

Application of Criteria for a Project of Air Quality Concern

Project Title: Interstate 680 (I-680) High Occupancy Vehicle (HOV) Direct Access Ramps Project

Project Summary for Air Quality Conformity Task Force Meeting: April 23, 2015

Description

- Project will construct on- and off-ramps connecting to the I-680 HOV lanes, in both northbound and southbound directions, at a replaced Norris Canyon Road overcrossing or at a new Executive Parkway overcrossing (see attached Figure 1, Project Vicinity Map).
- There are two Build Alternatives, Norris Canyon Road Build Alternative and Executive Parkway Build Alternative, as well as a No-Build Alternative. Differences between the two Build Alternatives are primarily related to the location of the new I-680 HOV on- and off-ramps (see attached Figure 2, Project Location and Alternatives Map).
- New ramps would provide direct access and reduce travel times for express buses and HOVs along I-680 between Crow Canyon Road and Bollinger Canyon Road, thus decreasing the amount of lane weaving for HOVs along I-680.
- New ramps would improve express bus operations by making travel times more consistent and reducing schedule uncertainty within the San Ramon area.
- Reduction of weaving maneuvers would yield safety benefits and reduce accidents.
- Freeway modifications – such as the construction of retaining walls and reconstruction or removal of existing overhead signs, retaining walls, concrete barriers, drainage structures, highway lighting, and highway planting – would be conducted within the project limits.

Background

- NEPA process for Environmental Assessment scheduled for completion by 2016.
- Seeking air quality conformity determination on April 23, 2015.

Not a Project of Air Quality Concern (40 CFR 93.123(b)(1))

(i) New or expanded highway projects with significant number/increase in diesel vehicles?

- Not a new or expanded highway project.
- The percentage of trucks will remain the same with the project as without the project.

(ii) Affects intersections at LOS D, E, or F with a significant number of diesel vehicles?

- The project would improve operations and reduce congestion along the I-680 on- and off-ramps.
- The project would not result in substantial redistribution of traffic or changes in the percentage of truck trips through the site.
- Intersections currently operating at LOS D, E, or F may degrade under future conditions, but not as a result of increased diesel vehicles.

(iii) New bus and rail terminals and transfer points?

- Not applicable.

(iv) Expanded bus and rail terminals and transfer points?

- Not applicable.

(v) Affects areas identified in PM₁₀ or PM_{2.5} implementation plan as site of violation?

- The PM_{2.5} emissions inventory submitted for inclusion in the state implementation plan did not evaluate emissions at specific intersections or roadways; therefore, the proposed project location was not identified as an area of potential violation.

Project Assessment Form for PM_{2.5} Interagency Consultation

RTIP ID# 22352				
TIP ID# CC-070036				
Air Quality Conformity Task Force Consideration Date April 23, 2015				
Project Description The Contra Costa Transportation Authority (CCTA), in cooperation with Caltrans, proposes to construct on- and off-ramps connecting to the Interstate 680 (I-680) high-occupancy vehicle (HOV) lanes, in both northbound and southbound directions, at a replaced Norris Canyon Road overcrossing or at a new Executive Parkway overcrossing in the San Ramon area of Contra Costa County. In both proposed alternatives, the proposed HOV direct-access ramps (DARs) and the associated auxiliary lanes would be added in the median and, therefore, the I-680 mainline lanes would be shifted to the outside between the Bollinger Canyon Road overcrossing (post mile [PM] R2.5) and the Fostoria Way overcrossing (PM R4.4) (see Figure 1 for a map of the project vicinity). The addition of the DARs should provide direct access and reduce travel times for express buses and HOVs along I-680 between Crow Canyon Road and Bollinger Canyon Road. The freeway widening needed to accommodate the proposed project would require construction of retaining walls and reconstruction or removal of existing overhead signs, retaining walls, concrete barriers, drainage structures, highway lighting, and highway planting.				
Type of Project Change to existing State highway				
County Contra Costa County	Narrative Location/Route & Postmiles 04-CC-680 (PM R2.5/R4.4) Caltrans Projects – EA# 04-3A860K			
Lead Agency: CCTA/Caltrans				
Contact Person Susan Miller, CCTA Director of Projects	Phone# (925) 256-4736	Fax# (925) 256-4701	Email smiller@ccta.net	
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
Categorical Exclusion (NEPA)	<input checked="" type="checkbox"/> EA or Draft EIS	<input type="checkbox"/> FONSI or Final EIS	<input type="checkbox"/> PS&E or Construction	<input type="checkbox"/> Other
Scheduled Date of Federal Action: 2016				
NEPA Delegation – Project Type <i>(check appropriate box)</i>				
<input type="checkbox"/> Exempt	<input type="checkbox"/> Section 6004 – Categorical Exemption		<input checked="" type="checkbox"/> Section 6005 – Non-Categorical Exemption	
Current Programming Dates <i>(as appropriate)</i>				
	PE/Environmental	ENG	ROW	CON
Start	2012	2016	2016	2018
End	2016	2018	2018	2020

