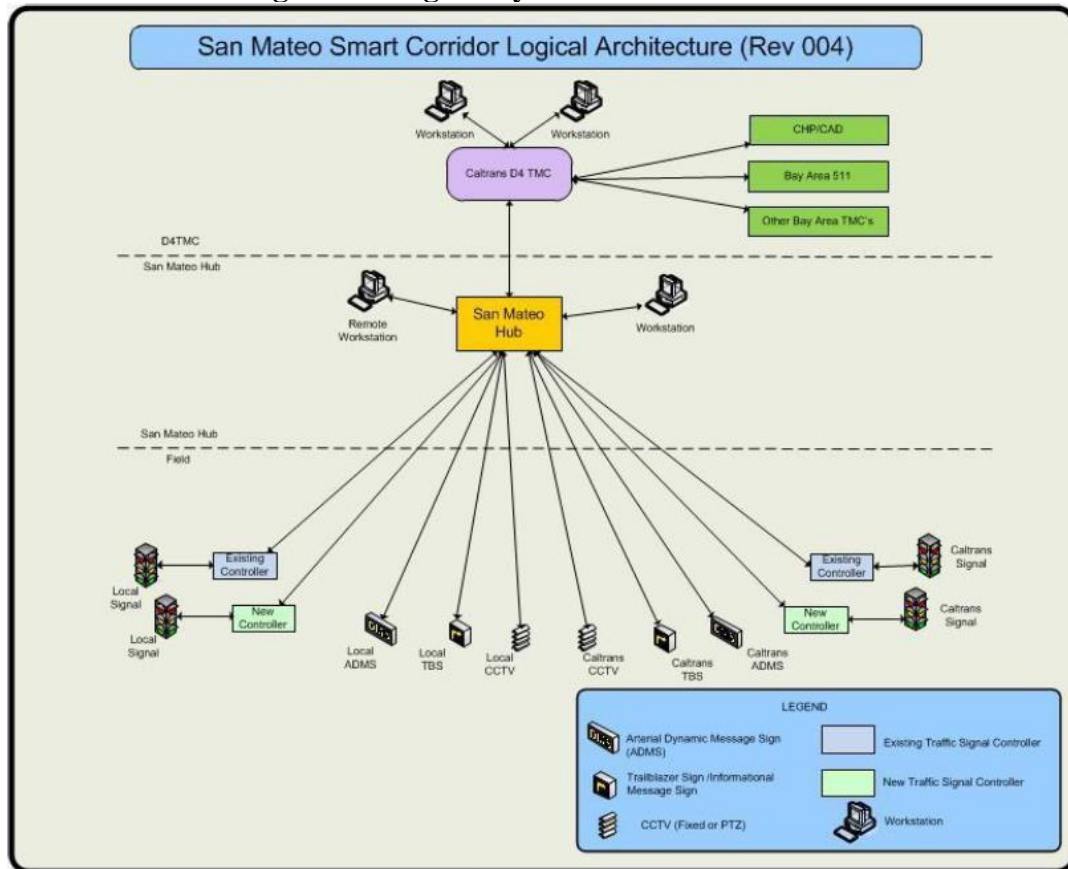


Francisco and San Bruno. Phase 3 will consist of interconnect and traffic signal controller upgrades along State Route 82 (El Camino Real/Mission) between John Daly Boulevard and Westborough Boulevard, State Route 35 (Skyline Boulevard) between Highway 1 and Westborough Boulevard. Phase 3 improvements are not directly on previously identified alternative routes, but based on previous Smart Corridor incident response, these routes will be impacted and will benefit from improvements.

### System Architecture

The logical architecture for the San Mateo Smart Corridors North County Expansion Project is consistent with the San Mateo County Hub acting as a backup for the Caltrans District 4 Traffic Management Center (TMC) and connecting to non-Caltrans ITS elements during incident conditions; and local TMCs operate the system during normal conditions. This configuration is illustrated in **Figure 5**.

**Figure 5: Logical System Architecture**



### **System Users**

The system will be used by three different groups of users: operators, managers and users. Operators are involved in using the detailed functionality of the system. Managers are responsible for high-level system monitoring and guiding the strategic direction of the system. Users receive the benefit from the system but do not actively operate the system.

### **System Interfaces**

Interface to Caltrans District 4 TMC and local agency TMCs enable field equipment (e.g., TBS, ADMS, traffic signals) to be remotely accessed and controlled by any stakeholder. Similarly, video images from Smart Corridor CCTV cameras will be accessible to any stakeholder throughout the corridor on any remote computer connected to the Smart Corridor network.

### **Project Elements**

The San Mateo County Smart Corridors Expansion to the City of South San Francisco is not a traditional project where physical roadway improvements are made, but rather, it is an implementation of traffic management devices that will enable public works departments, local and state law enforcement agencies, and fire departments to proactively and cooperatively manage freeway and arterial traffic congestion during major freeway incidents.

### **Communications**

A combination of new fiber optic cable installed in new conduit and replacement of existing twisted pair cable with new fiber optic cable in existing conduit where applicable, supporting signalized intersections, CCTV cameras, ADMS, TBS, and system detectors on local agency Smart Corridor arterials will be used. Fiber optic cable will splice into existing fiber optic cable already installed on El Camino Real in Caltrans right-of-way. This will establish connections to the City of Daly City Public Works Building at 333 90<sup>th</sup> Street; the City of Daly City Corporation Yard at 798 Niantic Avenue; the City of Brisbane Public Works at 50 Park Place; the Town of Colma Public Works Building at 1188 El Camino Real; and connect to the San Bruno Public Services Administration Building at 567 El Camino Real. The project will utilize as much existing conduit and fiber as possible with plans to install additional infrastructure only as needed. Backbone (trunk) fiber cables should be a minimum of 144-strand fiber.

Wireless interconnect (e.g. high-speed broadband, 4G cellular modems) will be deployed at remote intersections or to those not along proposed fiber corridors.

### *Fixed CCTV Cameras*

Implement fixed CCTV cameras at select locations to provide video surveillance of the project corridors. Fixed CCTV cameras will be installed at key intersections and will be place for full viewing of the intersection. The system deployment shall allow for a future access of project elements from Caltrans District 4 and other Smart Corridor Partner Agencies. The project will include upgrades to the existing San Mateo Smart Corridor video management system to allow for Caltrans and agencies to share CCTV with key parties outside of a TMC facility. Fixed CCTV Cameras are proposed at the following intersections:

#### Phase 1

- John Daly Boulevard/I-280 Ramp
- Junipero Serra Blvd/Daly City Station
- Junipero Serra Blvd/Citrus Avenue
- Junipero Serra Blvd/87th Street
- Junipero Serra Blvd/Washington Street
- Junipero Serra Blvd/San Pedro Road
- Junipero Serra Blvd/D Street
- Sullivan Ave/Washington Street
- Sullivan Ave/Pierce St/I-280 S Off-ramp
- Sullivan Ave/Seton Dwy/I-280 S On-ramp
- Tunnel Avenue/Beatty Road
- Tunnel Avenue/Lagoon Way
- Bayshore Blvd/Geneva Avenue
- Bayshore Blvd/Tunnel Avenue

### Phase 2

- Junipero Serra Blvd/Colma Blvd
- Junipero Serra Blvd/Southgate Avenue
- Junipero Serra Blvd/Serramonte Blvd
- Skyline Blvd (SR 35)/Hickey Blvd
- Hickey Blvd/Callan Blvd
- Hickey Blvd/Gellert Blvd
- Hickey Blvd/I-280 SB Ramps
- Hickey Blvd/Imperial Way & I-280 NB Ramps
- Hickey Blvd/Junipero Serra Blvd
- Junipero Serra Blvd/King Drive
- Westborough Blvd/Skyline Blvd
- Westborough Blvd/Callan Blvd
- Westborough Blvd/Gellert Blvd
- Westborough Blvd/I-280 SB Ramps
- Westborough Blvd/Junipero Serra Blvd & I-280 NB Ramps
- Westborough Blvd/near Capay Circle
- Westborough Blvd/Camaritas Avenue
- Westborough Blvd/El Camino Real
- El Camino Real (SR 82)/Ponderosa Road
- El Camino Real (SR 82)/Spruce Avenue
- El Camino Real (SR 82)/I-380 WB Ramps
- El Camino Real (SR 82)/I-380 EB Ramps
- El Camino Real (SR 82)/Bayhill Drive
- El Camino Real (SR 82)/San Bruno Ave
- Skyline Blvd (SR 35)/College Drive
- Skyline Blvd (SR 35)/Sneath Lane
- Sneath Lane/Claremont Drive
- Sneath Lane/I-280 SB Ramps
- Avalon Drive/Junipero Serra Blvd & I-280 NB Ramp
- San Bruno Avenue/I-280 SB Ramps
- San Bruno Avenue/I-280 NB Ramps
- San Bruno Avenue/Cherry Avenue

### Phase 3

- Mission St (SR 82)/John Daly Blvd
- Mission St (SR 82)/Westlake Ave
- Mission St (SR 82)/San Pedro Rd
- El Camino Real (SR 82)/F St
- El Camino Real (SR 82)/Serramonte Blvd
- Skyline Blvd (SR 35)/Manor Dr

### *Trailblazer Signs*

Implement Trailblazer Signs (TBS) at select locations to provide route guidance to motorists along the project corridors. Trailblazer Signs are envisioned to require new poles. The system deployment shall allow for a future access and control of the project elements from Caltrans District 4 and other Smart Corridor Partner Agencies. Trailblazer Signs are proposed for the following intersections:

### Phase 1

- John Daly Boulevard/I-280 Ramp (1)
- Junipero Serra Blvd/Citrus Avenue (2)
- Junipero Serra Blvd/Washington Street (1)
- Junipero Serra Blvd/Eastmoor Avenue (1)
- Junipero Serra Blvd/D Street (3)
- Tunnel Avenue/Beatty Road (1)
- Tunnel Avenue/Lagoon Way (1)
- Bayshore Blvd/Geneva Avenue (1)
- Bayshore Blvd/Tunnel Avenue (3)

## Phase 2

- Junipero Serra Blvd/Southgate Avenue (1)
- Junipero Serra Blvd/Serramonte Blvd (2)
- Skyline Blvd (SR 35)/Hickey Blvd (1)
- Hickey Blvd/I-280 SB Ramps (1)
- Hickey Blvd/Imperial Way & I-280 NB Ramps (1)
- Hickey Blvd/Junipero Serra Blvd (3)
- Westborough Blvd/Skyline Blvd (1)
- Westborough Blvd/I-280 SB Ramps (1)
- Westborough Blvd/Junipero Serra Blvd & I-280 NB Ramps (1)
- Westborough Blvd/El Camino Real (1)
- El Camino Real (SR 82)/Spruce Avenue (1)
- El Camino Real (SR 82)/I-380 WB Ramps (1)
- El Camino Real (SR 82)/I-380 EB Ramps (1)
- El Camino Real (SR 82)/San Bruno Ave (3)
- Skyline Blvd (SR 35)/Sneath Lane (1)
- Sneath Lane/I-280 SB Ramps (1)
- San Bruno Avenue/I-280 NB Ramps (2)

## *Arterial System Detection*

The system detectors would provide mid-block detection to provide arterial speed and flow data, as well as to support an advance traffic operations during periods of non-recurring congestion. Potential detection technologies for system detector stations may include microwave radar, video, loops, and Bluetooth. Arterial System Detection are proposed at the following locations:

## Phase 1

- Junipero Serra Blvd/Daly City Station
- Junipero Serra Blvd/87th Street
- Junipero Serra Blvd/Eastmoor Avenue
- Tunnel Avenue/Beatty Road
- Tunnel Avenue/Lagoon Way (2)
- Bayshore Blvd/Geneva Avenue
- Bayshore Blvd/Tunnel Avenue
- Bayshore Blvd/Van Waters and Rodgers Rd

## Phase 2

- Junipero Serra Blvd/Serra Center
- Skyline Blvd (SR 35)/Hickey Blvd
- Hickey Blvd/Callan Blvd
- Hickey Blvd/Kaiser Driveway
- Junipero Serra Blvd/King Drive
- Westborough Blvd/Galway Drive
- Westborough Blvd/near Capay Circle
- El Camino Real (SR 82)/Orange Avenue
- El Camino Real (SR 82)/Tanforan Way
- Skyline Blvd (SR 35)/College Drive
- Sneath Lane/Claremont Drive
- San Bruno Avenue/Cherry Avenue

## *Traffic Signal Controllers*

Upgrade any of the existing traffic signal controllers to Model 2070 traffic signal controllers, and ensure any existing Model 2070 controllers support the Ethernet-based communication system to be deployed (i.e., equipped with 1B modules). Upgrade the existing City signal system software to the Kimley-Horn KITS. The City's traffic signal controllers will be monitored from the KITS traffic control system that is deployed throughout the San Mateo County Smart Corridor. Signal

system upgrades to include functionality upgrades for advanced management strategies such as adaptive signal control, adaptive transit signal priority, or automated performance monitoring. The system deployment shall allow for access and control of the Project elements from Caltrans District 4 and other partner agencies. The existing signal cabinets will be evaluated for possible upgrades to accommodate the proposed ITS elements.

