

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
SCL-87 Pavement Rehabilitation - 2R (04-4J910)

Resolution SHOPP-P-2021-05B
(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 *SCL-87 Pavement Rehabilitation - 2R (04-4J910)*, effective on, March 25, 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, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the "Parties".

3. RECITAL

- 3.2 Whereas at its May 13, 2020 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *SCL-87 Pavement Rehabilitation - 2R (04-4J910)*, 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 G-20-40, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 05/13/2020
 - Resolution *Insert Number*, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

- 4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection 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 Caltrans agrees to secure funds for any additional costs of the project.
- 4.6 Caltrans agrees to report 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 Caltrans 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

Attachments:

Exhibit A: Project Programming Request Form

Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

SCL-87 Pavement Rehabilitation - 2R (04-4J910)

Resolution SHOPP-P-2021-05B



DINA EL-TAWANSY
Acting District Director
California Department of Transportation

02/05/2021

Date



TOKS OMISHAKIN
Director
California Department of Transportation

3/4/2021

Date

Mitchell Weiss
Executive Director
California Transportation Commission

Date

Project Baseline Project

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

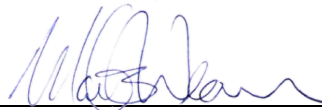
BASELINE AGREEMENT						Date:	02/19/21 05:16:50 PM
District	EA	Project ID		PPNO	Project Manager		
04	4J910	0416000010		1492C	MENSAH, FRANCIS D		
County	Route	Begin Postmile	End Postmile	Implementing Agency			
SCL	87	0.0	6.1	PA&ED	Caltrans		
				PS&E	Caltrans		
				Right of Way	Caltrans		
				Construction	Caltrans		
Project Nickname							
PSSR - SCL-87 Pavement 2R							
Location/Description							
In San Jose, from Route 85 to West Julian Street. Roadway rehabilitation. (G13 Contingency)							
Legislative Districts							
Assembly:	27		Senate:	15		Congressional:	19
PERFORMANCE MEASURES							
	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement	0.1	14.1	15.3		29.5	Lane-miles
Programmed Condition	Pavement	29.5				29.5	Lane-miles
Project Milestones						Actual	Planned
Project Approval and Environmental Document Milestone						11/05/20	
Right of Way Certification Milestone							04/01/22
Ready to List for Advertisement Milestone							04/30/22
Begin Construction Milestone (Approve Contract)							02/01/23
FUNDING (Allocated amounts are shaded)							
Component	Fiscal Year	SHOPP					Total
PA&ED	17/18	2,767					2,767
PS&E	20/21	4,425					4,425
RW Support	20/21	50					50
Const Support	21/22	6,581					6,581
RW Capital	21/22	304					304
Const Capital	21/22	55,263					55,263
Total		69,390					69,390

Supplemental Project Report

For Project Approval

On Route 87
Between Route 85
And Julian Street Undercrossing

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:

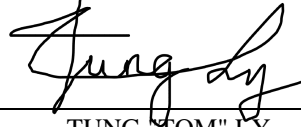


MARK L. WEAVER
DEPUTY DISTRICT DIRECTOR,
RIGHT OF WAY AND LAND SURVEYS

APPROVAL RECOMMENDED:



FRANCIS MENSAH
PROJECT MANAGER



TUNG "TOM" LY,
DISTRICT OFFICE CHIEF, DESIGN SOUTH

APPROVED:



HELENA "LENKA" CULIK-CARO
DEPUTY DISTRICT DIRECTOR, DESIGN

February 2, 2021

DATE

The purpose of this Supplemental Project Report (PR) is to document changes in the asset management for the State Route (SR) 87 Restoration and Rehabilitation (2R) Project. The project is in Santa Clara County in the city of San Jose on State Route (SR) 87, from SR 85 at post mile (PM) 0.0 to the Julian Street Undercrossing at PM 6.1. The scope of work is roadway rehabilitation under program 201.122 for Restoration and Rehabilitation of the pavement of the mainline, ramps, and freeway connectors in both directions of SR 87. The proposed project is included under California Transportation Improvement Program (CTIP) System number 106-0000-2547.

It has been determined that there is a rounding discrepancy between the asset management performance measure activity detail value for Mainline Existing Asphalt Pavement Rehabilitation in Fair Condition as described in the PR (14.2 lane miles) and as described in CTIP (14.1 lane miles).

The Project Report was approved on November 5, 2020. This Supplemental PR documents that the Mainline Existing Asphalt Pavement Rehabilitation in Fair Condition has been rounded to 14.1 lane miles. This is a change to the rounding for this asset only; no changes have been made to design features and the rest of approved PR.

Attachment:

- A. Original Approved Project Report (192 pages)


Attachment A: Original Approved Project Report

Project Report

For Project Approval

On Route 87
Between Route 85
And Julian Street Undercrossing

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:

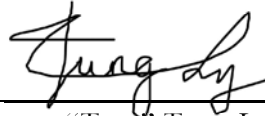


Mark L. Weaver, Deputy District Director,
Right of Way and Land Surveys

APPROVAL RECOMMENDED:



Francis Mensah, Project Manager



“Tom” Tung Ly,
District Office Chief, Design South

PROJECT APPROVED:

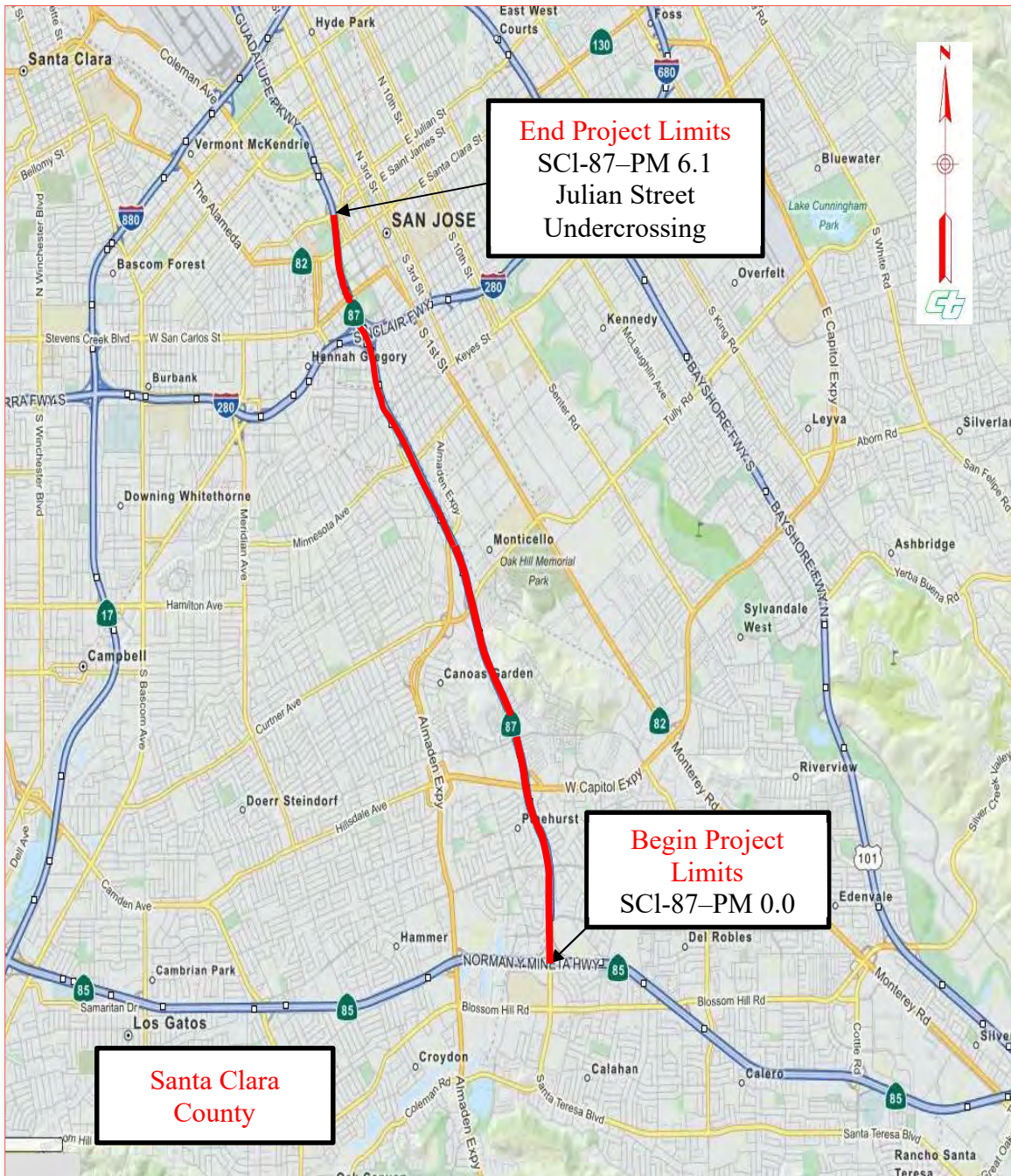


Helena (Lenka) Culik-Caro
Deputy District Director, Design

November 5, 2020

Date

Vicinity Map



In Santa Clara County in City of San Jose on State Route 87 from State Route 85 (PM 0.0) to Julian Street Undercrossing (PM 6.1)

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.

Daniel Mulugeta

DANIEL MULUGETA
REGISTERED CIVIL ENGINEER

10/19/2020

DATE



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1. INTRODUCTION

Project Description:

The proposed project is in Santa Clara County in the city of San Jose on State Route (SR) 87. The project limits extend from SR 85 at post mile (PM) 0.0 to the Julian Street Undercrossing at PM 6.1. See Attachment A for the Title Sheet; see Attachment B for the Vicinity Map.

The scope of work for the project is roadway rehabilitation under program 201.122 for Restoration and Rehabilitation (2R) of the pavement of the mainline, ramps, and freeway connectors in both directions of SR 87. The Pavement Condition Summary Report (see Attachment E) indicates that the existing pavement exhibits distress that results in poor ride quality and potential pavement failure. The roadway pavement will be replaced with a 20-year life cycle flexible pavement structure by cold planning and replacing the pavement to maintain existing profile grade.

In addition to repaving the roadway, the following major items are included in scope of work: upgrade 28 curb ramps at six intersections, resurface 2.9 miles of Class I bikeway that runs parallel to the mainline, repair localized depressions in the roadway profile grade by injecting expanded polyurethane materials; replace the existing nonstandard median concrete barrier; replace asphalt concrete dikes; replace nonstandard guardrails; place enhanced wet/night visibility striping and shoulder rumble strips; upgrade/replace drainage facilities; and upgrade/replace various electrical systems, including traffic signals, traffic loop detectors, push buttons and pedestrian crossing signals. See Attachment C for the typical sections; see Attachment D for the layout plans.

The following table lists some of the key features of the project.

Project Limits	04 - SCI - 87 – PM 0.0/6.1	
Number of Alternatives	Two Build Alternatives and the No-Build Alternative	
	Current Cost Estimate (2020)	Escalated Cost Estimate (2024) *
Capital Outlay Support	\$13,823,000	\$13,823,000
Capital Outlay Construction	\$55,131,100	\$60,679,000
Capital Outlay Right-of-Way	\$85,000	\$85,000
Funding Source	SHOPP 20.XX.201.122	
Funding Year	2022/23	
Type of Facility	Six-lane freeway with two Express Lanes	
Number of Structures	10	
SHOPP Project Output	30 lane-miles, 28 curb ramps	
Environmental Determination or Document	CEQA Exemption / NEPA Categorical Exclusion	

Legal Description	In Santa Clara County, in the city of San Jose from SR 85 to Julian Street Undercrossing
Project Development Category	Category 4B

*Escalated to RTL date of April 2022. Capital Outlay Construction is escalated to mid-construction date of summer 2024.

Notes:

CEQA = California Environmental Quality Act

NEPA = National Environmental Policy Act

PM = post mile

RTL = Ready to List

SHOPP = State Highway Operation and Protection Program

SCI = Santa Clara County

SR = State Route

2. RECOMMENDATION

It is recommended that the project be approved using the preferred alternative and that the project proceed to the Plans, Specifications, and Estimate (PS&E) phase.

3. BACKGROUND

Project History

The Project Scope Summary Report (PSSR) for the project was approved on June 27, 2017. The PSSR proposed to rehabilitate the mainline, ramps, and freeway connectors and repair and upgrade the drainage facilities and roadway-safety-related items in both directions of SR 87 from SR 85 at PM 0.0 to the Julian Street Undercrossing at PM 6.1. The project is listed as SHOPP ID 13685 in the SHOPP Ten-Year Project Book with SB-1 priority.

Per District 4 Office of Traffic Safety PA&ED recommendation, it was determined that the existing median barrier will be upgraded to current standard for all build alternatives, regardless of modifications to the roadway finished grade. As such, the scope of work in the preferred alternative (20-year flexible rehabilitation alternative) was increased to incorporate this work.

Community Interaction

The proposed project was discussed with the City of San Jose and Santa Clara Valley Transportation Authority (VTA) at a conceptual level. There is no known public controversy regarding this project, and all technical issues are being resolved through the Project Development Team. No public meeting is proposed.

Existing Facility

The project will maintain the existing roadway geometrics. Table 4-1 describes the existing roadway geometric information for SR 87 within the project limits.

Table 4-1: Roadway Geometric Information for SR 87 within the Project Limits

SR 87 PM	Through Traffic Lanes			Paved Shoulder Width (ft)		Median Width (ft)	Bicycle Route (Y/N)	Structure No.
	No. of Lanes	Total Lane Width (ft)	Type of Pavement	Left	Right			
Northbound								
0.000	4	48	AC	2	4	10	N	—
0.079	2	24	AC	4	6	22	N	—
0.150	2	24	AC	4	8	24	N	—
0.193	2	24	AC	4	8	56	N	—
0.281	2	24	Bridge	4	8	56	N	37-0414S
0.307	5	68	AC	8	10	51	N	—
0.423	5	60	AC	8	10	51	N	—
0.453	4	56	AC	8	10	51	N	—
0.723	3	44	AC	8	10	51	N	—
1.339	3	36	Bridge	8	9	51	N	37-0415R
1.388	3	36	AC	8	10	51	N	—
1.537	3	44	AC	8	10	51	N	—
1.726	4	48	Bridge	8	12	51	N	37-0416R
1.744	4	48	AC	8	10	51	N	—
1.900	4	48	Bridge	6	10	51	N	37-0417R
1.922	3	36	AC	8	10	51	N	—
2.502	3	36	Bridge	8	9	51	N	37-0361R
2.519	3	36	AC	8	10	51	N	—
2.626	3	36	Bridge	6	10	51	N	37-0418R
2.647	3	36	AC	8	10	51	N	—
2.826	3	36	Bridge	8	9	51	N	37-0362R
2.870	3	36	AC	8	10	51	N	—
3.476	3	36	AC	8	10	51	N	—
3.563	4	48	Bridge	8	10	51	N	37-0366R
3.610	3	41	AC	8	10	51	N	—
3.873	3	36	Bridge	8	9	51	N	37-0420R
3.890	3	36	AC	8	10	51	N	—
4.059	3	36	Bridge	8	9	51	N	37-0368R
4.084	3	36	AC	8	10	51	N	—
4.146	3	36	AC	8	10	51	N	—
4.165	3	36	AC	8	10	51	N	—