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Project Purpose and Need (Summary)

The purpose of the proposed project is to provide direct access and reduce travel times for express buses and HOVs along I-680 between Crow Canyon Road and Bollinger Canyon Road within the San Ramon area of Contra Costa County. In addition, the project is expected to improve express bus operations by making travel times more consistent and reducing schedule uncertainty within the San Ramon area. Since the proposed ramps would only be for buses and HOVs, the proposed project would provide buses and HOVs the benefits of remaining in the HOV lane to access the project area and entering directly into the HOV lanes when getting onto I-680, thus decreasing the amount of lane weaving for HOVs along I-680. The reduction in weaving maneuvers is expected to yield safety benefits and reduce accidents.¹

Reference Cited:

¹ CH2M HILL. 2014. *I-680 High Occupancy Vehicle Direct Access Ramps Project Executive Parkway Alternative Fact Sheet Exceptions to Mandatory Design Standards.*

Surrounding Land Use/Traffic Generators

The study area contains a mixture of residential, retail, and commercial uses along both the west and east sides of I-680. Specifically, San Ramon is subdivided into nine planning areas, three of which encompass or are adjacent to the primary study area: Bishop Ranch, Twin Creeks, and Crow Canyon (see Figure 3 for a map of these three planning areas relative to the project site).

The Bishop Ranch subarea consists of 643 acres and is located adjacent to and east of I-680. Bishop Ranch is a suburban office environment providing over 10 million square feet of office development. Bishop Ranch office uses are supported by retail and commercial services. The Bishop Ranch subarea also includes the San Ramon Community Center, Iron Horse Middle School, the attractive and well-used Central Park, and the San Ramon Public Library.

The Twin Creeks subarea consists of 1,486 acres of residential neighborhoods in closest proximity to the study area and is fully developed. The Twin Creeks subarea development begins at Crow Canyon Road and spreads south and southwest of Norris Canyon Road, on the west side of I-680. Twin Creeks includes about 3,200 dwelling units, of which 77 percent are detached single family units and the remaining 23 percent are multi-family units. This residential area is supported by two neighborhood parks and served by 38,800 square feet of neighborhood commercial space.

The Crow Canyon subarea consists of 625 acres and extends along both sides of I-680 and Crow Canyon Road eastward from Bollinger Canyon Road on the northern side to the limits of San Ramon. The Crow Canyon subarea consists of commercial development and also provides about 5 million square feet in a variety of new retail and office developments. Recent residential developments in Crow Canyon are contributing to the economic revitalization of the area, including the future development of 3,735 additional housing units.

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Brief summary of assumptions and methodology used for conducting analysis

This analysis was prepared using the following methodology:

- Existing freeway annual average daily traffic (AADT) was derived from traffic counts conducted in October 2012.
- Truck percentage is based on Caltrans' 2012 *Annual Average Daily Truck Traffic on the California State Highway System*.¹
- The CCTA Countywide Model was used to develop the forecasts of future year demands. The land use assumptions used in the CCTA demand model are based on the interim set of Association of Bay Area Governments (ABAG) Projections 2011 "Current Regional Plans" (also known as "SCS Base Case"). Further description of the forecasting process is provided in the Traffic Operations Analysis Report² for this project.