### Phase 1

- John Daly Boulevard/I-280 Ramp
- Junipero Serra Blvd/Daly City Station
- Junipero Serra Blvd/Westlake Avenue
- Junipero Serra Blvd/Citrus Avenue
- Junipero Serra Blvd/87th Street
- Junipero Serra Blvd/Washington Street
- Junipero Serra Blvd/Eastmoor Avenue
- Junipero Serra Blvd/D Street Sullivan Avenue/Washington Street
- Sullivan Avenue/Pierce St/I-280 S Off-ramp
- Sullivan Avenue/Eastmoor Avenue
- Sullivan Avenue/Seton Dwy/I-280 S On-ramp
- Bayshore Blvd/Geneva Avenue
- Bayshore Blvd/Industrial Way
- Bayshore Blvd/Guadalupe Canyon Pkwy
- Bayshore Blvd/Valley Drive
- Bayshore Blvd/Tunnel Avenue
- Bayshore Blvd/Van Waters and Rogers Rd
- Bayshore Blvd/US-101 Ramps

### Phase 2

- Junipero Serra Blvd/Colma Blvd
- Junipero Serra Blvd/Southgate Avenue
- Junipero Serra Blvd/Serra Center
- Junipero Serra Blvd/Serramonte Blvd
- Skyline Blvd (SR 35)/Hickey Blvd
- Hickey Blvd/Campus Drive
- Hickey Blvd/Callan Blvd
- Hickey Blvd/Gellert Blvd
- Hickey Blvd/I-280 SB Ramps
- Hickey Blvd/Imperial Way & I-280 NB Ramps
- Hickey Blvd/Kaiser Permanente
- Hickey Blvd/Junipero Serra Blvd
- Junipero Serra Blvd/King Drive
- Westborough Blvd/Skyline Blvd (SR 35)
- Westborough Blvd/Callan Blvd
- Westborough Blvd/Galway Drive
- Westborough Blvd/Gellert Blvd
- Westborough Blvd/I-280 SB Ramps
- Westborough Blvd/Junipero Serra Blvd & I-280 NB Ramps
- Westborough Blvd/Camaritas Avenue
- Westborough Blvd/El Camino Real
- El Camino Real (SR 82)/Orange Avenue
- El Camino Real (SR 82)/Ponderosa Road
- El Camino Real (SR 82)/Country Club Drive
- El Camino Real (SR 82)/Spruce Avenue
- El Camino Real (SR 82)/Citation Avenue
- El Camino Real (SR 82)/Sneath Lane
- El Camino Real (SR 82)/Tanforan Way
- El Camino Real (SR 82)/I-380 WB Ramps
- El Camino Real (SR 82)/I-380 EB Ramps
- El Camino Real (SR 82)/Bayhill Drive
- El Camino Real (SR 82)/San Bruno Ave

- Skyline Blvd (SR 35)/College Drive
- Skyline Blvd (SR 35)/Sneath Lane
- Sneath Lane/Engvall Road
- Sneath Lane/I-280 SB Ramps
- Sneath Lane/I-280 NB Ramps
- Avalon Drive/Junipero Serra Blvd NB & I-280 NB Ramp
- Avalon Drive/Junipero Serra Blvd SB & I-280 NB Ramp
- San Bruno Avenue/I-280 SB Ramps
- San Bruno Avenue/I-280 NB Ramps
- San Bruno Avenue/Cherry Avenue
- San Bruno Avenue/Elm Avenue

### Phase 3

- Mission Street (SR 82)/John Daly Blvd
- Mission Street (SR 82)/Vista Grand Ave
- Mission Street (SR 82)/Alp Ave
- Mission Street (SR 82)/Westlake Ave
- Mission Street (SR 82)/Citrus Ave
- Mission Street (SR 82)/Bismark St
- Mission Street (SR 82)/School St
- Mission Street (SR 82)/San Pedro Rd
- El Camino Real (SR 82)/A St
- El Camino Real (SR 82)/Albert M Teglia Blvd
- El Camino Real (SR 82)/F St
- El Camino Real (SR 82)/Colma Blvd
- El Camino Real (SR 82)/Colma Blvd
- Skyline Blvd (SR 35)/John Daly Blvd
- Skyline Blvd (SR 35)/Westridge Ave
- Skyline Blvd (SR 35)/Westmoor Ave
- Skyline Blvd (SR 35)/King Dr
- Skyline Blvd (SR 35)/Manor Dr

### *Arterial Dynamic Message Signs (ADMS)*

Implement ADMS at select locations to provide route guidance and other information to motorists along the project corridors. ADMS units are envisioned to require new poles. The system deployment shall allow for a future access and control of the Project elements from Caltrans District 4 and other Smart Corridor Partner Agencies. Note that all project ADMS that are located on Caltrans right-of-way to be designed by Caltrans. Project locations will be identified during the PA/ED phase.

**Applicable Standards:** Design plans will be prepared in accordance with applicable city standards, San Mateo County Smart Corridor, and Caltrans standards. The supporting documents of prior phases of the Smart Corridor will be followed as applicable: Concept of Operations, SEMP, Functional Requirements, High Level Requirements, Detailed Design Requirements, Interface Control Requirements, and Detailed Design Requirement Test Plan.

**Special Provisions:** Caltrans and San Mateo County Smart Corridor, and city standards and special provisions will be used for this project.

**Design Exceptions:** No design exceptions are anticipated.

**Required Permits, Affected Agencies, and Coordination Issues:** There may be some localized construction and other project related activities that will require coordination with other agencies and entities. This includes Caltrans, which will require encroachment permits for any work conducted on Caltrans right-of-way.



**Traffic Management Plan:** Construction activities are predominantly expected to take place within roadside and sidewalk areas (for placement of pull boxes and trailblazers), and in shoulders and parking areas (for interconnect conduit). For work occurring in sidewalk areas, alternate accessible pedestrian paths of travel will be provided meeting the California Manual on Uniform Traffic Control Devices (MUTCD). Any lane closures necessary for the installation of interconnect conduit will adhere to the local agency permit requirements, and closures are anticipated during daytime business hours (outside of AM and PM peak periods). Full closures are not anticipated; as such, detours routes will not be necessary. Night work will not be allowed.

### **Operational Scenarios**

Successful implementation of the Smart Corridors program as described in the Concept of Operations requires several key components:

- Local cities and Caltrans sharing information and cooperating with other agencies operating Smart Corridor components. The Smart Corridor crosses jurisdictional boundaries and should provide seamless operation to drivers along those routes. Communication and coordination between agencies, adjustment of signal timing, notification to travelers, and other operational strategies must be established for the program to be a success.
- Local cities and Caltrans proactively utilizing the Smart Corridor devices during normal conditions. This involves using cameras, signal timing modifications, and other devices to optimize traffic flow along the corridors.
- Close coordination between the Incident Commander (typically CHP) and Caltrans during freeway incidents.
- Caltrans has committed to active operation and control of the ITS tools by the District 4 TMC operators with support from local agencies as agreed upon. Active operation during major freeway incidents includes activating trailblazers and monitoring camera images to optimize flow of traffic along local streets. If necessary, activate additional devices and/or modify device parameters in response to or preparation of changing conditions.

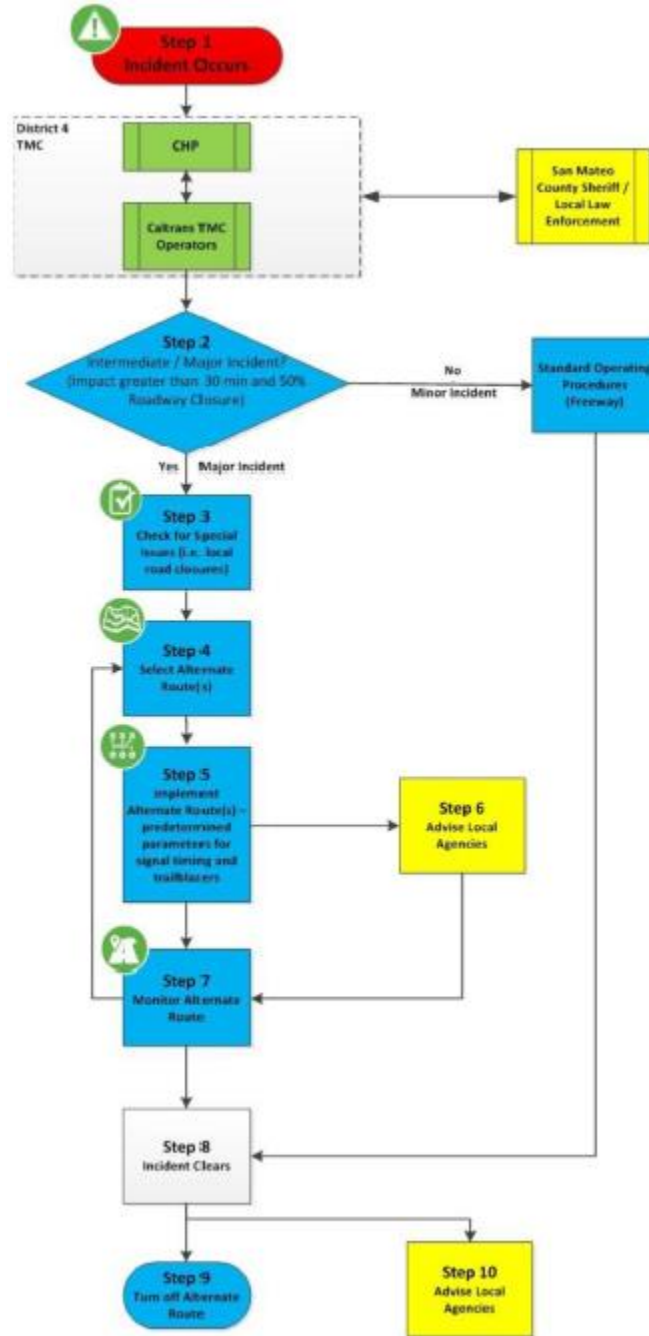
The San Mateo Smart Corridor system can be operated using one of three modes. The modes differ in the amount of user input required for the system to operate. The three modes are: Automatic mode; Semi-automatic mode; and Manual mode. These three activities must occur for the Smart Corridor program to meet the goal of improving transportation mobility, efficiency, and safety during incidents. The ConOps describes different operational scenarios in more detail. Some of the specific responsibilities will be dependent on available resources, which will be



defined at a later time. Operations and maintenance scenarios are presented later in this document.

Cameras located on the freeways and local arterials will be accessible for control and viewing by all agencies and allow optimization of traffic management on local streets. A control hierarchy will be established by Caltrans and local agencies based on identified priorities. **Figure 6** depicts the decision flow when an incident occurs on the freeway. **Table 12** describes each step in the process and the related responsibilities of each partner through the process. These processes are used in previous phases of the Smart Corridor program and will be expanded to the North County.

**Figure 6: Major Incident Process Flow Diagram**



**Table 12: Major Incident Process Flow Description**

Step No.	Function	Agency Responsibilities		
		CHP	Caltrans	Local Agencies
1	Recognize Incident	Inform the location of the incident to Caltrans (via radio, telephone, or Computer Aided Dispatch).	Determine the severity level of the incident. If the incident is minor, go to step 2, else go to step 3. Inform local agencies about the incident. - Minor incident is < 50% of lane blocked. - Intermediate/Major incident is > 50% of lane blocked.	
2	Minor Incident	Invoke standard operating procedures to clear incident.	Invoke standard operating procedures.	
3	Special Issues (i.e. Road Closures)		The incident is determined as major, so road closure information is obtained from local agencies before activating a Smart Corridor for an incident.	Maintain up-to-date and accessible road closure information. Provide the information to Caltrans as requested.
4	Select Alternate Routes		Select relevant Smart Corridor devices. Consider incident location, severity, local road closures, and other special issues. Immediately convey the route(s) to the CHP and local agencies.	
5	Implementing Alternate Routes – predetermined parameters for signal timing and trailblazers		Activate signs and traffic signal timing modifications at selected locations.	
6	Notify local agencies		Notify local agencies about the occurrence of an incident and the activated devices.	
7	Monitor Alternate Routes		Monitor the activated devices and traffic flow via CCTV cameras. If more congestion results on the freeway due to prolonged incident, return to Step 4 and consider activating additional devices.	Monitor traffic flow on local streets via CCTV cameras. Assess performance of corridor and determine if modifications to the strategy are required.
8	Incident is cleared		Monitor the traffic flow until the incident is cleared from the freeway. Then, monitor the traffic flow on local streets.	
9	Deactivate Smart Corridor for an incident.		As queue clears from incident and arterial traffic flow returns to normal, and revert signs and traffic signals to normal operation.	
10	Notify all the local agencies		Notify all the local agencies that the incident is cleared and the Smart Corridor alternate routes have been deactivated.	Retake control of local agency equipment

### Operational Objectives

The stakeholders agreed to implement the Smart Corridors Program to respond to the needs defined in the previous sections. The Smart Corridor will utilize ITS elements in four major system categories (as defined by FHWA) including Arterial Management, Incident Management, Traveler Information, and Transit Management. The key objectives of each category are described in detail below and

cover both immediate and long-term objectives. System Operations and Maintenance objectives are also listed below.

The objectives identified below should not adversely impact a local agency's current operations. For example, existing equipment should not be upgraded without considering how the upgrade will impact other existing equipment along the corridor.

#### ARTERIAL MANAGEMENT

- Optimize traffic responsive and time-of-day signal timing to improve traffic signal coordination from a remote location.
- Maximize green phasing to reduce delays along major corridors.
- Upgrade the traffic signal controllers, signal system software, and communications infrastructure to enhance signal operations.
- Improve data collection and dissemination of real-time travel conditions along major and connector arterial through system detection to manage daily traffic. Dissemination of real-time travel conditions is a possible future enhancement.
- Enable agencies to remotely monitor real-time travel conditions through data and video access.
- Integrate traffic signals across jurisdictions to enable sharing of accurate and timely traffic information to the cities and county, as well as Caltrans.
- Improve traffic management for normal traffic operations.
- Maintain functionality of existing legacy systems for existing City intersections not included in this project.

#### INCIDENT MANAGEMENT

- Install Trailblazer Signs along Bayshore Boulevard, Airport Boulevard, Gateway Boulevard, El Camino Real, Westborough Boulevard, and other routes, to guide diverted freeway traffic around a major incident on the freeway. Trailblazer signs are used solely to direct motorists who are unfamiliar with a route.
- Integrate traffic incident management strategies between the Cities of Daly City, Brisbane, South San Francisco, San Bruno, and Caltrans operations to coordinate the operations of ADMS, Trailblazer Signs, and traffic signals during normal operating conditions and major freeway incidents. This would allow cities to operate Smart Corridor devices during non-incident conditions. Integrated communications with Caltrans ramp meters and freeway Changeable Message Signs (CMS) are not part of the Smart Corridor program but could be considered in the future.
- Implement devices on local arterials so Caltrans and the cities can manage freeway traffic that diverts around major freeway incidents.
- Implement Alternative Route Plans to proactively manage traffic that diverts from the freeway to minimize congestion impact on local arterials, and return freeway traffic back to the freeway downstream of the mainline incident, when feasible. No active diversion of freeway traffic is planned.

- Integrate operations and communications to the previous phases of the San Mateo Smart Corridors with Caltrans and potentially to other Bay Area Smart Corridors via the Bay Area Center-to-Center Network so information can be exchanged between systems.
- Remotely operate signal system and change signal timing plans in conjunction with implementation of alternative routes during major freeway incidents.
- Provide remote monitoring of local arterial traffic flow through CCTV cameras.
- Maximize green phasing along the specific routes to flush traffic bypassing a freeway incident.
- Provide monitoring and operations through a local control workstation.
- Develop traffic and circulation studies to better estimate impacts of incident response strategies.
- Develop interface with SM county emergency management systems and providers so partner agencies can see what's going on and share information.
- Connect city traffic management buildings for central monitoring and management of traffic on local streets; and to serve as back-up facilities to the San Mateo County and Caltrans District 4 Traffic Management Centers (TMCs).

#### **TRAVELER INFORMATION (POSSIBLE FUTURE ENHANCEMENT)**

- Provide traveler information on local street travel times by utilizing system detection or other technology.
- Integrate the San Mateo Smart Corridor with Caltrans and other Bay Area Smart Corridors via the Bay Area Center-to-Center Network so information can be available and exchanged between systems.
- Integrate the San Mateo Smart Corridor with BART, Caltrain, and other transit agencies so parking and other transit information can be posted on dynamic message signs or trailblazers.
- Integrate with Bay Area 511 so that local traveler information can be easily disseminated. This is not yet approved by MTC but could be an opportunity to discuss in the future.
- Integrate 3<sup>rd</sup> party data sources and analytics for day-to-day and incident management. The external data feed can be used to determine appropriate signal timing plans and measure performance of timing plans.

#### **TRANSIT MANAGEMENT (POSSIBLE FUTURE ENHANCEMENT)**

- Enhance SamTrans service on local streets by implementing transit signal priority.
- Enhance SamTrans service on local streets by disseminating transit travel times.
- Enhance at-grade rail crossings on local streets to provide advanced warning and advanced clearance of at-grade crossing when heavy traffic is diverting off the freeway.

- Utilize transit GPS on SamTrans vehicles to collect and disseminate transit travel time information.

