

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

Resolution TCEP-P-2021-07B

(will be completed by CTC)

1. FUNDING PROGRAM

- Active Transportation Program
- Local Partnership Program (Competitive)
- Solutions for Congested Corridors Program
- State Highway Operation and Protection Program
- Trade Corridor Enhancement Program

2. PARTIES AND DATE

- 2.1 This Project Baseline Agreement (Agreement) for the , I-580/International Pkwy/Patterson Rd Interchange project effective on, June 24, 2021 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, City of Tracy , and the Implementing Agency, City of Tracy , sometimes collectively referred to as the "Parties".

3. RECITAL

- 3.2 Whereas at its December 3, 2020 meeting the Commission approved the Trade Corridor Enhancement Program, and included in this program of projects the , the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.
- 3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

- 4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.
- 4.2 To adhere, as applicable, to the provisions of the Commission:
- Resolution *Insert Number* , "Adoption of Program of Projects for the Active Transportation Program", dated
 - Resolution *Insert Number* , "Adoption of Program of Projects for the Local Partnership Program", dated
 - Resolution *Insert Number* , "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
 - Resolution *Insert Number* , "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated
 - Resolution G-20-77, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated December 3, 2020

- 4.3 All signatories agree to adhere to the Commission's Trade Corridor Enhancement Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.
- 4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.
- 4.5 The City of Tracy agrees to secure funds for any additional costs of the project.
- 4.6 The City of Tracy agrees to report to Caltrans on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.
- 4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.
- 4.8 The City of Tracy agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost

See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope

See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Other Project Specific Provisions and Conditions

In the event of a cost overrun, the State will cover a share proportionate to the State contribution of the TCEP funding identified in the Project Programming Request (PPR) attached to this baseline agreement. (For example, if the state/regional TCEP funding share was a 40/60 ratio, the State may fund no more than 40% of the cost overrun.)


Attachments:

Exhibit A: Project Programming Request Form

Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Resolution TCEP-P-2021-07B

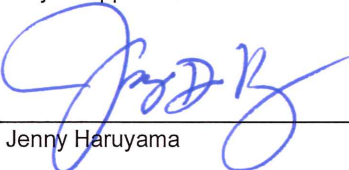


Jenny Haruyama
City Manager

4/6/21

Date

Project Applicant

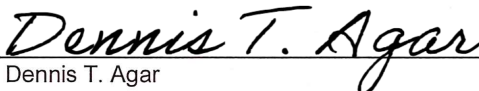


Jenny Haruyama
City Manager

4/6/21

Date

Implementing Agency



Dennis T. Agar
District Director
California Department of Transportation

04/19/21

Date

Toks Omishakin
Director
California Department of Transportation

Date

Mitchell Weiss
Executive Director
California Transportation Commission

Date

Amendment (Existing Project) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Date	01/20/2021 14:36:58	
Programs		<input type="checkbox"/> LPP-C	<input type="checkbox"/> LPP-F	<input type="checkbox"/> SCCP	<input checked="" type="checkbox"/> TCEP	<input type="checkbox"/> STIP	<input type="checkbox"/> Other
District	EA	Project ID	PPNO	Nominating Agency			
10	1E220	1015000011	3416	City of Tracy			
County	Route	PM Back	PM Ahead	Co-Nominating Agency			
San Joaquin	580	12.600	14.300	Caltrans HQ, Caltrans District 10			
				MPO	Element		
				SJCOG	Capital Outlay		
Project Manager/Contact			Phone	Email Address			
SINARATH PHENG			209-948-7829	SINARATH.PHENG@DOT.CA.GOV			

Project Title

I-580/International Pkwy/Patterson Pass Rd Interchange

Location (Project Limits), Description (Scope of Work)

The Project is located in the City of Tracy at the I-580 and International Parkway/Patterson Pass Road interchange. Due to increased commercial truck and traffic demand from existing fulfillment and distribution center growth and planned future development in San Joaquin County, the Project proposes to modify the interchange from the existing compact diamond (Type L-1) to a Diverging Diamond Interchange (DDI). The Project reduces congestion, increases truck throughput, and eliminates a bottleneck for trucks accessing I-580, a key freight highway. The Project will improve interregional goods movement for trucks traveling between the Port of Oakland, Bay Area, local warehouses, Southern California, and out-of-state.

Component	Implementing Agency
PA&ED	City of Tracy
PS&E	City of Tracy
Right of Way	City of Tracy
Construction	City of Tracy

Legislative Districts

Assembly:	13	Senate:	5	Congressional:	10
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Project Milestone	Existing	Proposed
Project Study Report Approved	06/30/2015	
Begin Environmental (PA&ED) Phase		06/13/2017
Circulate Draft Environmental Document	Document Type (ND/MND)/CE	07/01/2020
Draft Project Report		06/23/2020
End Environmental Phase (PA&ED Milestone)		02/26/2021
Begin Design (PS&E) Phase		07/01/2020
End Design Phase (Ready to List for Advertisement Milestone)		02/01/2022
Begin Right of Way Phase		07/01/2020
End Right of Way Phase (Right of Way Certification Milestone)		01/01/2022
Begin Construction Phase (Contract Award Milestone)		06/30/2022
End Construction Phase (Construction Contract Acceptance Milestone)		12/31/2023
Begin Closeout Phase		01/01/2024
End Closeout Phase (Closeout Report)		10/01/2026

Date 01/20/2021 14:36:58

Purpose and Need

PURPOSE: The purpose of this project is to reduce congestion resulting from ongoing and planned development of the Cordes Ranch Specific Plan and to improve local circulation.

NEED: This project is needed to accommodate the increase in traffic demand projected as part of the planned development in the Cordes Ranch Specific Plan Area and nearby areas in Tracy, and to discourage highway traffic from using local roadways, thereby improving local circulation.

NHS Improvements YES NO Roadway Class 1 Reversible Lane Analysis YES NO
 Inc. Sustainable Communities Strategy Goals YES NO Reduce Greenhouse Gas Emissions YES NO

Project Outputs

Category	Outputs	Unit	Total
Operational Improvement	Interchange modifications	EA	1
Bridge / Tunnel	Modified / Improved interchanges	SQFT	18,680
TMS (Traffic Management Systems)	Communications (fiber optics)	Miles	0.56
Active Transportation	Pedestrian/Bicycle facilities miles constructed	Miles	1.4
Operational Improvement	Intersection / Signal improvements	EA	2

Additional Information

Performance Indicators and Measures						
Measure	Required For	Indicator/Measure	Unit	Build	Future No Build	Change
Congestion Reduction	TCEP	Daily Vehicle Hours of Travel Time Reduction	Hours	4,648	12,025	-7,377
	TCEP	Daily Truck Trips	# of Trips	5,425	5,425	0
	TCEP	Daily Truck Miles Traveled	Miles	877,729	877,729	0
Throughput	TCEP	Change in Truck Volume That Can Be Accommodated	# of Trucks	1,551,550	748,112	803,438
	TCEP	Change in Rail Volume That Can Be Accommodated	# of Trailers	0	0	0
			# of Containers	0	0	0
	TCEP	Change in Cargo Volume That Can Be Accommodated	# of Tons	0	0	0
# of Containers			0	0	0	
System Reliability	TCEP	Truck Travel Time Reliability Index	Index	0.33	0	0.33
	TCEP	Daily Vehicle Hours of Travel Time Reduction	Hours	4,648	12,025	-7,377
Velocity	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
	Optional	Average Peak Period Weekday Speed for Road Facility	Miles per Hour	19	6	13
Air Quality & GHG	LPPF, LPPC, SCCP, TCEP	Particulate Matter	PM 2.5 Tons	2.31	4.21	-1.9
			PM 10 Tons	2.47	4.51	-2.04
	LPPF, LPPC, SCCP, TCEP	Carbon Dioxide (CO2)	Tons	249,304	370,747	-121,443
	LPPF, LPPC, SCCP, TCEP	Volatile Organic Compounds (VOC)	Tons	72.9	104.9	-32
	LPPF, LPPC, SCCP, TCEP	Sulphur Dioxides (SOx)	Tons	2.45	3.6	-1.15
	LPPF, LPPC, SCCP, TCEP	Carbon Monoxide (CO)	Tons	985	1,175	-190
LPPF, LPPC, SCCP, TCEP	Nitrogen Oxides (NOx)	Tons	227	497.6	-270.6	
Safety	LPPF, LPPC, SCCP, TCEP	Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries	Number	0	0	0
	LPPF, LPPC, SCCP, TCEP	Number of Fatalities	Number	0	0	0
	LPPF, LPPC, SCCP, TCEP	Fatalities per 100 Million VMT	Number	0	0	0
	LPPF, LPPC, SCCP, TCEP	Number of Serious Injuries	Number	2.79	6.21	-3.42
	LPPF, LPPC, SCCP, TCEP	Number of Serious Injuries per 100 Million VMT	Number	0.608	1.35	-0.742
Economic Development	LPPF, LPPC, SCCP, TCEP	Jobs Created (Direct and Indirect)	Number	271	0	271
Cost Effectiveness	LPPF, LPPC, SCCP, TCEP	Cost Benefit Ratio	Ratio	8.75	0	8.75

District	County	Route	EA	Project ID	PPNO
10			1E220	1015000011	3416

Project Title
 I-580/International Pkwy/Patterson Pass Rd Interchange

Existing Total Project Cost (\$1,000s)									Implementing Agency
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	
E&P (PA&ED)									City of Tracy
PS&E									City of Tracy
R/W SUP (CT)									City of Tracy
CON SUP (CT)									City of Tracy
R/W									City of Tracy
CON									City of Tracy
TOTAL									

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	
E&P (PA&ED)	1,340							1,340	
PS&E	1,000							1,000	
R/W SUP (CT)									
CON SUP (CT)									
R/W		2,692						2,692	
CON			44,151					44,151	
TOTAL	2,340	2,692	44,151					49,183	

Fund #1:	Local Funds - City Funds (Committed)								Program Code
Existing Funding (\$1,000s)									Funding Agency
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	
E&P (PA&ED)									City of Tracy
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Proposed Funding (\$1,000s)									Notes
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	
E&P (PA&ED)	1,340							1,340	City TIMF
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W		455						455	
CON			12,011					12,011	
TOTAL	1,340	455	12,011					13,806	