References Cited:

¹ California Department of Transportation. 2012 *Annual Average Daily Truck Traffic on the California State Highway System* report. <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm>.

² DKS Associates. 2014. *Final Traffic Operations Report. I-680 HOV Direct Access Ramps*. Prepared for Caltrans, Contra Costa Transportation Authority, and CH2M HILL.

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

Opening Year: 2020

Scenario	AM Peak Period LOS ¹	Mid-Day Peak Period LOS ¹	PM Peak Period LOS ¹	AADT ²	% and # of Trucks ³	Truck AADT
Norris Canyon Build Alternative	B (NB)/ C (SB)	B (NB)/ B (SB)	C (NB)/ F (SB)	174,300	5.3% trucks to 94.7% passenger vehicles	9,238
Executive Parkway Build Alternative	B (NB)/ C (SB)	B (NB)/ B (SB)	C (NB)/ F (SB)	174,300	5.3% trucks to 94.7% passenger vehicles	9,238
No-Build Alternative	B (NB)/ C (SB)	B (NB)/ B (SB)	C (NB)/ F (SB)	174,300	5.3% trucks to 94.7% passenger vehicles	9,238

Notes:

¹ Level of Service (LOS) is for the general purpose lanes along I-680 between the Bollinger Canyon Road and Crow Canyon Road interchanges. For the mid-day period, all lanes are classified as general purpose.

² AADT is for the mainline (along I-680 between the Bollinger Canyon Road and Crow Canyon Road interchanges). It was conservatively assumed that the project would not impact trip-making behavior (i.e., number of trips, mode choice, etc.), but only localized route choice. Therefore, the AADT demands on the freeway, in general, do not change between alternatives.

³ The truck percentage is based on Caltrans' 2012 *Annual Average Daily Truck Traffic on the California State Highway System*.

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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

Horizon Year: 2040

Scenario	AM Peak Period LOS ¹	Mid-Day Peak Period LOS ¹	PM Peak Period LOS ¹	AADT ²	% and # of Trucks ³	Truck AADT
Norris Canyon Build Alternative	D (NB)/ C (SB)	B (NB)/ B (SB)	F (NB)/ F (SB)	203,900	5.3% trucks to 94.7% passenger vehicles	10,807
Executive Parkway Build Alternative	F (NB)/ C (SB)	B (NB)/ B (SB)	F (NB)/ F (SB)	203,900	5.3% trucks to 94.7% passenger vehicles	10,807
No-Build Alternative	F (NB)/ C (SB)	B (NB)/ B (SB)	F (NB)/ F (SB)	203,900	5.3% trucks to 94.7% passenger vehicles	10,807

Notes:

¹ LOS is for the general purpose lanes along I-680 between the Bollinger Canyon Road and Crow Canyon Road interchanges. For the mid-day period, all lanes are classified as general purpose.

² AADT is for the mainline (along I-680 between the Bollinger Canyon Road and Crow Canyon Road interchanges). It was conservatively assumed that the project would not impact trip-making behavior (i.e., number of trips, mode choice, etc.), but only localized route choice. Therefore, the AADT demands on the freeway, in general, do not change between alternatives.

³ The truck percentage is based on Caltrans' *2012 Annual Average Daily Truck Traffic on the California State Highway System*.

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

Not applicable; see above for highway facility.

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

Not applicable; see above for highway facility.

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; see above for highway facility.

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; see above for highway facility.

Describe potential traffic redistribution effects of congestion relief

The proposed project is located within an urbanized area of the City of San Ramon and its construction would not result in substantial traffic redistribution or open additional areas to development. The project is proposed to provide direct access and reduce travel times for express buses and HOVs along I-680 between Crow Canyon Road and Bollinger Canyon Road. Since the proposed ramps would only be for buses and HOVs, the proposed project would provide buses and HOVs the benefits of remaining in the HOV lane to access the project area and entering directly into the HOV lanes when getting onto I-680, thus decreasing the amount of lane weaving for HOVs along I-680. The reduction in weaving maneuvers is expected to yield safety benefits and reduce accidents.¹

While the proposed widening and DAR installation is intended to improve the flow of traffic, the overall capacity of I-680 would not substantially change because the I-680 segments north and south of the project would remain unchanged. For the same reasons, the proposed project is not expected to increase the AADT in the project area. Additionally, diesel trucks only account for about 5.3 percent of the current total traffic volume. Because diesel trucks are not allowed to use the left lane of I-680, they will never be allowed to access the new on- and off-ramps connecting to the I-680 HOV lanes. Therefore, the project is not expected to increase in the number of diesel vehicles on I-680.