#### **SYSTEM OPERATIONS AND MAINTENANCE**

- Clear notation of ownership and operational and maintenance responsibility for each Smart Corridor element between the cities and Caltrans.
- Utilize proven and reliable technology and will not require substantial software development. Provide device status and failure notification.
- Not dependent on other systems for operability.
- All Caltrans elements operate during power outages using back-up power sources.

### **8. RIGHT-OF-WAY**

This project is not anticipated to have right-of-way impacts since all work will be within Caltrans or city right-of-way. Specific device locations including conduit will be identified and evaluated during the PA/ED phase. Caltrans will be responsible for right-of-way associated with state facilities and the cities will be responsible for right-of-way associated with non-state facilities.

#### **Utilities**

Existing utilities will be identified during the PA/ED phase at each device location and along each conduit run. Any utility information, including State-owned utility facilities, gathered will be included on the design plans. Potential conflicts that are identified during that process will be mitigated by relocating the new device or new conduit to a location that is not in conflict or alignment with the existing utilities. Existing utilities will not be relocated.

#### **Railroad**

There are no at-grade Caltrain crossings or railroad involvement/impacts along the project routes. While there may be no impacts to railroads on this project, work may occur near active rail lines for both BART and Caltrain. As such, BART and Caltrain rail lines should be identified and shown on the project design plans. Additionally, the project special provisions should include instructions to the contractor to not perform any work with railroad right-of-way.

### **9. STAKEHOLDER INVOLVEMENT**

#### **Stakeholders**

There are numerous stakeholders, including institutions and agencies, which play key roles in the operation and maintenance of the San Mateo County Smart Corridor. The City/County Association of Governments of San Mateo County has taken the lead to organize the stakeholders along the corridor while Caltrans has taken on the lead to manage the technical aspects of the Smart Corridor program.

The roles and responsibilities of the main stakeholders are described below. The project stakeholders can be separated into three different groups: workers, oversight agencies, and users. The user group describes those stakeholders that benefit from the system but do not participate in the oversight, operation, and maintenance of the system. The stakeholders and their roles in this project are listed in **Table 13**.

**Table 13: Project Stakeholders and Current Roles**

<b>Stakeholder</b>	<b>Current Role(s)</b>
City/County Association of Governments of San Mateo	Organize stakeholders in San Mateo County and Builds consensus; project champion/sponsor
California Department of Transportation (Caltrans)	Operates and maintains the freeways (US 101 and I-280) and state routes (SR 82, SR 1, SR 35)
San Mateo County Transportation Authority	Administers the proceeds of a county-wide half-cent sales tax (Measure A) for transportation projects
California Highway Patrol	Enforcement, security, and accident investigation on the freeways and state highways
Metropolitan Transportation commission (MTC)	Metropolitan Planning Organization (MPO) of the Bay Area; maintains the Regional ITS Architecture; distributes transportation funds; operates and maintains 511, the regional ATIS, and the regional center-to-center data sharing network
San Mateo County	Operates and maintains arterials within its jurisdiction
San Mateo County Transit (SamTrans)	Operates bus service on the arterials and freeways
City of South San Francisco	Operates and maintains arterials within its jurisdiction
City of Daly City	Operates and maintains arterials within its jurisdiction
City of Brisbane	Operates and maintains arterials within its jurisdiction
City of San Bruno	Operates and maintains arterials within its jurisdiction
Town of Colma	Operates and maintains arterials within its jurisdiction

### STAKEHOLDER NEEDS

The following needs were developed based on stakeholder input. These needs are not prioritized but will serve as a guide for developing the system requirements.

- Enhance the communications and control network of city traffic signal systems such that the cities can monitor and modify traffic signal timing parameters from a remote location on a day-to-day basis.
- Remotely adjust traffic signal timing plans within each jurisdiction.
- Enable the cities and Caltrans to use ITS tools on local streets to manage and monitor traffic that exits the freeway during a freeway incident in search of an alternate route.
- Establish a communications link between Caltrans and the cities according to the Bay Area Center-to-Center Network interface standards to allow sharing and control of field devices along local streets. Caltrans will operate all Smart Corridor devices during a freeway incident.
- Provide San Mateo County agencies the ability to view, operate, and share CCTV camera images from any Smart Corridor field camera on any remote computer.

- Enable San Mateo County agencies to share traffic data with each other to improve the cross-jurisdictional coordination during normal operating conditions.
- Create an opportunity to provide transit signal priority and emergency vehicle pre-emption at key intersections of the Smart Corridor.
- Enable cities and Caltrans to activate ITS devices along local routes to accommodate increased traffic demand.
- Mitigate impacts that the Smart Corridors project may have on legacy equipment and systems that are not part of the Smart Corridors.

## 10. ENVIRONMENTAL DETERMINATION/DOCUMENT

To identify environmental issues, constraints, 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 environmental determination and documentation are expected to be consistent with previous phases of the Smart Corridor project. Environmental studies and analyses will need to be performed during the PA/ED phase. To maximize efficiency, priority will be given during PA/ED to identifying and defining locations for trenching, realigning, replacing, moving, and installing electrical equipment and elements of the proposed project to provide scope and basis for technical studies. It is anticipated that this project will not have significant economic, social or environmental impacts. The environmental documentation for the proposed project is expected to be a Categorical Exemption under CEQA and a Categorical Exclusion under NEPA and is anticipated to be a separate environmental document from the first phase project environmental documentation.

A review of project elements as they relate to the areas of visual resources, hazardous materials, cultural resources, water quality and biological resources is included in this PSR. Key issues identified for each resource are summarized below:

### Aesthetics/Visual Resources

The specific locations of the proposed project elements will be further defined during PA/ED; thus, the proposed project elements would be placed in areas that would not result in the need to remove or trim of trees and would be compatible with the existing landscape. The proposed fiber optic cables would be located underground. CCTV cameras would be located on existing poles and would not add to the visual landscape. In addition, the trailblazers would be installed and compatible with the existing signage infrastructure.

The proposed project is not located on or adjacent to an officially designated State Scenic Highway. San Mateo County contains four freeway segments that are officially designated State Scenic Highways. SR-1 is a designated State Scenic



Highway from Half Moon Bay south to the Santa Cruz County line; this segment of SR-1 is not located within the project area. SR-35 is a designated State Scenic Highway from SR-92 south to the Santa Cruz County line; this segment of SR-35 is not located within the project area. I-280 is a designated State Scenic Highway from the southern San Bruno city limits south to the Santa Clara County line. The portions State Scenic Highway segment on I-280 is not located within the project area; however, I-280 is considered an Eligible State Scenic Highway within the proposed project area.

A Visual Impact Analysis Questionnaire was completed for the proposed project. The proposed project scored 9 on the VIA Questionnaire; therefore, a separate VIA is not required. Aesthetics and visual resources would be documented in the CE/CE. However, if during PA/ED project elements would require avoidance or mitigation as related to aesthetics and visual resources, then the proposed project would require, at minimum, a Memorandum of Minor VIA. In addition, this level of documentation may be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a low risk and will be further analyzed during PA/ED.

#### Hazardous Waste/Materials

A review of EnviroStor database search (available at <http://www.envirostor.dtsc.ca.gov/public/>, accessed on August 30, 2017) was completed for the following streets within the project corridors: Bayshore Boulevard, Junipero Serra Boulevard, Serramonte Boulevard, Hickey Boulevard, Westborough Boulevard, El Camino Real, Skyline Boulevard (SR-25), Sneath Lane, and San Bruno Avenue.

For the Bayshore Boulevard segment of the project site, EnviroStor identified approximately 17 sites that are listed as LUST or SLIC and are adjacent to Bayshore Boulevard. In addition, EnviroStor identified 10 hazardous sites adjacent Bayshore Boulevard between Geneva Avenue and Sister Cities Boulevard. Of these 10, the following 3 records have a status of “No Further Action:”

- SF Water Department (PG&E Martin) (41360101) (Geneva Avenue & Bayshore Blvd);
- South Levinson Parcel (41990004) (Main Street & Bayshore Boulevard); and
- Highway 101/Oyster Point (41330051) (Highway 101 at Oyster Point Blvd).

The following 3 records have a status of “Certified/Operation & Maintenance – Land Use Restrictions:”

- PG&E Martin Service Daly City Yard (41360100) (731 Schwerin Street)
- PG&E Martin Service Daly City Yard (41360093) (731 Schwerin Street)
- Bayshore Park (41990001) (47 Midway Drive, Daly City, CA 94014)

The following 2 records have a status of “Certified:”

- Quicksilver Products, Inc (41280138) (200 Valley Drive, Brisbane, CA 94005)
- Quicksilver Products, Inc (80001472) (200 Valley Drive, Brisbane, CA 94005)

The remaining 2 sites have status other than those mentioned above:

- Southern Pacific – Brisbane (North Area) (41490037) (Geneva Avenue and Bayshore Boulevard, Brisbane, CA 94005)
- Site Type: State Response; Status: Active
- Southern Pacific – Brisbane (OU02) (41490054) (Geneva Avenue and Bayshore Boulevard, Brisbane, CA 94005)
- Site Type: State Response; Status: Refer: RWQCB

For the portion of the site on Junipero Serra Boulevard, Serramonte Boulevard, Hickey Boulevard; Westborough Boulevard, El Camino Real, Skyline Boulevard (SR-25), Sneath Lane, and San Bruno Avenue, the EnviroStor database identified approximately 70 sites that are listed as LUST or SLIC adjacent to the roadways. In addition, EnviroStor identified 4 hazardous sites along adjacent to the above listed roadways. Of these 4 sites, 3 have a status of “No Further Action” and one has a “Certified” status, as follows:

- GGNRA National Cemetery (80000395) (San Francisco, CA) Site Type: Military Evaluation; Status: No Further Action
- Camp Tanforan (80000381) (San Francisco, CA) Site Type: Military Evaluation; Status: No Further Action
- US Coast Guard (80000746) (Moreland Drive, Pacifica, CA) Site Type: Military Evaluation; Status: No Further Action
- The Crossings – San Bruno (41940001) (900 Commodore Drive, San Bruno, CA 94066) Site Type: Voluntary Cleanup; Status: Certified

It should be noted that soil within the project corridors may contain aerially deposited lead (ADL) and may require special contract provisions for handling ADL. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and a preliminary site investigation would be required to address the potential for hazardous waste where excavation is proposed within unpaved areas. If such sites are discovered as more detailed studies are made, action will be taken in conformance with the applicable District Policy and Procedures, and Standard Special Provisions for the reuse of ADL soil. This will be incorporated into the PS&E.

### Cultural Resources

A cursory review of the proposed San Mateo County Smart Corridors North County Expansion scope and location suggests the project may be considered a screenable undertaking under the Programmatic Agreement, pending results of a records search and field reconnaissance. It is anticipated that all construction activities will take place within State or City right-of-way. New equipment and infrastructure will be placed in existing roadways, and sidewalk areas. Trenching depth will be a maximum of 3 feet and 6 inches wide, and foundation excavations will be between 5 and 10 feet deep and approximately 2 feet in diameter. As such, trenching and excavation activities will be located with roadway subgrades consisting of non-native and/or previously disturb soil and backfill. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and further assessment by a cultural resource specialist will be necessary to confirm whether the project is indeed screenable.

A record search through the Northwest Information Center of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California will be conducted and field reconnaissance will be completed during the PA/ED phase of the project. In addition, Native American consultation will be conducted during the PA/ED phase of the proposed project.

If the record search and field reconnaissance or Native American consultation identify sensitive archaeological or historic resources that would require avoidance or mitigation, then the proposed project would require, at minimum, an Historic Properties Survey Report (HPSR) and an Archaeological Survey Report (ASR). In addition, compliance with AB 52 would be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a medium risk and will be further analyzed during PA/ED.

### Water Quality

The Bayshore Boulevard corridor of the project is in close proximity to the San Francisco Bay, which is an impaired water body on the EPA's 303(d) list. The two project corridors do not traverse any creeks that are on the EPA's 303(d) list; however, two water bodies are listed that are in close proximity to the proposed project: Coloma Creek and the San Francisco Bay. The project site should be evaluated for potential project-related water quality effects related to the 303(d) list impairments. A site dewatering plan is required where dewatering for new construction is anticipated.

This project is not expected to have permanent water quality impacts on the surrounding water bodies. During construction, the use of Best Management Practices (BMPs) will be required to limit temporary impacts. A Water Pollution Control Program (WPCP) is anticipated. The project will comply with Caltrans' Statewide National Pollutant Discharge Elimination System (NPDES) permit, and the associated Storm Water Pollution Prevention Plan (SWPPP). In addition, a Storm Water Data

Report (SWDR) Short Form has been prepared, summarizing the actions taken in compliance with the permit. The SWDR short form is included as **Attachment C**.

Initial estimates of ground disturbance for installation of fiber, pull boxes, and foundations are less than 1 acre. Additionally, during PA/ED, wireless interconnect may be proposed at additional project locations to further reduce ground disturbance and potential water quality impacts.

#### Biological Resources

A full review of United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) databases was conducted for the previous phases of the Smart Corridors project. For this PSR, an initial query was conducted of the current USFWS list of species and critical habitats for the general project area, and the list is included in **Attachment E**. Also, included in **Attachment E** is the BIOS species list for San Mateo County.

It is anticipated that most, if not all, construction activities will take place within State or City right-of-way, in existing roadways and sidewalk areas. Trenching depth will be a maximum of 3 feet and 6 inches wide, and foundation excavations will be between 5 and 10 feet deep and approximately 2 feet in diameter. As such, trenching and excavation activities will be located with roadway subgrades consisting of non-native and/or previously disturb soil and backfill. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and further assessment by a biological resource specialist will be necessary to confirm the level of documentation required for biological resources. However, the proposed project elements would be placed in areas that would not result in the need to remove or trim of trees to avoid potential impacts to migratory birds.

A record search through the CDFW California Natural Diversity Database (CNDDDB) and the USFWS list of species will be conducted and field reconnaissance will be completed during the PA/ED phase of the project. Biological resources will be further reviewed in the PA/ED phase of the project and will require a Natural Environment Study – Minimal Impact (NES-MI). If the record search and field reconnaissance identify sensitive biological resources (i.e., special status species or habitat) that would require avoidance or mitigation, then the proposed project would require, at minimum, NES-MI. In addition, this level of documentation may be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a medium risk and will be further analyzed during PA/ED.

#### Section 4(f) Properties

The proposed project corridor along Bayshore Boulevard is adjacent to the San Bruno Mountain State Park; however, in this location, the proposed project would be installing fiber optic cable and would be within roadway right-of-way. For the corridors that generally parallel Interstate 280, Section 4(f) resources or potential resources include Lake Merced Golf Club, Woodlawn Memorial Park, Gellert Park,

Clay Avenue Park, Unitek College South San Francisco Campus, California Golf Club of San Francisco, Sellick Park, Westborough Park, south San Francisco High School, Crestmoor Canyon, and approximately six (6) cemeteries. Listed California Historical Landmarks properties within San Mateo County that are adjacent to the proposed project include No. 934 Temporary Detention Camps for Japanese Americans-Tanforan Assembly Center located at the Tanforan Park Shopping Center on El Camino Real in San Bruno.<sup>1</sup> Nearby National Register of Historic Properties sites include the Southern Pacific Railroad Bayshore Roundhouse (10000113) in Brisbane and San Francisco Bay Discovery Site (68000022) located 4 miles west of San Bruno (west of the project site)<sup>2</sup>. The proposed project would be designed to avoid “use” of these resources; the proposed project would be within roadway right-of-way; thus a “use” of a Section 4(f) resources is not anticipated. The potential for impacts to Section 4(f) resources will be evaluated during PA/ED.