SR 87 PM	Through Traffic Lanes			Paved Shoulder Width (ft)		Median Width (ft)	Bicycle Route (Y/N)	Structure No.
	No. of Lanes	Total Lane Width (ft)	Type of Pavement	Left	Right			
4.233	3	36	Bridge	8	9	51	N	37-0421R
4.268	3	36	AC	8	10	51	N	—
4.355	3	43	AC	8	10	51	N	—
4.510	4	48	Bridge	8	9	40	N	37-0422R
4.591	4	48	AC	8	10	40	N	—
4.696	4	48	AC	8	10	40	N	—
4.810	3	36	PCC	4	10	40	N	—
4.857	3	36	PCC	4	10	40	N	—
4.881	3	42	PCC	4	10	40	N	—
4.904	3	44	PCC	4	10	40	N	—
5.103	3	36	AC	4	10	40	N	—
5.130	3	36	AC	4	10	40	N	—
5.156	3	36	AC	4	10	40	N	—
5.183	3	36	AC	4	10	43	N	—
5.214	3	36	Bridge	2	4	49	N	37-0273R
5.363	6	72	AC	22	10	0	N	—
5.448	6	72	AC	22	10	0	N	—
5.453	6	72	Bridge	20	10	0	N	37-0274
5.480	5	60	AC	22	10	0	N	—
5.555	3	36	Bridge	12	10	0	N	37-0310
5.591	3	36	AC	4	10	0	N	—
5.674	4	48	Bridge	4	10	0	N	37-0308
5.867	5	60	AC	4	10	0	N	—
5.990	5	60	Bridge	4	10	0	N	37-0312
6.016	5	60	AC	4	10	0	N	—
6.025	5	60	AC	4	10	0	N	—
6.097	5	164.4	Bridge	4	10	0	N	37-0319
Southbound								
0.000	3	36	AC	4	2	10	N	—
0.079	2	24	AC	8	4	22	N	—
0.150	2	24	AC	8	4	24	N	—
0.193	2	36.1	Bridge	8	4	56	N	37-0414K
0.281	2	24	AC	8	4	56	N	—
0.307	5	68	AC	10	4	51	N	—

SR 87 PM	Through Traffic Lanes			Paved Shoulder Width (ft)		Median Width (ft)	Bicycle Route (Y/N)	Structure No.
	No. of Lanes	Total Lane Width (ft)	Type of Pavement	Left	Right			
0.423	5	60	AC	10	4	51	N	—
0.453	4	56	AC	10	8	51	N	—
0.723	3	44	AC	10	8	51	N	—
1.339	3	36	Bridge	9	8	51	N	37-0415L
1.388	3	36	AC	10	8	51	N	—
1.537	3	44	AC	10	8	51	N	—
1.726	4	48	Bridge	9	8	51	N	37-0416L
1.744	4	48	AC	10	8	51	N	—
1.900	3	36	Bridge	9	8	51	N	37-0417L
1.922	3	36	AC	10	8	51	N	—
2.502	4	48	Bridge	10	6	51	N	37-0361L
2.519	4	48	AC	10	8	51	N	—
2.626	4	48	Bridge	10	8	51	N	37-0418L
2.647	3	36	AC	10	8	51	N	—
2.826	4	48	Bridge	10	8	51	N	37-0362L
2.870	3	37	AC	10	8	51	N	—
3.476	3	36	AC	10	8	51	N	—
3.563	4	48	Bridge	9	8	51	N	37-0366L
3.610	3	41	AC	10	8	51	N	—
3.873	4	48	Bridge	9	8	51	N	37-0420L
3.890	3	36	AC	10	8	51	N	—
4.059	4	48	Bridge	9	8	51	N	37-0368L
4.084	3	36	AC	10	8	51	N	—
4.146	3	36	AC	10	8	51	N	—
4.165	3	36	AC	10	8	51	N	—
4.233	4	48	Bridge	10	8	51	N	37-0421L
4.268	3	36	AC	10	8	51	N	—
4.355	3	43	AC	10	8	51	N	—
4.510	5	60	Bridge	10	8	40	N	37-0422L
4.591	4	48	AC	10	8	40	N	—
4.696	4	48	AC	10	8	40	N	—
4.820	3	36	PCC	10	4	40	N	—
4.857	3	36	PCC	10	4	40	N	—

SR 87 PM	Through Traffic Lanes			Paved Shoulder Width (ft)		Median Width (ft)	Bicycle Route (Y/N)	Structure No.
	No. of Lanes	Total Lane Width (ft)	Type of Pavement	Left	Right			
4.881	3	42	PCC	10	4	40	N	—
4.904	3	44	PCC	10	4	40	N	—
5.103	3	36	AC	10	8	40	N	—
5.130	3	36	AC	10	8	40	N	—
5.156	3	36	AC	10	8	40	N	—
5.183	3	36	AC	10	8	43	N	—
5.214	3	36	Bridge	8	4	49	N	37-0273L
5.363	3	36	AC	8	4	0	N	—
5.448	3	36	AC	8	26	0	N	—
5.453	5	60	Bridge	8	26	0	N	37-0274
5.480	5	60	AC	8	20	0	N	—
5.555	4	48	Bridge	8	12	0	N	37-0310
5.591	3	36	AC	8	12	0	N	—
5.674	5	60	Bridge	8	4	0	N	37-0308
5.867	5	60	AC	8	4	0	N	—
5.990	5	60	Bridge	8	4	0	N	37-0312
6.016	5	60	AC	8	4	0	N	—
6.025	5	60	AC	8	4	0	N	—
6.097	5	60	Bridge	8	4	0	N	37-0319
6.100	—	—	—	—	—	—	—	—

Notes:

— = not applicable

AC = Asphalt Concrete

No. = Number

PCC = Portland Cement Concrete

PM = postmile

SR = State Route

Y/N = Yes/No

4. PURPOSE AND NEED

Purpose:

The purpose of the project is to improve ride quality, enhance safety, and extend the service life of the pavement. The project will preserve both mobility and safety at minimum maintenance cost.

Need:

The need for the project was established by the results of the 2015 Pavement Condition Summary Report (PaveM) (see Attachment E). The predicted 2022 SHOPP effectiveness described in the report will be 55.63% and the Rehab Effectiveness will be 16.87%, which indicate that the existing pavement exhibits distress that results in poor ride quality and potential pavement failure.

4A. Problem, Deficiencies, Justification

The 2015 PaveM established that the existing pavement within the project limits exhibits distress that results in poor ride quality and potential pavement failure. This deficiency could negatively impact mobility and safety. The project will address these deficiencies.

4B. Regional and System PlanningCorridor Overview

SR 87 is a north-south freeway that traverses Santa Clara County. The SR 87 corridor traverses 9 miles in Santa Clara County, from the SR 85 interchange through San Jose to U.S. Highway 101 (US 101). The SR87 corridor is a heavily traveled commute route and a vital link between the Norman Y. Mineta San Jose International Airport and the residential areas of southern San Jose. SR 87 is in an urban and suburban context. Congestion is experienced at various locations on SR 87.

SR 87 is a six-lane corridor with High Occupancy Vehicle (HOV) lanes the entire length of the corridor. High Occupancy Tolling (Express) lanes are planned on SR 87 from SR 85 to Interstate 880.

There is a 2.9-mile long two-lane Class I bikeway that runs parallel to the roadway within the State of California (State) right of way. Table 4-2 lists the three on-street bikeway segments and the distances they extend (see Attachment S for a map of the on-street bikeway locations).

Table 4-2: On-Street Bikeway Segments on SR 87

Location	Distance (miles)
NB SR 87 / SR 85 junction to Narvaez Ave / Faye Park Dr	0.6
Narvaez Ave / Helzer Rd to NB SR 87 / Carol Dr	0.8
NB SR 87 / Curtner Ave (end of Unified Way) to NB SR 87 / Willow St	1.5
Total:	2.9

Notes:

NB = Northbound

Federal and State Planning

SR 87 is designated as another National Highway System Route on the National Highway System (NHS) and is functionally classified as another Freeway or Expressway on the California Road System. SR 87 is not designated as part of the National Highway Freight Network as authorized by the federal Fixing America’s Surface Transportation (FAST) Act of 2015. The portion of SR 87 within the project limits is a California Legal Route, which allows for trucks with a maximum length of 65 feet. The route is not identified on the 2013 California Freight Mobility Plan. The route is not eligible to be part of the State Scenic Highway System.