Fund #2:	Local Funds - City Funds (Committed)								Program Code
Existing Funding (\$1,000s)									
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	Funding Agency
E&P (PA&ED)									City of Tracy
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									City RTIF
PS&E	1,000							1,000	
R/W SUP (CT)									
CON SUP (CT)									
R/W		1,421						1,421	
CON			5,531					5,531	
TOTAL	1,000	1,421	5,531					7,952	
Fund #3:	Local Funds - SJ County Measure K (Committed)								Program Code
Existing Funding (\$1,000s)									
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	Funding Agency
E&P (PA&ED)									San Joaquin Council of Governments
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W		816						816	
CON			1,725					1,725	
TOTAL		816	1,725					2,541	

Fund #4:	State SB1 TCEP - Trade Corridors Enhancement Account (Uncommitted)								Program Code
Existing Funding (\$1,000s)									
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									
E&P (PA&ED)									Regional Share
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			18,531					18,531	
TOTAL			18,531					18,531	
Proposed Funding (\$1,000s)									
E&P (PA&ED)									State Share
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			6,353					6,353	
TOTAL			6,353					6,353	

Fund #5:	State SB1 TCEP - Trade Corridors Enhancement Account (Uncommitted)								Program Code
Existing Funding (\$1,000s)									
Component	Prior	20-21	21-22	22-23	23-24	24-25	25-26+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding (\$1,000s)									
E&P (PA&ED)									State Share
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			6,353					6,353	
TOTAL			6,353					6,353	

Project Report For Project Approval

On Route Interstate 580

Between 0.9 miles west of the I-580/International Parkway
Interchange

And 0.8 miles east of the I-580/International Parkway
Interchange

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:



HUMBERTO ALMAGUER, ACTING DISTRICT DIVISION CHIEF, RIGHT OF WAY

APPROVAL RECOMMENDED:



SINARATH PHENG, CALTRANS PROJECT MANAGER

PROJECT APPROVED:



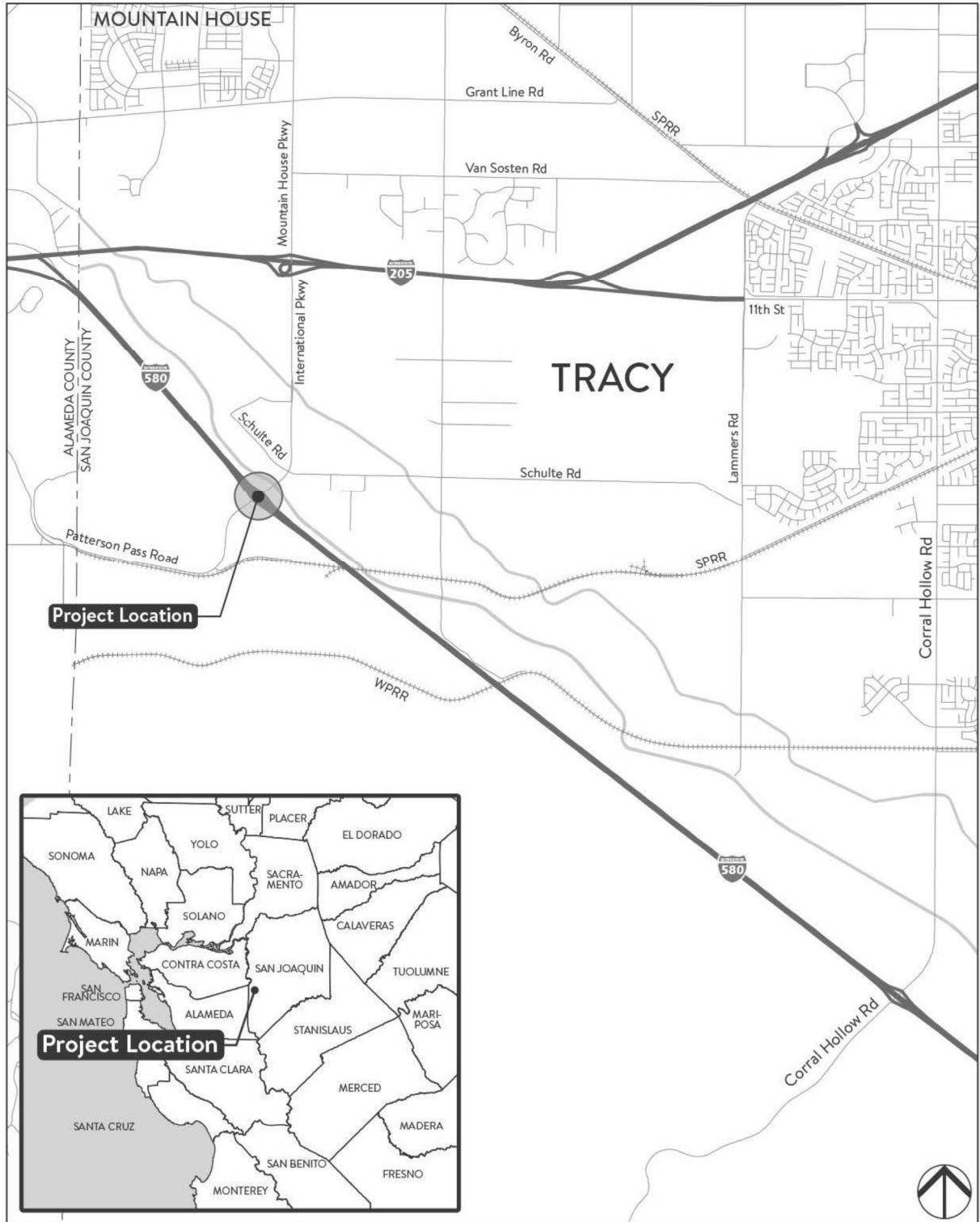
FOR

DENNIS T. AGAR, DISTRICT 10 DIRECTOR

03/04/2021

DATE

Vicinity Map



This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.



REGISTERED CIVIL ENGINEER

2/25/2021

DATE



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1. INTRODUCTION

Project Description:

The California Department of Transportation (Caltrans), in cooperation with the City of Tracy (City), proposes to improve the existing compact diamond (Type L-1) interchange at Interstate (I-) 580 and International Parkway/Patterson Pass Road (hereafter I-580/International Parkway Interchange) between post miles 12.6 and 14.3. Increased traffic demand due to existing commercial growth and planned future development in San Joaquin County is creating the need to improve the interchange. The project proposes to modify the existing interchange into a Diverging Diamond Interchange (DDI).

One build alternative and the no-build alternative were considered with the build alternative selected by the Project Development Team (PDT) as the recommended preferred alternative. The recommended preferred alternative estimated total escalated capital cost (including support, construction and right-of-way) is \$49.183 million.

Project Limits	10-SJ-580 PM 12.6/14.3	
Number of Alternatives	One Alternative plus No Build	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	\$7.540 million	\$8.073 million
Capital Outlay Construction	\$33.970 million	\$38.639 million
Capital Outlay Right-of-Way	\$2.245 million	\$2.471 million
Funding Source	<i>Local RTIF, TIMF, Measure K State SB 1 TCEP</i>	
Funding Year	2021/2022	
Type of Facility	4-Lane Freeway	
Number of Structures	1	
Environmental Determination or Document	Initial Study/Categorical Exclusion (IS/CE)	
Legal Description	In Unincorporated San Joaquin County, on Interstate 580 at the International Parkway/Patterson Pass Road Interchange.	
Project Development Category	3	

RTIF - Regional Transportation Impact Fee

TIMF - Traffic Impact Fee

SB 1 TCEP - Senate Bill 1 Trade Corridor Enhancement Program

2. RECOMMENDATION

It is recommended that this project report be approved with the recommended preferred alternative and that the project proceed to the design phase. The affected local agencies have been consulted with respect to the recommended plan, their views have been considered, and the local agencies are in general accord with the plan as presented.

It is recommended that the features of the Cooperative Agreement for the design phase be approved and the Cooperative Agreement be negotiated between the City of Tracy and Caltrans.

3. BACKGROUND

Mountain House Parkway is a north-south arterial running from Byron Road in Mountain House to the eastbound (EB) I-205 ramp intersection, where it becomes International Parkway. North of I-205, Mountain House Parkway is a median-separated four-lane roadway with a posted speed limit of 45 miles per hour (mph), where it serves primarily residential and agricultural uses. From the EB I-205 ramp intersection to Berkeley Road, International Parkway narrows to one lane in each direction with a 45 mph speed limit with limited adjacent land uses. From South of Berkeley Road to Schulte Road, International Parkway widens to two southbound lanes and one northbound lane adjacent to large-scale light-industrial uses, eventually widening to two lanes in each direction at its intersection with Schulte Road. South of Schulte Road, after passing California Aqueduct Overcrossing (Br No. 29C0083), International Parkway narrows to one lane in each direction at the intersection of I-580 and becomes Patterson Pass Road south of I-580. International Parkway is planned to be widened to four lanes (two in each direction) as part of the Cordes Ranch Specific Plan. Within the project area, Patterson Pass Road-International Parkway is a two-lane road with 12 foot (ft.) lanes, 4 ft. outside shoulders and no median or sidewalks.

I-580 is a major west-east freeway that connects the San Francisco Bay Area to the Central Valley. I-580 between I-680 in Dublin and the junction at I-5 is designated as a route on the Rural and Single Interstate Routing System. In the project vicinity I-580 essentially travels in a north-south direction. It originates in Marin County and runs through Alameda County to San Joaquin County, eventually terminating at its intersection with I-5 southeast of Tracy. The existing I-580/I-205 freeway-to-freeway interchange is 2.15 miles to the west of the I-580/Patterson Pass Road-International Parkway interchange, which is less than the standard 3 mile spacing required between a local interchange and a freeway-to-freeway interchange, and the I-580/Corral Hollow Road interchange is 5.4 miles to the east. West of I-205, I-580 provides four mixed-flow lanes in each direction with a posted speed limit of 70 mph. Between I-205 and I-5, I-580 provides two mixed-flow lanes in each direction with a posted speed limit of 70 mph. Through the project area, I-580 is a four-lane freeway with 12 ft. lanes, 10 ft. outside shoulders, 5 ft. inside shoulders, and a median width of approximately 74 ft.

