

RTIP ID# *(required)* 20179901

TCWG Consideration Date March 26, 2019

Project Description *(clearly describe project)*

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans), proposes to extend the eastbound (EB) truck climbing lane (TCL) on Interstate 10 (I-10) from its current terminus at the existing eastbound off-ramp to Live Oak Interchange to just east of the County Line Road existing eastbound off-ramp at the San Bernardino County and Riverside County Line (Project). The extension of the existing TCL within the Project limits for an additional 3-miles would improve operations by separating slow moving vehicles from faster moving passenger cars that are climbing the existing grade.

The following is description of each alternative:

No Build Alternative

The No Build Alternative would maintain the facility in its current condition. No improvements would be implemented at this time and therefore, no capital cost is associated with this alternative. As development continues and the traffic demand increases, traffic operational characteristics would further deteriorate, which may result in an increase in congestion, vehicle delay, safety concerns, vehicle-operating costs, and vehicle emissions due to slower operating speeds on the freeway. The No Build Alternative would not address or alleviate the forecasted operational and existing safety issues along I-10 within the Project limits and would not satisfy the purpose and need.

Alternative 2 (New General Purpose/Mixed-Flow Lane and Express Lane Conversion)

The Build Alternative proposes improvements along I-10 from PM 36.4 to R39.2 in the City of Yucaipa in San Bernardino County and from PM R0.0 to R0.2 in the City of Calimesa in Riverside County. The improvements associated with the Build Alternative would occur within existing Caltrans and City right-of-way (ROW).

The Build Alternative would add a TCL along EB I-10 in the City of Yucaipa from the 16th Street Overcrossing Bridge to 0.2 mile east of the County Line Road Undercrossing Bridge by paving the existing median. The improvements under the Build Alternative would also include the following components:

- Replacement of existing dual metal thrie beam barrier with a concrete barrier at the new centerline throughout joining the existing concrete barriers at the Project limits;
- Paving the remaining median width (EB/WB) to establish inside shoulders;
- Adding a new interior EB MFL in the median to become the new Lane No. 1;
- Restriping of the existing inside EB MFL to become the middle EB MFL (Existing Lane No. 1 becomes Lane No. 2);
- Restriping of the existing middle EB MFL to become the outside EB MFL (Lane No. 2 becomes Lane No. 3);

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

<ul style="list-style-type: none"> • Signing and pavement striping would designate the existing outer most EB MFL (Lane No. 3) as the dedicated EB TCL; • Upgrading existing drainage facilities and develop on-site runoff treatment areas • Widening the median of Oak Glen Creek Bridge (No. 54-0648); and • Adding or replacing existing signage and striping. 				
Type of Project (use Table 1 on instruction sheet) Change to existing state highway				
County San Bernardino	Narrative Location/Route & Postmiles: 08-SBd-10-PM 36.4/R39.2 08-RIV-10-PM R0.0/R0.2 Caltrans Projects – EA#08-1F7600			
Lead Agency: San Bernardino County Transportation Authority (SBCTA)				
Contact Person Paul Melocoton	Phone# (909) 884-8276	Fax#	Email pmelocoton@gosbcta.com	
Hot Spot Pollutant of Concern (check one or both) PM2.5 x PM10 x				
Federal Action for which Project-Level PM Conformity is Needed (check appropriate box)				
Categorical Exclusion (NEPA)	x EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other
Scheduled Date of Federal Action: May 2021				
NEPA Assignment – Project Type (check appropriate box)				
Exempt	Section 326 –Categorical Exemption	x	Section 327 – Non-Categorical Exemption	
Current Programming Dates (as appropriate)				
	PE/Environmental	ENG	ROW	CON
Start	2017	2020	2021	2022
End	2020	2022	2022	2023

