$PM_{2.5}$ Project Assessment Form for Interagency Consultation

RTIP ID# *(required)* SM-090008

TIP ID# *(required)* SM-090008

Air Quality Conformity Task Force Consideration Date
May 28, 2015

Project Description *(clearly describe project)*
The City of San Carlos, in cooperation with Caltrans, proposes to modify the existing U.S. 101/Holly Street interchange from a Type L-10 four-quadrant cloverleaf to a Type L-9 partial cloverleaf interchange configuration. The existing loop off-ramps located at the southwest and northeast quadrants of the interchange (with U.S. 101 running north-south) would be eliminated, and the diagonal on- and off-ramps would be realigned into a more squared-up pedestrian and bicycle friendly configuration. The NB loop on-ramp would be widened from one lane to two lanes plus a third high occupancy vehicle (HOV) lane, and the NB diagonal off-ramp would be widened from one to two lanes at the freeway exit.

Build Alternative 1
The Build Alternative (modified from Alternative 1-H in the Project Study Report) would propose to modify the existing U.S. 101/Holly Street interchange from a Type L-10 four-quadrant cloverleaf to a Type L-9 partial cloverleaf interchange configuration. The existing loop off-ramps located at the southwest and northeast quadrants of the interchange (with U.S. 101 running north-south) would be eliminated, and the diagonal on- and off-ramps would be realigned into a more squared-up pedestrian and bicycle-friendly configuration. The NB loop on-ramp would be widened from one lane to two lanes plus a third HOV lane, and the NB diagonal off-ramp would be widened from one to two lanes at the freeway exit. The reconfigured interchange would provide signalized intersections at the termini of the NB and SB diagonal off-ramps. Westbound (WB) Holly Street would be widened between the NB diagonal on-ramp and loop off-ramp to provide a third through lane. A third through lane would also be added to EB Holly Street by widening between the SB diagonal on-ramp and the loop off-ramp. A NB through lane would be added to Industrial Road south of Holly Street. Ramp metering equipment would be maintained for the NB diagonal on-ramp and SB ramps along the collector-distributor (CD) road. Ramp metering equipment would be replaced for the NB loop on-ramp.

At-grade pedestrian crosswalks/sidewalks would be maintained along EB (south side) Holly Street, with the sidewalk widened to 8 feet (ft) wide. The pedestrian crosswalks/sidewalks would be added along WB (north side) Holly Street. Bike lanes/pockets would be provided along both directions of Holly Street.

Five bioretention basins would be constructed in the Area of Potential Effects (APE): one in the northwest quadrant, one in the northeast quadrant, one between NB loop on-ramp and NB off-ramp, and two adjacent to SB diagonal on-ramp.

Type of Project: Reconfigure existing interchange

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County San Mateo	**Narrative Location/Route & Postmiles** U.S.101/Holly Street Interchange Reconstruction 4-SM-101 PM 8.1/8.6 **Caltrans Projects – EA No.** 04-1G6210 **Project No.** 0415000236		
Lead Agency: Caltrans			
Contact Person Richelle P. Perez	**Phone#** 510-286-4998	**Fax#** 510-622-5460	**Email** richelle.perez@dot.ca.gov

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

X	Categorical Exclusion (NEPA)	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other

Scheduled Date of Federal Action: June 2015

NEPA Delegation – Project Type *(check appropriate box)*

Exempt	X	Section 6004 – Categorical Exemption	Section 6005 – Non-Categorical Exemption

Current Programming Dates *(as appropriate)*

	PE/Environmental	ENG	ROW	CON
Start	05/01/2013	05/01/2013	11/06/2015	09/23/2016
End	04/30/2015	08/25/2016	05/19/2016	04/05/2018

Project Purpose and Need (Summary): *(please be brief)*

Purpose

The primary purposes of the project are to:

- Reduce existing weaving friction areas within the United States U.S. 101 (U.S. 101)/Holly Street interchange.
- Reduce future traffic backups on the ramps from extending onto the U.S. 101 mainline during the a.m./p.m. peak hours.
- Reduce future traffic congestion at the Holly Street/Industrial Road intersection.
- Reduce pedestrian and bicycle conflicts with vehicles within the U.S. 101/Holly Street interchange and improve pedestrian and bicycle east-west connectivity across U.S. 101.