The freeway to freeway (I-580/I-205) interchange provides connectors between I-205 westbound (WB) and I-580 WB, and between I-580 EB and I-205 EB. Ramps at Mountain House Parkway/Patterson Pass Road provide the nearest access to the future developments adjacent to I-580.

The existing interchange of I-580/International Parkway is a tight diamond interchange with a two-lane road overcrossing. The ramps are one-lane in all directions; the off-ramps are currently controlled by signals. The topography through the interchange area has an approximate elevation of 265 ft. at the westerly and easterly limits with a low point along I-580 just east of the existing overcrossing at an approximate elevation of 255 ft. Existing underground drainage systems, cross culverts and roadside ditches convey surface runoff generally to the low point along I-580 and then discharges to the north to the California Aqueduct. The existing I-580 mainline and interchange ramps are within existing Caltrans right-of-way with existing access control along International Parkway extending just beyond the existing ramp intersections. The Caltrans right-of-way width along I-580 is typically 250 ft. either side of the interchange area. The interchange was originally built in 1967 and upgraded in 1981 to its current configuration and the existing pavement along the ramps and International Parkway is in good condition and does not require rehabilitation or upgrading.

The existing Patterson Pass Road Overcrossing (OC) (Br No. 290024) is a four span bridge (238 ft. long and 34 ft. wide) with two standard 12 ft. lanes and nonstandard 4 ft. outside shoulders. The structure of the bridge is cast-in-place reinforced concrete box girder with 16.7 feet of vertical clearance over the I-580 freeway.

The Project Sponsor, the City of Tracy, has been actively involved in the development of the purpose and need of the project through their participation in PDT meetings and their overall coordination of the project development process. The Draft Environmental Document was approved for public circulation on June 10, 2020, and the Draft Project Report was approved on June 23, 2020. Community outreach took place during circulation of the Draft Environmental Document in July 2020. A public hearing was offered but there was no request for one.

A Project Study Report – Project Development Support (PSR-PDS) project initiation document was approved by Caltrans in June 2015.

4. PURPOSE AND NEED

Purpose:

The purpose of this project is to reduce congestion resulting from ongoing and planned development of the Cordes Ranch Specific Plan and to improve local circulation.

Need:

This project is needed to accommodate the increase in traffic demand projected as part of the planned development in the Cordes Ranch Specific Plan Area and nearby areas in Tracy, and to discourage highway traffic from using local roadways, thereby improving local circulation.

4A. Problem, Deficiencies, Justification

Operational Deficiencies: The Cordes Ranch Specific Plan area contains 1,780.5 acres. Designated land uses within the specific plan area include General Commercial, General Office, and Business Park, as well as more than 90 acres of parks and open space. The Cordes Ranch Specific Plan Environmental Impact Report (EIR) concluded that traffic resulting from the specific plan development will cause a significant impact on the intersections of International Parkway and the on- and off-ramps of I-580. The EIR identified mitigation measures in the form of arterial and interchange improvements to reduce potential impacts to a less-than-significant level. The interchange improvements will be implemented to support compliance with the EIR mitigation measures.

Under existing conditions, the I-580/International Parkway Interchange serves a combination of traffic to and from the Cordes Ranch Specific Plan Area (located north of I-580) and regional traffic from Schulte Road in the City of Tracy. In addition, because of congestion on I-580, I-205, and the Altamont Pass to and from the San Francisco Bay Area, a significant amount of commuter traffic uses the I-580/International Parkway Interchange and Patterson Pass Road to bypass Altamont Pass during the morning peak period (5AM to 9AM) and during the evening peak period (3 PM to 7 PM). This results in congestion and delays at the existing side street intersections during both morning and evening peak hours. Currently, three of the four intersections examined operate at an unacceptable level of service (LOS): 1) International Parkway/Schulte Road, 2) International Parkway/I-580 WB ramps during the morning peak hours, and 3) Patterson Pass Road/Frontage Road during the evening peak hours. All freeway segments operate at acceptable LOS. Attachment J provides traffic analysis results for interchange congestion and delay.

Interchange Configuration: The existing interchange is a type diamond (Type L-1) configuration with only two lanes on the existing Patterson Pass Road OC. The existing interchange has operational deficiencies including unacceptable intersection LOS for current and future traffic conditions. Improving the existing interchange configuration by reconfiguring and widening ramps and the OC will not address all the operational deficiencies.

Pedestrian and Bicycle Traffic Needs: The existing interchange does not provide pedestrian and bicycle facilities on the existing Patterson Pass Road OC and approaches. The interchange will be reconfigured to provide a 15 ft wide multi-use (bicycle and pedestrian) path in the middle of the OC, and 6 ft wide Class II Bike Lanes are also provided through the interchange.

Ramp Metering: The existing EB and WB on-ramps are not metered. The recommended preferred alternative will provide ramp metering facilities and provide High-Occupancy Vehicle (HOV) preferential lanes on the reconfigured and widened EB and WB diagonal on-ramps.

4B. Regional and System Planning

Systems

System Planning for I-580 is described in the following State Planning Documents: Caltrans District 10, District System Management Plan (DSMP) (2014), and the Caltrans District 10 Transportation Concept Report (TCR) (2014). I-580 is identified as “High Emphasis Route” on the Interregional Road System (IRRS) and designated as part of the National Highway System, the National Truck Network by the Surface Transportation Assistance Act (STAA) and the Strategic Highway Network (STRAHNET). As part of the future operational concept facility, all the on-ramps on I-580 should be metered.

State Planning

A TCR for I-580 in District 10 was approved in June 2014. Within San Joaquin County, the existing facility is a four-lane freeway. The concept facility is an eight-lane freeway with HOV lanes. The proposed interchange improvements are compatible with the TCR and do not preclude I-580 to be widened from a four-lane freeway to ultimate planned eight-lane freeway in the future.

Regional Planning

The I-580/International Parkway Interchange is listed in the San Joaquin Council of Governments (SJCOG) 2018 Regional Transportation Plan (RTP). The plan identification number is SJ14-2002.

According to 2017 Countywide Comprehensive Transportation Plans, Contra Costa Transportation Authority and Caltrans are working on the Innovate 680 Study, which includes a package of multi-modal strategies for improving car and bus operations along the I-680 corridor from the Benicia-Martinez Bridge to I-580 west of the City of Tracy in San Joaquin County. The interchange improvements proposed by this project are not captured within the 2017 Countywide Comprehensive Transportation; however both projects have the same intent of improving regional traffic circulation.

Local Planning

In the City of Tracy General Plan (2011) and the City of Tracy Transportation Master Plan (TMP) (2012), Patterson Pass Road is identified as four-lane County Road and Mountain House Parkway between I-580 and Schulte Road is identified as a four-lane expressway in the project area. Both documents identify Mountain House Parkway needing to be improved to meet Expressway Standards as shown on TMP Chapter 4 and also for build out of their communities.

4C. Traffic

Design Designations

10-SJ-580 PM 12.6/14.3

	Year	Annual ADT	Peak Hour
Base Year:	2017	37,900	3979
Construction Year:	2022	48,300	5020
Design Year:	2042	88,700	8875

Directional Split (%):	79% EB 21% WB
Trucks (%):	18.3% (2013 AADT)
20 Year Traffic Index (TI):	15.0
40 Year TI:	16.5

The overall approach to developing the traffic forecasts used the Cordes Ranch Specific Plan Final Environmental Impact Report (FEIR) and started with the recognition that regional-scale travel demand models do not contain sufficient detail or sensitivity for local applications such as developing freeway mainline, onramp, off-ramp, ramp terminal intersection, and local intersection volume forecasts for the Traffic Operations Analysis Report (TOAR). Instead, the regional model provided a starting point for developing a more detailed sub-area or corridor models for I-205, Mountain House Parkway, Patterson Pass Road, and I-580. The Travel Demand Forecasting used the current RTP / Air Quality Model, Build-out of the City of Tracy and San Joaquin County General Plans, and included the RTP /Sustainable Communities Strategy Project List for:

- Mainline Highway Improvements (Table 6-1 from SJCOG RTP);
- Interchange Improvements (Table 6-1 from SJCOG RTP); and
- Regional Roadway Improvements (Table 6-3 from SJCOG RTP).

In addition, land use information for the major development projects in the City of Tracy (Cordes Ranch Specific Plan), and San Joaquin County (Mountain House Specific Plan) were verified and adjusted to match project specific EIR trip generation. This information was used to develop the 2035 build-out traffic forecasts.

In order to develop Design Year 2042 AM and PM Peak Hour Demand Volumes, the Caltrans Freeway & Highway Operations Branch provided growth factors to expand the forecasts from 2035 to 2042. The Final TOAR was approved on July 31, 2019.

The following tables summarizes the freeway operations at Design Year 2042 for the No-Build alternative and the recommended preferred alternative showing no degradation of operations.

Freeway Operations – Design Year 2042 No-Build Alternative

Location	Type	AM Peak Hour			PM Peak Hour		
		Volume	Density	LOS	Volume	Density	LOS
<i>I-580 Westbound</i>							
Corral Hollow Rd to International Parkway	Basic	7,325	-	F	1,825	15.2	B
International Parkway Diagonal Off Ramp	Diverge	2,275	76.3	F	725	21.2	C
International Parkway Off to On Ramp	Basic	5,050	83.9	F	1,100	9.1	A
International Parkway Diagonal On Ramp	Merge	1,465	60.3	F	570	17.5	B
International Parkway to I-205	Basic	6,515	-	F	1,670	13.9	B
<i>I-580 Eastbound</i>							
I-205 to Patterson Pass Rd	Basic	1,690	14.0	B	5,335	110.6	F
Patterson Pass Rd Diagonal Off Ramp	Diverge	625	19.5	B	505	56.0	F
Patterson Pass Rd Off to On Ramp	Basic	1,065	8.8	A	4,830	70.3	F
Patterson Pass Rd Diagonal On Ramp	Merge	470	16.2	B	2,220	64.4	F
Patterson Pass Rd to Corral Hollow Rd	Basic	1,535	12.8	B	7,050	-	F

Note: The mainline volume is listed for Basic segments, and the ramp volume is listed for Merge and Diverge segments. Analysis results are from HCS 2010.