<p>Project Purpose and Need (Summary): <i>(attach additional sheets as necessary)</i></p> <p>Purpose. The purpose of the proposed Project is to improve operational characteristics by separating trucks and other slow-moving vehicles on an additional portion of EB I-10 that includes steep uphill grades from faster moving passenger vehicles. The objectives of the Project are to:</p> <ul style="list-style-type: none"> • Improve traffic operations by reducing conflicts between automobiles and slow-moving trucks; and • Improve safety and reduce frequency of truck-related accidents. <p>Need. Trucks characteristically exhibit the lowest level of hill-climbing performance of all vehicles on highways and freeways. Along EB I-10 within the Project limits, there is a sustained upward grade up to nearly four percent. Without passing lanes, slow moving trucks create operational conflicts between faster-moving automobiles and slower-moving trucks.</p> <p>A large volume of commercial trucks travel through the Project limits. According to the Project Study Report/Project Development Support (PSR/PDS) (dated June 2017) that was prepared for the proposed Project, average daily traffic (ADT) truck volumes in 2016 along I-10 within the Project limits make up 16 percent of the total volume of vehicle traffic. Truck accident frequency can be correlated to increase with differential in speed; therefore, climbing lanes are advantageous when excessive speed differentials exist. Improvements along EB I-10 within the Project limits are needed to reduce weaving and improve efficiency for motorists.</p>
<p>Surrounding Land Use/Traffic Generators <i>(especially effect on diesel traffic)</i></p> <p>Sensitive land uses within the area of the Project limits include residential uses (mobile homes and rural farmland properties), and a religious center.</p>
<p>Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility <u>I-10</u></p> <p>2025 No Build: ADT = 135,700, Truck ADT = 18,900, LOS D</p> <p>2025 Build: ADT = 137,800, Truck ADT = 19,200, LOS D</p>
<p>RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility <u>I-10</u></p> <p>2045 No Build: ADT = 174,100, Truck ADT = 30,700, LOS F</p> <p>2045 Build: ADT = 180,400, Truck ADT = 31,800, LOS D</p>
<p>Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT</p> <p>Not Applicable</p> <p>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</p> <p>Not Applicable</p>
<p>Describe potential traffic redistribution effects of congestion relief <i>(impact on other facilities)</i></p> <p>The Project will improve travel time and speed along the corridor, with corresponding decreases in delay per vehicle and vehicle hours of delay within the network. The Build Alternative will also provide bottleneck relief within the Project Limits, allowing volume served to increase while still improving operations along I-10. See attached analysis for further discussion.</p>
<p>Comments/Explanation/Details <i>(attach additional sheets as necessary)</i></p> <p>See attached analysis</p>

PM_{2.5}/PM₁₀ Hot-Spot Analysis

According to 40 CFR Part 93.123(b)(1), the following are Projects of Air Quality Concern (POAQC) :

- i. New highway projects have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;
- ii. Projects affecting intersections that are at a Level of Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level of Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- v. Projects in or affecting locations, areas or categories of sites which are identified in the PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The proposed Project is within a nonattainment area for the federal PM_{2.5} standards and within an attainment/maintenance area for the federal PM₁₀ standards. Therefore, per 40 CFR, Part 93, analyses are 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 would expand I-10 through the addition of a truck climbing lane. Tables A through C list the 2025 and 2045 ADT and truck ADT volumes along the project corridor for the no build and build conditions. These tables also compare the ADT and Truck ADT volumes associate with the Build Alternatives to the No Build conditions. As shown in Tables B and C, although the truck percentages would exceed 8 percent, the project related increase in truck ADT would be substantially lower than the 10,000 truck trip criterion for a POAQC at any of the highway links within the project area.
- ii) The LOS conditions in the project vicinity with and without the proposed Project are shown in Figures 2 and 3. Although there are minor increases in the delay in 2025, under the Build Alternative all study locations are improved to LOS D or better.
- iii) The proposed build alternatives do not include the construction of a new bus or rail terminal.
- iv) The proposed build alternatives do not expand an existing bus or rail terminal.
- v) The proposed build alternatives are not in or affecting locations, areas, or categories of sites that are identified in the PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Therefore, the proposed project meets the CAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis and would not create a new, or worsen an existing, PM₁₀ or PM_{2.5} violation.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

