04 - SM - 101 – 20.7/21.7
EA 04-4H360K
Project ID: 0413000212
July 2015

Project Study Report-Project Development Support (PSR-PDS)

To

Request Programming for Capital Support and Approval for Locally Funded Project to Proceed to the Project Approval and Environmental Document (PA&ED) Phase

On Route US 101

Between US 101/I-380 interchange (PM 20.7)

And North of US 101 off-ramp to Produce Avenue (PM 21.7)

APPROVAL RECOMMENDED:

BRIAN MCMINN, PUBLIC WORKS DIRECTOR
CITY OF South San Francisco
Accepts Risks Identified in this PSR-PDS and Attached Risk Register

APPROVAL RECOMMENDED:

RICHELLE PEREZ, CALTRANS PROJECT MANAGER

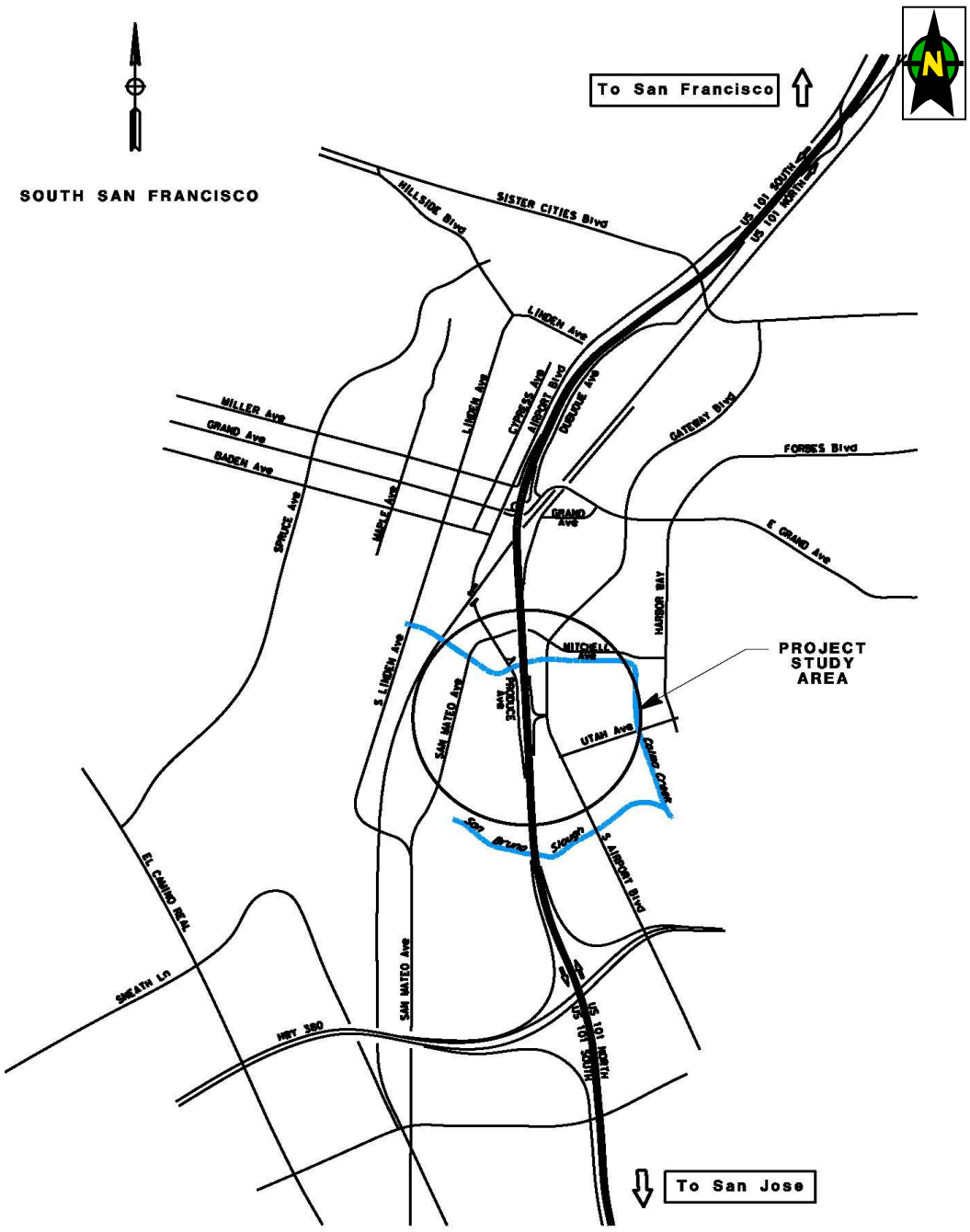
APPROVED:

BIJAN SARTIPI, DISTRICT DIRECTOR

8/31/15
DATE

Intentionally Left Blank

Vicinity Map



On Route US 101

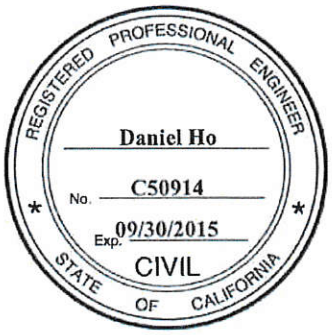
Between US 101/I-380 interchange (PM 20.7)

And North of Southbound Off-ramp to Produce Avenue (PM 21.7)

Intentionally Left Blank

This Project Study Report-Project Development Support 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 — *DATE* 7/22/2015



Reviewed by:

for *CELIA McCUAIG*
OFFICE CHIEF, ADVANCE PLANNING

Table of Contents

1. INTRODUCTION

Project Description:

The project site is located in San Mateo County on US 101 from the US 101/I-380 interchange to just north of US 101 southbound off-ramp to Produce Avenue. See Attachment A for the Project Location Map.

The project proposes to extend Utah Avenue to the west over US 101 to connect with San Mateo Avenue and improve the southbound on- and off-ramp accesses from and to the areas. This will result in an improvement to the safety and traffic operations and provide a local east-west connection across US 101 for the southern neighborhoods of the City.

The project would also construct new sidewalks, directional ADA compliant curb ramps, and Class II bike lanes on both sides of the east-west local street connection.

Project Limits	04-SM-101 PM 20.7/21.7
Number of Alternatives	Five Alternatives (See Attachments B, C, D & E): 1. No Build 2. Braided US 101 SB Off-Ramp 3. Modified Partial Cloverleaf 4. Tight Diamond With Braided Ramps 5. Roundabout Intersections
Current Capital Outlay Support Estimate for PA&ED	$3.0M (Excludes Caltrans IQA)
Current Capital Outlay Construction Cost Range	$98-$190M
Current Capital Outlay Right-of-Way Cost Range	$45-$80M
Funding Source	Currently not funded. Anticipated funding sources: Local (City) and San Mateo County Measure A (Sales Tax)
Type of Facility	Freeway Interchange
Number of Structures	1-5 new bridges
Anticipated Environmental Determination or Document	CEQA-Initial Study/Negative Declaration NEPA-Routine Environmental Assessment with a Finding of no Significant Impact
Legal Description	On US 101 in San Mateo County in the City of South San Francisco from the US 101/I-380 interchange to just north of US 101 southbound off-ramp to Produce Avenue
Project Development Category	3

Attachment F contains preliminary cost estimates for specific work items included in this project. The remaining support, right-of-way, and construction components of the project are preliminary estimates and are not suitable for programming purposes. A Project Report would serve as approval of the "selected" alternative and the programming document for the remaining support and capital components of the project. The $3.0 million estimated for capital outlay support for the Project Approval and Environmental Document (PA&ED) phase does not include Independent Quality Assurance (IQA) by Caltrans.

This PSR-PDS serves as the authorizing document to initiate the PA&ED phase. The City of South San Francisco (City) is the sponsoring agency and implementing agency for the PA&ED phase.
Funding for PA&ED, design and construction have not been secured at this time, however, it is anticipated that the project will receive from the San Mateo County's 'Measure A' program and the City of South San Francisco for PA&ED phase. Conceptual approval of the Build Alternatives will be requested in the PA&ED phase.

2. BACKGROUND

US 101 is a major freeway through the City of South San Francisco, serving significant commuter, commercial, industrial, and San Francisco International Airport traffic. Produce Avenue is between the US 101/East Grand Avenue interchange to the north and the US 101/I-380 interchange to the south. The San Francisco International Airport is approximately 2.5 miles south of Produce Avenue. Land uses in the vicinity of the interchange include warehouses and shipping facilities, commercial businesses, produce processing and supply facilities, visitor services (hotels and restaurants), and airport services (passenger parking lots).

In November 2012, the City completed a feasibility study to improve the southbound US101/Produce Avenue on- and off-ramp and east-west connection across US 101 in the vicinity. The study identified three (3) alternative interchange configurations. Alternatives 1, 2 &3 are included in Table 2-1.

Table 2-1 summarizes the options previously considered by the City and as well as the alternatives studied in this PSR-PDS with brief descriptions on whether these options are being pursued further and reasoning for rejections.

Table 2-1 - Options Studied by the City

Option	Description	Considered Further Studies	Comments
1	Modified Partial Cloverleaf Interchange		This alternative was subsequently incorporated into the revised Alternative 3 (Modified Partial Cloverleaf).
2	Braided US 101 SB Off Ramp	✓	This alternative is one of the Build alternatives to be studied further in PA&ED phase.

Option	Description	Considered Further Studies	Comments
3	Modified Partial Cloverleaf	✓	This alternative is one of the Build alternatives to be studied further in PA&ED phase.
4	Auxiliary Lane Concept		This alternative was rejected because it is expected that the existing weaving condition would be worsen as the SB on-ramp traffic would have to weave an additional lane to enter US101.
5	SB Braided Ramps Concept		This alternative was subsequently incorporated into the revised Alternative 6 (Tight Diamond with Braided Ramps).
6	Tight Diamond With Braided Ramps	✓	This alternative is one of the Build alternatives to be studied further in PA&ED phase.
7	Diverging Diamond		This alternative was rejected because the short intersection spacing between the NB ramps and S Airport Blvd. Another reason for the rejection was because it would significantly reduce the already non-standard weaving distance between the SB on-ramp and I-380 connector ramps. Additionally, a crest vertical alignment is not ideal for the DDI as it would provide less optimal sight distances.
8	Single Point Urban Interchange		This alternative was rejected due to reasons similar to Alternative 7 (DDI).
9	Roundabout Intersections	✓	This alternative is one of the Build alternatives to be studied further in PA&ED phase to comply with Caltrans Intersection Control Evaluation (ICE) policy.

Note: Option 3 was preferred by the City.

3. PURPOSE AND NEED

A. Purpose

The purpose of the project is to:

- Enhance safety and improve traffic operations in the vicinity of Produce Avenue and US 101.
- Provide a local east-west connection across US 101 for the southern area of the City of South San Francisco.
- Improve bicycle and pedestrian facilities
- Accommodate future planned growth in the vicinity of Produce Avenue and US 101.

The project would also incorporate Complete Street features, improve pedestrian mobility, and comply with American with Disabilities Act (ADA) requirements.

B. Need

Existing Facility

Produce Avenue is predominantly a three-lane north-south collector roadway between the Airport Boulevard/South Airport Boulevard/San Mateo Avenue intersection in the north and the Terminal Court intersection in the south. The posted speed limit along Produce Avenue is 35 miles per hour (mph).

Airport Boulevard is a major multi-lane north-south arterial roadway in the city of South San Francisco. Airport Boulevard extends southerly from Bayshore Boulevard in the city of Brisbane to connect with South Airport Boulevard at the San Mateo Avenue / Produce Avenue intersection. Within the study area, the arterial is primarily fronted by commercial land uses with a posted speed limit of 40 mph and carries approximately 20,000 vehicles per day (vpd).

South Airport Boulevard is a major multi-lane north-south arterial roadway in the City of South San Francisco. South Airport Boulevard extends southerly from Airport Boulevard at the San Mateo Avenue/Produce Avenue intersection, passes under US 101 and then continues to the south past the I-380 interchange to connect with San Bruno Avenue East/North McDonnell Road. Within the study area, it is primarily fronted by various commercial land (Valero gas station, Travelodge Hotel, Best Western Hotel and convention center, Holiday Inn, and Louis Raphael Clothing) with a posted speed limit of 30 mph and carries approximately 20,200 vpd.

Utah Avenue is a four-lane east-west collector roadway in the City of South San Francisco. Utah Avenue extends from the South Airport Boulevard intersection in the west to the Littlefield Avenue intersection to the east. Within the study area, Utah Avenue is primarily fronted by commercial land uses (McCune Event Production Company, Louis Raphael Clothing) with a posted speed limit of 30 mph.

San Mateo Avenue is a two-lane north-south roadway in the City of South San Francisco. San Mateo Avenue extends from the Airport Boulevard / Produce Avenue intersection in the north to State Route 82 (El Camino Real) in the city of San Bruno to the south. Within the study area, it is primarily fronted by commercial land uses (Peking Handicraft, Bay Badminton Center, Four Star Automotive) with a posted speed limit of 30 mph.

Terminal Court is a short two-lane east-west cul-de-sac in the City of South San Francisco. Terminal Court extends to the west from Produce Avenue (just north of where Produce Avenue connects to southbound US 101) and primarily serves three commercial properties (Park ‘N Fly, A&A Produce and vacant facility that was formerly FasTrack Airport Parking).

The existing US 101/Produce Avenue interchange facility consists of discontinuous interchange ramps in the southbound and northbound directions. The southbound off-

ramp is a short one-lane "buttonhook" design that connects to Produce Avenue at a stop-controlled intersection on the north side of the Colma Canal. At this intersection, Produce Avenue is primarily two lanes in the southbound direction and one lane in the northbound direction. It functions as a collector-distributer roadway, extending south from its intersection with San Mateo Avenue, Airport Boulevard, and South Airport Boulevard, crosses over the Colma Canal, and parallels the freeway briefly as a frontage road before merging as a two-lane on-ramp into the southbound US 101 auxiliary lanes. In the northbound direction of US 101, the interchange consists of short buttonhook on- and off-ramps connecting with South Airport Boulevard. The only connection between the northbound and southbound ramps is by way of the US 101/South Airport Boulevard undercrossing, to the north.

Existing Roadway Deficiencies and Locations of Congestion

To reach southbound US 101 from Utah Avenue, traffic is required to turn right at the Utah Avenue/South Airport Boulevard intersection, head north on South Airport Boulevard passing under US 101, head south at the Airport Boulevard/South Airport Boulevard/San Mateo Avenue/Produce Avenue intersection, and continue south along Produce Avenue to access the southbound on-ramp just south of Terminal Court, a total of just over ¾ mile.

The intersection of Terminal Courtand Produce Avenue a stop controlled intersection just north of the southbound on-ramp to US 101. Vehicles exiting Terminal Court can turn left onto northbound Produce Avenue or right onto the southbound on-ramp. Vehicles turning left must cross the path of vehicles traveling at high speeds along southbound Produce Avenue that do not have to stop before entering the southbound on-ramp.

Local traffic does not have an efficient route to the northbound and southbound US 101 ramps. This leads to large trucks using the surface streets to access the freeway. For instance, the traffic from the produce warehouses to the west of US 101 (including from Terminal Court) must travel north on San Mateo Avenue or Produce Avenue under US 101 on South Airport Boulevard then travel south on South Airport Boulevard to access northbound US 101. There is no overcrossing of US 101 at Utah Avenue, and therefore traffic originating from Utah Avenue east of US 101 has to make the reverse trip along South Airport Boulevard to access southbound US 101.

Pedestrian and Bicycle Facilities

Bicyclists and pedestrians can only cross US 101 in two places in the project vicinity. Pedestrian facilities on South Airport Boulevard are comprised of narrow walkways at the US101/Colma Road Undercrossing. The nearest alternative US 101 crossing is the East Grand Avenue, 0.3 mile to the north, but it also has narrow sidewalks that are not compliant with current Americans with Disabilities Act standards.

Existing bicycle crossings across the freeway are the Class III bike routes on East Grand Avenue at the South San Francisco Ovehead (3,300 feet north of the project

area), and on South Airport Boulevard st at the US 101/Colma Road undercrossing (1,200 feet north of the S Airport Boulevard on- and off-ramps).

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT (TEPA)

A Traffic Engineering Performance Assessment (TEPA) was prepared using traffic data and information available within the public domain and applying macro level analysis and evaluation techniques to provide a technical foundation for developing a preliminary purpose and need for the proposed project, and to outline the scope and magnitude of the more detailed traffic studies to be conducted as part of the PA&ED phase of the project.

The key findings of the TEPA include:

A. Traffic Operations and Safety

Local traffic does not have an efficient route to the northbound and southbound US 101 ramps. This leads to large trucks using the surface streets to access the freeway. The existing options for crossing US 101 in the vicinity of the Produce Avenue on- and off-ramps are circuitous. To reach southbound US 101 from Utah Avenue, traffic is required to head north on South Airport Boulevard passing under US 101and continue south along Produce Avenue to access the southbound on-ramp.

The project team conducted field observation of existing conditions on Thursday January 8, 2015. Significant queues and delays were observed in the AM and PM peak.
Other findings from field visit are summarized below.

AM Peak
There were not any significant queuing issues in the AM peak. There was queuing observed at the following locations for one or two cycles, although they cleared up every cycle.

- Northbound right turn from S. Airport Boulevard to Utah Avenue.
- Northbound left turn from S. Airport Boulevard to US 101 northbound on-ramp.
- Northbound left turn from S. Airport Boulevard to S Airport Boulevard at the S. Airport/Mitchell Avenue intersection.
- Eastbound right turn from northbound US 101 off ramp to S. Airport Boulevard.

PM Peak
Significant queues were observed in the PM peak.
- Westbound left turn from S. Airport Boulevard to Produce Avenue – queue extended all the way across the undercrossing.
- Northbound approach (left and through) at S. Airport Boulevard/US 101 northbound off-ramp – queue extended to Utah Avenue.

- Southbound approach and northbound approach at Gateway Boulevard/S. Airport Boulevard experienced extensive queues.
- Traffic in both freeway directions was heavy in the study.
- Westbound approach (right and left) at Utah Avenue/S. Airport Boulevard – long queue was observed.
- Weaving segment between US 101/Produce Avenue southbound on-ramp and I-380 connector – speed reduces to almost 45 mph. Queue on southbound US 101 spilled back on the right lane beyond S. Airport Boulevard because of weaving activities.
- Congestion was observed on southbound S. Airport Boulevard from N. Access Rd (access to US 101/I-380) to Utah Avenue.

Traffic from the eastside of US 101 can access southbound US 101 and WB I-380 from both Produce Avenue on-ramp and from N. Access Rd. Our field observation revealed that when the queue on westbound left turn on S. Airport (at S Airport Boulevard/Produce Avenue intersection) it spilled back beyond the underpass, people started to use the N. Access Rd as an alternate route. Queue on southbound S Airport Boulevard was observed from N. Access Rd to Utah Avenue between 5:45 pm to 6:45 pm.

B. PA&ED Scope

The project study limits for traffic operations analysis will be determined in the PA&ED phase of the project.

As part of the PA&ED effort, new data will be collected to reflect the most current conditions. The data collection will include freeway mainline, ramp and cross-street daily traffic volumes, peak hour traffic volumes at intersections and interchanges, pedestrian and bicycle counts on local streets.

Future forecast demands on US 101, I-380 freeways, ramps and local streets in the project study limits will be developed for both opening year (2020) and design year (2040).

The traffic analysis will evaluate the impacts to the local street network including, but not limited to, the following intersections:

- Utah Avenue/South Airport Boulevard.
- Utah Avenue/US 101 Southbound On-/Off-Ramp
- Utah Avenue/San Mateo Avenue.
- South Airport Boulevard/ US 101 Northbound On-/Off-Ramp
- Produce Avenue/Airport Boulevard/S Airport Boulevard/San Mateo Avenue
- S. Airport Boulevard/Gateway Boulevard/Mitchell Avenue
- S. Airport Boulevard/N. Access Rd/101-380 Ramps

The traffic analysis will also evaluate the impacts on US 101 traffic interchanges south and north of Produce Avenue to identify potential bottlenecks and measures.

A detailed crash/safety analysis will be included in the traffic study in the PA&ED phase. It is expected that the overall safety of the area will improve from the intersection improvements by reducing traffic congestion.

The findings of the PA&ED traffic analysis will be documented in a Traffic Operations Analysis Report (TOAR) which will be used to select the preferred alternative and support the project purpose and need.

A preliminary Transportation Management Plan will be developed with the PA&ED process.

5. DEFICIENCIES

The existing options for crossing US 101 in the vicinity of the Produce Avenue on- and off-ramps are circuitous and inefficient. South Airport Boulevard crosses beneath US 101 at the southbound off-ramp about 1,000 feet north of the northbound on- and off-ramps. To connect to South Airport Boulevard and Utah Avenue from southbound US 101, traffic must exit the freeway using the one-lane off-ramp to northbound Produce Avenue, head east at the four-way intersection of Produce Avenue/San Mateo Avenue/Airport Boulevard/South Airport Boulevard, and follow South Airport Boulevard under US 101 to Utah Avenue, a travel distance of just over one-half mile.

Traffic congestion in the project area is projected to worsen in the future as jobs and housing continue to be added. On US 101, the projected traffic demand will primarily be from regional trips, but the increase in population and jobs predicted in the future within the City will place a higher demand for new and efficient access to and from US 101 (City of South San Francisco 2010).

Bicyclists and pedestrians can only cross US 101 in two places in the project vicinity: at the US 101/South Airport Boulevard undercrossing in the proposed project area, and at the US 101/East Grand Avenue overcrossing 0.3 mile to the north of the project area.

In the vicinity of US 101, the existing Class III bike routes provide limited separation between riders and traffic. On South Airport Boulevard and East Grand Avenue undercrossings of US 101, bicyclists share the lane with vehicles, and while the undercrossing is short, the roadway curvature reduces visibility.

Pedestrian facilities at the South Airport Boulevard undercrossing of US 101 are inadequate, with narrow sidewalks on both sides at the freeway undercrossing. The nearest alternative US 101 crossing is the US 101/East Grand Avenue overcrossing, but it also has narrow sidewalks that are not compliant with current ADA standards.

A. Accident Analysis

Table 5-1 lists the recorded and expected accident data at the southbound US 101/Produce Avenue and northbound US 101/S. Airport Boulevard off- and on-ramps for the three-year period from October 1, 2009 to September 30, 2012. There are two locations that have accident rates that are higher than the average rate for similar facilities. The US 101 northbound on-ramp from South Airport Boulevard, and the US 101 southbound off-ramp to Produce Avenue/Airport Boulevard intersections both show actual accident rates higher than the statewide average accident rate for similar facilities.

Table 5-1 - US 101/Produce Avenue Interchange TASAS Accident Data
October 1, 2009 – September 30, 2012

Post Mile	Location	Number of Accidents			Actual Accident Rates (Per Million Vehicle Miles)			Average Accident Rates (Per Million Vehicle Miles)		
		Total	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury
21.386	101 SB on from Produce Ave /Airport Blvd	0	0	0	0.00	0.000	**0.00**	0.41	0.000	0.13
21.398	101 NB off to S Airport Blvd	7	0	2	0.56	0.000	**0.16**	0.84	0.003	0.24
21.496	101 NB on from S Airport Blvd	4	0	1	**0.77**	0.000	0.19	0.46	0.001	0.13
21.691	101 SB off to Produce Ave/Airport Blvd	6	0	2	**0.93**	0.000	0.31	0.84	0.003	0.24
21.2 to 21.9	US 101 (SB and NB)	63	0	18	0.37	0.000	**0.11**	0.93	0.003	0.28

Source: TASAS-TSN (Caltrans Transportation System Network-Traffic Accident Surveillance and Analysis System data (Table B))

Bold = Recorded accident rates for this road segment that are higher than the statewide average

Fatal = number of fatal accidents per million vehicle miles
Fatal + Injury = number of fatal plus injury accidents per million vehicle miles
Total = total number of accidents per million vehicle miles

Table 5-2 summarizes compiled Statewide Integrated Traffic Records System (SWITRS) data from the Safe Transportation Research and Education Center Transportation Injury Mapping System, which includes incidents involving pedestrians and bicyclists. Vehicle accidents were highest on Airport Boulevard at San Mateo Avenue, Produce Avenue at Terminal Court, and South Airport Boulevard at Produce Avenue. There was one recorded accident with a pedestrian at South

Airport Boulevard and Utah Avenue, and three accidents involving bicycles at three different locations on South Airport and Airport Boulevards. Two of the bicycle accidents were in the project area: South Airport Boulevard and Mitchell Avenue (where future Class II bicycle lanes are included in the City's Bicycle Master Plan) and Airport Boulevard and San Mateo Avenue (an unsigned Class III bicycle route). Bicycle facilities are discussed in more detail in a following section.

Table 5-3 lists the recorded pedestrian and bicycle accident data elements within the project area for the three-year period from October 1, 2009 to September 30, 2012.

Table 5-2 - Vehicle Accident Data,
October 1, 2009 – September 30, 2012

Primary Road	Secondary Road	Number of Accidents		
		Total	Fatal	Injury
South Airport Blvd	Utah Ave	2	0	2
Produce Ave	Terminal Ct	3	0	3
South Airport Blvd	Mitchell Ave	1	0	1
South Airport Blvd	Marco Way	1	0	1
Airport Blvd	San Mateo Ave	4	0	4
Produce Ave	Airport Blvd	1	0	1
South Airport Blvd	Produce Ave	3	0	3

Table 5-3 - Pedestrian and Bicycle Accident Data,
October 1, 2009 – September 30, 2012

Primary Road	Secondary Road	Number of Accidents and Type of Injury			
		Pedestrian	Degree of Injury	Bicycle	Degree of Injury
South Airport Blvd	Utah Ave	1	Severe	0	
Produce Ave	Terminal Ct	0		0	
South Airport Blvd	Mitchell Ave	0		1	Other Visible Injury
South Airport Blvd	Marco Way	0		1	Severe
Airport Blvd	San Mateo Ave	0		1	Other Visible Injury
Produce Ave	Airport Blvd	0		0	
South Airport Blvd	Produce Ave	0		0	
Source: TASAS-TSN data Oct. 1, 2009 to Sept. 30, 2012 (Caltrans Transportation System Network-Traffic Accident Surveillance and Analysis System data (Table B))					

6. CORRIDOR AND SYSTEM COORDINATION

A. Identify Systems

US 101 is a part of the National Highway System and the Strategic Highway Network which provide defense access, continuity, and emergency capabilities for defense purposes. US 101 is also a truck route and part of the Surface Transportation Assistance Act (STAA) Network.

B. Corridor Planning

The System Planning process is primarily composed of three parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), and the Corridor System Management Plan (CSMP). The DSMP is a long-range (20 year) strategic and policy planning document that presents the long range goals, policies and programs the district intends to follow in maintaining, managing, and developing the transportation system. It serves as a resource for informing federal, state, regional and local agencies, and the public and private sector of the plans the district intends to follow in its partnership role with local and regional agencies. The TCR is a planning document that identifies the existing and future route conditions as well as future needs for each route on the State Highway System. The Transportation Concept Report (TCR) is a Caltrans long-range planning document that informs the regional multi-modal transportation planning process through the year 2035.

In December 2010, Caltrans developed a Corridor System Management Plan (CSMP) for the US 101 corridor from the Route 85 South Interchange in Santa Clara County to the San Francisco/San Mateo County line. A supplement to this CSMP was finalized in February 2011.

The four build alternatives presented in this PSR-PDS are consistent with the CSMP. The CSMP's "2035 Year Concept" identifies Segment K of the US 101 corridor (I-380 Interchange to SM/SF County Line) as having the same number of lanes (eight) that exist today. The CSMP's rationale for this is due to right-of-way restrictions within the corridor, resulting in a 25-year concept that is similar to the current facility.

C. State Planning

Within the project area, US 101 serves primarily interregional traffic as the backbone of the circulation system for many cities and communities in the region. It is part of the Freeway and Expressway System, National Truck Network, and Interregional Road System (IRRS). US 101 is a Focus Route identified by Caltrans in the 1998 Interregional Transportation Strategic Plan and is on the Freeway and Expressway System (F&E).

In addition, because access to/from US 101 would be modified, a new or revised freeway agreement and freeway maintenance agreement, between the City of South San Francisco and Caltrans, is expected. The City will be expected to hold a public hearing before entering an agreement with Caltrans. Details of the agreements will be discussed in more depth during the PA&ED phase of the project.

D. Regional Planning

The Metropolitan Transportation Commission (MTC) oversees regional transportation planning efforts for nine Bay Area counties. Transportation projects in the Bay Area are included in the Regional Transportation Improvement Program (RTIP) and the Transportation Improvement Program (TIP). This project is not currently listed in MTC's 2014 RTIP or 2015 TIP, but it is expected that the City of South San Francisco or SMCTA will coordinate with Caltrans and the MTC in the future to list the project in the 2016 RTIP and/or 2017 TIP.

However, the project is listed in the 2040 Regional Transportation Plan (RTP). The project (RTP ID #22279) is on the Final 'Plan Bay Area' Project List, dated December 15, 2014.

US 101 in San Mateo County is part of the MTC HOV Master Plan and the Bay Area Express Lanes network as published in the Bay Area High-Occupancy/Toll (HOT) Network Study Final Report. The project will need to coordinate with MTC and C/CAG to accommodate the future HOV or HOT lanes within the project limits.

E. SHOPP Projects

In July 2014, a list of 10-year State Highway Operation and Protection Program (SHOPP) projects within San Mateo County was obtained from Caltrans. One project falls within the post mile limits of this project:

1. Construct roadside paving, Access Gates and Relocate Facilities Project (EA 04-3G680, PM 20.0/26.1)

This project is not expected to impact any design features of either of the four alternatives, but this proposed project will coordinate, as necessary, during the PA&ED phase with the SHOPP project and any other projects that may surface over the next couple of years.

7. ALTERNATIVES

The No Build and four Build Alternatives were evaluated to determine their ability to satisfy the project's purpose and need. These alternatives will be studied further in the PA&ED phase.

A. No Build Alternative

The "No Build" alternative assumes no construction of the Utah Ave/Produce Ave Interchange. Under this alternative, the existing southbound US 101 on-/off-ramps, Produce Avenue, South Airport Boulevard and Utah Avenue would remain unchanged. This alternative does not meet the need and purpose of the project. Rather, it provides a basis for the analysis and evaluation of the "Build" alternatives for the proposed project.

B. Alternative 2 - Braided US 101 SB Off Ramp

Alternative 2 proposes to construct a new overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection (See Attachment B). This alternative would shift the existing southbound Produce Avenue on-ramp northerly to improve the weaving distance to I-380. The existing southbound off-ramp would be closed and replaced by a new diagonal off-ramp grade separating over the southbound on-ramp. The new diagonal off-ramp would connect to the new overcrossing. The southbound off-ramp would begin as a single lane ramp and widen to two lanes, providing significant off-ramp storage space improvements. A new local road would be constructed starting just before the southbound on-ramp and ending west of Utah Avenue extension. A new access road would form the southerly leg of the signalized intersection. The existing Terminal Court would be closed. The existing northbound on- and off-ramps would remain unchanged.

See Attachment G for typical cross sections of Alternative 2.

C. Alternative 3 - Modified Partial Cloverleaf

Alternative 3 proposes to construct a modified partial cloverleaf (L-7) interchange in the western quadrants by extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection (See Attachment C) . The existing southbound on- and off-ramps would be closed. Under this alternative the existing southbound on-ramp gore would be perpetuated, maintaining the existing weaving length to I-380. A new southbound off-ramp would connect to Produce Avenue in a "T" intersection with the loop on-ramp. The southbound off-ramp would begin as a single lane ramp and widen to two lanes. A new local road starting right after the Colma Creek Bridge would run alongside the new southbound off-ramp and connect to a signalized intersection, west of Produce Avenue. Similar to Alternative 2, the access to the Park 'N Fly parking lots would be provided at the signalized intersection and the existing Terminal Court would be closed.

See Attachment G for typical cross sections of Alternative 3.

D. Alternative 6 - Tight Diamond With Braided Ramps

Alternative 6 is the maximum foot-print alternative. It proposes to reconfigure the interchange to a tight diamond interchange (See Attachment D). The on- and off-ramps south of the overcrossing would be braided with the I-380 connector ramps. In the northbound direction, the I-380 two-lane connector ramp would braid over the off-ramp to the Utah Avenue overcrossing. In the southbound direction, the two-lane on-ramp would split in two: one going to west I-380 and the other heading to southbound 101. The existing southbound 101 to westbound I-380 connector ramp would also be shifted 1700 feet to the north. The existing on- and off-ramps in both directions would be closed. Produce Avenue would be relocated along the westerly side of the new southbound diagonal off-ramp and it would continue under the new overcrossing, providing access to the parcels in the southwest quadrant.

See Attachment G for typical cross sections of Alternative 6.

E. Alternative 9 - Roundabout Intersections

Alternative 9 proposes to construct an overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection (See Attachment E). Similar to Alternative 3, a Type L-7 interchange configuration is proposed in the western quadrants. However, under this alternative, roundabouts would replace the traffic signal at the northbound and southbound US 101 ramp intersections. The existing southbound on- and off-ramps would be closed. This alternative also proposes a roundabout at the intersection of South Airport Boulevard and Utah Avenue. Produce Avenue would be relocated alongside the southbound off-ramp and would terminate in a new cul-de-sac. A new access would form the southerly leg of the southbound roundabout ramp intersection.

See Attachment G for typical cross sections of Alternative 9.

F. Design Standards

Exceptions to design standards for all four build alternatives were presented to Headquarters' (HQ) Project Delivery Coordinator, Larry T. Moore, and other team members on December 18, 2014. Table 7-1 below provides a summary of the mandatory design exceptions and Table 7-2 provides a summary of the advisory design exceptions for both alternatives. See Attachment H for a graphical depiction of the mandatory and advisory design exceptions for each alternative.

