

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017  
PROJECT BASELINE AGREEMENT  
CC-4 CAPM (EA 04-2Q700)

Resolution SHOPP-P-2223-03B  
(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 *CC-4 CAPM (EA 04-2Q700)*, effective on, December 7, 2022 (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 March 17, 2022 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *CC-4 CAPM (EA 04-2Q700)*, 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-22-29*, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated March 17, 2022
  - 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 The Caltrans agrees to secure funds for any additional costs of the project.
- 4.6 The Caltrans 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 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

CC-4 CAPM (EA 04-2Q700)  
SHOPP-P-2223-03B

Resolution \_\_\_\_\_

*gezahegn tizazu*

Gezahegn Tizazu

10/13/2022

Date

California Department of Transportation

Project Applicant

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

California Department of Transportation

Implementing Agency

*Dina El-Tawansy*

Dina El-Tawansy

10/17/2022

Date

District Director

California Department of Transportation

\_\_\_\_\_  
Tony Tavares

\_\_\_\_\_  
Date

Director

California Department of Transportation

\_\_\_\_\_  
Mitchell Weiss

\_\_\_\_\_  
Date

Executive Director

California Transportation Commission

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:	09/29/22 10:45:26 AM
District	EA	Project ID		PPNO	Project Manager		
04	2Q700	0419000040		2027F	TIZAZU, GEZAHEGN		
County	Route	Begin Postmile	End Postmile	Implementing Agency			
CC	4	L 0.0	R 14.3	PA&ED	Caltrans		
				PS&E	Caltrans		
				Right of Way	Caltrans		
				Construction	Caltrans		
Project Nickname							
CAPITAL PREVENTATIVE MAINTENANCE							
Location/Description							
In and near Hercules, Martinez, and Concord, from San Pablo Avenue to east of Peralta Road Undercrossing. Rehabilitate roadway, upgrade guardrail and signs, and upgrade facilities to Americans with Disabilities Act (ADA) standards.							
Legislative Districts							
<b>Assembly:</b>	14, 15		<b>Senate:</b>	03, 09		<b>Congressional:</b>	05, 11
PERFORMANCE MEASURES							
	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement	6.4	54.8	0.8		62	Lane-miles
Programmed Condition	Pavement	62	0	0		62	Lane-miles
Project Milestone						Actual	Planned
Project Approval and Environmental Document Milestone						07/08/22	06/01/22
Right of Way Certification Milestone							05/26/23
Ready to List for Advertisement Milestone							06/15/23
Begin Construction Milestone (Approve Contract)							03/15/24
FUNDING (Allocated amounts are shaded)							
Component	Fiscal Year	SHOPP					Total
PA&ED	20/21	3,324					3,324
PS&E	21/22	4,538					4,538
RW Support	21/22	917					917
Const Support	22/23	6,228					6,228
RW Capital	22/23	29					29
Const Capital	22/23	45,024					45,024
Total		60,060					60,060

# Project Report

## *For Project Approval*

On Route     4  
Between     San Pablo Avenue  
And           Route 4/242 Separation

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:

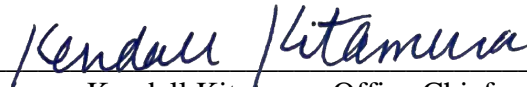


for Julie McDaniel, Deputy District Director,  
Right of Way and Land Surveys

APPROVAL RECOMMENDED:



Gezahegn Tizazu, Project Manager



Kendall Kitamura, Office Chief,  
Design Contra Costa

PROJECT APPROVED:

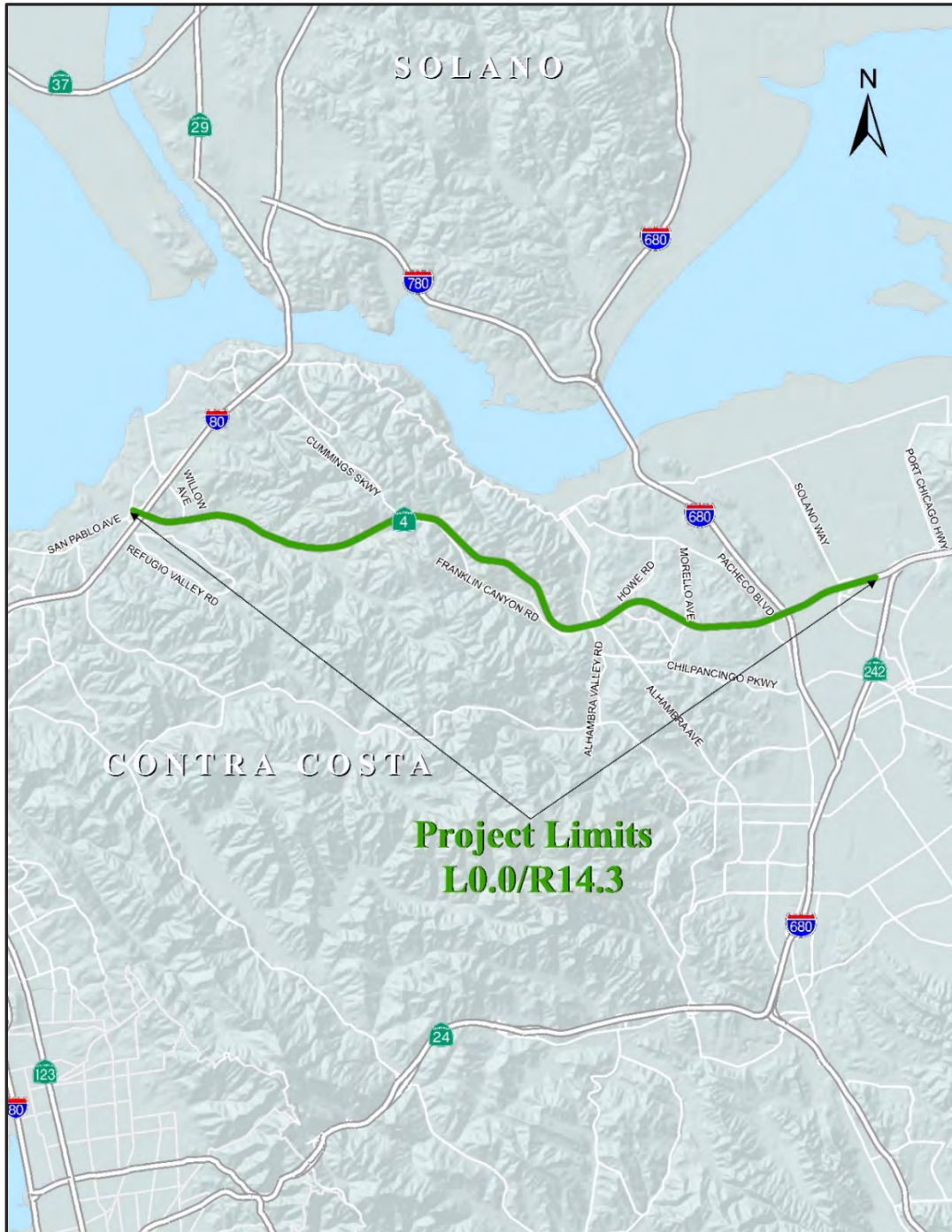


Helena (Lenka) Culik-Caro,  
Deputy District Director, Design

July 8, 2022

Date

## Vicinity Map



In Contra Costa County on State Route 4 from San Pablo Avenue (PM L0.0) and Route 4/242 Separation (PM R14.3)

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.



---

*OLIVIER G. MBATCHOU,  
REGISTERED CIVIL ENGINEER*

06/24/2022

DATE



# Table of Contents

<b>1. INTRODUCTION.....</b>	<b>1</b>
Project Description.....	1
<b>2. RECOMMENDATION.....</b>	<b>1</b>
<b>3. BACKGROUND .....</b>	<b>2</b>
Project History .....	2
Community Interaction .....	2
Existing Facility.....	3
Roadway Information .....	3
Pedestrian Facility.....	3
Bicycle Facility .....	3
<b>4. PURPOSE AND NEED .....</b>	<b>4</b>
Purpose.....	4
Need .....	4
4A. Problem, Deficiencies, Justification.....	4
4B. Regional and System Planning.....	4
Corridor Overview .....	4
Federal and State Planning .....	5
Regional Planning.....	5
4C. Traffic.....	10
Current and Forecasted Traffic .....	10
Collision Analysis.....	11
<b>5. ALTERNATIVES .....</b>	<b>18</b>
5A. Viable Alternatives .....	18
Proposed Engineering Features .....	18
Nonstandard Design Features .....	18
Interim Features .....	19
High-Occupancy Vehicle Lanes .....	19
Ramp Metering and Traffic Operations Systems .....	19
California Highway Patrol Enforcement Area.....	19
Highway Planting and Irrigation.....	19
Noise Barriers .....	20
Nonmotorized and Pedestrian Features .....	20
Needed Roadway Rehabilitation and Upgrading.....	20
Context-Sensitive Solutions.....	20
Earth-Retaining Systems.....	20
Roadside Design and Management.....	21
Stormwater.....	21
Stormwater Treatments.....	21
Temporary Water Pollution Control .....	21
5B. Rejected Alternatives .....	22