### Conclusion

Environmental resources will be further reviewed in the PA/ED phase of the project. The presence of cultural resources, hazardous waste, biological resources, or other environmental concerns arising during the development of the PA/ED could necessitate consultations with other agencies, permits, or require a higher level of environmental documentation.

## **11. ESTIMATE AND PROGRAMMING**

### **Estimate**

A planning level cost for all project phases is included as **Attachment B**.

A summary of the estimate project cost is shown in **Table 14**. Estimated project costs have been escalated by 4.2% per year per the guidance in the 2018 State Transportation Improvement Program Fund Estimate. The determination of escalated costs is included in **Attachment B**

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<sup>1</sup> Office of Historic Preservation, California Historical Landmarks by County. San Mateo County list. Available at [http://ohp.parks.ca.gov/?page\\_id=21520](http://ohp.parks.ca.gov/?page_id=21520). Accessed October 18, 2017.

<sup>2</sup> National Park Service. National Register of Historic Places Program: Research. Spreadsheet of NRHP Listed Properties and Spreadsheet of NHLs. Available at <https://www.nps.gov/nr/research/index.htm>. Accessed October 18, 2017.

**Table 14: North County Project Cost Estimate (in thousands)**

Component	Fiscal Year Estimate								
	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
In thousands of dollars (\$1,000)									
<b>PHASE 1</b>									
PA&ED Support		\$419	\$183						\$602
PS&E Support				\$243	\$759				\$1,002
Right-of-Way Support		\$15	\$6						\$21
Construction Support						\$441	\$230		\$671
Right-of-Way									\$0
Construction						\$5,694	\$2,967		\$8,661
<b>Total</b>	<b>\$0</b>	<b>\$434</b>	<b>\$189</b>	<b>\$243</b>	<b>\$759</b>	<b>\$6,135</b>	<b>\$3,197</b>	<b>\$0</b>	<b>\$10,957</b>
<b>PHASES 2 AND 3</b>									
PA&ED Support								\$1,526	\$1,526
PS&E Support								\$2,289	\$2,289
Right-of-Way Support								\$45	\$45
Construction Support								\$1,526	\$1,526
Right-of-Way									\$0
Construction								\$19,677	\$19,677
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$25,063</b>	<b>\$25,063</b>
<b>ENTIRE PROJECT</b>									
PA&ED Support		\$419	\$183					\$1,526	\$2,128
PS&E Support				\$243	\$759			\$2,289	\$3,291
Right-of-Way Support		\$15	\$6					\$45	\$66
Construction Support						\$441	\$230	\$1,526	\$2,197
Right-of-Way									\$0
Construction						\$5,694	\$2,967	\$19,677	\$28,338
<b>Total</b>	<b>\$0</b>	<b>\$434</b>	<b>\$189</b>	<b>\$243</b>	<b>\$759</b>	<b>\$6,135</b>	<b>\$3,197</b>	<b>\$25,063</b>	<b>\$36,020</b>

**Programming**

CCAG has requested the 2018 STIP programming for the North County Expansion project as shown in **Table 15** below. As shown in the table, capital outlay support estimate for programming PA&ED in the 2018 STIP for this project: \$600,000. Capital outlay support estimate for programming the PS&E phase of this project in the 2018 STIP: \$1,000,000. As these represent the 2018 STIP requests, the programming values do not include any escalation.

**Table 15: North County Phase 1 2018 STIP Programming (in thousands)**

Fund Source	Fiscal Year Estimate									
	2018 STIP	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
Component	In thousands of dollars (\$1,000)									
PA&ED Support		\$419	\$181							\$600
PS&E Support				\$243	\$757					\$1,000
Right-of-Way Support										\$0
Construction Support										\$0
Right-of-Way										\$0
Construction						\$5,694	\$1,206			\$6,900
<b>Total</b>	\$0	\$419	\$181	\$243	\$757	\$5,694	\$1,206	\$0		\$8,500

The project costs not programmed through the 2018 STIP is anticipated to be programmed through Other Local funds. However, local funding sources have not yet been determined. **Table 16** and **Table 17** show the Other Local Funding required to complete the North County Expansion project.

**Table 16: North County Phase 1 Other Local Programming (in thousands)**

Fund Source	Fiscal Year Estimate									
	Other Local	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
Component	In thousands of dollars (\$1,000)									
PA&ED Support			\$2							\$2
PS&E Support						\$2				\$2
Right-of-Way Support			\$15	\$6						\$21
Construction Support						\$441	\$230			\$671
Right-of-Way										\$0
Construction							\$1,761			\$1,761
<b>Total</b>	\$0	\$0	\$17	\$6	\$2	\$441	\$1,991	\$0		\$2,457

**Table 17: North County Phases 2 and 3 Other Local Programming (in thousands)**

Fund Source	Fiscal Year Estimate								
	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support								\$1,526	\$1,526
PS&E Support								\$2,289	\$2,289
Right-of-Way Support								\$45	\$45
Construction Support								\$1,526	\$1,526
Right-of-Way									\$0
Construction								\$19,677	\$19,677
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$25,063</b>	<b>\$25,063</b>

**12. DELIVERY SCHEDULE**

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	11/01/2017
BEGIN ENVIRONMENTAL	M020	2/01/2019
CIRCULATE DED EXTERNALLY	M120	N/A
PA & ED	M200	11/01/2019
PS&E	M380	03/01/2022
RIGHT-OF-WAY CERTIFICATION	M410	04/01/2022
READY TO LIST	M460	07/01/2022
AWARD	M495	08/01/2022
APPROVE CONTRACT	M500	09/01/2022
CONTRACT ACCEPTANCE	M600	12/01/2023
END PROJECT	M800	12/15/2023

The schedule above pertains only to Phase 1; delivery of Phase 2 and Phase 3 will be dependent on availability of funds and will be developed separately. The anticipated Phase 1 STIP funding fiscal year for PA/ED is 2018/19 and 2019/2020, for PS&E is 2021/22, and construction is 2022/23.



### 13. RISKS

The following potential project risks are included in the attached project risk register:

<b>Risk Description</b>	<b>Root Cause</b>	<b>Risk Trigger</b>	<b>Strategy</b>	<b>Response Action with Pros &amp; Cons</b>
Project Not Programmed	Resources to deliver project are unavailable due to competing priorities	Budget constraints	Accept	Elevate issue to management for resolution
Cultural and Historic Resources	Additional PAED surveys may reveal sensitive archaeological or historic resources	Record search and field reconnaissance identify sensitive archaeological or historic resources	Avoid	Conduct record search during PA/ED phase and establish design that avoids sensitive resources
Section 4(f) Properties	Existing Section 4(f) resources located adjacent to the potential resources	Proposed elements encroach on Section 4(f) property	Avoid	The proposed project to be within roadway right-of-way and designed to avoid "use" of these resources.
PA/ED Schedule	The number of corridors and project elements is extensive, increasing potential proximity to biological resources.	Level of environmental document elevated	Mitigate	To maximize efficiency, priority should be given during PAED to identifying and defining locations for trenching, realigning, replacing, moving, or installing electrical elements to provide scope and basis of technical studies
Biological Resources	The number of corridors and project elements is extensive, increasing potential proximity to biological resources	Record search and field reconnaissance identify sensitive biological resources	Mitigate	To maximize efficiency, priority should be given during PAED to identifying and defining locations for trenching, realigning, replacing, moving, or installing electrical elements to provide scope and basis of technical studies
Subject to utilities verification and potholing, utility relocation(s) may be required	Utility relocation(s) may be required	Utility verifications and potholing indicate need for utility relocation	Avoid	Determine needs early, factor in costs/impacts; adjust new conduit alignment during design or construction
Public may oppose the installation of trailblazer signs on local streets	Local opposition to trailblazer signs	Design will be delayed; fulfilling concepts will be threatened	Mitigate	Extensive public relations during predesign and design stages

<b>Risk Description</b>	<b>Root Cause</b>	<b>Risk Trigger</b>	<b>Strategy</b>	<b>Response Action with Pros &amp; Cons</b>
Stakeholders do not agree on operation of the system	Lack of consensus of formal system operation	Initial disagreement or lack of stakeholder engagement	Mitigate	Work with C/CAG and cities to develop acceptable agreements to all parties
Stakeholders do not fund operations, maintenance, and management responsibilities, or cannot fulfill them	Funding is not identified in project programming	Missing budgets are identified during budget review	Mitigate	Identify Operations, Maintenance, and Management responsibilities and funding in a Memorandum of Understanding
The project will require integration between existing Smart Corridor, Caltrans ATMS, and city control systems	Non-functioning systems; incompatible equipment	Schedule impacts during system integration	Mitigate	Proactively identify alterations or revisions to resolve challenges
Existing conduit or communications	Infrastructure is damaged or otherwise unavailable	Failure discovery during PA/ED or later	Mitigate	Design alternate solutions with new infrastructure, but costs will rise
Easements may be required for service locations	Service locations are outside city or Caltrans right-of-way	PG&E or other entity identifies a location or connection is outside city or Caltrans right-of-way	Mitigate	Identify service locations during PA/ED so easement process can begin

As the risk assessment has identified several medium risk items, the risk register should be reviewed and updated during the PA/ED phase to include costs for those medium risk items which would potentially be the project's benefit. The semi- or full-quantitative analysis should include a confidence level for the estimates and the estimates should be based on cost data from the original Smart Corridors project.

#### **14. FHWA COORDINATION**

At this phase, the project is considered a delegated project in accordance with the current Stewardship and Oversight Agreement signed between FHWA and Caltrans on May 28, 2015.

## 15. PROJECT REVIEWS

Project Manager	<u>Nandini N. Shridhar</u>	Date: <u>October 2017</u>
Advance Planning	<u>Celia McCuaig</u>	Date: <u>October 2017</u>
Advance Planning	<u>Mimy Hew</u>	Date: <u>October 2017</u>
Right of Way	<u>Kristin Schober</u>	Date: <u>October 2017</u>
Project Delivery Coordinator	<u>John Roccanova</u>	Date: <u>October 2017</u>
Environmental	<u>Yolanda Rivas</u>	Date: <u>October 2017</u>
Water Quality	<u>Kamran Nakhjiri</u>	Date: <u>October 2017</u>
Traffic Signal System	<u>Min Lee</u>	Date: <u>October 2017</u>
ICM	<u>David Man</u>	Date: <u>October 2017</u>

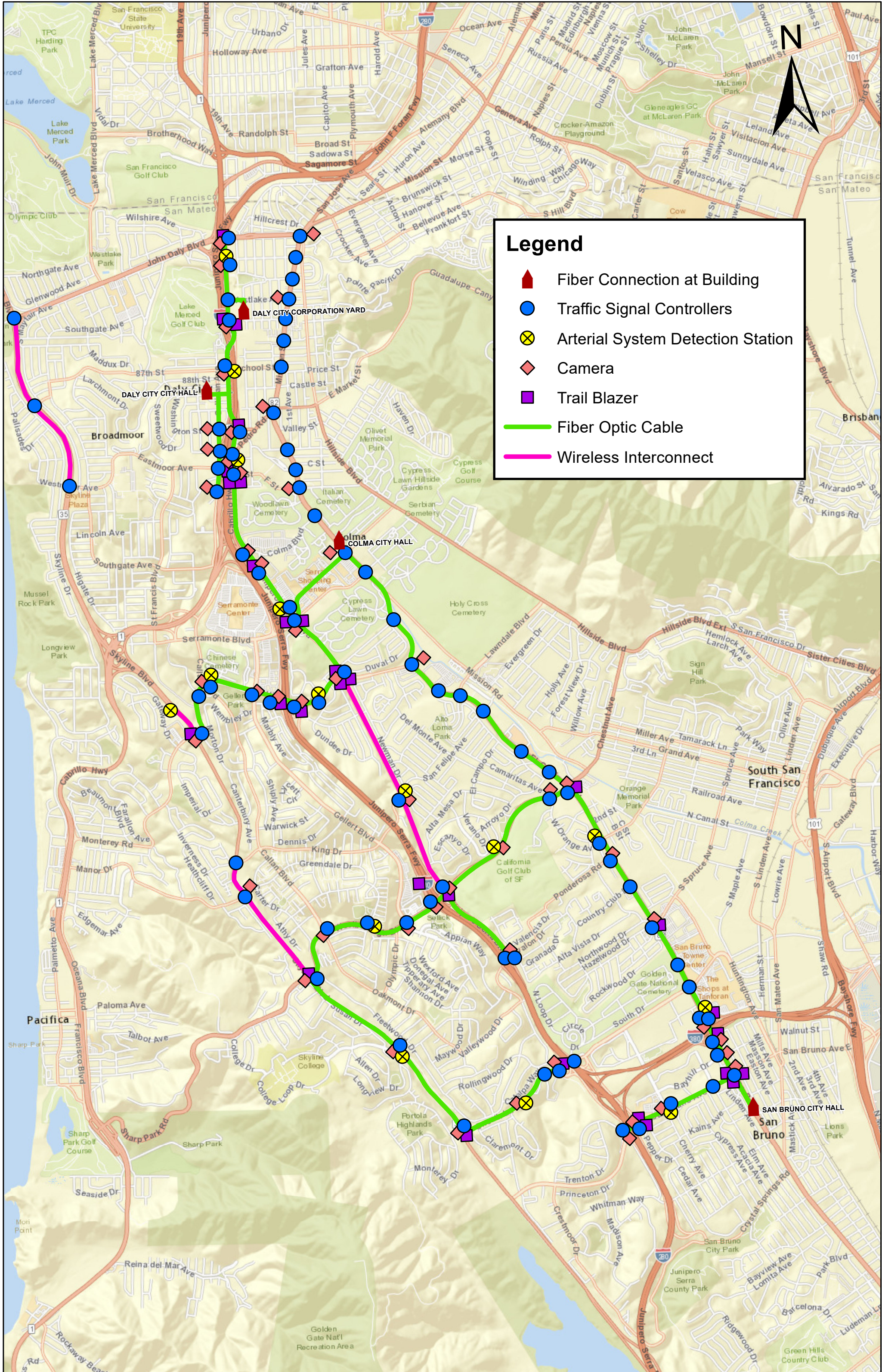
## 16. PROJECT PERSONNEL

John Hoang, C/CAG	650-363-4105
Ryan Dole, Kimley-Horn	510-350-0230
Randy Durrenberger, Kimley-Horn	510-350-0231








## 17. ATTACHMENTS

- A. Location map (2 pages)
- B. Project Cost Estimate (1 page)
- C. Storm Water Data Report-Short Form (9 pages)
- D. Right-of-Way Data Sheet (7 pages)
- E. Mini-PEAR (27 pages)
- F. Risk Register (1 page)











### Legend

-  Fiber Connection at Building
-  Traffic Signal Controllers
-  Arterial System Detection Station
-  Camera
-  Trail Blazer
-  Fiber Optic Cable
-  Wireless Interconnect





### Legend

-  Fiber Connection at Building
-  Traffic Signal Controllers
-  Arterial System Detection Station
-  Camera
-  Trail Blazer
-  Fiber Optic Cable