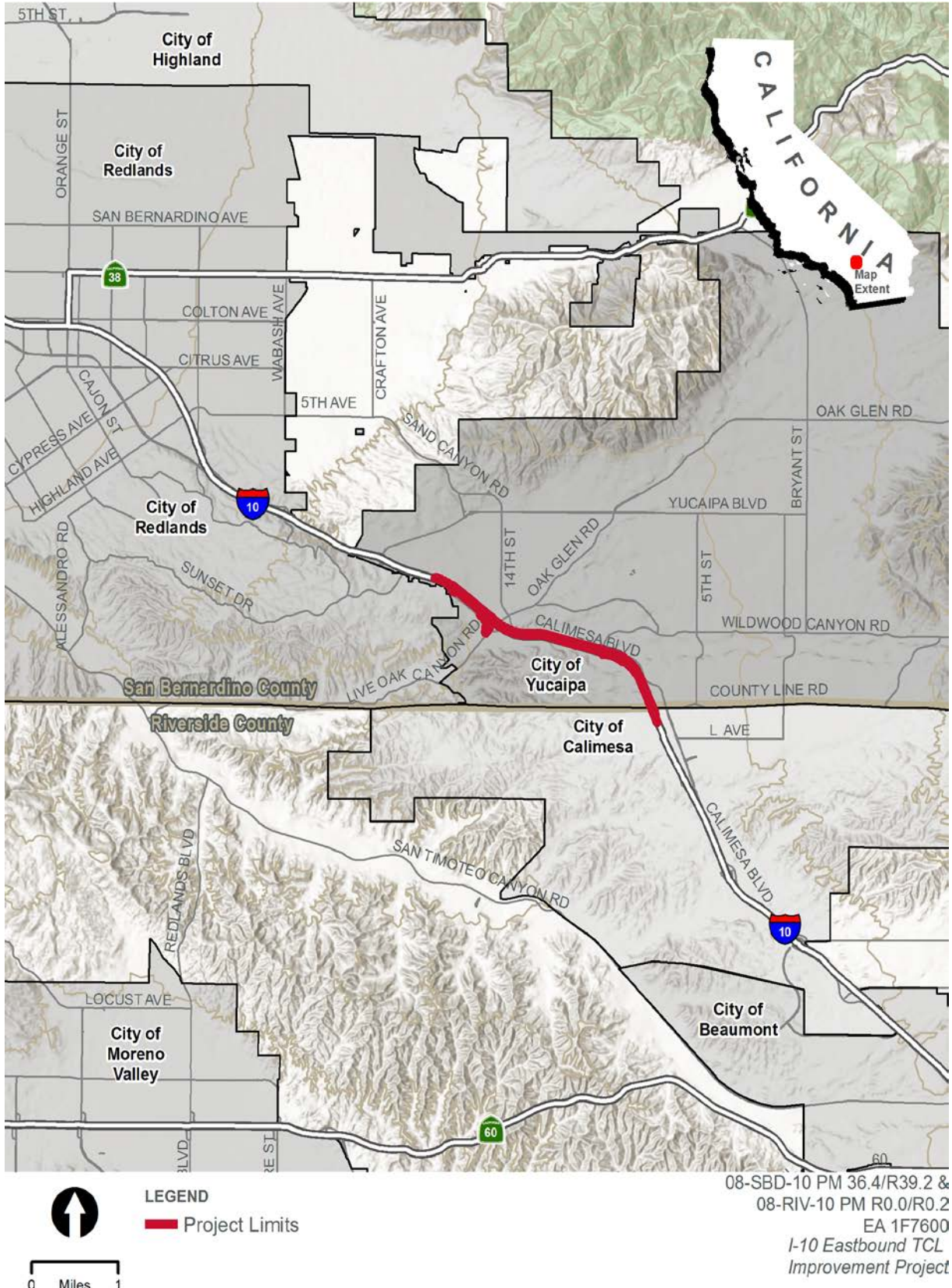


Figure 1. Regional Location

Table A. 2025 and 2045 No Build Highway Section Daily Volumes

Freeway	Section		2025 Volumes			2045 Volumes		
	Start	End	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
I-10	Yucaipa Boulevard	Oak Glen Road	135,700	18,900	13.9	174,100	30,700	17.6
I-10	Oak Glen Road	Wildwood Rest Stop	128,500	18,200	14.2	164,900	29,600	17.9
I-10	Wildwood Rest Stop	County Line Road	128,500	18,200	14.2	164,900	29,600	17.9

Table B. 2025 Build Alternative Highway Section Daily Volumes

Freeway	Section		2025 Volumes			Increase from No Build		
	Start	End	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
I-10	Yucaipa Boulevard	Oak Glen Road	137,800	19,200	13.9	2,100	300	1.5
I-10	Oak Glen Road	Wildwood Rest Stop	130,500	18,500	14.2	2,000	300	1.6
I-10	Wildwood Rest Stop	County Line Road	130,500	18,500	14.2	2,000	300	1.6

Table C. 2045 Build Alternative Highway Section Daily Volumes

Freeway	Section		2045 Volumes			Increase from No Build		
	Start	End	Total ADT	Truck ADT	Truck (%)	Total ADT	Truck ADT	Truck (%)
I-10	Yucaipa Boulevard	Oak Glen Road	180,400	31,800	17.6	6,300	1,100	3.5
I-10	Oak Glen Road	Wildwood Rest Stop	170,900	30,600	17.9	6,300	1,000	3.3
I-10	Wildwood Rest Stop	County Line Road	170,900	30,600	17.9	6,300	1,000	3.3