Table 7- 1 Mandatory Design Exceptions

Mandatory Design Standards Risk Assessment

Mandatory Design Standards Risk Assessment			
Alternative	**Design Standard from Highway Design Manual Tables 82.1A & 82.1B**	**Probability of Design Exception Approval (None, Low, Medium, High,)**	**Justification for Probability Rating**
9	Index 202.2, Superelevation Rate	High	Standard superelevation rates at on-ramps would require more right of way acquisition.
3 & 6	Index 504.3(3) Intersection Spacing	Medium	Standard distance between ramp intersection and local road intersection would require shifting the local road intersection further east. This would require relocation of several commercial properties, more right of way acquisition, and utility impacts.
2, 3, 6 & 9	Index 504.7 Weaving Sections	Medium	Standard weaving distance would require relocating the Utah Ave NB off-ramp further north. This would impact the NB braided ramps from I-380 to Utah Ave interchange and require more right of way acquisition.
2, 3, 6 & 9	Index 501.3 Interchange Spacing	High	Standard spacing would require reconstruction of Produce Ave Interchange and more right of way acquisition.
6	Index 405.1 (2b) Corner Sight Distance	Low	Standard corner sight distance would require bridge widening, wider sidewalks, and shifting the SB off-ramp further west.
2	Index 502.2, Isolated Off-Ramps	Low	Providing standard features would require more right of way acquisition to commercial properties.

Table 7- 2 Advisory Design Exceptions

Advisory Design Standards Risk Assessment			
Alternative	**Design Standard from Highway Design Manual Tables 82.1A & 82.1B**	**Probability of Design Exception Approval (None, Low, Medium, High,)**	**Justification for Probability Rating**
6	Index 201.1, Decision Sight Distance	Medium	Standard decision sight distance would extend the ramps out further which would require more right of way acquisition and utility impacts.
3 & 9	Index 202.5, Superelevation Transition	High	Standard superelevation transition would extend on-ramp out which would require more right of way acquisition.

Advisory Design Standards Risk Assessment			
9	Index 504.2, Departure Angle	Medium	Standard departure angle would require more right of way acquisition and reduces the weaving distance from S Airport Blvd on-ramp to Grand Ave off-ramp.

G. Ramp Metering / Traffic Operation System (TOS)

Within the project limit on US 101, ramp metering is active on both northbound and southbound directions. The following is a list of existing ramp metering configuration within the project area:

County	Route	Direction	Location	Configuration
SM	101	S	Produce Ave	1 HOV Lane and 2 Mixed Flow Lanes
SM	101	N	S Airport Blvd	1 Mixed Flow Lane

Ramp metering configurations are proposed for each on-ramp within the project limit. Table 7-3 is a list of proposed ramp metering configurations for each alternative:

Table 7 - 3 Proposed Metered On-Ramp Configuration

Alternative	County	Route	Direction	Location	Configuration
2 & 6	SM	101	S	Produce Ave	1 HOV Lane and 2 Mixed Flow Lanes
3 & 9	SM	101	S	Produce Ave	1 HOV Lane and 1 Mixed Flow Lanes
6	SM	101	S	I-380 Connector	2 Mixed Flow Lane
6	SM	101	N	Utah Avenue	1 HOV Lane and 1 Mixed Flow Lanes
6	SM	101	N	I-380 Connector	1 HOV Lane and 2 Mixed Flow Lanes
9	SM	101	N	S Airport Blvd	1 Mixed Flow Lane

All existing and operational ramp metering and Traffic Operation System (TOS) elements will be kept operational throughout the construction phase of this project. Any ramp metering and TOS elements such as Closed Circuit Televisions (CCTV) Cameras, induction loops and Traffic Monitoring Stations (TMS) that may be affected by this project will be relocated, modified, or fully replaced as necessary. Induction loops will be installed at proposed off-ramps, one per off-ramp lane. Coordination with existing TOS elements will take place during the final design phase. The estimated cost for proposed ramp metering configuration and TOS elements is included in the Preliminary Cost Estimate (Attachment F).

H. Intersection Control Evaluation (ICE)

An ICE will be prepared to evaluate the effectiveness of traffic signal and yield-controlled roundabout proposals as compared to the un-signalized operations once additional traffic counts and forecasting data are available during the PA&ED phase. The ICE process for this project begins with the identification of various access-solution concepts (Pre-ICE Activities). A roundabout, a diverging diamond and a single point interchange concept are discussed below.

Roundabout

A roundabout option has been considered as in Alternative 9. This alternative proposes three roundabouts: one at the intersection of South Airport Blvd and Utah Ave, another at South Airport Blvd northbound on/off ramps, and the third at Utah Ave southbound on/off ramps. Produce Ave would be relocated alongside the southbound off-ramp and would terminate in a new cul-de-sac. A new access road would form the southerly leg of the southbound roundabout ramp intersection. Traffic study in PA&ED phase will be performed to analyze the effectiveness of the roundabouts at these locations.

Diverging Diamond Interchange (DDI)

A diverging diamond interchange concept has been considered as in alternative 7. This alternative was rejected due to the proximity of the proposed northbound ramps and South Airport Blvd. Another reason for the rejection was because it would significantly reduce the already non-standard weaving distance between the southbound on-ramp and I-380 connector ramps. Additionally, a crest vertical alignment is not ideal for the DDI as it would provide less optimal sight distances.

Single Point Interchange (SPI)

A single point interchange concept has been considered as in alternative 8. This alternative was rejected due to the reasons similar to Alternative 7 (DDI).

I. Local Access Improvements

The project proposes to provide a local east-west connection across US 101 for the southern neighborhoods of the City. Utah Avenue would be extended westerly over US 101 to connect with San Mateo Avenue. Ultimately, under the City General Plan, Utah Avenue Extension would connect with Victory Avenue to the west. Under Alternatives 2 & 3, Produce Avenue would be extended to connect with Utah Avenue Extension providing another north-south minor arterial in the project areas on the west side of US 101. It is expected the new Utah Avenue and Produce Avenue extension would provide traffic relief to San Mateo Avenue.

J. Structural Considerations

It is assumed that the new overcrossing (OC) structure spanning US 101 for the extension of Utah Avenue would be constructed as a cast-in-place (CIP) concrete structure requiring the erection of falsework over the traffic lanes of US 101. This scenario results in the worst case profile for Utah Avenue where it crosses US 101 as

Caltrans have minimum temporary falsework vertical clearance requirement over their facilities, and the falsework itself can be several feet deep to the soffit of the new OC. During final design, it may be feasible to obtain consensus with Caltrans to construct the new OC utilizing pre-cast beams that do not require falsework erection over the traffic lanes of US 101, which could lower the profile of the roadway several feet that in turns helps with minimizing the approach grade conforms along Utah Avenue.
During the PA&ED phase, Advance Planning Studies will be prepared for structures and non-standard retaining walls for the feasible alternatives.

K. Pedestrian and Bicycle Network

Bicyclists and pedestrian can only cross US 101 in two places in the project vicinity. Existing US 101 crossings are the Class III bike routes at the US 101/East Grand Avenue overcrossing (3,300 feet north of the project area), and at the US 101/South Airport Boulevard undercrossing (1,200 north of S Airport Boulevard on/off-ramps).

Additional routes for bicyclists and pedestrians are identified in the City General Plan, which was updated by the adoption of the City of South San Francisco Bicycle Master Plan and the Pedestrian Master Plan.

In the vicinity of US 101, the existing Class III bike routes provide limited separation between riders and traffic. For example, the South Airport Boulevard undercrossing of US 101 has two vehicle lanes in each direction but no striped bicycle lanes or shoulders. Bicyclists share the lane with vehicles, and while the undercrossing is short, the roadway curvature reduces visibility. Despite its lack of a designated bicycle lane, this US 101 undercrossing is relied on as it provides access for bicyclists between the residential and commercial areas of the City of South San Francisco on the west side of US 101, with the regional Bay Trail bicycle and pedestrian routes to the east along the San Bruno Canal and Bay shoreline.

Pedestrian facilities at the South Airport Boulevard undercrossing of US 101 are similarly inadequate, with narrow sidewalks at the freeway undercrossing. The nearest alternative US 101 crossing is the East Grand Avenue undercrossing which is 0.4 mile to the north. The crossing at East Grand Avenue also has narrow sidewalks.

Improvements to pedestrian and bicycle accessibility such as new 6 feet sidewalks and 5 feet Class II Bike lanes are proposed on both sides of the Utah Avenue extension for all four alternatives. The project would also construct directional curb ramps, countdown signals and accessible pedestrian signals to crosswalks. Additional details such as bicycle loop detectors and pedestrian/bicycle detectable No Right Turn on Red LED Blankout signs will be considered during the design phase.

All proposed pedestrian facilities within the project limits will be ‘American with Disabilities Act’ (ADA) accessible and in compliance with Federal and State ADA laws and regulations.

L. Context Sensitive Solutions

The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The intended result in urban areas, such as this project, is to provide opportunities for enhanced non-motorized travel and visual quality. As described in Section 7I (Pedestrian and Bicycle Transportation), improvements to pedestrian and bicycle access and safety are underway. During the PA&ED and/or PS&E phases, community meetings will take place to provide stakeholders and the public an opportunity to voice their input on aesthetic features of the project such as, landscape concepts and aesthetic designs for the retaining walls and sound walls.

M. Stormwater and Storm Drain Evaluation

The project is located in the jurisdiction of San Francisco Bay (Region 2) Regional Water Quality Control Board (RWQCB), within San Mateo County Municipal Separate Storm Sewer Systems (MS4). No work will be performed within the San Francisco Bay or Colma Creek, the closest water bodies to the proposed improvements. It is anticipated that stormwater discharge during construction is covered by the Caltrans National Pollutant Discharge Elimination System (NPDES) permit within State right-of-way and the San Mateo County Municipal Regional Stormwater NPDES permit outside State right-of-way, and no 401 certification is necessary. Permitting requirements will be further evaluated in the PA&ED phase of this project.

The total disturbed soil areas (DSA) for the build alternatives range from 14 acres for Alternative 2 to 29 acres for Alternative 6. The DSA includes the proposed total construction area and any soil that will be exposed through the removal of pavement or buildings. Areas of pavement overlay were not included in the calculations. The project will require coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. The risk level assessment has been determined to be Level 2.

The Evaluation Documentation Form, completed as part of the Stormwater Data Report (SWDR) for this phase, indicates that the project will require the incorporation of treatment best management practices (BMPs). Biofiltration swales and/or strips are anticipated to be implemented as the permanent BMPs. Both San Francisco Bay Lower and San Mateo Creek are receiving waters on the 303(d) list for trash in accordance with the Statewide 2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report). A study for the feasibility of Gross Solids Removal Devices (GSRDs) should be performed during the later phases of this project. Permanent erosion control measures such as hydro seeding and fiber rolls are anticipated to be utilized on all new and disturbed fill and cut slopes that are unpaved. Culvert outfalls will include outlet protection and velocity dissipation BMPs if discharging into ditches and basins to minimize erosion. Design details and installation requirements of BMPs will be developed during PS&E and incorporated into the project plans and special provisions.
Aerially deposited lead (ADL) may be present within the limits of the project improvements. A detailed evaluation of ADL presence on this project, including its characterization and reusability, will be finalized during the PS&E phase.

The proposed overcrossing and connecting ramps would increase the total area of impervious surface within the project area. The areas of new runoff will be calculated during preliminary design. The project has the potential to add a net increase of one acre or more of new impervious surface, and if so will require consideration of permanent storm water treatment and hydromodifcation management measures.

Opportunities for drainage basins or other treatment measures could be considered within the existing ramps at South Airport Boulevard and Produce Avenue, or at parcels that may require acquisition and removal of existing structures (potentially at the existing Travelodge on South Airport Boulevard at Utah Avenue).

Locations of concentrated flow conveyance systems, such as ditches, berms, swales, flared end sections and outlet protection and velocity dissipation devices will be evaluated and incorporated into the project during PA&ED and/or PS&E. Culvert outfalls will include outlet protection and velocity dissipation BMPs if discharging into ditches and basins to minimize erosion. Modification to existing roadway drainage systems will be necessary to accommodate the proposed improvements. Design of the drainage facilities will be developed during the PA&ED and/or PS&E phase of the project

8. RIGHT-OF-WAY

A. Right of Way

Right of Way Estimates have been prepared for each build alternative and are included in the estimates shown in Attachment K. All build alternatives would require multiple full and partial fee acquisitions if design exceptions. The right of way requirements for the build alternatives are tabulated as follows:

Alternative	Number of full Acquisitions	Number of Partial Acquisitions	Comments

Alternative	Number of full Acquisitions	Number of Partial Acquisitions	Comments
2	2	14	Full takes parcels
3	2	13	Full takes parcels include
6	7	16	Full takes parcels
9	3	16	Full takes parcels

A Conceptual Cost Estimate - Right of Way Component sheet has been prepared and is shown in Attachment K.

B. Utilities

For all four alternatives, impacts to gas, water, sewer, fiber optics, CATV, telecommunication, electrical transmission towers and overhead electrical lines would be significant. Three electrical transmission towers next to McCune building and three electrical transmission towers next to Best Western Hotel, which connects 20 electrical overhead cables, would have to be raised due to the proposed elevated Utah Avenue extension. A 24” steel gas transmission running along South Airport Boulevard would have to be relocated because the proposed profile of South Airport Boulevard would be raised to connect with the elevation Utah Avenue/S. Airport Boulevard intersection. See Table 8-1 for a summary of the utility impacts.

Alternative 6 would require the 20” gas line in 26” casing to be relocated due to the proposed US 101/Utah Avenue diagonal on-ramp.

The total utility relocation cost is estimated at $15M - $17M.

Table 8- 1 Utility Impacts

Utility Description	Location
PG&E 24" Gas Transmission	Along South Airport Blvd
PG&E 20" Gas Line in 26" Casing	Crossing US 101 freeway
2" Steel Gas Line	Along Utah Ave, South Airport Blvd, and Produce Ave
Sewer Line	Along Utah Ave
Sewer Line	Along South Airport Blvd
Calwater 12" AC Water	Along Utah Ave and South Airport Blvd
Calwater 6" AC Water	Along South Airport Blvd
Water Line	Along Produce Ave and Terminal Court
PG&E 12 KV OH Electric	Along Utah Ave and South Airport Blvd
PG&E 12 KV OH Electric	Crossing Terminal Court
Raise Electrical Tower	Crossing South Airport Blvd
San Mateo County UG Fiberoptic	Along South Airport Ave
AT&T UG Telecommunication	Along South Airport Ave, Utah Ave, and Produce Ave
AT&T OH Telecommunication	Along Utah Ave and South Airport Blvd

Utility Description	Location
Cablecom OH CATV	Along South Airport Blvd

Verifications of utilities will be required. Positive location (potholing) as prescribed by Caltrans Policy on High and Low Risk Underground Facilities Within Highway Rights of Way (January, 1997) will be performed.

C. Railroad

There are no railroad facilities within the vicinity of this project.

9. STAKEHOLDER INVOLVEMENT

SMCTA and the City of South San Francisco are in support of the project.

Public outreach meetings will be scheduled in the PA&ED phase to obtain input from the local residential and business community. The City Commission and Council meetings may also provide opportunities for community input.

10. ENVIRONMENTAL DETERMINATION/DOCUMENT

Past experience with similar actions and the information gathered to date indicate that environmental clearance could be obtained with an Initial Study under CEQA and a Routine Environmental Assessment under NEPA. Key environmental issues include visual/aesthetics and community impacts, including relocation and environmental justice impacts. The US 101/Produce Avenue interchange would likely be considered a “Type I project” requiring a noise study focused on the hotel parcels or any outdoor or other noise sensitive use. Construction noise and mitigation measures should be evaluated, especially with regard to the hotels, as night-time construction may be required. Although there is limited terrestrial habitat at the project site, Colma Creek and a navigable slough cross through the project area and work should be avoided or minimized within or adjacent to these waterways.

Assembly Bill 52 requires Caltrans to begin consultation with Native Americans within 14 days of "Begin Environmental." Therefore, coordination with Caltrans Office of Cultural Resource Studies on the "Begin Environmental" date is critical to ensure meeting this timing requirement.

A public outreach and information effort is recommended to keep residents and local businesses informed of the project, the alternatives, opportunities for review and comment, overall project schedule, and right-of-way rights and eligibility.

Preparation of the IS/EA, including technical studies, is anticipated to take approximately 20 to 24 months after receiving information necessary to begin the environmental analysis. This timeline includes time for review by the environmental division staff within Caltrans, but does not include time for permitting by federal or

state resource agencies. The following consultation requirements may apply during preparation of the IS/EA:

- United States Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries). Consultation needs will depend on whether work is needed within or near Colma Creek.
- Federal Highway Administration (FHWA). Concurrence required that the project conforms to the Clean Air Act and other requirements.
- Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force. Consultation will be required to determine or verify that this is not a Project of Air Quality Concern.
- State Historic Preservation Officer (SHPO). The results of the cultural resources studies may likely require concurrence by SHPO.

The following regulatory permits and approvals may be required, some depending on whether work is required within Colma Canal, and will require confirmation and/or updating once alternatives are further refined. The preparation of the applications and permits can be initiated during PA&ED, but cannot be approved by the agencies until the Preliminary Plans, Specifications, and Estimates (PS&E) phase.

- Army Corps of Engineers (USACE)
- Regional Water Quality Control Board (RWQCB)
- California Department of Fish and Wildlife (CDFW)
- San Francisco Bay Conservation and Development Commission (BCDC) (jurisdiction with respect to the project activities will need to be determined).

Typical construction compliance with the Caltrans Construction General Permit will be required, and storm water treatment and hydromodification management measures should be anticipated in the project design. The location of the project near the Bay indicates a potentially high groundwater table, which should be investigated and considered in the project design and construction methods.

Most areas along US 101 extending from approximately the South Airport Boulevard undercrossing of US 101 to Santa Clara County are mapped by the State's Cal-Adapt program[1] as vulnerable to existing Bay inundation (e.g., during 100-year flood event), and subject to future sea level rise. Adaptive measures such as local road reconstruction or flood protection barriers installation are not practicable for reasons of additional project cost and additional area of environmental impact. Measures that could be considered for incorporation into the design might include using construction materials that delay or resist saltwater corrosion. No measures were specifically identified during the preparation of the PEAR, but this may be appropriate to revisit during the PA&ED phase.

[1] Cal-Adapt, California Climate Change Adaptation (website accessed February 2015) (http://climatechange.ca.gov/adaptation/index.html)

The funding and implementing agency for PA&ED is not known at this time and will be decided on a date to be determined. Caltrans would act as the lead agency for CEQA/NEPA.

A Preliminary Environmental Analysis Report (PEAR) was prepared and is included in Appendix K.

11. FUNDING

Funding for this project is expected to come from State, City and San Mateo County's 'Measure A' funds.

Preliminary cost estimates are provided in Attachment F. A summary of cost ranges for the project is provided below.

Capital Outlay Project Estimate

	Range of Estimate		Other Funds	
	Construction	Right-of-Way	Construction	Right-of-Way
Alternative 2	$47.6M	$65.6M	TBD	TBD
Alternative 3	$38.4M	$67.7M	TBD	TBD
Alternative 6	$95.8M	$80M	TBD	TBD
Alternative 9	$37.4M	$60M	TBD	TBD

Notes:
1. TBD – To Be Determined
2. All costs are in 2015 dollars. Escalation is not included.
3. Landscape costs will be included for a follow-up contract.

The level of detail available to develop these capital outlay project estimates is only accurate to within the above ranges and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds. The project report would serve as the appropriate document from which the remaining support and capital components of the project would be programmed.

Capital Outlay Support Estimate

Capital outlay support estimate for programming PA&ED phase for this project: $3.0 million. An additional $600-700k is estimated for Caltrans Independent Quality Assurance (IQA) during the PA&ED phase.A cooperative agreement will be executed between Caltrans and the City prior to the start of the PA&ED phase. A Cooperative Agreement Request (CAR) will be prepared to authorize the preparation of cooperative agreement for PA&ED. Separate future cooperative agreements for the PS&E, right of way and construction phases of the project will be required before

those phases begin. New or revised freeway agreement and freeway maintenance agreements will also be required.

12. SCHEDULE

Project Milestones		Scheduled Delivery Date (Month/Year)
PROGRAM PROJECT	M015	November 2015
BEGIN ENVIRONMENTAL	M020	January 2016
CIRCULATE DED EXTERNALLY	M120	April 2017
PROJECT APPROVAL (PA&ED)	M200	October 2017
BEGIN PS&E		December 2017
RIGHT-OF-WAY CERTIFICATION		April 2020
COMPLETE PS&E		December 2019
READY TO LIST		April 2020
BEGIN CONSTRUCTION		July 2020
END CONSTRUCTION		October 2022

The anticipated funding fiscal year for construction is 2019/2020.

13. RISKS

The project risks have been identified and summarized in the Risk Register (See Attachment L). The risk item most likely to impact schedule are funding availability, obtaining concurrence from local stakeholders, right-of-way acquisitions, and potential delays in utility relocations.

14. FHWA COORDINATION

This project is considered to be an Assigned Project in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement. Depending on the alternative selected, any proposed access modification on the Interstate System will require FHWA approval.

15. DISTRICT CONTACTS

Name	Title/Department	Phone #
Richelle P. Perez	Caltrans Project Manager	(510) 286-4998
Celia McCuaig	Office Chief, Caltrans Advance Planning	(510) 286-5659
Mimy Hew	Branch Chief, Caltrans Advance Planning	(510) 286-5578
Trang Hoang	Transportation Engineer, Caltrans Advance Planning	(510) 286-5650
Larry T. Moore	HQ Project Delivery Coordinator	(916) 653-2647
David Seriani	Caltrans Highway Operations	(510) 286-4653

Name	Title/Department	Phone #
Lance Hall	Caltrans Highway Operations	(510) 286-6311
Kathy Boltz	Caltrans Environmental	(510) 622-8706
Kristin Schober	Caltrans Right-of-Way	(510) 286-5327
Laura Hameister	Caltrans Utility Coordinator	(510) 286-5429
Beth Thomas	Caltrans Pedestrian and Bicycle Coordinator	(510) 286-7227
Lawrence Henriquez	City of South San Francisco, Project Manager	(650) 829-6663
Sam Bautista	City of South San Francisco, Principal Engineer	(650) 829-6668
Ramsey Hissen	URS Project Manager	(408) 961-8426
Daniel Ho	URS Engineering Manager	(408) 961-8425
Jeff Zimmerman	URS Environmental	(510) 874-3005
Maria Sedghi	URS Project Engineer	(408) 961-8481
Shabnam Yari	URS Project Engineer	(408) 961-8466

16. PROJECT REVIEWS

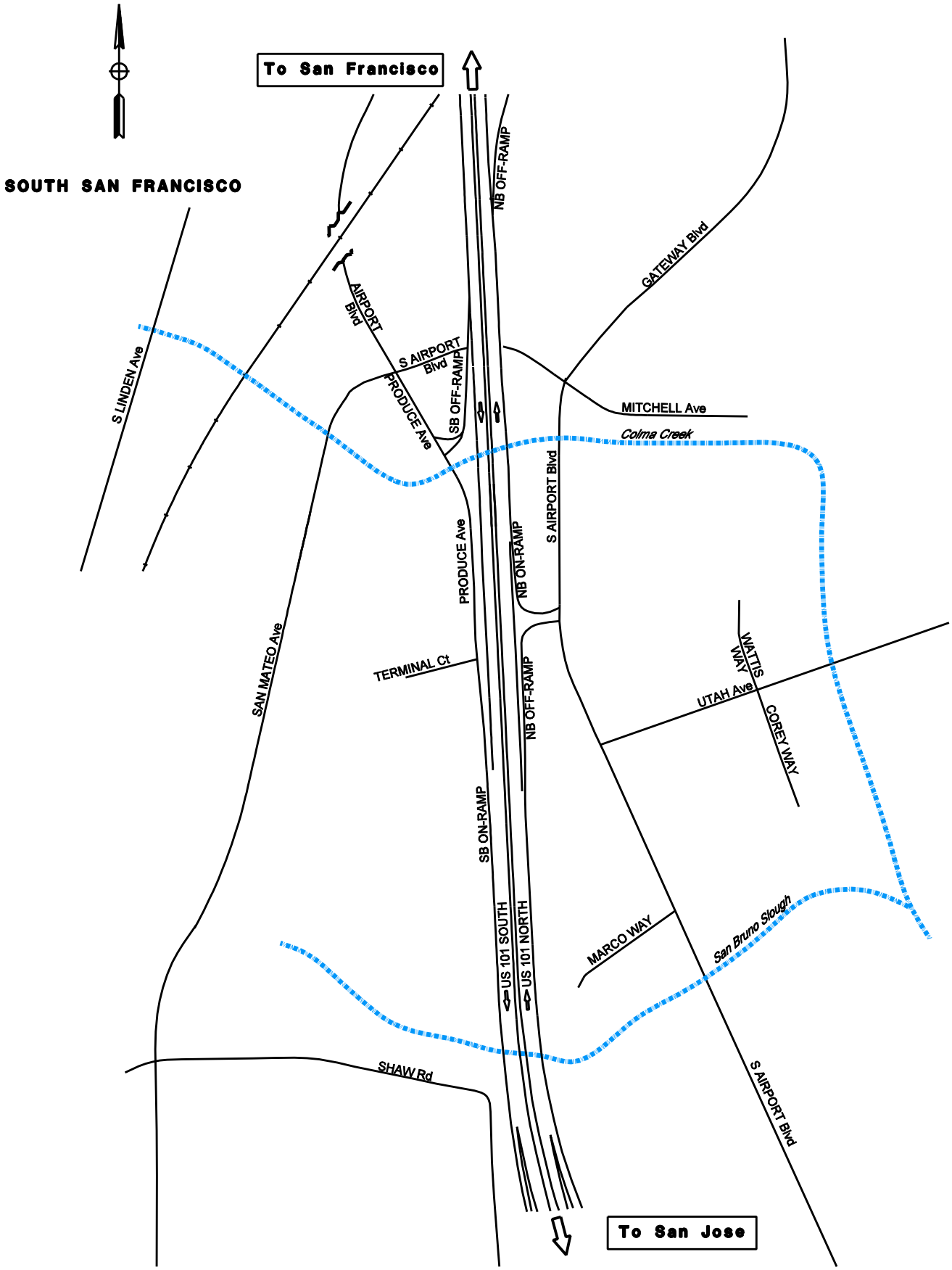
Field Review _____ Date / /2015
District Maintenance Steve Rouse Date 5 / 28 /2015
District Traffic Safety Engineer _____ Date / /2015
HQ Project Delivery Coordinator Larry T. Moore Date 5 / 27 /2015
Project Manager Richelle P. Perez Date / /2015
FHWA Lanh Phan Date 6 / 04 /2015
District Safety Review Haixiong Xu Date 5 / 28 /2015
Constructability Review Frank Guros Date 6 / 01 /2015

17. ATTACHMENTS

Attachment A	Project Location Map
Attachment B	Alternative 2 (Braided US 101 SB Off-Ramp)
Attachment C	Alternative 3 (Modified Partial Cloverleaf)
Attachment D	Alternative 6 (Tight Diamond With Braided Ramps)
Attachment E	Alternative 9 (Roundabout Intersections)
Attachment F	Preliminary Cost Estimates
Attachment G	Typical Cross Sections
Attachment H	Design Exceptions
Attachment I	Preliminary Environmental Analysis Report (PEAR)
Attachment J	Transportation Planning Scoping Information Sheet
Attachment K	Conceptual Cost Estimate – Right of Way Component
Attachment L	Risk Register
Attachment M	Traffic Engineering Performance Assessment
Attachment N	Storm Water Data Report (Cover Page)

ATTACHMENT A

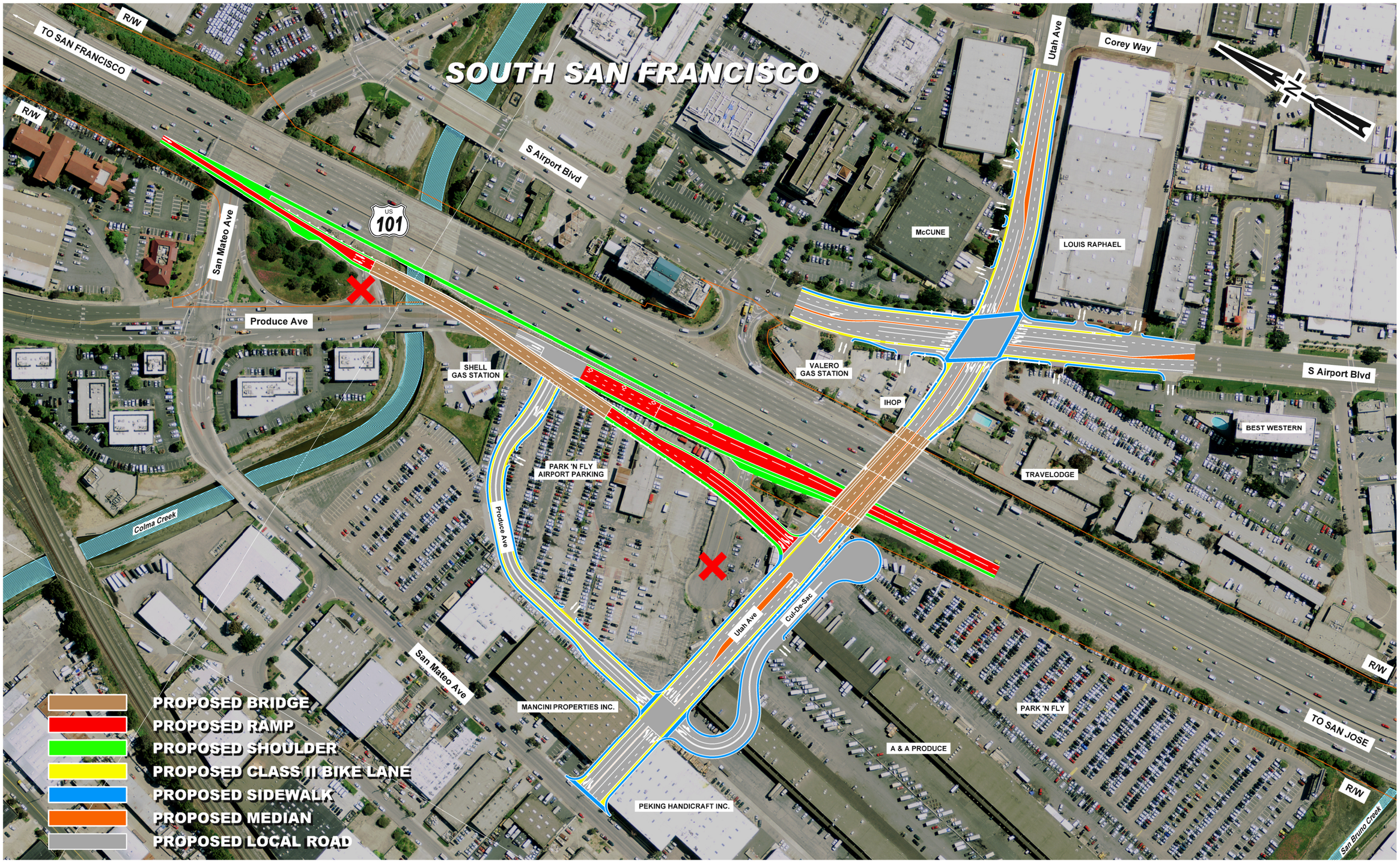
PROJECT LOCATION MAP



PROJECT LOCATION MAP

ATTACHMENT B

ALTERNATIVE 2 (BRAIDED US 101 SB OFF-RAMP)



URS | CITY OF SOUTH SAN FRANCISCO CALIFORNIA | Caltrans

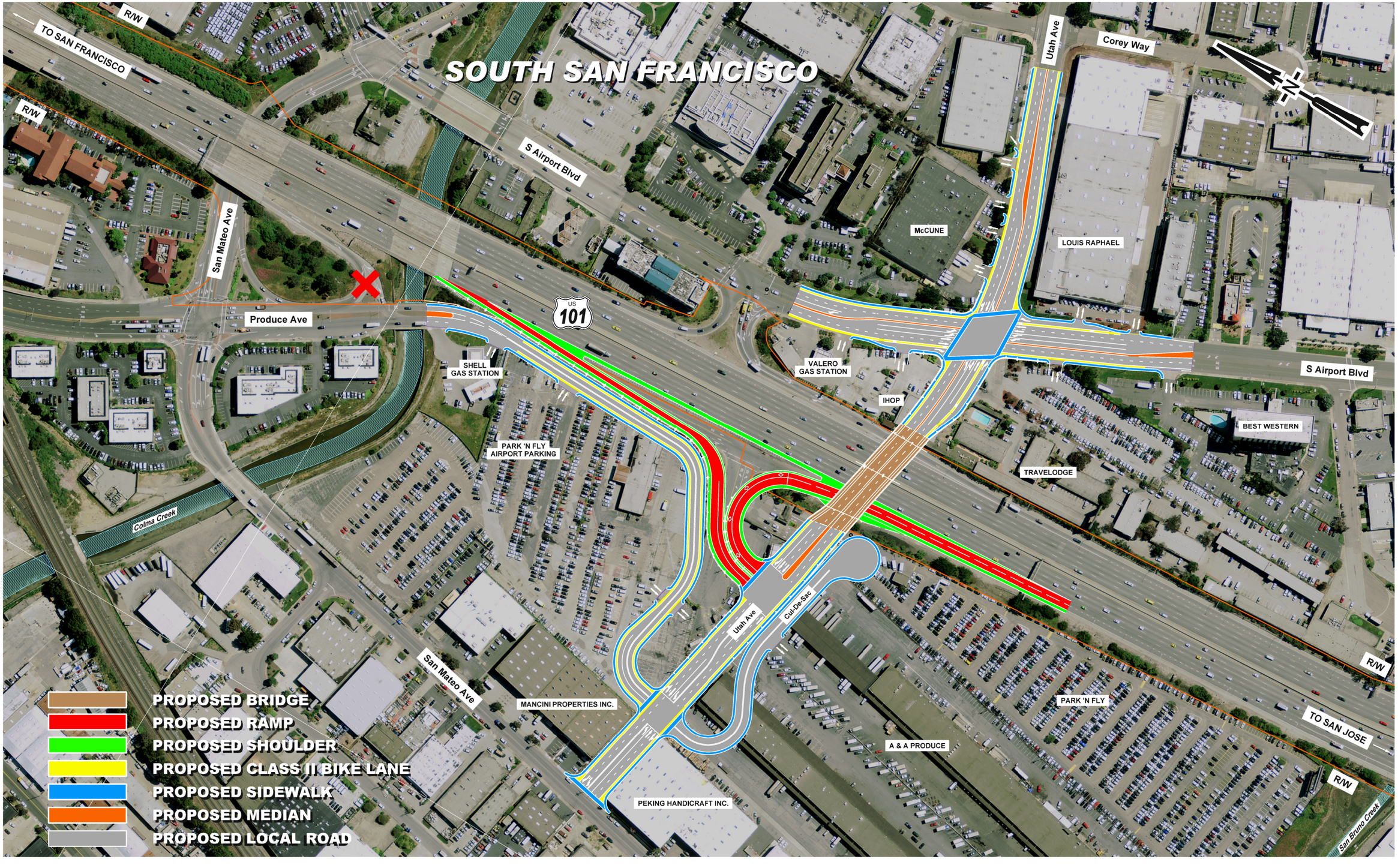
US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 2 - BRAIDED US 101 SB OFF RAMP