NORTH COUNTY SMART CORRIDOR EXPANSION  
PLANNING LEVEL COST ESTIMATE

Item No.	Item Description	Estimated Quantity	Units	Unit Price	Total
1	Construction Waste Management	1	LS	\$ 50,000	\$ 50,000
3	Construction Staking and Layout	1	LS	\$ 70,000	\$ 70,000
4	Clearing and Grubbing	1	LS	\$ 100,000	\$ 100,000
2	Water Pollution Control (1.5%)	1	LS	\$ 226,700	\$ 226,700
5	Mobilization (5%)	1	LS	\$ 755,800	\$ 755,800
6	Traffic Control (8%)	1	LS	\$ 1,209,300	\$ 1,209,300
7	Conduit - 1-4" HDPE	87530	LF	\$ 75	\$ 6,564,750
8	Pull Boxes - #6	146	EA	\$ 2,500	\$ 365,000
9	Fiber Optic Vault	159	EA	\$ 4,000	\$ 636,000
10	Fiber Splice Closure	159	EA	\$ 1,500	\$ 238,500
11	Fiber Optic Cable - One (1) 144-strand SMFO Trunk Cable	124010	LF	\$ 6	\$ 744,060
12	Fiber Optic Cable - One (1) 12-strand SMFO BranchCable	15900	LF	\$ 4	\$ 55,650
13	144 Fiber Termination Panel	4	EA	\$ 1,250	\$ 5,000
14	12 Fiber Termination Panel	105	EA	\$ 500	\$ 52,500
15	Ethernet Switch Installation	159	EA	\$ 4,000	\$ 636,000
16	Wireless Interconnect Equipment	23	EA	\$ 5,000	\$ 115,000
17	Type 334T Cabinet on New Foundation with Battery Back-Up System	8	EA	\$ 17,500	\$ 140,000
18	CCTV Cameras System	52	EA	\$ 22,500	\$ 1,170,000
19	Arterial Detection Station	17	EA	\$ 8,000	\$ 136,000
20	Trailblazer System Assembly (Pole-Mounted Cabinet)	37	EA	\$ 12,500	\$ 462,500
21	Type 1A Pole and Foundation (ADMS/Trailblazer)	47	EA	\$ 6,000	\$ 282,000
22	Type III Service Cabinet on New Foundation	47	EA	\$ 4,000	\$ 188,000
23	Arterial DMS Assembly (Pole-Mounted Cabinet)	10	EA	\$ 60,000	\$ 600,000
24	Traffic Signal Modification	24	EA	\$ 30,000	\$ 720,000
25	Model 2070 Traffic Signal Controller	88	EA	\$ 5,500	\$ 484,000
26	City Router	4	EA	\$ 4,000	\$ 16,000
27	City Workstation	5	EA	\$ 1,000	\$ 5,000
28	Video Management System Upgrades	1	LS	\$ 200,000	\$ 200,000
29	ATMS System Upgrades (include KITS upgrade)	1	LS	\$ 700,000	\$ 700,000
30	Testing and Documentation	1	LS	\$ 190,000	\$ 190,000
31	System Training	1	LS	\$ 190,000	\$ 190,000
CONSTRUCTION SUBTOTAL					\$ 17,307,760
	Right-of-Way	0	SF	\$ -	\$ -
RIGHT-OF-WAY SUBTOTAL					\$ -
TOTAL CONSTRUCTION AND RIGHT-OF-WAY COST					\$ 17,307,760
Preliminary Project Development (10% of total Construction/RW)					\$ 1,730,780
Right-of-Way Support					\$ 55,000
Design Engineering/Administration Costs (15% of Total Construction/RW)					\$ 2,596,160
Construction Engineering/Administration (10% of Total Construction/RW)					\$ 1,730,780
System Integration (5%of Total Construction/RW) and Incident Timing Plan Development (4%)					\$ 1,557,700
Contingency (20% of Total Construction/RW)					\$ 3,461,550
TOTAL PROJECT COSTS					\$ 28,439,730

Phase 1 Total	Phase 2 Total	Phase 3 Total
\$ 20,000	\$ 20,000	\$ 10,000
\$ 28,000	\$ 28,000	\$ 14,000
\$ 40,000	\$ 40,000	\$ 20,000
\$ 70,600	\$ 119,900	\$ 36,300
\$ 235,400	\$ 399,500	\$ 120,900
\$ 376,600	\$ 639,200	\$ 193,400
\$ 2,043,750	\$ 3,630,000	\$ 891,000
\$ 112,500	\$ 202,500	\$ 50,000
\$ 144,000	\$ 308,000	\$ 184,000
\$ 54,000	\$ 115,500	\$ 69,000
\$ 225,420	\$ 429,540	\$ 89,100
\$ 12,600	\$ 26,950	\$ 16,100
\$ 5,000	\$ -	\$ -
\$ 18,000	\$ 21,500	\$ 13,000
\$ 144,000	\$ 308,000	\$ 184,000
\$ -	\$ 15,000	\$ 100,000
\$ 105,000	\$ 35,000	\$ -
\$ 315,000	\$ 720,000	\$ 135,000
\$ 80,000	\$ 56,000	\$ -
\$ 175,000	\$ 287,500	\$ -
\$ 120,000	\$ 162,000	\$ -
\$ 80,000	\$ 108,000	\$ -
\$ 360,000	\$ 240,000	\$ -
\$ 180,000	\$ 330,000	\$ 210,000
\$ 104,500	\$ 236,500	\$ 143,000
\$ 12,000	\$ 4,000	\$ -
\$ 4,000	\$ 1,000	\$ -
\$ 53,840	\$ 123,080	\$ 23,080
\$ 151,130	\$ 342,050	\$ 206,820
\$ 60,000	\$ 100,000	\$ 30,000
\$ 60,000	\$ 100,000	\$ 30,000
\$ 5,390,340	\$ 9,148,720	\$ 2,768,700
\$ 5,390,340	\$ 9,148,720	\$ 2,768,700
\$ 570,030	\$ 914,870	\$ 276,870
\$ 20,000	\$ 25,000	\$ 10,000
\$ 858,550	\$ 1,372,310	\$ 415,310
\$ 539,030	\$ 914,870	\$ 276,870
\$ 485,130	\$ 823,380	\$ 249,180
\$ 1,078,070	\$ 1,829,740	\$ 553,740
\$ 8,941,150	\$ 15,028,890	\$ 4,550,670

In Caltrans R/W	CT Subtotal
1	\$ 10,000
1	\$ 14,000
1	\$ 20,000
1	\$ 36,300
1	\$ 120,900
1	\$ 193,400
33660	\$ 2,524,500
56	\$ 140,000
77	\$ 308,000
77	\$ 115,500
52130	\$ 312,780
9760	\$ 34,160
0	\$ -
60	\$ 30,000
80	\$ 320,000
20	\$ 100,000
2	\$ 35,000
11	\$ 247,500
5	\$ 40,000
18	\$ 225,000
22	\$ 132,000
22	\$ 88,000
6	\$ 360,000
10	\$ 300,000
57	\$ 313,500
0	\$ -
0	\$ -
1	\$ 23,080
1	\$ 206,820
1	\$ 190,000.00
1	\$ 190,000.00
	\$ 6,630,440
	\$ 6,630,440

NORTH COUNTY SMART CORRIDOR EXPANSION  
ESCALATED COSTS

## Phase 1

Stage	Year	Escalation*	Cost Estimate	Escalated Cost
PA/ED	FY 18/19	1.042	\$ 402,000	\$ 419,000
	FY 19/20	1.086	\$ 168,000	\$ 183,000
PS&E	FY 20/21	1.131	\$ 215,000	\$ 243,000
	FY 21/22	1.179	\$ 644,000	\$ 759,000
R/W Support	FY 18/19	1.042	\$ 14,000	\$ 15,000
	FY 19/20	1.086	\$ 6,000	\$ 6,000
CON	FY 22/23	1.228	\$ 4,636,000	\$ 5,694,000
	FY 23/24	1.280	\$ 2,318,000	\$ 2,967,000
CON Support	FY 22/23	1.228	\$ 359,000	\$ 441,000
	FY 23/24	1.280	\$ 180,000	\$ 230,000
Total			\$ 8,942,000	\$ 10,957,000

\*Escalated by 4.2% per year

## Phase 2 and 3

Stage	Year	Escalation**	Cost Estimate	Escalated Cost
PA/ED	Future	1.280	\$ 1,192,000	\$ 1,526,000
PS&E	Future	1.280	\$ 1,788,000	\$ 2,289,000
R/W Support	Future	1.280	\$ 35,000	\$ 45,000
CON	Future	1.280	\$ 15,373,000	\$ 19,677,000
CON Support	Future	1.280	\$ 1,192,000	\$ 1,526,000
Total			\$ 19,580,000	\$ 25,063,000

\*\*Escalated by 4.2% per year to FY 23/24



Dist-County-Route: 04-SM-101; 04-SM-280 (Parallel Arterials)  
Post Mile Limits: 20.36-26.11 (101); 20.70-27.42 (280)  
Project Type: Traffic Operations Systems  
Project ID (EA): 0418000126 (0Q640K)  
Program Identification: San Mateo Co. Smart Corridor North County Expansion  
Phase:  PID       PA/ED       PS&E

Regional Water Quality Control Board(s): San Francisco (Region 2)

- 1. Does the project disturb 5 or more acres of soil?      Yes       No
- 2. Does the project disturb more than 1 acre 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: 0.5 acres      New Impervious Surface: less than 50 sq. meters  
Estimated Const. Start Date: August 2022      Estimated Const. Completion Date: Dec 2023  
Risk Level:      RL 1       RL 2       RL 3       Not Applicable

*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.*

10/30/2017

Ryan Jay Dole, 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]

10/31/2017

Kamran Nakhjiri, District/Regional Design SW  
Coordinator or Designee

Date



**RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCY PROJECTS**

17-EX-21 (Rev 12/2014)

To: District Office Chief  
R/W Local Programs

Date: 10/27/2017

Co. SM Rte. 101 PM. 20.36/26.11

Co. SM Rte. 280 PM. 20.70-27.42

Attention: District Branch Chief  
Local Programs

Expense Authorization: 0Q640K

Project ID: 0418000126

Subject: **RIGHT OF WAY DATA SHEET- LOCAL PROGRAMS**

Project Description:

Right of way necessary for the subject project will be the responsibility of C/CAG.

The information in this data sheet was developed by C/CAG.

I. **Right of Way Engineering**

What level of right of way engineering is required for this project?

Minimal (Requires Right of Way Retracement Narrative)

- No fee or easement acquisitions are required for the project; AND
- No excess lands will be created by the project; AND
- No Temporary Construction Easements (TCEs) are required for the project; AND
- No retaining walls, sound walls, footings, signs, traffic signals, or similar improvements will be constructed within ten feet of the existing right of way line.

Minor (Requires Land Net, and PS&E Project Control sheets)

- No fee or easement acquisitions are required for the project; AND
- No excess lands will be created by the project; AND one or both of the following:
- Temporary Construction Easements (TCEs) are required for the project;
- Improvements will be constructed within ten feet of the existing right of way line.

Moderate (Requires Land Net, PS&E Project Control sheets, Base Map, and Appraisal Map)

- At least one fee and/or easement (except TCEs) acquisition is required for the project; AND
- No excess lands will be created by the project; AND
- No parcels will be transferred to the State.

Major (Requires full compliance with Right of Way Manual and Local Public Agency Coordination (LPAC) Guidelines including, but not limited to, pre-design Record of Survey, Base Map, Appraisal Map, legal descriptions and deeds, property transfer documents, JUAs/CCUAs, Record Map, monuments, and one or more Record of Surveys)

- One or more fee and/or easement parcels will be transferred to the State; AND/OR
- Excess lands will be created by the project.

II. **Engineering Surveys**

Is any surveying or photogrammetric mapping required?

No (Provide explanation)

Yes (Complete the following)

Datum Requirements

1. The units for this project are

- U. S. Survey Feet;
- Metric (provide explanation).

2. The horizontal datum for this project is

- California Coordinate System of 1983 (NAD 83 (1992), Epoch \_\_\_\_\_);
- California Coordinate System of 1983 (NAD 83 (\_\_\_\_\_), Epoch \_\_\_\_\_) (Provide Datum Tag and Epoch);
- Other (Provide explanation ).

3. The vertical datum for this project is

- North American Vertical Datum of 1988 (NAVD 88);
- National Geodetic Vertical Datum of 1927 (NGVD 27) (Provide explanation).
- Other (Provide explanation ).

III. **Parcel Information (Land and Improvements)**

Are there any property rights required within the proposed project limits?

No  Yes  (Complete the following)

Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.)

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES**

EXHIBIT  
 17-EX-21 (Rev 12/2014)

**Right of Way Cost Estimate:**

	Current Value	Escalation Rate	Escalated Value
A. Acquisition, including Excess Lands, Damages, and Goodwill	<u>\$0</u>	%	<u>\$0</u>
Environmental Mitigation	<u>\$0</u>	%	<u>\$0</u>
Grantor's Appraisal Cost	<u>\$0</u>	NA	<u>\$0</u>
B. Utility Relocation - Project Liability (from Section VII)	<u>\$0</u>	%	<u>\$0</u>
C. Relocation Assistance	<u>\$0</u>		<u>\$0</u>
D. Clearance Demolition	<u>\$0</u>	%	<u>\$0</u>
E. Title and Escrow Fees	<u>\$0</u>	%	<u>\$0</u>
<b>F. <u>TOTAL ESCALATED VALUE</u></b>			<u>\$0</u>
G. Railroad Construction Costs (flagger, track work etc)	<u>\$0</u>		(These are construction costs to be included in PS&E)
H. Construction Contract Work	<u>\$0</u>		(These are construction costs to be included in PS&E)
<b>I. <u>TOTAL PARCEL COUNT</u></b>	<u>\$0</u>		

IV. **Dedications**

Are there any property rights that have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No X Yes \_\_\_\_\_ (Complete the following)

Number of dedicated parcels: 0

Have the dedication parcel(s) been accepted by the municipality involved? No \_\_\_\_\_ Yes \_\_\_\_\_

V. **Excess Lands / Relinquishments**

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No X Yes \_\_\_\_\_ (Provide an explanation in Remarks Section XIII.)

VI. Relocation Information

Are there relocations anticipated? YES \_\_\_\_\_ NO X \_\_\_\_\_  
 (If yes, provide the following information)

No. of personal property relocations \_\_\_\_\_

No. of single family \_\_\_\_\_ No. of business/non profit \_\_\_\_\_

No. of multi-family \_\_\_\_\_ No. of farms \_\_\_\_\_

Based on Draft / Final Relocation Impact Statement / Study (circle one) – Dated \_\_\_\_\_, it is anticipated that sufficient replacement housing will / will not be available without Last Resort Housing.

VII. Utility Relocation Information

Anticipate any utility facilities or utility rights of way to be affected?