Source: Approved TOAR prepared by F&P

Freeway Operations – Design Year 2042 With DDI Project Alternative

Location	Type	AM Peak Hour			PM Peak Hour		
		Volume	Density	LOS	Volume	Density	LOS
<i>I-580 Westbound</i>							
Corral Hollow Rd to International Parkway	Basic	7,325	-	F	1,825	15.2	B
International Parkway Diagonal Off Ramp	Diverge	2,275	62.8	F	725	7.8	A
International Parkway Off to On Ramp	Basic	5,050	83.9	F	1,100	9.1	A
International Parkway Diagonal On Ramp	Merge	1,465	60.3	F	570	17.5	B
International Parkway to I-205	Basic	6,515	-	F	1,670	13.9	B
<i>I-580 Eastbound</i>							
I-205 to Patterson Pass Rd	Basic	1,690	14.0	B	5,335	110.6	F
Patterson Pass Rd Diagonal Off Ramp	Diverge	625	19.5	B	505	56.0	F
Patterson Pass Rd Off to On Ramp	Basic	1,065	8.8	A	4,830	70.3	F
Patterson Pass Rd Diagonal On Ramp	Merge	470	16.2	B	2,220	64.4	F
Patterson Pass Rd to Corral Hollow Rd	Basic	1,535	12.8	B	7,050	-	F

Note: The mainline volume is listed for Basic segments, and the ramp volume is listed for Merge and Diverge segments. Analysis results are from HCS 2010.

Source: Approved TOAR prepared by F&P

The following tables summarizes the ramp/local street intersection operations at Design Year 2042 for the No-Build alternative and the recommended preferred alternative.

Intersection Demand Volume Operations – Design Year 2042 No-Build Alternative											
Intersection (Control)	Move-ment	AM Peak Hour					PM Peak Hour				
		Volume			LOS	Delay	Volume			LOS	Delay
		Demand	Served	Percent			Demand	Served	Percent		
International Parkway/ I-580 WB Ramps (Signal)	WBL	1,190	526	44%	F	146.8	205	128	62%	F	467.2
	WBR	1,085	485	45%	D	35.5	520	335	64%	F	80.8
	NBL	105	74	70%	F	84.2	105	37	35%	C	20.7
	NBT	520	247	48%	E	71.1	1,295	606	47%	C	20.3
	SBT	880	348	40%	F	313.2	1,345	574	43%	F	186.8
	SBR	1,360	574	42%	E	61.8	465	202	43%	C	24.4
	Overall	5,140	2,254	44%	F	119.6	3,935	1,882	48%	F	117.5
Patterson Pass Rd/I-580 EB Ramps (Signal)	EBL	520	211	41%	F	341.0	300	200	67%	F	350.1
	EBR	105	43	41%	F	242.4	205	143	70%	F	222.9
	NBT	105	112	107%	F	94.7	1,100	441	40%	D	53.4
	NBR	105	108	103%	D	40.1	875	361	41%	D	37.3
	SBL	365	136	37%	B	18.9	1,345	568	42%	C	33.0
	SBT	1,705	739	43%	C	25.1	205	151	74%	E	68.4
	Overall	2,905	1,349	46%	F	91.5	4,030	1,864	46%	F	93.7

Note: LOS / average delay in seconds per vehicle and (volume and percent served) is reported from an average of 12 runs from SimTraffic 10.

Source: Approved TOAR prepared by F&P

Intersection Demand Volume Operations – Design Year 2042 With DDI Project Alternative											
Intersection (Control)	Move-ment	AM Peak Hour					PM Peak Hour				
		Volume			LOS	Delay	Volume			LOS	Delay
		Demand	Served	Percent			Demand	Served	Percent		
International Parkway / I-580 WB Ramps (Signal)	WBL	1,190	1,183	99%	C	31.2	205	198	97%	B	19.3
	WBR	1,085	1,093	101%	C	27.7	520	522	100%	B	14.4
	NBL	105	75	71%	B	11.7	105	75	71%	D	40.1
	NBT	520	557	107%	D	35.3	1,295	1,065	82%	E	75.1
	SBT	880	704	80%	C	31.1	1,345	1,298	97%	D	36.0
	SBR	1,360	1,087	80%	C	21.9	465	454	98%	C	24.5
	Overall	5,140	4,699	91%	C	28.4	3,935	3,618	92%	D	42.1
Patterson Pass Rd/I-580 EB Ramps (Signal)	EBL	520	525	101%	C	25.4	300	301	100%	F	86.3
	EBR	105	99	94%	C	21.3	205	202	99%	A	8.8
	NBT	105	106	101%	C	32.6	1,100	842	77%	F	232.9
	NBR	105	110	105%	A	3.1	875	640	73%	E	56.0
	SBL	365	291	80%	A	5.3	1,345	1,263	94%	A	6.9
	SBT	1,705	1,595	94%	A	8.7	205	233	114%	B	16.0
	Overall	2,905	2,732	94%	B	12.7	4,030	3,483	86%	E	78.2

Note: LOS / average delay in seconds per vehicle and (volume and percent served) is reported from an average of 12 runs from SimTraffic 10.

Source: Approved TOAR prepared by F&P

The following tables summarizes the demand volume 95th percentile queue lengths in the interchange area at Design Year 2042 for the No-Build alternative and the recommended preferred alternative.

Demand Volume 95th Percentile Queue Length – Design Year 2042 No-Build Alternative				
Intersection	Lane	Storage	AM Peak Hour	PM Peak Hour
International Parkway/ I-580 WB Ramps	WB LT/TH	998	<u>1,179</u>	<u>1,223</u>
	WB RT	500	<u>768</u>	<u>856</u>
	NB LT/TH	379	<u>426</u>	283
	SB TH	1,092	<u>1,125</u>	<u>1,136</u>
	SB RT	1,092	<u>1,173</u>	<u>1,411</u>
Patterson Pass Rd/ I-580 EB Ramps	EB LT/TH	1,068	<u>1,151</u>	<u>1,305</u>
	EB RT	200	<u>394</u>	<u>465</u>
	NB TH	293	<u>378</u>	<u>345</u>
	NB RT	50	<u>184</u>	<u>181</u>
	SB LT/TH	379	<u>464</u>	<u>409</u>

Note: 95th percentile queue length in feet is reported from an average of 12 runs from SimTraffic 10. Bold and underline font indicate a queue length that exceeds the storage length.

Source: Approved TOAR prepared by F&P

Demand Volume 95 th Percentile Queue Length – Design Year 2042 With DDI Project Alternative				
Intersection	Lane	Storage	AM Peak Hour	PM Peak Hour
International Parkway/ I-580 WB Ramps	WB LT	548	414	83
	WB LT	1,176	449	238
	WB RT	1,176	767	295
	WB RT	548	<u>713</u>	203
	NB LT	155	139	130
	NB TH	422	<u>549</u>	<u>511</u>
	NB TH	422	<u>633</u>	<u>538</u>
	SB TH	1,029	614	582
	SB TH/RT	1,029	730	653
	SB RT	125	<u>251</u>	<u>311</u>
Patterson Pass Rd/ I-580 EB Ramps	EB LT	538	454	453
	EB LT	1,217	703	544
	EB RT	523	174	137
	NB TH	478	154	<u>624</u>
	NB TH	478	150	<u>591</u>
	NB RT	478	209	<u>733</u>
	SB LT	341	69	27
	SB TH	423	303	133
	SB TH	423	168	148

Note: 95th percentile queue length in feet is reported from an average of 12 runs from SimTraffic 10. Bold and underline font indicate a queue length that exceeds the storage length

Source: Approved TOAR prepared by F&P

Collision Analysis

The following table provides collision and collision rate data on I-580, the interchange ramps at Patterson Pass Road, and the connector ramps at the I-580/I-205 freeway-to-freeway interchange based on the three-year period from January 1, 2017, to December 31, 2019. For each location, these collision rates are compared to average state rates from similar Caltrans facilities (rate groups).

Dates: <i>January 1, 2017 to December 31, 2019</i>		Actual Rates (Collisions / million vehicles)			Average Rates (Collisions / million vehicles)		
Location (Post Miles)	Total Collisions	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
I-580 Main Line							
EB & WB (SJ 12.60/15.31)	73	0.000	0.27	0.65	0.009	0.16	0.47
EB & WB (ALA 0.81/1.0)	48	0.000	0.51	1.52	0.006	0.23	0.70
I-580/I-205 Connector Ramps							
WB I-580 Connector (SJ)	1	0.000	0.00	1.01	0.009	0.16	0.47
EB I-580 Connector (SJ)	1	0.000	0.00	1.24	0.009	0.16	0.47
WB I-580 Connector (ALA)	27	0.000	0.13	0.68	0.009	0.17	0.48
EB I-580 Connector (ALA)	32	0.000	0.41	0.93	0.009	0.16	0.47
WB I-580 Truck By- Pass Connector (ALA)	3	0.000	0.00	2.74	0.013	0.17	0.50
Patterson Pass Road Ramps							
EB On	2	0.000	0.00	0.52	0.017	0.24	0.64
EB Off	0	0.000	0.00	0.00	0.012	0.49	1.35
WB On	4	0.000	0.00	1.16	0.017	0.24	0.64
WB Off	6	0.000	0.54	1.61	0.012	0.49	1.35
Rates in Bold text exceed average rates for similar State facilities							

The total collision rate for mainline EB and WB I-580 is higher than the statewide average in both San Joaquin and Alameda counties. Of the 73 reported collisions on mainline I-580 in San Joaquin County, 34 (47%) were rear end type, 14 (19%) were sideswipe type, 13 (18%) were hit object type, and 10 (14%) were overturn type. The major primary collision factors were listed as 35 (48%) for speeding, 18 (25%) for improper turn, and 13 (18%) for other violation. Of the reported 48 collisions on mainline I-580 in Alameda County, 20 (42%) were sideswipe type, 20 (42%) were rear end type, and 6 (12%) were hit object type. The major collision factors were listed as 19 (40%) for other violation, 17 (35%) for speeding, and 9 (19%) for improper turn. The collisions on EB I-580 are primarily associated with the PM period traffic congestion and the collisions on WB I-205 are primarily associated with the AM period traffic congestion. The I-580 mainline will not be widened by this project.