<b>6.</b>	<b>CONSIDERATIONS REQUIRING DISCUSSION.....</b>	<b>22</b>
6A.	Hazardous Waste.....	22
	Soils .....	22
	Treated Wood Waste .....	22
	Lead Paint .....	23
6B.	Value Analysis .....	23
6C.	Resource Conservation.....	23
6D.	Right of Way.....	23
	General.....	23
	Railroad.....	23
	Utilities.....	24
6E.	Environmental Compliance .....	24
6F.	Air Quality Conformity .....	24
6G.	Title VI Considerations.....	24
6H.	Noise Abatement Decision Report.....	24
6I.	Life-Cycle Cost Analysis.....	24
6J.	Reversible Lanes .....	24
<b>7.</b>	<b>OTHER CONSIDERATIONS AS APPROPRIATE.....</b>	<b>24</b>
	Public Hearing Process .....	24
	Caltrans Equity Statement.....	25
	Environmental Justice.....	25
	California Climate Investments Priority Populations .....	26
	Equity Priority Communities .....	26
	Route Matters.....	26
	Permits .....	26
	Cooperative Agreements.....	27
	Other Agreements .....	27
	Transportation Management Plan .....	27
	Stage Construction .....	27
	Accommodation of Oversize Loads.....	27
	Graffiti Control .....	27
	Asset Management.....	27
	Complete Streets .....	30
	Pedestrian Facilities .....	30
	Transit Facilities .....	31
	Railroad Facilities .....	31
	Park and Ride facilities .....	31
	Climate Change Considerations.....	31
	Sea Level Rise .....	31
	Greenhouse Gas Emissions.....	31
	Broadband and Advanced Technologies .....	33
	Wired Broadband Facility.....	33
	Fueling Opportunities for Zero-Emission Vehicles.....	33
	Provision of Infrastructure-to-Vehicle Communications .....	33
	Erosion Control.....	33
	Stormwater Pollution Prevention.....	33

---

Visual Impacts .....	34
<b>8. FUNDING, PROGRAMMING AND ESTIMATE.....</b>	<b>34</b>
Funding .....	34
Programming.....	34
Estimate.....	35
<b>9. DELIVERY SCHEDULE .....</b>	<b>35</b>
<b>10. RISKS.....</b>	<b>35</b>
<b>11. EXTERNAL AGENCY COORDINATION.....</b>	<b>36</b>
Federal Highway Administration.....	36
Other Agencies.....	36
<b>12. PROJECT REVIEWS .....</b>	<b>36</b>
<b>13. PROJECT PERSONNEL .....</b>	<b>37</b>
<b>14. ATTACHMENTS (Number of Pages) .....</b>	<b>38</b>

## 1. INTRODUCTION

### Project Description

This report has been developed for a Capital Preventive Maintenance (CAPM) project under the 2020 State Highway Operation and Protection Program (SHOPP) Pavement Rehabilitation Program 201.121. The scope of work proposes to grind and resurface the existing mainline traveled way, shoulders, and on-/off-ramps on State Route (SR) 4 in Contra Costa County from San Pablo Avenue to the Route 4/242 separation (post mile [PM] L0.0 to PM R14.3). Additionally, the existing curb ramps, metal beam guardrails, and permanent traffic signs within the project limits will be upgraded where necessary to meet current standards. For the project limits and location map, see Attachment A. For the Preliminary Layout Sheets see Attachment B. The table below summarizes key information about the project.

<b>Project Limits</b>	04 - CC - 4 PM L0.0/R14.3	
<b>Number of Alternatives</b>	Two (one Build Alternative and the No-Build Alternative)	
	<b>Current Cost Estimate:</b>	<b>Escalated Cost Estimate:</b>
<b>Capital Outlay Support</b>	\$15,007,00	\$15,007,00
<b>Capital Outlay Construction</b>	\$43,850,600	\$49,738,688
<b>Capital Outlay Right of Way</b>	\$111,250	\$111,250
<b>Funding Source</b>	20.10.201.121 SHOPP, Pavement Rehabilitation Program	
<b>Funding Year</b>	2022/23	
<b>Type of Facility</b>	Four-lane freeway	
<b>Number of Structures</b>	40	
<b>SHOPP Project Output</b>	62 lane miles, 15 each curb ramps, 1 each bicycle and pedestrian signage	
<b>Environmental Determination or Document</b>	Categorical Exemption (CEQA)/Categorical Exclusion (NEPA)	
<b>Legal Description</b>	On State Route 4 in Contra Costa County from San Pablo Avenue to Route 4/242 Separation	
<b>Project Development Category</b>	Category 5	

Notes:

CC = Contra Costa County

CEQA = California Environmental Quality Act

NEPA = National Environmental Policy Act

PM = post mile(s)

SHOPP = State Highway Operation and Protection Program

## 2. RECOMMENDATION

It is recommended that the Build Alternative be approved and that the project proceed to the next phase.

### 3. BACKGROUND

#### Project History

A Project Initiation Report (PIR) for the project was approved on June 25, 2019, and a Project Initiation Proposal (PIP) for the project was approved on July 24, 2018. The PIR approved the project proposal and recommended that the project be programmed into the SHOPP. The current proposal differs from the PIR in that the project will also repair roadside embankment failure at specific locations within the project limits.

SR 4 is an east-west route providing interregional connection between the Central Valley and San Francisco Bay Area. The western portion of SR 4 is known as John Muir Parkway. SR 4 begins in the City of Hercules at Interstate 80 (I-80) and traverses unincorporated areas of Contra Costa County and areas within the Cities of Martinez, Concord, Pittsburg, and Antioch before ending at the SR 4/160 interchange. The eastern portion of SR 4 continues through and beyond the Contra Costa/San Joaquin County line. The route functions as a four-lane/six-lane freeway within the project limits.

According to the Materials Recommendations for the Project Report (see Attachment C), the roadbed of the SR 4 mainline has undergone various construction projects over the years. Table 3-1 is a summary of the past four projects concerning the roadbed of the SR 4 mainline.

**Table 3-1: Summary of Past Four Projects Concerning the Roadbed of the SR 4 Mainline**

Year	Project EA No.	PM	Construction Strategy
2017	04-1K0304	2.9/3.4 (Eastbound direction only)	Cold-planing and placing HFST
2016	04-3E3904	0.0/4.9 (Westbound direction only)	Cold-planing and dig-outs
2007	04-0C7204	4.9/16.8	Thin overlay and dig-outs
2006	04-0E1704	0.0/4.9	Thin overlay and dig-outs

Notes:  
PM = post mile(s)

EA = Expenditure Authorization  
HFST = High Friction Surface Treatment

#### Community Interaction

All the affected local agencies within the project limits have been informed about the proposal. The affected cities include City of Hercules, City of Martinez, and City of Concord. Their input will be considered and incorporated during the Design phase.

## Existing Facility

### Roadway Information

SR 4 is an east-west route providing interregional connection between the Central Valley and San Francisco Bay Area. The western portion of SR 4 is known as John Muir Parkway. SR 4 begins in the City of Hercules at Interstate 80 (I-80) and traverses unincorporated areas of Contra Costa County and in the Cities of Martinez, Concord, Pittsburg, and Antioch before ending at the SR 4/160 interchange. The eastern portion continues through and beyond the Contra Costa/San Joaquin County line. The route functions as a four-lane/six-lane freeway within the project limits.

Table 3-2 summarizes details of SR 4 within the Project Limits.

**Table 3-2: Details of SR 4 Within the Project Limits**

County-Route- Post Miles	Curve Radii Range (feet)	EB No. of Lanes	WB No. of Lanes	Median Width (feet)	EB Lane Width (feet)	WB Lane Width (feet)	EB Left Shld Width (feet)	EB Right Shld Width (feet)	WB Left Shld Width (feet)	WB Right Shld Width (feet)
CC-4- PM L0.0/9.0	—	2	2	150	12	12	10	10	10	10
CC-4- PM 9.0/R14.3	—	3	3	22	12	12	10	10	10	10

Notes:

— = not applicable

CC = Contra Costa

EB = eastbound

Shld = Shoulder

PM = post mile(s)

WB = westbound

### Pedestrian Facility

There are no pedestrian facilities such as sidewalks or crosswalks on SR 4 within the project limits. However, pedestrians have access to sidewalks and crosswalks at ramp terminals.

### Bicycle Facility

There are no formal bicycle facilities (paths, lanes) along SR 4 within the project limits. However, there are bike lanes on local facilities that cross ramp intersections. Bicyclists passing through the project limits currently use the shoulder of SR 4 between Sycamore Avenue (approximately PM R1.27) and Cummings Skyway in the eastbound direction, and between Cummings Skyway and the Willow Avenue off-ramp (approximately PM R0.92) in the westbound direction.

## 4. PURPOSE AND NEED

### Purpose

The purpose of this project is to preserve and extend the service life of the existing pavement, and to improve the ride quality for the traveling public.

### Need

The Materials Recommendations (Attachment C) notes that the International Roughness Index (IRI) within the project limits ranges from 52 to 268, exhibiting poor ride quality that—if left unrehabilitated—would continue to deteriorate and require frequent and high-cost maintenance. Distressed asphalt pavement conditions such as raveling, block cracking, rutting, and occasional potholes were noted in the Materials Recommendations. The repair strategy to preserve the asphalt concrete pavement is to cold-plane the existing asphalt concrete mainline and shoulders to a depth of 0.25 foot, and replace with 0.1 foot Rubberized Hot Mix Asphalt Type O (RHMA-O) over 0.15 foot Gap Graded Rubberized Hot Mix Asphalt (RHMA-G). For the Portland Concrete Cement (PCC) pavement, the repair strategy is to replace failed slabs and grind the profile of the rigid pavement. In addition, curb ramps that are not compliant with the Americans with Disabilities Act (ADA) will be replaced, and culverts in poor condition will be repaired.

### 4A. Problem, Deficiencies, Justification

The project will address the problem that the existing pavement has been deteriorating since 2006. This project will rehabilitate the existing pavement and prevent it from further deterioration.

The justification for the project is to preserve and extend the service life of the existing pavement and to improve the ride quality for the traveling public.

### 4B. Regional and System Planning

#### Corridor Overview

State Route 4 is an east-west freeway/expressway/conventional highway providing interregional connection between the Central Valley and San Francisco Bay Area. SR 4 provides access to the Interstate system (connecting to I-80 and Interstate 680 [I-680]) and regional routes such as SR 242. Bay Area Rapid Transit (BART) railway tracks run in the median of the freeway from the Port Chicago Highway interchange in Concord to the Hillcrest Avenue interchange in Antioch. This portion of SR 4 in Contra Costa County is a four- to ten-lane divided highway, with segments having existing High Occupancy Vehicle (HOV) lanes.