SR 87 is not identified as one of the 93 statutory Interregional Road System routes, and the route is not identified on the 2015 Interregional Transportation Strategic Plan.

Transportation Concept Reports (TCRs) define the route concept or configuration for a State-owned/operated facility with a 25-year planning horizon. The TCR developed for SR 87 identifies the 25-year concept for the portion of the route within the project limits as primarily a six-lane freeway with two Express Lanes.

The following project within the vicinity of this project is included in the SHOPP and other funding programs. SHOPP is the State’s “fix-it-first” program that funds the repair and preservation of the State Highway System (SHS), safety improvements, and some highway operational improvements.

Table 4-3 lists the planned or ongoing SHOPP projects in the vicinity of the EA 04-4J9100 project limits.

Table 4-3: Planned and Ongoing SHOPP Projects in the Vicinity of the EA 04-4J9100 Project Limits

SHOPP ID	County / Route	Post Mile	Funding Source / Program Year	Legal Description	Work Description	Cost *	Project Completion Date *
16648	SCI / SR 87	0.0 / 0.0	10-Year SHOPP	Major Damage–Protective Betterments	Major Damage–Protective Betterments	\$2.1M	2024–2025

*Cost and project completion dates are subject to change:

https://assetmgmt.onramp.dot.ca.gov/downloads/assetmgmt/files/2019_Q2_ProjectBook/D4_1819_Q2_Signed_Certification_package.pdf

Regional Planning

The Metropolitan Transportation Commission (MTC) is responsible for the Bay Area’s Regional Transportation Plan (RTP), a State-mandated, integrated long-range transportation and land use plan. MTC’s Plan Bay Area (PBA), adopted in July 2013 and updated in July 2017, serves as the San Francisco Bay Area’s RTP and Sustainable Communities Strategy (SCS), which promotes walk- and bike-friendly, mixed-use commercial and residential development. MTC recently undertook the

Horizon Initiative, a scenario-planning exercise that will shape Plan Bay Area 2050, the next RTP/SCS update.

Table 44 lists the planned and ongoing projects in Plan Bay Area 2040 that are in the vicinity of the EA 04-4J9100 project limits.

Table 4-4: Planned and Ongoing RTP Projects in the Vicinity of the EA 04-4J9100 Project Limits

County / Route	Sponsor	RTP ID	Description	Cost *	Project Completion Date *
SCI / SR-87	Santa Clara Valley Transportation Authority	17-07-0082	Convert existing HOV Lane to an Express Lane in both directions between I-880 and SR 85	\$43M	2024

*Costs and project completion dates are subject to change.

Source: Plan Bay Area 2040, Final Project Database: <http://projects.planbayarea.org/explore/explore.data>.

Notes:

EA = Expenditure Authorization
HOV = High Occupancy Vehicle
I-880 = Interstate 880

ID = identification number
RTP = Regional Transportation Plan
SCI = Santa Clara County
SR = State Route

Local Planning

The Santa Clara Valley Transportation Authority (VTA) is the designated Congestion Management Agency for Santa Clara County. VTA is responsible for countywide transportation planning, including congestion management; design and construction of specific highway, pedestrian, and bicycle improvement projects; and promotion of transit-oriented development.

VTA's Valley Transportation Plan 2040 provides a long-range vision for the transportation system in Santa Clara County. Although the plan does not specifically mention the portion of SR 87 that is within the project limits, the overarching objectives of the plan are to invest in system operations; replace and rehabilitate the existing system; and preserve the investments that have already been made.

The proposed project is included under Federal Transportation Improvement Program (FTIP) number VAR 170006, Amendment 19-32 and California Transportation Improvement Program number CTIPS (106-0000-2547). The Project is consistent with Metropolitan Transportation planning regulations per 23 code of Federal Regulations part 450.

4C. Traffic

Current and Forecasted Traffic:

The District 4 Office of Planning developed the traffic forecasts for the 2062 design year on December 4, 2018.

The 2022 Average Daily Traffic (ADT) on SR 87 from PM 0.0 to PM 6.1 is 208,700 vehicles. The ADT is expected to increase to a projected demand of 268,400 vehicles by 2062. Also, the 2020 percentage of trucks (% trucks) is 2.39%, and it is expected to remain at 2.39% in 2062.

Table 4-5 shows the current and forecasted traffic information on SR 87 from PM 0.0 to PM 6.1 for design years 2018, 2022, 2032, 2042, and 2062.

Table 4-5: Current and Forecasted Mainline Vehicle Traffic Data on SR 87 from PM 0.0 to PM 6.1

Description	Present Year (2018)	Construction Year (2022)	10-Year Forecast (2032)	20-Year Forecast (2042)	40-Year Forecast (2062)
ADT	202,800	208,700	223,600	238,500	268,400
DHV	—	—	—	18,400	—
% Trucks	2.39	2.39	2.39	2.39	2.39
Median lanes TI	—	—	9.50	10.00	11.00
Median lanes ESAL	—	—	1,342,000	2,775,000	5,920,000
Two right lanes TI	—	—	11.00	12.00	13.00
Two right lanes ESAL	—	—	5,366,000	11,100,000	23,683,000
D%	75.08	—	—	—	—

Notes:

— = not applicable

ADT = Average Daily Traffic

DHV = Design Hourly Volume

ESAL = Equivalent Single Axle Load

PM = post mile(s)

SR = State Route

TI = Traffic Index

Collision Analysis

The District 4 Office of Traffic Safety provided the accident data and analysis on July 22, 2020.

A total of 1,048 accidents, with one fatal accident, occurred within the project limits (SR 87 from PM 0.0 to PM 6.1) during the most-recent available 3-year period (October 1, 2016, to September 30, 2019). The actual fatal accident rate is lower than the average fatal accident rate for similar facilities statewide.

The fatal accident occurred on the southbound (SB) SR 87 off-ramp to Almaden Expressway on June 16, 2019, at 06:48 hours. Vehicle one (V1) was traveling at

80 miles per hour. Due to an unsafe speed, person 1 (P1) was unable to successfully negotiate the westerly curve in the roadway. This failure allowed the left rear of V1 to collide with a pile of dirt on the east side of the roadway. V1 then lost control and rotated in a counterclockwise direction, causing V1 to leave the west side of the roadway. V1 then collided with the sound wall on the west side of the roadway two times. The force by which V1 collided with the sound wall, caused V1 to overturn three times, colliding with the dirt embankment on the west side of the roadway each time. P1 sustained fatal injuries as a result of this collision. P1 caused the collision by traveling at an unsafe speed for then-current weather/traffic conditions.

Table 4-6 compares the actual accident rates within the project limits with the average accident rates for similar facilities statewide during the study period.

Table 4-6: Comparison of Actual Accident Rates on SR 87 from PM 0.0 to PM6.1 with Average Accident Rates for Similar Facilities Statewide (October 1, 2016, to September 30, 2019)

Number of Accidents				Actual Accident Rates (acc/mvm) *			Average Accident Rates for Similar Facilities Statewide (acc/mvm)		
F	I	PDO	Total	F	F+I	Total	F	F+I	Total
1	340	707	1,048	0.001	0.37	0.14	0.005	0.30	1.89

* **Bolded** actual accident rates are higher than their corresponding average accident rates for similar facilities statewide.

Notes:

acc/mvm = accident(s) per million vehicle-miles

F = fatal accident(s)

I = injury accident(s)

PDO = property damage only accident(s)

PM = post mile(s)

SR = State Route

The accident data indicate that the collisions within the project limits are mostly congestion related (a high number of rear-end and sideswipe type accidents), with an actual fatal accident rate of 0.001 accident per million vehicle-miles (acc/mvm) and an actual fatal plus injury (F + I) accident rate of 0.37 acc/mvm. The corresponding average accident rates for similar facilities statewide were 0.005 acc/mvm for fatal accidents and 0.03 acc/mvm for F + I accidents.