SCALE
0 100 200 300 Ft

FIGURE
1
JUNE 2015

ATTACHMENT C

ALTERNATIVE 3 (MODIFIED PARTIAL CLOVERLEAF)



URS | CITY OF SOUTH SAN FRANCISCO CALIFORNIA | Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 3 - MODIFIED PARTIAL CLOVERLEAF

SCALE
0 100 200 300 Ft

FIGURE
2
JUNE 2015

ATTACHMENT D

ALTERNATIVE 6 (TIGHT DIAMOND WITH BRAIDED RAMPS)

SOUTH SAN FRANCISCO

TO SAN FRANCISCO
R/W
R/W
S Airport Blvd
McCUNE
Utah Ave
Corey Ave
LOUIS RAPHAEL
N
Produce Ave
San Mateo Ave
SHELL GAS STATION
GAS STATION
IHOP
S Airport Blvd
R/W
BEST WESTERN
TRAVELODGE
PARK 'N FLY AIRPORT PARKING
Colma Creek
Utah Ave
MARCO WAY ASSOCIATES LLC
INTERSTATE 380
San Mateo Ave
MANCINI PROPERTIES INC.
PARK 'N FLY
R/W
PEKING HANDICRAFT INC.
A & A PRODUCE
US 101
TO SAN JOSE
ROOFADS .COM
San Bruno Creek
R/W

PROPOSED BRIDGE
PROPOSED RAMP
PROPOSED SHOULDER
PROPOSED SIDEWALK
PROPOSED LOCAL ROAD
PROPOSED CLASS II BIKE LANE
PROPOSED AUXILIARY LANE

URS

Caltrans

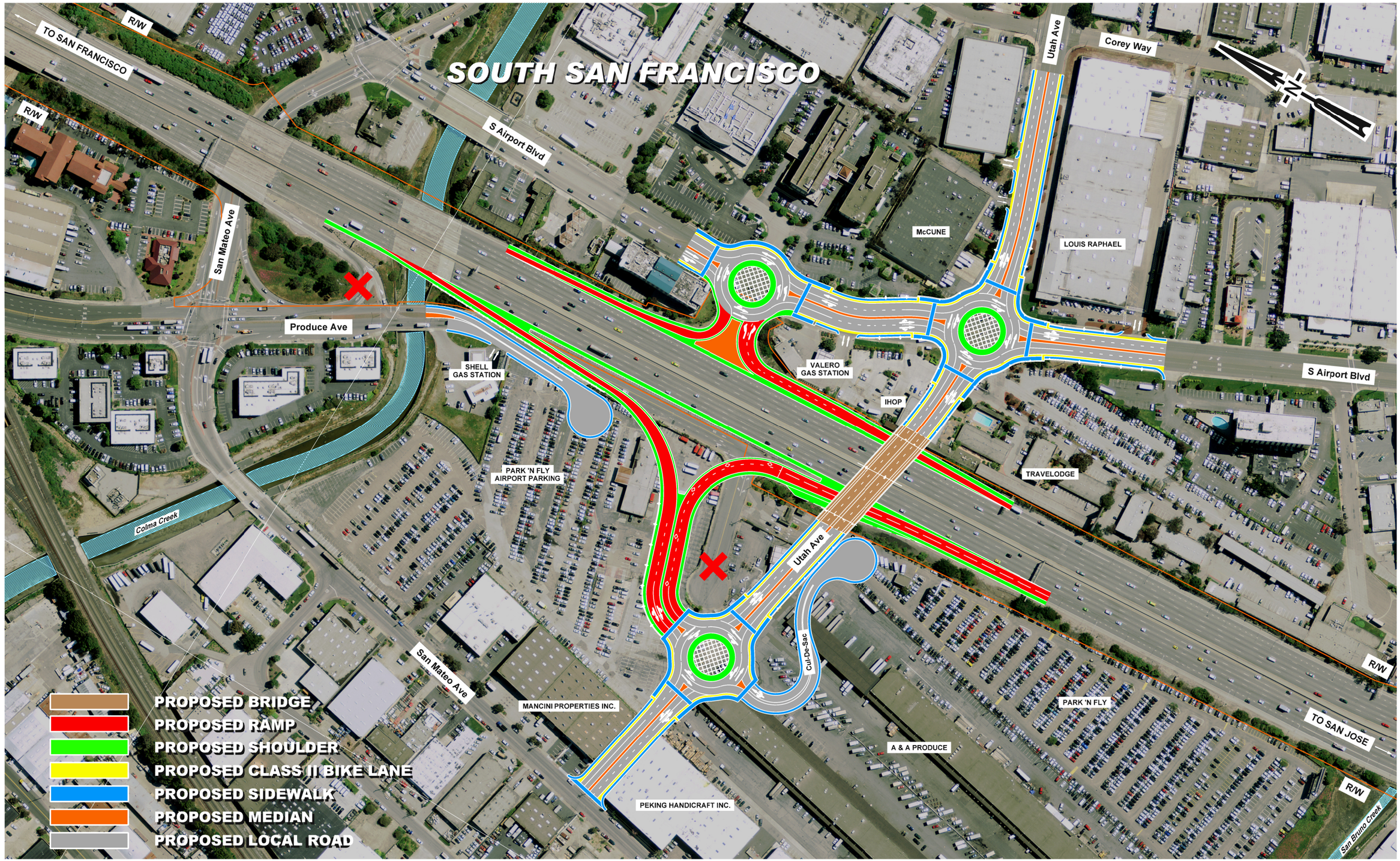
US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 6 - TIGHT DIAMOND WITH BRAIDED RAMPS

SCALE
0 200 400 600 FT

FIGURE
3
JUNE 2015

ATTACHMENT E

ALTERNATIVE 9 (ROUNDABOUT INTERSECTIONS)



URS

CITY OF SOUTH SAN FRANCISCO CALIFORNIA

Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 9 - ROUNDABOUT INTERSECTIONS

SCALE

0 100 200 300 Ft

FIGURE
4

JUNE 2015

ATTACHMENT F

PRELIMINARY COST ESTIMATES

US 101 / PRODUCE AVENUE INTERCHANGE
PRELIMINARY COST ESTIMATE OF CONCEPTUAL INTERCHANGE CONFIGURATION

DIST - CO - RTE:	04-SM-101
Type of Estimate:	Preliminary
Project ID:	0413000212
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

Project Description: **US 101 Ramp Improvements - Utah Ave/Produce Ave Overcrossing Alternative 2**

Limits: **US101 in San Mateo County from PM 20.7 to 21.7**

Proposed Improvements: **Construct a New Interchange at Utah Ave**
Construct new southbound off and on ramps
See Exhibit for Alternative 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS		$24,028,798
TOTAL STRUCTURE ITEMS		$14,643,029
SUBTOTAL CONSTRUCTION COSTS		**$38,671,827**
TOTAL RIGHT OF WAY ITEMS		$66,137,584
TOTAL CAPITAL COST		**$104,809,412**
Project Report and Enviro Doc (PA&ED)	3%	$1,160,155
Design Phase (PS&E)	8%	$3,093,746
R/W Services	2%	$1,322,752
Construction Administration	8%	$3,093,746
TOTAL SUPPORT COST		**$8,670,399**
TOTAL PROJECT COST		**$ 113,479,810.70**

Project Engineer:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)
Approved by Project Manager:	Daniel Ho	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	39,764	CY	$ 24.00	$ 954,336.00	
Imported Borrow	34,972	CY	$ 8.00	$ 279,776.00	
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000.00	
Develop Water Supply	1	LS	$ 50,000.00	$ 50,000.00	
Remove Pavement	50,204	SF	$ 3.50	$ 175,714.00	
				Total Earthwork	$ 1,559,826.00
Section 2 - Structural Section					
AC Overlay (RHMA-G)	2,649	TON	$ 144.00	$ 381,456.00	
HMA (Type A)	14,568	TON	$ 92.00	$ 1,340,256.00	
Class 2 Aggregate Base	14,153	CY	$ 36.00	$ 509,508.00	
Class 3 Aggregate Subbase	11,889	CY	$ 25.00	$ 297,225.00	
Minor Concrete	61,525	SF	$ 10.00	$ 615,250.00	
				Total Structural Section	$ 3,143,695.00
Section 3 - Drainage					
Drainage Modifications	1	LS	$ 705,000.00	$ 705,000.00	
(15% of Sections 1-2)				Total Drainage	$ 705,000.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 4 - Specialty Items					
Retaining Wall	37,090	SF	$ 125.00	$ 4,636,250.00	
Chain Link Fence	4,000	LF	$ 15.00	$ 60,000.00	
Erosion Control (1%)	1	LS	$ 146,000.00	$ 146,000.00	
Environ. Mitigation	1	LS	$ 500,000.00	$ 500,000.00	
Time-Related Overhead	500	WDAY	$ 2,000.00	$ 1,000,000.00	
Concrete Barrier Type 60	350	LF	$ 60.00	$ 21,000.00	
Concrete Barrier Type 60D	2,725	LF	$ 60.00	$ 163,500.00	
Crash Cushion	1	EA	$ 20,000.00	$ 20,000.00	
MBGR	500	LF	$ 34.00	$ 17,000.00	
Storm Water BMP (4.25%)	1	LS	$ 620,500.00	$ 620,500.00	
Water Pollution Control (2.5%)	1	LS	$ 365,000.00	$ 365,000.00	
Planting and Irrigation	1.24	acre	$ 100,000.00	$ 124,000.00	
Aesthetic Treatments	37,090	SF	$ 15.00	$ 556,350.00	
				Total Specialty Items	$ 8,229,600.00
Section 5 - Traffic Items					
Roadside Sign	1	LS	$ 20,000.00	$ 20,000.00	
Overhead Sign	0	EA	$ 200,000.00	$ -	
Traffic Control System	500	WDAY	$ 1,000.00	$ 500,000.00	
Construction Area Signs	1	LS	$ 50,000.00	$ 50,000.00	
Portable CMS	1	LS	$ 100,000.00	$ 100,000.00	
Pavement Delineation	1	LS	$ 60,000.00	$ 60,000.00	
City Lighting (New & Relocate)	1	LS	$ 250,000.00	$ 250,000.00	
Lighting & Sign Illumination	1	LS	$ 100,000.00	$ 100,000.00	
Traffic Operation Systems	1	LS	$ 70,000.00	$ 70,000.00	
Ramp Metering System	1	LS	$ 120,000.00	$ 120,000.00	
Stage Construction (3%)	1	LS	$ 438,000.00	$ 438,000.00	
CHP Enhanced Enforcement	1	LS	$ 300,000.00	$ 300,000.00	
Signal & Lighting	4	EA	$ 150,000.00	$ 600,000.00	
Signal & Lighting (Stage Const)	1	LS	$ 100,000.00	$ 100,000.00	
				Total Traffic Items	$ 2,708,000.00
				SUBTOTAL SECTIONS 1 - 5:	$ 16,346,121.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

				Unit Cost	Section Cost
Section 6 - Minor Items					
Subtotal Sections 1 - 5	$ 16,346,121.00	X	5%	$ 817,306.05	
				TOTAL MINOR ITEMS:	$ 817,306.05
Section 7 - Roadway Mobilization					
Subtotal Sections 1 - 6	$ 17,163,427.05	X	10%	$ 1,716,342.71	
				TOTAL ROADWAY MOBILIZATION	$ 1,716,342.71
Section 8 - Roadway Additions					
Supplemental Work					
Subtotal Sections 1 - 6	$ 17,163,427.05	X	5%	$ 858,171.35	
Contingencies					
Subtotal Sections 1 - 6	$ 17,163,427.05	X	25%	$ 4,290,856.76	
				TOTAL ROADWAY ADDITIONS	$ 5,149,028.12
				TOTAL ROADWAY ITEMS (Total of Sections 1 - 8)	$ 24,028,797.87

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

II. STRUCTURES	#1	#2	#3	#4
Bridge Name	Colma Creek OC	Utah Avenue OC		
Structure Type	CIP/RC Slab	CIP/RC Slab		
Width (Ft) - New Construct.	38.00	80.00		
Width (Ft) - Widening				
Width (Ft) - Retrofit				
Span Lengths (Ft)	663.00	287.00		
Total New Construct. Area (SF)	25,194	22,960		
Total Widening Area (SF)	0	0		
Total Retrofit Area (SF)	0	0		
Footing Type (pile/spread)	Pile	Pile		
Cost per SF New Construct.	$ 225.25	$ 225.25		
Cost per SF Widening	$ -	$ -		
Cost per SF Retrofit		$ -		
Cost for New Construction	$ 5,674,948.50	$ 5,171,740.00		
Cost for Widening	$ -	$ -		
Cost for Retrofit	$ -	$ -		
Subtotal Cost for Structures	$ 5,674,948.50	$ 5,171,740.00		
10%	$ 567,494.85	$ 517,174.00		
25%	$ 1,418,737.13	$ 1,292,935.00		
Railroad Related Costs	$ -	$ -		
Total Structure Cost	$ 7,661,180.48	$ 6,981,849.00		

Structures Page Subtotal $ 14,643,029.48

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

III. RIGHT OF WAY ITEMS

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility reloctaion occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the PSR. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	Current Values (Future Use)	Escalation Rate (%/yr) [1]	Escalated Value[2]
Acquisition, including excess lands [3] and damages to remainders	$ 42,577,923.00	2.00%	$ 45,184,032.51
Utility Relocation (Project share)	$ 15,000,000.00	2.00%	$ 15,918,120.00
Relocation Assistance (RAP)	$ 1,100,000.00	2.00%	$ 1,167,328.80
Clearance / Demolition	$ 1,200,000.00	2.00%	$ 1,273,449.60
R/W Services - Title and Escrow Fees	$ 45,000.00	2.00%	$ 47,754.36
Easement (Utility and TCE)	$ 2,400,000.00	2.00%	$ 2,546,899.20
TOTAL RIGHT OF WAY	$ 62,322,923.00		$ 66,137,584.47

Note:
(1) Based on the current escalation rate per year
(2) Assumed 3 year escalation
(3) Includes 30% contingency

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE
PRELIMINARY COST ESTIMATE OF CONCEPTUAL INTERCHANGE CONFIGURATION

DIST - CO - RTE:	04-SM-101
Type of Estimate:	Preliminary
Project ID:	0413000212
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

Project Description: **US 101 Ramp Improvements - Utah Ave/Produce Ave Overcrossing Alternative 3**

Limits: **US101 in San Mateo County from PM 20.7 to 21.7**

Proposed Improvements: **Construct a New Interchange at Produce Ave**
Construct new southbound off and on ramps
See Exhibit for Alternative 3

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS		$21,171,078
TOTAL STRUCTURE ITEMS		$7,465,672
SUBTOTAL CONSTRUCTION COSTS		**$28,636,751**
TOTAL RIGHT OF WAY ITEMS		$68,289,647
TOTAL CAPITAL COST		**$96,926,398**
Project Report and Enviro Doc (PA&ED)	3%	$859,103
Design Phase (PS&E)	8%	$2,290,940
R/W Services	2%	$1,365,793
Construction Administration	8%	$2,290,940
TOTAL SUPPORT COST		**$6,806,776**
TOTAL PROJECT COST		**$ 103,733,173.61**

Project Engineer:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)
Approved by Project Manager:	Daniel Ho	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	41,227	CY	$ 21.00	$ 865,767.00	
Imported Borrow	19,196	CY	$ 6.00	$ 115,176.00	
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000.00	
Develop Water Supply	1	LS	$ 50,000.00	$ 50,000.00	
Remove Pavement	93,126	SF	$ 3.50	$ 325,941.00	
				Total Earthwork	$ 1,456,884.00
Section 2 - Structural Section					
RHMA-G	2,734	TON	$ 144.00	$ 393,696.00	
HMA (Type A)	15,040	TON	$ 92.00	$ 1,383,680.00	
Class 2 Aggregate Base	14,219	CY	$ 36.00	$ 511,884.00	
Class 3 Aggregate Subbase	11,944	CY	$ 25.00	$ 298,600.00	
Minor Concrete	61,315	SF	$ 10.00	$ 613,150.00	
				Total Structural Section	$ 3,201,010.00
Section 3 - Drainage					
Drainage Modifications	1	LS	$ 705,000.00	$ 705,000.00	
(15% of Sections 1-2)				Total Drainage	$ 705,000.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 4 - Specialty Items					
Retaining Wall	23,751	SF	$ 125.00	$ 2,968,875.00	
Chain Link Fence	4,000	LF	$ 15.00	$ 60,000.00	
Erosion Control (1%)	1	LS	$ 130,000.00	$ 130,000.00	
Environ. Mitigation	1	LS	$ 500,000.00	$ 500,000.00	
Time-Related Overhead	500	WDAY	$ 2,000.00	$ 1,000,000.00	
Concrete Barrier Type 60	1,115	LF	$ 60.00	$ 66,900.00	
Concrete Barrier Type 60D	2,157	LF	$ 60.00	$ 129,420.00	
Crash Cushion	2	EA	$ 20,000.00	$ 40,000.00	
MBGR	360	LF	$ 34.00	$ 12,240.00	
Storm Water BMP (4.25%)	1	LS	$ 552,500.00	$ 552,500.00	
Water Pollution Control (2.5%)	1	LS	$ 325,000.00	$ 325,000.00	
Planting and Irrigation	1.88	acre	$ 100,000.00	$ 188,000.00	
Aesthetic Treatments	23,751	SF	$ 15.00	$ 356,265.00	
				Total Specialty Items	$ 6,329,200.00
Section 5 - Traffic Items					
Roadside Sign	1	LS	$ 20,000.00	$ 20,000.00	
Overhead Sign	1	EA	$ 200,000.00	$ 200,000.00	
Traffic Control System	500	WDAY	$ 1,000.00	$ 500,000.00	
Construction Area Signs	1	LS	$ 50,000.00	$ 50,000.00	
Portable CMS	1	LS	$ 100,000.00	$ 100,000.00	
Pavement Delineation	1	LS	$ 60,000.00	$ 60,000.00	
City Lighting (New & Relocate)	1	LS	$ 250,000.00	$ 250,000.00	
Lighting & Sign Illumination	1	LS	$ 100,000.00	$ 100,000.00	
Traffic Operation Systems	1	LS	$ 70,000.00	$ 70,000.00	
Ramp Metering System	1	LS	$ 120,000.00	$ 120,000.00	
Stage Construction (3%)	1	LS	$ 390,000.00	$ 390,000.00	
CHP Enhanced Enforcement	1	LS	$ 300,000.00	$ 300,000.00	
Signal & Lighting	3	EA	$ 150,000.00	$ 450,000.00	
Signal & Lighting (Stage Const)	1	LS	$ 100,000.00	$ 100,000.00	
				Total Traffic Items	$ 2,710,000.00
				SUBTOTAL SECTIONS 1 - 5:	$ 14,402,094.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

				Unit Cost	Section Cost
Section 6 - Minor Items					
Subtotal Sections 1 - 5	$ 14,402,094.00	X	5%	$ 720,104.70	
				TOTAL MINOR ITEMS:	$ 720,104.70
Section 7 - Roadway Mobilization					
Subtotal Sections 1 - 6	$ 15,122,198.70	X	10%	$ 1,512,219.87	
				TOTAL ROADWAY MOBILIZATION	$ 1,512,219.87
Section 8 - Roadway Additions					
Supplemental Work					
Subtotal Sections 1 - 6	$ 15,122,198.70	X	5%	$ 756,109.94	
Contingencies					
Subtotal Sections 1 - 6	$ 15,122,198.70	X	25%	$ 3,780,549.68	
				TOTAL ROADWAY ADDITIONS	$ 4,536,659.61
				TOTAL ROADWAY ITEMS (Total of Sections 1 - 8)	$ 21,171,078.18

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	044H360K

II. STRUCTURES	#1	#2	#3	#4
Bridge Name	Utah Avenue OC			
Structure Type	CIP/RC Slab			
Width (Ft) - New Construct.	82.00			
Width (Ft) - Widening				
Width (Ft) - Retrofit				
Span Lengths (Ft)	310.00			
Total New Construct. Area (SF)	24,551			
Total Widening Area (SF)	0			
Total Retrofit Area (SF)	0			
Footing Type (pile/spread)	Pile			
Cost per SF New Construct.	$ 225.25			
Cost per SF Widening	$ -			
Cost per SF Retrofit				
Cost for New Construction	$ 5,530,127.72			
Cost for Widening	$ -			
Cost for Retrofit	$ -			
Subtotal Cost for Structures	$ 5,530,127.72			
10%	$ 553,012.77			
25%	$ 1,382,531.93			
Railroad Related Costs	$ -			
Total Structure Cost	$ 7,465,672.43			

Structures Page Subtotal $ 7,465,672.43

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

III. RIGHT OF WAY ITEMS

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility reloctaion occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the PSR. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	Current Values (Future Use)	Escalation Rate (%/yr) [1]	Escalated Value[2]
Acquisition, including excess lands [3] and damages to remainders	$ 44,600,860.00	2.00%	$ 47,330,789.44
Utility Relocation (Project share)	$ 15,000,000.00	2.00%	$ 15,918,120.00
Relocation Assistance (RAP)	$ 1,100,000.00	2.00%	$ 1,167,328.80
Clearance / Demolition	$ 1,200,000.00	2.00%	$ 1,273,449.60
R/W Services - Title and Escrow Fees	$ 50,000.00	2.00%	$ 53,060.40
Easement (Utility and TCE)	$ 2,400,000.00	2.00%	$ 2,546,899.20
TOTAL RIGHT OF WAY	$ 64,350,860.00		$ 68,289,647.44

Note:
(1) Based on the current escalation rate per year
(2) Assumed 3 year escalation
(3) Includes 30% contingency

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE
PRELIMINARY COST ESTIMATE OF CONCEPTUAL INTERCHANGE CONFIGURATION

DIST - CO - RTE:	04-SM-101
Type of Estimate:	Preliminary
Project ID:	0413000212
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

Project Description: **US 101 Ramp Improvements - Utah Ave/Produce Ave Overcrossing Alternative 6**

Limits: **US101 in San Mateo County from PM 20.7 to 21.7**

Proposed Improvements: **Construct a New Interchange at Produce Ave**
Construct new southbound off and on ramps
Construct new northbound off and on ramps
See Exhibit for Alternative 6

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS		$42,648,255
TOTAL STRUCTURE ITEMS		$34,646,208
SUBTOTAL CONSTRUCTION COSTS		**$77,294,463**
TOTAL RIGHT OF WAY ITEMS		$116,009,177
TOTAL CAPITAL COST		**$193,303,640**
Project Report and Enviro Doc (PA&ED)	3%	$2,318,834
Design Phase (PS&E)	8%	$6,183,557
R/W Services	2%	$2,320,184
Construction Administration	8%	$6,183,557
TOTAL SUPPORT COST		**$17,006,132**
TOTAL PROJECT COST		**$ 210,309,771.83**

Project Engineer:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)
Approved by Project Manager:	Daniel Ho	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	91,043	CY	$ 24.00	$ 2,185,032.00	
Imported Borrow	98,712	CY	$ 8.00	$ 789,696.00	
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000.00	
Develop Water Supply	1	LS	$ 50,000.00	$ 50,000.00	
Remove Pavement	184,271	SF	$ 3.50	$ 644,948.50	
				Total Earthwork	$ 3,769,676.50
Section 2 - Structural Section					
AC Overlay (RHMA-G)	4,845	TON	$ 144.00	$ 697,680.00	
HMA (Type A)	26,645	TON	$ 92.00	$ 2,451,340.00	
Class 2 Aggregate Base	28,782	CY	$ 36.00	$ 1,036,152.00	
Class 3 Aggregate Subbase	24,177	CY	$ 25.00	$ 604,425.00	
Minor Concrete	24,177	SF	$ 10.00	$ 241,770.00	
				Total Structural Section	$ 5,031,367.00
Section 3 - Drainage					
Drainage Modifications	1	LS	$ 1,320,000.00	$ 1,320,000.00	
(15% of Sections 1-2)				Total Drainage	$ 1,320,000.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 4 - Specialty Items					
Retaining Wall	72,000	SF	$ 125.00	$ 9,000,000.00	
Chain Link Fence	6,000	LF	$ 15.00	$ 90,000.00	
Erosion Control (1%)	1	LS	$ 248,500.00	$ 248,500.00	
Environ. Mitigation	1	LS	$ 500,000.00	$ 500,000.00	
Time-Related Overhead	500	WDAY	$ 2,000.00	$ 1,000,000.00	
Concrete Barrier Type 60	3,500	LF	$ 60.00	$ 210,000.00	
Concrete Barrier Type 60D	6,000	LF	$ 60.00	$ 360,000.00	
Crash Cushion	4	EA	$ 20,000.00	$ 80,000.00	
MBGR	1,500	LF	$ 34.00	$ 51,000.00	
Storm Water BMP (4.25%)	1	LS	$ 1,056,125.00	$ 1,056,125.00	
Water Pollution Control (2.5%)	1	LS	$ 621,250.00	$ 621,250.00	
Planting and Irrigation	5.29	acre	$ 100,000.00	$ 529,000.00	
Aesthetic Treatments	72,000	SF	$ 15.00	$ 1,080,000.00	
				Total Specialty Items	$ 14,825,875.00
Section 5 - Traffic Items					
Roadside Sign	1	LS	$ 20,000.00	$ 20,000.00	
Overhead Sign	4	EA	$ 200,000.00	$ 800,000.00	
Traffic Control System	500	WDAY	$ 1,000.00	$ 500,000.00	
Construction Area Signs	1	LS	$ 50,000.00	$ 50,000.00	
Portable CMS	1	LS	$ 100,000.00	$ 100,000.00	
Pavement Delineation	1	LS	$ 100,000.00	$ 100,000.00	
City Lighting (New & Relocate)	1	LS	$ 250,000.00	$ 250,000.00	
Lighting & Sign Illumination	1	LS	$ 100,000.00	$ 100,000.00	
Traffic Operation Systems	1	LS	$ 150,000.00	$ 150,000.00	
Ramp Metering System	1	LS	$ 400,000.00	$ 400,000.00	
Stage Construction (3%)	1	LS	$ 745,500.00	$ 745,500.00	
CHP Enhanced Enforcement	1	LS	$ 300,000.00	$ 300,000.00	
Signal & Lighting (New)	3	EA	$ 150,000.00	$ 450,000.00	
Signal & Lighting (Stage Const)	1	LS	$ 100,000.00	$ 100,000.00	
				Total Traffic Items	$ 4,065,500.00
				SUBTOTAL SECTIONS 1 - 5:	$ 29,012,418.50

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

				Unit Cost	Section Cost
Section 6 - Minor Items					
Subtotal Sections 1 - 5	$ 29,012,418.50	X	5%	$ 1,450,620.93	
				TOTAL MINOR ITEMS:	$ 1,450,620.93
Section 7 - Roadway Mobilization					
Subtotal Sections 1 - 6	$ 30,463,039.43	X	10%	$ 3,046,303.94	
				TOTAL ROADWAY MOBILIZATION	$ 3,046,303.94
Section 8 - Roadway Additions					
Supplemental Work					
Subtotal Sections 1 - 6	$ 30,463,039.43	X	5%	$ 1,523,151.97	
Contingencies					
Subtotal Sections 1 - 6	$ 30,463,039.43	X	25%	$ 7,615,759.86	
				TOTAL ROADWAY ADDITIONS	$ 9,138,911.83
				TOTAL ROADWAY ITEMS (Total of Sections 1 - 8)	$ 42,648,255.20

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

II. STRUCTURES	#1	#2	#3	#4
Bridge Name	Utah Avenue OC	SB 101 On-Ramp	NB 101 On-Ramp	Colma Creek OC
Structure Type	CIP/RC Slab			
Width (Ft) - New Construct.	125.00	38.00	38.00	12.00
Width (Ft) - Widening				
Width (Ft) - Retrofit				
Span Lengths (Ft)	462.00	351.00	596.00	140.00
Total New Construct. Area (SF)	57,750	13,338	22,648	
Total Widening Area (SF)	0			1,680
Total Retrofit Area (SF)	0			
Footing Type (pile/spread)	Pile			
Cost per SF New Construct.	$ 225.25	$ 225.25	$ 225.25	
Cost per SF Widening	$ -			$ 200.00
Cost per SF Retrofit				
Cost for New Construction	$ 13,008,187.50	$ 3,004,384.50	$ 5,101,462.00	
Cost for Widening	$ -			$ 336,000.00
Cost for Retrofit	$ -			
Subtotal Cost for Structures	$ 13,008,187.50	$ 3,004,384.50	$ 5,101,462.00	$ 336,000.00
10%	$ 1,300,818.75	$ 300,438.45	$ 510,146.20	$ 33,600.00
25%	$ 3,252,046.88	$ 751,096.13	$ 1,275,365.50	$ 84,000.00
Railroad Related Costs	$ -	$ -	$ -	$ -
Total Structure Cost	$ 17,561,053.13	$ 4,055,919.08	$ 6,886,973.70	$ 453,600.00

Structures Page Subtotal $ 28,957,545.90

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

II. STRUCTURES	#1	#2	#3	#4
Bridge Name	Railroad OC	San Bruno Creek OC	San Bruno Creek OC	
Structure Type				
Width (Ft) - New Construct.	12.00	60.00	36.00	
Width (Ft) - Widening				
Width (Ft) - Retrofit				
Span Lengths (Ft)	170.00	176.00	176.00	
Total New Construct. Area (SF)		10,560	6,336	
Total Widening Area (SF)	2,040			
Total Retrofit Area (SF)				
Footing Type (pile/spread)				
Cost per SF New Construct.		$ 225.25	$ 225.25	
Cost per SF Widening	$ 200.00			
Cost per SF Retrofit				
Cost for New Construction		$2,378,640.00	$1,427,184.00	
Cost for Widening	$ 408,000.00			
Cost for Retrofit				
Subtotal Cost for Structures	$ 408,000.00	$2,378,640.00	$1,427,184.00	
10%	$ 40,800.00	$ 237,864.00	$ 142,718.40	
25%	$ 102,000.00	$ 594,660.00	$ 356,796.00	
Railroad Related Costs	$ -	$ -	$ -	
Total Structure Cost	$ 550,800.00	$3,211,164.00	$1,926,698.40	

Structures Page Subtotal $ 5,688,662.40

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

III. RIGHT OF WAY ITEMS

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility reloctaion occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the PSR. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	Current Values (Future Use)	Escalation Rate (%/yr) [1]	Escalated Value[2]
Acquisition, including excess lands [3] and damages to remainders	$ 89,014,583.00	2.00%	$ 90,794,874.66
Utility Relocation (Project share)[3]	$ 17,000,000.00	2.00%	$ 18,040,536.00
Relocation Assistance (RAP)	$ 1,500,000.00	2.00%	$ 1,591,812.00
Clearance / Demolition	$ 2,200,000.00	2.00%	$ 2,334,657.60
R/W Services - Title and Escrow Fees	$ 60,000.00	2.00%	$ 63,672.48
Easement (Utility and TCE)	$ 3,000,000.00	2.00%	$ 3,183,624.00
TOTAL RIGHT OF WAY	$ 112,774,583.00		$ 116,009,176.74

Note:
(1) Based on the current escalation rate per year
(2) Assumed 3 year escalation
(3) Includes 30% contingency

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE
PRELIMINARY COST ESTIMATE OF CONCEPTUAL INTERCHANGE CONFIGURATION

DIST - CO - RTE:	04-SM-101
Type of Estimate:	Preliminary
Project ID:	0413000212
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

Project Description: **US 101 Ramp Improvements - Utah Ave/Produce Ave Overcrossing Alternative 9**

Limits: **US101 in San Mateo County from PM 20.7 to 21.7**

Proposed Improvements: **Construct a New Interchange at Produce Ave**
Construct new southbound off and on ramps
Construct new northbound off and on ramps
See Exhibit for Alternative 9

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS		$23,405,089
TOTAL STRUCTURE ITEMS		$8,084,558
SUBTOTAL CONSTRUCTION COSTS		**$31,489,647**
TOTAL RIGHT OF WAY ITEMS		$88,966,122
TOTAL CAPITAL COST		**$120,455,769**
Project Report and Enviro Doc (PA&ED)	3%	$944,689
Design Phase (PS&E)	8%	$2,519,172
R/W Services	2%	$1,779,322
Construction Administration	8%	$2,519,172
TOTAL SUPPORT COST		**$7,762,355**
TOTAL PROJECT COST		**$ 128,218,124.59**