The I-580/I-205 freeway-to-freeway interchange connector ramps all exceed the statewide average total collision rate and are summarized as follows:

- WB I-580 connector ramp - The 1 reported collision in San Joaquin County was a rear end type with the major primary collision factor listed as speeding. Of the 27 reported collisions in Alameda County, 13 (48%) were rear end type, 10 (37%) were sideswipe type and 3 (11%) were hit object type. The major primary collision factors were listed as 12 (44%) for speeding, 10 (37%) for improper turn, and 5 (19%) for other violation. The WB I-580 connector ramp will not be modified by this project.
- WB I-580 truck by-pass connector ramp – Of the 3 reported collision in Alameda County, 2 (67%) were listed as rear end type, and 1 (33%) listed as hit object type. The major primary collision factors were listed as 2 (67%) for speeding, and 1 (33%) for improper turn. The WB I-580 truck by-pass connector ramp will not be modified by this project.
- EB I-580 connector ramp - The 1 reported collision in San Joaquin County was a hit object type with the major primary collision factor listed as other than driver. Of the 32 reported collisions in Alameda County, 13 (41%) were hit object type, 8 (25%) were rear end type, 6 (19%) were sideswipe type and 5 (15%) were overturn type. The major primary collision factors were listed as 11 (34%) for improper turn, 7 (22%) for speeding, 6 (19%) for other than driver, and 5 (16%) for other violation. The EB I-580 connector ramp will not be modified by this project.

The WB ramps serving Patterson Pass Road exceed the statewide average total collision rate while the EB ramps are lower than the statewide average total collision rate and are summarized as follows:

- EB diagonal on-ramp - Of the 2 reported collisions, 2 (100%) were rear end type with 1 occurring along the on-ramp and 1 occurring along Patterson Pass Road within the ramp intersection area. The major primary collision factors were listed as 1 (50%) for speeding, and 1 (50%) for other violation. This on-ramp will be realigned, lengthened and a HOV bypass lane added with a new signalized intersection with Patterson Pass Road.
- EB diagonal off-ramp - There were no reported collisions. This off-ramp will be realigned and widened at the approach to Patterson Pass Road with a new signalized intersection with Patterson Pass Road.
- WB diagonal on-ramp - Of the 4 reported collisions, 3 (75%) were sideswipe type, and 1 (25%) was hit object type with all 4 occurring along Patterson Pass Road within the ramp intersection area. The major primary collision factors were listed as 2 (50%) for other violation, and 1 (25%) for improper turn. This on-ramp will be realigned, lengthened and a HOV bypass lane added with a new signalized intersection with Patterson Pass Road.
- WB diagonal off-ramp - Of the 6 reported collisions, 4 (66%) were rear end type, 1 (17%) was hit object type, and 1 (17%) was head on type with 4 occurring along the off-ramp within the ramp intersection area at Patterson Pass Road and 2 occurring along the off-ramp. The major primary collision factors were listed as 4 (66%) for speeding, 1 (17%) for improper turn, and 1 (17%) for other violation.

This off-ramp will be realigned and widened at the approach to Patterson Pass Road with a new signalized intersection with Patterson Pass Road.

5. ALTERNATIVES

5A. Recommended Preferred Alternative

Proposed Engineering Features

The project will result in construction of a DDI at I-580 at International Parkway/Patterson Pass Road. This design allows a compact diamond configuration with minor realignments to the existing ramps that will reduce the footprint of the interchange. Geometric plans are provided in Attachment B.

The DDI configuration will divert traffic in both directions to the opposite side of the road while crossing I-580, providing direct left turns to I-580 on-ramps and from I-580 off-ramps. Traffic will be signalized where it crosses to the other side of the road in either direction.

The existing Patterson Pass Road overcrossing will be widened to the east to accommodate three 14 foot northbound lanes, two 14 foot southbound lanes, 6 foot outside and inside shoulders, a 15 foot wide multi-use (bicycle and pedestrian) path in the middle of the overcrossing, and 6 foot wide Class II Bike Lanes are also provided through the interchange.

The EB on-ramp will be realigned to allow for three lanes, including a HOV lane at the entrance ramp. The WB on-ramp will consist of two general purpose lanes and an HOV lane.

The WB off-ramp will be a two-lane exit ramp that will widen to four lanes: two left turn lanes to Patterson Pass Road and two right-turn lanes to International Parkway. The project will also add a 1,500 foot auxiliary lane for the WB off-ramp. The EB off-ramp will remain a single-lane exit ramp that will widen to three lanes: two left-turn lanes and a single right-turn lane to Patterson Pass Road.

The DDI configuration will maintain access to the existing gas station in the southwest quadrant of the interchange. Modification to the EB off-ramp will require realigning the private road to connect to Patterson Pass Road south of the gas station. A new driveway to the gas station is proposed to connect to the private road approximately 500 feet from the intersection of Patterson Pass Road and the EB ramps. Improvements will conform to Patterson Pass Road extending south approximately to the intersection with Via Nicolo Road to provide adequate distance for reducing the number of travel lanes from four lanes through the interchange to the existing two lanes on Patterson Pass Road. Improvements north of I-580 on Patterson Pass Road will conform just south of the existing California Aqueduct Overcrossing.

The existing underground drainage systems and cross culverts in the interchange area will be modified/replaced as needed for the new and modified interchange ramps. Roadside ditches will be reconstructed/added to continue to convey surface runoff generally to the existing low point along I-580 just east of the existing OC and ultimately to the north to the California Aqueduct. The existing Caltrans right-of-way along I-580 at the approaches to the interchange will be maintained while additional right-of-way in the interchange area will be needed for the ramp modifications. The limits of access control will be extended south along Patterson Pass Road and north along International Parkway to accommodate the ramp modifications.

Construction Phasing

The project will not be phased and will be constructed as a single construction contract.

Nonstandard Design Features

Exceptions from the Caltrans Highway Design Manual (HDM) design standards have been identified for the preferred alternative and it was determined there one **bold face** design standard and two underlined design standards required written approval. The Design Standard Decision Document (DSDD) was approved on February 9, 2021. The approved cover sheet for the DSDD is provided in Attachment L. The following table summarizes the approved nonstandard design features for the recommended preferred alternative.

Design Features with Headquarters Approval Authority (Bold Face)			
HDM Section	Description of Design Standard	Minimum Standard	Comments
501.3	Local Interchange Spacing to Freeway-to-Freeway Connectors	3 miles	The existing nonstandard interchange spacing of 2.15 miles is being maintained to avoid excessive cost, environmental impacts, and opposition from the local agency to close adjacent interchanges. The length between the International Parkway interchange and I-580/I-205 interchange to the north is an existing condition with a formally executed freeway agreement.
Design Features with District Delegated Approval Authority (Underlined)			
304.1	Embankment Side Slope	4:1	This nonstandard feature of a 2:1 side slope is to avoid excessive cost to acquire additional right-of-way from an adjacent private property with agriculture land use in the northeast quadrant of the interchange. The existing WB I-580 direct off-ramp proposed to be removed and replaced with the new realigned direct off-ramp has existing nonstandard side slopes steeper than 4:1 in a similar location to the new off-ramp with guard railing systems.

Design Features with District Delegated Approval Authority (Underlined)			
HDM Section	Description of Design Standard	Minimum Standard	Comments
504.8	Access Rights along Interchange Ramps to their Junction with the Nearest Public Road	300 ft (Rural Area)	This nonstandard feature is to maintain nonstandard access control at four locations along Patterson Pass Road/International Parkway to avoid excessive cost to acquire additional right-of-way from adjacent property owners as follows: (a) Location 1: EB Off-Ramp Junction with Patterson Pass Road – Proposed 105 ft (b) Location 2: WB On-Ramp Junction with Patterson Pass Road/International Parkway – Proposed 50 ft (c) Location 3: WB Off-Ramp Junction with Patterson Pass Road/International Parkway – 65 ft (d) Location 4: EB On-Ramp Junction with Patterson Pass Road – Proposed 100 ft

Traffic

The proposed project will improve the existing compact diamond (Type L-1) interchange at I-580/International Parkway to accommodate traffic associated with the Cordes Ranch development. Two build alternatives were considered for the traffic operations analysis: Alternative 1 is an L-9 tight diamond with a loop on-ramp and Alternative 2 is a DDI.

Based on the results of the Design Year 2042 AM and PM Peak Hour freeway mainline, on-ramp merge, offramp diverge, and intersection level of service operations analysis and geometric design review, the following conclusions were determined:

- 1) Based on the results of the traffic operations analysis, the existing I-580 / Patterson Pass Road interchange would not provide sufficient capacity to serve projected Design Year 2042 traffic volumes. Therefore, the No Project (No-Build) Alternative was determined to be unacceptable based on Traffic Operations.
- 2) Based on the results of the Design Year 2042 Traffic Operations Analysis, the With I-580 / Patterson Pass Road Partial Cloverleaf – Tight Diamond Interchange Project provides benefits to I-580, Caltrans off-ramps, and Caltrans on-ramps. Therefore, the Project Alternative 1 was determined to provide sufficient capacity to serve the projected Design Year 2042 AM and PM Peak Hour Demand Volumes.
- 3) Based on the results of the Design Year 2042 Traffic Operations Analysis, the With I-580 / Patterson Pass Road Diverging Diamond Interchange Project provides benefits to I-580, Caltrans off-ramps, and Caltrans on-ramps. Therefore,

the With Project Alternative 2 was determined to provide sufficient capacity to serve the projected Design Year 2042 AM and PM Peak Hour Demand Volumes.

- 4) Based on the results of the Geometric Approval Drawings and eliminating major impacts to the existing Mobil gas station / mini-mart business, the With I-580 / Patterson Pass Road Diverging Diamond Interchange Project provides benefits to I-580, Caltrans off-ramps, and Caltrans on-ramps. Therefore, the With Project Alternative 2 was determined to be the locally preferred design alternative to serve the projected Design Year 2042 AM and PM Peak Hour Demand Volumes.
- 5) The results of the Network Wide Measures of Effectiveness (MOEs) shows that the Diverging Diamond Interchange Project provides an improvement when compared to No Project Conditions Design Year 2042 AM and PM Peak Hour Conditions and meets the purpose and need of the I-580 / Patterson Pass Road Interchange Project.

Traffic analysis results from the approved Traffic Operations Analysis Report are summarized in Section 4C and presented in Attachment J.