The SR 4 corridor includes interstate and regional rail and express and local bus service within Contra Costa County. Major providers include Amtrak, BART, Western Contra Costa County Transit (West-CAT), Central Contra Costa Transit Authority (CCCTA), and Tri Delta Transit.

SR 4 allows bicycle shoulder access between San Pablo Avenue and Cummings Skyway, and Port Chicago Highway and Willow Pass Road, but no pedestrian access.

### Federal and State Planning

Table 4-1 lists the federal and State of California (State) characteristics of the SR 4 corridor.

**Table 4-1: Federal and State Characteristics of the SR 4 Corridor**

<b>Characteristic</b>	<b>SR 4</b>
Functional classification	Freeways or Expressways / Principal Arterial
National Highway Freight Network	No
Trucking designations	Terminal Access Route (STAA)
National Highway System	Other NHS
State Scenic Highway	No
Interregional Road System	Yes (from eastern urban limits of Antioch/Pittsburg to San Joaquin County line)

Notes:  
NHS = National Highway System

SR = State Route  
STAA = Surface Transportation Assistance Act of 1982

### Regional Planning

The Metropolitan Transportation Commission (MTC) is the State-designated Regional Transportation Planning Agency and the federal-designated Metropolitan Planning Organization for the San Francisco Bay Area. The MTC is responsible for the Regional Transportation Plan (RTP), a long-range planning report for the region that incorporates known financial constraints. Under Senate Bill (SB) 375, along with an updated RTP, each region in California is mandated to develop a Sustainable Communities Strategy (SCS) that promotes compact, mixed-use commercial and residential development that is walkable, bikeable, and close to mass transit, jobs, schools, shopping, parks, recreation, and other amenities to help achieve the greenhouse gas (GHG) emissions reduction targets outlined in SB 32.

In partnership with the Regional Planning Agency Association of Bay Area Governments (ABAG), MTC developed Plan Bay Area (PBA) 2050, approved in October 2021. PBA 2050 serves as the San Francisco Bay Area's RTP and SCS, and is the latest strategic update to PBA 2040 from 2017. PBA 2050 consists of 35 strategies focused on improving housing, economic growth, transportation, and the environment for the Bay Area's nine counties. These strategies serve as a blueprint to inform the efforts of the nine counties of the Bay Area to plan and create a more resilient and equitable region over the next 30 years and beyond. Each strategy is a public policy or investment to be implemented collaboratively at the city, county, regional, or State level, with equity as the priority for execution.

---

Table 4-2 lists current and planned RTP projects in the vicinity of the Expenditure Authorization (EA) 04-2Q700 project limits.

### Local Planning

The Contra Costa County Transportation Authority (CCTA) is the designated Congestion Management Agency (CMA) for Contra Costa County. CCTA develops the long-range Countywide Transportation Plan (CTP),<sup>1</sup> which (along with similar plans from the other eight Bay Area Counties) forms the “primary basis” for the RTP/SCS adopted by the MTC. In turn, the CTP must consider the most recently adopted RTP/SCS to ensure that the county transportation plans and the regional plan employ a common planning framework.

### Future Projects

#### *State Highway Operation and Protection Program*

SHOPP is the State’s “fix-it-first” program that funds repairs, safety improvements, some highway operational improvements, and preservation for the State Highway System (SHS).

Table 4-3 lists current and planned SHOPP projects that are in the vicinity of the EA 04-2Q700 project limits.

---

<sup>1</sup> [Countywide Transportation Plan - Alameda CTC](#)



**Table 4-2: Current and Planned RTP projects in the Vicinity of the EA 04-2Q700 Project Limits for Projects on SR 4 Corridor**

<b>County-Route</b>	<b>Sponsor</b>	<b>RTP ID</b>	<b>Description</b>	<b>Cost</b>	<b>Project Completion Date</b>
CC SR 4	Contra Costa Transportation Authority	17-01-0010	SR Integrated Corridor Mobility SR 4 Integrated Corridor Mobility from I-80 to SR 160, including adaptive ramp metering, advanced traveler information, arterial management system, freeway management system, connected vehicle applications.	\$15M	2020
CC I-680/SR 4	Contra Costa Transportation Authority	22911	I-680/SR4 Interchange Improvements - Phase 3 Widening SR 4 between SR 242 and Morello Avenue from 2 lanes to 3 lanes per direction.	\$292M	2022
CC I-680/SR 4	Contra Costa Transportation Authority	22914	Improve I-680/SR4 interchange by implementing direct connectors for NB I-680 to WB SR 4 (Phase 1) and WB SR 4 to SB I-680 (Phase 2A) The 2-lane direct connectors will replace a single lane loop ramp and a single lane diagonal ramp, respectively.	\$236M	2026
CC SR 4	Contra Costa Transportation Authority	21-T06-022	Corridor and Interchange Improvements   I-680   This program includes funding to implement interchange improvements at SR 4 and new auxiliary lanes between Rudgear Road and El Cerro Boulevard and between Bollinger Canyon Road and Alcosta Boulevard.	\$473M	TBD
CC SR 4	Contra Costa Transportation Authority	21-T05-012	Per-Mile Tolling This program includes funding to implement toll infrastructure, such as toll gantries, to collect per-mile tolls charged to vehicles on the Bay Area's congested freeway corridors with transit alternatives. Toll corridors include I-80 (Ala, CC, Sol); I-238 (Ala); I-280 (SF, SM, SCI); I-380 (SM); I-580 (Ala); I-680 (Ala, CC, SCI); I-880 (Ala, SCI); US 101 (Mrm, SF, SM, SCI, Son); SR 4 (CC); SR 17 (SCI); SR 24 (Ala, CC); SR 85 (SCI); SR 87 (SCI); SR 92 (SM); SR 237 (SCI); and SR 242 (CC).	\$1,000M	TBD
CC SR 4	Contra Costa Transportation Authority	21-T06-031	Corridor and Interchange Improvements This program includes funding to implement Integrated Corridor Mobility between I-80 and SR 160, and operational improvements between Port Chicago Highway and San Marcos Boulevard /Willow Pass Road.	\$259M	TBD

Notes:

Ala = Alameda County

CC = Contra Costa County

EA = Expenditure Authorization

I = Interstate

ID = identification number

M = \$million

Mrn = Marin County

NB = northbound

RTP = Regional Transportation Plan

SB = southbound

SCI = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Sol = Solano County

SR = State Route WB = westbound

TBD = to be determined

**Table 4-3: Current and Planned SHOPP Projects in the Vicinity of the EA 04-2Q700 Project Limits**

County	Route	Post Mile	Program/Plan	EA / SHOPP ID	Description / Activity Category	Cost (Construction) \$K*	(Projected) SHOPP Cycle*
CC	SR 4	VAR	2017	3J140	Safety–collision reduction	\$11,203.00	2018
CC	SR 4	0/25	2021	0Q200	Storm Water Mitigation	\$9,968.00	2024
CC	SR 4	0/R20.4	2021	0J480	Safety collision reduction	\$16,362.00	2022
CC	SR 4	R1.0/R9.0	2021	3K440	Safety improvement	\$11,715.00	2022
CC	SR 4	R8.59/46.46	2021	16745	Safety collision reduction	11,333.00	2022

\*Cost and proposed construction date are subject to change.

Notes:

\$K = dollars in thousands

CC = Contra Costa

EA = Expenditure Authorization

ID = identification

SHOPP = State Highway Operation and Protection Program

SR = State Route

VAR = varies

#### *District 4 Bike Plan*

The District 4 Bike Plan, the first of its kind in the State, evaluates bicycle needs on and across the Bay Area’s State transportation network, and identifies infrastructure improvements to enhance bicycle safety and mobility, and remove some of the barriers to bicycling in the region. The plan builds on *Toward an Active California: State Bicycle and Pedestrian Plan* (2017) and will guide District 4 and its partners to develop an integrated bicycle network for the Bay Area.

Table 4-4 lists current and planned bike projects that are in the vicinity of the EA 04-2Q700 project limits.

**Table 4-4: Current and Planned Bike Projects in the Vicinity of the EA 04-2Q700 Project Limits**

County	Route	Post Mile	Location	Description	Tier	Cost
CC	SR 4	R3.42	Christie Road	New separated crossing	Low	>\$7M

Notes:

\$M = dollars in millions

CC = Contra Costa County

SR = State Route

## 4C. Traffic

### Current and Forecasted Traffic

Table 4-5 lists current and forecasted traffic information for Main Line and Ramps on SR 4 within the project limits.

**Table 4-5: Current and Forecasted Traffic Information for SR 4 Within the Project Limits**

Count Year ADT (2015)	90,800
Construction Year ADT (2026)	102,400
Design Year ADT (2046)	123,500
DHV (2046)	8,600
D%	54.1%
Truck%	5.09%

Notes:

ADT = Average Daily Traffic

D% = directional distribution (% of traffic moving in the peak travel direction)

DHV = Design Hourly Volume

SR = State Route

Table 4-6 lists the estimated Traffic Indexes (TIs) and Equivalent Single Axle Loads (ESALs) for 20 years and 40 years after the completion of project construction for the mainline.

**Table 4-6: Estimated Traffic Indexes and Equivalent Single Axle Loads for 20 Years and 40 Years After the Completion of Project Construction**

TI and ESAL	Calculated Median Lanes	Recommended TI for Median Lanes <sup>1</sup>	Calculated Two Right Lanes	Recommended TI for Right Lanes <sup>2</sup>
20-year TI	10.50	10.50	12.00	12.00
20-year ESAL	3,174,000	—	12,700,000	—
40-year TI	11.50	11.50	13,50	13.50
40-year ESAL	6,960,000	—	27,841,000	—

1. November 20, 2017: Highway Design Manual 613.3(b) Lane Distribution Factors for Multilane Highways. TI for non-truck permitted lanes must not exceed 11 for 20-year pavement design life and 12 for 40-year pavement design life.

