

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

I-80/US 50 Managed Lanes Project
Resolution TCEP-P-2324-06B
(to 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) effective on May 16, 2024 (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

- 3.1 Whereas at its 05/16/2024 meeting the Commission approved the Trade Corridor Enhancement Program and included in this program of projects the I-80/US 50 Managed Lanes Project, 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, the Project Report attached hereto as Exhibit B, the Performance Metrics Form, if applicable, attached hereto as Exhibit C, as the baseline for project monitoring by the Commission.
- 3.2 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 [redacted], "Adoption of Program of Projects for the Active Transportation Program", dated [redacted]
 - Resolution [redacted], "Adoption of Program of Projects for the Local Partnership Program", dated [redacted]
 - Resolution [redacted], "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated [redacted]
 - Resolution [redacted], "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated [redacted]
 - Resolution G-24-30, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated 5/16/2024

- 4.3 All signatories agree to adhere to the Commission's 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 to Caltrans on a quarterly basis; on the progress made toward the implementation of the project, including scope, cost, schedule, and anticipated benefits/performance metric outcomes.
- 4.7 Caltrans agrees to prepare program progress reports on a 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 Caltrans agrees to submit a timely Project Performance Analysis as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.10 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 and performance metric outcomes during the course of the project, and retain those records for six years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.11 The 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 six 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 Performance Metrics
See Performance Metrics Form, if applicable, attached as Exhibit C.
- 5.4 Additional Provisions and Conditions *(Please attach an additional page if additional space is needed.)*

In the event of a cost overrun, at the discretion of the department on a case-by-case basis, the state may cover a share proportionate to the state contribution of the TCEP funding identified in the Project Programming Request (PPR) submitted with the project application. For example, if the state/regional TCEP funding share was a 40/60 ratio, the state may fund no more than 40% of the cost overrun

Attachments:

- Exhibit A: Project Programming Request Form
Exhibit B: Project Report
Exhibit C: Performance Metrics Form *(if applicable)*

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Project Name **I-80/US 50 Managed Lanes Project**
Resolution **TCEP-P-2324-06B**

(to be completed by CTC)

James Corless Digitally signed by James Corless
Date: 2024.05.02 13:15:57 -07'00'

James Corless
Chief Executive Officer, Sacramento Area Council of Governments
Project Applicant

Date

Greg Wong Digitally signed by Greg Wong
Date: 2024.05.01 10:46:20 -07'00'

Greg Wong
District 3 Deputy of Program Project Asset Management
Implementing Agency

Date

Sergio Aceves Digitally signed by Sergio Aceves
Date: 2024.05.02 13:34:21 -07'00'


Sergio Aceves
District Director
California Department of Transportation

Date

Michael Keever Digitally signed by Michael Keever
Date: 2024.05.03 08:34:29 -07'00'

Tony Tavares
Director
California Department of Transportation

Date

 Digitally signed by Tanisha Taylor
Date: 08/21/2024

Tanisha Taylor
Executive Director
California Transportation Commission

Date

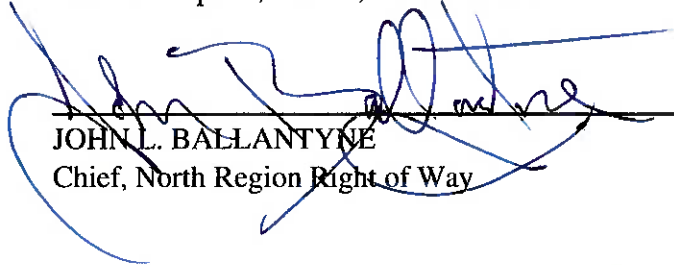
Project Report For Project Approval

On Route 80 and 50 in Solano, Yolo, and Sacramento Counties

Between Kidwell Road in Solano County

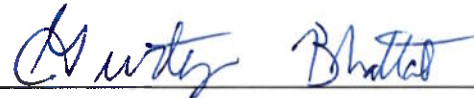
And I-80/W El Camino and US 50/I-5 IC in Sacramento County

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:



JOHN L. BALLANTYNE
Chief, North Region Right of Way

APPROVAL RECOMMENDED:



GURTEJ BHATTAL
Project Manager

APPROVED BY:



SERGIO ACEVES
Acting District Director

4/30/2024

Date

Vicinity Map

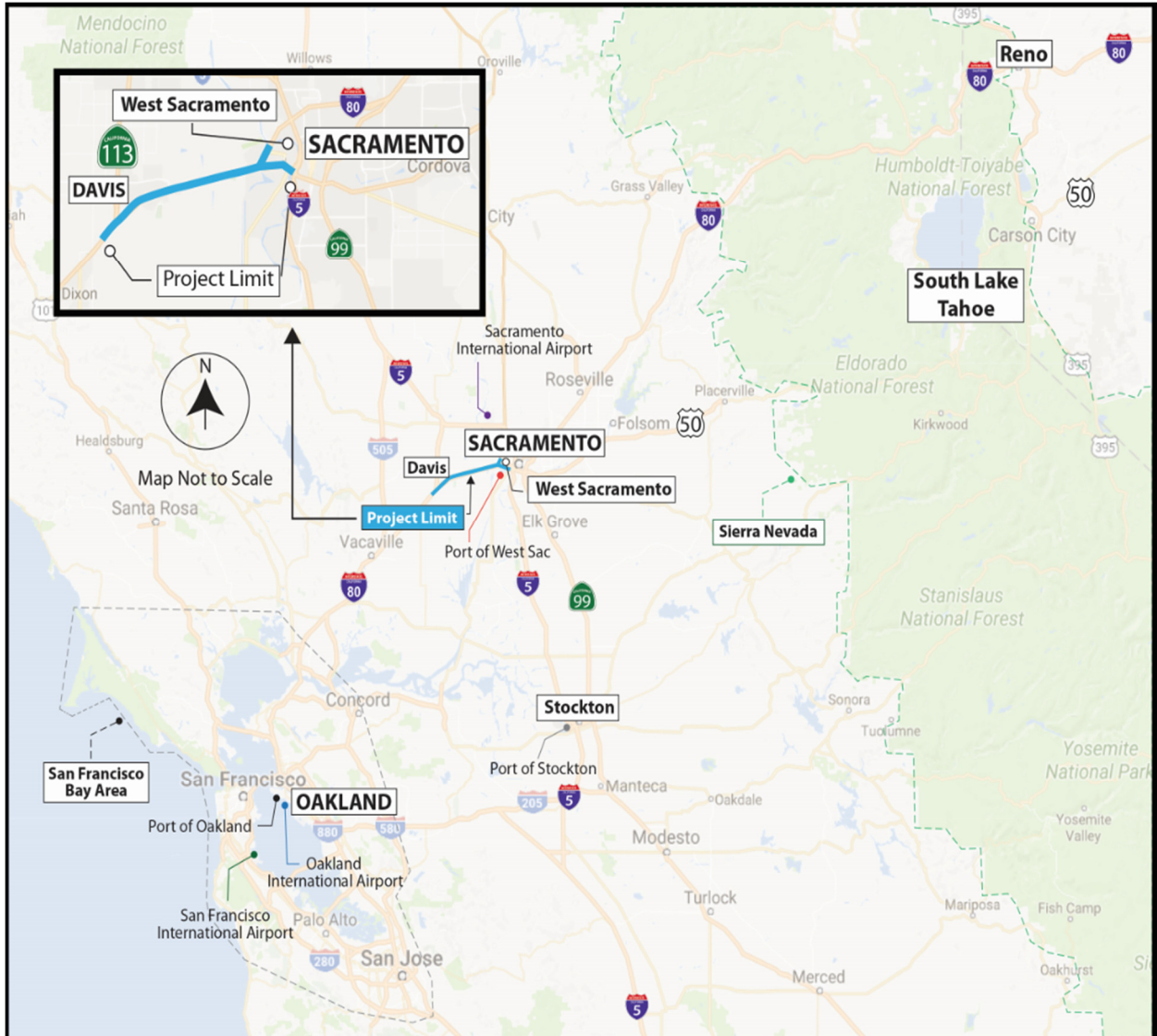


Figure 1

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.