Ramp Metering

Ramp metering is included for the interchange on-ramps with HOV preferential lanes. In the letter provided in Attachment J, the City of Tracy has documented that it supports the implementation of ramp metering and accepts that some ramp queues may extend onto the Mountain House/International Parkway dedicated turn lanes during peak hour periods.

CHP Enforcement

CHP enforcement areas will be included for the interchange on-ramps.

Highway Planting

Existing highway planting and irrigation systems that are removed during construction will be replaced in accordance with Caltrans standards. Replacement design will consider safety, maintenance, and general compatibility with aesthetics in the adjacent community. Where Best Management Practice (BMP) features will be established, existing planting may be replaced with new species and filtration devices. Highway planting and irrigation design will be developed further in the Plans, Specifications, and Estimates (PS&E) phase.

5B. Rejected Alternatives

No-Build Alternative

The no-build alternative would leave the project in its existing condition, with no improvements other than routine maintenance and rehabilitation and the currently planned and programmed projects within the area. The no-build alternative does not meet the purpose and need of the project due to poor operational deficiencies for current and future traffic conditions.

Widen Compact Diamond (Type L-1) Interchange

This alternative proposed to improve the existing diamond interchange to accommodate five traffic lanes on International Pkwy/Patterson Pass Rd. The existing bridge would be widened to accommodate the above improvements. The EB on-ramp would be widened to two lanes to accommodate the left turn traffic from Mountain House Parkway. The existing EB off-ramp would be widened to three lanes to accommodate dual left-turn lanes and shared through/right-turn lane. The alternative was rejected due to poor operational performance.

Partial Cloverleaf (Type L-9) Interchange

This alternative proposed to improve the existing diamond interchange to accommodate five traffic lanes on International Pkwy/Patterson Pass Rd. The existing bridge would be widened to accommodate the above improvements. The WB ramps would be widened. The EB on-ramp would be realigned to accommodate construction of a loop on-ramp. The existing EB off-ramp would be widened to three lanes to accommodate dual left-turn lanes and shared through/right-turn lane. The existing EB on-ramp would be realigned. This alternative was rejected because the recommended preferred alternative achieves comparable operational performance with a significantly smaller project footprint, lower cost, and significant reduction of right-of-way acquisition.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

An Initial Environmental Site Assessment (ISA) was performed to determine whether hazardous materials or contamination is present in the project area.

The ISA revealed the following Recognized Environmental Conditions (RECs) in connection with the site or adjoining properties:

- Site groundwater impacted with total petroleum hydrocarbons as gasoline (TPHg) from an adjacent leaking underground storage tank (LUST) site Mobil station is a REC.
- Approximately 14 groundwater monitoring, vapor recovery, and air sparge well vault boxes associated with environmental investigation, monitoring, and remediation at the adjacent Mobil gas station are present along the northwestern and southeastern edges of South Patterson Pass Road. Monitoring wells, vapor recovery wells, and air sparge wells, including below grade vapor recovery piping, that will be impacted by the improvement project must be properly protected in-place or abandoned in accordance with San Joaquin County Environmental Health Department (SJCEHD) requirements prior to construction activities that may impact the wells. Since construction activities are planned on South Patterson Pass Road in areas with known petroleum hydrocarbon impacts to soil, a preliminary site investigation

within the project limits will be conducted as part of the PS&E phase to evaluate and profile potential environmental impairments, soil material management, and possible disposal requirements to be included as supplemental information for contractors during bidding. The requirements for handling, stockpiling, sampling, and testing excavated material prior to reuse or disposal will be included in the project technical specifications.

Prior to construction, the following is recommended:

- Proposed construction activities will require the disturbance of soil at the site that may be impacted with Aerially Deposited Lead, petroleum hydrocarbons, and volatile organic compounds (VOCs). A preliminary site investigation within the project limits consisting of systematic soil sampling for lead and screening level sampling for petroleum hydrocarbons and VOCs will be conducted as part of the PS&E phase to evaluate and profile potential environmental impairments, soil material management, and possible disposal requirements to be included as supplemental information for contractors during bidding. The requirements for handling, stockpiling, sampling, and testing excavated material prior to reuse or disposal will be included in the project technical specifications.
- Although there are no records to indicate a documented release has occurred associated with the Shell Pipeline in the area adjacent to the Caltrans right-of-way, the petroleum pipeline represents a material threat of release for the site and potential limitations with respect to the construction of planned interchange improvements. If construction activities are planned to depths below groundwater, groundwater sampling should be conducted to evaluate potential environmental impairments, and groundwater management and possible disposal requirements.
- The Patterson Pass Overcrossing (OC) is located within the project limits and is proposed for renovation as part of the improvement project. Asbestos-containing materials (ACMs) and lead-containing paint (LCP) may be present at the bridge structure. As part of the preliminary site investigation conducted during the PS&E phase, an asbestos and LCP survey will be undertaken to evaluate the presence of asbestos and lead at the structure to be impacted by the interchange improvement project. The results will be included as supplemental information for contractors during bidding. The requirements for handling, stockpiling, sampling, and testing excavated material prior to reuse or disposal will be included in the project technical specifications.

The results of the site reconnaissance and historical and regulatory file research have not indicated the potential presence of abandoned underground storage tanks (USTs) within the I-580/International Parkway Interchange project limits. Additionally, except for the identified groundwater monitoring, vapor recovery, and air sparge wells in South Patterson Pass Road, no other monitoring or domestic water wells were identified. If encountered, undocumented USTs, septic systems and domestic/agricultural/monitoring/oil production wells should be properly removed or

abandoned in accordance with San Joaquin County and/or Division of Oil, Gas, and Geothermal Resources requirements. If future grading and excavation for construction encounters evidence (visual or olfactory) of petroleum impacts, we recommend that the impacted soil be excavated, sampled and analyzed for reuse onsite or disposed of offsite. Soils should be characterized for reuse or waste disposal by a qualified environmental consultant.

6B. Value Analysis (VA)

A VA study is planned to be performed immediately after initiation of the PS&E phase.

6C. Resource Conservation

The recommended preferred alternative will improve traffic operations and facilitate improved traffic movements within the project area. The reducing congestion and related traffic delay is associated with faster average travel speeds and more efficient vehicle operation as compared to the no-build conditions. Improved operations are likely to reduce vehicle energy use. Caltrans Standard Specifications will be used to incorporate recycled materials into asphalt concrete paving and Portland cement concrete mixes. It is anticipated that this project will have a beneficial, or at a minimum, neutral effect on energy use.

6D. Right-of-Way Issues

A Right-of-Way Data Sheet has been prepared for the recommended preferred alternative and is included in Attachment F.

Right-of-Way Acquisitions

The table below shows the proposed acquisitions for the recommended preferred alternative. Approximately 16.69 acres of right-of-way is required from four private and three publicly owned parcels. Acquisition by parcel is as follows:

Assessor's Parcel Number	Ownership	Acquisition Area (Acres)	Acquisition Type
209-100-04	Private	0.81	Partial
209-100-05	Public	4.30	Partial
209-100-07	Public	1.92	Partial
209-100-28	Private	1.26	Partial
209-100-30	Private	7.37	Partial
209-110-32	Private	0.33	Partial
209-440-15	Public	0.70	Partial
Total		16.69	

Railroad Involvement

There is no railroad involvement in this project.

Utility and Other Owner Involvement

The following have facilities that will require relocation or modifications due to the reconfiguration and realignment of the interchange ramps.

Owner	Facility	Disposition
PG&E (Electric)	12kV overhead electrical lines in four locations.	Relocate.
PG&E (Electric)	Underground electrical line in one location.	Relocate.
AT&T (Communications)	Underground conduit.	Relocate.

At the beginning of the PS&E phase, the noted utility owners will be contacted to initiate the process of facility relocation. The City of Tracy, Caltrans and utility owners will identify necessary agreements, easements, and costs associated with the facility relocations. The utility relocations will be performed prior to the start of the construction contract.

Utility Relocations

Relocation of existing utilities is described in Attachment F – Right of Way Data Sheet. The project proposes to maintain AT&T underground communication conduits in an existing longitudinal encroachment in Caltrans access-controlled right-of-way. An encroachment policy exception is required to maintain the conduits within the access-controlled right-of-way. Utilities will be potholed during the PS&E phase.

6E. Environmental Compliance

Caltrans is the lead agency under both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). An Initial Study/Mitigated Negative Declaration (IS/MND) is the appropriate level of document under CEQA and a Categorical Exclusion (CE) is the appropriate document under NEPA. The attached IS/MND (Attachment E) has been prepared in accordance with Caltrans' environmental procedures, as well as State and federal environmental regulations. The IS/MND was approved on February 25, 2021, and the CE was approved on February 25, 2021.

The improvements to the interchange are a mitigation measure for the Cordes Ranch Specific Plan. Avoidance and minimization measures have been incorporated into the project and are discussed in the IS/MND. The proposed project will not result in an adverse effect on the environment as defined in NEPA.

Under CEQA, impacts on individual resources areas are evaluated. The proposed project will have no effect on land use, environmental justice, coastal zones, wild and scenic rivers, parks and recreational facilities, timberlands, growth, community character and cohesion, natural communities, traffic, population and housing, and minerals. The proposed project will have no significant effect on farmland, relocation and real property, utilities and emergency services, visual resources, cultural resources, hydrology and floodplain, water quality and stormwater, geology and soils,

hazards and hazardous materials, air quality, energy, noise and vibration, wildfire, animal species, and invasive species.

The proposed project will reduce effects on paleontological resources, wetlands and other waters, threatened and endangered species, and plant species to a less-than-significant level with the implementation of the following mitigation measures:

- Write a Paleontological Evaluation Report and Prepare and Implement a Paleontological Mitigation Plan, if needed.
- Compensate for Loss of Wetlands
- Mitigate for Permanent Impacts on Special-Status Plants
- Mitigate and/or Compensate for Impacts on Threatened and Endangered/Animal Species through participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

6F. Air Quality Conformity

Regional Conformity

The proposed project is listed as an Interchange Reconfiguration Project and is exempt from regional analysis (40 CFR 93.127). The proposed project is listed in the 2018 financially constrained RTP, which was found to conform by the SJCOG on June 28, 2018, and Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) made a regional conformity determination finding on December 3, 2018. The project is also included in SJCOG's financially constrained 2018 RTIP and 2019 Federal Transportation Improvement Program (FTIP) adopted on December 14, 2017 and June 28, 2018, respectively. FHWA and FTA approved Amendment #1 to the RTP and Amendment #4 to the 2019 FTIP on May 9, 2019. This amendment revised the project opening year from 2021 to 2022. Amendment #2 to the RTP and Amendment #11 to the 2019 FTIP revised the project opening year from 2022 to 2023. The SJCOG Board approved the amendment on September 26, 2019. As Amendment #2 includes primarily open-to-traffic date updates, without crossing air quality horizon years, the amendment relies on the conformity analysis and determination for Amendment #1. FHWA and FTA approved Amendment #2 to the RTP and Amendment #11 to the 2019 FTIP on November 20, 2019. Amendment #4 to the RTP and Amendment #18 to the 2019 FTIP updated the project costs and funding sources in the FTIP. The SJCOG Board approved the amendment on December 3, 2020. FHWA and FTA approved Amendment #4 to the RTP and Amendment #18 to the 2019 FTIP on January 15, 2021.