The actual F + I accident rate of 0.37 acc/mvm is above statewide average. The following proposed features are expected to enhance safety and mitigate for the above average accident rate: upgrade nonstandard guardrails and median barrier, place enhanced wet/night visibility striping and shoulder rumble strips. Additional safety measures are included in the Traffic Safety Recommendation that the District 4 Office of Traffic Safety prepared and signed on July 29, 2020 (see Attachment H).

Table 4-7 lists the primary collision factors for the accidents within the project limits during the study period. The primary collision factors within the project limits were mostly due to driver errors, including improper turns, speeding, and other violations.

Table 4-8 lists the types of collision for the accidents within the project limits during the study period.

Table 4-7: Primary Collision Factors for Accidents within the Project Limits (October 1, 2016, to September 30, 2019)

Primary Collision Factor	Number	Percentage
1. Influence Alcohol	51	4.9%
2. Follow Too Close	1	0.1%
3. Improper Turn	164	15.6%
4. Speeding	630	60.1%
5. Other Violations	160	15.3%
6. Other Than Driver	24	2.3%
7. Unknown	17	1.6%
8. Not Stated	1	0.1%

Table 4-8: Types of Collision of Accidents within the Project Limits (October 1, 2016, to September 30, 2019)

Type of Collision	Number	Percentage
A. Head-On	5	0.5%
B. Sideswipe	237	22.6%
C. Rear End	623	59.4%
D. Broadside	14	1.3%
E. Hit Object	148	14.1%
F. Overtake	19	1.8%
G. Auto-Pedestrian	1	0.1%
H. Other	1	0.2%

5. ALTERNATIVES

5A. Viable Alternatives

One viable alternative, deemed the preferred alternative, is proposed for the project. The preferred alternative is the 20-Year Flexible Rehabilitation Alternative, which proposes to implement a 20-year flexible rehabilitation pavement design.

Two other alternatives that were described in the PSSR have been rejected: the 40-year flexible rehabilitation alternative and the No-Build Alternative.

This section focuses on the preferred alternative.

Proposed Engineering Features

The preferred alternative consists of a 20-year flexible rehabilitation pavement design, as recommended by the District 4 Office of Engineering Services on February 7, 2019. The Materials Recommendation for the preferred alternative is provided as Attachment F.

The evaluation of the existing pavement condition for this project was based on review of as-built plans, Caltrans Maintenance Program 2016 Pavement Condition Report (PaveM) and photos of the roadway facility.

Based on the evaluation, District 4 Materials recommends the following:

- For the mainline, it proposes a complete removal of 0.35' asphalt concrete (AC) and 0.25' of asphalt treated permeable base (ATPB) and replace it with 0.20' rubberized hot mix asphalt - gap graded (RHMA-G) and 0.40' hot mix asphalt type A (HMA-A) with geosynthetic pavement interlayer (GPI) embedded in between the new asphalt. See Attachment C for typical sections and attachment D for Layout plans. The recommended rehabilitation will maintain the existing profile grade.
- For all asphalt paved mainline shoulders, ramps and at-grade portion of connectors, it proposes removal of existing 0.35' AC and replace with 0.20' RHMA-G and 0.15' HMA-A. See Attachment C for typical sections and attachment D for Layout plans.
- For at grade-portion of freeway connectors and travel lanes that consists of PCC pavement, it proposes to remove the damaged PCC pavement and replace with 1.25' rapid strength concrete (RSC) with a bond breaker embedded at the replaced base level.

The recommended rehabilitation mentioned above will maintain the existing profile grade. In addition to the above District 4 Materials recommendation, the preferred alternative will include the following major items of work:

- Upgrade 28 existing curb ramps to the current ADA standard.
- Repair the existing localized uneven roadway profile by injecting expanded polyurethane materials to strengthen the foundation soils beneath the pavement structural sections and the Portland Cement Concrete (PCC) approach and departure slabs (see attachment I).
- Replace the existing nonstandard 9 miles of median concrete barrier (Type 50) with standard concrete barrier (Type 60M).
- Replace about 11 miles of existing asphalt concrete dikes.

- Enhance safety by upgrading metal beam guardrails, installing enhanced wet/night visibility striping and shoulder rumble strips.
- Upgrade drainage facilities (see attachment J).
- Upgrade traffic signals, replace traffic loop detectors that are affected by paving work, and modify push buttons and pedestrian crossing signals per the current guidelines.
- Cold plane and resurface 2.9 miles of Class I bikeway parallel to SR 87 with 0.20' hot mix asphalt (type A).
- Maintain the existing traffic management system elements during construction.

Nonstandard Design Features

The pavement strategy for this 2R project will not degrade the geometric features or the safety of the existing facility. The project does not propose new deviations from design standards, and it is beyond the scope of the project to upgrade the existing nonstandard features to standard.

The project proposes to retain the following existing nonstandard features:

- The paved median shoulder widths on the mainline are less than 5 feet wide. The paved outside shoulder widths on the mainline are less than 10 feet wide. Per Highway Design Manual (HDM) Table 302.1, the standard median and outside shoulder width for this type of facility is 10 feet. Per HDM Index 305.1(1)(a), the median width standard is a minimum of 36 feet. Table 5-1 lists the geometric information about the traveled way, shoulders, and median of SR 87 from PM 0.0 to PM 6.1.

Table 5-1: Traveled Way, Shoulder, and Median Geometric Information for SR 87 from PM 0.0 to PM 6.1

Facility Location (Post Mile Limits)	Through Traffic Lanes			Paved Shoulder Width		Median Width (ft)	Additional Paved Width for Bicycle Lane or Other (ft)
	Number of Lanes	Lane Width (ft)	Type (Flexible, Rigid, or Composite)	Left (ft)	Right (ft)		
PM 0.0/6.1	4 to 6*	12	Flexible/ composite	4 to 10	4 to 12	2 to 26	12

* Divided highway consisting of two to three lanes in each direction and auxiliary lanes.

Notes:

PM = post mile(s)

SR = State Route

- The vertical clearance of major structures over the freeway roadbed varies from 14.90 feet to 22.80 feet. Per HDM Index 309.2(1)(b), a minimum vertical clearance for freeways with overlay projects is 16 feet on the traveled way and shoulders. Table 5-2 lists the nonstandard vertical clearance for the bridges above SR 87 from PM 0.0 to PM 6.1 that will be maintained as is.

Table 5-2: Bridge Structure Vertical Clearance above SR 87 from PM0.0 to PM 6.1

Structure Name (Bridge Number)	Vertical Clearance			Per HDM Index 309.2(1)(b), Minimum Vertical Clearance (ft)
	Existing (ft)	RRR Standard (ft)	Prop (ft)	
Curtner Avenue UC (Bridge No. 37-0362R)	15.8	15	15.8	16
Almaden Road UC (Bridge No. 37-0366L)	15.2	15	15.2	16
Virginia Street OC (Bridge No. 37-0315)	14.9	16	14.9	16
I-280-SR 87 Connector Viaduct (Bridge No. 37-0270H)	15.7	15	15.7	16
Auzerais Avenue UC (Bridge No. 37-0273R)	15.6	15	15.6	16
Auzerais Avenue UC (Bridge No. 37-0273L)	15.6	15	15.6	16

Notes:

HDM = Highway Design Manual

OC = Overcrossing

Prop = Proposed

RRR = Resurface, Restoration and Rehabilitation

UC = Undercrossing

- The shoulder width for the structures that cross over the freeway is 1 foot. Per HDM Index 302.1, the minimum paved outside shoulder width is 4 feet.

All existing nonstandard features are to remain. The project is certified as a 2R Project (see Attachment O), therefore a Memo to File to document the existing nonstandard features is not required.