2. November 20, 2017: Highway Design Manual 613.5(b) Freeway and Expressway Lanes. TI for all freeway and expressway lanes, including widening and auxiliary lanes, must be the greater of either the calculated value, or 11.0 for a 20-year pavement design life, or 12.0 for a 40-year pavement design life. For roadway rehabilitation projects, use the calculated TI.

Notes:

— = not applicable

ESAL = Equivalent Single Axle Load

TI = Traffic Index

Table 4-7 lists the estimated TIs and ESALs for 20 years and 40 years after the completion of project construction for ramps.

**Table 4-7: Estimated Traffic Indexes and Equivalent Single Axle Loads for 20 Years and 40 Years After the Completion of Project Construction**

TI and ESAL	Calculated TI for Ramps	Recommended TI for All Lanes*
20-year TI	12.50	12.50
20-year ESAL	15,874,000	—
40-year TI	13.50	14.00
40-year ESAL	34,801,000	—

Notes\*: If no ramp data are available, follow the instructions below for recommended TI values.

1. Light Traffic Ramps -Ramps serving undeveloped or residential suburban areas with light to no truck traffic predicted during the pavement design life, use a value of 8.0 for 20-Year TI and 9.0 for 40-year TI.
2. Medium Traffic Ramps in metropolitan areas, business districts, or where increased truck traffic is likely to develop because of anticipated commercial development within the pavement design life, use a value of 10.0 for 20-Year TI and 11.0 for 40-year TI.
3. Heavy Traffic Ramps -Ramps that will or currently serve industrial areas, truck terminals, truck stops, and/or maritime shipping facilities, use a value of 12.0 for 20-Year TI and 14.0 for 40-year TI.

Notes:

— = not applicable

ESAL = Equivalent Single Axle Load

TI = Traffic Index

## Collision Analysis

### *Safety Analysis*

This analysis is based on the history of collisions that occurred from July 1, 2018, to June 30, 2021, the most-recent completed 3-year collision record retrieval information from the California Department of Transportation (Caltrans) Traffic Accident Surveillance and Analysis System (TASAS).

Because the project proposes to resurface the mainline and ramp roadways and upgrade the safety systems, collision data on accidents that occurred during dark (DARK) and wet (WET) pavement driving conditions were retrieved to identify potential illumination and wet-pavement-related collisions, respectively.

### *All SR 4 Mainline Collision Data*

Table 4-8 summarizes and compares the TASAS Table B actual collision rates for the segment of SR 4 from PM L0.00 to PM R14.356 (all, combined directions) with the average collision rates for similar facilities statewide. The total collision rates include all reported collisions: fatal, injury, and property damage only.

**Table 4-8: Comparison of Collisions on Mainline SR 4 (All, Combined Directions) from PM L0.0 to PM R14.356 with Collisions on Similar Facilities Statewide (July 1, 2018, to June 30, 2021)**

Location	Segment	Total No. of Collisions <sup>1</sup>	Actual Collision Rates (col/mvm) <sup>2</sup>			Average Collision Rates for Similar Facilities Statewide (col/mvm)		
			F	F + I	Total <sup>1</sup>	F	F + I	Total <sup>1</sup>
1	SR-4- PM L0.0/ 14.356	932	<b>0.013</b>	<b>0.39</b>	<b>1.08</b>	0.008	0.31	0.89

1. All reported collisions (includes PDO collisions).

2. **Bold** collision rate indicates actual collision rate that is higher than the corresponding average collision rate for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

L = overlap post mile

PDO = property damage only

PM = post mile

R = first realignment post mile

SR = State Route

Analysis of the TASAS Table B records shows a total of 932 collisions within the segment of SR 4 from PM L0.00 to PM R14.356 (all, combined directions) for the study period, with the actual fatal and fatal plus injury collision rates above the corresponding average collision rates for similar facilities statewide. Also, the actual total collision rate for all reported collisions is above the average total collision rate for similar facilities statewide.

Primary Collision Factors:

Detailed analysis from the TASAS Table B Selective Accident Retrieval (TSAR) shows that the primary collision factors in the segment were (in order of frequency of occurrence):

- Influence of Alcohol
- Follow too Close
- Failure to Yield
- Improper Turn
- Speeding
- Other violations
- Other than Driver
- Unknown

Types of Collisions:

The types of collisions during the study period are listed in Table 4-9.

**Table 4-9: Types of Collisions Near and Within the Project Limits (All, Combined Directions) (CC-4-PM L0.0/R14.3) (July 1, 2018, to June 30, 2021)**

Type of Collision	Number	Percentage
Head-On	5	0.5
Sideswipe	248	35.5
Rear End	331	40.9
Broadside	21	2.3
Hit Object	279	29.9
Overturn	39	4.2
Auto-Pedestrian	3	0.3
Other	6	0.6

Notes:

CC = Contra Costa County

PM = post mile

*Dark Mainline SR 4 Collision Data*

Table 4-10 summarizes and compares the TASAS Table B actual collision rates for the segment of SR 4 from PM L0.00 to PM R14.356 (dark condition, combined directions) with the average collision rates for similar facilities statewide. The total collision rates include all reported collisions: fatal, injury, and property damage only.

**Table 4-10: Comparison of Collisions on Mainline SR 4 (Dark Condition, Combined Directions) from PM L0.0 to PM R14.356 with Collisions on Similar Facilities Statewide (July 1, 2018, to June 30, 2021)**

Location	Segment	Total No. of Collisions <sup>1</sup>	Actual Collision Rates (col/mvm) <sup>2</sup>			Average Collision Rates for Similar Facilities Statewide (col/mvm)		
			F	F + I	Total <sup>1</sup>	F	F + I	Total <sup>1</sup>
1	SR-4-PM L0.0/14.356 (Dark)	315 (Dark)	<b>0.010</b> (Dark)	<b>0.15</b> (Dark)	<b>0.36</b> (Dark)	0.003 (Dark)	0.12 (Dark)	0.34 (Dark)

1. All reported collisions (includes PDO collisions).

2. **Bold** collision rate indicates actual collision rate that is higher than the corresponding average collision rate for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

L = overlap post mile

PDO = property damage only

PM = post mile

R = first realignment post mile

SR = State Route

Analysis of the TASAS Table B records shows a total of 315 crashes (dark condition) within the segment of SR 4 from PM L0.00 to PM R14.356 for the study period, with actual fatal and fatal plus injury collision rates above the corresponding average collision rates for similar facilities statewide. Also, the actual total collision rate for all reported collisions (dark condition) is above the average total collision rate for similar facilities statewide.

Primary Collision Factors:

Detailed analysis from the TSAR shows that the primary collision factors in the segment were (in order of frequency of occurrence):

- Influence of Alcohol
- Failure to Yield
- Improper Turn
- Speeding
- Other violations
- Other than Driver
- Unknown

Types of Collisions:

The types of collisions during the study period are listed in Table 4-11.

**Table 4-11: Types of Collisions Near and Within the Project Limits (Dark Condition, Combined Directions) (CC-4-PM L0.0/R14.3) (July 1, 2018, to June 30, 2021)**

Type of Collision	Number	Percentage*
Head-On	4	1.3
Sideswipe	68	21.6
Rear End	70	22.2
Broadside	8	2.5
Hit Object	142	45.1
Overtake	15	4.8
Auto-Pedestrian	3	1.0
Other	5	1.6

\* Percentages may not add to 100.0 because of rounding.

Notes:  
CC = Contra Costa County

PM = post mile



*Wet Mainline SR 4 Collision Data:*

Table 4-12 summarizes and compares the TASAS Table B actual collision rates for the segment of SR 4 from PM L0.00 to PM R14.356 (wet condition, combined directions) with the average collision rates for similar facilities statewide. The total collision rates include all reported collisions: fatal, injury, and property damage only.

**Table 4-12: Comparison of Collisions on Mainline SR 4 (Wet Condition, Combined Directions) from PM L0.0 to PM R14.356 with Collisions on Similar Facilities Statewide (July 1, 2018, to June 30, 2021)**

Location	Segment	Total No. of Collisions <sup>1</sup>	Actual Collision Rates (col/mvm) <sup>2</sup>			Average Collision Rates for Similar Facilities Statewide (col/mvm)		
			F	F + I	Total <sup>1</sup>	F	F + I	Total <sup>1</sup>
1	SR-4– PM L0.0/ 14.356 (Wet)	145 (Wet)	<b>0.087</b> (Wet)	<b>1.79</b> (Wet)	<b>4.19</b> (Wet)	0.027 (Wet)	1.02 (Wet)	2.89 (Wet)

1. All reported collisions (includes PDO collisions).

2. **Bold** collision rate indicates actual collision rate that is higher than the corresponding average collision rate for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

L = overlap post mile

PDO = property damage only

PM = post mile

R = first realignment post mile

SR = State Route

Analysis of the TASAS Table B records shows a total of 145 crashes (wet condition) within the segment of SR 4 from PM L0.00 to PM R14.356 for the study period, with the actual fatal and fatal plus injury collision rates above the corresponding average collision rates for similar facilities statewide. Also, the actual total collision rate for all reported collisions (wet condition) is above the average total collision rate for similar facilities statewide.

Primary Collision Factors:

Detailed analysis from the TSAR shows that the primary collision factors in the segment were (in order of frequency of occurrence):

- Influence of Alcohol
- Follow too Close
- Improper Turn
- Speeding
- Other violations

- Other than Driver
- Unknown

Detailed analysis from the TSAR shows that the primary collision factors in the segment were (in order of frequency of occurrence):

Types of Collisions:

The types of collisions during the study period are listed in Table 4-13.

**Table 4-13: Types of Collisions Near and Within the Project Limits (Wet Condition, Combined Directions) (CC-4-PM L0.0/R14.3) (July 1, 2018, to June 30, 2021)**

Type of Collision	Number	Percentage
Sideswipe	21	14.5
Rear End	29	20.0
Broadside	5	3.4
Hit Object	76	52.4
Overturn	13	9.0
Other	1	0.7

Notes:

CC = Contra Costa County

PM = post mile

### *Safety Recommendations*

In addition to the components of this CAPM project and considering this stage of project development and purpose and need, as a proactive safety measure, effort should be made to incorporate the following safety recommendations on the entire project segment.