Monika Pedigo
REGISTERED CIVIL ENGINEER

04/30/2024

DATE



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1. INTRODUCTION

Project Description

The California Department of Transportation (Caltrans) District 3, in collaboration with a variety of stakeholders Yolo Transportation District (YoloTD), City of Davis, UC Davis, Yolo County, City of West Sacramento, Sacramento Area Council Of Governments (SACOG), Reclamation District 900, proposes to construct improvements consisting of High Occupancy Toll (HOT) 3+ lanes with Direct Connector, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements supporting alternative multi-modal transportation systems along Interstate 80 (I-80) and United States Route 50 (US 50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, to West El Camino Avenue on I-80; and on US 50 to Interstate 5 (I-5) in Sacramento County. The HOT 3+ lanes will improve traffic flow and the mobility of people and freight, provide more reliable travel times, and provide improved incident response with the addition of ITS elements to improve traveler safety. For illustration purposes, the project consists of these three segments:

- Segment 1 stretches from Kidwell Road in eastern Solano County, through Davis, to the eastern end of the Yolo Causeway just west of Enterprise Boulevard in West Sacramento. Segment 1 consists of three sub-segments:
 - Segment 1a is from Kidwell Road to Solano County/Yolo County Line.
 - Segment 1b is from the Solano/Yolo County Line to west end of the Yolo Causeway.
 - Segment 1c is from the start of the Yolo Causeway to east of Enterprise Boulevard.
- Segment 2 starts just west of Enterprise Boulevard and continues east along I-80 to West El Camino Avenue
- Segment 3 starts at the I-80/US 50 Separation and continues east along US 50 to I-5 near downtown Sacramento (see Figure 1). Segment 3 consists of two sub-segments:
 - Segment 3a is the I-80/US-50 Separation to Jefferson Boulevard Undercrossing.
 - Segment 3b is the Jefferson Boulevard Undercrossing to just east of I-5.

Figure 2 depicts the segments described above and Attachment A shows the overall location map.

Caltrans further proposes to install ITS elements consisting of Changeable Message Signs (CMS), Closed-Circuit Television (CCTV), Microwave Vehicle Detection System (MVDS), and ramp metering. The project will construct HOT 3+ lanes on the I-80 corridor between Solano/Yolo County line and the Sacramento River (Bryte Bend Bridge) in Yolo County; and between Bryte Bend Bridge and West El Camino Interchange in Sacramento County; and on US 50 between the I-80/US 50 Interchange and Sacramento River (Pioneer Bridge) in

Yolo County and between Pioneer Bridge and the US 50/I-5 Interchange in Sacramento County. Construction of the HOT 3+ lanes along the existing roadway will occur through median reconstruction and outside shoulder widening, lane conversion, and restriping. Drainage modifications are required throughout the project.

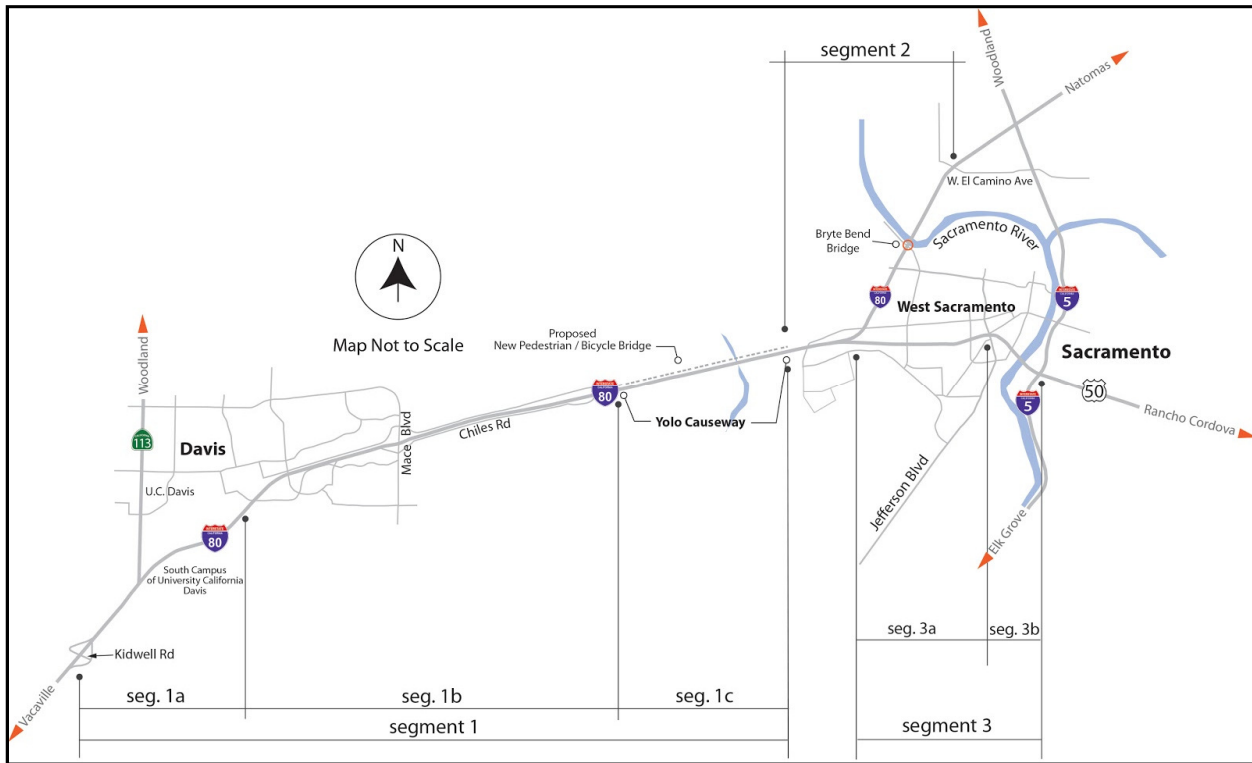


Figure 2 Project Segments.

| | | |
|--|---|---------------------------------|
| Project Limits | <i>04-SOL-80-40.7/R44.7 03-YOL-80-0.00/R11.72 03-SAC-80-M0.00/M1.36 03-YOL-50-0.00/3.12 03-SAC-50-0.00/L0.617</i> | |
| Number of Alternatives | <i>13</i> | |
| | Current Cost Estimate: | Escalated Cost Estimate: |
| Capital Outlay Support | | \$68,882,000 |
| Capital Outlay Construction* | \$293,895,000 | \$329,900,000 |
| Capital Outlay Right-of-Way | \$9,559,501 | \$10,421,000 |
| Funding Source** | <i>RIP Covid Relief Funds (20.XX.075.600 = \$4 million), CMAQ (20.30.010.820=\$4.06 million) , SACOG RSTP (\$1 million), INFRA grant (\$85.9 million)</i> | |
| Funding Year | <i>2024/2025 & FFY 2024</i> | |
| Construction Year | <i>2024/2025</i> | |
| Working Days | <i>650</i> | |
| Type of Facility | <i>Interstate Multi-lane Freeway</i> | |
| Number of Structures | <i>11</i> | |
| Environmental Determination or Document | <i>Environmental Impact Report (EIR)(CEQA) Environmental Assessment (EA)(NEPA)</i> | |
| Legal Description | <i>In Solano, Yolo, and Sacramento Counties, on Route 80 from 0.6 mile west of Kidwell Road OC near Davis, to the West El Camino Avenue OC in Sacramento and, on Route 50 from the Route 50/80 Separation in West Sacramento, to 0.3 mile east of the Route 5/50 Separation in Sacramento</i> | |
| Project Development Category | <i>4A</i> | |

* Alternative 4B costs shown

** Caltrans is seeking funding on the phases not fully funded.

STIP RIP: State Transportation Improvement Program and Regional Improvement Program
CMAQ: Congestion Mitigation Air Quality
SACOG RSTP: Sacramento Area Council of Governments Rural Surface Transportation Program
INFRA: Infrastructure for Rebuilding America, Federal Highway Administration (FHWA)

2. RECOMMENDATION

In compliance with Project Development Procedures Manual (PDPM) Chapter 12, the preferred alternative is approved per this executed Project Report, which follows Project Development Team (PDT) alternative selection and Project Manager recommendation.