5B. Rejected Alternatives

Two alternatives that were described in the PSSR were rejected: the 40-year flexible rehabilitation alternative and the No-Build Alternative. This section focuses on the two rejected alternatives.

Rejected Alternative: 40-Year Flexible Rehabilitation Alternative

Similar to the 20-Year Flexible Rehabilitation Alternative (preferred alternative), this alternative recommended removal of the existing AC and ATPB layers and replacement with new asphalt materials with a GPI embedded in the new asphalt.

The 40-year Flexible Rehabilitation Alternative was rejected because the findings in the Life-Cycle Cost Analysis determined that the 20-year Flexible Rehabilitation Alternative is more cost-effective over a 55-year life cycle.

The recommendation for the 40-year rehabilitation alternative was as follows: the existing 0.35 ft of AC and 0.25 ft of ATPB will be removed and replaced with 0.10 ft of rubberized hot mix asphalt (open-graded) (RHMA-O), 0.20 ft of RHMA-G, GPI, and 0.55 ft of HMA-A.

The recommendation for this alternative also proposed to increase the profile grade by 0.25 ft, which would require upgrades to the adjacent facilities, such as concrete barriers, to match the new finished grade elevation. All other work for this alternative matched the work proposed for the preferred alternative.

Rejected Alternative: No-Build Alternative

The No-Build Alternative would not make any improvements to the facility and the pavement would continue to deteriorate. The No-Build Alternative was rejected because it would not meet the project purpose and need. The pavement would continue to deteriorate over time if the highway is not rehabilitated as proposed by the preferred alternative.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

To assess the extent of any hazardous waste contamination and classify the material appropriately, a site investigation and laboratory analysis of the material may need to be performed during the PS&E phase. Historical data from other projects in the vicinity show naturally occurring asbestos and aerially deposited lead (ADL) may be present. The soil will be tested as appropriate and characterized for contaminants of concern, such as naturally occurring asbestos and ADL. The safe handling of the contaminated soil that may be generated as part of the project and the removal and disposal of treated wood and waste disposal will be addressed by suitable special provisions during the PS&E phase.

6B. Value Analysis

The National Highway Systems Act and the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) require a project with a total cost of \$25 million or more to have a Value Analysis study prepared.

The Value Analysis (VA) study was conducted in September 2020, and three VA alternatives were developed:

Alternative 1.0: Construct the project with a 10-hour nighttime construction period in lieu of an 8-hour nighttime construction period. This alternative would reduce working days and project cost, however there will be inconveniences for motorists

Alternative 2.0: Improve slope protection to avoid needing a 404 permit and save National Pollutant Discharge Elimination System (NPDES) cost.

Alternative 3.0: Reduce the pavement replacement depth from 0.6 feet to 0.35 feet. This alternative would reduce project cost.

Extending closure hours may not be feasible based on latest traffic operational trends, 404 permit requirements may not include slope protection conditions, and quality of pavement may not allow for a reduced replacement depth that can accommodate a 20-year pavement life. It was determined that additional analysis is required during PS&E phase to determine feasibility of these alternatives. Final determination is scheduled for February 2022. Current scope assumes these alternatives are not implemented.

6C. Resource Conservation

The project has included rubberized hot mix asphalt (RHMA) in the pavement rehabilitation. Ground-up recycled tires are utilized to produce RHMA by blending them with asphalt. The use of RHMA reduces consumption of natural resources.

6D. Right of Way

General

The Division of Right of Way and Land Surveys has prepared a Right of Way Data Sheet based on the scope of the work described. The estimated cost information is provided in the Right of Way Data Sheet (Attachment K). It is not anticipated that the project will require right of way acquisition. All project work will be within the existing State right of way.

Railroad Involvement

Caltrain, Union Pacific Railroad (UPRR), and the Santa Clara Valley Transportation Authority (VTA) railroad facilities exist within the project limits. A railroad short clause will be included in the project specifications during PS&E phase. Coordination will be required between Caltrain, UPRR, and VTA during the PS&E phase and during the Construction phase.

Utilities

Verification of utilities will be required. The need for potholing will be ascertained after the completion of the verification process (during the PS&E phase).

6E. Environmental Compliance

The project as proposed is Categorically Exempt under Class 1 of the California Environmental Quality Act (CEQA) guidelines and Categorically Excluded under the National Environmental Policy Act (NEPA). The Environmental Document was approved on 09/23/2020 (see Attachment M).

During Project Initiation phase it was anticipated that this project would require a document level of an Initial Study (IS) since there were biological permit impacts. It was determined during PA&ED phase that these permits do not directly trigger an IS; the only biological permit that does require an IS is an Incidental Take Permit (ITP), which is not needed. Given the minimal environmental impacts, it was determined an IS was not warranted and it would proceed with a CEQA Exemption/NEPA Categorical Exclusion (CE/CE).

6F. Air Quality Conformity

Under Title 40 Code of Federal Regulation (CFR) Section 93.126 Table 2 (Pavement resurfacing and/or rehabilitation), the project is exempt from the requirement to determine air quality conformity. Therefore, an air quality study is not required.

6G. Title VI Considerations

Title VI of the Civil Rights Act of 1964 prohibits discrimination based on race, color, and national origin. Specifically, Title 42 United States Code Section 2000d states that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”

The proposed project will not have an adverse impact on population growth and sprawl, the local economy, municipal or community services, community character, or existing or proposed land used. The project will not unequally affect low-income, low-mobility, or minority groups, as the project does not involve pedestrian or transit facilities, other than upgrades to 28 curb ramps to meet ADA requirements.

6H. Noise Abatement Decision Report

The project does not qualify as a Type 1 project under 23 CFR 772 and it will not cause a traffic noise impact. Consideration of noise abatement is not required. No noise/vibration studies are required. However, because residences are present on both sides of SR 87 measures to reduce construction noise, especially at night, should be considered during the PS&E phase.

6I. Life-Cycle Cost Analysis

A Life-Cycle Cost Analysis (LCCA) was performed for the mainline to help determine the preferred alternative. Per LCCA guidance, a 20-year flexible rehabilitation and a 40-year flexible rehabilitation pavement alternative were used for comparison.

The results of the LCCA indicated that the 20-year flexible rehabilitation alternative would have the lowest agency cost and total life-cycle cost. The 40-year flexible rehabilitation alternative was determined to have the lowest user cost.

Since the user cost is minor compared to the agency cost for the project, the alternative with the lowest agency cost and lowest total life-cycle cost was considered to be the preferred alternative.

Therefore, the 20-year flexible rehabilitation alternative was considered to be the overall cost-effective choice for a 55-year life cycle and was deemed the preferred alternative.

6J. Reversible Lanes

Reversible lanes are not applicable to the project.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

The project is considered to be a Category 4B project, so neither a public hearing nor a notice of such a hearing is required. Therefore, a public hearing is not planned for the project. There is no known public controversy regarding the project, and all technical issues are being resolved through the Project Development Team.

Route Matters

The project will not alter freeway access control. Therefore, no new freeway agreements, route adoptions, or relinquishments will be required. The existing freeway agreements do not need to be modified.

Cooperative and Other Agreements

New cooperative and maintenance agreements are not required. There are existing maintenance agreements within the project limits. Local agencies, city of San Jose and Santa Clara Valley Transportation Authority (VTA) were contacted regarding the operation and maintenance of light-rail and electrical facilities impacted by the project. The following maintenance agreements are within project limits:

- Delegated Maintenance Agreement SCL-42-003897, dated 3/23/2005
- Delegated Maintenance Agreement SCL-43-006494, dated 7/2/2003

- Freeway Maintenance Agreement SCL-43-016502, dated 9/12/2008
- Freeway Maintenance Agreement SCL-43-014647, dated 12/16/1999
- Freeway Maintenance Agreement SCL-43-242503, dated 5/26/1972
- Freeway Maintenance Agreement SCL-43-5731, dated 5/26/1983

Public Boat Ramps

There are no public boat ramps within the project limits. Therefore, no project decisions regarding access to public boat ramps need to be documented.