Project Engineer:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)
Approved by Project Manager:	Daniel Ho	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 1 - Earthwork					
Roadway Excavation	43,389	CY	$ 24.00	$ 1,041,336.00	
Imported Borrow	29,605	CY	$ 8.00	$ 236,840.00	
Clearing & Grubbing	1	LS	$ 100,000.00	$ 100,000.00	
Develop Water Supply	1	LS	$ 50,000.00	$ 50,000.00	
Remove Pavement	125,745	SF	$ 3.50	$ 440,107.50	
				Total Earthwork	$ 1,868,283.50
Section 2 - Structural Section					
AC Overlay (RHMA-G)	2,879	TON	$ 144.00	$ 414,576.00	
HMA (Type A)	15,836	TON	$ 92.00	$ 1,456,912.00	
Class 2 Aggregate Base	15,483	CY	$ 36.00	$ 557,388.00	
Class 3 Aggregate Subbase	13,006	CY	$ 25.00	$ 325,150.00	
Minor Concrete	59,372	SF	$ 10.00	$ 593,720.00	
				Total Structural Section	$ 3,347,746.00
Section 3 - Drainage					
Drainage Modifications	1	LS	$ 783,000.00	$ 783,000.00	
(15% of Sections 1-2)				Total Drainage	$ 783,000.00

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Section 4 - Specialty Items					
Retaining Wall	32,500	SF	$ 125.00	$ 4,062,500.00	
Chain Link Fence	4,000	LF	$ 15.00	$ 60,000.00	
Erosion Control (1%)	1	LS	$ 140,000.00	$ 140,000.00	
Environ. Mitigation	1	LS	$ 500,000.00	$ 500,000.00	
Time-Related Overhead	500	WDAY	$ 2,000.00	$ 1,000,000.00	
Concrete Barrier Type 60	800	LF	$ 60.00	$ 48,000.00	
Concrete Barrier Type 60D	3,300	LF	$ 60.00	$ 198,000.00	
Crash Cushion	2	EA	$ 20,000.00	$ 40,000.00	
MBGR	700	LF	$ 34.00	$ 23,800.00	
Storm Water BMP (4.25%)	1	LS	$ 595,000.00	$ 595,000.00	
Water Pollution Control (2.5%)	1	LS	$ 350,000.00	$ 350,000.00	
Planting and Irrigation	3	acre	$ 100,000.00	$ 338,000.00	
Aesthetic Treatments	32,500	SF	$ 15.00	$ 487,500.00	
				Total Specialty Items	$ 7,842,800.00
Section 5 - Traffic Items					
Roadside Sign	1	LS	$ 20,000.00	$ 20,000.00	
Overhead Sign	0	EA	$ 200,000.00	$ -	
Traffic Control System	500	WDAY	$ 1,000.00	$ 500,000.00	
Construction Area Signs	1	LS	$ 50,000.00	$ 50,000.00	
Portable CMS	1	LS	$ 100,000.00	$ 100,000.00	
Pavement Delineation	1	LS	$ 60,000.00	$ 60,000.00	
City Lighting (New & Relocate)	1	LS	$ 250,000.00	$ 250,000.00	
Lighting & Sign Illumination	1	LS	$ 100,000.00	$ 100,000.00	
Traffic Operation Systems	1	LS	$ 100,000.00	$ 100,000.00	
Ramp Metering System	1	LS	$ 180,000.00	$ 180,000.00	
Stage Construction (3%)	1	LS	$ 420,000.00	$ 420,000.00	
CHP Enhanced Enforcement	1	LS	$ 300,000.00	$ 300,000.00	
Signal & Lighting (New)	0	EA	$ 150,000.00	$ -	
Signal & Lighting (Stage Const)	0	LS	$ 100,000.00	$ -	
				Total Traffic Items	$ 2,080,000.00
				SUBTOTAL SECTIONS 1 - 5:	$ 15,921,829.50

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE: 04-SM-101
PM: PM 20.7 to PM 21.7
EA: 04-4H360K

				Unit Cost	Section Cost
Section 6 - Minor Items					
Subtotal Sections 1 - 5	$ 15,921,829.50	X	5%	$ 796,091.48	
				TOTAL MINOR ITEMS:	$ 796,091.48
Section 7 - Roadway Mobilization					
Subtotal Sections 1 - 6	$ 16,717,920.98	X	10%	$ 1,671,792.10	
				TOTAL ROADWAY MOBILIZATION	$ 1,671,792.10
Section 8 - Roadway Additions					
Supplemental Work					
Subtotal Sections 1 - 6	$ 16,717,920.98	X	5%	$ 835,896.05	
Contingencies					
Subtotal Sections 1 - 6	$ 16,717,920.98	X	25%	$ 4,179,480.24	
				TOTAL ROADWAY ADDITIONS	$ 5,015,376.29
				TOTAL ROADWAY ITEMS	$ 23,405,089.37
				(Total of Sections 1 - 8)	

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

II. STRUCTURES	#1	#2	#3	#4	#5
Bridge Name	Utah Avenue OC	Colma Creek OC			
Structure Type	CIP/RC Slab	CIP/RC Slab			
Width (Ft) - New Construct.	82.00	14.00			
Width (Ft) - Widening					
Width (Ft) - Retrofit					
Span Lengths (Ft)	303.00	140.00			
Total New Construct. Area (SF)	24,846				
Total Widening Area (SF)	0	1,960			
Total Retrofit Area (SF)	0				
Footing Type (pile/spread)	Pile	Pile			
Cost per SF New Construct.	$ 225.25				
Cost per SF Widening	$ -	$ 200.00			
Cost per SF Retrofit					
Cost for New Construction	$ 5,596,561.50				
Cost for Widening	$ -	$ 392,000.00			
Cost for Retrofit	$ -				
Subtotal Cost for Structures	$ 5,596,561.50	$ 392,000.00			
Mobilization 10%	$ 559,656.15	$ 39,200.00			
Contingency 25%	$ 1,399,140.38	$ 98,000.00			
Railroad Related Costs	$ -	$ -			
Total Structure Cost	$ 7,555,358.03	$ 529,200.00			

Structures Page Subtotal $ 8,084,558.03

US 101 / PRODUCE AVENUE INTERCHANGE

DIST - CO - RTE:	04-SM-101
PM:	PM 20.7 to PM 21.7
EA:	04-4H360K

III. RIGHT OF WAY ITEMS

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility reloctaion occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the PSR. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

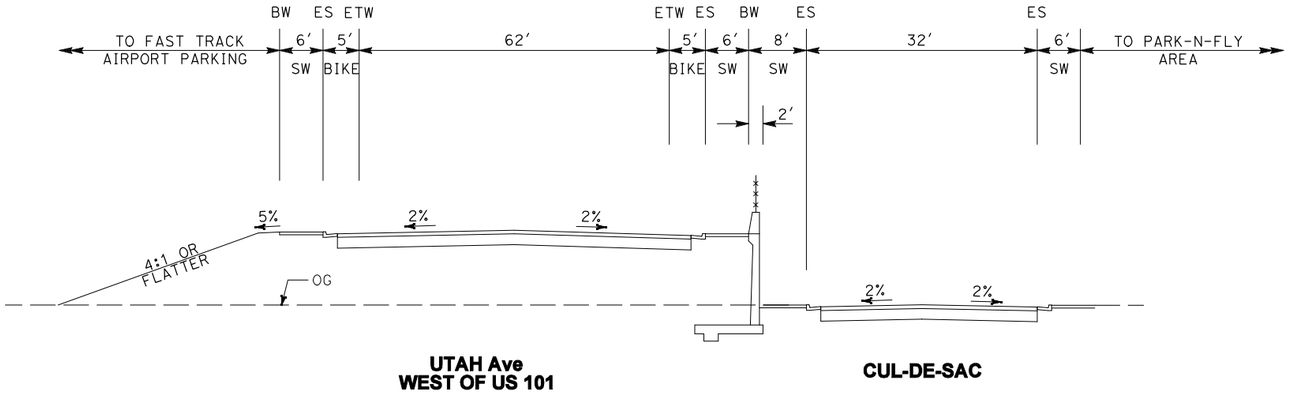
	Current Values (Future Use)	Escalation Rate (%/yr) [1]	Escalated Value[2]
Acquisition, including excess lands [3] and damages to remainders	$ 64,899,906.00	2.00%	$ 66,197,904.12
Utility Relocation (Project share)[3]	$ 16,000,000.00	2.00%	$ 16,979,328.00
Relocation Assistance (RAP)	$ 1,300,000.00	2.00%	$ 1,379,570.40
Clearance / Demolition	$ 1,700,000.00	2.00%	$ 1,804,053.60
R/W Services - Title and Escrow Fees	$ 55,000.00	2.00%	$ 58,366.44
Easement (Utility and TCE)	$ 2,400,000.00	2.00%	$ 2,546,899.20
TOTAL RIGHT OF WAY	$ 86,354,906.00		$ 88,966,121.76

Note:
(1) Based on the current escalation rate per year
(2) Assumed 3 year escalation
(3) Includes 30% contingency

Estimate Prepared By:	Shabnam Yari	(408) 297-9585	6/16/2015
	(Print Name)	(Phone)	(Date)

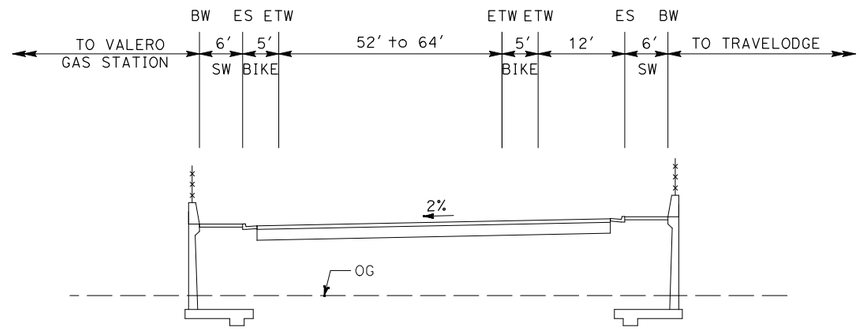
ATTACHMENT G

TYPICAL CROSS SECTIONS

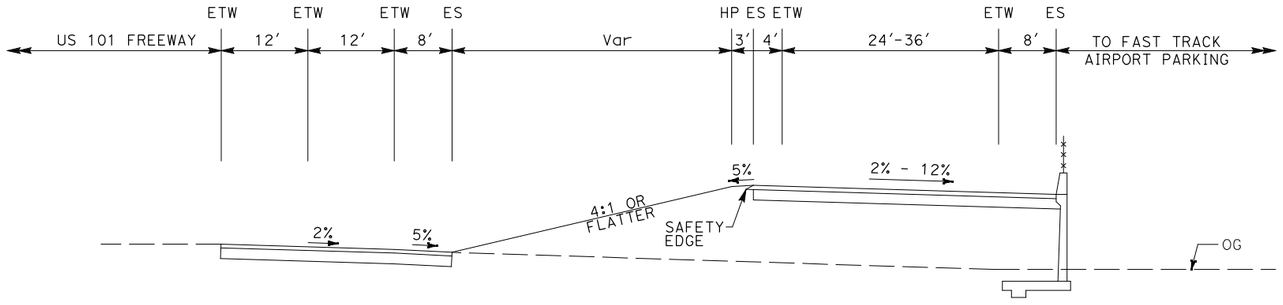


UTAH Ave
WEST OF US 101

CUL-DE-SAC

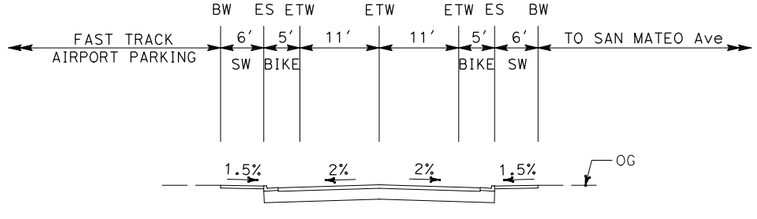


UTAH Ave
EAST OF US 101



PRODUCE Ave
SB ON-RAMP

SB OFF-RAMP



PRODUCE Ave

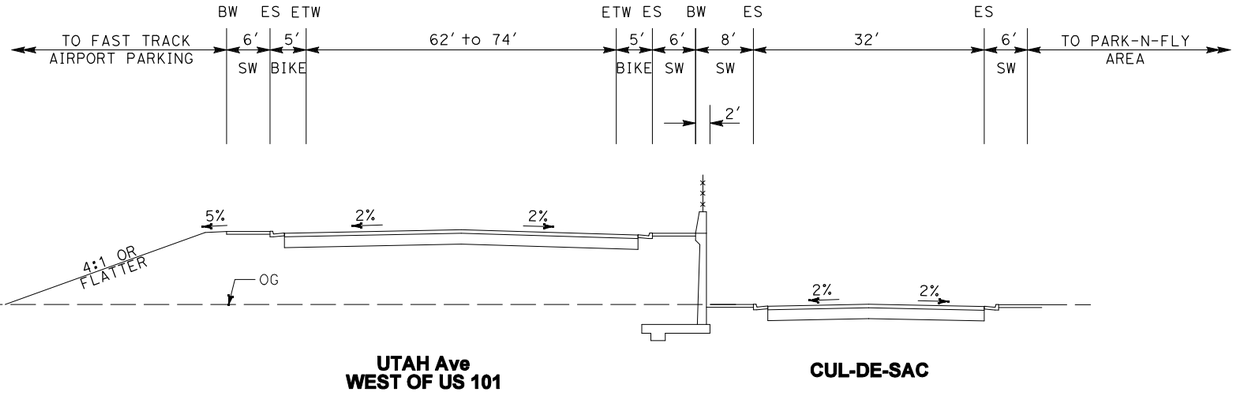
PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

URS | City of South San Francisco, California | Caltrans

US 101 / Produce Ave Project - Typical Cross Sections

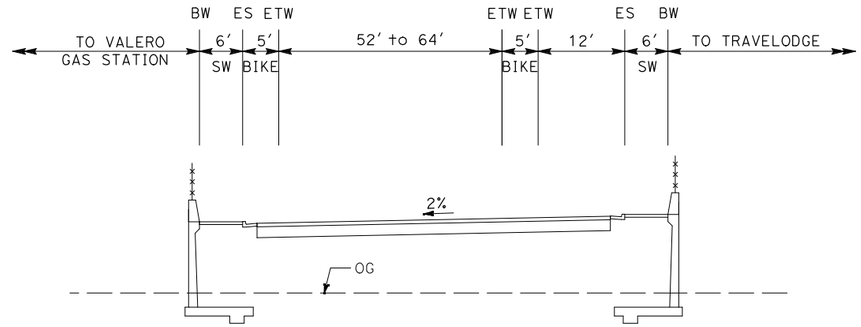
Alternative 2

JUNE 2015

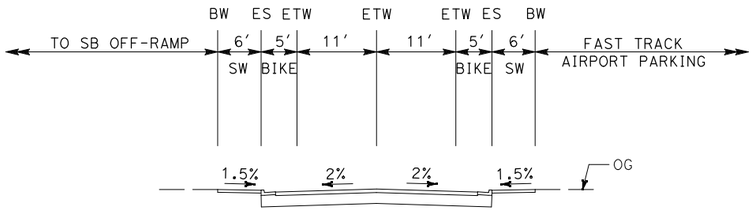


UTAH Ave
WEST OF US 101

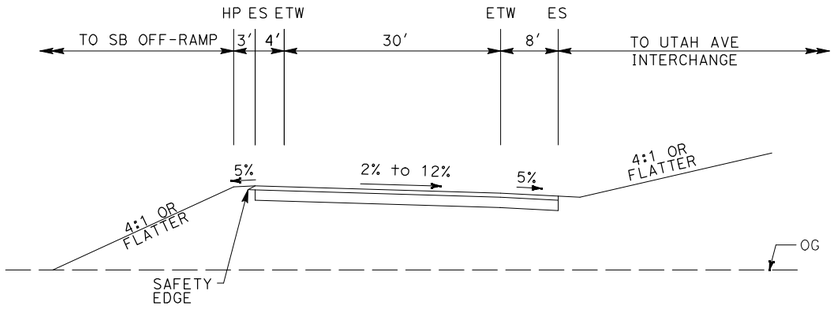
CUL-DE-SAC



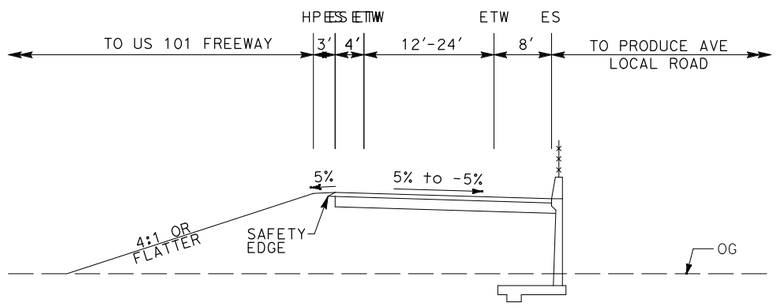
UTAH Ave
EAST OF US 101



PRODUCE Ave



SB LOOP ON-RAMP



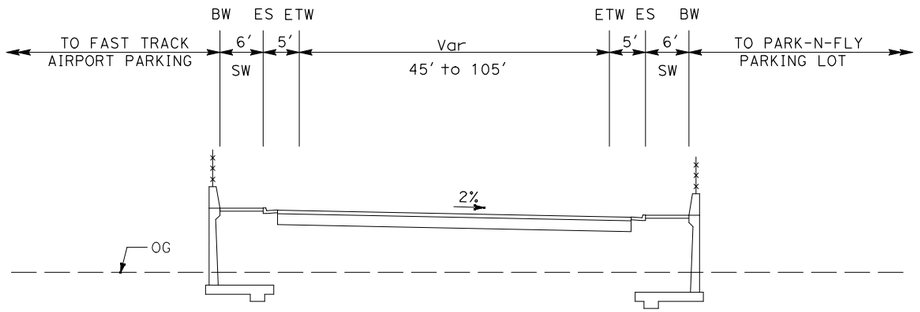
SB OFF-RAMP

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

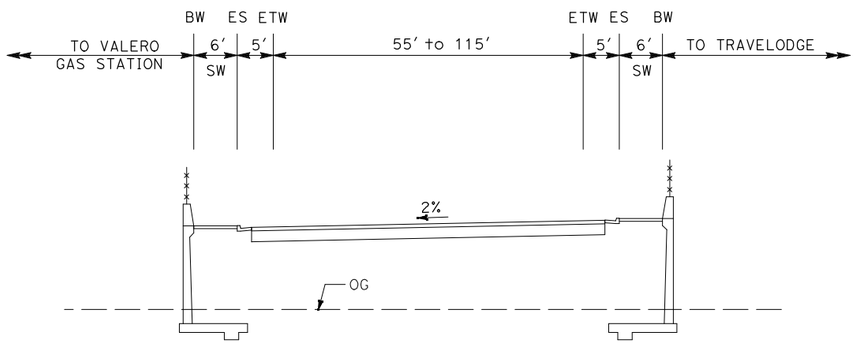
US 101 / Produce Ave Project - Typical Cross Sections

Alternative 3

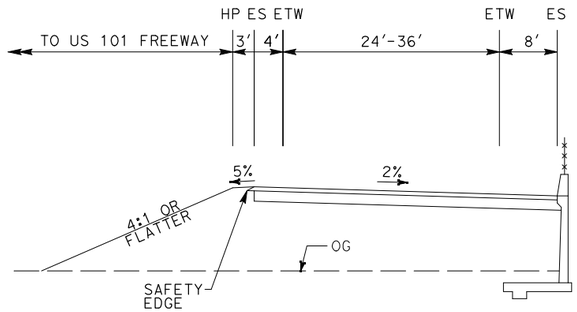
JUNE 2015



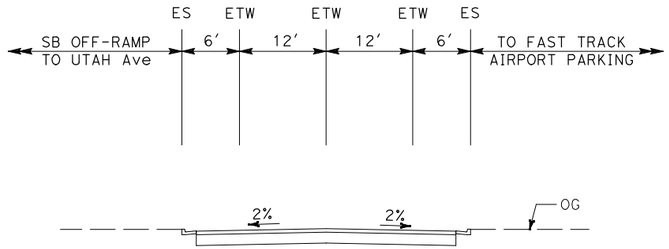
UTAH Ave
WEST OF US 101



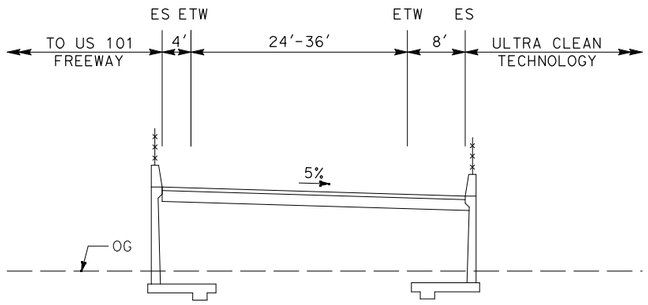
UTAH Ave
EAST OF US 101



ON / OFF-RAMPS



PRODUCE Ave



NB ON-RAMP FROM I-380

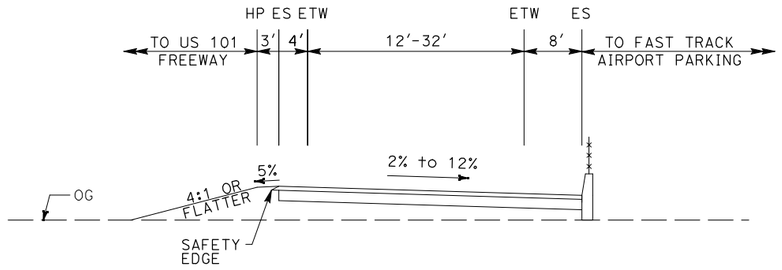
PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

URS | City of South San Francisco, California | Caltrans

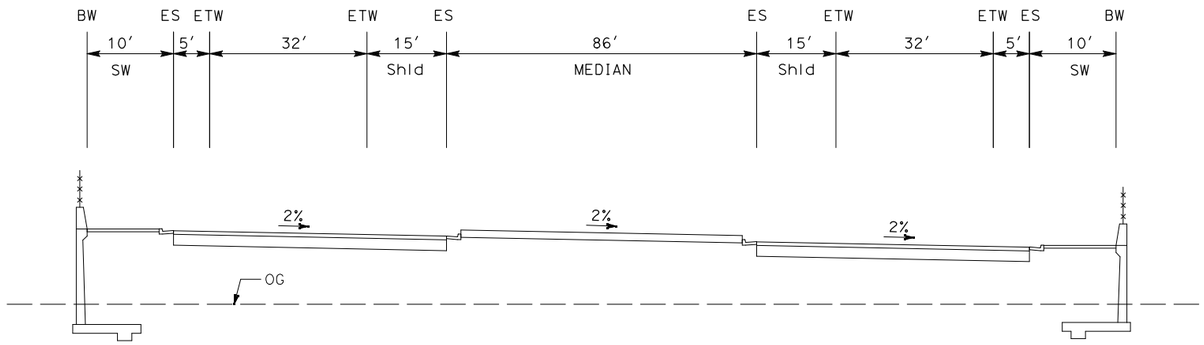
US 101 / Produce Ave Project - Typical Cross Sections

Alternative 6

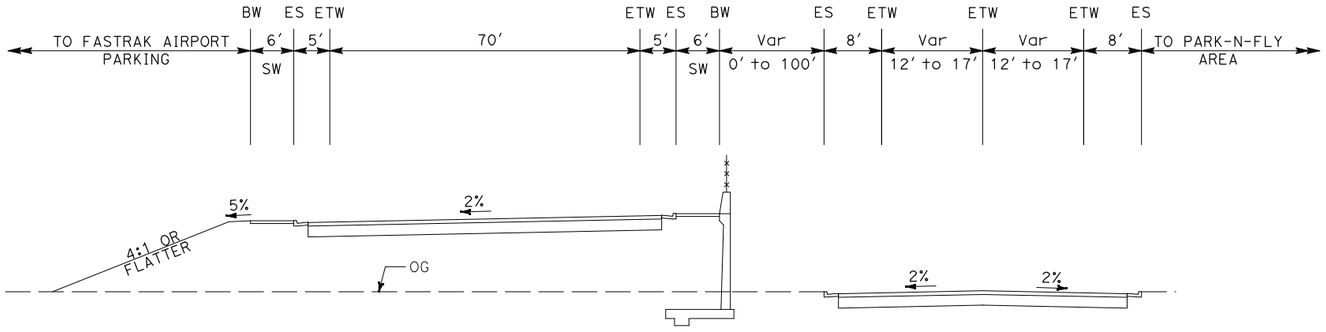
JUNE 2015



SB OFF-RAMP

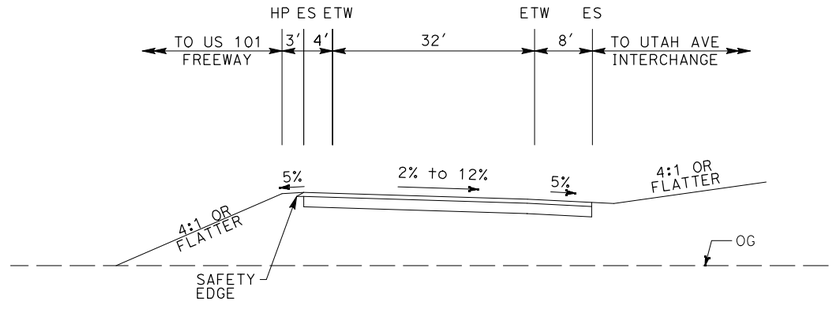


S AIRPORT Blvd and UTAH Ave
ROUNDABOUT INTERSECTION



UTAH Ave
WEST OF US 101

ACCESS ROAD



SB LOOP ON-RAMP

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

URS | City of South San Francisco, California | Caltrans

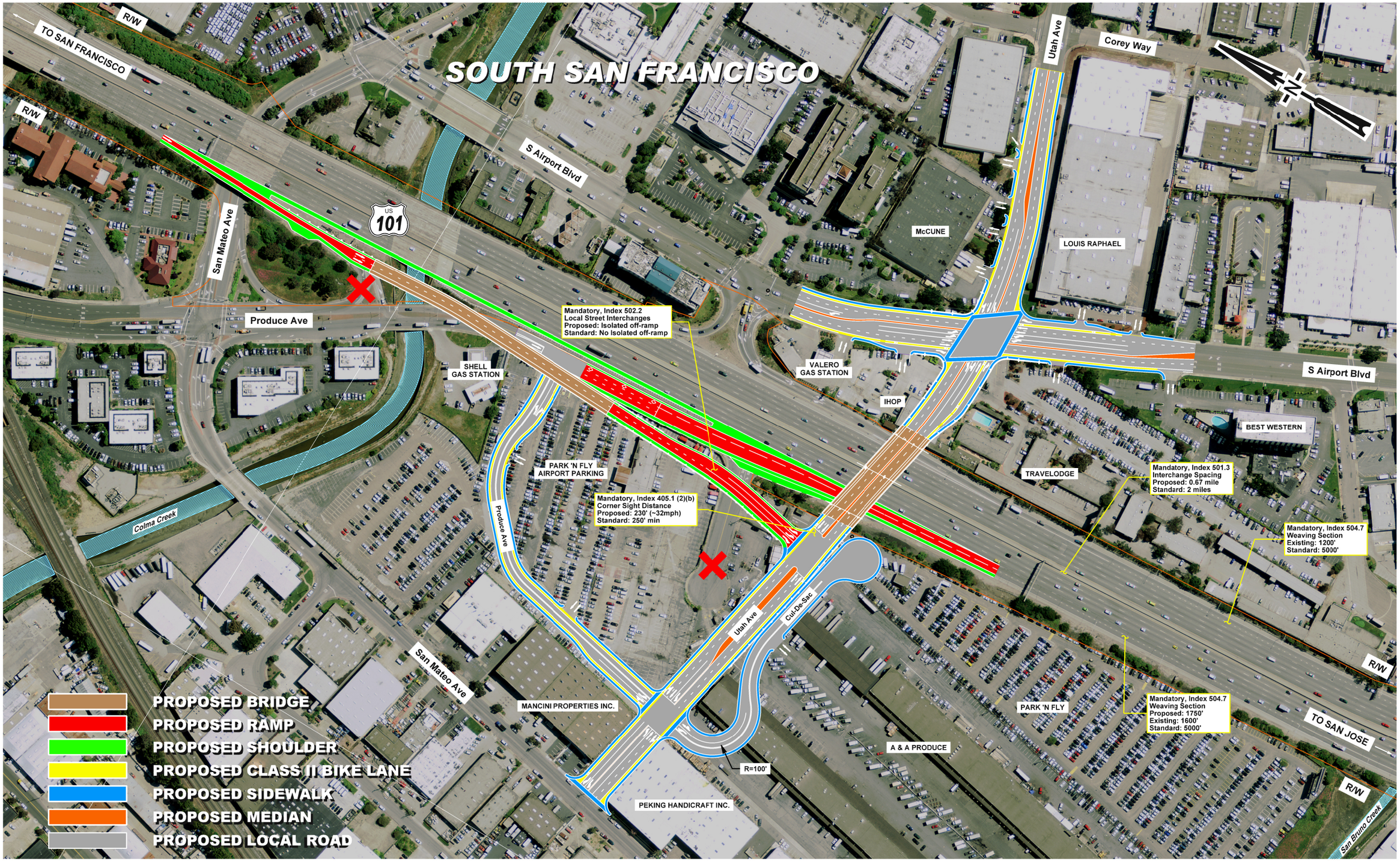
US 101 / Produce Ave Project - Typical Cross Sections

Alternative 9

JUNE 2015

ATTACHMENT H

DESIGN EXCEPTIONS



URS

CITY OF SOUTH SAN FRANCISCO CALIFORNIA

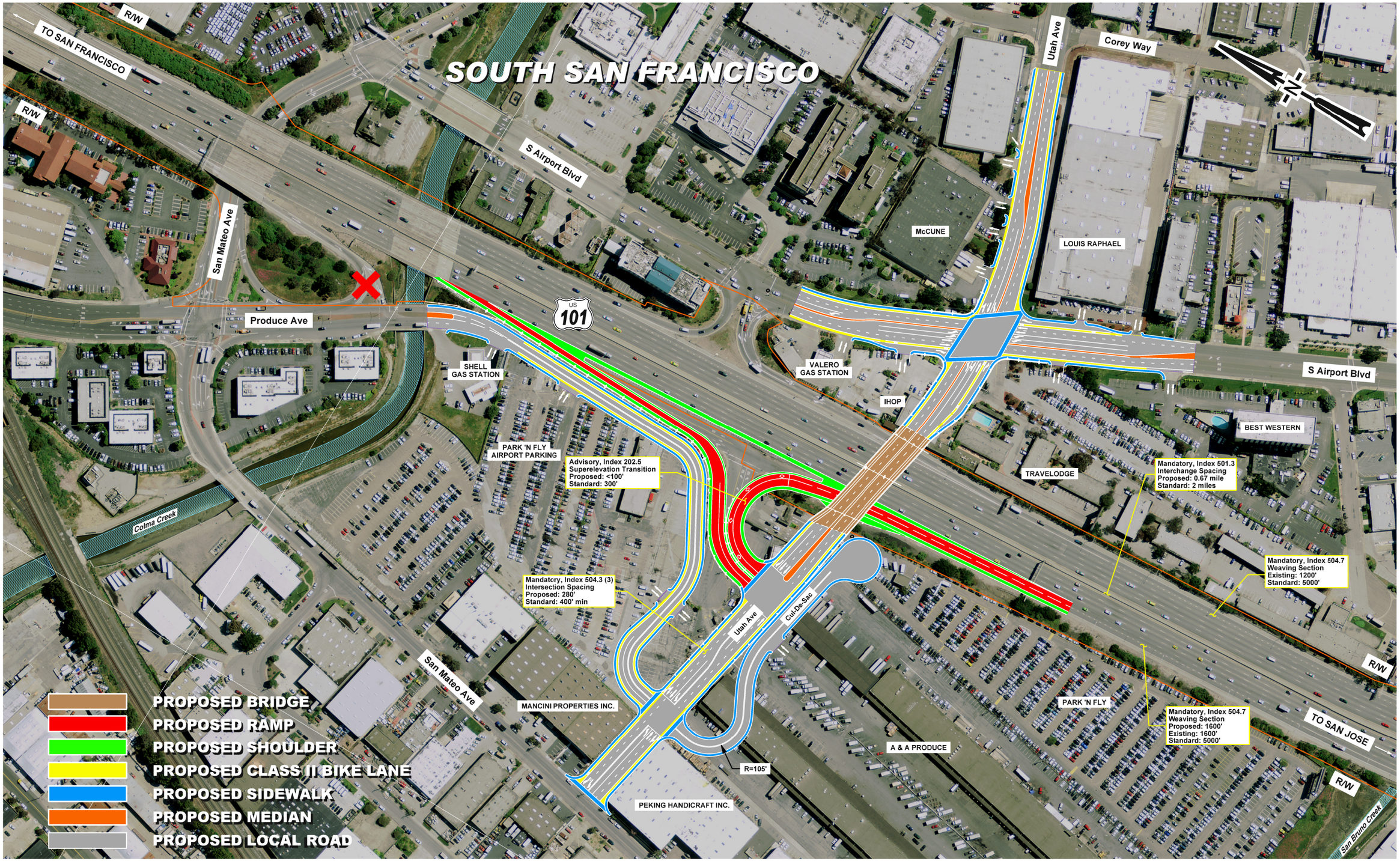
Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 2 - DESIGN EXCEPTIONS