The preferred alternative is Alternative 4B: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more occupants (HOT 3+) and build an I-80 Direct Connector Ramp. Vehicles with less than three occupants would pay a fee for HOT lane usage.

3. BACKGROUND

Community Interaction

Caltrans conducted three open houses/community workshops during the Project Initiation Document (PID) phase on June 6, 2018 at the Davis Senior Center; June 14, 2018 at West Sacramento City Hall; and June 21, 2018 at Sacramento City Hall. During the PA&ED phase, Caltrans conducted open houses in the City of Davis at the Mary L Stevens Library in November 2019 and in West Sacramento City Hall in February 2020. Caltrans presented the preliminary project plans and typical sections for various proposed alternatives on display boards and answered questions and participated in discussions with the public. In all meetings, Caltrans received and responded to written public comments.

Caltrans posted the NOP with the State Clearinghouse (June 6, 2021, No. 2021060117) to the District's intent to prepare a joint CEQA/NEPA document, in the form of Environmental Impact Report (EIR) for CEQA and Environmental Assessment (EA) for NEPA. The NOP virtual public information/scoping meeting was held in two evening sessions on August 25, 2021.

Existing Facility

The project's westernmost section of I-80, beginning at post mile 40.7 in Solano County and through the City of Davis in Yolo County, is flat terrain. East of the Yolo Causeway Bridges, the roadway elevates to conform to the I-80 Sacramento River Bridge Overhead (Bryte Bend Bridge) and the US. 50 Sacramento River Viaduct (Pioneer Bridge) over the Sacramento River,

both to the east.

I-80 in Solano County and the western portion of I-80 in Yolo County travels through the City of Davis, which is comprised of elements of residential housing, a university campus, small businesses, and agricultural land uses in this rural-urban combination area. The Yolo Causeway segment of I-80 is a scenic, floodplain and environmentally rich area and further east I-80 and US 50 travel through industrial, business, residential, rural, and urban areas in Yolo and Sacramento Counties.

The corridor serves as a primary connection for east-west travel in Solano, Yolo, and Sacramento Counties and is part of a major transportation route between the Tahoe regions to the east of the state capital and the San Francisco Bay Area to the west. The corridor also provides north-south connections to State Route (SR) 113 in Yolo County and I-5 and SR 99 in Sacramento County. Because of its designation as a primary east-west route, the corridor accommodates many transportation modes, including park-and-ride users, bicyclists, personal vehicles, Capital Corridor trains, public transportation, and freight trucks. I-80 is an FHWA-designated Alternative Fuel Corridor and one of the Top 6 Clean Freight Corridors identified in Senate Bill 671 (SB 671), and the project segment represents a key connection between interstate highways, interstate travel, and regional goods movement. As one of the Top 6 Clean Freight Corridors in SB 671, I-80 will be one of the first routes in California to receive high capacity Zero -Emission Vehicle (ZEV) infrastructure. I-80 and US 50 serve as important regional connections for freight distribution between warehouse, agricultural and manufacturing industries in the Central Valley, the Bay Area, and major ports (e.g., Oakland, Richmond, Stockton, West Sacramento). Both I-80 and US 50 are National Network Surface Transportation Assistance Act (STAA) routes. Freight trucks also access and transfer cargo from the port of West Sacramento, which is part of the Foreign Trade Zone and specializing in the import and export of bulk agricultural-and construction-related products. The port of West Sacramento is located south of I-80, off Harbor Blvd. The segment of I-80 within the project limits is a primary access route to the Sacramento International Airport and other large distribution centers. The segment of I-80 within the project limits also connects students commuting to either the University of California at Davis or California State University, Sacramento.

I-80 is the primary freeway serving the movement of people and goods between Northern California and the eastern United States. I-80 is the critical link between the Sacramento region and the San Francisco Bay Area. The route also links the Bay Area with recreational destinations in the Sierra Nevada Mountains and points north via I-505 to I-5.

The Yolo Bypass Wildlife Area and floodplain limit east-west linkages within the corridor, funneling many modes and forms of transportation into the narrow I-80 corridor between Davis and West Sacramento.

The existing pavement consists of asphalt concrete, Portland Cement Concrete (PCC) pavement and Continuously Reinforced Concrete Pavement (CRCP) throughout the project limits.

The portion of I-80 from the SR-113/I-80 interchange to the Solano/Yolo County line at Putah Creek varies from 8-lanes to 12-lanes; Yolo 80 PM 0.0/4.3 (east of Mace Blvd) ranges from 3 to 4-lanes in each direction with an unpaved median.

Yol 80 PM 0.0 – 4.3 (From Putah Creek to east of Mace Blvd)

| Feature | | Existing | Proposed | Standard |
|--------------------------------------|-----------------|---------------|-----------------------|----------|
| Through Traffic Lanes Each Direction | Number of Lanes | 3 GP 1 Aux | 1 ML 3 GP 1 Aux | N/A |
| | Lane Width (ft) | 12' | 12' | 12' |
| Paved Shoulder Width WB | Left (ft) | 10' to 14' | 5.5' to 11.5' | 10' |
| | Right (ft) | 10' | 10' | 10' |
| Paved Shoulder Width EB | Left (ft) | 8' to 15' | 3' to 11' | 10' |
| | Right (ft) | 10' | 10' | 10' |
| Median Width | (ft) | 30' to 48' | 8.5' to 22.5' | 22' |

Lane Types:

- ML = Managed Lane
- GP = General Purpose
- Aux = Auxiliary Lane (Intermittent)

| Yol 80 PM 4.3 – 9.0 (From east of Mace Blvd to West of Enterprise Blvd) | | | | |
|--|-----------------|-----------------|-----------------|-----------------|
| Feature | | Existing | Proposed | Standard |
| Through Traffic Lanes Each Direction | Number of Lanes | 3 GP | 1 ML 3 GP | N/A |
| | Lane Width (ft) | 12' | 11' - 12' | 12' |
| Paved Shoulder Width WB | Left (ft) | 10' to 12' | 1.5' to 5.5' | 10' |
| | Right (ft) | 10' | 10' | 10' |
| Paved Shoulder Width EB | Left (ft) | 10' | 1.5' to 5' | 10' |
| | Right (ft) | 10' | 10' | 10' |
| Median Width | (ft) | 21' to 37' | 5' to 12.5 | 22' |

Lane Types:

- ML = Managed Lane
- GP = General Purpose
- Aux = Auxiliary Lane (Intermittent)

Yol 80 PM 10.1– Sac 80 M1.4 (From the I-80/50 Interchange to W. El Camino Ave)

| Feature | | Existing | Proposed | Standard |
|--------------------------------------|-----------------|-----------|--------------|----------|
| Through Traffic Lanes Each Direction | Number of Lanes | 3 GP | 1 ML 3 GP | N/A |
| | Lane Width (ft) | 12' | 11' to 12' | 12' |
| Paved Shoulder Width WB | Left (ft) | 5' to 10' | 1' to 16' | 10' |
| | Right (ft) | 8' to 10' | 2.5' to 10' | 10' |
| Paved Shoulder Width EB | Left (ft) | 5' to 10' | 1' to 16' | 10' |
| | Right (ft) | 8' to 10' | 2.5' to 10' | 10' |
| Median Width | (ft) | 59' | 34' to 36' | 22' |