Project-Level Conformity

The project is located in San Joaquin Valley Air Basin and is in Nonattainment-Moderate for PM_{2.5}, thus a project-level hot-spot analysis for PM_{2.5} is required under 40 Code of Federal Regulations (CFR) 93.109. The project is not designated as a Transportation Control Measure (TCM) and will not interfere with any TCMs. The project does not cause or contribute to any new localized carbon monoxide (CO), PM_{2.5}, and/or PM₁₀ violations, or delay timely attainment of any National Ambient Air Quality Standards or any required interim emission reductions or other milestones

during the timeframe of the transportation plan (or regional emissions analysis). The project underwent interagency consultation through SJCOG's interagency consultation process. U.S. Environmental Protection Agency (EPA) and FHWA issued concurrence that the project is not a project of air quality concern on May 8, 2018 and May 14, 2018, respectively. A detailed PM10 and PM2.5 hot-spot analysis was not completed because the Federal Clean Air Act and 40 CFR 93.116 requirements are met without an explicit hot-spot analysis. The FHWA issued concurrence on the full project air quality conformity analysis on February 24, 2021.

6G. Title VI Considerations

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, and is on file in the District office.

6H. Noise Abatement Decision Report

The Noise Study Report for this project was prepared by ICF International and approved by the Environmental Engineering Branch Chief in October, 2019. There are no sensitive receptors adjacent to the project area. Traffic noise was modelled for existing and design year conditions. Traffic noise levels are predicted to increase by a maximum of 4 decibels, which is less than the threshold of 12 decibels. Results from the NSR indicated that implementation of the interchange improvements will also not result in noise levels that approach or exceed the applicable Noise Abatement Criteria at any modeled receivers. As such, noise abatement was not considered and a Noise Abatement Decision Report is not required for this project.

6I. Life-Cycle Cost Analysis

A Life Cycle Cost Analysis (LCCA) has been prepared for the pavement structural section. The recommended pavement option based on the lowest LCCA, overall project scope and schedule, best industry practices, and pavement consistency within the project limits is Jointed Plain Concrete Pavement (40-year design life).

6J. Reversible Lanes

This project does not offer a viable opportunity to use reversible lanes as the proposed improvements are on the ramps and local streets.

6K. Stormwater

As detailed in the Storm Water Data Report (SWDR) prepared for the Project Approval and Environmental Document (PA&ED) phase, the Design Pollution Prevention (DPP) strategy for providing storm water treatment for the runoff within State Right-of-Way includes permanent measures to reduce pollution discharges by incorporating detention basins and biofiltration swales. The approved cover sheet for the SWDR is provided in Attachment G. This strategy was selected based on the existing site constraints and the feasibility of the treatment BMPs. Treatment BMPs were used in series to increase the treatment percentage and efficiency. The proposed

detention basins and biofiltration swales will be accessible for maintenance through the implementation of maintenance vehicle pullouts.

The Project proposes five detention basins and two biofiltration swales. One detention basin is proposed at Station 85+00 on the WB side, the second detention basin at Station 87+00 on the WB On-Ramp, the third detention basin at Station 90+00 on the EB side, the fourth detention basin at Station 94+00 on the EB On-Ramp, and the fifth detention basin at Station 97+00 on the WB Off-Ramp. One biofiltration swale is proposed at Station 92+00 and the second biofiltration swale is proposed at Station 102+00 along the mainline median. The Draft Drainage Report prepared for the PA&ED phase provides preliminary locations and design parameters. Final design of storm water elements will be coordinated with Caltrans District Hydraulics Branch during the PS&E phase.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7A. Public Hearing Process

Caltrans and the City of Tracy circulated the draft Initial Study/Mitigated Negative Declaration (IS/MND) for public comment and review on July 1, 2020. An opportunity for a public meeting was offered, but none was requested. All written comments received were addressed in the final IS/MND for CEQA and Categorical Exclusion for NEPA.

7B. Route Matters

Minor modifications will be made to each of the ramps. No amendment to the existing freeway agreement is required because it is a symbolic freeway agreement. The interchange improvements are considered a modification to existing freeway access, which requires approval by FHWA. A Modified Access Report (MAR) was submitted to FHWA to obtain an Engineering and Operational Acceptability Determination (EOAD) and the FHWA determined the proposed access modification is acceptable on February 8, 2021 (See Attachment M for FHWA EOAD).

7C. Permits

The recommended preferred alternative will likely require or be subject to the following permits, licenses, agreements, and certifications, or any subsequent versions:

Agency	Permit/ Approval	Status
USFWS	Streamlined Section 7 Biological Opinion: San Joaquin County Multi-Species Habitat Conservation and Open Space Plan	Biological Opinion issued September 22, 2020
USACE	CWA Section 404 Permit	Obtain as part of final design phase
Central Valley RWQCB	CWA Section 402/Stormwater Discharge	Obtain as part of final design phase
CDFW	Section 1602 Lake and Streambed Alteration Agreement	Obtain as part of final design phase

7D. Cooperative Agreements

A cooperative agreement for the PA&ED phase was executed on April 8, 2016 between the City of Tracy and Caltrans. The City is the Lead Implementing Agency for PA&ED to develop the Environmental Document and Project Report. Caltrans is the Oversight Agency responsible for Independent Quality Assurance and is the CEQA and NEPA Lead Agency.

A cooperative agreement for the PS&E and Right-of-Way phases was executed between the City of Tracy and Caltrans on February 4, 2021.

7E. Other Agreements

A maintenance agreement with the City of Tracy will be needed to identify the segregation of maintenance responsibilities for any new/replacement landscaping. Permanent right-of-way acquired along I-580 will be transferred to Caltrans at the close of the project. The maintenance agreement will be developed and executed during the PS&E phase.

7F. Transportation Management Plan

A Transportation Management Plan will be required during the construction of proposed improvements to minimize delay and inconvenience to the traveling public. The Transportation Management Plan for the project will be developed and refined during the PS&E phase. The proposed construction includes roadway and structures work that will require lane closures and/or detouring. The need for necessary lane closures during off-peak hours or at night, or short-term detour routes for ramp and local street closures, will be identified, as required. There are no existing sidewalks on Patterson Pass Road through the interchange area but new sidewalks and crosswalks are proposed as part of the interchange improvements. Pedestrians will continue to be restricted from passing through the construction zone along Patterson Pass Road until the sidewalks and crosswalks are implemented. There are no existing bicycle facilities along Patterson Pass Road through the interchange area requiring bicyclists to navigate along outside shoulders and/or share traffic lanes with vehicles. During construction as a temporary condition, bicyclists will continue to be able to pass through the interchange along Patterson Pass Road but similar to the existing condition, will need to utilize outside shoulders and/or share traffic lanes. Temporary construction area signage will be developed during the PS&E phase to control and direct bicyclists through the interchange area.

The Transportation Management Plan will include briefing local public officials and a public information program to inform the public of project progress and upcoming closures and detours. Other aspects of the TMP may include coordination with ridesharing agencies, transit operators, emergency services, and neighborhood and special interest groups; consideration of construction strategies and contract incentives; CHP and local law enforcement involvement and development of contingency plans. Various TMP elements such as portable Changeable Message Signs, and CHP Construction Zone Enhanced Enforcement Program (COZEEP) will be utilized to minimize delay to the traveling public.

A Traffic Management Plan Data Sheet is included as Attachment H. The plan includes Public Information, Traveler Information Strategies, Incident Management and Construction Strategies. The Transportation Management Plan costs are estimated at \$715,000.

7G. Stage Construction

Following identifies general items and steps in construction staging. It is planned to construct the interchange project in three stages.

Stage 1:

- Traffic: Maintain through traffic on existing I-580/International Pkwy/Patterson Pass Road interchange.
- Construction: Construct new I-580 ramps, widen overcrossing structure, and widen International Pkwy/Patterson Pass Road.

Stage 2:

- Traffic: Maintain through traffic on I-580/International Pkwy/Patterson Pass Road interchange. Temporary detours for ramp conform construction.
- Construction: Connect new ramps to I-580.

Stage 3:

- Traffic: I-580/International Pkwy/Patterson Pass Road interchange connecting traffic to use new ramps; traffic movements will use DDI configuration.
- Construction: Construct I-580 auxiliary lane. Remove existing ramps. Build median islands.

7H. Other State Funded Projects

There are no other State Funded Projects within the project limits.

The SJCOG is the project sponsor for a project that proposes to add one HOV lane in each direction of I-205 between the Alameda/San Joaquin County line and the junction of I-5 and I-205 (EA 10-1H170). The freeway improvements proposed by this project will require minor adjustments to ramp merge and diverge locations. The SJCOG project has an approved PSR-PDS dated December 15, 2017, and the project is in the PA&ED phase, with construction estimated to begin as early as 2025 if funding for the construction phase can be secured.

The City of Tracy is the project sponsor for a project that proposes to reconstruct the I-205/International Parkway/Mountain House Parkway interchange (EA 10-1E210). The project is currently in the PA&ED phase with construction estimated to begin in 2022 if funding for the construction phase can be secured.

No other projects on the State Highway within the project vicinity are anticipated to have a significant effect on the interchange project.

7I. Intersection Control Evaluation (ICE)

Caltrans District Traffic Operations Policy Directive 13-02: ICE requires the consideration of various strategies, treatments, and configurations at state highway intersections to balance the needs of all modes and users with system performance goals and the highway facility context.