SCALE
0 100 200 300 Ft

FIGURE
1

JUNE 2015



URS

CITY OF SOUTH SAN FRANCISCO CALIFORNIA

Caltrans

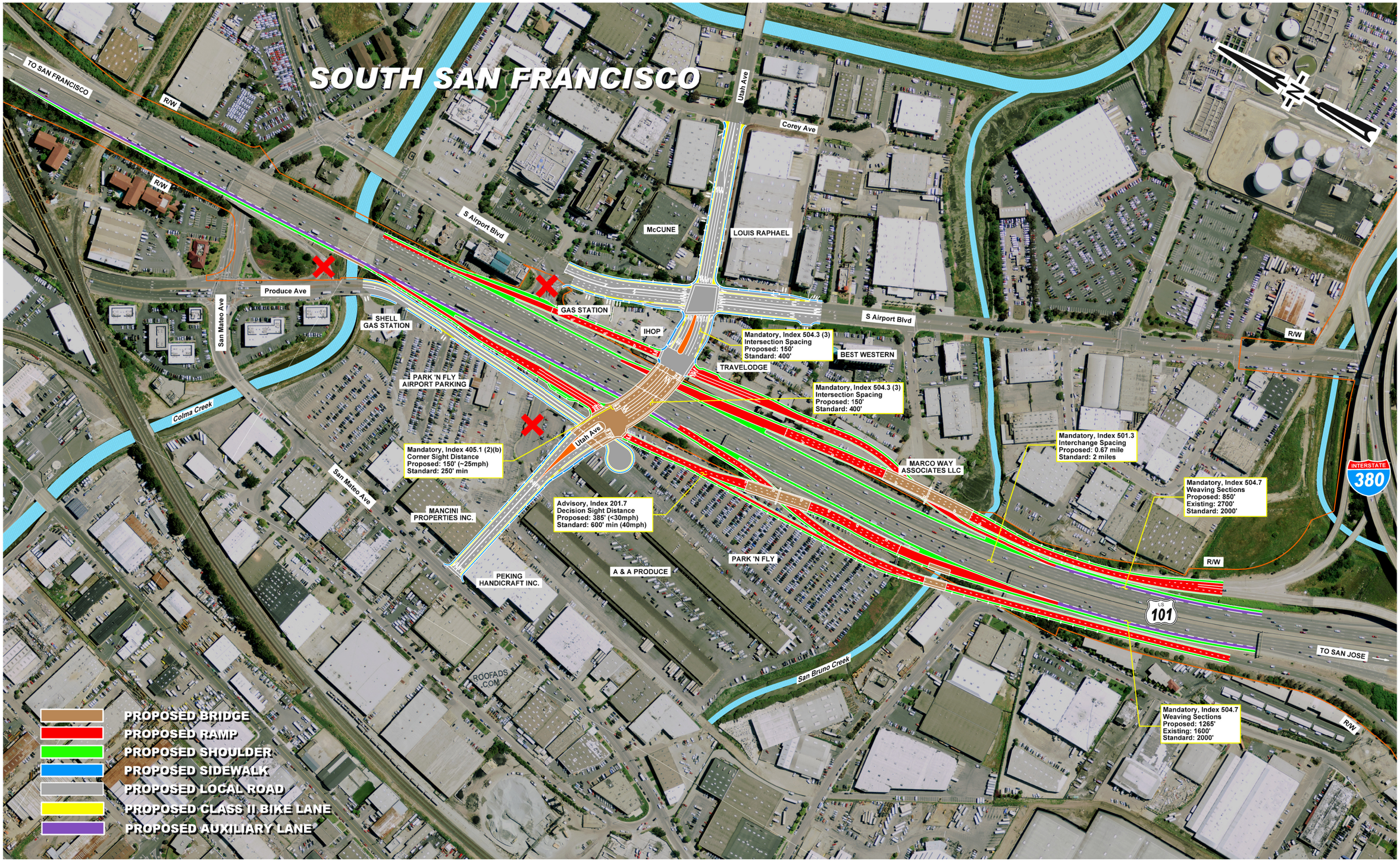
US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 3 - DESIGN EXCEPTIONS

SCALE

0 100 200 300 Ft

FIGURE 2

JUNE 2015

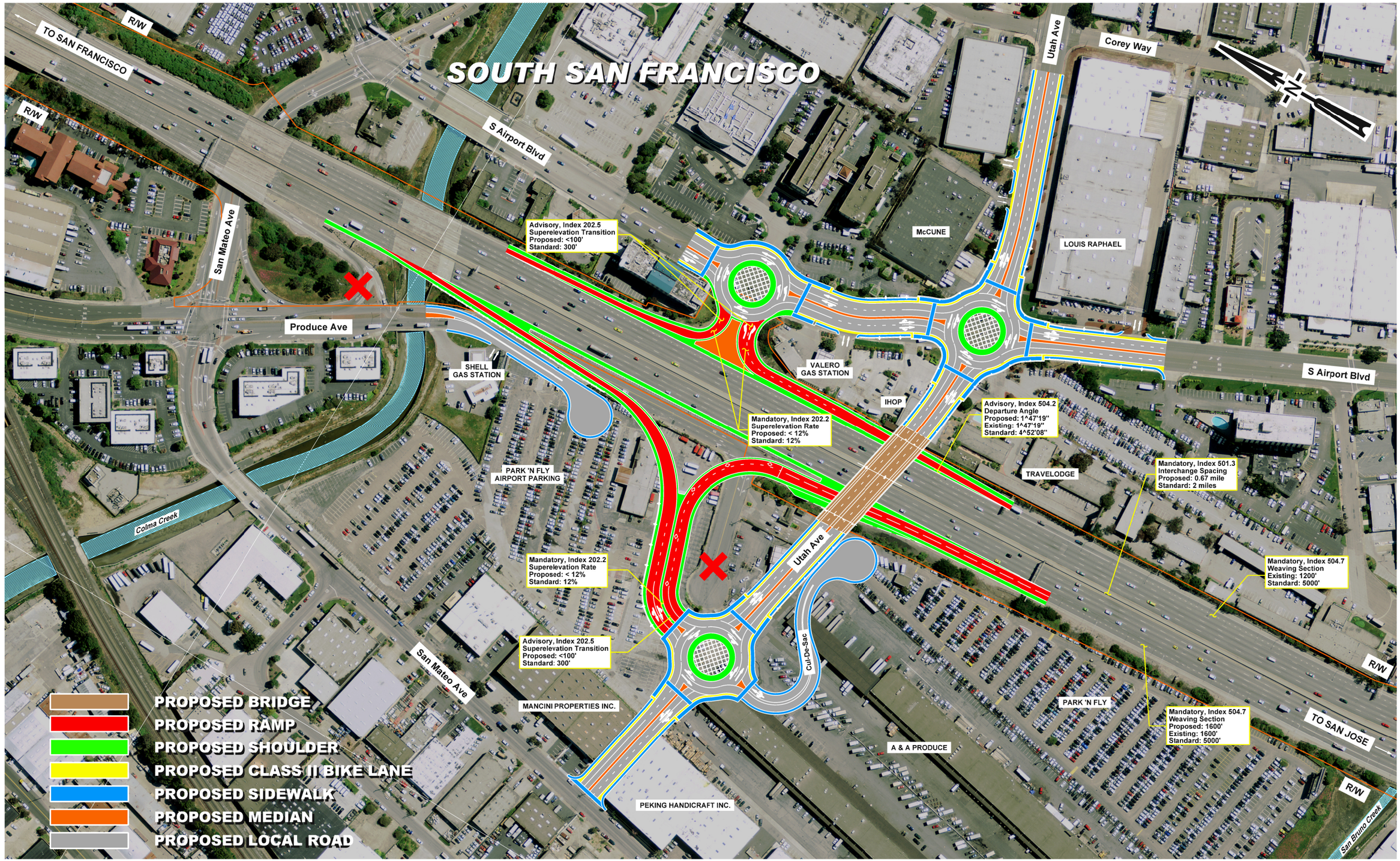


URS | Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 6 - DESIGN EXCEPTIONS

SCALE
0 200 400 600 FT

FIGURE
3
JUNE 2015



URS

CITY OF SOUTH SAN FRANCISCO CALIFORNIA

Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 9 - DESIGN EXCEPTIONS

SCALE

0 100 200 300 Ft

FIGURE
4

JUNE 2015

ATTACHMENT I

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT
Draft Submittal - July 2015

1. Project Information

District 04	County San Mateo	Route US 101	PM 20.7/ 21.7	EA 4H360
Project Title: US 101/Produce Avenue Interchange Project				
Project Manager Richelle Perez			Phone # (510) 286-4998	
Project Engineer Trang Hoang			Phone # (510) 286-5650	
Senior Environmental Planner Kathy Boltz			Phone # (510) 622-8706	
PEAR Preparer Jeff Zimmerman, URS Corporation			Phone # (510) 874-3005	

2. Project Description

Purpose
The purpose of the proposed project is to:

- Enhance safety and improve traffic operations in the vicinity of Produce Avenue and US 101.
- Provide a local east-west connection across US 101 for the southern area of the City of South San Francisco.
- Improve bicycle and pedestrian facilities.
- Accommodate future planned growth in the vicinity of Produce Avenue and US 101.

The project would also incorporate complete street features, improve pedestrian mobility, and comply with American with Disabilities Act (ADA) requirements.

Need
Existing Facility
Produce Avenue is predominantly a three-lane north-south collector roadway between the Airport Boulevard/South Airport Boulevard/San Mateo Avenue intersection in the north and the Terminal Court intersection in the south. The posted speed limit along Produce Avenue is 35 miles per hour (mph).

Airport Boulevard is a major multi-lane north-south arterial roadway in the city of South San Francisco. Airport Boulevard extends southerly from Bayshore Boulevard in the city of Brisbane to connect with South Airport Boulevard at the San Mateo Avenue/Produce Avenue intersection. Within the study area, the arterial is primarily fronted by commercial land uses with a posted speed limit of 40 mph and carries approximately 20,000 vehicles per day (vpd).

South Airport Boulevard is a major multi-lane north-south arterial roadway in the City of South San Francisco. South Airport Boulevard extends southerly from Airport Boulevard at the San Mateo Avenue/Produce Avenue intersection, passes under US 101 and then continues to the south past the I-380 interchange to connect with San Bruno Avenue East/North McDonnell Road. Within the study area, it is primarily fronted by various commercial land uses (service and commercial uses) with a posted speed limit of 30 mph and carries approximately 20,200 vpd.

Utah Avenue is a four-lane east-west collector roadway in the City of South San Francisco. Utah Avenue extends from the South Airport Boulevard intersection in the west to the Littlefield Avenue intersection to the east. Within the study area, Utah Avenue is also primarily fronted by commercial land uses (service and retail businesses) and has a posted speed limit of 30 mph.

San Mateo Avenue is a two-lane north-south roadway in the City of South San Francisco. San Mateo Avenue extends from the Airport Boulevard / Produce Avenue intersection in the north to State Route 82 (El Camino Real) in the city of San Bruno to the south. Within the study area, it is primarily fronted by commercial land uses (retail distributers and automotive services) with a posted speed limit of 30 mph.

Terminal Court is a short two-lane east-west cul-de-sac in the City of South San Francisco. Terminal Court extends to the west from Produce Avenue (just north of where Produce Avenue connects to southbound US 101) and primarily serves three commercial properties (airport parking and produce distribution).

The existing US 101/Produce Avenue interchange facility consists of discontinuous interchange ramps in the southbound and northbound directions. The southbound off-ramp is a short one-lane "buttonhook" design that connects to Produce Avenue at a stop-controlled intersection on the north side of the Colma Canal. At this intersection, Produce Avenue is primarily two lanes in the southbound direction and one lane in the northbound direction. It functions as a collector-distributer roadway, extending south from its intersection with San Mateo Avenue, Airport Boulevard, and South Airport Boulevard, crosses over the Colma Canal, and parallels the freeway briefly as a frontage road before merging as a two-lane on-ramp into the southbound US 101 auxiliary lanes. In the northbound direction of US 101, the interchange consists of short buttonhook on- and off-ramps connecting with South Airport Boulevard. The only connection between the northbound and southbound ramps is by way of the US 101/South Airport Boulevard undercrossing, to the north.

Existing Roadway Deficiencies and Locations of Congestion

To reach southbound US 101 from Utah Avenue, traffic is required to turn right at the Utah Avenue/South Airport Boulevard intersection, head north on South Airport Boulevard passing under US 101, head south at the Airport Boulevard/South Airport Boulevard/San Mateo Avenue/Produce Avenue intersection, and continue south along Produce Avenue to access the southbound on-ramp just south of Terminal Court, a total of just over ¾ mile.

The intersection of Terminal Court and Produce Avenue a stop controlled intersection just north of the southbound on-ramp to US 101. Vehicles exiting Terminal Court can turn left onto northbound Produce Avenue or right onto the southbound on-ramp. Vehicles turning left must cross the path of vehicles traveling at high speeds along southbound Produce Avenue that do not have to stop before entering the southbound on-ramp.

Local traffic does not have an efficient route to the northbound and southbound US 101 ramps. This leads to large trucks using the surface streets to access the freeway. For instance, the traffic from the produce warehouses to the west of US 101 (including from Terminal Court) must travel north on San Mateo Avenue or Produce Avenue under US 101 on South Airport Boulevard then travel south on South Airport Boulevard to access northbound US 101. There is no overcrossing of US 101 at Utah Avenue, and therefore traffic originating from Utah Avenue east of US 101 has to make the reverse trip along South Airport Boulevard to access southbound US 101.

Pedestrian and Bicycle Facilities

Bicyclists and pedestrians can only cross US 101 in two places in the project vicinity. Pedestrian facilities at the US 101/South Airport Boulevard undercrossing are comprised of narrow walkways at the freeway undercrossing. The nearest alternative US 101 crossing is the East Grand Avenue bridge 0.3 mile to the north, but it also has narrow sidewalks that are not compliant with current Americans with Disabilities Act standards.

Existing bicycle crossings across the freeway are the Class III bike routes at the US 101/East Grand Avenue overcrossing (3,300 feet north of the project area), and at the US 101/South Airport Boulevard undercrossing (1,200 feet north of the S Airport Boulevard on/off-ramps).

Description of Work

There are a total of five alternatives that have been identified including the No Build Alternative and four Build Alternatives.

No Build Alternative

The No Build alternative will be considered and will consist of not constructing the project. Traffic (and traffic related studies) will be projected to future years to compare the No Build with the Build Alternatives.

Alternative 2 - Braided US 101 SB Off Ramp

Alternative 2 proposes to construct a new overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. This alternative proposes to shift the existing two-lane southbound on-ramp from Produce Avenue 675- feet north to improve the weaving distance to I-380. The existing southbound loop off-ramp would be closed and replaced by a new diagonal off-ramp grade separating over the southbound on-ramp. The new diagonal off-ramp would connect to the new overcrossing. The southbound off-ramp would begin as a single lane ramp and widen to two lanes, providing significant off-ramp storage space improvements. A new local road would be constructed starting just before the southbound on-ramp and ending west of Utah Avenue extension. A new access road would form the southerly leg of the signalized intersection. The existing Terminal Court would be closed. The existing northbound on- and off-ramps would remain unchanged.

Alternative 3 - Modified Partial Cloverleaf

Alternative 3 proposes to construct a modified partial cloverleaf (L-7) interchange in the western quadrants by extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. The existing southbound on- and off-ramps would be closed. Under this alternative the existing southbound on-ramp gore would be perpetuated, maintaining the existing weaving length to I-380. A new southbound off-ramp would connect to Produce Avenue in a "T" intersection with the loop on-ramp. The southbound off-ramp would begin as a single lane ramp and widen to two lanes. A new local road starting right after the Colma Creek Bridge would run alongside the new southbound off-ramp and connect to a signalized intersection, west

of Produce Avenue. Similar to Alternative 2, an access road would be provided at the signalized intersection and the existing Terminal Court would be closed.

Alternative 6 - Tight Diamond with Braided Ramps
Alternative 6 is the maximum foot-print alternative. It proposes to construct a tight diamond interchange at Utah Avenue. The on- and off-ramps south of the overcrossing would be braided with the I-380 connector ramps. In the northbound direction, the I-380 two-lane connector ramp would braid over the off-ramp to the Utah Avenue overcrossing. In the southbound direction, the two-lane on-ramp would split in two: one going to west I-380 and the other heading to southbound 101. The existing southbound 101 to westbound I-380 connector ramp would also be shifted 1700 feet to the north. The existing on- and off-ramps in both directions would be closed. Produce Avenue would be relocated along the westerly side of the new southbound diagonal off-ramp and it would continue under the new overcrossing, providing access to the parcels in the southwest quadrant.

Alternative 9 - Roundabout Intersections
Alternative 9 proposes to construct an overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. Similar to Alternative 3, a Type L-7 interchange configuration is proposed in the western quadrants. However, under this alternative, roundabouts would replace traffic signals at the northbound and southbound US 101 ramp intersections. This alternative also proposes a roundabout at the intersection of South Airport Boulevard and Utah Avenue. Produce Avenue would be relocated alongside the southbound off-ramp and would terminate in a new cul-de-sac. A new access road is proposed to form the south leg of the southbound roundabout ramp intersection.

3. Anticipated Environmental Approval

Check the anticipated environmental determination or document for the proposed project in the table below.

CEQA		**NEPA**	
Environmental Determination			
Statutory Exemption	☐		
Categorical Exemption	☐	Categorical Exclusion	☐
Environmental Document			
Initial Study or Focused Initial Study with proposed Negative Declaration (ND) or Mitigated ND	☒	Routine Environmental Assessment with proposed Finding of No Significant Impact Complex Environmental Assessment with proposed Finding of No Significant Impact	☒ ☐
Environmental Impact Report	☐	Environmental Impact Statement	☐
CEQA Lead Agency (if determined):		Caltrans	
Estimated length of time (months) to obtain environmental approval:		20 to 24 months	
Estimated person hours to complete identified tasks:		TBD	

4. Special Environmental Considerations

Based on this review of the project location and the preliminary alternatives, environmental approval can be obtained with an Initial Study (IS) with Negative Declaration or Mitigated Negative Declaration under the California Environmental Quality Act (CEQA), and an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). The project will involve right-of-way acquisition, potentially including a hotel, restaurant and shipping/warehouse businesses depending on the alternative. Records show that archaeological sites have been identified in the project vicinity and would require further investigation. Census data indicates the community surrounding the project location qualifies as an "Environmental Justice" population. Additional outreach efforts should therefore be planned for this project. No controversy related to this project has been identified to date by the City of South San Francisco.

The Environmental Assessment is expected to qualify as a "Routine Environmental Assessment," assuming that the following criteria for that classification will undergo further review and confirmation as the project alternatives are developed. The project alternatives are focused along US 101 (no multiple location alternatives), encompassing the overcrossing and variations of the ramp connections and do not involve "multiple location alternatives." The purpose and need for the project is not expected to generate controversy and the logical termini and independent utility of the proposed project can support the limits of the various alternative improvements. There are no identified Section 4(f) properties (all bicycle and pedestrian facilities at the project location are along existing roads and were constructed for transportation purposes, not recreation). There is no readily apparent sensitive biological or complex endangered species habitat, although construction avoidance measures would likely be appropriate at Colma Creek. No substantial cumulative impacts or high environmental mitigation costs are anticipated. There will be acquisition costs associated with the acquisition of some businesses.

Further evaluation for the presence or absence of cultural resource remains will need to be included in the project budget and schedule. The surface area at and surrounding the project is almost entirely paved or other hardscape, and construction of existing facilities has removed, scattered, and/or covered the original surface conditions. Based on the site records reviewed to date, and without further information, there is a potential for buried subsurface cultural resources deposits that could be encountered during construction. An Extended Phase I investigation program appears appropriate and would need to be conducted during the PA&ED phase.

5. Anticipated Environmental Commitments

The following environmental commitments may result from environmental review. This Preliminary Environmental Analysis Report (PEAR) is prepared for a Project Study Report – Project Development Study (PSR-PDS) and therefore no cost estimate for environmental permits or commitments was developed.

- The project location is considered potentially sensitive for buried cultural resources. Further investigations during the PA&ED phase, including potential subsurface testing, will help define the presence or absence of such resources. Budget and schedule should include contingencies for addressing this risk. Project commitments for design and construction (if any are needed) would be defined based on the outcome of further investigations, and can include avoidance or buffers for any highly sensitive locations,

development and application of treatment programs, and/or worker education. Based on the potential sensitivity of the project location for archaeological resources, the need for construction monitoring should be included in the cost estimates.
- Surface water runoff from added pavement may result in hydromodification and/or drainage changes, and require treatment options.
- Hazardous materials sites have been identified in or adjacent to the project area. These sites will require additional investigation and potentially special handling of soils and/or groundwater.
- The project has the potential to affect an "Environmental Justice" population. Additional outreach activities are recommended to define any special considerations or needs that should be included during project development.
- Architectural design and treatment may be appropriate to include in the project. Although the local land uses would not be considered visually sensitive, the proposed overcrossing would be a highly visible structure.

6. Permits and Approvals

The following summarizes anticipated consultation that would be completed during the preparation of the draft and final environmental document (PA&ED):

- **United States Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries)**: The project location's highly urbanized setting makes it unlikely to support habitat for sensitive species. Colma Creek provides aquatic habitat, but it is channelized and the banks primarily paved or disturbed. Informal consultation and use of avoidance measures may be adequate.
- **Federal Highway Administration (FHWA)**: Concurrence will be required that the project conforms to the Clean Air Act and other requirements.
- **Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force**: Consultation with the Task Force will be required to determine whether the project is a Project of Air Quality Concern. Consultation must be completed prior to requesting an air quality conformity determination from FHWA.
- **State Historic Preservation Officer (SHPO)**: The results of the cultural resources studies may likely require concurrence by the SHPO, depending on the outcome of the studies.

The following regulatory permits and approvals may be required, but will require confirmation and/or updating once alternatives are further refined. The preparation of the applications and permits can be initiated during PA&ED, but cannot be approved by the agencies until the Preliminary Plans, Specifications, and Estimates (PS&E) phase.

- **Army Corps of Engineers (USACE):** Colma Creek has connectivity to San Francisco Bay and may be tidally influenced. The creek appears to be Waters of the United States. A Section 404 jurisdiction (wetlands) would be determined during the PA&ED studies. A Section 401 permit may be required for any work within the creek channel or banks.
- **Regional Water Quality Control Board (RWQCB)**: The project will require a Notice of Construction and Storm Water Pollution Prevention Plan agreement with RWQCB. If the project does not require a Section 404 permit (no work within the creek or banks), a

water quality certification would typically not be required by the USACE but may be required by RWQCB.

- **California Department of Fish and Wildlife (CDFW)**: A CDFW Streambed Alteration agreement is required for substantial changes to the natural flow, or to the channel or bank of a river, stream or lake, or deposit or placement of materials. CDFW involvement would be determined during PA&ED, but may not be required if there is no work within the Colma Creek or channel.
- **San Francisco Bay Conservation and Development Commission (BCDC)**. BCDC jurisdiction is located along the Bay shoreline, which occurs nearby but is more than 500 feet to the north of the nearest extent of the project limits. The project is separated from the Bay shoreline and the 100-foot BCDC shoreline band and does not appear to fall within BCDC jurisdiction; this will be confirmed during the PA&ED phase.

7. Level of Effort: Risks and Assumptions

Refer to item 6, above. If it is determined during the environmental studies that sensitive habitat or resources may be present, then consultation with the resource agencies would be reconsidered; however, this is unlikely given the highly urbanized nature of the project location, and the lack of any obvious biologically sensitive terrestrial or aquatic resources.

8. PEAR Technical Summaries

The following summarizes the potential environmental issues and necessary studies. Where there is a difference between the alternatives, it is noted; otherwise each design alternative would have the same potential effects and need for evaluation. The No Build Alternative would avoid the following changes and impacts, but would also not provide the transportation benefits of the proposed project.

8.1 **Land Use**: The South San Francisco General Plan identifies the project area east of US 101 as the Lindenville planning subarea, designated for Regional Commercial land use. It identifies the project area west of US 101 as the South Airport planning subarea, designated for Business Commercial and Mixed Industrial. In both subareas, land uses are focused on serving the nearby San Francisco International Airport, with airport parking lots west of US 101 and hotels, restaurants, and gas stations east of US 101.

There are no public parks or recreation facilities in the project footprint and the closest qualifying Section 4(f) facility is 7th and Walnut Park just south of I-380. A section of the Bay Trail follows Colma Creek just southeast of the project area. Parks and recreation facilities (including Section 4[f]) within 0.5 mile of the project area will be described along with any project-related effects addressed in a Community Impact Assessment (CIA).

8.2 **Growth**: The potential for growth changes will be addressed in the environmental document, but the project is unlikely to substantially affect regional growth. The proposed overcrossing, ramp and local street improvements will improve the flow of traffic to and from existing businesses and for commuters at this interchange. It will reduce congestion in future years related to access across US 101, but it would not add capacity to the freeway or substantially change commute times. The project area is already developed with businesses and no new parcels will be accessible as a result of the improvements.

8.3 **Farmlands/Timberlands**: There are no farmlands or timberlands at or near the project location.

8.4 **Community Impacts**: The affected community consists primarily of commercial businesses on either side of US 101. There are no residential properties in the project footprint. The primary community impacts associated with the project alternatives will be property acquisitions and relocations. Each build alternative is anticipated to require permanent right-of-way acquisitions and temporary construction easements. In particular, the eastern approach of the proposed overcrossing of US 101 at Utah Avenue included in each alternative would bisect a hotel property along northbound US 101. West of US 101, partial acquisitions from two airport parking lots and a produce wholesaler could be required, depending on the build alternative. The Tight Diamond with Braided Ramps Alternative would include new ramps on both sides of US 101 from just north of Interstate 380 to Colma Creek, which could involve acquisitions from several properties that front US 101 in that segment. The project is likely to result in changes to existing or planned land use designations, which should be documented in a CIA.

Census data was reviewed to assess the project's potential for disproportionate effects on environmental justice populations, particularly just outside of the project footprint. Census data is aggregated by Census tracts and statistical subareas called block groups.

"Environmental justice" populations are traditionally defined as a Census block group population that meets either or both of the following criteria:

- Contains 50 percent or more minority persons, and/or the block group contains 25 percent or more low-income persons.
- The percentage of minority and/or low-income persons in any Census block group is substantially (e.g., more than 10 percent) greater than the average of the surrounding region (e.g., the counties overlapping the study area).

Census tract 6023 (made up of Census block groups) contains the project footprint and was evaluated for the above criteria. This tract's population is estimated at 53 percent Hispanic persons and 9 percent low-income persons (defined by the percent of the population that was below the poverty level in 2010). Therefore, Census tract 6023 meets the first criterion for minority persons.

Any disproportionate project impacts to the environmental justice population will be evaluated in a CIA along with an evaluation of the community residents and neighborhood characteristics impacted. The assessment will require information on the estimated extent of the properties potentially acquired for each alternative, and changes in access and circulation in the local neighborhood. Interpretation and additional outreach efforts may be appropriate during the PA&ED phase to ensure that project notifications and access to information and meetings addresses the needs of this community.

8.5 **Visual/Aesthetics**: Each build alternative includes a new overcrossing of US 101, with variations of ramp and local road connections. No typical visually sensitive land uses such as residences or recreational land uses are present at the project site; however, hotels could have views of proposed facilities. The construction of a new overcrossing at Utah Avenue would require removal or substantial modification of one hotel, the Travelodge on South Airport Boulevard at Utah Avenue. Noticeable visual changes will therefore result from the project, especially from overcrossing construction and any necessary property acquisition and structure removal. However, the changes will occur in an area of relatively low visual sensitivity as it is entirely commercial. The new structures will appear consistent with the existing freeway and would not block any sensitive views. A visual impact memorandum or abbreviated Visual Impact Assessment appears appropriate. For planning purposes, minimal visual simulations (before and after renderings) could be included to demonstrate changes with the construction of the new overcrossing, particularly for use in public meetings. However, the need for visual simulations is not considered necessary to address adverse visual impacts because of the lack of sensitive viewers. A preliminary Visual Impact Assessment (VIA) questionnaire was competed to determine a visual impact assessment level, with a ranking of 12. This score corresponds with a recommendation for preparation of a brief VIA memorandum.

US 101 is not an eligible or designated Scenic Highway within the project limits. US 101 is designated a "Classified Landscaped Freeway" between Post Miles (PM) SM-101-17.81/26.11; these limits include the Produce Avenue Interchange at SM-101- 20.7/21.7. A Classified Landscaped Freeway is a section of freeway with planting that meets the criteria of the Outdoor Advertising Regulations. It is used in the control and regulation of Outdoor Advertising Displays. It does not appear the project would substantially affect any outdoor advertising signs or view of signs. Substantial new directional signage on the freeway is not anticipated. Caltrans policy is to replace maintained landscape plantings within a

designated Landscaped Freeway that are removed as a result of a State transportation construction project. Within the project limits, some landscaping within the right-of-way may require replacement, primarily between the Produce Avenue and South Airport Boulevard northbound and southbound ramps. There is no median landscaping within the project limits.

8.6 **Cultural Resources**: The project is located in an entirely built environment that includes warehouse buildings, motel/hotels, the South San Francisco Produce Market, and airport parking facilities. Review of aerial photos indicates the current highway configuration was in place in the 1950s with relatively little development near the highway. The current development patterns began in the 1960s when the produce market and some of the hotels were constructed near the freeway. The age of the development in the vicinity of the project indicates that a Historic Resources Evaluation Report (HRER) will be needed.

An archaeological records search was performed at the Northwest Information Center at Sonoma State University on February 2, 2015. Multiple sites have been identified and recorded in the project vicinity, which appear to consist primarily of the remains of archaeological middens (deposits of shells and refuse resulting from prehistoric and/or Native American occupation). Present development indicates any such features are likely covered or heavily modified, but these sites may still retain the potential to contain buried deposits. Further investigations potentially including subsurface testing would help determine the probability of presence or absence.

This project will require compliance with Section 106 of the National Historic Preservation Act through application of the procedures in the Caltrans 2014 Programmatic Agreement. Technical studies and reports identified at this phase of the project are: 1) an Archaeological Survey Report (ASR), 2) a Historic Properties Survey Report (HPSR), and 3) an HRER. Consultation will be necessary with Native American representatives and others including local historic preservation societies and the State Historic Preservation Officer. As of July 2015, consultation must include the steps for consideration of Tribal Cultural Resources for Tribal identification and noticing. This process begins within 14 days of the formal start of the project (e.g., the PA&ED phase of work), and involves immediate coordination with the Caltrans Office of Cultural Resource Studies (OCRS), written notification to identified Tribes, submittal of project information to identified Tribe(s), and if requested, initiation of consultation within 30 days. Avoidance and/or mitigation measures may be identified during this process.

Budgeting for an Extended Phase I (XP1) study should be included given the existing records indicating buried resources at and near the project site. The results of the XP1 investigation would be used to help identify or predict whether known (or potential) resources can be avoided by project design modifications, or if further steps are needed in compliance with Section 106 procedures. A contingency for archaeological evaluation (Phase 2) studies is recommended.

8.7 **Hydrology and Floodplains**: Colma Creek crosses in a lined channel under a US 101 bridge structure located just south of the US 101/South Airport Boulevard undercrossing. A navigable slough to Colma Creek also crosses under US 101 within two box culverts approximately 0.5 mile south of the US 101/South Airport Boulevard undercrossing. Both of these channels drain to the San Francisco Bay.

Federal Emergency Management Agency (FEMA) mapping shows a Zone A flood hazard area along US 101 from the northern project limits to Colma Creek. Zone A is defined as an area where no base flood elevation has been determined. South of Colma Creek along US 101, areas are mapped as Zone X, which is considered subject to flooding but outside of the 100-year floodplain. Potential impacts to floodplains will be further evaluated. A Location Hydraulic Study, Summary of Floodplain Encroachment Report, and/or a Floodplain Evaluation Report will be required since the project will encroach into the floodplain. A reference to encroachments into the base floodplain must be included in public notices, and any encroachments must be identified at public hearings. Design features for structures within the100-year floodplain will be considered to avoid increasing base flood elevations or adversely impairing the existing flow.

8.8 **Water Quality and Storm Water Runoff**: The proposed overcrossing and connecting ramps will increase the total area of impervious surface within the project area. The area of new runoff will be calculated during preliminary design. The project has the potential to add a net increase of one acre or more of new impervious surface, and if so will require consideration of permanent storm water treatment and hydromodifcation management measures. Opportunities for drainage basins or other treatment measures could be considered within the existing ramps at South Airport Boulevard and Produce Avenue, or at parcels that may require acquisition and removal of existing structures.

The build alternatives will require more than one acre of soil disturbance, including staging areas, grading, cut and fill (if any), new pavement, and replacement pavement. The project must therefore comply with the Statewide Construction General Permit (CGP). In accordance with the CGP, Best Management Practices (BMPs) will have to be included in the construction of the project to the maximum extent practicable (MEP). This process involves the determination of a "risk level," and it can be expected that a Stormwater Pollution Prevention Plan (SWPPP) will be developed by Caltrans or the construction contractor(s), as well as any required monitoring reporting requirements or plans.

Colma Creek is considered Waters of the U.S. and Waters of the State. If work does not occur below the identified ordinary high water mark of Colma Creek, a Section 404 permit from the U.S. Army Corps of Engineers should not be required. If a Section 404 permit is not required a Section 401 permit from the RWQCB will not be needed. However, a Water Quality Certification from the San Francisco Bay Regional Water Quality Control Board might be required. The need for these permits will be determined during final design (also see Section 8.15).

The proximity of the Bay shoreline and its tributaries indicates a potential for a high groundwater elevation; this should be considered in the project design and construction methods. There are options for managing ground water encountered during construction, and it would require regulatory compliance.

8.9 **Geology, Soils, Seismic and Topography**: Geologic mapping shows that the project area is underlain predominantly by artificial fill from approximately Colma Creek southward to near the US 101/I-380 interchange. The area is relatively flat and just above sea level. Colma Creek drains the project area, and drainage is generally to the west. The historic margins of the Bay shoreline were in the general vicinity of US 101. Areas along much of the freeway and to the east have been substantially altered with artificial fill through

approximately the 1960s, when further alteration of the Bay and its shorelines became regulated by BCDC.

The San Andreas Fault is 2 to 3 miles west of the project. The short distance to this major fault, and the presence of other faults in the Bay Area region, creates a high risk for strong ground shaking. This risk is magnified considering that the regional geologic mapping indicates the potential presence of fill and other consolidated and unconsolidated materials.

The project will require a Preliminary Geotechnical Report during the PA&ED phase, including reconnaissance-level field review and literature review. The proposed overcrossing, retaining walls, and any other significant new structures will require evaluation in a Structures Foundation Report.

8.10 **Paleontology**: North of Colma Creek the subsurface formations at US 101 include the Colma formation (Pleistocene-era), sandstone, and younger (inner) alluvial fan deposits (Holocene-era). Holocene-era sedimentary deposits generally represent a period of 10,000 to 12,000 years ago, and are not considered old enough to contain sensitive paleontological resources (low probability). Pleistocene-era soil deposits may have a higher potential to contain materials potentially associated with mammals, birds, reptiles, and plants. The Pleistocene-era deposits are only mapped at the far northern extent of the project, in the vicinity of Colma Creek and west of US 101. The site is almost entirely paved, and field reviews would not yield much information. There is limited potential for encountering paleontological resources during construction. A brief, combined Paleontological Evaluation Report/Paleontological Mitigation Plan with standard avoidance measures appears appropriate.