Intersection locations:

1. Make best effort to implement Complete Streets improvement policies on the project segment.
2. Upgrade existing curb ramps; ensure application of blended transition between the ramp, gutter pan, and edge of pavement.
3. Install Accessible Pedestrian Signals (APSs).
4. Remove or relocate cabinets, landscape furniture, planter boxes, and all appurtenances to provide for standard clear width.
5. Locate storm drains near to curb ramps upstream of the curb ramps; otherwise, make efforts to relocate the storm drain to prevent water ponding at the bottom of the curb ramps.

Mainline, ramps and pavement surfacing, and roadside safety systems:

6. Consider resurfacing and drainage improvements to proactively address wet pavement collision concentrations at the post mile range listed above in Table C, WET collision locations.
7. Use other surface materials such as High Friction Surface Treatment and Open Graded Friction Treatment on post mile ranges listed above in Table C, WET collision concentration locations.
8. Replace/upgrade all striping and markings; use enhanced WET night visibility (high visibility) striping.
9. Replace or upgrade existing safety barriers; where deemed necessary, installation of edge line rumble strips should be the first consideration for new safety barriers where rigid-based fixed objects and roadside hazards are within 20 feet of the clear recovery zone (CRZ).
10. If not relocating or removing, provide safety barriers to shield roadside hazards within 20 feet of the CRZ, including rows of trees with 4-inch or larger diameters that are within the CRZ and spaced less than 100 feet apart; consult with District 4 Office of Traffic Safety for further evaluation of safety shield system options if removal or relocation is not feasible.
11. For drainage repairs, ensure that no part of any drainage structure is protruding above ground or within the CRZ. Otherwise, install an applicable safety barrier.

Roadway illumination:

12. Consider installation of safety lighting at the following ramp intersections:
  - PM R8.716 eastbound (EB) on-ramp from Alhambra
  - PM R13.637 EB off-ramp to Arnold Indus Place
  - PM R13.936 EB on-ramp from Arnold Indus Place

Other safety measures:

13. Incorporate safe and security measures to prevent the establishment of homeless encampments within the State right of way adjacent to this project segment.

The project will implement the elements of these safety recommendations that are covered by the Pavement Rehabilitation Program.

## 5. ALTERNATIVES

### 5A. Viable Alternatives

Alternative 1 is the Build Alternative. Alternative 2 is the No-Build Alternative. The Division of Design Office of Contra Costa has reviewed both alternatives and determined that Alternative 1 is the Programmable Alternative. This section focuses on Alternative 1.

#### Proposed Engineering Features

The project is a CAPM project that will cold plane the existing pavement and replace it with RHMA-O and RHMA-G. The existing mainline traveled way, shoulders, and on-/off-ramps on SR 4 will be ground and resurfaced to extend the service life of the pavement structure and provide smoother ride quality. Pavement delineation will be upgraded to current standards.

The project will also upgrade roadside signs and overhead sign panels along the mainline and ramps.

Curb ramps within the project limits will be repaired and upgraded to be ADA compliant. The project will also repair and replace culverts that are in poor condition, replace dikes, and upgrade metal beam guardrail to Midwest guardrail system (MGS).

The project will upgrade the drainage features (culverts and flared-end sections) within the project limits. The final list of locations will be determined during the Plans, Specifications, and Estimate (PS&E) phase.

The project will also repair roadside embankment failure at specific locations within the project limits. See the Preliminary Layout Sheets in Attachment B.

In addition, the project will improve pavement striping to include high-visibility crosswalks and advanced yield lines at uncontrolled pedestrian crossings and pavement delineation on the SR 4 mainline and ramps.

To comply with Complete Streets needs for pedestrians and bicyclists, during the PS&E phase, the District Division of Design will consult with District Office of Traffic Safety and the District Pedestrian and Bicycle Coordinator to implement the required upgrades for pedestrians and bicyclists within the project limits.

#### Nonstandard Design Features

The project does not propose to change any geometric features. According to Design Information Bulletin 81-02, a Design Standard Decision Document or Memo to File is not required.

Per DIB-81-02, Table 5-1 lists the nonstandard design features to remain under the Build Alternative. The table also lists the relevant design standards and the justification for keeping the nonstandard features unchanged.

**Table 5-1: Nonstandard Design Features to Remain Under the Build Alternative**

<b>Matrix of Nonstandard Design Features</b>			
<b>Alternative</b>	<b>Design Standard</b>	<b>Nonstandard Design Features to Remain</b>	<b>Justification for Keeping Nonstandard Features Unchanged</b>
Build Alternative	HDM Index 301.1 (Lane Standard Width)	Lane width is less than 12 feet.	The nonstandard lane width originated from the existing roadway cross sections and will remain.
Build Alternative	HDM Index 302.1 (Shoulder Standard width)	Shoulder width is less than 10 feet for the mainline and less than 8 feet for ramps.	The nonstandard shoulder width originated from the existing roadway cross sections and will remain.
Build Alternative	HDM Index 304 (Side Slopes of 4:1 or Flatter)	Side slopes are steeper than 4:1.	The nonstandard side slopes originated from the existing roadway cross sections and will remain.
Build Alternative	HDM Index 305.1 (Median Standard Width)	Median width is less than 36 feet from PM 0.0 to PM 9.0.	The nonstandard median width originated from the existing roadway cross sections and will remain.

Notes:

HDM = Highway Design Manual

PM = post mile

#### Interim Features

The project does not involve interim features.

#### High-Occupancy Vehicle Lanes

The project is not proposing HOV lanes.

#### Ramp Metering and Traffic Operations Systems

The project will replace damaged loop detectors and Traffic Operations System (TOS) items.

#### California Highway Patrol Enforcement Area

The project will not incorporate facilities to assist the California Highway Patrol (CHP) with its enforcement activities.

#### Highway Planting and Irrigation

SR 4 is a Classified Landscaped Freeway in the following segments: PM 8.29/PM 8.7, PM 9.06/PM R9.33, PM R9.73/PM 11.12, and PM T14.0/PM 14.3. Mature trees, shrubs, and naturalized grasses are present in intermittent groupings within the project limits. Interchange

locations have slightly denser tree plantings. The plantings in and near the project limits will require protection from damage to the maximum extent feasible to maintain the roadway's status as a Classified Landscaped Freeway and maintain the current level of visual quality. Any highway planting or irrigation facilities damaged by construction activity will need to be replaced, and an appropriate 1-year plant establishment period will be executed within the construction period.

Per Caltrans policy, the contractor will be required to replace damaged nonnative plantings at a minimum 1:1 replacement ratio. Any removed or damaged native trees will be replaced at 3:1 ratio. Protective measures should be taken to avoid impacts to the planting and irrigation caused by the project and the project construction activities, construction staging, and storage operations. To maintain the existing visual quality, replacement planting will have a minimum 1-year plant establishment period, with funding from the parent roadway contract. The visual impacts to the area resulting from construction activity are anticipated to be minimal. The cost for landscape and irrigation is \$330,000 (see Attachment I for Preliminary Cost Estimate).

#### Noise Barriers

Noise barriers are not included in the project.

#### Nonmotorized and Pedestrian Features

To comply with Complete Streets for the needs of pedestrians and bicyclists, during the PS&E phase, District Design will consult with District Traffic Safety and the District Pedestrian and Bicycle Coordinator to implement the required upgrades for Pedestrians and Bicyclists within the project limits.

#### Needed Roadway Rehabilitation and Upgrading

Based on the Material Recommendations for the asphalt concrete pavement structure, the project will cold-plane the existing asphalt concrete mainline and shoulders to a depth of 0.25 foot and replace them with 0.1 foot RHMA-O over 0.15 foot RHMA-G. For the PCC pavement structure, the project will replace damaged concrete slabs with reinforced concrete slabs.

#### Context-Sensitive Solutions

Caltrans applies Context Sensitive Solutions to achieve transportation goals in harmony with community goals and natural environments. These solutions are reached through a collaborative interdisciplinary approach involving all stakeholders, and these efforts will be pursued during the PS&E phase.

#### Earth-Retaining Systems

This element is part of the project. The project will repair damaged embankments.

### Roadside Design and Management

Elements of roadside design management will be included in the project, such as control under the MGS system.

### Stormwater

This project will create more than 1 acre of disturbed soil area, so the project will require permanent treatment Best Management Practices (BMPs) if the new impervious surface is over 1 acre or a Section 401 certification is needed. However, the project Stormwater Data Report (SWDR) has identified that the project falls within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), Region 2, which is responsible for implementation and enforcement of State and federal laws and regulations concerning water quality. This project is within the Contra Costa Municipal Separate Storm Sewer System (MS4).

### Stormwater Treatments

The stormwater treatment measures would be required to be designed in accordance with the Caltrans Project Planning and Design Guide. The project may include creek crossing with net new impervious (NNI) surface area more than 1 acre. Therefore, the project may require implementing hydromodification management measures within the Caltrans right of way. The design pollution prevention (DPP) measures (permanent erosion control) are required to be implemented because the disturbed soil area (DSA) is more than 1 acre. New impervious surface (NIS) area will be more than 1 acre, which will also require implementing treatment BMPs. The trash generation rating within the job site varies from low (L), to moderate (M), to very high-high (V-H-H). Due to the trash requirements in the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit and the Municipal Regional Permit (MRP), the full trash capture devices are required for the trash generation rating with M and V-H-H trash locations.

### Temporary Water Pollution Control

The project site is located within the limits of the San Francisco Bay Region 2 RWQCB and MS4. The DSA for the project is more than 1 acre, and the Risk Level is 2. The project must comply with the conditions of the Caltrans Statewide NPDES Permit (No. CAS000002), or Construction General Permit (No. 2009-0009- DWQ), or San Francisco Bay RWQCB Municipal NPDES Permit (No. R2-2009-0074).