Based on the results of the Design Year 2042 AM and PM Peak Hour ICE Analysis, the following conclusions and recommendations were developed.

- The following intersection control do not provide sufficient capacity to serve projected Design Year 2042 AM and PM Peak Hour Conditions and should not be included in the Traffic Operations Analysis Report:
 - 1) Side Street Stop Controlled Diamond (Type L-1) Design;
 - 2) All Way Stop Controlled Diamond (Type L-1) Design;
 - 3) Single Lane Roundabout Diamond (Type L-1) Design; and
 - 4) Two Lane Roundabout Diamond (Type L-1) Design.

- The following intersection control should be included as the No Project Alternative in the Traffic Operations Analysis Report:
 - 1) Signalized Control Diamond (Type L-1) Design.

- The following intersection control provide sufficient capacity to serve projected Design Year 2042 AM and PM Peak Hour Conditions and should be included in the Traffic Operations Analysis Report:
 - 1) Signalized Control Partial Cloverleaf / Tight Diamond Design (Alternative 1); and
 - 2) Signalized Control Diverging Diamond Interchange Design (Alternative 2).

The ICE Memorandum is provided in Attachment K.

7J. Park and Ride Facilities

The project does not propose to construct any new park and ride facilities.

7K. Complete Streets

The proposed project will incorporate Class II bicycle lanes and sidewalks through the interchange.

7L. Needed Roadway Rehabilitation and Upgrading

As a result of the proposed interchange improvements, all existing pavements will be removed and/or replaced.

7M. Needed Structure Rehabilitation and Upgrading

For the existing bridge structure, the Advance Planning Studies (Attachment D) identified two upgrades: 1) the existing barrier on the west side of the bridge will be

removed and replaced with the current Caltrans standard for concrete bridge barriers, and 2) the existing concrete columns shall be retrofitted for current seismic loading requirements.

7N. Climate Change Considerations

There are no climate change issues for the project. Reducing greenhouse gas emissions is only one part of an approach to addressing climate change. The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

7O. Accommodation of Oversize Loads

Standard vertical clearance is provided with the new improvements. The project does not place any new height limitations on loads moving in or out of the area. The existing two lane Patterson Pass Road OC will be widened to provide 2 northbound and 2 southbound through lanes through the interchange area that will accommodate oversized loads crossing the bridge.

7P. Graffiti Control

All vertical surfaces within the project area will be evaluated during the PS&E phase for treatment with anti-graffiti measures.

7Q. Broadband and Advance Technologies

The project does not include advanced technologies and communication systems for wired broadband to support high speed data infrastructure, charging or fueling opportunities for zero-emission vehicles, or infrastructure-to-vehicle communications for transitional or full autonomous vehicle systems.

7R. Asset Management

The performance objectives in this project are consistent with the 2019 State Highway System Management Plan. The performance objectives identified in this project for the recommended preferred alternative will improve 1.0 Linear Mile of Class II Buffered Bike Lanes and 2 Ramp Metering Systems.

The following table summarizes the Daily Vehicle Delay Hours (DVDH) savings that were determined for the recommended preferred alternative compared to the no-build alternative.

Scenario	Daily Vehicle Delay Hours (DVDH)
2017 Existing	342
2022 No-Build	839
2022 Recommended Preferred Alternative	182
2022 DVDH Savings	657
2042 No-Build	2,529
2042 Recommended Preferred Alternative	1,142
2042 DVDH Savings	1,388

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that this project is eligible for Federal-aid funding.

Programming

City of Tracy TIMF and RTIF funds are being used for the PA&ED and PS&E phases with additional TIMF and RTIF funds secured for the right-of-way and construction phases. The City submitted a funding application in June 2020 to the California Transportation Commission for consideration of SB 1 TCEP funds and will pursue SJCOG Measure K funds to complete funding for the right-of-way and construction phases. The City has also submitted a funding application for the Infrastructure For Rebuilding America and for Better Utilizing Investments to Leverage Development.

Costs shown in the following Funding Source Tables are in thousands of dollars.

	Fiscal Year Estimate						Total
	Prior	18/19	19/20	20/21	21/22	Future	
Component	In thousands of dollars (\$1,000)						
PA&ED Support	1,340						1,340
PS&E Support			1,000				1,000
Right-of-Way Support				220.5			220.5
Construction Support					5,512.5		5,512.5
Right-of-Way				2,471			2,471
Construction					38,639		38,639
Total	1,340		1,000	2,691.5	44,151.5		49,183

20.XX.400.100	Funding Source					Total
	City TIMF	City RTIF	SJCOG Measure K	SB 1 TCEP State Share	SB 1 TCEP Region Share	
Component	In thousands of dollars (\$1,000)					
PA&ED Support	1,340					1,340
PS&E Support		1,000				1,000
Right-of-Way Support		220.5				220.5
Construction Support	3,787.5		1,725			5,512.5
Right-of-Way	455	1,200	816			2,471
Construction	8,224	5,531		6,353	18,531	38,639
Total	13,806.5	7,951.5	2,541	6,353	18,531	49,183

The support cost ratio is 20.3%.

Assumed escalation rates are 5% per year.

Estimate

The project cost estimate is included as Attachment C. The following is a summary of the current project cost estimate:

	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	\$7.540 million	\$8.073 million
Capital Outlay Construction	\$33.970 million	\$38.639 million
Capital Outlay Right-of-Way	\$2.245 million	\$2.471 million

9. DELIVERY SCHEDULE

The following delivery schedule is subject to the availability of funding. Please note that the City of Tracy intends to initiate PS&E activities, at risk, prior to the completion of PA&ED to accelerate project delivery.

Project Milestones		Scheduled Delivery Date (Month/Day/Year)	Milestone Designation (Target/Actual)
BEGIN ENVIRONMENTAL	M020	08/20/2018	Actual
CIRCULATE DED EXTERNALLY	MI20	07/01/2020	Actual
PA&ED	M200	2/26/2021	Target
BEGIN DESIGN (By City Consultant)	M210	07/01/2020	Target
RIGHT OF WAY MAPS (By City Consultant)	M224	07/31/2020	Target
REGULAR RIGHT OF WAY	M225	01/01/2021	Target
PS&E TO DOE	M377	03/01/2021	Target
DRAFT STRUCTURES PS&E	M378	03/01/2021	Target
RIGHT OF WAY CERTIFICATION	M410	01/01/2022	Target
READY TO LIST	M460	02/01/2022	Target
HEADQUARTERS ADVERTISE	M480	05/01/2022	Target
AWARD	M495	06/30/2022	Target
APPROVE CONSTRUCTION CONTRACT	M500	08/01/2022	Target
CONTRACT ACCEPTANCE	M600	12/31/2023	Target
END PROJECT	M800	02/01/2025	Target
AGREEMENT END DATE	M900	12/31/2025	Target

10. RISKS

The PDT has identified a number of project delivery risks that have been included in the Risk Register in Attachment I. The following are a summary of the high risks:

- Impacted property owners may object to partial acquisition of their properties and may force change of design or acquisition through condemnation, which

- could delay the start of construction.
- Utility relocations will be needed based on the proposed improvements. Confirmation of relocation routes, utility relocation costs and execution of utility agreements will be needed with the utility owners before they can relocate their facilities, which could delay the start of construction.

11. EXTERNAL AGENCY COORDINATION

FHWA

This project is considered to be an Assigned Project in accordance with the current FHWA and Caltrans Joint Stewardship and Oversight Agreement.

The FHWA performed an EOAD review of the MAR prepared for the project and determined that the proposed access modification is acceptable on February 8, 2021 (See Attachment M for FHWA EOAD).

The U.S. Environmental Protection Agency (EPA) and FHWA concurred that the project is not a project of air quality concern on May 8, 2019 and May 14, 2019, respectively.

FHWA issued concurrence on the full project air quality conformity analysis on February 24, 2021.

USFWS issued a streamlined Biological Opinion on September 20, 2020.

The project requires the following coordination:

California Public Utilities Commission
GO 88-B Permit and Formal Application

Regional Water Quality Control Board
Clean Water Act Section 401
Section 402 Water Quality Certification/NPDES Permit

Local Agency
Freeway Maintenance Agreement with the City of Tracy

Other
Utility owners as noted in Section 6D.

12. PROJECT REVIEWS

District Program Advisor _____	Date <u>2/6/2020</u>
Headquarters SHOPP Program Advisor <u>N/A</u>	Date <u>N/A</u>
District Maintenance _____	Date <u>2/6/2020</u>
Headquarters Project Delivery Coordinator <u>Paul Gennero</u>	Date <u>1/17/2020</u>
Project Manager _____	Date <u>1/14/2020</u>
FHWA _____	Date <u>2/8/2021</u>
Functional Review _____	Date <u>1/13/2020</u>
Other _____	Date _____

13. PROJECT PERSONNEL

Name	Title	Phone #
Robert Armijo	City of Tracy, City Engineer/Assistant Director of Development	(209) 831-6424
Anju Pillai	City of Tracy, Associate Civil Engineer	(209) 831-6455
Sinara Pheng	Caltrans Project Manager, Oversight	(209) 948-7829
Jennifer Lugo	Caltrans Environmental Planner Manager, Oversight	(559) 779-6612
Mason Leung	Caltrans, Design Oversight	(209) 948-3976
Vu H. Nguyen	Caltrans Freeway and Highway Operations, Chief	(209) 603-5126
Manjit Singh	Caltrans, Construction Oversight	(209) 470-2053
Matt Brogan	Mark Thomas, Consultant Project Manager	(916) 605-6761
Bo Burick	Mark Thomas, Consultant Project Engineer	(949) 677-7348
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14. ATTACHMENTS (NUMBER OF PAGES)

- A. Location Map (1)
- B. Preliminary Plans (4)
- C. Cost Estimate (10)
- D. Advance Planning Study (2)
- E. Final Environmental Document (317)
- F. Right-of-Way Data Sheet (7)
- G. Storm Water Data Report (Cover Sheet) (1)
- H. Transportation Management Plan Checklist (7)
- I. Risk Assessment Matrix (2)
- J. Traffic Operations Analysis Report (Excerpt) (80)
- K. ICE Memorandum (8)
- L. Design Standard Decision Document (Cover Sheet) (1)
- M. FHWA Engineering and Operational Acceptability Determination (1)