8.11 **Hazardous Waste/Materials**: An Initial Site Assessment (ISA) was prepared and included a regulatory database review by Environmental Data Resources, Inc. (EDR) and a field review. The records search extended 1 mile outside of the project location to identify known contamination sources that might affect the project. The evaluation of sites included a review of that data but focused on sites within 1/8th mile of the project. Historical aerial photos and maps were reviewed for the presence of land uses of concern, and online databases maintained by the California of Toxic Substances Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) were checked.

The records review identified 21 sites within 1/8th mile of the project that have involved hazardous materials contamination, processing, or storage. Seven of these 21 sites are in or directly adjacent to the project construction footprint. All seven of the sites involved contamination by gasoline or gasoline components and are listed in the records as case closed or completed. At two of the parcels adjacent to Terminal Court, the original structures have been removed.

Existing structures will be removed to accommodate the proposed Utah Avenue overcrossing, including at least a portion of the Travelodge on the east side of US 101 and two one-story warehouse buildings on the west side of US 101. Demolition of buildings has the potential to involve hazardous materials, including asbestos. Thermoplastic paint or "dots" on the road and existing ramps may also contain lead and require special handling.

A Phase II or Preliminary Site Investigation (PSI) should be performed prior to right-of-way acquisition, or earlier. It should update the ISA records review and findings and define

recommendations for any identified properties of concern that will be acquired and/or affected by the project. Properties currently not identified as having contaminant releases at the time of the ISA may experience contaminant releases in the future. The PSI should include provisions for soil and water sampling and testing, aerially deposited lead testing in the soils along US 101, the affected on- and off-ramps, local road connections that will be excavated or graded, and evaluation of building structures that will be acquired and demolished. The PSI should also define proper handling and disposal methods for materials determined hazardous.

8.12 **Air Quality**: The project is not exempt from air quality conformity review, and regional and project level-conformity will need to be demonstrated. An air quality conformity determination will be needed from the Federal Highway Administration (FHWA). The project is identified in the MTC's Regional Transportation Plan (RTP; ID 22279) and Transportation Improvement Program (TIP; ID SM-110003) for the Project Initiation Document phase as "Construct a New Interchange at U.S. 101/Produce Avenue."

For project-level conformity, an Air Quality Study will be needed to address current federal non-attainment and maintenance pollutants in the Bay Area. Ozone has been qualitatively addressed through discussion of the Bay Area's adopted compliance strategies. Carbon monoxide is currently in attainment in the Bay Area, but limited modeling can be used if necessary to demonstrate project compliance. Construction emissions and greenhouse gas emissions will also require evaluation.

An evaluation of fine particulate matter ($PM_{2.5}$) will be required. US 101 between San Francisco and Millbrae has 242,000 to 257,000 Annual Average Daily Traffic (AADT) and approximately 4.4 percent trucks.[1] A $PM_{2.5}$ Assessment Form and supporting information will be needed to perform consultation with the MTC's Bay Area Air Quality Conformity Task Force. This consultation is necessary to determine if the project is a Project of Air Quality Concern (POAQC) as defined in 40 Code of Federal Regulations 93.123(b)(1). Results of the studies must be included in the Draft Environmental Document for public review and comment. An air quality conformity checklist will also be required.

A Mobile Source Air Toxics (MSAT) report will be required to address diesel particulate matter and other potentially toxic emissions. Because the volume of traffic on US 101 exceeds 200,000 ADT, a quantitative analysis may be required for the MSAT report.

8.13 **Noise and Vibration**: This project will introduce a new overcrossing of US 101 in an area dominated by commercial land uses. Potential existing noise-sensitive lands uses are the hotels on the east side of US 101 near the South Airport Boulevard off- and on-ramps. One of these hotels (Travelodge) has an outdoor pool; however, there is a potential that this property may also be fully or partially acquired. The US 101/Produce Avenue interchange would likely be considered a "Type I project" requiring a noise study focused on the hotel parcels or any outdoor or other noise-sensitive use.

Temporary night-time construction may be unavoidable, and it is possible that construction noise at night may cause short-term exceedance of Standard Specifications or local ordinances. Construction noise and mitigation measures should be considered, as night-

[1] Caltrans Traffic Census, Truck Traffic for 2013 (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm)

time construction may be required. However, exceptions may be required to allow for some construction activities.

8.14 **Energy and Climate Change**: A greenhouse gas emissions analysis should be prepared, following Caltrans' most current guidance as included in the Department's Standard Environmental Reference.

Sea Level Rise: Most areas along US 101 extending from approximately the South Airport Boulevard undercrossing of US 101 to the Santa Clara County line are mapped by the State's Cal-Adapt program[2] as being vulnerable to existing Bay inundation (e.g., during 100-year flood event), and subject to future sea level rise. Sea level rise has the potential to increase the frequency of flooding, damage from flooding, and increase the size of the floodplain area at risk.

Table 1 summarizes screening criteria for a sea level rise assessment following Caltrans guidance (Caltrans 2011). The screening factors are intended to help address whether future sea level rise measures should be incorporated into the project.

Table 1 – Sea Level Rise Evaluation Screening Factors for US 101/Produce Avenue Interchange

Factors to Consider in Whether to Incorporate Sea Level Rise in Programming and Design	Towards considering SLR in Design?	Explanation
1. Design life longer than 20+ years?	Yes	Project improvements would have a design life of 20+ years.
2. Redundant/alternative routes available?	No	There are at least two nearby alternative crossings of US 101. At the East Grand Avenue interchange to the north, which is outside of the sea level inundation area. At the I-380 interchange which is constructed on a berm and elevated above surrounding areas.
3. Anticipated travel delays (from inundation)	Yes	Closure of the existing South Airport Boulevard and undercrossing ,and portions of US 101, would cause travel delays.
4. High priority route for goods movement/interstate commerce	No	The Produce Avenue overcrossing does not currently exist.
5. Evacuations/emergencies	No	Produce Avenue is not a vital route for emergency evacuations.
6. Traveler safety (delaying the project to incorporate SLR would lead to on-going/new safety concerns)	No	This project would provide an additional crossing of US 101, but is not considered a safety project.
7. Expenditure of public funds	No	The project is not expected to result in unusual expenditures of funds following construction.
8. Scope of project ("point" vs. "linear")	No	The project is limited to ramp connections and a new freeway overcrossing and is not a linear project.
9. Effect of incorporating SLR on non-state highway (interconnectivity issues with local streets and roads)	No	Effective resolution of the inundation along this area of the Bay shoreline would require significant additional infrastructure investment by local jurisdictions.
10. Environmental constraints	No	Grade elevation changes would be necessary to provide access to local businesses and properties.

[2] Cal-Adapt, California Climate Change Adaptation (website accessed February 2015) (http://climatechange.ca.gov/adaptation/index.html)

The majority of results in Table 1 do not trend toward including sea level rise as a major design criterion. Cost-effective measures can still be considered.

Improvements that address or incorporate sea level rise would need to plan for the 2020 to 2040 design period, or beyond. Sea level rise projections based on the Ocean Protection Council adopted estimates indicate a 7 inch (in 2030) to 14 inch (in 2050) minimum increase in expected inundation elevation. For this project, the approaches to the proposed Utah Avenue overcrossing of US 101would be affected where they meet the existing grade that is between 5 and 10 feet above sea level. Without any elevation changes, local streets such as South Airport Boulevard, Produce Avenue, and Utah Avenue would remain subject to inundation, rendering access to a new overcrossing of US 101 at Utah Avenue impracticable.

Adaptive measures such as local road reconstruction or flood protection barrier installations are not practicable for reasons of additional project cost, additional area of environmental impact, and the fact that these would have to be carried out along most of the Peninsula to be effective. Measures that could be considered for incorporation into the design might include using construction materials that delay or resist saltwater corrosion. However, any improvements to the overcrossing would not address the limitations of the local roadways that may remain exposed to inundation during significant flooding or sea level rise events. No measures are specifically identified during the preparation of the PEAR, but may be appropriate to revisit during the PA&ED phase.

8.15 **Biological Environment**: The project is less than one mile from San Francisco Bay and in a highly urbanized area composed of paved parking lots and commercial development. In the project area, US 101, Produce Avenue, and South Airport Boulevard and San Mateo Avenue cross over Colma Creek on bridge structures. At all three of these crossings, Colma Creek is in a concrete-lined channel or has earth embankments with little overstory vegetation. The topography in the project area is relatively flat and gently drains toward the Bay. Colma Creek at these freeway and road undercrossings has connectivity with the Bay and may be tidally influenced. The creek is a Waters of the United States. A Section 404 jurisdictional delineation (for wetlands) should be performed during PA&ED studies.

A USFWS species list and California Natural Diversity Database (CNDDB) records were accessed and reviewed in February 2015. Mammals include the salt marsh harvest mouse (*Reithrodontomys raviventris*). Fish species of special concern that could occur in this area of the San Francisco Bay may include green sturgeon (*Acipenser medirostris*), central California coast coho salmon (*Oncorhynchus kisutch*), central California coast steelhead (*Oncorhynchus mykiss*), and central valley spring- and winter-run chinook salmon (*Oncorhynchus tshawytscha*). Federal and state-listed amphibians that may be present include the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and California red-legged frog (*Rana draytonii*). The California red-legged frog is less likely to be present in tidally influenced habitats. The San Francisco garter snake is also generally associated with fresh water habitat and is a fully protected species (an Incidental Take Permit (ICP) cannot be issued); the lack of an ICP would increase the risk to construction if the species were encountered. However, the developed nature of the project area, tidal influence at Colma Creek, and the relative lack of vegetative cover limits the potential presence of sensitive terrestrial species, including the San Francisco garter snake. Colma Creek may support fish habitat. A Natural Environment Study should be prepared to evaluate potential

presence of terrestrial and aquatic species of concern, avoidance and minimization measures during construction, and the appropriate type of consultation with NOAA Fisheries and potentially USFWS.

Although highly urbanized, the project area includes street trees and landscaping. Section 8.5 discusses landscape replacement. Tree removal may be necessary, but there will likely be adequate room to include trees within the replacement landscaping.

The federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations part 10, and California Fish and Game Code Sections 3503, 3513, and 3800 protect the occupied nests and eggs of migratory birds. Birds nest in a variety of places including trees, shrubs, human-made structures, and the ground. If construction activities will be conducted between February 1 and September 1, the potential for migratory birds and their nests to occur within the project area should be anticipated in project planning, including the need for avoidance. Preconstruction surveys for migratory birds and raptors and their nests should be conducted regardless of the time of year.

8.16 **Cumulative Impacts**: Cumulative impacts associated with other past, present, or future planned projects will be considered during the preparation of the environmental document. The City of South San Francisco has been completing construction at several highway ramp improvements at the following locations. These involved relatively minor widening or ramp realignment, and in some cases signalization, to improve specific traffic operations.

- US 101 northbound off-ramp at South Airport Boulevard
- US 101 northbound off-ramp at East Grand Avenue
- US 101 northbound on-ramp at Dubuque Avenue/Oyster Point Boulevard

These and other transportation and non-transportation projects will be considered in the evaluation of cumulative impacts.

8.17 **Context Sensitive Solutions**: Context Sensitive Solutions will be considered, as applicable. These solutions are achieved through a collaborative interdisciplinary approach involving stakeholders affected by the project.

9. Summary Statement for PSR or PSR-PDS

Past experience with similar actions and the information gathered to date indicate that environmental clearance could be obtained with an Initial Study under CEQA and a Routine Environmental Assessment under NEPA. Key environmental issues include visual/aesthetics and community impacts, including relocation and environmental justice impacts. The US 101/Produce Avenue interchange would likely be considered a “Type I project” requiring a noise study focused on the hotel parcels or any outdoor or other noise sensitive use. Construction noise and mitigation measures should be evaluated, as night-time construction may be required. Although there is limited terrestrial habitat at the project site, Colma Creek and a navigable slough cross through the project area and work should be avoided or minimized within or adjacent to these waterways.

Assembly Bill 52 requires Caltrans to begin consultation with Native Americans within 14 days of "Begin Environmental." Therefore, coordination with Caltrans Office of Cultural Resource Studies on the "Begin Environmental" date is critical to ensure meeting this timing requirement.

A public outreach and information effort is recommended to keep residents and local businesses informed of the project, the alternatives, opportunities for review and comment, overall project schedule, and right-of-way rights and eligibility.

Preparation of the IS/EA, including technical studies, is anticipated to take approximately 20 to 24 months after receiving information necessary to begin the environmental analysis. This timeline includes time for review by the environmental division staff within Caltrans, but does not include time for permitting by federal or state resource agencies. The following consultation requirements may apply during preparation of the IS/EA:

- United States Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries). Consultation needs will depend on whether work is needed within or near Colma Creek.
- Federal Highway Administration (FHWA). Concurrence required that the project conforms to the Clean Air Act and other requirements.
- Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force. Consultation will be required to determine or verify that this is not a Project of Air Quality Concern.
- State Historic Preservation Officer (SHPO). The results of the cultural resources studies may likely require concurrence by SHPO.

The following regulatory permits and approvals may be required, some depending on whether work is required within Colma Canal, and will require confirmation and/or updating once alternatives are further refined. The preparation of the applications and permits can be initiated during PA&ED, but cannot be approved by the agencies until the Preliminary Plans, Specifications, and Estimates (PS&E) phase.

- Army Corps of Engineers (USACE)
- Regional Water Quality Control Board (RWQCB)
- California Department of Fish and Wildlife (CDFW)
- San Francisco Bay Conservation and Development Commission (BCDC) (jurisdiction with respect to the project activities will need to be determined).

Typical construction compliance with the Caltrans Construction General Permit will be required, and storm water treatment and hydromodification management measures should be anticipated in the project design. The location of the project near the Bay indicates a potentially high groundwater table, which should be investigated and considered in the project design and construction methods.

Most areas along US 101 extending from approximately the South Airport Boulevard undercrossing of US 101 to Santa Clara County are mapped by the State's Cal-Adapt program[3] as vulnerable to existing Bay inundation (e.g., during 100-year flood event), and subject to future sea level rise. Adaptive measures such as local road reconstruction or flood protection barriers installation are not practicable for reasons of additional project cost and additional area of environmental impact. Measures that could be considered for incorporation into the design might include using construction materials that delay or resist saltwater corrosion. No measures were specifically identified during the preparation of the PEAR, but this may be appropriate to revisit during the PA&ED phase.

The funding and implementing agency for PA&ED is not known at this time and will be decided on a date to be determined. Caltrans would act as the lead agency for CEQA/NEPA.

10. Disclaimer

This Preliminary Environmental Analysis Report (PEAR) provides information to support programming of the proposed project. It is not an environmental determination or document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in the Project Study Report (PSR). The estimates and conclusions in the PEAR are approximate and are based on cursory analyses of probable effects. A reevaluation of the PEAR will be needed for changes in project scope or alternatives, or in environmental laws, regulations, or guidelines.

[3] Cal-Adapt, California Climate Change Adaptation (website accessed February 2015) (http://climatechange.ca.gov/adaptation/index.html)

11. List of Preparers

Cultural Resources specialist Kathleen Kubal	Date: 6-26-15
Biologist Nicole Rucker	Date: 6-26-15
Community Impacts specialist Catherine Clark	Date: 6-26-15
Noise and Vibration specialist Jeff Zimmerman	Date: 6-26-15
Air Quality specialist Lynn McIntyre	Date: 5-5-15
Paleontology specialist/liaison Lynn McIntyre	Date: 5-15-15
Water Quality specialist Jeff Zimmerman	Date: 6-26-15
Hydrology and Floodplain specialist Jeff Zimmerman	Date: 6-26-15
Hazardous Waste/Materials specialist Vicky Wiraatmadja	Date: 5-15-15
Visual/Aesthetics specialist Jeff Zimmerman	Date: 5-15-15
Energy and Climate Change specialist Jeff Zimmerman	Date: 5-15-15
Other:	Date:
PEAR Preparer (Name and Title) Jeff Zimmerman, Project Manager (Environmental Specialist)	Date: 7-14-15

12. Review and Approval

I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

Yolanda Rivas for Kathy Boltz, Senior Environmental Planner — Date: 7/14/15

Richelle P. Perez, Project Manager — Date: 07/14/2015

REQUIRED ATTACHMENTS:

Attachment A: PEAR Environmental Studies Checklist
Attachment B: Estimated Resources by WBS Code
Attachment C: Schedule

References cited:

ABAG and MTC. 2013. Draft Plan Bay Area – Draft Forecast of Jobs, Population, and Housing. Association of Bay Area Governments and Metropolitan Transportation Commission. Appendix A: Employment Growth by Jurisdiction and Priority Development Areas (PDAs) (July). URL: http://planbayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf

City of South San Francisco. 1999 amended through 2010. General Plan, Chapter 3 Planning Subareas Element. (http://www.ssf.net/DocumentCenter/Home/View/576)

City of South San Francisco. 2010. Planning Commission Staff Report, General Plan Amendment to the Transportation Element and associated Mitigated Negative Declaration. Case # P10-0038.

City of South San Francisco. 2011. Bicycle Master Plan for the City of South San Francisco. Prepared by Alta Planning + Design. Adopted February 9. http://ssfdtp.squarespace.com/storage/SSF_Bicycle_Master_Plan_2-9-2011.pdf

California Department of Transportation (Caltrans). Traffic Accident Surveillance and Analysis System (TASAS). TASAS-TSN Table B data for 2007 – 2009.

Attachment A: PEAR Environmental Studies Checklist

Attachment A: PEAR Environmental Studies Checklist

Rev. 11/08

Environmental Studies for PA&ED Checklist					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Land Use	☐	☐	☒	**M**	
Growth	☐	☐	☒	**L**	
Farmlands/Timberlands	☒	☐	☐	**L**	
Community Impacts	☐	☐	☒	**M**	
Community Character and Cohesion	☐	☐	☒	**M**	
Relocations	☐	☐	☒	**M**	
Environmental Justice	☐	☐	☒	**M**	
Utilities/Emergency Services	☐	☒	☐	**L**	
Visual/Aesthetics	☐	☐	☒	**M**	
Cultural Resources:	☐	☐	☒	**L**	
Archaeological Survey Report	☐	☐	☒	**L**	
Historic Resources Evaluation Report	☐	☐	☒	**L**	
Historic Property Survey Report	☐	☐	☒	**L**	
Historic Resource Compliance Report	☒	☐	☐	**L**	
Section 106 / PRC 5024 & 5024.5	☐	☐	☒	**L**	
Native American Coordination	☐	☐	☒	**L**	
Finding of Effect	☒	☐	☐	**L**	
Data Recovery Plan	☒	☐	☐	**L**	
Memorandum of Agreement	☒	☐	☐	**L**	
Other: XP1 Tests	☐	☐	☒	**M**	
Hydrology and Floodplain	☐	☐	☒	**M**	
Water Quality and Stormwater Runoff	☐	☐	☒	**L**	
Geology, Soils, Seismic and Topography	☐	☐	☒	**L**	
Paleontology	☐	☐	☒	**L**	
PER	☐	☐	☒	**L**	
PMP	☐	☐	☒	**L**	
Hazardous Waste/Materials:	☐	☐	☒	**M**	
ISA (Additional)	☐	☒	☐	**L**	Update ISA
PSI	☐	☐	☒	**M**	
Other:	☐	☐	☐	**L**	
Air Quality	☐	☐	☒	**L**	
Noise and Vibration	☐	☐	☒	**M**	
Energy and Climate Change	☐	☒	☐	**L**	
Biological Environment	☐	☐	☒	**L**	
Natural Environment Study	☐	☐	☒	**L**	
Section 7:	☐	☐	☒	**L**	
Formal	☒	☐	☐	**L**	
Informal	☐	☐	☒	**L**	
No effect	☒	☐	☐	**L**	
Section 10	☒	☐	☐	**L**	
USFWS Consultation	☐	☐	☒	**L**	Possible
NMFS Consultation	☐	☐	☒	**L**	Possible
Species of Concern (CNPS, USFS, BLM, S, F)	☒	☐	☐	**L**	

Environmental Studies for PA&ED Checklist					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Wetlands & Other Waters/Delineation	☐	☐	☒	**L**	Colma Ck
404(b)(1) Alternatives Analysis	☒	☐	☐	**L**	
Invasive Species	☐	☒	☐	**L**	
Wild & Scenic River Consistency	☒	☐	☐	**L**	
Coastal Management Plan	☒	☐	☐	**L**	
HMMP	☒	☐	☐	**L**	
DFG Consistency Determination	☒	☐	☐	**L**	
2081	☒	☐	☐	**L**	
Other:	☒	☐	☐	**L**	
Cumulative Impacts	☐	☐	☒	**L**	
Context Sensitive Solutions	☐	☒	☐	**L**	
Section 4(f) Evaluation	☐	☒	☐	**L**	
Permits:					
401 Certification Coordination	☐	☐	☒	**L**	Possible
404 Permit Coordination, IP, NWP, or LOP	☐	☐	☒	**L**	Possible
1602 Agreement Coordination	☐	☒	☐	**L**	
Local Coastal Development Permit Coordination	☒	☐	☐	**L**	
State Coastal Development Permit Coordination	☒	☐	☐	**L**	
NPDES Coordination	☐	☐	☒	**M**	
US Coast Guard (Section 10)	☒	☐	☐	**L**	
TRPA	☒	☐	☐	**L**	
BCDC	☒	☐	☐	**L**	

Attachment B: Estimated Resources by WBS Code

Project ID:
EA: 4H360
Description: US 101 Produce Avenue Interchange

WBS Task Activity Code	Division Chief	Office Chief	Senior	Generalist	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Erosion Control	WQ Permits	Noise/Air	EPPM	Hydraulics - Env. work only	Landscape-Env. work only	Total
Assigned Unit						**0666/0665**										
Project Management																
100.10 – Project Management - PA&ED																-
100.15 – Project Management - PS&E																-
100.20 – Project Management - Construction																-
100.25 – Project Management - Right of Way																-
Total Project Management																-
Perform Preliminary Engineering Studies and Draft Project Report																
160.05 – Updated Project Information																-
160.10 – Engineering Studies																-
160.15 – Draft Project Report																-
160.30 – Environmental Study Request																-
160.40 – NEPA Assignment																-
Total Perform Prelim Eng Studies & Draft PR																-
Perform Environmental Studies and Prepare Draft Environmental Document - Task Management Activities																
165.05 – Env Scoping of Alternatives																-
165.10 – General Env Studies																-
165.15 – Biological Studies																-
165.20 – Cultural Resource Studies																-
165.25 – Draft Env Document																-
165.30 – NEPA Assignment																-
Total Perform Env Studies & Prepare DED																-
Obtain Permits, Licenses, Agreements and Certifications (PLACs) and Route Adoptions during PA&ED Component - Task Management Activities																
170.05 – Reqired PLACs																-
170.10 – PLACs																-
170.15 – Railroad Agreements																-
170.20 – Freeway Agreements																-
170.25 – Agreement for Material Sites																-
170.30 – Executed Maintenance Agreements																-
170.40 – Route Adoptions																-
170.45 – MOU from TERO																-
170.55 – NEPA Assignment																-
Obtain PLACS & Rte Adoptions during PA&ED																-
Circulate Draft Environmental Document and Select Preferred Project Alternative - Task Management Activities																
175.05 – DED Circulation																-
175.10 – Public Hearing																-
175.15 – Public Comment Responses & Corr																-
175.20 – Project Preferred Alternative																-
175.25 – NEPA Assignment																-
Total Circ DED & Select Preferred Proj Alt																-
Prepare and Approve Project Report and Final Environmental Document																
180.05 – Final Project Report																-
180.10 – Final Env Document																-
180.15 – Completed Env Document																-
180.20 – NEPA Assignment																-
Total Prep and Approve PR & FED																-

Project ID:
EA: 4H360
Description: US 101 Produce Avenue Interchange

WBS Task Activity Code	Division Chief	Office Chief	Senior	Generalist	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Erosion Control	WQ Permits	Noise/Air	EPPM	Hydraulics - Env. work only	Landscape-Env. work only	Total
Assigned Unit						**0666/0665**										
Prepare Base Maps and Plan Sheets for PS&E Development																
185.05 – Updated Project Information																-
185.15 – Preliminary Design																-
Total Prep Base Maps & Plan Sheets																-
Right of Way Property Management and Excess Land																
195.40 – Property Management																-
195.45 – Excess Land																-
Total RW Property Mgmt and Excess Land																-
Utility Relocation																
200.15 – Approved Utility Relocation Plan																-
200.20 – Utility Relocation Package																-
Total Utility Coordination																-
Obtain Permits, Licenses, Agreements, and Certifications (PLACs) during PS&E Component - Task Management Activities																
205.05 – PLACs Determination																-
205.10 – PLACs																-
205.15 – Railroad Agreements																-
205.25 – Agreement for Material Sites																-
205.30 – Executed Maintenance Agreements																-
205.45 – MOU from TERO																-
205.55 – NEPA Delegation																-
Total Permits & Agreements during PS&E																-
Obtain Right of Way Interests for Project Right of Way Certification																
225.75 – Right of Way Clearance																-
Total Obtain RW Interests for Proj RW Cert																-
Prepare Draft PS&E																
230.05 – Draft Roadway Plans																-
230.10 – Draft Highway Planting Plans																-
230.30 – Draft Drainage Plans																-
230.35 – Draft Specifications																-
230.60 – Updated Project Info for PS&E Pkg																-
230.90 – NEPA Assignment																-
230.99 – Other Draft PS&E Products																-
Total Prepare Draft PS&E																-
Mitigate Environmental Impacts and Clean-up Hazardous Waste - Task Management Actitivities																
235.05 – Environmental Mitigation																-
235.10 – Detailed Site Investigation for HW																-
235.15 – HW Management Plan																-
235.20 – HW PS&E																-
235.25 – HW Clean-up																-
235.30 – Haz Substances Disclosure Doc																-
235.35 – Long Term Mitigation Monitoring																-
235.40 – Updated Env Commitments Record																-
235.45 – NEPA Assignment																-
Total Mit Env Impacts & Clean-up HW																-
Post Right of Way Certification Work																
245.75 – Right of Way Clearance																-
Total Post RW Clearance Work																-
Circulate, Review and Prepare Final District PS&E Package																
255.05 – Circ. & Rev. Draft Dist PS&E Package																-
255.10 – Updated PS&E Package																-
255.15 – Environmental Reevaluation																-
255.20 – Final District PS&E Package																-
255.40 – Resident Engineer's Pending File																-
255.45 – NEPA Assignment																-
Total Circ, Rev and Prepare Final Dist PS&E Pkg																-

Project ID:
EA: 4H360
Description: US 101 Produce Avenue Interchange

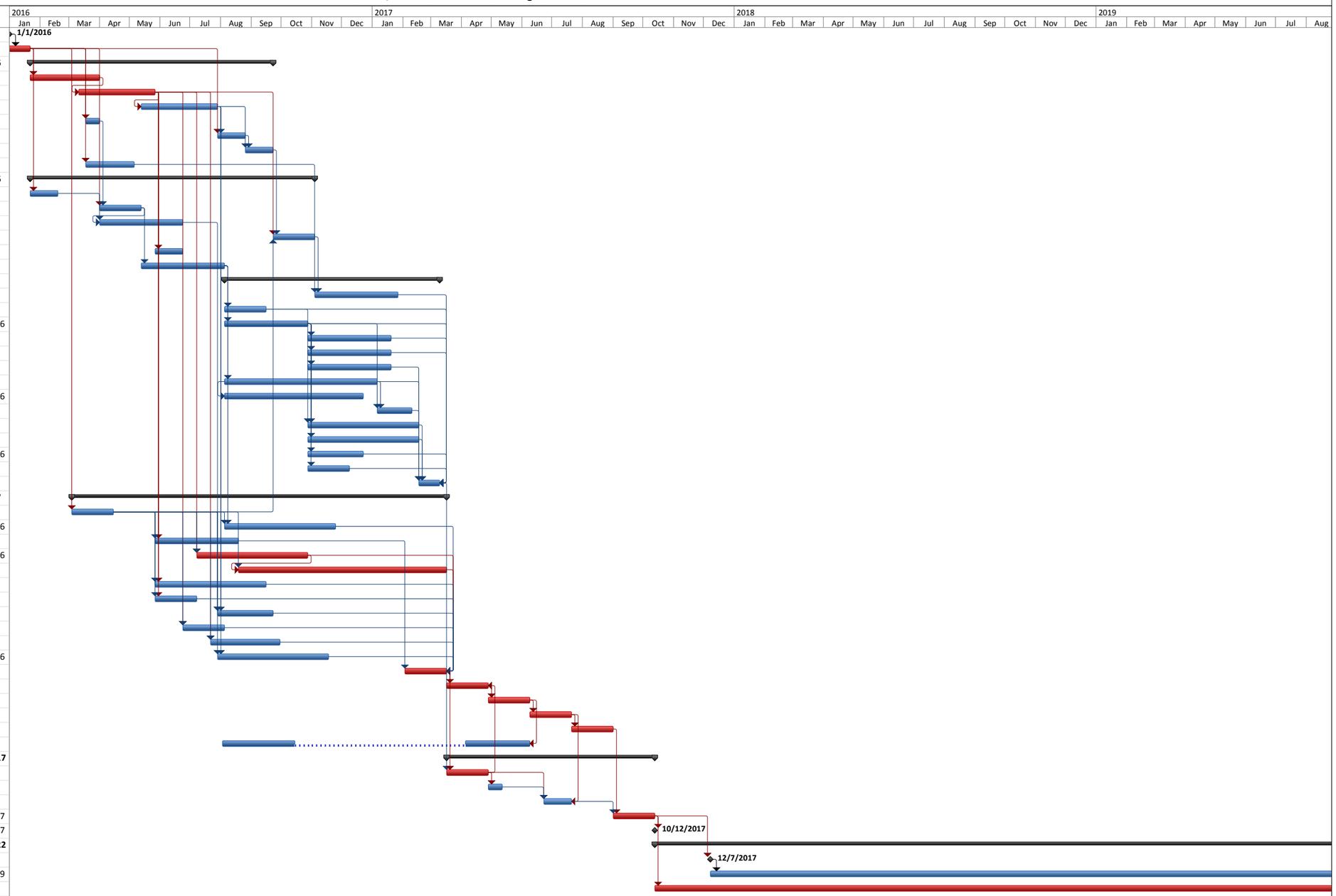
WBS Task Activity Code	Division Chief	Office Chief	Senior	Generalist	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Erosion Control	WQ Permits	Noise/Air	EPPM	Hydraulics - Env. work only	Landscape-Env. work only	Total
Assigned Unit						**0666/0665**										
Contract Bid Documents "Ready to List"																
260.75 - Env Cert at RTL																-
Total Contract Bid Documents "RTL"																-
Construction Engineering and General Contract Administration																
270.15 – Construction Stakes																-
270.33 – Construction Inspection																-
270.66 – Technical Support																-
Total Const Engineering & Gen Contract Admin.																-
Administration of Permits, Licenses, Agreements and Certifications (PLACs) and Environmental Stewardship																
280.10 – PLAC Compliance																-
280.40 – PLAC Violations																-
280.50 – Other Environmental Compliance																-
280.60 – Other Environmental Violations																-
280.70 – Updated ECR																-
280.75 – Environmental Reevaluation																-
280.80 – Updated PLACs																-
Total Admin of PLACs and Env Stewardship																-
Change Order Administration																
285.05 – Change Order Process																-
285.10 – Functional Support																-
Total Change Order Administration																-
Disputes and Claims																
290.40 – Potential Claim Record																-
Total Disputes and Claims																-
Accept Contract/Prepare Final Construction Estimate and Final Report																
295.35 – Certificate of Environmental Compliance																-
295.40 – Long Term Env Mit/Mont after CCA																-
Total Accept Contract																-
Total Project Hours	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Caltrans District 4