Lane Types:

- ML = Managed Lane
- GP = General Purpose
- Aux = Auxiliary Lane (Intermittent)

Yol 50 PM 0.0 – Sac 50 PM L0.6 (From I-80/ 50 Interchange to 50/5 Interchange)

| Feature | | Existing | Proposed | Standard |
|--------------------------------------|-----------------|-------------------|---------------------------|----------|
| Through Traffic Lanes Each Direction | Number of Lanes | 3-4 GP 1-2 Aux | 1 ML 3-4 GP 1-2 Aux | N/A |
| | Lane Width (ft) | 12' | 11' to 12' | 12' |
| Paved Shoulder Width WB | Left (ft) | 5' to 15' | 2' to 10' | 10' |
| | Right (ft) | 8' to 10' | 5' to 10' | 10' |
| Paved Shoulder Width EB | Left (ft) | 5' to 15' | 2' to 14' | 10' |
| | Right (ft) | 8' to 10' | 5' to 16' | 10' |
| Median Width | (ft) | 27' to 34' | 10' to 16' | 22' |

Lane Types:

- ML = Managed Lane
- GP = General Purpose
- Aux = Auxiliary Lane (Intermittent)

4. NEED AND PURPOSE

Need

The proposed project is needed for the following reasons:

- Recurring congestion during morning and afternoon peak periods exceeds current design capacity limiting freight and person throughput.
- Operational inefficiencies lead to the formation of bottlenecks due to short weaving and merging areas and lane drops.
- Inefficient movement of goods and services impedes regional and interstate economic sustainability.

- The corridor users rely heavily on single-occupancy vehicles with limited multi-modal options such as transit, carpool, bicycle, and pedestrian facilities, resulting in unreliable travel times.
- Lack of real-time traveler information and coordinated traffic communication systems impede timely response to roadway incidents resulting in secondary collisions and increased non-recurring congestion.

Purpose

The purpose of the proposed project is to:

- Ease congestion and improve overall freight and person throughput¹
- Improve freeway operation on the mainline, ramps, and at system interchanges.
- Support reliable transport of goods and service through the region.
- Improve modality² and travel time reliability.
- Provide expedited traveler information and monitoring systems.

A. REGIONAL AND SYSTEM PLANNING

i. Identify Systems

I-80 and US 50, within the project limits, are designated as the Interstate Systems on the National Highway Systems (NHS).

I-80 is a transcontinental interstate facility critical to regional and interregional transportation. I-80 serves as the only freeway connection between the San Francisco Bay Area and the Sacramento metropolitan region. As previously mentioned, I-80 is recognized as one of the Top 6 Corridors per SB 671's ZEV truck routes.

The I-80 and US 50 also link the Bay Area with recreational destinations in the Sierra Nevada Mountains and points north via I-505 to I-5. The I-80 and US 50 corridors are a crucial part of the Northern California freight industry as they connect to I-5 and create the most northern interregional freight hub in California.

Neither I-80 nor US. 50 are classified as scenic highways. Both I-80 and US. 50 are National Network Routes (STAA) for trucks with no special restrictions.

¹ Throughput is the number of people moving efficiently through a region.

² Modality is the variety in modes of transportation. This includes access and multiple options for the movement of people and goods. Examples include access to transit, carpool, bicycle, and pedestrian facilities.

ii. Climate Action Plan for Transportation Infrastructure (CAPTI)

California State Transportation Agency (CalSTA) and other agencies have developed CAPTI as a new guiding document which outlines strategies and actions for how funds should be invested into transportation. These strategies are developed with the specific goal of aligning the state's transportation investments with its climate, health, and equity goals. Because the transportation sector is the largest contributor to California's greenhouse gas emissions (GHG), reducing emissions from transportation is urgently needed.

CAPTI is a result of Executive Orders (EO) N-19-19 and N-79-20. EO N-19-19 empowers the CalSTA to leverage discretionary state transportation funds to help meet the state's climate goals. EO N-79-20 moves the transportation sector toward a zero-emission future by requiring all new cars sold in the state to be zero-emission by 2035 and all commercial trucks sold to be zero-emission by 2045. EO N-79-20 also reiterates the message of EO N-19-19 and emphasizes the urgency of CalSTA's implementation efforts.

The Project seeks to implement actions outlined in the CAPTI framework and explore possible mitigation efforts to meet the State's goals under this project.

The CAPTI framework seeks to promote walking, biking, transit, rail and other modes of active transportation that improve the health of Californians and reduce our dependence on driving. A key goal of CAPTI is to reduce the overall number of Vehicle Miles Traveled (VMT) to meet the State's climate goals. As such, the Project has proposed a VMT Mitigation Plan to offset induced VMT into the corridor. The VMT Mitigation Plan is detailed and outlined as a supplementary document to the Final Environmental Document.

See Section E. Environmental, i. Vehicle Miles Traveled for additional VMT discussion.

iv. State Planning

This project is compliant with Streets and Highways Code section 2192 because it implements highway improvements to accommodate the movements of freight more efficiently and to relieve traffic congestion along I-80 and US 50, goods movement corridors.

The Project supports the following goals of the California Freight Mobility Plan: strategic investment to maintain, enhance, and modernize the multimodal freight transportation system to optimize integrated network efficiency, improve travel time reliability, and achieve congestion reduction. It also aims to grow the economic competitiveness of California's freight sector through increased system efficiency, productivity, and workforce preparation. Additionally, the Project supports strategies that may reduce, avoid, and mitigate adverse environmental impacts for the freight transportation system, enhancing community health and wellbeing by mitigating the negative impacts of the goods movement system across California's communities. Moreover, it focuses on maintaining and preserving infrastructure assets while also aiming to reduce freight-related deaths or injuries.

The proposed managed lane work on I-80 for this project is discussed in the “Solano/ Yolo/Sacramento I-80 Comprehensive Multimodal Corridor Plan” (CMCP, dated January 2023) as one of over two hundred I-80 corridor improvement projects proposed to improve corridor operations, increase travel choices, and close gaps in the existing multimodal transportation system. The CMCP includes these segments within our project limits: Segment 6: I-80 from Sol/Yol County Line to US 50; Segment 7: I-80 from 50/80 Split to West El Camino; and Segment 9: US 50/I-80 Interchange to I-5/ US 50 Interchange. This project will also meet some of the CMCP goals to improve freeway travel time reliability, help close the gaps in Transportation Operation Systems (TOS) elements, by adding Ramp Metering, Vehicle Detection Sites, Closed-Circuit Television Cameras and Changeable Message Signs. The Mobility Hub proposed on this project is also mentioned in the CMCP and that it will help improve access and connections to existing and future multimodal (bus, bike and pedestrian) transportation or Mobility Hubs.

US 50 serves the large Sacramento metropolitan area and to the east toward the City of Placerville, where it primarily serves regional travel to the Sierra Nevada and Lake Tahoe. The work on US 50 is in Segment 1 of the US 50 Transportation Concept Report (dated 2014) and Corridor System Management Plan (CSMP). Segment 1 is from the I-80/US 50 Separation, PM 0.0 to the Yolo/Sacramento County Line, PM 3.16. Segment 2 is from the Yolo/Sacramento County Line, PM 0.0 to State Route 99 and 51 Separation, PM L2.20. Regional and Local Planning

SACOG funding program of the Metropolitan Transportation Plan/Sustainable Communities Strategy, Executive Summary (2020 MTP/SCS) supports the proposed managed lanes between Davis and West Sacramento on I-80 and US 50 in Yolo County. The proposed additional auxiliary and transition lanes at and between major interchanges will improve transportation flow. The ITS elements will benefit transportation flow enhance incident management and bicycle/pedestrian facilities.