Need

There are three categories of primary deficiencies at the U.S. 101/Holly Street Interchange:

- All existing movements at the interchange loop ramps have weaving friction issues, especially along eastbound (EB) Holly Street between Industrial Road and the northbound (NB) loop on-ramp due to the existing high traffic volumes and disproportionate use of the single lane leading to the ramp entrance (lane imbalance). Bicyclists traveling along Holly Street are also presented with challenging maneuvers within the traffic weaving segments between the loop on- and off-ramps.
- Traffic congestion within the interchange and adjacent Holly Street/Industrial Road intersection is projected to be high within the 20-year design period. The NB loop on-ramp and southbound (SB) loop off-ramp capacities will be insufficient by year 2035, causing long backups extending beyond the ramps, which would “lock up” the interchange during peak hours. Also by year 2035, the Holly Street/Industrial Road intersection is projected to operate at level of service (LOS) F during peak hours due to the existing lane imbalances that occur along NB Industrial Road and EB Holly Street.

- Pedestrians and bicyclists attempting to travel east-west on Holly Street across U.S. 101 are presented with challenging maneuvers. Low-speed pedestrians and bicyclists crossing at the ramps experience potential high-speed conflicts with vehicles because of the highspeed geometry configuration (large radius curves) of the on- and off-ramps at this interchange. There is also limited pedestrian and bicycle connectivity between the residential and commercial areas of the City of San Carlos to the west of U.S. 101 and the commercial and recreation areas east of U.S. 101.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*
Surrounding land uses within the project area include single-family residences, a hotel, a museum, an airport, fast food restaurants, office uses, vacant land, a hospital, and commercial and light industrial uses.

Brief summary of assumptions and methodology used for conducting analysis

Traffic volumes and truck percentages were obtained from the Traffic Operations Analysis dated March 2014.

Opening Year: If facility is a highway or street, Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

2018 - U.S. 101 at Holly Street

No Build: ADT = 231,000, Truck ADT = 11,320 (5%), LOS = D/F
Build: ADT = 231,000, Truck ADT = 11,320 (5%), LOS = D/F

RTP Horizon Year / Design Year: If facility is a highway or street, Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

2038 - U.S. 101 at Holly Street

No Build: ADT = 280,000, Truck ADT = 13,720 (5%), LOS = F
Build: ADT = 280,000, Truck ADT = 13,720 (5%), LOS = F

Project Assessment Form for $PM_{2.5}$ Interagency Consultation

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2018 - Holly Street

No Build: ADT = 38,900, Truck ADT = 1,900 (5%), LOS = C
Build: ADT = 38,900, Truck ADT = 1,900 (5%), LOS = C

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2038 - Holly Street

No Build: ADT = 41,400, Truck ADT = 2,030 (5%), LOS = C
Build: ADT = 41,400, Truck ADT = 2,030 (5%), LOS = C

Opening Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses

Not Applicable

RTP Horizon Year / Design Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses

Not Applicable

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

See attached analysis.

Comments/Explanation/Details *(please be brief)*

See attached analysis.

$PM_{2.5}$/PM_{10} Hot-Spot Analysis

The proposed project is located within a nonattainment area for the federal $PM_{2.5}$ standards. Therefore, per 40 CFR Part 93 a hot-spot analysis is required for conformity purposes. However, the EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in section 93.123(b)(1) as an air quality concern. The project does not qualify as a project of air quality concern (POAQC) because of the following reasons:

i. The proposed Project is not a new or expanded highway project and is not considered to significantly affect diesel truck traffic on U.S. 101. The proposed Project is an interchange reconfiguration project that does not increase the capacity of U.S. 101. This type of project improves freeway operations by reducing traffic congestion at existing interchanges and improving merge operations. Based on the Traffic Operations Analysis Report (Fehr & Peers, March 2014) the proposed Project would not increase the traffic volumes along U.S. 101 or Holly Street. The future traffic volumes along U.S. 101 and Holly Street are shows in Tables 1 and 2.

Table 1: Traffic Data-Daily Traffic on U.S. 101 at Holly Street (AADT/Trucks ADT)

Model Year	Without Project	With Project	Project Related Increase in Traffic
2018	231,000/11,320	231,000/11,320	0/0
2038	280,000/13,720	280,000/13,720	0/0

Source: Fehr & Peers, Draft Traffic Operations Analysis Report, March 2014.