Attachment C: Schedule

US 101/Produce Avenue Interchange Schedule

ID	Task Name	Duration	Start	Finish
1	Project Start	0 days	Fri 1/1/16	Fri 1/1/16
2	Notice to Proceed (PA&ED) & Initiation Tasks	15 days	Fri 1/1/16	Thu 1/21/16
3	**Project Initiation**	**175 days**	**Fri 1/22/16**	**Thu 9/22/16**
4	Base Mapping & Data Collection	50 days	Fri 1/22/16	Thu 3/31/16
5	Develop Alternatives & Prelim Design, right-of-w	55 days	Fri 3/11/16	Thu 5/26/16
6	Preliminary Geometrics	55 days	Fri 5/13/16	Thu 7/28/16
7	Bike & Pedestrian Data	10 days	Fri 3/18/16	Thu 3/31/16
8	Preliminary Stormwater Evaluation	20 days	Fri 7/29/16	Thu 8/25/16
9	Preliminary Cost Estimate	20 days	Fri 8/26/16	Thu 9/22/16
10	Preliminary Utility Identification	35 days	Fri 3/18/16	Thu 5/5/16
11	**Traffic Analysis**	**205 days**	**Fri 1/22/16**	**Thu 11/3/16**
12	Forecast Options & Analysis Methods	20 days	Fri 1/22/16	Thu 2/18/16
13	Existing Conditions Evaluation	30 days	Fri 4/1/16	Thu 5/12/16
14	Travel Demand Forecasting	60 days	Fri 4/1/16	Thu 6/23/16
15	Alternative Analysis	30 days	Fri 9/23/16	Thu 11/3/16
16	Bike & Pedestrian Evaluation	20 days	Fri 5/27/16	Thu 6/23/16
17	Traffic Operations Analysis (TOAR)	60 days	Fri 5/13/16	Thu 8/4/16
18	**Engineering Technical Studies**	**155 days**	**Fri 8/5/16**	**Thu 3/9/17**
19	Utility Impacts	60 days	Fri 11/4/16	Thu 1/26/17
20	Prelim SC/TH Plans	30 days	Fri 8/5/16	Thu 9/15/16
21	Layout Plans & Profiles	60 days	Fri 8/5/16	Thu 10/27/16
22	Storm Water Data Report	60 days	Fri 10/28/16	Thu 1/19/17
23	Drainage Impact and Hydromod Evaluation	60 days	Fri 10/28/16	Thu 1/19/17
24	Location Hydraulic & Floodplain Eval.	60 days	Fri 10/28/16	Thu 1/19/17
25	Advance Planning Study	110 days	Fri 8/5/16	Thu 1/5/17
26	Geotech Impact Report	100 days	Fri 8/5/16	Thu 12/22/16
27	Construction Cost Estimate and Schedule	25 days	Fri 1/6/17	Thu 2/9/17
28	TMP Data	80 days	Fri 10/28/16	Thu 2/16/17
29	Design Exception Fact Sheets	80 days	Fri 10/28/16	Thu 2/16/17
30	Preliminary Landscape and Aesthetics Concept	40 days	Fri 10/28/16	Thu 12/22/16
31	Life Cycle Cost Analysis	30 days	Fri 10/28/16	Thu 12/8/16
32	Final Engineering Tech Reports	15 days	Fri 2/17/17	Thu 3/9/17
33	**Environmental Technical Studies**	**270 days**	**Fri 3/4/16**	**Thu 3/16/17**
34	Purpose & Need Expansion/Update	30 days	Fri 3/4/16	Thu 4/14/16
35	Air Quality & Conformity	80 days	Fri 8/5/16	Thu 11/24/16
36	Biological Studies	60 days	Fri 5/27/16	Thu 8/18/16
37	Cultural Resources (APE, HRER)	80 days	Fri 7/8/16	Thu 10/27/16
38	Cultural Resources (ASR, HPSR, Extended Phase I	150 days	Fri 8/19/16	Thu 3/16/17
39	Community Impact Assessment	80 days	Fri 5/27/16	Thu 9/15/16
40	Haz Mat/ISA Update	30 days	Fri 5/27/16	Thu 7/7/16
41	Noise Study	40 days	Fri 7/29/16	Thu 9/22/16
42	Paleontological Evaluation	30 days	Fri 6/24/16	Thu 8/4/16
43	Water Quality	50 days	Fri 7/22/16	Thu 9/29/16
44	Visual Impact Study	80 days	Fri 7/29/16	Thu 11/17/16
45	Final Env. Technical Studies	30 days	Fri 2/3/17	Thu 3/16/17
46	**Draft Environmental Document**	30 days	Fri 3/17/17	Thu 4/27/17
47	**Public Circulation and Meeting(s)**	30 days	Fri 4/28/17	Thu 6/8/17
48	**Final Environmental Document**	30 days	Fri 6/9/17	Thu 7/20/17
49	**Environmental Document Approval**	30 days	Fri 7/21/17	Thu 8/31/17
50	Community Outreach	100 days	Wed 8/3/16	Thu 6/8/17
51	**Project Report**	**150 days**	**Fri 3/17/17**	**Thu 10/12/17**
52	Draft Project Report	30 days	Fri 3/17/17	Thu 4/27/17
53	Value Analysis	10 days	Fri 4/28/17	Thu 5/11/17
54	Final Project Report	20 days	Fri 6/23/17	Thu 7/20/17
55	Project Report Approval	30 days	Fri 9/1/17	Thu 10/12/17
56	**PA&ED Complete**	0 days	Thu 10/12/17	Thu 10/12/17
57	**PS&E Design & Construction**	**1310 days**	**Fri 10/13/17**	**Thu 10/20/22**
58	Begin PS&E Design	0 days	Thu 12/7/17	Thu 12/7/17
59	PS&E	530 days	Fri 12/8/17	Thu 12/19/19
60	Right-of-Way Certification	650 days	Fri 10/13/17	Thu 4/9/20
61	Complete PS&E Design	0 days	Thu 12/19/19	Thu 12/19/19
62	Ready to List/Contract Award	6 wks	Fri 4/10/20	Thu 5/21/20
63	Begin Construction	0 days	Thu 7/2/20	Thu 7/2/20
64	Construction	30 mons	Fri 7/3/20	Thu 10/20/22
65	End Construction	0 days	Thu 10/20/22	Thu 10/20/22

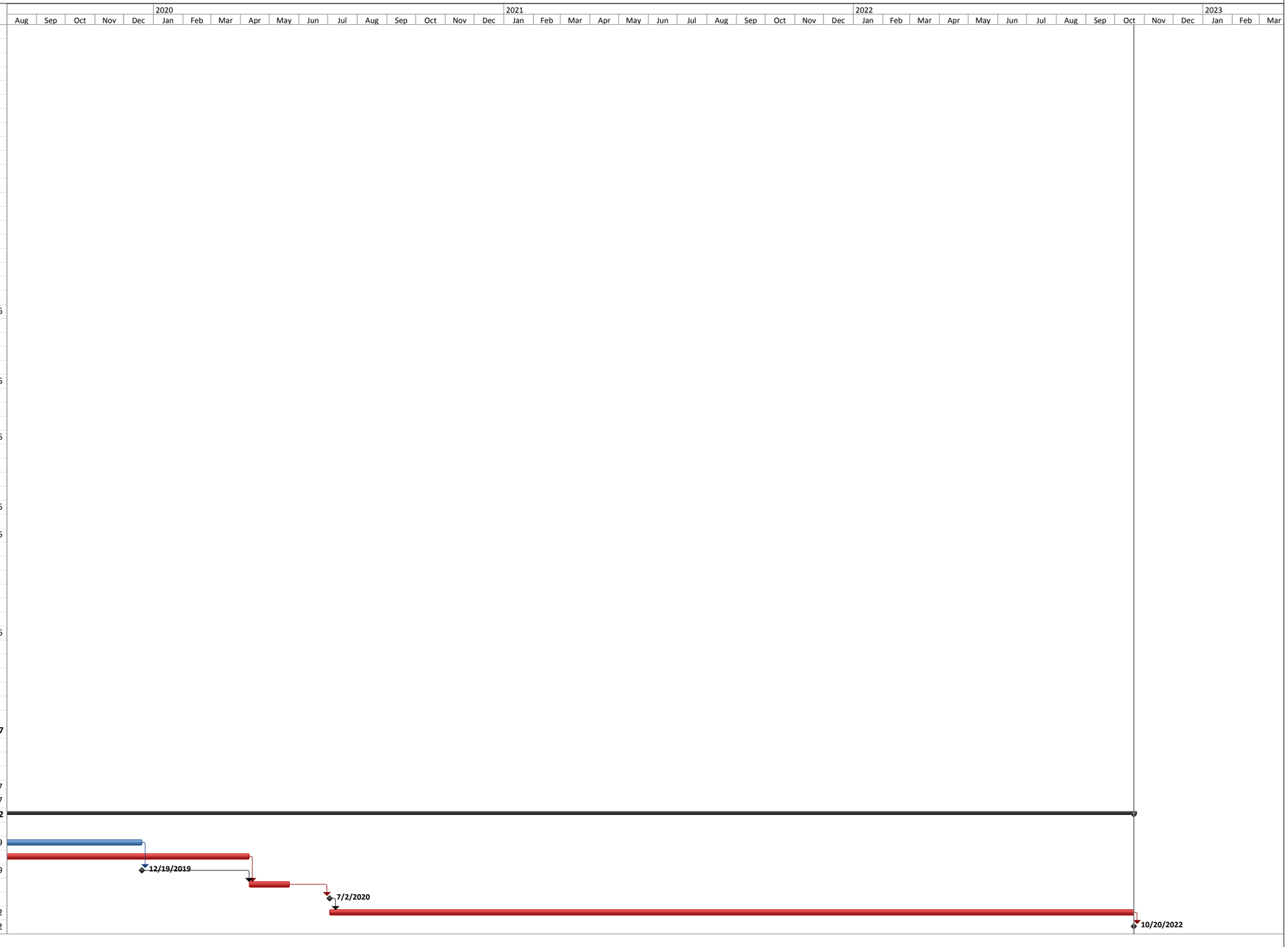


Project: US101-PenninsulaAve (2-
Date: Wed 7/22/15

Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only	Critical Split
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline	Progress
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Critical	

US 101/Produce Avenue Interchange Schedule

ID	Task Name	Duration	Start	Finish
1	Project Start	0 days	Fri 1/1/16	Fri 1/1/16
2	Notice to Proceed (PA&ED) & Initiation Tasks	15 days	Fri 1/1/16	Thu 1/21/16
3	**Project Initiation**	**175 days**	**Fri 1/22/16**	**Thu 9/22/16**
4	Base Mapping & Data Collection	50 days	Fri 1/22/16	Thu 3/31/16
5	Develop Alternatives & Prelim Design, right-of-w	55 days	Fri 3/11/16	Thu 5/26/16
6	Preliminary Geometrics	55 days	Fri 5/13/16	Thu 7/28/16
7	Bike & Pedestrian Data	10 days	Fri 3/18/16	Thu 3/31/16
8	Preliminary Stormwater Evaluation	20 days	Fri 7/29/16	Thu 8/25/16
9	Preliminary Cost Estimate	20 days	Fri 8/26/16	Thu 9/22/16
10	Preliminary Utility Identification	35 days	Fri 3/18/16	Thu 5/5/16
11	**Traffic Analysis**	**205 days**	**Fri 1/22/16**	**Thu 11/3/16**
12	Forecast Options & Analysis Methods	20 days	Fri 1/22/16	Thu 2/18/16
13	Existing Conditions Evaluation	30 days	Fri 4/1/16	Thu 5/12/16
14	Travel Demand Forecasting	60 days	Fri 4/1/16	Thu 6/23/16
15	Alternative Analysis	30 days	Fri 9/23/16	Thu 11/3/16
16	Bike & Pedestrian Evaluation	20 days	Fri 5/27/16	Thu 6/23/16
17	Traffic Operations Analysis (TOAR)	60 days	Fri 5/13/16	Thu 8/4/16
18	**Engineering Technical Studies**	**155 days**	**Fri 8/5/16**	**Thu 3/9/17**
19	Utility Impacts	60 days	Fri 11/4/16	Thu 1/26/17
20	Prelim SC/TH Plans	30 days	Fri 8/5/16	Thu 9/15/16
21	Layout Plans & Profiles	60 days	Fri 8/5/16	Thu 10/27/16
22	Storm Water Data Report	60 days	Fri 10/28/16	Thu 1/19/17
23	Drainage Impact and Hydromod Evaluation	60 days	Fri 10/28/16	Thu 1/19/17
24	Location Hydraulic & Floodplain Eval.	60 days	Fri 10/28/16	Thu 1/19/17
25	Advance Planning Study	110 days	Fri 8/5/16	Thu 1/5/17
26	Geotech Impact Report	100 days	Fri 8/5/16	Thu 12/22/16
27	Construction Cost Estimate and Schedule	25 days	Fri 1/6/17	Thu 2/9/17
28	TMP Data	80 days	Fri 10/28/16	Thu 2/16/17
29	Design Exception Fact Sheets	80 days	Fri 10/28/16	Thu 2/16/17
30	Preliminary Landscape and Aesthetics Concept	40 days	Fri 10/28/16	Thu 12/22/16
31	Life Cycle Cost Analysis	30 days	Fri 10/28/16	Thu 12/8/16
32	Final Engineering Tech Reports	15 days	Fri 2/17/17	Thu 3/9/17
33	**Environmental Technical Studies**	**270 days**	**Fri 3/4/16**	**Thu 3/16/17**
34	Purpose & Need Expansion/Update	30 days	Fri 3/4/16	Thu 4/14/16
35	Air Quality & Conformity	80 days	Fri 8/5/16	Thu 11/24/16
36	Biological Studies	60 days	Fri 5/27/16	Thu 8/18/16
37	Cultural Resources (APE, HRER)	80 days	Fri 7/8/16	Thu 10/27/16
38	Cultural Resources (ASR, HPSR, Extended Phase I	150 days	Fri 8/19/16	Thu 3/16/17
39	Community Impact Assessment	80 days	Fri 5/27/16	Thu 9/15/16
40	Haz Mat/ISA Update	30 days	Fri 5/27/16	Thu 7/7/16
41	Noise Study	40 days	Fri 7/29/16	Thu 9/22/16
42	Paleontological Evaluation	30 days	Fri 6/24/16	Thu 8/4/16
43	Water Quality	50 days	Fri 7/22/16	Thu 9/29/16
44	Visual Impact Study	80 days	Fri 7/29/16	Thu 11/17/16
45	Final Env. Technical Studies	30 days	Fri 2/3/17	Thu 3/16/17
46	**Draft Environmental Document**	30 days	Fri 3/17/17	Thu 4/27/17
47	**Public Circulation and Meeting(s)**	30 days	Fri 4/28/17	Thu 6/8/17
48	**Final Environmental Document**	30 days	Fri 6/9/17	Thu 7/20/17
49	**Environmental Document Approval**	30 days	Fri 7/21/17	Thu 8/31/17
50	Community Outreach	100 days	Wed 8/3/16	Thu 6/8/17
51	**Project Report**	**150 days**	**Fri 3/17/17**	**Thu 10/12/17**
52	Draft Project Report	30 days	Fri 3/17/17	Thu 4/27/17
53	Value Analysis	10 days	Fri 4/28/17	Thu 5/11/17
54	Final Project Report	20 days	Fri 6/23/17	Thu 7/20/17
55	Project Report Approval	30 days	Fri 9/1/17	Thu 10/12/17
56	**PA&ED Complete**	0 days	Thu 10/12/17	Thu 10/12/17
57	**PS&E Design & Construction**	**1310 days**	**Fri 10/13/17**	**Thu 10/20/22**
58	Begin PS&E Design	0 days	Thu 12/7/17	Thu 12/7/17
59	PS&E	530 days	Fri 12/8/17	Thu 12/19/19
60	Right-of-Way Certification	650 days	Fri 10/13/17	Thu 4/9/20
61	Complete PS&E Design	0 days	Thu 12/19/19	Thu 12/19/19
62	Ready to List/Contract Award	6 wks	Fri 4/10/20	Thu 5/21/20
63	Begin Construction	0 days	Thu 7/2/20	Thu 7/2/20
64	Construction	30 mons	Fri 7/3/20	Thu 10/20/22
65	End Construction	0 days	Thu 10/20/22	Thu 10/20/22



Project: US101-PenninsulaAve (2-
Date: Wed 7/22/15

Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only	Critical Split			
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline	Progress			
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Critical				

ATTACHMENT J

TRANSPORTATION PLANNING SCOPING INFORMATION SHEET

Transportation Planning Scoping Information Sheet

PROJECT INFORMATION

District	County	Route	Post Miles	Project ID No/ Expenditure Authorization No.
4	San Mateo	101	20.7/21.7	0413000212 / EA 04-4H360

Project Name and Description : US 101/Peninsula Avenue Interchange Project
The project will extend Utah Avenue to the west over US 101 to connect with San Mateo Avenue and provide access to southbound US 101 on-/off-ramps at Produce Avenue.

Prepared by:

District Information Sheet Point of Contact*:	Name: URS Corporation	Functional Unit:	

* The District Information Sheet Point of Contact is responsible for completing Project Information, PDT Team and Stakeholder Information, and coordinating the completion of project-related information with the Transportation Planning Stakeholders. Upon completion, provides the Transportation Planning PDT Representative and Project Manager with a copy of the Information Sheet.

Project Development Team (PDT) Information		
Title	**Name**	**Phone Number**
Project Manager	Richelle Perez	(510) 286-4998
Project Engineer	Trang Hoang	(510) 286-5650
Transportation Planning PDT Representative**	Trang Hoang	(510) 286-5650

Transportation Planning Stakeholder Information		
Title	**Name**	**Phone Number**
Regional Planner	Blesilda Gebreyesus	(510) 286-5575
System Planner	Steve Yokoi	(510) 286-5621
Local Development-Intergovernmental Review (LD-IGR) Planner	Patricia Maurice	(510) 286-5563
Community Planner	Ina Gerhard	(510) 286-5598
Goods Movement Planner	Cameron Oakes	(510) 286-5758
Transit Planner	Ina Gerhard	(510) 286-5598
Bicycle and Pedestrian Coordinator	Beth Thomas	(510) 286-7227
Park and Ride Coordinator	Wingate Lew	(510) 622-5432
Native American Liaison	Blesilda Gebreyesus	(510) 286-5575
Other Coordinators:		

Project Purpose and Need** – Refer to Section 3 of the PSR-PDS.

** The Transportation Planning PDT Representative is responsible for providing the PDT with the system-wide and corridor level deficiencies identified by Transportation Planning. The PDT uses the information provided by Transportation Planning to develop the purpose and need with contributions from other Caltrans functional units and external stakeholders at the initiation of the PID and is refined throughout the PID process. As the project moves past the project initiation stage and more data becomes available, the purpose and need is refined. For additional information on purpose and need see: www.dot.ca.gov/hq/env/emo/purpose_need.htm

Project Funding:

a	List all known and potential funding sources and percent splits: (ie. State Transportation Improvement Program (STIP)/State Highway Operations and Protection Program (SHOPP)/Transportation Enhancement (TE)/Environmental Enhancement and Mitigation (EEM)/Safe Routes to School (SR2S)/etc.).
	State, City and San Mateo County Measure A (Sales Tax)… percent splits to be determined.
b	Is this a measure project? Yes__X__ /No__. If yes, name and describe the measure.
	The San Mateo County Transportation Authority (SMCTA) was formed in 1988 with the passage of the voter-approved half-cent sales tax for countywide transportation projects and programs, known as Measure A. *The original Measure A expired December 31, 2008. In 2004, county voters overwhelmingly approved a reauthorization of Measure A through 2033.*

1. Regional Planning:

a	Name of and contact information for Metropolitan Planning Organization (MPO) or Regional Transportation Planning Agency (RTPA).
	Jim McKim, SMCTA ; (650) 508-7944
b	Name of and contact information for local jurisdiction (City or County)
	Lawrence Henriquez, City of South San Francisco ; (650) 829-6663
c	Provide the page number and project description as identified in the Regional Transportation Plan (RTP) and the date of adoption, or provide an explanation if not in RTP.
	On page 20-3 of the TSDP for District 4 (dated 12/1/11), the project's description is "US 101 / Produce Ave Interchange (includes replacement of Produce Ave on- and off-ramps and South Airport Blvd ramps to US 101 at Wondercolor Lane".
d	Provide nexus between the RTP objectives and the project to establish the basis for the project purpose and need.
	The purposes & needs are consistent.
e	Is the project located in an area susceptible to sea-level rise?
	Yes
f	Name of Air Quality Management District (AQMD)
	Bay Area Air Quality Management District
g	If the project is located in a federal non-attainment or attainment-maintenance area is the project: *For Federal standards, San Mateo County is designated marginal non-attainment for the 2008 8-hour ozone standard, moderate non-attainment for the 2006 PM 2.5 standard, and is a maintenance area for carbon monoxide.*
	• Regionally Significant? (per 40 (Code of Federal Regulations (CFR) 93.101) Y__X__/N__*Yes, the project is on US 101, a freeway that serves significant regional transportation needs that is included in the Metropolitan Transportation Commission's regional modeling network. The project however only would affect the existing on- and off-ramps at Produce Avenue.*
	• Exempt from conformity? (per 40 CFR 93.126 and 93.128) Y__/N__X__ *No, the project definition does not match the list of exempt projects in 40 CFR 93.126 or 93.128.*
	• Exempt from regional analysis? (per 40 CFR 93.127) Y__X__/N__ *Projects exempt from regional emissions analysis include "Changes in vertical and horizontal alignment projects" (Table 3, 40 CFR 93.127). This project would change the vertical and horizontal alignments at the location of US 101 and on/off ramps at Produce Ave. This project would have to be reviewed during the environmental review phase by the Bay Area Air Quality Task Force to determine its status with respects to whether it is a Project of Air Quality Concern (POAC) and if a hot spot analysis is required prior to making a project-level conformity determination during the environmental review phase.*
	• Not exempt from conformity (must meet all requirements)? Y__/N__X__

2. Native American Consultation and Coordination:

a	If project is within or near an Indian Reservation or Rancheria? If so, provide the name of Tribe.
	The project is not within or near an Indian Reservation or Rancheria.
b	Has/have the Tribal Government(s) been consulted? Y___/N_X_. If no, why not?
	Not applicable.
c	If the project requires Caltrans to use right-of-way on trust or allotted lands, this information needs to be included as soon as possible as a key topic in the consultation with the Tribe(s). Has the Tribe been consulted on this topic? Y___/N_X_. If no, why not?
	Not applicable.
d	Has the Bureau of Indian Affairs (BIA) been notified? Y__/N_X_
	Not applicable.
e	Have all applicable Tribal laws, ordinances and regulations [Tribal Employment Rights Ordinances (TERO), etc.] been reviewed for required contract language and coordination?
	Not applicable.
f	If the Tribe has a TERO, is there a related Memorandum of Understanding between the District and the Tribe?
	Not applicable.
g	Has the area surrounding the project been checked for prehistoric, archeological, cultural, spiritual, or ceremonial sites, or areas of potentially high sensitivity? If such areas exist, has the Tribe, Native American Heritage Commission or other applicable persons or entities been consulted?
	Yes, pre-screening has been done for the preparation of PEAR and has identified the areas may contain the remains of archaeological middens (deposits of shells and refuse resulting from prehistoric and/or Native American occupation). More investigation will be conducted and Native American consultation will be made in the PA&ED phase of the project.
h	If a Native American monitor is required for this project, will this cost be reflected in cost estimates?
	To be determined during the PA&ED phase.
i	In the event of project redesign, will the changes impact a Native American community as described above in d, e, or h?
	To be determined during the PA&ED phase.

3. System Planning:

a	Is the project consistent with the DSMP? Y__/N X. If yes document approval date. If no, explain.
	District 4 DSMP began development in 2012, but it is not yet complete.
b	Is the project identified in the TSDP? Y_X_/N__? If yes, document approval date: *12/1/11*. If no, explain.
	The project is included in the "San Mateo County Table" on page 20-3 of the Transportation System Development Plan (TSDP), dated 12/1/11.
c	Is the project identified in the TCR/RCR or CSMP? Y__/N_X_. If yes, document approval date___. If no, explain. Is the project consistent with the future route concept? Y_X_/N__. If no, explain.
	The project is included in the "San Mateo County Table" on page 20-3 of the Transportation System Development Plan (TSDP), dated 12/1/11.
d	Provide the Concept Level of Service (LOS) through project area.
	LOS D based on Attachment F of the 1985 RCR
e	Provide the Concept Facility – include the number of lanes. Does the Concept Facility include High Occupancy Vehicle lanes? Y__/N_X_.
	8 Lane Freeway based on page 9 of the 2011 US 101 South CSMP Supplement. HOV lanes are not included in the 25 year concept.
f	Provide the Ultimate Transportation Corridor (UTC) – include the number of lanes. Does the UTC include High Occupancy Vehicle Lanes? Y__/N_X_.

	No known UTC concept for US 101.
g	Describe the physical characteristics of the corridor through the project area (i.e. flat, rolling or mountainous terrain...).
	The profile of US 101 is flat (< 1%) through the project area.
h	Is the highway in an urban or rural area? Urban_**X**_/Rural__. Provide Functional Classification.
	Freeway facility functional classification.
i	Is facility a freeway, expressway or conventional highway?
	US 101 is a freeway.
j	Provide Route Designations: (i.e. Interregional Transportation Strategic Plan (ITSP) High Emphasis or Focus Route, Surface Transportation Assistance Act (STAA) Route, Scenic Route…).
	National Network (STAA) Truck Route and Interregional route
k	Describe the land uses adjacent to project limits (i.e. agricultural, industrial…).
	Business Commercial and Mixed Industrial
l	Describe any park and ride facility needs identified in the TCR/CSMP, local plans, and RTP.
	No park and ride facilities are identified in the project area.
m	Describe the Forecasted 10 and 20-year Vehicle Miles Traveled (VMT), Annual Average Daily Traffic (AADT), and Peak Hour truck data in the TCR. Include the source and year of Forecast, and names and types of traffic and travel demand analysis tools used.
	Within the study area, US 101 carries approximately 239,000 vehicles per day (vpd) according to Caltrans' 2013 Traffic Volumes on California State Highways.
n	Has analysis on Daily Vehicle Hours of Delay (DVHD) from the Highway Congestion Monitoring Program (HICOMP) been completed and included? Y__/N__.
	Detailed traffic analyses will be performed during the PA&ED phase.

4. Local Development – Intergovernmental Review (LD-IGR):

List LD-IGR projects that may directly or indirectly impact the proposed Caltrans project or that the proposed Caltrans project may impact. (Attach additional project information if needed.)

LD-IGR Project Information		**Project**
a	County-Route-Postmile & Distance to Development.	*There are not any local development projects planned within the vicinity of the project.*
b	Development name, type, and size.	
c	Local agency and/or private sponsor, and contact information.	
d	California Environmental Quality Act (CEQA) status and Implementation Date.	
e	If project includes federal funding, National Environmental Policy Act (NEPA) status.	
f	All vehicular and non-vehicular unmitigated impacts and planned mitigation measures including Transportation Demand Management (TDM) and Transportation System Management (TSM) that would affect Caltrans facilities.	
g	Approved mitigation measures and implementing party.	
h	Value of constructed mitigation and/or amount of funds provided.	
i	Encroachment Permit, Transportation Permit, Traffic Management Plan, or California Transportation Commission (CTC) Access approvals needed.	
j	Describe relationship to Regional Blueprint, General Plans, or County Congestion Management Plans.	
k	Inclusion in a Regional Transportation Plan Sustainable Community Strategy or Alternative Planning Strategy?	

l	Regional or local mitigation fee program in place?	

5. Community Planning:

	INITIAL PID INFORMATION
a	Has lead agency staff worked with any neighborhood/community groups in the area of the proposed improvements? Y__/N_X_. If yes, summarize the process and its results including any commitments made to the community. If no, why not?
	Public meetings and workshops will be scheduled during the PA&ED phase.
b	Are any active/completed/proposed Environmental Justice (EJ) or Community-Based Transportation (CBTP) Planning Grants in the project area? Y__/N_X_. If yes, summarize the project, its location, and whether/how it may interact with the proposed project.
c	Describe any community participation plans for this PID including how recommendations will be incorporated and/or addressed. Has a context sensitive solutions (CSS) approach been applied? Y__/N_X_
	This will be addressed during the PA&ED phase.
	FINAL PID INFORMATION
d	How will the proposed transportation improvements impact the local community? Is the project likely to create or exacerbate existing environmental or other issues, including public health and safety, air quality, water quality, noise, environmental justice or social equity? Y_X_/N__. Describe issues, concerns, and recommendations (from sources including neighborhood/community groups) and what measures will be taken to reduce existing or potential negative effects.
	Some issues, noise for example, will be created during construction. Measures taken to reduce the potential negative impacts will be discussed and identified during the PA&ED phase.
e	Does this highway serve as a main street? Y__/N_X_. If yes, what main street functions and features need to be protected or preserved?

6. Freight Planning:

	INITIAL PID INFORMATION
a	Identify all modal and intermodal facilities that may affect or be affected by the project.
	There are no modal or intermodal facilities within the vicinity of the project.
	FINAL PID INFORMATION
b	Describe how the design of this project could facilitate or impede Goods Movement and relieve choke points both locally and statewide through grade separations, lane separations, or other measures (e.g., special features to accommodate truck traffic and at-grade railroad crossings).
	Improvement of the traffic operations and safety of the southbound US 101 ramps will help improve (safer and with less delay) the movement of trucks carrying goods.
c	Describe how the project integrates and interconnects with other modes (rail, maritime, air, etc.). Do possibilities exist for an intermodal facility or other features to improve long-distance hauling, farm-to-market transportation and/or accessibility between warehouses, storage facilities, and terminals?
	The project does not integrate with other modes of transporting goods.
d	Is the project located in a high priority goods movement area, included in the Goods Movement Action Plan (GMAP) or on a Global Gateways Development Program (GGDP) route? Y_X_/N__. If yes, describe.
	North of San Francisco International Airport, US 101 is a Major International Trade Highway Route. South of the airport within the project area, US 101 is not identified to be on this route.
e	Is the project on a current and/or projected high truck volume route [e.g., Average Annual Daily Truck Traffic (AADTT) of 5 axle trucks is greater than 3000]? Yes__/N_X_. If yes, describe how the project

	addresses this demand.
	5 axle truck AADT for this segment of US 101 is below 3,000.
f	If the project is located near an airport, seaport, or railroad depot, describe how circulation (including truck parking) needs are addressed.
	The project is located near San Francisco International Airport. This project is focused on improving the circulation and access to the project areas, but the improvements will be designed to accommodate STAA semi-trucks with appropriate lane widths and turning radii for truck off-tracking.
g	Describe any other freight issues.
	There are no other freight-related issues.

7. Transit (bus, light rail, commuter rail, intercity rail, high speed rail):

	INITIAL PID INFORMATION
a	List all local transit providers that operate within the corridor.
	San Mateo County Transit (SamTrans) for bus transit and Caltrain for rail transit.
b	Have transit agencies been contacted for possible project coordination? Y__/N__X__. If no, why not?
	Coordination with these agencies will take place during the PA&ED phase.
c	Describe existing transit services and transit features (bus stops, train crossings, and transit lines) within the corridor.
	Caltrain has one station within the vicinity of the project: The South San Francisco Station is located on Dubuque Avenue, under the East Grand Avenue overcrossing. SamTrans provides service to Caltrain's South San Francisco Station. There are no bus stops within the construction footprint of the project.
d	Describe transit facility needs identified in short- and long-range transit plans and RTP. Describe how these future plans affect the corridor.
	There are no known short- or long-range transit plans identified within the project's vicinity.
	FINAL PID INFORMATION
e	Describe how the proposed project integrates transit and addresses impacts to transit services and transit facilities.
	The project is not expected to impact any transit services or facilities; however, the project team will coordinate with Caltrans and SamTrans, as needed, during the PA&ED and PS&E phases of the project.
f	Have transit alternatives and improvement features been considered in this project? Y__/N__X__ If yes, describe. If no, why not?
	Improvement features, if any, will be identified during the PA&ED phase.

8. Bicycle:

	INITIAL PID INFORMATION
a	Does the facility provide for bicyclist safety and mobility needs? If no, please explain.
	Yes, the project will incorporate features (additional pavement markings and squaring intersections, for example) to enhance bicycle safety and mobility.
b	Are any improvements for bicyclist safety and mobility proposed for this facility by any local agencies or included in bicycle master plans? If yes, describe (including location, time frame, funding, etc.).
	The City will be updating the Bicycle Master in 2015.
c	Are there any external bicycle advocacy groups and bicycle advisory committees that should be included in the project stakeholder list? If so, provide contact information.
	The South San Francisco Bicycle and Pedestrian Advisory Committee (BPAC) is comprised of 7 members appointed by City Council. *Silicon Valley Bicycle Coalition* *Contact: ADA Coordinator at (650) 829-3800*
	FINAL PID INFORMATION
d	Will bicycle travel deficiencies be corrected? How or why not?
	Bicylclists would have shorter route crossing US101 from Utah Avenue to west of the freeway and vice versa.
e	How will this project affect local agency plans for bicycle safety and mobility improvements?

	The project is one of the City's planned improvements for bicyclists.
f	If the project is the construction of a new freeway or modification to an existing freeway, will it sever or destroy existing provisions for bicycle travel? If yes, describe how bicycle travel provisions will be included in this project.
	The project will not sever any existing bicycle routes.

9. Pedestrian including Americans with Disabilities Act (ADA):

	INITIAL PID INFORMATION
a	Does this facility provide for pedestrian safety and mobility needs? If so, describe pedestrian facilities. Do continuous and well-maintained sidewalks exist? Are pedestrians forced to walk in the roadway at any locations due to lack of adequate pedestrian facilities? Please explain.
	Yes, the project would provide for pedestrian safety and mobility needs. Wider and ADA compliant sidewalks and curb ramps would be provided. Continuous sidewalk exist but the route to cross US101 is currently inefficient. There are no locations where pedestrians are forced to walk in the roadway.
b	Are pedestrian crossings located at reasonable intervals?
	Yes
c	Are all pedestrian facilities within the corridor ADA accessible and in compliance with Federal and State ADA laws and regulations?
	No, pedestrian facilities at the South Airport Boulevard undercrossing of US 101 are inadequate, with narrow sidewalks on both sides at the freeway undercrossing.
	FINAL PID INFORMATION
d	Will pedestrian travel deficiencies be corrected? How or why not?
	Yes, it will be improved. A more direct crossing would be provided for pedestrians crossing the freeway on Utah Avenue.
e	How will this project affect local agency plans for pedestrian safety and mobility improvements?
	The project is one of the City's planned improvements for pedestrians.
f	If the project is the construction of a new freeway or modification to an existing freeway, will it sever or destroy existing provisions for pedestrian travel? If yes, describe how pedestrian travel provisions will be included in this project.
	The project will not sever any existing pedestrian routes.
g	Are there any external pedestrian advocacy groups and advisory committees that should be included in the project stakeholder list? If so, provide contact information.
	South San Francisco Bicycle and Pedestrian Advisory Committee (BPAC) *Contact: ADA Coordinator at (650) 829-3800*
h	Have ADA barriers as noted in the District's ADA Transition Plan been identified within the project limits? If not included in the project, provide justification and indicate whether District Design coordinator approval was obtained.
	No ADA barriers have been identified at this time, but this will be confirmed during the PA&ED phase.

10. Equestrian:

	INITIAL PID INFORMATION
a	If this corridor accommodates equestrian traffic, describe any project features that are being considered to improve safety for equestrian and vehicular traffic?
	There are no existing accommodations for equestrian traffic in the immediate vicinity of the project.
	FINAL PID INFORMATION
b	Have features that accommodate equestrian traffic been identified? If so, are they included a part of this project? Describe. If no, why not?
	See response to previous question.