References Cited:

¹ CH2M HILL. 2014. *I-680 High Occupancy Vehicle Direct Access Ramps Project Executive Parkway Alternative Fact Sheet Exceptions to Mandatory Design Standards.*

Project Assessment Form for PM_{2.5} Interagency Consultation

Comments/Explanation/Details

The proposed project is within a federal non-attainment area for fine particulates (PM_{2.5}). Therefore, according to 40 *Code of Federal Regulations* (CFR) 93, a PM_{2.5} hot-spot analysis is required for conformity purposes. However, USEPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in 40 CFR 93.123(b)(1) as a project of air quality concern (POAQC). Five types or categories of projects qualify as a POAQC. The following discussion evaluates whether the proposed project falls into any of these five POAQC categories.

The proposed project does not qualify as a POAQC for the following reasons:

1. The proposed project would not have a significant number of, or increase in the number of, diesel vehicles (40 CFR 93.123(b)(1)(i)). The latest truck counts for I-680 in the study area show that diesel truck traffic constitutes 5.3 percent of the total AADT. Because diesel trucks are not allowed to use the left lane of I-680, they would never be allowed to access the new on- and off-ramps connecting to the I-680 HOV lanes. Furthermore, the addition of the HOV DAR is not expected to increase AADT when compared to the No-Build Alternative. Because the AADT will not increase, the percent of diesel trucks in the study area's vehicle fleet mix will also not increase when compared to the No-Build Alternative. Therefore, the proposed project is not expected to have a significant increase in the number of diesel vehicles on I-680.
2. The proposed project would neither affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles nor change intersections to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project (40 CFR 93.123(b)(1)(ii)). Although some intersections affected by the project are at LOS D, E, or F, these intersections are in residential and commercial areas that are not expected to experience a significant number of diesel vehicles. As described above, the project is not expected to increase the number of diesel vehicles on I-680; it is expected that this result will hold true for nearby intersections as well.
3. The proposed project is not a new bus or rail terminal or transfer point (40 CFR 93.123(b)(1)(iii)).
4. The proposed project is not an expansion of an existing bus or rail terminal or transfer point (40 CFR 93.123(b)(1)(iv)).
5. The PM_{2.5} emissions inventory submitted for inclusion in the state implementation plan did not evaluate emissions at specific intersections or roadways;¹ therefore, the proposed project location was not identified as a site of possible violation of PM_{2.5} (40 CFR 93.123(b)(1)(v)). The nearest known violations of the PM_{2.5} and respirable particulates (PM₁₀) standards, occurring periodically during 2009 through 2013, were recorded in Concord, which is approximately 15 miles northwest of the project area.²

Therefore, the proposed project meets the Clean Air Act requirements without any explicit hot-spot analysis. The proposed project is not expected to cause or contribute to any new localized PM_{2.5} violations or increase the frequency or severity of any existing violations.

References Cited:

¹ California Air Resources Board. 2014. *California State Implementation Plans*. <http://www.arb.ca.gov/planning/sip/sip.htm>. Accessed August 2014.

² California Air Resources Board. 2014. *iADAM Air Quality Data Statistics*. <http://www.arb.ca.gov/adam/>. Accessed August 2014.