To address the temporary water quality impacts resulting from the construction activities at this job site, the project will require preparation and adoption of a Storm Water Pollution Prevention Program (SWPPP). In addition, the project will be required to file a Notice of Intent (NOI) before commencing any construction activities at the job site. BMPs need to be implemented to address the temporary water quality impacts resulting from the construction activities for the project. The BMPs will include the measures for soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and waste management/materials pollution control. Appropriate BMPs and their quantities need to be developed during the PS&E phase. Incorporation of the BMP measures outlined in the

SWPPP will ensure that neither action alternative will adversely affect water quality in local waterways or groundwater quality. The cost for Permanent Treatment BMPs and Temporary Water Pollution Control is \$850,000 (see Attachment I for Preliminary Cost Estimate).

The project is anticipated to require work within jurisdictional features (culvert upgrade locations). Therefore, the project may require a Section 401 Water Quality Certification from the San Francisco Bay RWQCB or a Section 404 Nationwide Permit from the United States Army Corps of Engineers. If there is work in water bodies, creek diversion and Section 401 certification is anticipated. The specific requirements will be determined during the PS&E phase. If a significant amount of groundwater is encountered in the deep excavations, dewatering may be required. For all these matters, early discussions will be initiated with the Office of Water Quality. Groundwater testing as a part of the Hazardous Waste Site Investigation may be required to determine if it is contaminated, so that contract provisions can be developed for its handling and disposal during construction.

### **5B. Rejected Alternatives**

The No-Build Alternative, Alternative 2, would not rehabilitate the existing pavement. If this alternative is chosen, the condition of the pavement would continue to deteriorate, would require frequent maintenance and extensive repairs, and would eventually result in more expensive pavement rehabilitation in the future. This alternative would not meet the purpose and need of the project, so it was rejected.

## **6. CONSIDERATIONS REQUIRING DISCUSSION**

### **6A. Hazardous Waste**

#### Soils

Due to the nature of the project, there will be minimal ground disturbances within the project limits. Surface soils in Contra Costa County have been documented with varying levels of aerially deposited lead (ADL). Typically, the lead concentration at a location is proportional to the traffic volume history at the location: the higher the traffic volume, the higher the lead concentration.

All soils disturbed for this work will be used as backfill and spread in the immediate work area. The contractor must follow the text of Standard Special Provision (SSP) 14-11.09, Minimal Disturbance of Regulated Material Containing Aerially Deposited Lead. No soils will be removed from State right of way for the project. The handling of material containing ADL must not result in any visible dust migration. A means of controlling dust must always be available when working in areas containing ADL.

#### Treated Wood Waste

If any wood posts are removed, they will be disposed of in accordance with the Caltrans Standard Specifications for treated wood waste. SSP 14-11.14, Treated Wood Waste, will be followed for guidelines on properly handling, storing, and disposing of this material at a composite-lined solid waste landfill facility permitted to accept such wastes.



### Lead Paint

It is anticipated that yellow thermoplastic, yellow painted traffic stripes, or pavement markings will be disturbed or removed for the project.

A lead compliance plan will be implemented. Hazardous chemicals are known to exist in the wood posts associated with signs.

### **6B. Value Analysis**

Per Caltrans Deputy Directive DD-92 R-1, the threshold project cost for conducting a Value Analysis (VA) study is \$25,000,000. A VA study was conducted between March 14 and March 17, 2022. The final VA report, in which the VA team made recommendations to be included in the project, was released on June 2, 2022. The accepted VA recommendations (rapid strength concrete, lane closure and K-rail for western portion, Cummings Skyway as a detour route, and install rectangular rapid flashing beacons at six curb ramp locations) are anticipated to reduce the project cost by \$4,201,000.

### **6C. Resource Conservation**

Maximum use of salvageable materials will be integrated into the project. Because of the ongoing drought in California, the project will implement the water conservation requirements, water conservation guidance, water conservation practices, and other water conservation information required by Deputy Directive DD-13, Water Conservation (1993).

### **6D. Right of Way**

#### General

A Right of Way Data Sheet (RWDS) has been prepared based on the scope of work described. Estimated cost information is contained in the Right of Way Data Sheet in Attachment D of this report. Additional right of way is not anticipated. If any acquisitions are required, Design will work with Right of Way to update RWDS during early design phase and the project manager will prepare necessary paperwork to increase the RW Support and RW Capital components accordingly.

#### Railroad

Burlington Northern Santa Fe Railway (BNSF) facilities are within the project limits. Work will occur over the following locations: PM R3.66 (Christie Overhead and Christie Underpass), PM R8.55 (Alhambra Under Crossing), PM R8.85 (spur Overhead), and PM R9.10 (railway tunnel). Due to this work, right of way agreements will need to be executed for plan review and flagging expenses. The project contractor will be responsible for adhering to the BNSF flagging requirements and providing the required proof of insurance.

## Utilities

Utility relocation is not anticipated, but verification of utilities will be required. The need for potholing will be evaluated during the PS&E phase.

### **6E. Environmental Compliance**

The project is a Categorical Exemption under class 1(c) of CEQA and a Categorical Exclusion under activity I(26) of 23 United States Code 326 of NEPA. The CEQA Exemption / NEPA Categorical Exclusion Determination Form was approved on May 2, 2022 (see Attachment E for the CEQA Exemption / NEPA Categorical Exclusion Determination Form).

### **6F. Air Quality Conformity**

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

### **6G. Title VI Considerations**

The project will not disproportionately affect low-mobility, low-income, or minority groups because the project is considered a “maintenance activity” project rather than an “alteration” construction project.

### **6H. Noise Abatement Decision Report**

The project is not identified as a Type 1 project under 23 CFR 772 or the Caltrans Traffic Noise Analysis Protocol. Therefore, neither a Noise Abatement Decision Report nor a Traffic Noise Study is required. Standard construction management practices will be adequate to prevent adverse noise impacts during construction.

### **6I. Life-Cycle Cost Analysis**

A Life-Cycle Cost Analysis is not applicable.

### **6J. Reversible Lanes**

The project does not qualify as a capacity-increasing project or a major street or highway realignment project, and reversible lanes have not been considered. Instead, the purpose of the project is to restore the level of service and ride quality of the pavement; therefore, reversible lanes are not applicable.

## **7. OTHER CONSIDERATIONS AS APPROPRIATE**

### **Public Hearing Process**

No public hearing is required for this project. A CE/CE has been provided as the environmental document.

## **Caltrans Equity Statement**

State departments of transportation are bound by law to consider the needs of residents with low incomes, communities of color, people with limited English proficiency, seniors, the disabled, and other communities and individuals when developing transportation plans. Caltrans acknowledges that communities of color and underserved communities have experienced fewer benefits and a greater share of negative impacts associated with our State Transportation System. Some of these disparities reflect a history of transportation decision-making, policy, processes, planning, design, and construction that quite literally put up barriers, divided communities, and amplified racial inequities, particularly in our Black and Brown neighborhoods. Caltrans recognizes its leadership role and unique responsibility to eliminate barriers and provide more equitable transportation for all Californians. This understanding is the foundation for intentional decision-making that recognizes past, stops current, and prevents future harms from its actions. Furthermore, Caltrans is developing public outreach methodologies for increasing participation by disadvantaged community members and local community-based organizations to ensure that they have a voice on projects affecting those communities.

There was no Community Impact Assessment prepared because this CAPM project does not create significant impacts to the public or specific communities.

## **Environmental Justice**

Information used to identify potential environmental justice issues is documented in corridor plans so transportation projects ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. This approach applies to the scope of the project, from the early stages of transportation planning and investment decision making through construction, operations, and maintenance. Title VI of the Civil Rights Act of 1964 states that “no person in the United States shall, on the grounds 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.” Executive Order 12898, issued in 1994, gave a renewed emphasis to Title VI and added low-income populations to those protected by the principles of environmental justice. There are three fundamental principles at the core of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Caltrans identified no environmental justice communities in or near the project area.

## **California Climate Investments Priority Populations**

According to SB 535, disadvantaged communities are disproportionately affected by environmental pollution, low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, and low levels of educational attainment. In AB 1550, low-income communities are defined as census tracts with median household incomes at or below 80 percent of the statewide median income or with median incomes at or below the threshold designated as low income by the US Department of Housing and Urban Development. Both SB 535 and AB 1550 direct a percentage of State GHG reduction funds to be invested in disadvantaged and low-income communities.

Caltrans identified no SB 535 or AB 1550 communities in or near the project area.

## **Equity Priority Communities**

MTC’s Equity Priority Communities (EPCs) index is based on eight American Community Survey (ACS) 2014–2018 tract-level variables. The development of MTC’s EPCs index was a part of the Equity Framework within the RTP. The framework includes equity measures to analyze scenarios and define disadvantaged communities. These variables included minority populations, low-income areas, less English proficient populations, seniors (age 75 and older), zero vehicle households, single-parent households, people with disabilities, and rent burdened households. EPCs within the RTP area are rated at high and highest levels of concern, meaning that these communities are burdened by multiple socioeconomic factors.

Caltrans identified no EPCs in or near the project area.

## **Route Matters**

The project does not require any freeway agreements, new highway connections, route adoptions, or relinquishments.

## **Permits**

The project will obtain and comply with the following permits as needed:

- US Fish and Wildlife Service (USFWS) Section 7 consultation under the federal Endangered Species Act (A Biological Opinion is expected.)
- US Army Corps of Engineers Section 404 Clean Water Act (CWA) permit
- California Department of Fish and Wildlife (CDFW) Section 1602 Lake and streambed Alteration
- CDFW Incidental Take Permit (ITP) for the California tiger salamander
- RWQCB Section 401 Water Certification under the CWA
- Caltrans Statewide NPDES permits

**Cooperative Agreements**

The project will not require any cooperative agreements.

**Other Agreements**

The project will not require any other agreements.

**Transportation Management Plan**

The Transportation Management Plan Data Sheet is provided for the project as Attachment F.

Most of the project work will be performed behind temporary railing (type K) on SR 4. The right lane of the mainline freeway will be closed temporarily during the setting of the K-rail and the loading and unloading of the construction materials and equipment.