The SACOG MTP/SCS, Regional Bicycle, Pedestrian, and Trails Master Plan, Appendix B, Davis East Map and West Sacramento Map: (dated 2015) of the MTP/SCS include the proposed Yolo County improvements to County Road 32A for adding bike lanes in Davis as part of the Yolo County Transportation Plan. The Project proposes improvements to the bicycle access to County Road 32A within the Davis East Map and proposed improvements to bike path east of the Yolo Causeway (East) bridge, which is consistent with the MTP/SCS. The Project proposes to Modify Signal & Lighting at I-80, Mace Blvd & Chiles Rd.

- v. Other Projects within or near Project Limits:
- vi. 03-4F650: Yolo Pavement Rehabilitation Project: On Yolo 80 PM 4.3/R11.4 and Yolo 50 PM 0.0/2.5. This project proposes to rehabilitate pavement to bring it to a state of long-life pavement and provide other safety benefits such as standard median concrete barrier and additional lighting throughout the project limits. Additionally, the Yolo 80 Pavement Rehabilitation project (03-4F650) proposes improvements for critical bridge locations within the corridor to upgrade deck surfaces, approach slabs, and slope paving. The Yolo 80 Pavement Rehabilitation project (03-4F650) proposes new fiber-optic lines throughout the project limits, along with some ramp metering and upgrades to other existing roadway features. These Fiber Optic lines will improve the ITS monitoring capability within the corridor. Finally, drainage modifications and improvements are proposed as part of the scope of work. Planned Construction is from July 2023 to May 2026.
- vii. 03-0H360: I-80/Richards Blvd IC Improvements: Sol 80 PM 44.5/44.7 and Yolo 80 PM 0.0/0.5. City of Davis project proposes to reconfigure the westbound I-80 off-ramp and westbound I-80 on-ramp to a tight diamond; construct additional turn lanes to the eastbound I-80 on-ramp; eliminate the westbound I-80 slip off-ramp to Olive Drive; construct a two-way shared use path on the west side of Richards Boulevard that will pass under the westbound I-80 on-ramp from Richards Boulevard and cross over I-80. Planned construction is from May 2025 to October 2026.
- viii. Yolo County's County Road 32A (CR 32A) Project to replace or relocate Railroad crossing with a new road crossing. Yolo County prepared a Final Draft Project Report in July 2021 for the proposed alternatives for realignment of CR 32A, between CR 105 and the Yolo Causeway, to improve safety, reduce collisions, and add a class II bike lane. Caltrans submitted comments to Yolo County on the Final Draft Project Report and confirmed no impacts to the 03-3H900 Project. Caltrans is continuing to support Yolo County on this bike path project, which is in the planning phase.
- ix. 03-3H840: Sycamore Pedestrian OC (by City of West Sacramento): Yol 50 PM 1.82: In Yolo County from Evergreen Avenue, across Yolo 50 and to Clarendon Street. Construction scheduled from March 2023 to August 2024.
- x. 03-3H330: US 50 Integrated Corridor Management (ICM) Infrastructure: This project is in and near the Cities of Sacramento, Rancho Cordova, and Folsom. On the US 50 from PM 0.0/3.156, from Jefferson Boulevard to 1.3 miles east of Folsom Boulevard, and on I-80 from Enterprise Boulevard to the US 50 (PM 9.2 to R9.552). The project will install Transportation Management System (TMS) field elements. The planned construction is from September 2021 to June 2024.
- xi. 03-0H08U: Sac 50 Design-Build (combined former 03-3H080 and 3F360 projects): In Sacramento County on the US 50 from PM L0.20 to PM R6.10, from the I-5 Junction to Watt Avenue. The project proposes to construct an HOV lane each direction and rehabilitate the pavement. The planned construction for this project is from June 2020 to July 2025.

vi. Local Planning

Caltrans worked closely with the City of Davis on their proposed project to improve the I-80 Richards Boulevard Interchange. See the 03-0H360 project description above. The project proposes to widen the westbound I-80/Putah Creek Pedestrian Under Crossing Bridge (Bridge No. 22-0194) to accommodate their proposed westbound I-80 on-ramp widening. This Project is proposing to widen and restripe the eastbound I-80 off-ramp to Richards Boulevard and conform with the City of Davis's proposed ramp widening. This Project is compatible with the City of Davis's Richard Boulevard improvement project.

Caltrans has communicated with Yolo County and helped them prepare an Active Transportation Program (ATP) grant application to construct a bicycle lane and bicycle path along County Road 32A, including widening County Road 32A, between County Road 105 and the existing west end of the Yolo Causeway Levee. Constructing the bicycle lane along County Road 32A may be completed with Yolo County's County Road 32A realignment project. Proposed Yolo County bicycle lane improvements on CR 32A would tie into the existing bike lane that goes onto the western Yolo Causeway levee.

B. TRAFFIC

i. Current and Forecasted Traffic

The District 3 Office of Traffic Forecasting and Modeling, provided the project limits' current and forecasted traffic data. See the traffic data shown in the tables below.

| Highway Post Mile | SOL 080 40.7/R44.7 | YOL 080 0.00/R11.72 | YOL 050 0.00/3.12 | SAC 050 0.00/L0.617 | SAC 080 M0.00/M1.36 |
|----------------------|--------------------------|---------------------------|-------------------------|---------------------------|---------------------------|
| AADT | | | | | |
| 2019 | 140,000 | 150,795 | 149,198 | 198,012 | 123,530 |
| 2023 | 148,400 | 160,411 | 158,162 | 208,927 | 130,838 |
| 2029 | 161,000 | 174,834 | 171,608 | 225,300 | 141,800 |
| 2039 | 182,000 | 182,613 | 178,363 | 240,800 | 153,700 |
| 2049 | 203,000 | 190,391 | 185,117 | 256,300 | 165,600 |
| 2069 | 245,000 | 205,948 | 198,626 | 287,300 | 189,400 |
| AADTT | | | | | |
| 2019 | 9,408 | 11,731 | 11,358 | 13,968 | 9,203 |
| 2023 | 9,972 | 12,479 | 12,043 | 14,736 | 9,751 |
| 2029 | 10,819 | 13,601 | 13,071 | 15,889 | 10,574 |
| 2039 | 12,230 | 14,205 | 13,591 | 16,986 | 11,465 |
| 2049 | 13,642 | 14,808 | 14,111 | 18,083 | 12,356 |
| 2069 | 16,464 | 16,015 | 15,151 | 20,277 | 14,138 |
| DHV | | | | | |
| 2019 | 11,100 | 9,871 | 10,230 | 13,844 | 9,666 |
| 2023 | 11,700 | 10,679 | 10,972 | 14,470 | 10,388 |
| 2029 | 12,700 | 11,890 | 12,085 | 15,410 | 11,470 |
| 2039 | 14,400 | 12,347 | 12,855 | 16,545 | 12,350 |
| 2049 | 16,000 | 12,803 | 13,625 | 17,680 | 13,230 |
| 2069 | 19,400 | 13,716 | 15,165 | 19,950 | 14,990 |
| Directional % | 55.0 | 53.0 | 54.0 | 54.0 | 67.0 |
| DH Truck % | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 |