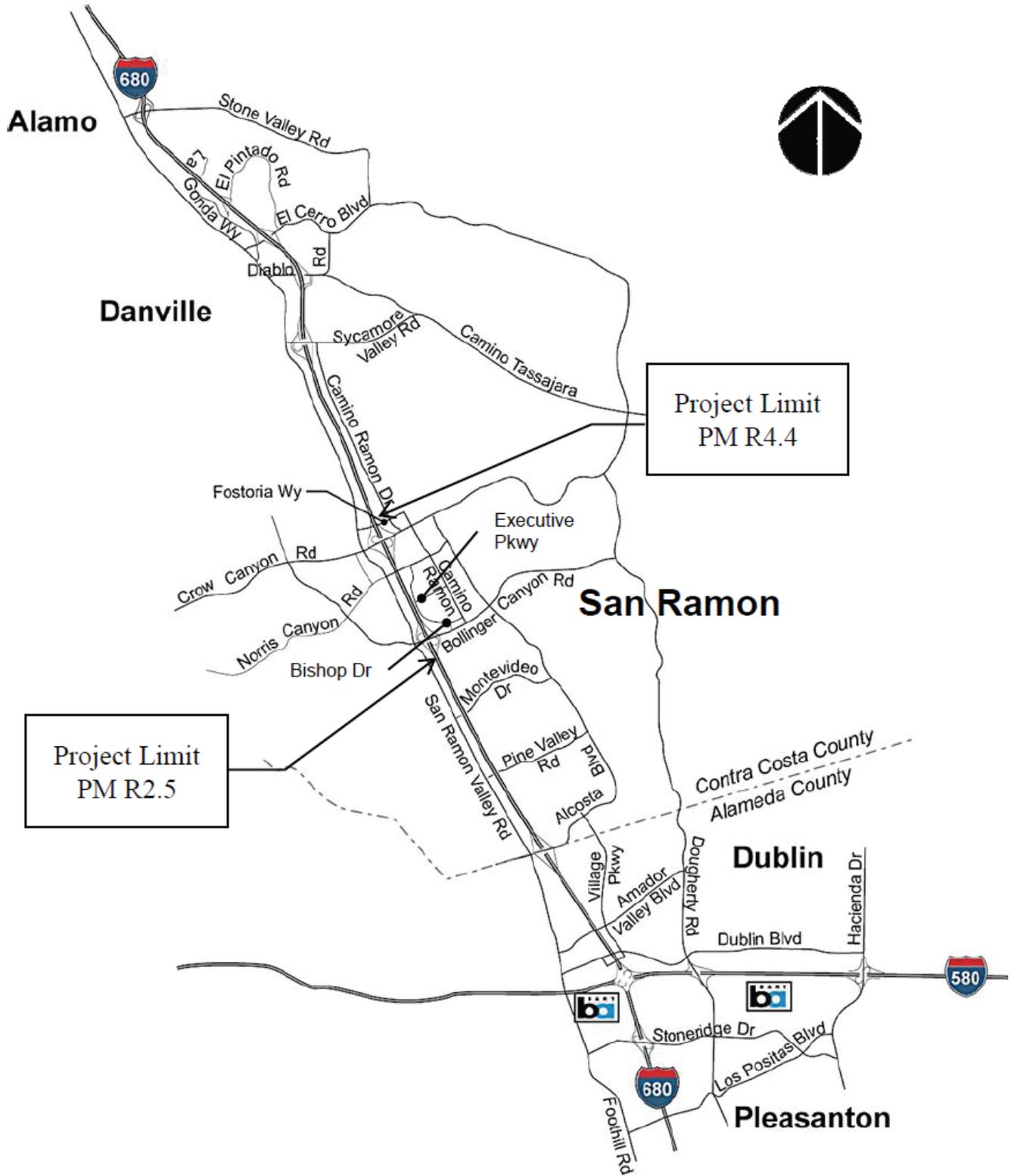