Transportation Management Plan

A Transportation Management Plan (TMP) will be required for the project. The TMP is a special program that will be implemented during construction to minimize and prevent delay and inconvenience to the traveling public.

The proposed construction and improvements will include temporary lane closures and detours. The TMP for the project will be developed in conjunction with local jurisdictions, refined during the PS&E phase, and supported by detailed traffic operation studies to evaluate traffic operation impacts during short-term detours for ramp closures.

Ramp-metering systems within the project limits will be operational during construction and will continue to be maintained. It is anticipated that maintaining ramp-metering operations during construction will require coordination with the Office of Traffic Systems.

The TMP will include press releases to notify motorists, businesses, community groups, local entities, emergency services providers, and local elected officials of upcoming closures and detours. The TMP may use such elements as portable changeable message signs and the California Highway Patrol's Construction Zone Enhanced Enforcement Program (COZEEP) to alleviate and minimize delays to the traveling public.

For additional information regarding the TMP, see the TMP Data Sheet, which is provided as Attachment N.

Stage Construction

Temporary nighttime lane and/or shoulder closures will be required and will be limited to nonpeak travel periods. Several tasks require lane and/or shoulder closures, such as cold-plan and resurfacing, replacing guard railing, injection grouting, replacing loop detectors, and drainage work. Advance notice will be provided for ramp closures and traffic will be detoured to adjacent interchanges during the closures. Any construction activities that generate significant temporary noise levels will be evaluated. Detailed construction staging and traffic-handling plans will be developed during the PS&E phase.

Accommodation of Oversize Loads

The project will not place new restrictions on the movement of oversize loads, and it will not place any new height limitations on loads moving into or out of the area.

Graffiti Control

The project does not include structures subject to graffiti control, such as bridges and walls; therefore, the project design will not pay special attention to ways to prevent vandals from accessing bridges and walls.

Asset Management

Director’s Policy 35 (DP-35) calls for maximizing the effectiveness of transportation investments through a performance-driven asset management in conformance with Title 23, Part 515 of the Code of Federal Regulations and Section 14526 of the California Government Code. Per this policy, Caltrans is required to determine the most effective way to apply the available resources to benefit the condition and performance of the State Highway System (SHS) and its assets. This is achieved by a robust Asset Management program and is implemented through the Asset Management plans, such as the State Highway System Management Plan (SHSMP) and the District Performance Plans (DPP).

This project has been initiated, developed, and programmed in alignment with the departmental Asset Management plans. In the PA&ED phase of the project, all efforts have been made to meet or surpass the performance of the project at the programming milestone (Milestone 015) (see attachment Q). The programming performance is presented in Table 7.1.

Table 7.1 – Currently Programmed Performance Measures of the Project

Activity Detail	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added
Mainline existing asphalt pavement rehabilitation	Lane Miles	29.5	0.1	14.2	15.3	
Crash Cushions	EA	6.0			6	
Drainage improvement	EA	330.0			330.0	
Guard Rail	LF	22840.0			22840.0	
Signing	EA	22.0			22.0	
Vehicle Detection	EA	250.0	250.0			
ADA - New curb ramp installed	EA	28.0			28.0	
ADA - Deficient Elements	Deficient Element	28.0			28.0	

Crosswalks	EA	19.0			19.0	
Pedestrian access / sidewalks	EA	5.0			5.0	

Complete Streets and Context Sensitive Solution

The project will upgrade all 28 curb ramps within the project limits that are not ADA-compliant. In addition, the bikeway that runs parallel to northbound SR 87 within the State right of way for 2.9 miles will be resurfaced.

Climate Change Considerations

The project will not induce more traffic, add travel lanes, or increase the roadway capacity of Interstate 87. The project will not change the long-term capacity of the stretch of SR 87 that is within the project limits. Therefore, the project is not expected to increase operational levels of greenhouse gas (GHG) emissions.

Caltrans used the Roadway Construction Emissions Model (RCEM), provided by the Sacramento Metropolitan Air Quality District, to estimate that the preferred alternative for the project will result in the emission of 1,162.07 tons of carbon dioxide during construction (see Attachment U for details of the analysis). Because construction activities are short term, the GHG emissions resulting from construction activities will not result in long-term adverse effects. Implementation of the Caltrans Standard Specifications, such as complying with the air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, and the use of construction Best Management Practices (BMPs) will reduce GHG emissions from construction activities. The construction BMPs may include (but will not be limited to) the following:

- Perform regular vehicle and equipment maintenance.
- Limit the idling of vehicles and equipment on-site.
- If practicable, recycle nonhazardous waste and excess material; if such recycling is not practicable, dispose of nonhazardous waste and excess material properly.
- Use solar-powered signal boards, if feasible.

Broadband and Advanced Technologies

Broadband and advanced technologies are not applicable to the project.

Erosion Control

Permanent erosion control measures will be implemented for the project to stabilize disturbed areas. These measures will ensure that these areas do not pose more risk of sediment discharge than they did before the commencement of construction activity and that there is no potential for construction-related stormwater pollutants to be discharged into the site runoff. Detailed erosion control plans and estimates will be developed during the PS&E phase. Given the disturbed soil area (DSA) for the project, it is estimated that the erosion control work will cost \$400,000.

Highway Planting and Irrigation

Caltrans policy is to replace highway planting that is damaged or removed by State highway construction activities. Within and near the project limits, PM 0.0 to PM 0.74 and PM 4.85 to PM 6.28 are designated as having Classified Landscaped Freeway status. Therefore, the landscaping within these areas should be protected from construction and staging activities. If replacement landscaping and irrigation are required after the completion of project construction, the landscaping will have a 1-year plant establishment period.

Nonmotorized and Pedestrian Facilities

Per Caltrans Traffic Operations Policy Directive (TOPD) 12-01, accessible pedestrian signals (APSSs) and pedestrian countdown timers (PCTs) will be installed per guidelines to improve safety, access, and mobility for pedestrians at signalized intersections on the State Highway System. If a push button is installed behind a new or existing curb, the side-reach distance of 10 inches will be followed.

Vehicle Detection Systems

All active ramp-metering and Traffic Operations Systems (TOS) elements must be kept operational throughout the Construction phase of the project. The existing and operational ramp metering and TOS elements that may be affected by the project must be relocated, modified, or fully replaced as necessary.

If the warning signs for ramp metering are affected by the project, they will be replaced with the current standard warning signs.

There are existing traffic management loop detectors that will be reinstalled at their existing locations during project construction. New vehicle detection systems are not part of the scope of the project. Funding for replacement of such equipment has been included in this project in case the equipment is damaged during construction.

Visual/Aesthetics

With the incorporation of the following minimization measures, the proposed improvements will result in negligible visual changes:

- Tree and vegetation removal in conjunction with the project will be minimized to the extent feasible.
- Trees and vegetation outside of the clearing and grubbing limits will be protected from the contractor's operations, equipment, and materials storage.
- All disturbed ground surfaces will be restored and treated with erosion control measures, as needed.
- During construction operations, unsightly material and equipment in staging areas will be placed in areas that are not visible to nearby residents and/or will be covered.
- Construction activities will limit all construction lighting to within the area of work and avoid light trespass into residential areas through the use of directional lighting, shielding, and other measures, as needed.

Water Quality

The project has a DSA of more than 1 acre. The preparation of a Storm Water Pollution Prevention Plan (SWPPP) will be required.

If the project creates 1 acre or more of new impervious area, post-construction treatment BMPs such as biofiltration strips or swales will be required. Trash capture devices will be required because the project is in a Significant Trash Generating Area.