AADT=Average Annual Daily Traffic
 AADTT=Annual Average Daily Truck Traffic
 DHV=Design Hourly Volume

| ESALs & TIs | SOL 080 40.7/R44.7 | | YOL 080 0.00/R11.72 | | YOL 050 0.00/3.12 | |
|--------------------|--------------------------|-------------|---------------------------|-------------|-------------------------|-------------|
| | Lane 1 | Lane 2, 3,4 | Lane 1 | Lane 2,3 | Lane 1 | Lane 2, 3,4 |
| ESALs | | | | | | |
| 2019 | 406,000 | 1,625,000 | 603,700 | 2,415,000 | 455,700 | 1,822,700 |
| 2023 | 430,000 | 1,722,000 | 613,800 | 2,455,000 | 463,300 | 1,853,000 |
| 2029 | 467,000 | 1,868,000 | 628,900 | 2,515,600 | 474,700 | 1,898,700 |
| 10-year | 4,671,000 | 18,687,000 | 6,289,000 | 25,155,900 | 4,746,700 | 18,986,800 |
| 20-year | 9,343,000 | 37,375,000 | 12,577,900 | 50,311,800 | 9,493,400 | 37,973,500 |
| 40-year | 18,687,000 | 74,750,000 | 25,155,900 | 100,623,700 | 18,986,800 | 75,947,000 |
| Mainline TI | | | | | | |
| 2019 | 8.0 | 9.5 | 8.5 | 10.0 | 8.0 | 9.5 |
| 2023 | 8.0 | 9.5 | 8.5 | 10.0 | 8.0 | 9.5 |
| 2029 | 8.0 | 9.5 | 8.5 | 10.0 | 8.0 | 9.5 |
| 10-year | 11.0 | 12.5 | 11.0 | 13.0 | 11.0 | 13.0 |
| 20-year | 11.5 | 14.0 | 12.0 | 14.5 | 12.0 | 14.0 |
| 40-year | 12.5 | 15.0 | 13.0 | 15.5 | 13.0 | 15.0 |
| Shoulder TI | | | | | | |
| 2019 | 6.0 | | 6.5 | | 6.0 | |
| 2023 | 6.0 | | 6.5 | | 6.0 | |
| 2029 | 6.0 | | 6.5 | | 6.0 | |
| | 8.0 | | 8.5 | | 8.0 | |
| 10-year | 8.5 | | 9.0 | | 8.5 | |
| 20-year | 9.0 | | 9.0 | | 9.0 | |
| 40-year | | | | | | |

ESAL= Equivalent single axle load

TI=Traffic Index

Disclaimer: The data comes from the most recent traffic study for Yolo I-80 Managed Lanes for all the segments except SOL 080 PM 40.7/R44.7 which is not included in the study. The traffic study uses growth rates from the Travel Demand Model (SACSIM TDM) and volumes from new traffic count data.

| ESALs & TIs | SAC 050 0.00/L0.617 | | SAC 080 M0.00/M1.36 | |
|--------------------|------------------------|------------|------------------------|------------|
| | Lane 1 | Lane 2,3,4 | Lane 1 | Lane 2,3,4 |
| ESALs | | | | |
| 2019 | 538,700 | 2,154,600 | 279,600 | 1,118,200 |
| 2023 | 554,900 | 2,219,500 | 289,200 | 1,156,900 |
| 2029 | 579,200 | 2,316,700 | 303,800 | 1,215,400 |
| 10-year | 5,548,900 | 22,195,400 | 2,892,300 | 11,569,300 |
| 20-year | 11,097,700 | 44,390,900 | 5,784,600 | 23,138,500 |
| 40-year | 22,195,400 | 88,781,700 | 11,569,300 | 46,277,000 |
| Mainline TI | | | | |
| 2019 | 8.5 | 9.0 | 7.5 | 9.0 |
| 2023 | 8.5 | 9.0 | 8.0 | 9.0 |
| 2029 | 8.5 | 9.0 | 8.0 | 9.0 |
| 10-year | 9.0 | 9.0 | 9.0 | 9.0 |
| 20-year | 9.0 | 9.0 | 9.0 | 9.0 |
| 40-year | 9.0 | 9.0 | 9.0 | 9.0 |
| Shoulder TI | | | | |
| 2019 | 6.0 | | 5.5 | |
| 2023 | 6.0 | | 5.5 | |
| 2029 | 6.0 | | 6.0 | |
| 10-year | 8.0 | | 7.5 | |
| 20-year | 9.0 | | 8.0 | |
| 40-year | 9.0 | | 9.0 | |

Disclaimer: The data comes from the most recent traffic study for Yolo I-80 Managed Lanes for all the segments except SOL 080 PM 40.7/R44.7 which is not included in the study. The traffic study uses growth rates from the Travel Demand Model (SACSIM TDM) and volumes from new traffic count data.

ii. Collision Analysis

The District 3 Office of Traffic Safety and Investigations provided the following collision history and analysis for a five-year period from January 1, 2015, to December 31, 2019 from the Traffic Accident Surveillance and Analysis System (TASAS). The Tables below (TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)) summarize and compare the actual collision rates for the segment of the highway to the average rates for similar facilities throughout the State. The Total collision rates include all reported collisions: Fatal, Injury, and Property Damage.

The Transportation Analysis Report (TAR, Section 7.3 Roadway Safety) States Alternatives 2A through 5A, and 2B would reduce congestion compared to Alternative 1 (no build). Reducing congestion and increasing the average speed to or near the free-flow speed would reduce congestion-related collision types, such as the most common type in the project area, rear end collision. TAR Alternatives 2 through 6, 8, and 9 (as compared to PA&ED Alternatives 2A through 6A, and 2B) would be expected to lower the collision rate since these alternatives add a lane in most of the study area. Traffic congestion under the preferred alternative would affect trucks similarly to passenger vehicles in the general purpose lanes; therefore, reduced travel times for the preferred alternative would perform well for both vehicles and trucks to reduce collisions.¹

SOL 80 PM 40.7/R44.7

Table 4.12A Collision History – SOL 80 PM 40.7/R44.7

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collisions | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|--------------------------------------|-------------------------------|---------------------|----------------------|---------------------------------------|---------------------------------|--------|--|---------------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collisions | Total* |
| SOL 80 PM 40.7- R44.7 EB | 246 | 3 | 12 | 0.006 | 0.19 | 0.50 | 0.007 | 0.24 | 0.75 |
| SOL 80 PM 40.7- R44.7 WB | 158 | 0 | 3 | 0.000 | 0.12 | 0.32 | 0.007 | 0.24 | 0.75 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 246 eastbound and 158 westbound collisions within the segment of I-80 from PM 40.7 to PM R44.7 and study periods summarized above, with a total rate of fatal and injury related collisions that is below the statewide average for similar facilities.

¹Transportation Analysis Report, dated July 2023, page 7, Freight Impacts

Detailed analysis per the TASAS Selective Accident Retrieval (TSAR) generated on May 30, 2023 shows the primary collision factors in the segment were:

Table 4.12B Collision Factors and Types – SOL 80 PM 40.7/R44.7

| SOL 80 PM 40.7/R44.7 | Primary Collision Factors | | | | | | | | Types of Collisions | | | | | | | |
|----------------------|---------------------------|------------------|---------------|----------------------|-------------------|---------|------------------|------------------|---------------------|-----------|------------|-----------------|----------|-----------|-------|---------|
| | Speeding | Other violations | Improper Turn | Influence of Alcohol | Other than Driver | Unknown | Follow Too close | Improper Driving | Rear End | Sideswipe | Hit Object | Auto-Pedestrian | Overtake | Broadside | Other | Head-On |
| EB | 125 | 66 | 33 | 8 | 5 | 4 | 1 | 4 | 121 | 74 | 36 | 1 | 5 | 6 | 2 | 1 |
| WB | 76 | 37 | 20 | 9 | 12 | 2 | 2 | - | 75 | 38 | 38 | - | - | 6 | 1 | - |

The primary pattern of collisions identified for this location is congestion related. The evidence of the collision pattern is a significantly high percentage (308 collisions or 76%) of the rear-end and sideswipe type of collisions (TOC). On the surface, speed appears to be the primary collision factor in many crashes; however, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions related to congestion.

Yolo 80 PM 0.0/R9.552

Table 4.13A Collision History – Yolo 80 PM 0.0/R9.552

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collisions | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|----------------------|-------------------------|------------------|-------------------|---------------------------------------|---------------------------|--------|--|---------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collisions | Total* |
| YOL 80 PM 0.0-9.5 EB | 851 | 4 | 323 | 0.003 | 0.27 | 0.70 | 0.007 | 0.30 | 0.90 |
| YOL 80 PM 0.0-9.5 WB | 608 | 6 | 206 | 0.005 | 0.17 | 0.50 | 0.007 | 0.30 | 0.90 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 1,459 collisions within the segment of I-80 from PM 0.0 to PM 9.5 and study periods summarized above, with a total rate of fatal and injury related collisions that is below the statewide average for similar facilities.