Table 2: Traffic Data-Daily Traffic on Holly Street (AADT/Trucks ADT)

Model Year	Without Project	With Project	Project Related Increase in Traffic
2018	38,900/1,900	38,900/1,900	0/0
2038	41,400/2,030	41,400/2,030	0/0

Source: Fehr & Peers, Draft Traffic Operations Analysis Report, March 2014

ii. The proposed Project does not affect intersections that are at level of service D, E, or F with a significant number of diesel vehicles. As indicated in Table 3: Intersection Analysis-Year 2018 Conditions and Table 4: Intersection Analysis-Year 2038 Conditions, the Project improves level of service at a majority of the intersections in the Project area. The intersections where the proposed Project will increase the delay would not be affected by a significant increase in the volume of diesel vehicles.

iii. The proposed project does not include the construction of a new bus or rail terminal.

iv. The proposed project does not expand an existing bus or rail terminal.

v. The proposed project is not in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Table 3: Intersection Analysis – Year 2018 Conditions

Intersection	Peak Hour	No Build		Build Alternative	
		Control Delay	LOS	Control Delay	LOS
1. Holly Street/Airport Way	AM	26	C	27	C
	PM	182	F	180	F
2. Holly Street/Industrial Way	AM	32	C	29	C
	PM	35	C	27	C
3. Holly Street/Old Country Road	AM	41	D	40	D
	PM	85	F	80	F
4. Holly Street/El Camino Road	AM	164	F	145	F
	PM	55	D	50	D
5. Holly Street/NB Diagonal Ramps	AM	3	A	N/A	N/A
	PM	3	A	N/A	N/A
5. Holly Street/NB Ramps	AM	N/A	N/A	22	C
	PM	N/A	N/A	17	B
6. Holly Street/NB Loop Ramps	AM	3	A	N/A	N/A
	PM	3	A	N/A	N/A
7. Holly Street/SB Loop Ramps	AM	2	A	N/A	N/A
	PM	2	A	N/A	N/A
8. Holly Street/SB Diagonal Off-Ramp	AM	5	A	N/A	N/A
	PM	4	A	N/A	N/A
8. Holly Street/SB Ramps	AM	N/A	N/A	14	B
	PM	N/A	N/A	13	B
9. Holly Street/SB Diagonal On-Ramp	AM	4	A	N/A	N/A
	PM	3	A	N/A	N/A

Source: Fehr & Peers, Draft Traffic Operations Analysis Report, March 2014.

Table 4: Intersection Analysis – Year 2038 Conditions

Intersection	Peak Hour	No Build		Build Alternative	
		Control Delay	LOS	Control Delay	LOS
1. Holly Street/Airport Way	AM	44	D	41	D
	PM	215	F	205	F
2. Holly Street/Industrial Way	AM	46	D	34	C
	PM	59	E	32	C
3. Holly Street/Old Country Road	AM	58	E	57	E
	PM	168	F	167	F
4. Holly Street/El Camino Road	AM	197	F	190	F
	PM	123	F	115	F
5. Holly Street/NB Diagonal Ramps	AM	12	B	N/A	N/A
	PM	3	A	N/A	N/A
5. Holly Street/NB Ramps	AM	N/A	N/A	27	C
	PM	N/A	N/A	17	B
6. Holly Street/NB Loop Ramps	AM	15	C	N/A	N/A
	PM	3	A	N/A	N/A
7. Holly Street/SB Loop Ramps	AM	17	C	N/A	N/A
	PM	2	A	N/A	N/A
8. Holly Street/SB Diagonal Off-Ramp	AM	29	C	N/A	N/A
	PM	6	A	N/A	N/A
8. Holly Street/SB Ramps	AM	N/A	N/A	16	B
	PM	N/A	N/A	16	B
9. Holly Street/SB Diagonal On-Ramp	AM	19	C	N/A	N/A
	PM	3	A	N/A	N/A

Source: Fehr & Peers, Draft Traffic Operations Analysis Report, March 2014.

U.S. 101/Holly Street Interchange Project would improve traffic operations at the Project location. The interchange would alleviate congestion as well as accommodate future traffic numbers. The proposed Project meets the Clean Air Act requirements and 40 CFR 93.116 without any explicit hot-spot analysis. The proposed Project would not create a new, or worsen an existing, $PM_{2.5}$ violation; therefore, the Project is not a “Project of Air Quality Concern.” No further analysis is required.