BMPs will need to be implemented to address the temporary water quality impacts resulting from the construction activities for the project. The BMPs will consist of such measures as soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and waste management/materials pollution control. The appropriate BMPs and their quantities will be developed during the PS&E phase. Permanent erosion control measures will also be implemented as part of the project to stabilize disturbed areas as a means of source control. The approved Stormwater Data Report for the project is provided as Attachment L.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that the project is eligible for federal-aid funding. The project will be funded through the SHOPP Roadway Preservation Category/Pavement Rehabilitation (2R) Program (Program code 201.122 per the Caltrans coding manual).

Programming

The construction capital programmed for the project is \$55,263,000 for construction capital and \$304,000 for right of way capital.

The following table lists the amount that was programmed for the project in the Project Initiation Document phase.

Existing Programmed

Fund Source	Fiscal Year Estimate							
	Prior	2018/ 19	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	Total
20.xx.201.122								
Component	In thousands of dollars (\$1,000)							
PA&ED Support	2,767							2,767
PS&E Support				4,425				4,425
Right of Way Support				50				50
Construction Support					6,581			6,581
Right of Way Construction					304			304
Construction					55,263			55,263
Total	2,767	0	0	4,475	62,148	0	0	69,390

Notes:

PS&E Plans, Specification and Estimate

PAED = Project Approval and Environment Document

The existing programmed support cost ratio (support/capital) is 24.9%.

Proposed Programmed

Fund Source	Fiscal Year Estimate							
	Prior	2018/ 19	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	Total
20.xx.201.122								
Component	In thousands of dollars (\$1,000)							
PA&ED Support	2,767							2,767
PS&E Support				4,425				4,425
Right of Way Support				50				50
Construction Support					6,581			6,581
Right of Way Construction					85			85
Construction					60,594			60,594
Total	2,767	0	0	4,475	67,260	0	0	74,502

Notes:

PS&E Plans, Specification and Estimate

PAED = Project Approval and Environment Document

The proposed support cost ratio (support/capital) is 22.8%.

Estimate

The estimated escalated total project cost (including capital outlay and support costs) is \$74,502,000, which amounts to \$60,679,000 in construction capital, \$85,000 in right of way capital, and \$13,823,000 in project support costs.

The estimated capital cost has been escalated at a 3.2% inflation rate to mid-construction year of 2024. See Attachment G for the Project Cost Estimate Summary, which shows the specific work items included in the project.

The Structures cost estimate was provided by Office of Advance Planning on December 17, 2019 (see Attachment R for the Advance Planning Study).

The Right of Way cost estimate was prepared and provided by the Office of Right of Way on 10/15/2020 (see Attachment K).

A Project Change Request (PCR), to account for the increases in construction capital funds, to match the current cost estimate, has been deferred and will be processed when the variance in FY 21/22 is sufficient to cover the increase. The necessary variance will come from projects that will be moved out of the FY 21/22 when the District receives their variance for the FY that they are moving out to.

9. DELIVERY SCHEDULE

The following table lists the project milestones, their dates, and their current designations.

Project Milestones		Milestone Date	Milestone Designation
PROGRAM PROJECT	M015	10/10/2017	Actual
BEGIN ENVIRONMENTAL	M020	05/02/2018	Actual
PA&ED	M200	10/01/2020	Target
PS&E TO DOE	M377	02/01/2022	Target
PROJECT PS&E	M380	03/04/2022	Target
RIGHT OF WAY CERTIFICATION	M410	04/01/2022	Target
READY TO LIST	M460	04/30/2022	Target
AWARD	M495	12/01/2022	Target
APPROVE CONTRACT	M500	02/01/2023	Target
CONTRACT ACCEPTANCE	M600	03/03/2025	Target
END PROJECT EXPENDITURES	M800	03/01/2027	Target

Notes:

DOE = District Office Engineer

10. RISKS

A Risk Register was prepared for the project; it is provided as Attachment P.

No items described in the Risk Register have a high probability rating. The following risks have been identified with a moderate probability rating:

- **Extra dig-outs:** During construction, new distressed locations that are not called out on plans may be found or increased deterioration of existing locations may occur. Such new or existing locations could lead to additional work that would result in additional cost and time. This risk will be mitigated by performing additional field site investigation during the PS&E phase.
- **Extra concrete slab replacement:** During construction, new distressed concrete slabs that are not called out on the plans may be found. Such slabs could lead to additional work that would result in additional cost and time. This risk will be mitigated by performing additional field site investigation during the PS&E phase.
- **Noise levels:** Construction activities may cause disturbance to nearby residents if the noise level exceeds the permissible limits and leads to public concerns and complaints. Such complaints could result in additional project cost. This risk will be mitigated by incorporating mitigation measures during the PS&E phase.

The Risk Register will continue to be updated as the project progresses.

11. EXTERNAL AGENCY COORDINATION

The project is considered to be a Delegated Project in accordance with the current Stewardship and Oversight Agreement signed by the Federal Highway Administration (FHWA) and Caltrans on May 28, 2015. Therefore, no coordination with FHWA will be required.

12. PROJECT REVIEWS

Table 12-1 lists the types of project reviews that will be conducted, the names of the reviewers, and the dates of the reviews.

Table 12-1: Review Topics, Names of Reviewers, and Dates of Reviews

Review Topic	Name of Reviewer	Date of Review
District Program Advisor	Robert Comargo	8/3/2020
HQ SHOPP Program Advisor	John Rocconava	8/3/2020
District Maintenance	James Hsiao	8/3/2020
District 4 Design Liaison	Solomon Tesfe	8/3/2020

HQ Project Delivery Coordinator	Robert Effinger	8/3/2020
Project Manager	Francis Mensah	8/3/2020
District Safety Review	Katie Yim	8/3/2020
Constructability Review	Robert Kobal	8/3/2020

Notes:
HQ = Headquarters

SHOPP = State Highway Operation and Protection Program

13. PROJECT PERSONNEL

Program Manager	Robert Camargo	(510) 286-4450
Project Manager	Francis Mensah	(510) 385-6893
Design Santa Clara, Office Chief	“Tom” Tung Ly	(510) 286-5076
Design Santa Clara, Branch Chief	Arick Bayford	(510) 286-4776
Project Engineer	Daniel Mulugeta	(510) 622-5468
Environmental Senior Planner	Brian Gassner	(510) 286-6025
Hydraulics Branch Chief	Yuanzheng Ge	(510) 286-4878
Transportation Management Unit	Cesar Pujol	(510) 286-4713
Materials Branch Chief	Ashok Das	(510) 286-4692
Hazardous Waste Branch Chief	Nandini Vishwanata	(510) 286-5654
Water Poll. Control, Branch Chief	Kamran Nakhjiri	(510) 286-5664
Storm Water Treatment, Branch Chief	Norman Gonsalves	(510) 286-5930
Storm Water Treatment, Engineer	Johnathan Wellen	(510) 286-5673
Erosion Control, Branch Chief	Alex McDonald	(510) 286-4147
Senior Right of Way Agent	Sunnie Stanton	(510) 286-5476
Utility Engineering, Branch Chief	Hanna Khoury	(510) 622-5456
Geotechnical Design Engineer	John Moore	(510) 622-8742
HQ Pavement Program Advisor	Gurinderpal Bhullar	(916) 227-1061

14. ATTACHMENTS (Number of Pages)

- A. Project Title Sheet (1)
- B. Vicinity Map (1)
- C. Typical Sections (4)
- D. Layout Plans (25)
- E. Pavement Condition Detailed Report (5)
- F. Materials Recommendation (4)
- G. Project Cost Estimate Summary (10)
- H. Traffic Safety Recommendation (14)
- I. Geotechnical Recommendation (24)
- J. Hydraulics Recommendation (7)
- K. Right of Way Data Sheet (8)
- L. Stormwater Data Report (10)
- M. Environmental Document (4)

- N. Transportation Management Plan Data Sheet (2)
- O. Restoration and Rehabilitation (2R) Certification (1)
- P. Risk Register (2)
- Q. SHOPP Performance Measures (1)
- R. Advance Planning Study (18)
- S. Bikeway Location Map (1)