11. Intelligent Transportation Systems (ITS):

	INITIAL PID INFORMATION
a	Have ITS features such as closed-circuit television cameras, signal timing, multi-jurisdictional or multimodal system coordination been considered in the project? Y**X**/N_. If yes, describe. If no, explain.
	Ramp metering, LOS loop detectors, signal timing, and CCTV cameras will be considered during the project development. Existing ITS systems would be maintained or replaced with either alternative. Costs to replace these existing systems have been included in the project cost estimates.
	FINAL PID INFORMATION
b	Have ITS features been identified? If so, are they included a part of this project? Describe. If no, why not?
	See response to previous question.

ATTACHMENT K

CONCEPTUAL COST ESTIMATE – RIGHT OF WAY COMPONENT

CONCEPTUAL COST ESTIMATE – RIGHT OF WAY COMPONENT

To: Kristin L. Schober, Senior Right of Way Agent
Caltrans, Right of Way Local Programs

Date: May 12, 2015
04-SM-101-PM 20.7/21.7
Project ID: 0413000212
EA 04-4H460K

From: Daniel Ho
URS Corporation
(408) 2976-9585

A Field Review was conducted X Yes ____No

Scope of the Right of Way

Provide a general description of the right of way including the location attributes.
Right of Way Required X Yes ____No
Number of Parcels ____ 1-10 ____ 11-25 X 26-50 ____51-100 ____>100
X Urban ____Rural
Land Area: Fee **10-17 Acres** Easement **2-4 Acres**
Displaced Persons/Businesses X Yes ____No
Demolition/Clearance X Yes ____No
Railroad Involvement ____Yes X No
Utility Involvements X Yes ____No **20-25** Number of Utilities in area

Cost Estimates

Support Costs	____$0-$25,000	____$500,001-$1,000,000
	____$25,001-$100,000	X 1,000,001-$5,000,000
	____$100,001-$250,000	____$5,000,001-$10,000,000
	____$250,001-$500,000	____>$10,000,000
Capital Costs	____$0-$100,000	____$5,000,001-$15,000,000
	____$100,001-$500,000	____$15,000,001-$50,000,000
	____$500,001-$1,000,000	X $50,000,001-$100,000,000
	____$1,000,001-$5,000,000	____>$100,000,000

Schedule

Right of Way will require **24** months to deliver a Right of Way Certification #1 from Final R/W Maps. This estimate is based on a Right of Way Certification date of **July 2019**.

Areas of Concern

1. Some of the affected commercial properties for the project may contain hazardous materials. A thorough investigation will take place during the PA&ED phase.

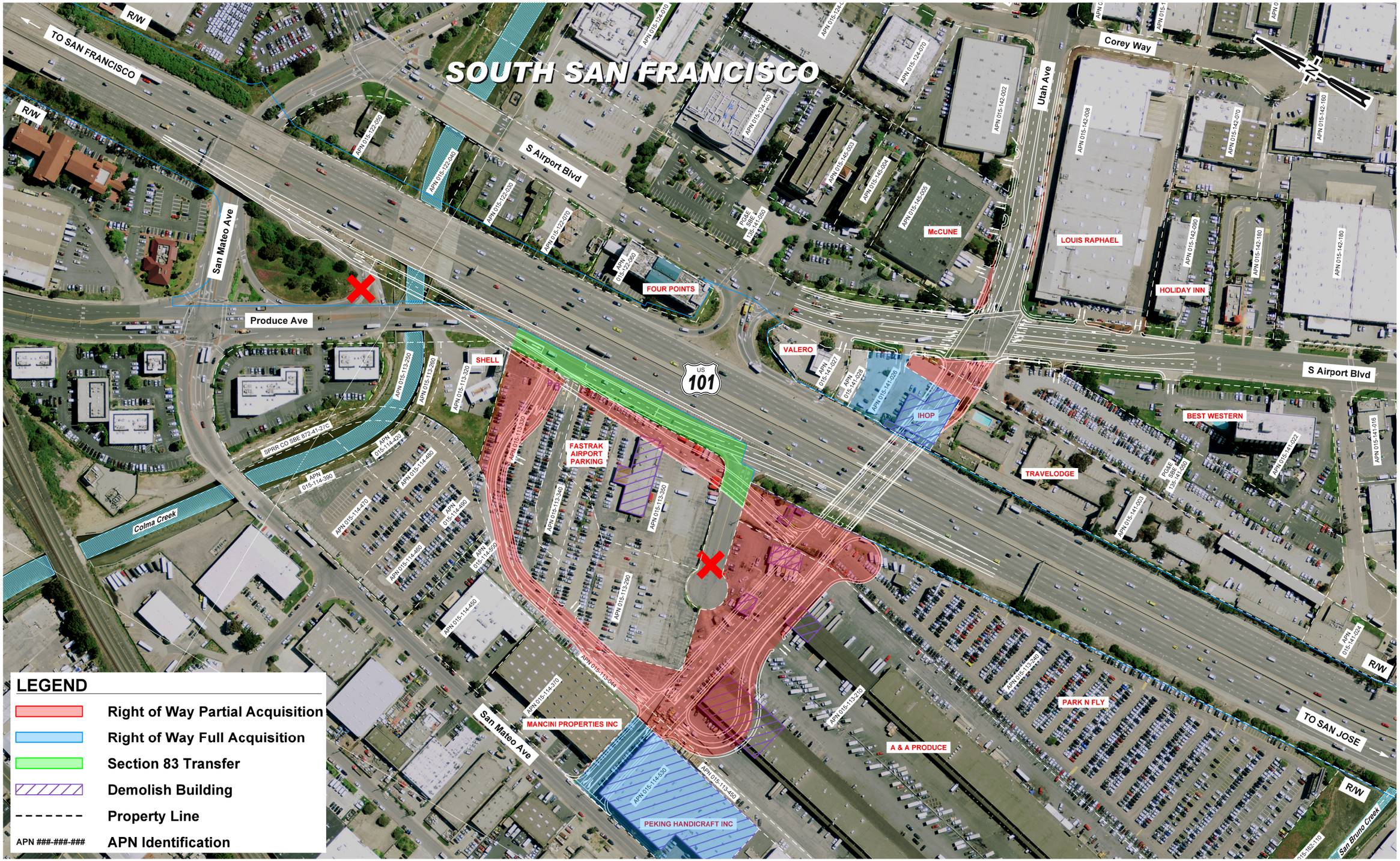
2. The eminent domain process may be required for some properties.

3. 6 electrical transmission towers would require relocating.

Assumptions and Limiting Conditions

1. If a building demolition was determined to be required and that building did not impact the entire parcel, then only partial acquisition of the parcel was assumed.

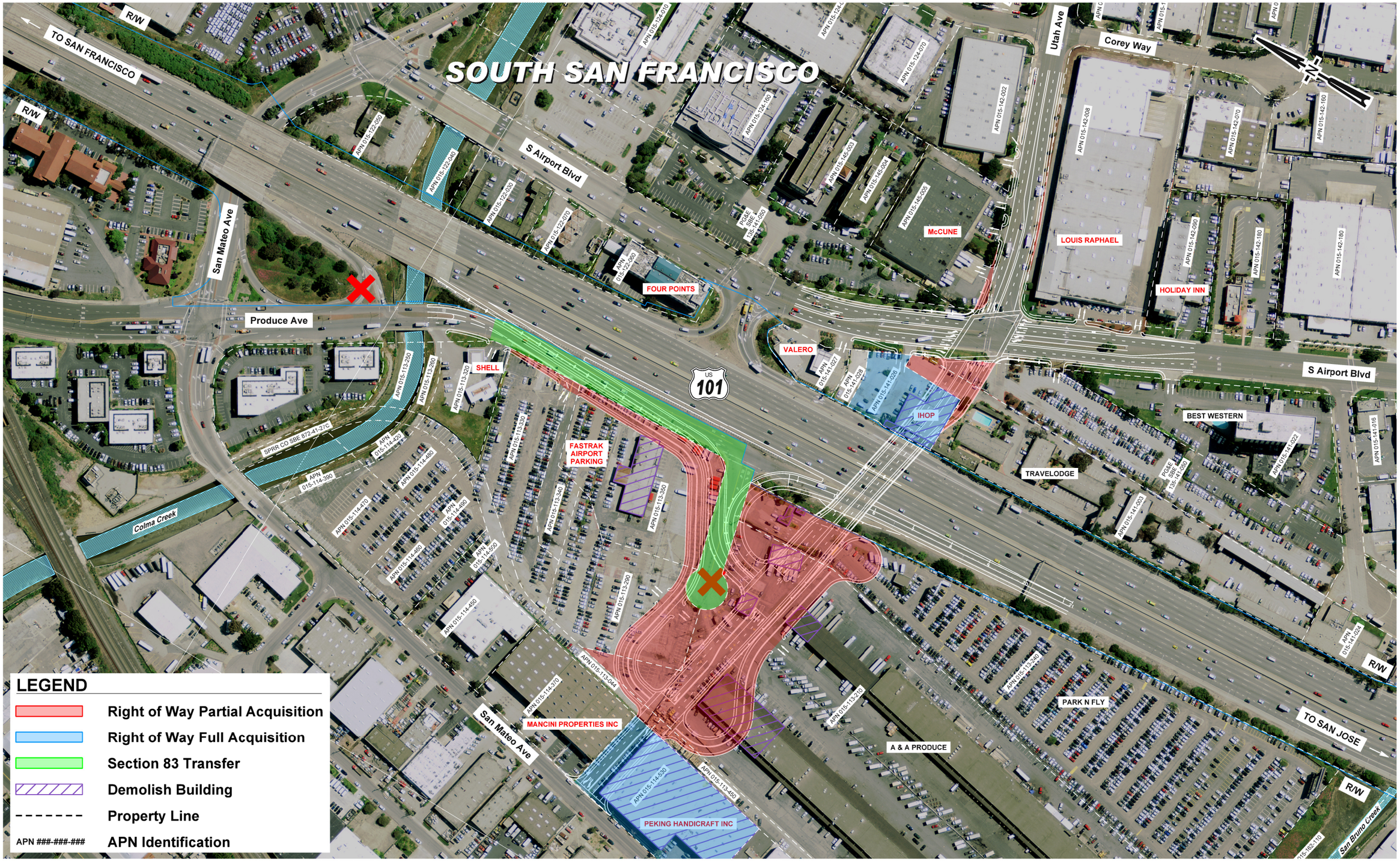
2. Right-of-way costs were not adjusted due to the partial resale of full-take parcels in situations where the project did not require full acquisition.



US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 2 - BRAIDED US 101 SB OFF RAMP

SCALE
0 100 200 300 Ft

FIGURE
1
MAY 2015



URS | CITY OF SOUTH SAN FRANCISCO CALIFORNIA | Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 3 - MODIFIED PARTIAL CLOVERLEAF

SCALE 0 100 200 300 Ft

FIGURE 2

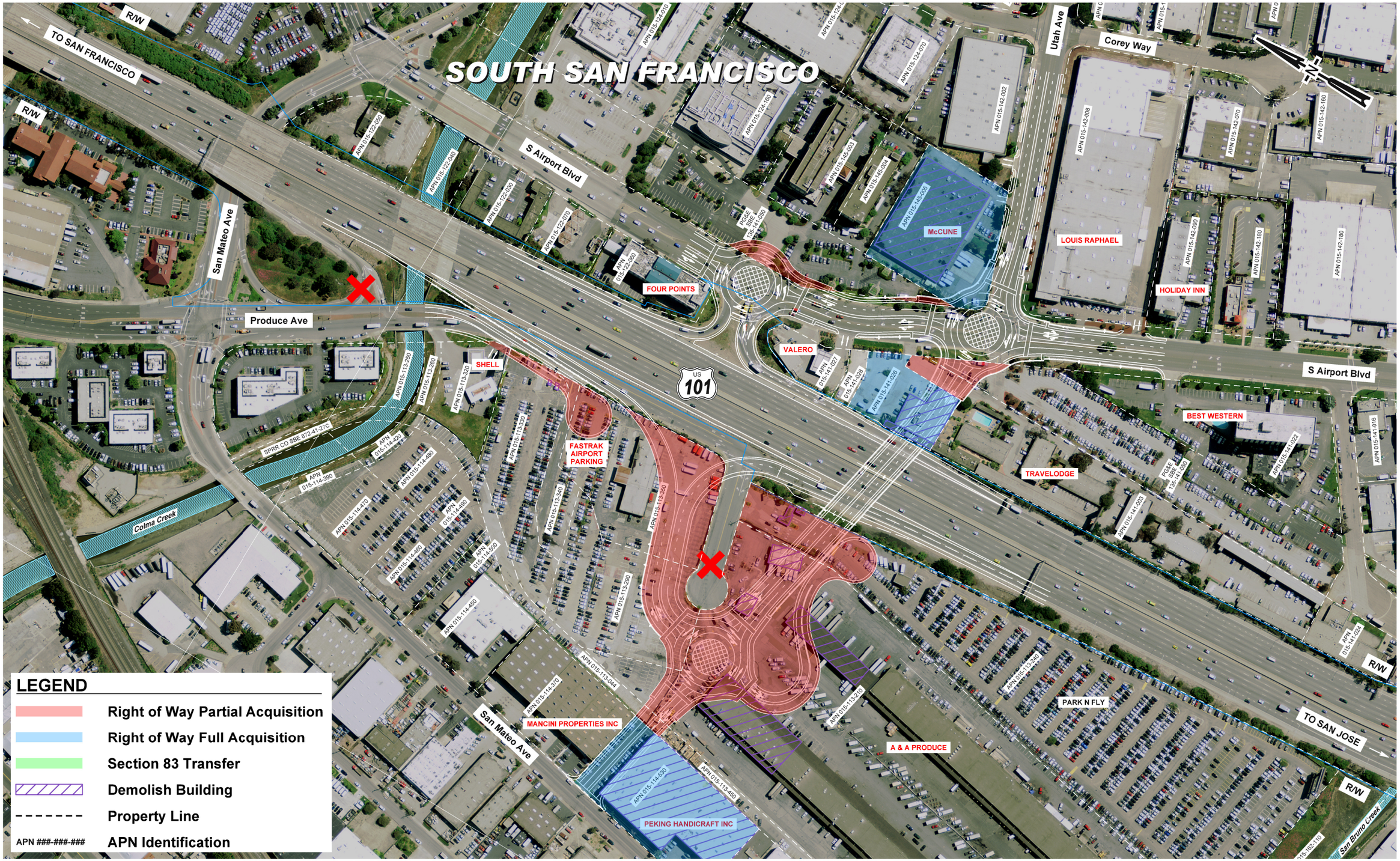
MAY 2015

URS | City of South San Francisco, California | Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 6 - TIGHT DIAMOND WITH BRAIDED RAMPS

SCALE
0 200 400 FT

FIGURE
3
MAY 2015



URS | City of South San Francisco, California | Caltrans

US 101 Ramp Improvements
Utah Ave / Produce Ave Overcrossing
ALTERNATIVE 9 - ROUNDABOUT INTERSECTIONS

SCALE
0 100 200 300 Ft

FIGURE
4
MAY 2015

ATTACHMENT L

RISK REGISTER

LEVEL 3 - RISK REGISTER	Project Name:	US 101/Produce Avenue Interchange Improvements	DIST- EA	04-4H360K	Phase	PID	Project Manager	Daniel Ho	Risk Manager		PID

						Risk Assessment														
Risk Identification						Probability		Cost Impact ($)				Time Impact (days)				Rationale	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current status/assumptions	Low	High	Low	Most likely	High	Probable	Low	Most likely	High	Probable		Strategy	Response Actions	Risk Owner	Updated	Risk Rating
Active	1	Environmental	Discovery of archaeological materials	An archaeological records search reveals the project vicinity may contain remains of archaeological middens (deposits of shells and refuse resulting from prehistoric and/or Native American occupation).		20	40	$ 50,000		$ 200,000	$ 38,000	90		180	41		Mitigate	Perform adequate archaeological survey and refine design to avoid	Jeff Zimmerman	5/6/2015	Medium
Active	2	Design	Utility Relocations	Unexpected delays in the design of utility relocations could impact the schedule.	Large utilities (gas transmission, large water supply, high voltage power, etc.) can take 2 years to design AFTER the conflict areas are defined and the utility is notified, and another 2-3 years to contract and build	20	40	$ 20,000		$ 100,000	$ 18,000	30		360	59		Mitigate	Coordinate with utility companies as early as possible.	Daniel Ho	5/6/2015	Medium
Active	3	Environmental	Challenge to ED	Opponents may challenge the design alternatives and/or environmental report, delaying the start of design/construction or threatening loss of funding.		10	25	$ 20,000		$ 50,000	$ 6,000	60		180	21		Mitigate	Address concerns of stakeholders and public during the PA&ED phase. Schedule additional public outreach meetings, as necessary.	Jeff Zimmerman	5/6/2015	Low
Active	4	Environmental	Hazardous Materials Encountered	Unrecorded materials may be discovered during PA&ED, design or construction.		10	40	$ 250,000		$ 2,000,000	$ 281,000	30		90	15		Mitigate	Conduct more detailed ISA during PA&ED and obtain samples during PS&E. Identify additional costs to dispose of hazardous material.	Jeff Zimmerman	5/6/2015	Medium
Active	5	Design	Design Standards Exceptions	Exceptions from Design Standards will be required to keep the project within scope/schedule and budget.		10	30	$ 10,000		$ 50,000	$ 6,000	30		90	12		Accept	Early coordination with Caltrans Design Reviewers, with regular follow-up and close out meetings.	Daniel Ho	5/6/2015	Low
Active	6	Design	Traffic Operation Analysis Report Approval	Traffic Ops Report not completed on schedule which would delay the PA&ED phase.		10	30	$ 10,000		$ 100,000	$ 11,000	30		180	21		Mitigate	Work closely with CT Traffic to seek approval of TOAR.	Daniel Ho	5/6/2015	Low
Active	7	ROW	Positive locating of Utilities	Positive locating of the underground utility crossings will occur in the PS&E phase. If potholing efforts reveal that utilities require relocation, it could increase the project cost and potentially delay the schedule.		10	30	$ 50,000		$ 500,000	$ 55,000	30		180	21		Accept	Begin potholing efforts early during PS&E phase. Consider advance utility relocation contract prior to construction.	Daniel Ho	5/6/2015	Low
Active	8	ROW	Private property owners request additional improvements during final design or construction	Affected private property owners may request the project to make improvements to their property. These additional improvements could introduce additional costs and delay right of way agreements and PS&E delivery.		10	40	$ 50,000		$ 1,000,000	$ 131,000	60		120	23		Mitigate	Start r/w negotiation early and budget contingency	Daniel Ho	5/6/2015	Medium
Active	9	ROW	Delay of R/W Acquisition	Due to the large number of parcels and businesses, may have to use the condemnation process to acquire R/W, which could delay start of construction by up to one year, increasing construction costs and extend the time for COS.		10	25	$ 50,000		$ 500,000	$ 48,000	90		240	29		Avoid	Advance design for constrained situations	Daniel Ho	5/6/2015	Low
Active	10	ROW	Reverse Condemnation/Additional R/W	Property owners may ask to be acquired due to the proximity of their properties to the new structure.		10	50	$ 2,000,000		$ 38,000,000	$ 6,000,000	30		120	23		Mitigate	Start r/w negotiation early and budget contingency	Daniel Ho	5/6/2015	Medium
Active	11	Design	Unidentified Utilities	Unidentifed utilities are possible in this industrial area.		20	40	$ 20,000		$ 100,000	$ 18,000	30		360	59		Mitigate	Coordinate with utility companies as early as possible. Foundation changes during construction may be more efficient than relocating utility lines not identified earlier.	Daniel Ho	6/17/2015	Medium

Total Project Cost > $5 million

ATTACHMENT M

TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

Traffic Engineering Performance Assessment (TEPA)

This Traffic Engineering Performance Assessment (TEPA) was prepared using traffic data and information available within the public domain and applying macro level analysis and evaluation techniques to identify potential benefits and deficiencies of the proposed project and establish a potential scope of work needed for traffic analysis during the next phase (PA&ED). Eventually detailed traffic studies and analysis will be completed during the PA&ED phase to demonstrate how each alternative meets the project's purpose and need.

Scope and Purpose of the Project

The project is located in the city of South San Francisco in San Mateo County. The purpose of the project is to enhance safety and improve traffic operations, provide a local east-west connection across US 101 for the southern neighborhoods of the City, enhance bike and pedestrian facilities, and accommodate future planned growth in the area. A total of four (4) viable alternatives will be carried forward from the PID phase to PA&ED phase as follows:

1. Alternative 2 (Braided US 101 Southbound Off Ramp) – Alternative 2 proposes to construct a new overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. This alternative proposes to shift the existing two-lane southbound on-ramp from Produce Avenue 675' northerly to improve the weaving distance to I-380. The existing southbound loop off-ramp would be closed and replaced by a new diagonal off-ramp grade-separating over the southbound on-ramp. The new diagonal off-ramp would connect to the new overcrossing. The southbound off-ramp would begin as a single lane ramp and widen to two lanes, providing significant storage space improvements to the off-ramp. The existing northbound on- and off-ramps would remain unchanged. A new local road starting just before the southbound on-ramp and ending west of Utah Avenue extension is proposed. A new access to the Park-n-Fly parking lots would form the southerly leg of the signalized intersection. The existing Terminal Court would be closed.
2. Alternative 3 – Alternative 3 proposes to construct a modified partial clover leaf (L-7) interchange in the western quadrants by extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. The existing southbound on- and off-ramps would be closed. Under this alternative the existing southbound on-ramp gore would be perpetuated, maintaining the existing weaving length to I-380. A new southbound off-ramp would connect to Utah Avenue in a "T" intersection with the loop on-ramp. The southbound off-ramp would begin as a single lane ramp and widen to two lanes. A new local road starting right after the Colma Creek Bridge would run alongside the new southbound off-ramp and connect to a signalized intersection, west of Produce Avenue. Similar to Alternative 2, the access to the Park-N-Fly parking lots would be provided at the signalized intersection and the existing Terminal Court would be closed.
3. Alternative 6 (Tight Diamond with Braided Ramps) – Alternative 6 is the maximum foot-print alternative. It proposes to construct a tight diamond interchange at Utah Avenue. The on- and

off-ramps south of the overcrossing would be braided with the I-380 connector ramps. In the northbound direction, the I-380 two-lane connector ramp would braid over the off-ramp to the Utah Avenue. In the southbound direction, the two-lane on-ramp would split in two: one going to west I-380 and the other heading to southbound 101. The existing southbound 101 to WB I-380 connector ramp would also be shifted 1700' to the north, and it would merge with the WB I-380 on-ramp. The existing on- and off-ramps in both directions would be closed. Produce Avenue would be relocated along westerly side of the new southbound diagonal off-ramp and it would continue under the new overcrossing providing access to the parcels in the SW quadrant. In the northbound direction, the proposed northbound off-ramp would begin approximately 1200 feet south of the current northbound off-ramp as a single lane ramp and widen to two lanes connecting Utah Avenue, providing significant storage space improvements to the off-ramp. The proposed northbound on-ramp from Utah would merge on northbound US 101 at the same location with current on-ramp.

4. Alternative 9 (Roundabout Intersections) – Alternative 9 proposes to construct an overcrossing extending Utah Avenue westerly over US 101 to connect with San Mateo Avenue at a new "T" intersection. Similar to Alternative 3, a Type L-7 interchange configuration is proposed in the western quadrants except under this alternative, roundabouts would replace traffic signals at the northbound and southbound US 101 ramp intersections. This alternative also proposes roundabout at the intersection of S. Airport Boulevard and Utah Avenue. Produce Avenue would be relocated alongside the southbound off-ramp and would terminate in a new cul-de-sac. A new access to the Park-n-Fly is proposed to form the south leg of the southbound roundabout ramp intersection.

Preliminary Assessment and Findings

The existing accesses to and from US 101 to the project area consists of discontinuous (partial) interchange ramps in both the southbound and northbound directions. The southbound off-ramp is a short one-lane "buttonhook" design that connects to Produce Avenue at a stop-controlled intersection on the north side of Colma Canal. At this intersection, Produce Avenue is primarily two lanes in the southbound direction and one lane in the northbound direction. It functions as a collector-distributer roadway, extending south from its intersection with San Mateo Avenue, Airport Boulevard, and South Airport Boulevard, crosses over Colma Canal, and parallels the freeway briefly as a frontage road before merging as a two-lane on-ramp onto the southbound US 101 auxiliary lanes. In the northbound direction of US 101, the interchange consists of short buttonhook on- and off-ramps connecting with South Airport Boulevard. The only connection between the northbound and southbound ramps is by way of the South Airport Boulevard undercrossing of US 101, to the north.

The existing options for crossing US 101 in the vicinity of the Produce Avenue on- and off-ramps are circuitous. South Airport Boulevard crosses beneath US 101 at the southbound off-ramp about 1,000 feet north of the northbound on- and off-ramps. To connect to South Airport Boulevard and Utah Avenue from southbound US 101, traffic must exit the freeway using the one-lane off-ramp to northbound Produce Avenue, head east at the four-way intersection of Produce Avenue/San Mateo

Avenue/Airport Boulevard/South Airport Boulevard, and follow South Airport Boulevard under US 101 to Utah Avenue, a travel distance of just over one-half mile.

To reach southbound US 101 from Utah Avenue, traffic is required to turn right at the Utah Avenue/South Airport Boulevard intersection, head north on South Airport Boulevard passing under US 101, head south at the Airport Boulevard/South Airport Boulevard/San Mateo Avenue /Produce Avenue

intersection, and continue south along Produce Avenue to access the southbound on-ramp just south of Terminal Court, a total of just over ¾ mile.

Terminal Court is a local street that connects with Produce Avenue at a stop controlled intersection just north of the southbound on-ramp to US 101. The street provides primary access to and from the adjacent produce processing plants. Vehicles exiting Terminal Court can turn left onto northbound Produce Avenue or right onto the southbound on-ramp. Vehicles turning left must cross the path of vehicles traveling at high speeds along southbound Produce Avenue that do not have to stop before entering the southbound on-ramp.

Local traffic therefore does not have an efficient route to the northbound and southbound US 101 ramps. This leads to large trucks using the surface streets to access the freeway. For instance, the traffic from the produce warehouses to the west of US 101 (including from Terminal Court) must travel north on San Mateo Avenue or Produce Avenue under US 101 on South Airport Boulevard then travel south on South Airport Boulevard to access northbound US 101. There is no overcrossing of US 101 at Utah Avenue, and therefore traffic originating from Utah Avenue east of US 101 has to make the reverse trip along South Airport Boulevard to access southbound US 101.

URS conducted field observation of existing conditions on Thursday Jan 8, 2015. The findings from field visit are summarized below.

AM Peak

There were not any significant queuing issues in AM peak. There was queuing observed at the following locations for one or two cycles, though they cleared up every cycle.

- Northbound right turn from S. Airport Boulevard to Utah Avenue.
- Northbound left turn from S. Airport Boulevard to US 101 northbound on-ramp.
- Northbound left turn from S. Airport Boulevard to S Airport Boulevard at the S. Airport/Mitchell Avenue intersection.
- Eastbound right turn from northbound US 101 off ramp to S. Airport Boulevard.

PM Peak

Significant queues were observed in PM peak.

- Westbound left turn from S. Airport Boulevard to Produce Avenue – queue extended all the way across the undercrossing.

- Northbound approach (left and through) at S. Airport Boulevard/US 101 northbound off-ramp – queue extended to Utah Avenue.
- Southbound approach and northbound approach at Gateway Boulevard/S. Airport Boulevard experienced extensive queues.
- Traffic on both freeway directions was heavy in the study.
- Westbound approach (right and left) at Utah Avenue/S. Airport Boulevard – long queue was observed.
- Weaving segment between US 101/Produce Avenue southbound on-ramp and I-380 connector – speed reduces to almost 45 mph. Queue on southbound US 101 spilled back on the right lane beyond S. Airport Boulevard because of weaving activities.
- Congestion was observed on southbound S. Airport Boulevard from N. Access Rd (access to US 101/I-380) to Utah Avenue.

Traffic from the eastside of US 101 can access southbound US 101 and WB I-380 from both Produce Avenue on-ramp and from N. Access Rd. Our field observation revealed that when the queue on westbound left turn on S. Airport (at S Airport Boulevard/Produce Avenue intersection) spilled back beyond the underpass, people started to use the N. Access Rd as an alternate route. Queue on southbound S Airport Boulevard was observed from N. Access Rd to Utah Avenue between 5:45 pm to 6:45 pm.

Recommended Scope for PA&ED

The purpose of the TEPA process is to develop an initial traffic scope of work for more detailed traffic analyses to be completed during the PA&ED phase. The following are identified as the scope of future traffic engineering studies:

Project Study Limits: The project study limits for traffic operations analysis will be determined in the PA&ED phase of the project.

Traffic Data Collection: The vehicle, pedestrian and bicycle traffic counts (weekday and weekend daily, and morning and afternoon peak hours) will be collected on the existing facility. The data collection will include freeway mainline, ramp and cross-street daily traffic volumes, peak hour traffic volumes at intersections and interchanges, pedestrian and bicycle counts on local streets.

Traffic Forecasting: Future forecast demands on US 101, I-380 freeways, ramps and local streets in the project study limits will be developed for both opening year (2020) and design year (2040). The project anticipates using model outputs from the C/CAG VTA Bi-County Travel Demand Model System as a basis for creating future year transportation networks for the project.

To confirm that the model reflects the current planning in the area, an initial step is a review of the land use and network assumptions in the C/CAG model for the area surrounding the project. The land use assumptions will be reviewed for consistency with the City's recent General Plan as well as new projects that are being planned near the interchange area. The review will determine if there is a need to modify

the assumptions for either the construction year or design year prior to generating future travel demand forecasts for the no project and project alternatives.

The model outputs will be compared to the existing traffic volumes in the study area. Validation will focus on the peak hour and peak period traffic volumes. The results of the model validation will be documented in the Existing Conditions and Calibration Report and the report will be submitted to Caltrans for review and approval.

Traffic Safety Analysis: A detailed crash/safety analysis will be included in the traffic study. It is expected that the overall safety of the area will benefit from the intersection improvements by reducing traffic congestion.

Freeway and Ramp Capacity and Operational Analysis: Detailed operational analysis will be completed for existing conditions, and future conditions (opening and design years) for each alternative with and without the project, and any proposed project construction phasing. At a minimum, the study scope will include evaluation of freeway traffic operations at the traffic interchange with exit ramp and entrance ramp and interchange improvements and ramp metering operations with each build and no build alternative. With respect to the ramp metering, the freeway traffic operations evaluation will include an estimate of queue storage needs under peak conditions and potential additional analysis work to adjust ramp meter operation, if necessary. Freeway and ramps traffic operations on US 101 between I-380 and Oyster Point Boulevard will also be reviewed.

Network Analysis: The traffic study will include network analysis with detailed freeway operational analysis within the project limits considering the short spacing of existing ramp terminals.

Intersection Capacity and Operational Analysis: The traffic analysis will evaluate the impacts to the local street network including, but not limited to, the following intersections:

- Utah Avenue/South Airport Boulevard.
- Utah Avenue/US 101 Southbound On-/Off-Ramp
- Utah Avenue/San Mateo Avenue.
- South Airport Boulevard/ US 101 Northbound On-/Off-Ramp
- Produce Avenue/Airport Boulevard/S Airport Boulevard/San Mateo Avenue
- S. Airport Boulevard/Gateway Boulevard/Mitchell Avenue
- S. Airport Boulevard/N. Access Rd/101-380 Ramps

The traffic analysis will also evaluate the impacts on US 101 traffic interchanges south and north of Produce Avenue to identify potential bottlenecks and measures.

Intersection Control Evaluation (ICE): An ICE will be prepared to evaluate the effectiveness of traffic signal and yield-controlled roundabout proposals as compared to the un-signalized operations once additional traffic counts and forecasting data are available during the PA&ED phase.

Traffic Impacts during Construction: The traffic impacts during construction for each alternative will be evaluated and mitigated. Special attention will be paid to the performance of non-standard geometric features, if any.

Pedestrian and Bicycles Improvement Analysis: Additional pedestrian and bicycle measures such as the addition of shared-use paths will also be evaluated for each alternative.

Traffic Index for Pavement Design: Traffic Index for Pavement Design for ramps, and Utah Avenue will be calculated.

The findings of the PA&ED traffic analysis will be documented in a Final Traffic Operations Analysis Report (TOAR) which will be used to select the preferred alternative and support the project purpose and need.

A preliminary Traffic Management Plan will be developed with the PA&ED process.

ATTACHMENT N

STORM WATER DATA REPORT (SIGNATURE PAGE)

APPENDIX E

Long Form - Storm Water Data Report

Dist-County-Route: 04-SM-101

Post Mile Limits: PM 20.7/21.7

Project Type: Interchange Improvements

Project ID (or EA): 0413000212 (EA 04-4H360)

Program Identification: HB4C

Phase: ☒ PID PSR-PDS
☐ PA/ED
☐ PS&E

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

Is the Project required to consider Treatment BMPs? Yes ☒ No ☐

If yes, can Treatment BMPs be incorporated into the project? Yes ☒ No ☐

If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the projects RTL date. List RTL Date: _____

Total Disturbed Soil Area: Alt 2: 14 acres; Alt 3: 16 acres; Alt 6: 29 acres; Alt 9: 18 acres Risk Level: 2

Estimated: Construction Start Date: TBD Construction Completion Date: TBD

Notification of Construction (NOC) Date to be submitted: TBD

Erosivity Waiver	Yes ☐	Date: _____	No ☐
Notification of ADL reuse (if Yes, provide date)	Yes ☐	Date: TBD in PS&E Phase	No ☐
Separate Dewatering Permit (if yes, permit number)	Yes ☐	Permit # _____	No ☐

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

M Sedghi — 07/06/2015

Maria Sedghi, Registered Civil Engineer — Date

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

Richelle P. Perez — 07/10/2015

Richelle Perez, Project Manager — *Date*

Robert D. Braga — 07/9/15

Robert Braga, Designated Maintenance Representative — *Date*

David Yam — 7/9/15

David Yam, Designated Landscape Architect Representative — *Date*

[Stamp Required for PS&E only)

Norman Gonsalves — 07/08/2015

Norman Gonsalves, District/Regional Design SW Coordinator or Designee — *Date*