The Transportation Analysis Report (TAR, Section 4.4 Roadway 2) indicates collisions are most frequent at Richards Boulevard and Mace Boulevard in the eastbound direction. The proposed project ramp metering at the Eastbound I-80 on-ramp from Richards Blvd, Eastbound I-80 on-ramp from Mace Blvd loop-ramp and slip ramp should help reduce collisions on Eastbound I-80. The TAR also indicates in the westbound direction, collision rates are highest at the Enterprise Boulevard/West Capitol Avenue interchange, which is also the bottleneck location at the start of the Yolo Causeway.

Detailed analysis per the TSAR generated on May 30, 2023, shows the primary collision factors in the segment were:

Table 4.13B Collision Factors and Types – Yolo 80 PM 0.0/R9.552

| YOL 80 PM 0.0/R9.552 | Primary Collison Factors | | | | | | | | | | Types of Collisions | | | | | | | | |
|-------------------------|--------------------------|------------------|---------------|----------------------|-------------------|---------|------------------|------------------|------------------|------------|---------------------|-----------|------------|----------------------------|----------|-----------|-------|-----------------|---------|
| | Speeding | Other Violations | Improper Turn | Influence of Alcohol | Other than Driver | Unknown | Follow Too close | Improper Driving | Failure to Yield | Not Stated | Rear End | Sideswipe | Hit Object | (Object=Median Barrier) | Overturn | Broadside | Other | Auto-Pedestrian | Head-On |
| EB | 530 | 132 | 114 | 39 | 16 | 5 | 13 | 1 | - | 1 | 582 | 147 | 90 | - | 10 | 15 | 6 | - | 1 |
| WB | 285 | 128 | 112 | 42 | 25 | 12 | 3 | - | 1 | - | 304 | 163 | 119 | - | 8 | 10 | 1 | 2 | 1 |

The primary pattern of collisions identified for this location is congestion related. The evidence of the collision pattern is the high percentage (1,063 collisions or 73%) of the rear-end and sideswipe type of collisions (TOC). Even though speed is listed as the primary collision factor in a high number of collisions, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions related to congestion.

Yolo 80 PM R9.5/ R11.718

Table 4.14A Collision History - Yolo 80 PM R9.5/ R11.718

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collisions | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|------------------------------------|-------------------------------|---------------------|----------------------|--|---------------------------------|--------|--|---------------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collisions | Total* |
| YOL 80 PM 9.5- R11.718 EB | 87 | 1 | 25 | 0.005 | 0.13 | 0.42 | 0.006 | 0.39 | 1.18 |
| YOL 80 PM 9.5- R11.718 WB | 383 | 2 | 127 | 0.010 | 0.63 | 1.86 | 0.006 | 0.39 | 1.18 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 470 collisions within the segment of I-80 from PM 9.5 to PM R11.718 and study periods summarized above, with a total rate of fatal and injury related collisions that is below the statewide average for eastbound I-80 for similar facilities. The total rate of fatal and injury related collisions that is above the statewide average for westbound I-80 for similar facilities.

The TAR indicates the most frequent collision locations in the eastbound direction are at Reed Avenue and at the downstream end of the Bryte Bend Bridge. In the westbound direction, collisions are most frequent on the connector ramp that merges with westbound US 50.

Detailed analysis per the TSAR generated on May 30, 2023, shows the primary collision factors in the segment were:

Table 4.14B Collision Factors and Types – Yolo 80 PM R9.5/ R11.718

| | Primary Collison Factors | | | | | | | Types of Collisions | | | | | | |
|----------------------------|--------------------------|------------------|---------------|----------------------|-------------------|---------|------------------|---------------------|-----------|------------|---------|----------|-----------|-------|
| | Speeding | Other violations | Improper Turn | Influence of Alcohol | Other than Driver | Unknown | Follow Too close | Rear End | Sideswipe | Hit Object | Head On | Overturn | Broadside | Other |
| Yolo 80 PM R9.5/R11.718 | | | | | | | | | | | | | | |
| EB | 45 | 14 | 15 | 7 | 5 | 1 | - | 43 | 21 | 19 | 1 | 1 | 1 | 1 |
| WB | 261 | 68 | 36 | 9 | 4 | 2 | 3 | 268 | 66 | 40 | - | 4 | 4 | 1 |

The recorded collisions in the westbound direction are high compared to the eastbound direction which may be due to queuing from the congested I-80/ US 50 interchange. The proposed CMS signs in the preferred alternative will help warn motorists of traffic incidents. The construction of the Managed Lane Connector Ramp will also reduce the accidents relating to merging into and out of the HOT 3+ lane in the median in this location.

The primary pattern of collisions identified for this location is congestion related. The evidence of the pattern is the high percentage (398 collisions or 85%) of the rear-end and sideswipe type of collisions (TOC). Even though speed is listed as the primary collision factor in a high number of collisions, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions.

SAC 80 PM M0.0/M1.6

Table 4.15A Collision History - Sac 80 PM M0.0/ M1.6

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collisions | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|-------------------------------------|-------------------------------|---------------------|----------------------|--|---------------------------------|--------|--|---------------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collisions | Total* |
| SAC 80 PM M0.0- M1.6 EB | 76 | 0 | 30 | 0.000 | 0.22 | 0.57 | 0.006 | 0.34 | 1.03 |
| SAC 80 PM M0.0- M1.6 WB | 71 | 0 | 28 | 0.000 | 0.21 | 0.53 | 0.006 | 0.34 | 1.03 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 147 collisions within the segment of I-80 from PM M0.0 to PM M1.6 and study periods summarized above, with a total rate of fatal and injury related collisions that is below the statewide average for similar facilities.

Detailed analysis per the TSAR generated on May 30, 2023, shows the primary collision factors in the segment were:

Table 4.15B Collision Factors and Types – Sac 80 PM M0.0/M1.6

| SAC 80 PM M0.0/M1.6 | Primary Collison Factors | | | | | | | Types of Collisions | | | | | |
|------------------------|--------------------------|------------------|---------------|----------------------|-------------------|-----------------|------------------|---------------------|-----------|------------|-----------|-------|----------|
| | Speeding | Other violations | Improper Turn | Influence of Alcohol | Other than Driver | Follow to Close | Other Violations | Rear End | Sideswipe | Hit Object | Broadside | Other | Overturn |
| EB | 46 | 12 | 11 | 5 | 1 | 1 | - | 48 | 11 | 16 | - | - | 1 |
| WB | 40 | 11 | 13 | 2 | 5 | - | 11 | 35 | 12 | 20 | 1 | 2 | 1 |

The primary pattern of collisions identified for this location is congestion related. The evidence of the pattern is the high percentage (106 collisions or 72%) of the rear-end and sideswipe type of collisions (TOC). Even though speed is listed as the primary collision factor in a high number of collisions, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions.

YOL 50 PM 0.0/3.12

Table 4.16A Collision History – YOL 50 PM 0.0/3.12

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collision s | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|------------------------------------|-------------------------------|-------------------------|----------------------|--|---------------------------------|--------|--|-------------------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collision s | Total* |
| YOL 50 PM 0.0- 3.12 EB | 316 | 2 | 119 | 0.006 | 0.36 | 0.94 | 0.004 | 0.34 | 1.05 |
| YOL 50 PM 0.0- 3.12 WB | 386 | 5 | 173 | 0.015 | 0.53 | 1.15 | 0.004 | 0.34 | 1.05 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 702 collisions within the segment of US-50 from PM 0.0 to PM 3.12 and study periods summarized above, with a total rate of fatal and injury related collisions that is above the statewide average for similar facilities.