No X Yes \_\_\_\_\_ (Complete the following)

Estimated Relocation Expense

Facility	Owner	State Obligation*	Local Obligation	Utility Owner Obligation
A.		\$	\$	\$
B.		\$	\$	\$
C.		\$	\$	\$
D.		\$	\$	\$
E.		\$	\$	\$
F.		\$	\$	\$

Totals

Number of facilities \$ \_\_\_\_\_ \$ \_\_\_\_\_ \$ \_\_\_\_\_

\*This amount reflects the estimated total financial obligation by the State.  
 The following checked items may seriously impact lead time for utility relocation:

- \_\_\_\_ Longitudinal policy conflict(s)
- \_\_\_\_ Environmental concerns impacting acquisition of potential easements
- \_\_\_\_ Power lines operating in excess of 50 KV and substations

VIII. **Rail Information**

Are railroad facilities or railroad rights of way affected?

No X Yes \_\_\_\_ (Complete the following)

Describe railroad facilities or railroad rights of way affected.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A.		
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings requiring services contracts, or grade separations requiring construction and maintenance agreements involved?

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IX. **Clearance Information**

Are there improvements that require clearance?

No X Yes \_\_\_\_ (Complete the following)

- A. Number of Structures to be demolished \_\_\_\_\_
- B. Estimated Cost of Demolition \$\_\_\_\_\_
- C. If there is demolition and clearance, will it be done prior to construction or as part of the construction contract?

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X. **Hazardous Materials/Waste**

Are there any sites and/or improvements in the Project Limits that are known to contain hazardous waste/materials?

None X Yes \_\_\_\_ (Explain in the Remarks Section XIII)

Are there any sites and/or improvements in the Project Limits that are suspected to contain hazardous waste/materials?

None X Yes \_\_\_\_ (Explain in the Remarks Section XIII)

**RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES**

XI.	<b><u>Project Scheduling</u></b>	<b><u>Completion Dates</u></b>
	Proposed completion of Appraisal maps and legal descriptions, if needed	<u>          n/a          </u>
	Proposed Environmental Clearance	<u>          03/01/2019          </u>
	Proposed R/W Certification	<u>          02/01/2020          </u>
	Proposed Ready to List (RTL)	<u>          08/01/2020          </u>
	Proposed Construction Award	<u>          11/01/2020          </u>

XII. **Proposed Funding**

	Local	State	Federal	Other
Acquisition	<u>          \$0          </u>	<u>          \$ 0          </u>	<u>          \$0          </u>	<u>          \$0          </u>
Utilities	<u>          \$0          </u>	<u>          \$0          </u>	<u>          \$0          </u>	<u>          \$0          </u>
Relocation Assistance Program	<u>          \$0          </u>	<u>          \$0          </u>	<u>          \$0          </u>	<u>          \$0          </u>
R/W Support Costs	<u>          \$55,000          </u>	<u>          \$0          </u>	<u>          \$0          </u>	<u>          \$0          </u>

XIII. **Remarks**

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Expenditure Authorization: 0Q640K  
 Project ID: 0418000126

**RIGHT OF WAY DATA SHEET FOR LOCAL PUBLIC AGENCIES**

**Project Sponsor Consultant**

**Project Sponsor**

**R/W Professional (ie: qualified consultant or agency)**

Prepared by:

Reviewed and Approved by:

Reviewed and Approved by:

Randy Durrenberger

John Hoang

To be reviewed at PA/ED Phase

Sr. Vice President

Project Manager

\_\_\_\_\_

Title

Title

Title

10/31/2017

10/31/2017

\_\_\_\_\_

Date

Date

Date

Caltrans

Reviewed and approved based on information provided to date:

Kristin Schober

10/31/2017

Caltrans District Branch Chief  
Local Programs  
Division of Right of Way

Date



## Mini-Preliminary Environmental Analysis Report

### **Project Information**

District: **4** County: **SM** Route: **Local Routes** PM: **101PM 20.36-26.11;**  
**Parallel to 101,** **280PM 20.70-27.42**  
**280**

EA: **0Q640K**

EFIS Project ID:

Project Title: **Smart Corridor Phase IV – North County Expansion**

Project Manager: **John Hoang**

Phone # **650-363-4105**

Project Engineer: **Ryan Dole**

Phone # **510-350-0231**

Environmental Office Chief:

Phone #

### **Project Description**

#### **Purpose and Need**

The purpose of this project is to expand the San Mateo County Smart Corridor from its current northern terminus of I-380 further north to the San Francisco County line, encompassing arterials along US 101 and I-280. The purpose of the Smart Corridors expansion is as follows:

- Enable Daly City, Brisbane, South San Francisco, and San Bruno to proactively manage traffic on local streets that has diverted off the freeway due to a major freeway incident;
- Enable Daly City, Brisbane, South San Francisco, and San Bruno to proactively manage traffic on local streets during normal operating conditions;
- Minimize the delay that traffic experiences on local streets during major freeway incidents;
- Instrument local streets and provide traffic managers and operators with tools to proactively manage diverted traffic due to an incident;
- Enhance the communications and coordination between city public safety and public works, other Smart Corridor cities, Caltrans, and CHP to create a regional approach to managing incident traffic; and
- Enable the cities and Caltrans to share information and control strategies with other Smart Corridor cities to enhance traffic management both during an incident and under normal operating conditions.

US 101 and I-280 experience significant traffic impacts on local streets during major traffic incidents on the freeway. When a major incident occurs, significant traffic exits the freeway in search of a route to bypass the incident. There are no clearly designated routes that traffic can follow today to bypass a freeway incident, so traffic filters through the local network seeking a viable route around the incident. The cities have no tools on the local streets to proactively manage incident traffic that has exited the freeway, so there is no opportunity to improve the poor level of service on the local network during major incidents.

With the Smart Corridor currently implemented throughout the county south of I-380 to the Santa Clara County line, expansion of the Smart Corridor in the cities of Daly City, Brisbane, South San Francisco,



and San Bruno is needed to integrate these cities with the rest of the Smart Corridor cities and enable the Smart Corridor deployment to continue and extend to the San Francisco County line.

### **Description of work**

The project will consist of a fiber optic communications network, CCTV cameras, trailblazer signs, arterial dynamic message signs, microwave vehicle detection systems, and traffic signal upgrades along local and state-owned arterials. Initial device locations will be determined during preparation of the Project Study Report, and will involve installation of equipment primarily on existing traffic signal and street light poles, with some additional equipment installed on new pole standards. It is anticipated that all, construction activities will take place within State or City right-of-way. The majority of new equipment and infrastructure will be placed in existing roadways, and sidewalk areas. Trenching depth will be a maximum of 3 feet and trench widths will be 6 inches, and foundation excavations will be between 5 and 10 feet deep and approximately 2 feet in diameter. As such, trenching and excavation activities will be located with roadway subgrades consisting of non-native and/or previously disturb soil and backfill.

### **Anticipated Environmental Approval<sup>1</sup>**

#### **CEQA**

- Categorical Exemption
- Statutory Exemption
- Initial Study/Negative Declaration
- Initial Study/Mitigated Negative Declaration
- Environmental Impact Report (EIR)

#### **NEPA**

- Categorical Exclusion
- "Routine" EA/FONSI
- "Complex" EA/FONSI
- Environmental Impact Statement (EIS)

### **Summary Statement (this statement will go directly into the PSR)**

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 environmental determination and documentation are expected to be consistent with previous phases of the Smart Corridor project. Environmental studies and analyses will need to be performed during the PA/ED phase. To maximize efficiency, priority will be given during PA/ED to identifying and defining locations for trenching, realigning, replacing, moving, and installing electrical equipment and elements of the proposed project to provide scope and basis for technical studies. It is anticipated that this project will not have significant economic, social or environmental impacts. The environmental documentation for the proposed project is expected to be a Categorical Exemption under CEQA and a Categorical Exclusion under NEPA and is anticipated to be a separate environmental document from the first phase project environmental documentation.

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<sup>1</sup> If the anticipated environmental document is an EIR and/or EIS, the preparation of a standard PEAR is recommended to avoid unanticipated costs and project delays.

## **Special Considerations**

### Aesthetics/Visual Resources

The specific locations of the proposed project elements will be further defined during PA/ED, thus the proposed project elements would be placed in areas that would not result in the need to remove or trim of trees and would be compatible with the existing landscape. The proposed fiber optic cables would be located underground. CCTV cameras would be located on existing poles and would not add to the visual landscape. In addition, the trailblazers would be installed and compatible with the existing infrastructure.

The proposed project is not located on or adjacent to an officially designated State Scenic Highway. San Mateo County contains four freeway segments that are officially designated State Scenic Highways. SR-1 is a designated State Scenic Highway from Half Moon Bay south to the Santa Cruz County line; SR-1 is not located within the project area. SR-35 is a designated State Scenic Highway from SR-92 south to the Santa Cruz County line; SR-35 is not located within the project area. I-280 is a designated State Scenic Highway from the southern San Bruno city limits south to the Santa Clara County line. The portions State Scenic Highway segment on I-280 is not located within the project area; however, I-280 is considered and Eligible State Scenic Highway within the proposed project area.

A Visual Impact Analysis Questionnaire was completed for the proposed project (See Attachment F). The proposed project scored 9 on the VIA Questionnaire; therefore, a separate VIA is not required. Aesthetics and visual resources would be documented in the CE/CE. However, if during PA/ED project elements would require avoidance or mitigation as related to aesthetics and visual resources, then the proposed project would require, at minimum, a Memorandum of Minor VIA. In addition, this level of documentation may be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a low risk and will be further analyzed during PA/ED.

### Hazardous Waste/Materials

A review of EnviroStor database search (available at <http://www.envirostor.dtsc.ca.gov/public/>, accessed on August 30, 2017) was completed for the following streets within the two project corridors: Bayshore Boulevard, Junipero Serra Boulevard, Serramonte Boulevard, Hickey Boulevard, Westborough Boulevard, El Camino Real, Skyline Boulevard (SR-25), Sneath Lane, and San Bruno Avenue.

For the Bayshore Boulevard segment of the project site, EnviroStor identified approximately 17 sites that are listed as LUST or SLIC and are adjacent to Bayshore Boulevard. In addition, EnviroStor identified 10 hazardous sites adjacent Bayshore Boulevard between Geneva Avenue and Sister Cities Boulevard. Of these 10, the following 3 records have a status of “No Further Action:”

- SF Water Department (PG&E Martin) (41360101) (Geneva Avenue & Bayshore Blvd);
- South Levinson Parcel (41990004) (Main Street & Bayshore Boulevard); and
- Highway 101/Oyster Point (41330051) (Highway 101 at Oyster Point Blvd).

The following 3 records have a status of “Certified/Operation & Maintenance – Land Use Restrictions:”

- PG&E Martin Service Daly City Yard (41360100) (731 Schwerin Street)
- PG&E Martin Service Daly City Yard (41360093) (731 Schwerin Street)
- Bayshore Park (41990001) (47 Midway Drive, Daly City, CA 94014)

The following 2 records have a status of “Certified:”

- Quicksilver Products, Inc (41280138) (200 Valley Drive, Brisbane, CA 94005)
- Quicksilver Products, Inc (80001472) (200 Valley Drive, Brisbane, CA 94005)

The remaining 2 sites have status other than those mentioned above:

- Southern Pacific – Brisbane (North Area) (41490037) (Geneva Avenue and Bayshore Boulevard, Brisbane, CA 94005)
- Site Type: State Response; Status: Active
- Southern Pacific – Brisbane (OU02) (41490054) (Geneva Avenue and Bayshore Boulevard, Brisbane, CA 94005)
- Site Type: State Response; Status: Refer: RWQCB

For the portion of the site on Junipero Serra Boulevard, Serramonte Boulevard, Hickey Boulevard; Westborough Boulevard, El Camino Real, Skyline Boulevard (SR-25), Sneath Lane, and San Bruno Avenue, the EnviroStor database identified approximately 70 sites that are listed as LUST or SLIC adjacent to the roadways. In addition, EnviroStor identified 4 hazardous sites along adjacent to the above listed roadways. Of these 4 sites, 3 have a status of “No Further Action” and one has a “Certified” status, as follows:

- GGNRA National Cemetery (80000395) (San Francisco, CA) Site Type: Military Evaluation; Status: No Further Action
- Camp Tanforan (80000381) (San Francisco, CA) Site Type: Military Evaluation; Status: No Further Action
- US Coast Guard (80000746) (Moreland Drive, Pacifica, CA) Site Type: Military Evaluation; Status: No Further Action
- The Crossings – San Bruno (41940001) (900 Commodore Drive, San Bruno, CA 94066) Site Type: Voluntary Cleanup; Status: Certified

It should be noted that soil within the project corridors may contain aerially deposited lead (ADL) and may require special contract provisions for handling ADL. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and a preliminary site investigation would be required to address the potential for hazardous waste where excavation is proposed within unpaved areas. If such sites are discovered as more detailed studies are made, action will be taken in conformance with the applicable District Policy and Procedures, and Standard Special Provisions for the reuse of ADL soil. This will be incorporated into the PS&E.

### Cultural Resources

A cursory review of the proposed San Mateo County Smart Corridors North County Expansion scope and location suggests the project may be considered a screenable undertaking under the Programmatic Agreement, pending results of a records search and field reconnaissance. It is anticipated that all construction activities will take place within State or City right-of-way. New equipment and infrastructure will be placed in existing roadways, and sidewalk areas. Trenching depth will be a maximum of 3 feet and 6 inches wide, and foundation excavations will be between 5 and 10 feet deep and approximately 2 feet in diameter. As such, trenching and excavation activities will be located with roadway subgrades consisting of non-native and/or previously disturbed soil and backfill. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and further assessment by a cultural resource specialist will be necessary to confirm whether or not the project is indeed screenable.

A record search through the Northwest Information Center of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California will be conducted and field reconnaissance will be completed during the PA/ED phase of the project. In addition, Native American consultation will be conducted during the PA/ED phase of the proposed project.

If the record search and field reconnaissance or Native American consultation identify sensitive archaeological or historic resources that would require avoidance or mitigation, then the proposed project would require, at minimum, an Historic Properties Survey Report (HPSR) and an Archaeological Survey Report (ASR). In addition, compliance with AB 52 would be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a medium risk and will be further analyzed during PA/ED.

### Water Quality

The Bayshore Boulevard corridor of the project is in close proximity to the San Francisco Bay, which is an impaired water body on the EPA's 303(d) list. The two project corridors do not traverse any creeks that are on the EPA's 303(d) list; however, two water bodies are listed that are in close proximity to the proposed project: Coloma Creek and the San Francisco Bay. The project site should be evaluated for potential project-related water quality effects related to the 303(d) list impairments. A site dewatering plan is required where dewatering for new construction is anticipated.

This project is not expected to have permanent water quality impacts on the surrounding water bodies. During construction, the use of Best Management Practices (BMPs) will be required to limit temporary impacts. A Water Pollution Control Plan (WPCP) is anticipated. The project will comply with Caltrans' Statewide National Pollutant Discharge Elimination System (NPDES) permit, and the associated Storm Water Pollution Prevention Plan (SWPPP). In addition, a Storm Water Data Report (SWDR) Short Form has been prepared, summarizing the actions taken in compliance with the permit. The SWDR short form is included in the attachments.

Initial estimates of ground disturbance for installation of fiber, pull boxes, and foundations are less than 1 acre. Additionally, during PA/ED, wireless interconnect may be implemented at additional project locations to further reduce ground disturbance and potential water quality impacts.

### Biological Resources

A full review of United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) databases was conducted for the previous phases of the Smart Corridors project. For this PSR, an initial query was conducted of the current USFWS list of species and critical habitats for the general project area, and the list is included in **Attachment E**. Also, included in **Attachment E** is the BIOS species list for San Mateo County.