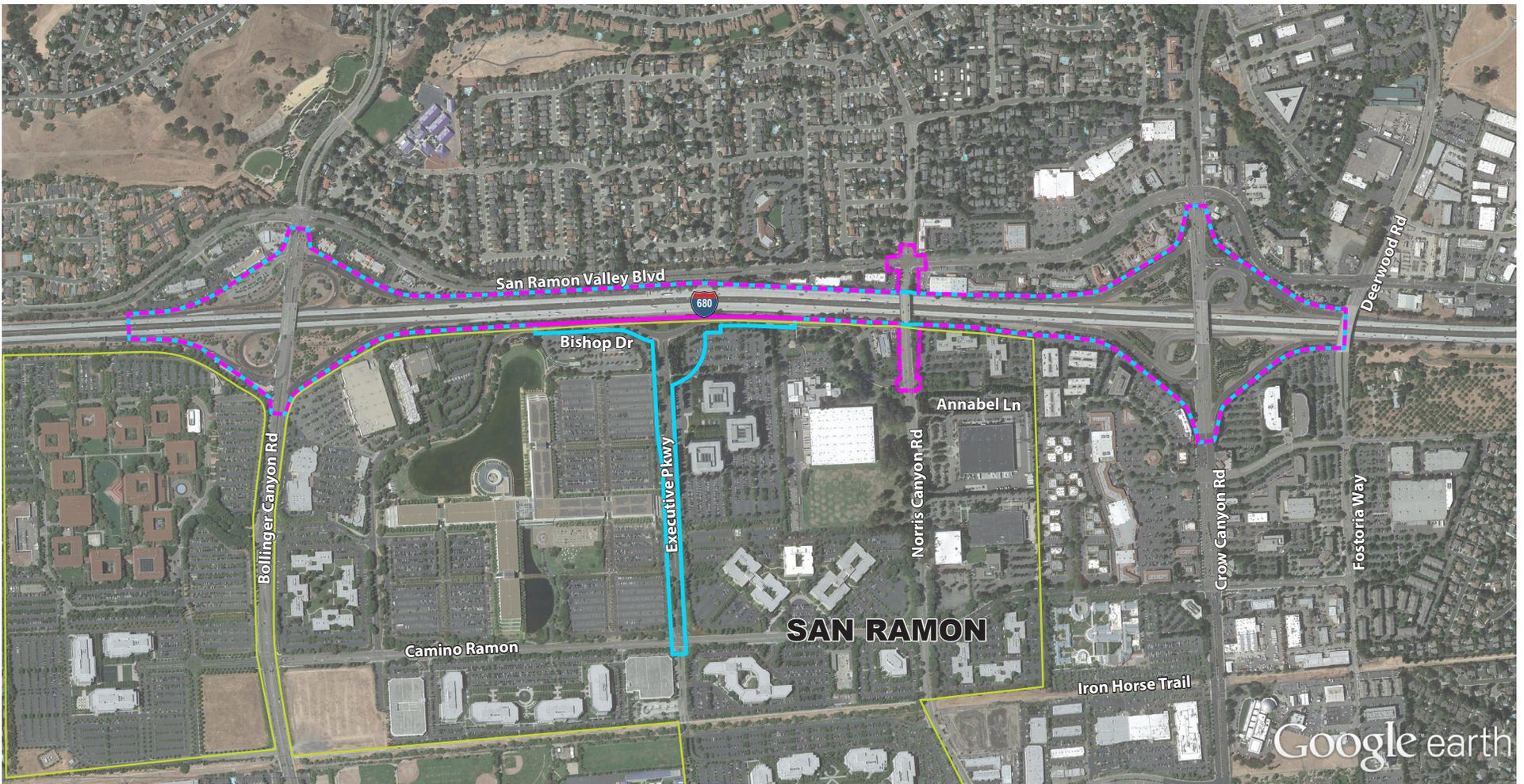