The Transportation Management Plan (TMP) for the project will be refined in subsequent phases and supported by detailed traffic studies to evaluate traffic operations. The TMP will include press releases to notify and inform motorists, businesses, community groups, local entities, emergency services providers, and elected officials of upcoming closures. Various TMP elements such as portable changeable message signs, Positive Work Zone Protection (PWZP), and the California Highway Patrol's Construction Zone Enhanced Enforcement Program (COZEEP) will be used to alleviate and minimize delays for the traveling public. The preliminary cost estimate for the TMP elements is \$600,000.

**Stage Construction**

Stage construction will be required for the project. However, multiple construction crews may be used simultaneously at various locations within the project because the work at each location is an independent operation. Staged traffic handling will be required on multi-lane ramps to install signs and other works. When working on installing roadway signs, MGS, and chevron signs, work will be limited to one location at a time and will be completed within a consecutive 24-hour period once construction begins. Shoulders may be used for traffic handling.

**Accommodation of Oversize Loads**

The accommodation of oversize loads within the project limits is limited by the policy of the District Legal Access Truck Restriction.

**Graffiti Control**

Graffiti control is not a concern within the project limits.

**Asset Management**

Under both federal (the Moving Ahead for Progress in the 21st Century [MAP-21] Act and the Fixing America's Surface Transportation [FAST] Act) and State legislation (SB 486,

Chapter 917), Caltrans is required to prepare a robust asset management plan to guide the development of the SHOPP. The nomination of this project in the Asset Management tool for the 10-year SHOPP Plan and the future SHOPP cycle aligns with the Caltrans Asset Management Plan. Table 7-1 shows the performance measures when the project was programmed. Table 7-2 shows the proposed performance measures for the project at project approval, which has not changed since the project was programmed.

**Table 7-1: Performance Measures for Project at the Programming Milestone**

<b>Activity Detail</b>	<b>Unit of Measure</b>	<b>Quantity</b>	<b>Assets in Good Cond.</b>	<b>Assets in Fair Cond.</b>	<b>Assets in Poor Cond.</b>	<b>New Asset Added</b>	<b>Comment</b>
Mainline existing asphalt CAPM (e.g., 2-inch thin overlay with or without wearing surface, cold in place, dig-outs) (201.121)	LNMI	44.615	4.357	40.258	—	—	SE=17.64, RE=0.94 (whole project)
Mainline existing concrete CAPM (e.g., slab replace, grinding, thin overlay, spall repair) (201.121)	LNMI	17.265	2.076	14.393	0.796	—	—
ADA – Repair/upgrade curb ramp (201.361)	Each	15.000	—	—	15.000	—	—
ADA – Deficient elements	Deficient Elements	15.000	—	—	15.000	—	—
Is any location within the project limits ped/bike accessible?	Yes/no	Yes	—	—	—	—	Yes, portion of SR 4 is bicycle accessible.
Bicycle and pedestrian signage	Each	1.000			—	1.000	Additional bicycle elements TBD during PA&ED phase.

## Notes:

— = not applicable

ADA = Americans with Disabilities Act

CAPM = Capital Preventive Maintenance

Cond. = condition

LNMI = Lane Mile(s)

PA&amp;ED = Project Approval and Environmental Document

RE = Rehabilitation Efficiency

SE = SHOPP Efficiency

SR = State Route

TBD = to be determined

**Table 7-2: Proposed Performance Measures for Project at Project Approval**

Activity Detail	Unit of Measure	Quantity	Assets in Good Cond.	Assets in Fair Cond.	Assets in Poor Cond.	New Asset Added	Comment
Mainline existing asphalt CAPM (e.g., 2-inch thin overlay with or without wearing surface, cold in place, dig-outs) (201.121)	LNMI	44.615	4.357	40.258	—	—	SE=17.64, RE=0.94 (whole project)
Mainline existing concrete CAPM (e.g., slab replace, grinding, thin overlay, spall repair) (201.121)	LNMI	17.265	2.076	14.393	0.796	—	—
ADA – Repair/upgrade curb ramp (201.361)	Each	15.000	—	—	15.000	—	—
ADA – Deficient elements	Deficient Elements	15.000	—	—	15.000	—	—
Is any location within the project limits ped/bike accessible?	Yes/no	Yes	—	—	—	—	Yes, portion of Hwy 4 bicycle accessible.
Bicycle and Pedestrian Signage	Each	1.000			—	1.000	Additional bicycle elements TBD during PAED.

## Notes:

— = not applicable

ADA = Americans with Disabilities Act

CAPM = Capital Preventive Maintenance

Cond. = condition

LNMI = Lane Mile(s)

PA&amp;ED = Project Approval and Environmental Document

RE = Rehabilitation Efficiency

SE = SHOPP Efficiency

SR = State Route

TBD = to be determined

The performance objective identified in the Asset Management tool indicates that 44.62 lane miles of mainline existing asphalt concrete pavement will be cold planed and resurfaced; 17.27 lane miles of mainline existing concrete slabs will be ground and replaced; 15 curb ramps will be repaired; and one existing bicycle and pedestrian sign will be upgraded. The performance measures have not changed during the environmental process or the PA&ED phase.

The Asset Management Performance Measures output is provided as Attachment G.

### **Complete Streets**

The intent of Caltrans Deputy Directive DD-64-R2, Complete Streets: Integrating the Transportation System (October 17, 2014), is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of “complete streets.” Opportunities to include Complete Streets elements in the project were evaluated to improve safety, access, and mobility for all travelers. For this project, it was determined to include the Complete Streets elements where feasible, as recommended by the District Pedestrian and Bicycle Coordinator to meet the scope of work and the project purpose and need.

The segment of SR 4 within the project limits is a freeway, and pedestrians and bicyclists are prohibited from using it. The project will not affect existing opportunities for pedestrian and bicycle travel as described in the District 4 Bicycle Improvement Plan.

### Pedestrian Facilities

The curb ramps within the project limits will be repaired, replaced, or upgraded where needed to meet current standards in the Highway Design Manual and ADA standards. Table 7-3 provides a tentative list of the locations and numbers of these curb ramps. The curb ramps are not ADA compliant due to missing detectable warning surfaces, insufficient grades, widths, and landing areas.

**Table 7-3: Tentative List of the Locations and Numbers of Curb Ramps to Be Repaired, Replaced, or Upgraded**

<b>PM</b>	<b>Location - Description</b>	<b>No. of Curb Ramps</b>
L0.0	Southeast Corner of San Pablo Avenue and SR 4, two on pedestrian island	3
R8.56	Left and right curb of Alhambra Avenue Off-ramp from WB SR 4	2
R9.2	Southwest corner of Center Avenue On-ramp to WB SR 4. One is a pedestrian island.	2
R10.34	Left curb of WB SR 4 Off-ramp to Morello, Southwest corner, and pedestrian island.	3



12.42	Southwest, southeast, and northeast corner of Pacheco Boulevard and Blum Road. Barrier Island and Southwest corner of Muir Road and Pacheco Boulevard.	5
Total		15

Notes:  
PM = post mile

SR = State Route  
WB = Westbound

### Transit Facilities

No transit facilities are planned for this project.

### Railroad Facilities

Railroad involvement is not anticipated. However, because a railroad (BNSF Railway) is within the project limits, a railroad Short Clause will be inserted into the contract special provisions. The contractor's personnel and equipment will stay clear of the railroad tracks.

### Park and Ride facilities

This project will not upgrade the existing Park and Ride facilities within the project limits.

## **Climate Change Considerations**

### Sea Level Rise

Sea level rise impacts are analyzed for Caltrans projects. According to the Sea Level Rise Maps from the National Oceanic and Atmospheric Administration, a portion of the project in Pacheco near Buchanan Airfield exists within a low-lying area that would be vulnerable to sea level rise of 3 to 10 feet; the range expected after year 2100. Due to the scope of this project, it is likely not feasible that measures to protect against such impacts be incorporated.

### Greenhouse Gas Emissions

Executive Order B-30-15 requires State agencies to consider climate change in their planning and investment decisions. To address Executive Order B-30-15, Caltrans has issued guidance for including GHG emissions calculations as part of the Project Initiation Document (PID) process.

Caltrans is conducting project-level GHG performance evaluations using the Federal Highway Administration (FHWA) Infrastructure Carbon Estimator (ICE) Tool. Construction-generated GHG emissions include emissions resulting from material processing by on-site construction equipment, workers commuting to and from the project site, and traffic delays due to construction. The emissions will be produced at different rates throughout the project depending on the activities involved during the various phases of construction. The analysis focused on vehicle-emitted GHGs. Carbon dioxide (CO<sub>2</sub>) is the single most important GHG pollutant due to its abundance relative to the other vehicle-

emitted GHGs, including methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, and black carbon.

Based on project information available for environmental studies, the construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET) 2020 version 1.0. CAL-CET estimated that for a construction duration of 24 months the total amount of CO<sub>2</sub> produced due to construction would be 1,698 tons. Table 7-4 summarizes the construction-related emissions, including the total carbon dioxide equivalent (CO<sub>2</sub>e) emissions.

**Table 7-4: Summary of Construction-related GHG Emissions**

Project Location: Contra Costa County SR 4 PM L0.00/R14.3	Project Total			
	CO <sub>2</sub> (tons)	CH <sub>4</sub> (tons)	N <sub>2</sub> O (tons)	CO <sub>2</sub> e (Metric tons) <sup>1</sup>
Build Alternative Total Emissions	1,698	0.05	0.10	1569
Build Alternative Annual Emissions	849	0.03	0.05	785

1. Gases are converted to CO<sub>2</sub>e by multiplying by their GWP. Specifically, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period relative to the emission of 1 ton of CO<sub>2</sub>.