It is anticipated that most, if not all, construction activities will take place within State or City right-of-way, in existing roadways and sidewalk areas. Trenching depth will be a maximum of 3 feet and 6 inches wide, and foundation excavations will be between 5 and 10 feet deep and approximately 2 feet in diameter. As such, trenching and excavation activities will be located with roadway subgrades consisting of non-native and/or previously disturb soil and backfill. The specific locations of the trailblazer sign installation and construction methods will be defined in the PA/ED phase, and further assessment by a biological resource specialist will be necessary to confirm the level of documentation required for biological resources. However, the proposed project elements would be placed in areas that would not result in the need to remove or trim of trees to avoid potential impacts to migratory birds.

A record search through the CDFW California Natural Diversity Database (CNDDDB) and the USFWS list of species will be conducted and field reconnaissance will be completed during the PA/ED phase of the project. Biological resources will be further reviewed in the PA/ED phase of the project and will require a Natural Environment Study – Minimal Impact (NES-MI). If the record search and field reconnaissance identify sensitive biological resources (i.e., special status species or habitat) that would require avoidance or mitigation, then the proposed project would require, at minimum, NES-MI. In addition, this level of documentation may be required if the CEQA environmental document is elevated to above a Categorical Exemption. This is considered a medium risk and will be further analyzed during PA/ED.

### Section 4(f) Properties

The proposed project corridor along Bayshore Boulevard is adjacent to the San Bruno Mountain State Park; however, in this location, the proposed project would be installing fiber optic cable and would be within roadway right-of-way. For the corridors that generally parallel Interstate 280, Section 4(f) resources or potential resources include Lake Merced Golf Club, Woodlawn Memorial Park, Gellert Park, Clay Avenue Park, Unitek College South San Francisco Campus, California Golf Club of San Francisco, Sellick Park, Westborough Park, south San Francisco High School, Crestmoor Canyon, and approximately six (6) cemeteries. Listed California Historical Landmarks properties within San Mateo County that are adjacent to the proposed project include No. 934 Temporary Detention Camps for Japanese Americans-Tanforan Assembly Center located at the Tanforan Park Shopping Center on El Camino Real in San Bruno.<sup>2</sup> Nearby National Register of Historic Properties sites include the Southern Pacific Railroad Bayshore Roundhouse (10000113) in Brisbane and San Francisco Bay Discovery Site (68000022) located 4 miles west of San Bruno (west

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<sup>2</sup> Office of Historic Preservation, California Historical Landmarks by County. San Mateo County list. Available at [http://ohp.parks.ca.gov/?page\\_id=21520](http://ohp.parks.ca.gov/?page_id=21520). Accessed October 18, 2017.

of the project site)<sup>3</sup>. The proposed project would be designed to avoid “use” of these resources; the proposed project would be within roadway right-of-way; thus a “use” of a Section 4(f) resources is not anticipated. The potential for impacts to Section 4(f) resources will be evaluated during PA/ED.

## 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 reassessment of this report.

## Approval

*for*  
Yolanda Rivas  
Environmental Office Chief

Date: 10/30/17

Nandini Shukla  
Project Manager

Date: 10/31/17

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** (to be completed by Caltrans)

**Attachment C: Schedule** (N/A)

**Attachment D: PEAR Environmental Commitments Cost Estimate** (N/A)

**Attachment E: USFWS List of Species and Critical Habitats and CDFW BIOS Species List for San Mateo County)**

**Attachment F: Visual Impact Analysis Questionnaire**

<sup>3</sup> National Park Service. National Register of Historic Places Program: Research. Spreadsheet of NRHP Listed Properties and Spreadsheet of NHLs. Available at <https://www.nps.gov/nr/research/index.htm>. Accessed October 18, 2017.

## Attachment A: PEAR Environmental Studies Checklist

Rev. 11/08

<b>Environmental Studies for PA&amp;ED Checklist</b>					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Land Use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Growth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Farmlands/Timberlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Community Impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Community Character and Cohesion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Relocations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Environmental Justice	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Utilities/Emergency Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Visual/Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	VIA Questionnaire Score of 9 (see Attached)
Cultural Resources:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Archaeological Survey Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Historic Resources Evaluation Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Historic Property Survey Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Historic Resource Compliance Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Section 106 / PRC 5024 & 5024.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Native American Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Finding of Effect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Data Recovery Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Memorandum of Agreement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Other:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Hydrology and Floodplain	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Water Quality and Stormwater Runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>M</u>	SWDR
Geology, Soils, Seismic and Topography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Paleontology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
PER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
PMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Hazardous Waste/Materials:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
ISA (Additional)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
PSI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	Construction Only
Noise and Vibration	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	Construction Only
Energy and Climate Change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Biological Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Natural Environment Study	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Section 7:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Formal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Informal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
No effect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Section 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
USFWS Consultation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
NMFS Consultation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	

## Environmental Studies for PA&ED Checklist

	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Species of Concern (CNPS, USFS, BLM, S, F)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Wetlands & Other Waters/Delineation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
404(b)(1) Alternatives Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Invasive Species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Wild & Scenic River Consistency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Coastal Management Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
HMMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
DFG Consistency Determination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
2081	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Cumulative Impacts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Context Sensitive Solutions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Section 4(f) Evaluation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
<b>Permits:</b>					
401 Certification Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
404 Permit Coordination, IP, NWP, or LOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
1602 Agreement Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
Local Coastal Development Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
State Coastal Development Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
NPDES Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
US Coast Guard (Section 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
TRPA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	
BCDC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>L</u>	



## IPaC Information for Planning and Consultation U.S. Fish & Wildlife Service

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Project information

### NAME

CCAG PSR-PDS

### LOCATION

San Francisco and San Mateo counties, California



## Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📠 (916) 414-6713

Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

<sup>1</sup> are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/613">https://ecos.fws.gov/ecp/species/613</a>	Endangered
Southern Sea Otter <i>Enhydra lutris nereis</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8560">https://ecos.fws.gov/ecp/species/8560</a>	Threatened

## Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/433">https://ecos.fws.gov/ecp/species/433</a>	Endangered
Western Snowy Plover <i>Charadrius alexandrinus nivosus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened
San Francisco Garter Snake <i>Thamnophis sirtalis tetrataenia</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/5956">https://ecos.fws.gov/ecp/species/5956</a>	Endangered

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
<p>Delta Smelt <i>Hypomesus transpacificus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a></p>	Threatened
<p>Steelhead <i>Oncorhynchus (=Salmo) mykiss</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/1007">https://ecos.fws.gov/ecp/species/1007</a></p>	Threatened
<p>Tidewater Goby <i>Eucyclogobius newberryi</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a></p>	Endangered

## Insects

NAME	STATUS
<p>Bay Checkerspot Butterfly <i>Euphydryas editha bayensis</i></p> <p>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/2320">https://ecos.fws.gov/ecp/species/2320</a></p>	Threatened
<p>Callippe Silverspot Butterfly <i>Speyeria callippe callippe</i></p> <p>There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available.</p> <p><a href="https://ecos.fws.gov/ecp/species/3779">https://ecos.fws.gov/ecp/species/3779</a></p>	Endangered
<p>Mission Blue Butterfly <i>Icaricia icarioides missionensis</i></p> <p>There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available.</p> <p><a href="https://ecos.fws.gov/ecp/species/6928">https://ecos.fws.gov/ecp/species/6928</a></p>	Endangered
<p>Myrtle's Silverspot Butterfly <i>Speyeria zerene myrtleae</i></p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/6929">https://ecos.fws.gov/ecp/species/6929</a></p>	Endangered

San Bruno Elfin Butterfly *Callophrys mossii bayensis* Endangered  
 There is **proposed** critical habitat for this species. The location of the critical habitat is not available.  
<https://ecos.fws.gov/ecp/species/3394>

## Flowering Plants

NAME	STATUS
Franciscan Manzanita <i>Arctostaphylos franciscana</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/5350">https://ecos.fws.gov/ecp/species/5350</a>	Endangered
Presidio Manzanita <i>Arctostaphylos hookeri</i> var. <i>ravenii</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/7216">https://ecos.fws.gov/ecp/species/7216</a>	Endangered
Robust Spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/9287">https://ecos.fws.gov/ecp/species/9287</a>	Endangered
San Francisco Lessingia <i>Lessingia germanorum</i> (=L.g. var. <i>germanorum</i> ) No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8174">https://ecos.fws.gov/ecp/species/8174</a>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/6459">https://ecos.fws.gov/ecp/species/6459</a>	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/7782">https://ecos.fws.gov/ecp/species/7782</a>	Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:



NAME	TYPE
Bay Checkerspot Butterfly <i>Euphydryas editha bayensis</i> <a href="https://ecos.fws.gov/ecp/species/2320#crithab">https://ecos.fws.gov/ecp/species/2320#crithab</a>	Final

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

<sup>3</sup>. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds  
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are [USFWS Birds of Conservation Concern](#) that might be affected by activities in this location. The list does not contain every bird you may find in this location, nor is it guaranteed that all of the birds on the list will be found on or near this location. To get a better idea of the specific locations where certain species have been reported and their level of occurrence, please refer to resources such as the [E-bird data mapping tool](#) (year-round bird sightings by birders and the general public) and [Breeding Bird Survey](#) (relative abundance maps for breeding birds). Although it is important to try to avoid and minimize impacts to all birds, special attention should be given to the birds on the list below. To get a list of all birds potentially present in your project area, visit the [E-bird Explore Data Tool](#).

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> <a href="https://ecos.fws.gov/ecp/species/9637">https://ecos.fws.gov/ecp/species/9637</a>	Breeds Feb 1 to Jul 15

Ashy Storm-petrel <i>Oceanodroma homochroa</i> <a href="https://ecos.fws.gov/ecp/species/7237">https://ecos.fws.gov/ecp/species/7237</a>	Breeds May 1 to Jan 15
Black Oystercatcher <i>Haematopus bachmani</i> <a href="https://ecos.fws.gov/ecp/species/9591">https://ecos.fws.gov/ecp/species/9591</a>	Breeds Apr 15 to Oct 31
Black Rail <i>Laterallus jamaicensis</i> <a href="https://ecos.fws.gov/ecp/species/7717">https://ecos.fws.gov/ecp/species/7717</a>	Breeds Mar 1 to Sep 15
Black Skimmer <i>Rynchops niger</i> <a href="https://ecos.fws.gov/ecp/species/5234">https://ecos.fws.gov/ecp/species/5234</a>	Breeds May 20 to Sep 15
Black Swift <i>Cypseloides niger</i> <a href="https://ecos.fws.gov/ecp/species/8878">https://ecos.fws.gov/ecp/species/8878</a>	Breeds Jun 15 to Sep 10
Black Turnstone <i>Arenaria melanocephala</i>	Breeds elsewhere
Burrowing Owl <i>Athene cunicularia</i> <a href="https://ecos.fws.gov/ecp/species/9737">https://ecos.fws.gov/ecp/species/9737</a>	Breeds Mar 15 to Aug 31
California Thrasher <i>Toxostoma redivivum</i>	Breeds Jan 1 to Jul 31
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 31
Costa's Hummingbird <i>Calypte costae</i> <a href="https://ecos.fws.gov/ecp/species/9470">https://ecos.fws.gov/ecp/species/9470</a>	Breeds Jan 15 to Jun 10
Gull-billed Tern <i>Gelochelidon nilotica</i> <a href="https://ecos.fws.gov/ecp/species/9501">https://ecos.fws.gov/ecp/species/9501</a>	Breeds May 1 to Jul 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> <a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a>	Breeds Mar 20 to Sep 20
Lewis's Woodpecker <i>Melanerpes lewis</i> <a href="https://ecos.fws.gov/ecp/species/9408">https://ecos.fws.gov/ecp/species/9408</a>	Breeds Apr 20 to Sep 30
Long-billed Curlew <i>Numenius americanus</i> <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
Marbled Godwit <i>Limosa fedoa</i> <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds elsewhere



Nuttall's Woodpecker <i>Picoides nuttallii</i> <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a>	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> <a href="https://ecos.fws.gov/ecp/species/9656">https://ecos.fws.gov/ecp/species/9656</a>	Breeds Mar 15 to Jul 15
Red Knot <i>Calidris canutus</i> ssp. <i>roselaari</i> <a href="https://ecos.fws.gov/ecp/species/8880">https://ecos.fws.gov/ecp/species/8880</a>	Breeds elsewhere
Rufous Hummingbird <i>selasphorus rufus</i> <a href="https://ecos.fws.gov/ecp/species/8002">https://ecos.fws.gov/ecp/species/8002</a>	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
Snowy Plover <i>Charadrius alexandrinus</i>	Breeds Mar 5 to Sep 15
Song Sparrow <i>Melospiza melodia pusillula</i> <a href="https://ecos.fws.gov/ecp/species/3509">https://ecos.fws.gov/ecp/species/3509</a>	Breeds Feb 20 to Sep 5
Spotted Towhee <i>Pipilo maculatus clementae</i> <a href="https://ecos.fws.gov/ecp/species/4243">https://ecos.fws.gov/ecp/species/4243</a>	Breeds Apr 15 to Jul 20
Tricolored Blackbird <i>Agelaius tricolor</i> <a href="https://ecos.fws.gov/ecp/species/3910">https://ecos.fws.gov/ecp/species/3910</a>	Breeds Mar 15 to Aug 10
Whimbrel <i>Numenius phaeopus</i> <a href="https://ecos.fws.gov/ecp/species/9483">https://ecos.fws.gov/ecp/species/9483</a>	Breeds elsewhere
Yellow-billed Magpie <i>Pica nuttalli</i> <a href="https://ecos.fws.gov/ecp/species/9726">https://ecos.fws.gov/ecp/species/9726</a>	Breeds Apr 1 to Jul 31

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

**Breeding Season (■)**

Yellow bars denote when the bird breeds in the Bird Conservation Region(s) in which your project lies. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort (|)**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

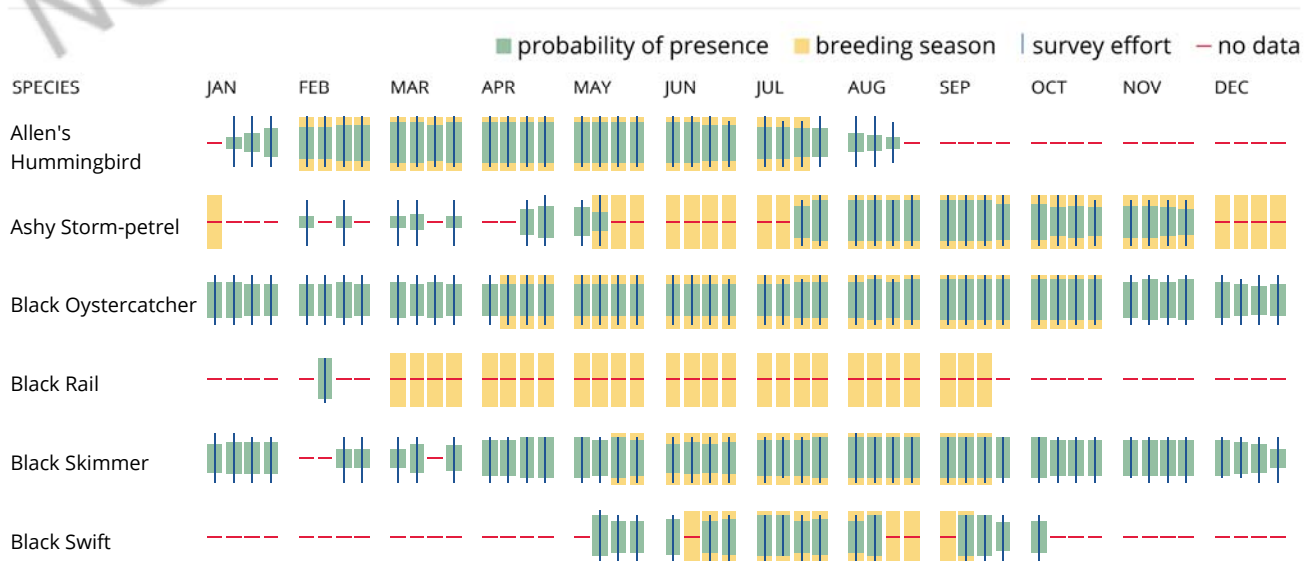
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