FIGURE 1
Project Vicinity Map
 I-680 HOV Direct Ramps Project
 San Ramon, California
 Caltrans EA 04-3A8600/PID 04-0000-0966





Aerial from Google Earth Pro © 2013. Additional information added by CH2M HILL.



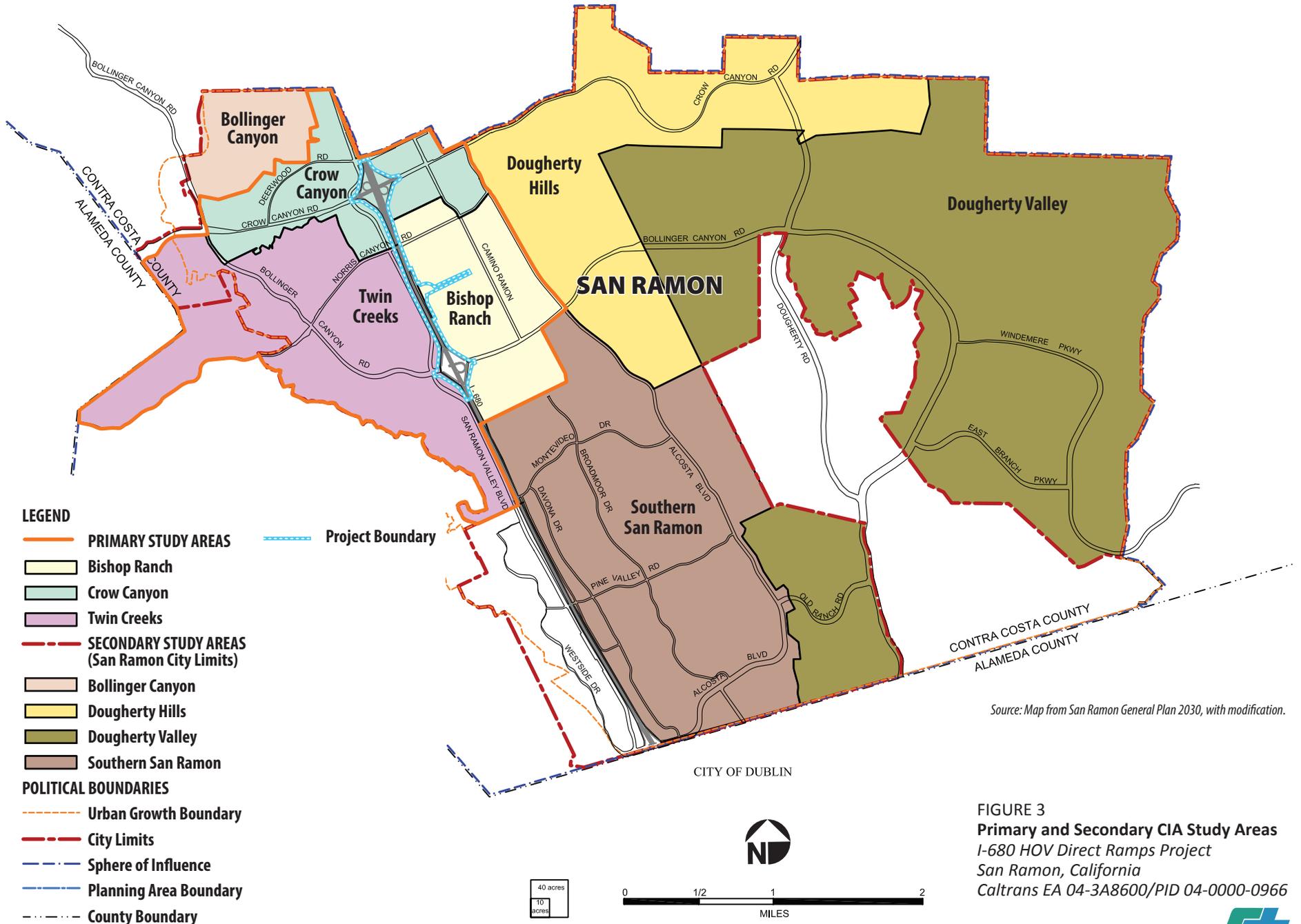
LEGEND

- Executive Parkway Build Alternative
- Norris Canyon Build Alternative
- Bishop Ranch Office Park



FIGURE 2
Project Location and Alternatives Map
 I-680 HOV Direct Access Ramps Project
 San Ramon, California
 Caltrans EA 04-3A8600/PID 04-0000-0966





Source: Map from San Ramon General Plan 2030, with modification.

FIGURE 3
Primary and Secondary CIA Study Areas
 I-680 HOV Direct Ramps Project
 San Ramon, California
 Caltrans EA 04-3A8600/PID 04-0000-0966