Notes:

CH<sub>4</sub> = methane

CO<sub>2</sub> = carbon dioxide

CO<sub>2</sub>e = carbon dioxide equivalent

GHG = greenhouse gas

GWP = global-warming potential

N<sub>2</sub>O = nitrous oxide

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 air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract and the use of construction BMPs, will reduce GHG emissions from construction activities. The project BMPs will include (but are not limited to):

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

In addition, with innovations such as longer pavement lives, improvements in traffic management, and changes in the materials used, construction-related GHG emissions can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

## **Broadband and Advanced Technologies**

The proposed improvements for the project will not impact the accommodation of wired broadband facilities, fueling for zero-emission vehicles, or provisions for infrastructure-to-vehicle communications for transitional or fully autonomous vehicles. A portion of this project's segment and other segment on CC-4 is included in the D4 Middle Mile network list.

### Wired Broadband Facility

Wired broadband stakeholders may incorporate broadband conduits within State right of way either through a Stand-Alone Encroachment Permit Project or a Planned Transportation Partnering Project. Further evaluation and coordination in the next phase will be needed with the District 4 Encroachment Permit Department, pursuant to Deputy Directive DD-116, to ensure this project accommodates any plans for additional wired broadband facilities.

### Fueling Opportunities for Zero-Emission Vehicles

The proposed improvements for the project will not impact the accommodation of fueling for zero-emission vehicles.

### Provision of Infrastructure-to-Vehicle Communications

Currently, there is no plan for such infrastructure.

## **Erosion Control**

All graded and disturbed soil areas will receive permanent soil stabilization measures to minimize surface erosion and meet water quality requirements. These measures may include items such as hydroseed, hydromulch, linear sediment controls (fiber rolls/compost socks), and rolled erosion control products (netting, blanket). All projects incorporating new slopes steeper than 4:1 must have an erosion control plan developed or approved by the District Landscape Architect.

The Office of Landscape Architecture will provide highway planting and erosion control PS&E analyses to restore, stabilize, and minimize impacts associated with construction activities.

Erosion control activities recommended in the SWDR will be implemented as part of the project. The cost for Erosion Control is \$350,000 (see Attachment I for Preliminary Cost Estimate).

## **Stormwater Pollution Prevention**

The project will require an SWPPP because the project is disturbing more than 1 acre of soil. The project will add more than 1 acre of NNI surface and/or NIS areas; therefore, the project will have considerable permanent impact in receiving waterbodies. The scope of the project includes culvert upgrades, some of which are in Waters of the US, and these locations are under the jurisdiction of the US Army Corps of Engineers. An SWDR has been prepared for the project; the cover is provided as Attachment H.

## Visual Impacts

It is not anticipated that the project will adversely affect any Designated Scenic Resources (such as rock outcroppings, historic properties, tree groupings, etc.) as defined by the CEQA statutes or guidelines or by Caltrans policy. Highway planting may be disturbed during construction. The project is not anticipated to result in long-term visual impacts if the removed plantings are replaced. Contractor staging areas will be least preferable where they are in proximity to residential development or directly adjacent to an officially designated State Scenic Highway.

During construction operations, unsightly material or equipment in staging areas will be placed where it is less visible and/or covered where possible. Construction activities will limit all construction lighting to within the area of work and will avoid light trespass into residential areas through the use of directional lighting, shielding, and other measures as needed.

## 8. FUNDING, PROGRAMMING AND ESTIMATE

### Funding

It has been determined that the project is eligible for federal-aid funding.

### Programming

The project is programmed in the 2020 SHOPP under the 20.10.201.121, Pavement Rehabilitation Program. The following table lists the programmed costs.

Fund Source 20.10.201.121	Fiscal Year Estimate								
	Prior	21/22	22/23	23/24	24/25	25/26	26/27	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED support	—	3,324	—	—	—	—	—	—	3,324
PS&E support	—	—	4,538	—	—	—	—	—	4,538
Right of way support	—	—	917	—	—	—	—	—	917
Construction support	—	—	—	6,228	—	—	—	—	6,228
Right of way	—	—	—	29	—	—	—	—	29
Construction	—	—	—	45,024	—	—	—	—	45,024
<b>Total:</b>	—	3,324	5,455	51,281	—	—	—	—	60,060

Notes:

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

The construction cost (including right of way cost) shown in the above table is the escalated construction cost to the Ready to List date.

The support/cost ratio is 33.3 percent.

### Estimate

The total capital cost of the project is \$43,962,000, which includes \$43,850,600 for construction capital costs and \$111,250 for right of way capital costs. The projected construction capital cost is estimated at \$49,738,688 based on a 3.2 percent per year escalation factor to mid-construction year 2025, a 15 percent contingency, and current bid prices. See Attachment I, Preliminary Cost Estimate.

## 9. DELIVERY SCHEDULE

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

Project Milestone		Milestone Date	Milestone Designation
PROGRAM PROJECT	M015	05/13/2020	Actual
BEGIN ENVIRONMENTAL	M020	03/05/2021	Actual
PA&ED	M200	07/08/2022	Actual
PS&E TO DOE	M377	02/2023	Target
RIGHT OF WAY CERTIFICATION	M410	05/2023	Target
READY TO LIST	M460	06/2023	Target
HEADQUARTERS ADVERTISE	M480	10/2023	Target
AWARD	M495	02/2024	Target
APPROVE CONTRACT	M500	03/2024	Target
CONTRACT ACCEPTANCE	M600	03/2027	Target
END PROJECT EXPENDITURES	M800	04/2029	Target
FINAL PROJECT CLOSEOUT	M900	12/2030	Target

Notes:

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

## 10. RISKS

A Risk Register has been prepared and is provided as Attachment J.

The major risks identified are:

- Risk ID #2: Differing site conditions such as additional dig-outs and PCC slab replacements required during construction would result in additional cost and schedule delays to the project. It is recommended that extensive and detailed evaluation of the distressed areas are identified during project delivery.

- Risk ID #4: During construction, unidentified underground utilities may be found during excavation for guardrail and curb ramp improvements, which would result in additional cost and schedule delays to the project. It is recommended that construction work with the contractor to resolve the utility conflicts in the field. In such cases where conflicts cannot be resolved, construction will work with Right of Way utilities to find solutions.

## **11. EXTERNAL AGENCY COORDINATION**

### **Federal Highway Administration**

This project is a Delegated Project in accordance with the current Stewardship and Oversight Agreement signed between FHWA and Caltrans. The agreement was signed on May 28th, 2015.

### **Other Agencies**

The project may also require the following coordination:

- USFWS – Section 7 Consultation, Biological Opinion
- United States Army Corps of Engineers – Clean Water Act Section 404
- CDFW – California Fish and Game Code Section 1602 & Lake or Streambed Alteration Agreement
- CDFW ITP for the California tiger salamander.
- RWQCB – Clean Water Act Section 401 and Water Quality Certification
- Railroads: A railroad Short Clause will be written for the project during the PS&E phase because of the adjacent railroad property. The Short Clause will be inserted into the special provisions for the project contract.

## **12. PROJECT REVIEWS**

Table 12-1 lists participants in the scoping team field review, which occurred in January 2021.

**Table 12-1: Participants in Scoping Team Field Review (January 2021)**

Affiliation/Role	Name
District Program Advisor	Robert Camargo
Headquarters SHOPP Program Advisor	Arshad Iqbal
District Maintenance	Mary Thao
Headquarters Project Delivery Coordinator	Robert Effinger
Project Manager	Gezahegn Tizazu
FHWA	Lanh Phan
District Safety Review	Haixiong Xu
Environmental Planning	Cody Ericksen
Biology	Nicole Christie
Cultural	Britt Schlosshardt
Materials	Leonardo De Leon
Landscaping	Jennifer Howard
Hydraulics	Rowena Hollis
Field Maintenance	Harold Roldan
Field Maintenance	Donna Diaz

### 13. PROJECT PERSONNEL

Table 13-1 lists the project personnel, their titles, their organizational locations, and their telephone contact numbers.

**Table 13-1: Project Personnel, Titles, Organizational Locations, and Telephone Contact Numbers**

Name	Title	Division/Office	Telephone No.
Gezahegn Tizazu	Project Manager	Project Management	(510) 714-7089
Mary Thao	Senior Transportation Engineer	Maintenance Engineering	(510) 847-3987
Christopher Ciero	Right of Way Agent	Right of Way	(510) 908-5618
Mohammad Zabolzadeh	Senior Transportation Engineer	Office of Materials and Pavement	(925) 206-0763
David Lourdes	Senior Transportation Engineer	Traffic Signing – East	(510) 714-7111
Bahman Zarechian	Senior Transportation Engineer	Traffic Safety	(510) 421-6292
Hanna Khoury	Senior Transportation Engineer	Utility Engineering	(510) 406-9926
Mike Kerns	Senior Transportation Engineer	Traffic Management Plan	(510) 388-3674
Haixiong Xu	Transportation Engineer	Office of Safety Review	(510) 807-1380
Ganga Tripathi	Transportation Engineer	Water Quality	(510) 366-7015

<b>Name</b>	<b>Title</b>	<b>Division/Office</b>	<b>Telephone No.</b>
Alex McDonald	Senior Landscape Architect	Water Quality/Landscape Architecture	(510) 407-8414
Lydia Mac	Senior Landscape Architect	Landscape Architecture	(510) 407-9474
Wahida Rashid	Senior Environmental Planner	Environmental	(510) 504-3139
George Acquaye	Senior Transportation Engineer	Design Contra Costa	(510) 407-4715
Olivier Mbatchou	Project Engineer	Design Contra Costa	(510) 495-4748
Siria Che Wu	Transportation Engineer	Design Contra Costa	(510) 859-6712

#### **14. ATTACHMENTS (Number of Pages)**

- A. Location Map (1)
- B. Preliminary Layout Sheets (50)
- C. Materials Recommendations (12)
- D. Right of Way Data Sheet (7)
- E. Categorical Exemption/Categorical Exclusion Form (7)
- F. Transportation Management Plan Data Sheet (2)
- G. Asset Management Performance Measures (1)
- H. Stormwater Data Report – Signed Cover Sheet (1)
- I. Preliminary Cost Estimate (10)
- J. Risk Register (3)