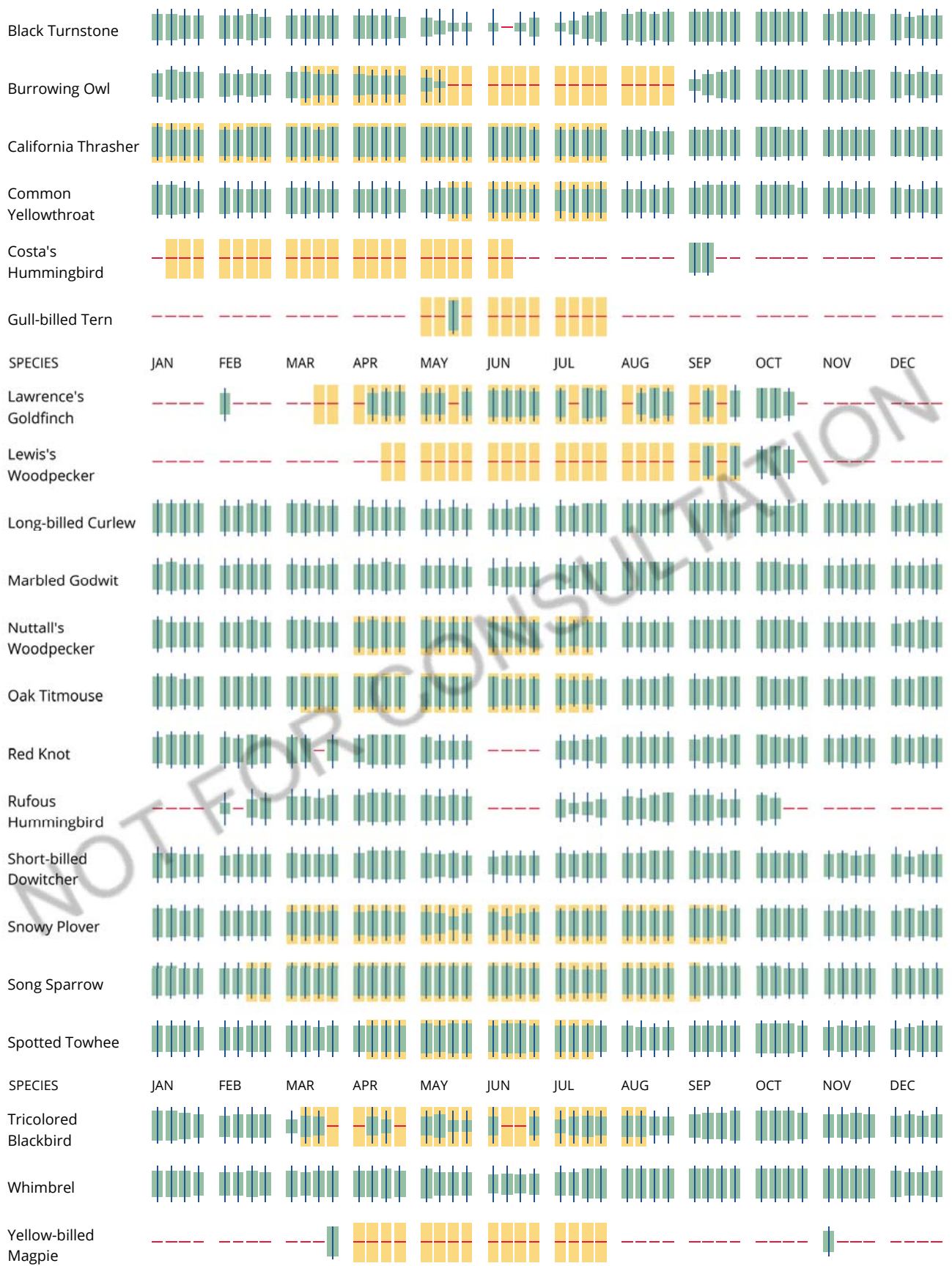
**No Data (-)**

A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in [Birds of North America \(BNA\) Online](#) under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a [subscription](#). [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

#### What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the [Endangered Species Act \(ESA\)](#).

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#). The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

#### What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available.

#### How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

## Facilities

### Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.



THERE ARE NO REFUGES AT THIS LOCATION.

## Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER

[E1UBL](#)

FRESHWATER EMERGENT WETLAND

[PEM1Ch](#)

FRESHWATER POND

[PUBHh](#)

[PUBHx](#)

LAKE

[L2UBH3h](#)

[L2USC3h](#)

RIVERINE

[R4SBA](#)

[R4SBAx](#)

[R4SBCx](#)

A full description for each wetland code can be found at the National Wetlands Inventory website:

<https://ecos.fws.gov/ipac/wetlands/decoder>

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Attachment F - Visual Impact Analysis Questionnaire

## Questionnaire to Determine Visual Impact Assessment (VIA) Level

Use the following questions and subsequent score as a guide to help determine the appropriate level of VIA documentation. This questionnaire assists the VIA preparer (i.e. Landscape Architect) in estimating the probable visual impacts of a proposed project on the environment and in understanding the degree and breadth of the possible visual issues. The goal is to develop a suitable document strategy that is thorough, concise and defensible.

Enter the project name and consider each of the ten questions below. Select the response that most closely applies to the proposed project and corresponding number on the right side of the table. Points are automatically computed at the bottom of the table and the total score should be matched to one of the five groups of scores at the end of the questionnaire that include recommended levels of VIA study and associated annotated outlines (i.e., minor, moderate, advanced/complex).

This scoring system should be used as a preliminary guide and should not be used as a substitute for objective analysis on the part of the preparer. Although the total score may recommend a certain level of VIA document, circumstances associated with any one of the ten question-areas may indicate the need to elevate the VIA to a greater level of detail. For projects done by others on the State Highway System, the District Landscape Architect should be consulted when scoping the VIA level and provide concurrence on the level of analysis used.

### Calculate VIA Level Score

PROJECT NAME: <input style="width: 90%;" type="text" value="CCAG Phase 4 PSR"/>	
<b>CHANGE TO VISUAL ENVIRONMENT</b>	
<p><b>1. Will the project result in a noticeable change in the physical characteristics of the existing environment?</b></p> <p><i>Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.</i></p>	<div style="border: 1px solid black; padding: 5px; width: 100%;"> <span style="float: right;">▼</span>                     Low Level of Change (1 point)                 </div>
<p><b>2. Will the project complement or contrast with the visual character desired by the community?</b></p> <p>Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.</p>	<div style="border: 1px solid black; padding: 5px; width: 100%;"> <span style="float: right;">▼</span>                     High Compatibility (1 point)                 </div>
	<div style="border: 1px solid black; padding: 5px; width: 100%;"> <span style="float: right;">▼</span>                     Low Concern (1 point)                 </div>



<p><b>3. What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed?</b></p> <p>Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.</p>	
<p><b>4. Will the project require redesign or realignment to minimize adverse change or will mitigation, such as landscape or architectural treatment, likely be necessary?</b></p> <p>Consider the type of changes caused by the project, i.e., can undesirable views be screened or will desirable views be permanently obscured so a redesign should be considered?</p>	<p>No Mitigation Likely (0 points) ▼</p>
<p><b>5. Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character?</b></p> <p>Identify any projects (both Caltrans and local) in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.</p>	<p>Cumulative Impacts Unlikely to Occur (1 point) ▼</p>
<p><b>VIEWER SENSITIVITY</b></p>	
<p><b>1. What is the potential that the project proposal will be controversial within the community, or opposed by any organized group?</b></p> <p>This can be researched initially by talking with Caltrans and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.</p>	<p>No Potential (0 point) ▼</p>
<p><b>2. How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project?</b></p> <p>Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other Caltrans staff, local agencies and community representatives familiar with the</p>	<p>Low Sensitivity (1 point) ▼</p>

<p>affected community's sentiments and demonstrated concerns.</p>	
<p><b>3. To what degree does the project's aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards?</b></p> <p>Although the State is not always required to comply with local planning ordinances, these documents are critical in understanding the importance that communities place on aesthetic issues. The Caltrans Environmental Planning branch may have copies of the planning documents that pertain to the project. If not, this information can be obtained by contacting the local planning department. Also, many local and state planning documents can be found online at the <a href="#">California Land Use Planning Network</a>.</p>	<p>High Compatibility (1 point) ▼</p>
<p><b>4. Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)?</b></p> <p>Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements - which are defined by the permitted, may be determined by talking with the project Environmental Planner and Project Engineer. Note: coordinate with the Caltrans representative responsible for obtaining the permit prior to communicating directly with any permitting agency.</p>	<p>Maybe (2 points) ▼</p>
<p><b>5. Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on a course of action to address potential visual impacts?</b></p> <p>Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.</p>	<p>No (1 point) ▼</p>
<p>Calculate Total</p> <p><a href="#">It is recommended that you print a copy of these calculations for the project file.</a></p>	
<p><b>PROJECT SCORE: 9</b></p>	

## Select An Outline Based Upon Project Score

The total score will indicate the recommended VIA level for the project. In addition to considering circumstances relating to any one of the ten questions-areas that would justify elevating the VIA level, also consider any other project factors that would have an effect on level selection.

### SCORE 6-9

No noticeable visual changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file or Preliminary Environmental Study (PES).

**SCORE 10-14**

Negligible visual changes to the environment are proposed. A brief [Memorandum](#) (see sample) addressing visual issues providing a rationale why a technical study is not required.

**SCORE 15-19**

Noticeable visual changes to the environment are proposed. An abbreviated VIA is appropriate in this case. The assessment would briefly describe project features, impacts and any avoidance and minimization measures. Visual simulations would be optional. Go to the [Directions](#) for using and accessing the Minor VIA Annotated Outline.

**SCORE 20-24**

Noticeable visual changes to the environment are proposed. A fully developed VIA is appropriate. This technical study will likely receive public review. Go to the [Directions](#) for using and accessing the Moderate VIA Annotated Outline.

**SCORE 25-30**

Noticeable visual changes to the environment are proposed. A fully developed VIA is appropriate that includes photo simulations. It is appropriate to alert the Project Development Team to the potential for highly adverse impacts and to consider project alternatives to avoid those impacts. Go to the [Directions](#) for using and accessing the Advanced/Complex VIA Annotated Outline.

LEVEL 1 - RISK REGISTER				Project Name: Smart Corridor Phase IV - North County Expansion			DIST- EA	04-0Q640K	Project Manager	NANDINI N. SHRIDHAR		
Risk Identification							Risk Rating		Risk Response			
Status	ID #	Type	Category	Title	Risk Statement	Current status/assumptions	Priority Rating	Rationale for Rating	Strategy	Response Actions	Risk Owner	Updated
Active	1	Threat	Organizational	Funding/Programming	Project Not Programmed	Need to have PSR approved by Caltrans by 11/1/2017 in order to program the project	Medium		Accept	Elevate issue to management for resolution	John Hoang	10/3/2017
Active	2	Threat	Environmental	Cultural and Historic Resources	Additional PAED surveys may reveal sensitive archaeological or historic resources	Monitor	Medium	Record search and field reconnaissance, or Native American consultation may identify sensitive archaeological or historic resources that would require avoidance or mitigation, then the proposed project would require, at minimum, an Historic Properties Survey Report (HPSR) and an Archaeological Survey Report (ASR).	Avoid	Conduct record search during PA/ED phase and establish design that avoids sensitive resources.	John Hoang	10/24/2017
Active	3	Threat	Environmental	Section 4(f) Properties	Existing Section 4(f) resources located adjacent to the potential resources	Monitor	Low		Avoid	The proposed project to be within roadway right-of-way and designed to avoid "use" of these resources.	John Hoang	10/24/2017
Active	4	Threat	Environmental	PA/ED Schedule	Level of environmental document elevated requiring more time for review	Anticipated schedule includes a 27-month period between end of PA/ED and end of PS&E, which includes some contingency for an extended PA/ED review	Medium	The number of corridors and project element locations is high.	Mitigate	To maximize efficiency, priority should be given during PAED to identifying and defining locations for trenching, realigning, replacing, moving, or installing electrical elements to provide scope and basis of technical studies.	John Hoang	10/24/2017
Active	5	Threat	Environmental	Biological Resources	If the record search and field reconnaissance identify sensitive biological resources (i.e., special status species or habitat) that would require avoidance or mitigation, then the proposed project would require, at minimum, a NES-MI.	Monitor	Medium		Mitigate	To maximize efficiency, priority should be given during PAED to identifying and defining locations for trenching, realigning, replacing, moving, or installing electrical elements to provide scope and basis of technical studies.	John Hoang	10/24/2017
Active	6	Threat	Construction	Utility Relocation Potential	Subject to utilities verification and potholing, utility relocation(s) may be required	Dormant	Low		Avoid	Determine needs early, factor in costs/impacts; adjust new conduit alignment during design or construction	John Hoang	10/4/2017
Active	7	Threat	Design	Project Opposition by Public	Public may oppose the installation of trailblazer signs on local streets	Dormant	Medium		Mitigate	Extensive public relations during predesign and design stages	John Hoang	10/5/2017
Active	8	Threat	Organizational	Lack of Stakeholder Consensus	Stakeholders do not agree on operation of the system	Monitor	Medium		Mitigate	C/CAG and cities to coordinate and develop acceptable agreements to all parties	John Hoang	10/6/2017
Active	9	Threat	Organizational	Lack of Stakeholder Funding	Stakeholders do not fund operations, maintenance, and management responsibilities, or cannot fulfill them	Monitor	Medium		Mitigate	Identify Operations, Maintenance, and Management responsibilities and funding in a Memorandum of Understanding	John Hoang	10/7/2017
Active	10	Threat	Construction	System Integration Challenges	The project will require integration between existing Smart Corridor, Caltrans ATMS, and city control systems	Dormant	Low		Mitigate	Proactively identify alterations or revisions to resolve challenges	John Hoang	10/8/2017
Active	11	Opportunity	Design	Unusable Existing Infrastructure	Existing conduit or communications is not usable	Dormant	Medium		Mitigate	Design alternate solutions using existing infrastructure to reduce costs.	John Hoang	10/9/2017
Active	12	Threat	Design	Service Easements	Easements may be required for service locations	Dormant	Medium		Mitigate	Identify service locations during PA/ED so easement process can begin	John Hoang	10/10/2017