FIGURE 1

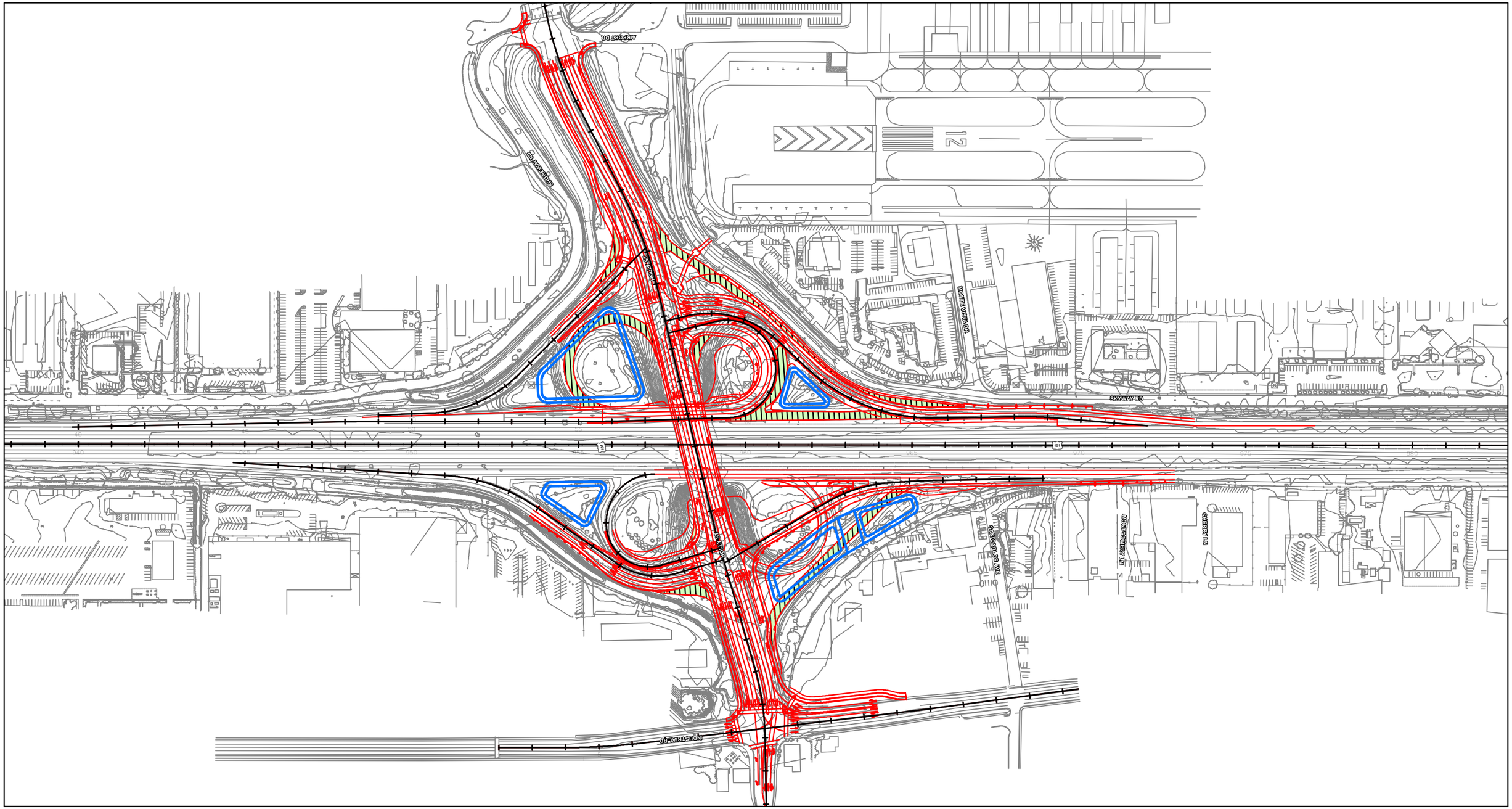
0 0.25 0.5
MILES

SOURCE: StreetMap NA (2012).

I:\RAJ1302\GIS\Maps\Community Impact Assessment\Figure 1_Project Location.mxd (2/16/2015)

US 101/Holly Street
Interchange Reconstruction
San Carlos, San Mateo County, California

Project Location



LEGEND

- Alternative 1 Alignment
- Basins
- Ramp Removal

0 140 280
FEET

SOURCE: Rajappan & Meyer Consulting Engineers, Inc. (03/03/2014)

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FIGURE 2

Route 101/Holly Streeet Interchange Reconstruction

Geometric Drawing Layout

04-SM-101 PM 8.1/8.6
Project No. 0400020036K