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

I-10 Eastbound Segment	Type	AM Peak Hour				PM Peak Hour				
		No Build		Build		No Build		Build		
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	
1	Yucaipa Blvd On-Ramp	Merge	10	B	13	B	22	C	27	C
2	Yucaipa Blvd to Down Grade Start	Basic	13	B	14	B	23	C	26	C
3	Down Grade Start to Live Oak Canyon Rd	Basic	13	B	14	B	23	C	26	C
4	Live Oak Canyon Rd Off-Ramp	Basic ³ / Diverge	14	B	11	B	25	C	22	C
5	Live Oak Canyon Rd Off-Ramp to On-Ramp	Basic	14	B	12	B	24	C	20	C
6	Live Oak Canyon Rd On-Ramp	Merge	16	B	10	B	33	D	20	B
7	Live Oak Canyon Rd to Rest Area	Basic	18	B	13	B	30	D	23	C
8	Rest Area Off-Ramp	Diverge	16	B	11	B	29	D	21	C
9	Rest Area Off-Ramp to On-Ramp	Basic	18	B	13	B	30	D	23	C
10	Rest Area On-Ramp	Merge	16	B	11	B	34	D	22	C
11	Rest Area to County Line Rd	Basic	19	B	15	B	32	D	26	C
12	County Line Rd Off-Ramp	Diverge	16	B	10	B	33	D	22	C
13	County Line Rd Off-Ramp to Up Grade End	Basic	18	B	17	B	26	C	30	D
14	Up Grade End to County Line Rd On-Ramp	Basic	17	B	17	B	25	C	28	D
15	County Line Rd On-Ramp	Merge	14	B	15	B	26	C	30	D

Notes: 1. Density is reported vehicles per lane per mile.
 2. Estimated average grade for the analysis segment
 3. Since the location has a lane drop at the off-ramp, the location is a basic segment according to the HCM
 4. Bold font indicates unacceptable LOS E or F conditions.

Source: Fehr & Peers, 2018.

Figure 2. 2025 Freeway Operations

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

I-10 Eastbound Segment	Facility Type	AM Peak Hour				PM Peak Hour				
		No Build		Build		No Build		Build		
		Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	Density ¹	LOS ²	
1	Yucaipa Blvd On-ramp	Merge	17	B	20	C	66	F	32	D
2	Yucaipa Blvd to Down Grade Start	Basic	21	C	21	C	72	F	30	D
3	Down Grade Start to Live Oak Canyon Rd	Basic	20	C	21	C	71	F	29	D
4	Live Oak Canyon Rd Off-ramp	Basic ³ / Diverge	21	C	17	B	77	F	23	C
5	Live Oak Canyon Rd Off-ramp to On-ramp	Basic	21	C	17	B	76	F	23	C
6	Live Oak Canyon Rd On-ramp	Merge	23	C	15	B	66	F	25	C
7	Live Oak Canyon Rd to Rest Area	Basic	26	C	19	B	48	F	27	C
8	Rest Area Off-ramp	Diverge	26	C	17	B	52	F	30	D
9	Wildwood Canyon Rd Off-ramp	Diverge	28	D	17	B	51	F	30	D
10	Wildwood Canyon Rd Off-ramp to On-ramp	Basic	25	C	19	B	40	E	28	D
11	Wildwood Canyon Rd On-ramp	Merge	24	C	15	B	53	F	31	D
12	Rest Area to County Line Rd	Weave	19	B	16	B	30	D	25	C
13	County Line Rd Off-ramp to Up Grade End	Basic	25	C	19	B	33	D	28	C
14	Up Grade End to County Line Rd On-ramp	Basic	21	C	19	B	23	C	26	C
15	County Line Rd On-ramp	Merge	18	B	14	B	22	C	25	C

Notes: 1. Density is reported vehicles per lane per mile. Bold and underline font indicate LOS E or F conditions.
 2. Estimated average grade for the analysis segment
 3. Since the location has a lane drop at the off-ramp, the location is a basic segment according to the HCM.
 4. Bold font indicates unacceptable LOS E or F conditions.

Source: Fehr & Peers, 2018.

Figure 3. 2045 Freeway Operations