According to the TAR Both directions had actual collision rates higher than the statewide rate for all three categories. In the eastbound direction, the locations with the most frequent collisions are at the Jefferson Boulevard off-ramp and the I-5 off-ramp. In the westbound direction, collisions are most frequent at US 50.

Detailed analysis per the TSAR generated on May 30, 2023 shows the primary collision factors in the segment were:

Table 4.16B Collision Factors and Types – YOL 50 PM 0.0/3.12

| YOL 50 PM 0.0/3.12 | Primary Collision Factors | | | | | | | | Types of Collisions | | | | | | | |
|--------------------|---------------------------|------------------|---------------|----------------------|-------------------|---------|------------------|------------------|---------------------|-----------|------------|----------|-----------|-------|-----------------|---------|
| | Speeding | Other violations | Improper Turn | Influence of Alcohol | Other than Driver | Unknown | Follow Too close | Failure to Yield | Rear End | Sideswipe | Hit Object | Overturn | Broadside | Other | Auto-pedestrian | Head-On |
| EB | 189 | 55 | 51 | 9 | 6 | 1 | 4 | 1 | 186 | 49 | 64 | 7 | 8 | 1 | 1 | - |
| WB | 247 | 63 | 50 | 10 | 7 | 3 | 5 | 1 | 251 | 61 | 58 | 2 | 5 | 5 | 3 | 1 |

The primary pattern of collisions identified for this location is congestion related. The evidence of the pattern is the high percentage (547 collisions or 78%) of the rear-end and sideswipe type of collisions (TOC). Even though speed is listed as the primary collision factor in an increased number of collisions, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions related to congestion.

SAC 50 PM 0.0/ L0.617

Table 4.17A Collision History –_SAC 50 PM 0.0/ L0.617

TASAS Table B Collision Rates (01/01/2015 - 12/31/2019)

| Segment | TOTAL No. of Collisions | Fatal Collisions | Injury Collisions | ACTUAL (per million vehicle miles) | | | AVERAGE (per million vehicle miles) | | |
|--------------------------|-------------------------|------------------|-------------------|---------------------------------------|---------------------------|--------|--|---------------------------|--------|
| | | | | Fatal Collisions | Fatal + Injury Collisions | Total* | Fatal Collisions | Fatal + Injury Collisions | Total* |
| SAC 50 PM L0.0-L0.617 EB | 84 | 2 | 27 | 0.021 | 0.30 | 0.87 | 0.004 | 0.36 | 1.10 |
| SAC 50 PM L0.0-L0.617 WB | 52 | 3 | 16 | 0.031 | 0.20 | 0.54 | 0.004 | 0.36 | 1.10 |

*All reported collisions (includes Property Damage Only (PDO) Collisions)

Analysis of the TASAS Table B records shows a total of 136 collisions within the segment of US-50 from PM L0.0 to PM L0.617 and study periods summarized above, with a total rate of fatal and injury related collisions that is below the statewide average for similar facilities.

Detailed analysis per the TSAR generated on May 30, 2023 shows the primary collision factors in the segment were:

Table 4.17B Collision Factors and Types – SAC 50 PM 0.0/ L0.617

| SAC 50 PM 0.0/ L0.617 | Primary Collision Factors | | | | | | | | Types of Collisions | | | | | | | |
|-----------------------|---------------------------|------------------|---------------|----------------------|-------------------|---------|------------------|------------------|---------------------|-----------|------------|-----------|---------|-------|----------|-----------------|
| | Speeding | Other violations | Improper Turn | Influence of Alcohol | Other than Driver | Unknown | Failure to Yield | Improper Driving | Rear End | Sideswipe | Hit Object | Broadside | Head-On | Other | Overturn | Auto-Pedestrian |
| EB | 42 | 20 | 12 | 4 | 3 | 2 | 1 | - | 39 | 26 | 13 | - | 2 | 2 | 1 | 1 |
| WB | 27 | 7 | 11 | 5 | 1 | - | - | 1 | 29 | 10 | 11 | 1 | - | - | 1 | - |

The primary pattern of collisions identified for this location is congestion related. The evidence of the pattern is the high percentage (104 collisions or 76%) of the rear-end and sideswipe type of collisions (TOC). Even though speed is listed as the primary collision factor in a high number of

collisions, the vehicle code section most often listed in the collision reports is CVC 22350, which includes provisions for driving too fast for roadway conditions (i.e., congested conditions).

The preferred alternative will create a safety benefit and reduce sideswipe and rear end collisions related to congestion.

Collisions on Ramps

The TAR indicates that three ramps recorded no collisions in the five-year period. The most collisions, 12, occurred at the westbound US 50 to eastbound I-80 connector ramp. Four ramps had actual collision rates higher than the statewide averages. The SR 113 on-ramp to eastbound I-80 had a higher fatality collision rate due to one fatality related collision. The Richards Boulevard on-ramp to eastbound I-80 had a higher fatality and injury collision rate. The westbound I-80 to eastbound US 50 connector ramp had both a higher fatality and injury and a higher total collision rate.

5. ALTERNATIVES

A. VIABLE ALTERNATIVES CONSIDERED

As discussed in Section 2, the preferred alternative is Alternative 4B: Add one HOT3+ lane in each direction with a Managed Lane Connector Ramp.

The below alternatives were studied but rejected, and considered different managed lane types. The different managed lane types included High Occupancy Vehicle (HOV), High Occupancy Toll (HOT), Express and Transit Only.

- Alternative 1: No Build
- Alternative 2A: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+).
- Alternative 3A: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+). Single-occupied vehicles would pay a fee for the lane usage.
- Alternative 4A: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more riders (HOT 3+). Vehicles with less than three riders would pay a fee for lane usage.
- Alternative 5A: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders).
- Alternative 6A: Add 1 Managed Lane (Type: Transit Only) in each direction
- Alternative 7A: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed.

- Alternative 2B: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+) and build an I-80 Managed Lane Connector Ramp.
- Alternative 3B: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+) and build an I-80 Managed Lane Connector Ramp. Single-occupied vehicles would pay a fee for the lane usage.
- Alternative 5B: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders), and build an I-80 Managed Lane Connector Ramp.
- Alternative 6B: Add 1 Managed Lane (Type: Transit Only) in each direction with Managed Lane Connector Ramp
- Alternative 7B: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed. Build an I-80 Managed Lane Connector Ramp.

i. Summary

Based on feedback received from local agencies, partners, the PDT, the local university, and comments received from the public during community workshops and public meetings per the environmental Notice of Preparation (NOP) process, the twelve (12) build alternatives were developed and analyzed, in addition to a no-build alternative. These Alternatives were developed to analyze congestion relief and other factors to meet the project purpose and need.

The primary difference between alternatives 2 through 6 is managed lane type. Alternative 7 has significantly different construction requirements and requires separate preliminary plans since no roadway widening is proposed.

Alternatives 2B-7B are the same as alternatives 2A-7A with the addition of an I-80 Managed Lane Connector Ramp at the I-80/US-50 interchange.

The construction of the preferred alternative will follow a phased approach, with each phase addressing portions of the overall scope of work, and as funding allows. The first phase (Project EA 03-3H901) will be to construct HOT 3+ lanes in the median, per the preferred alternative 4B with revised project limits. The revised project limits for 3H901 are HOT 3+ lanes in the eastbound direction from the Solano/Yolo County line to the I-80/U S50 interchange, and in the westbound direction from the I-80/US 50 interchange to Mace Boulevard. Project 03-3H901 may go out for construction advertisement as soon as Summer of 2024. Future phases will construct the remaining portions of HOT 3+ lanes and the I-80 Managed Lane Connector Ramp at the I-80/US 50 interchange.

Alternative 1 (No-Build)

As described above, the no-build alternative assumes no programmed and planned improvements to the current I-80 and US 50 corridors. This alternative does not meet the project need.

Scope of Work Shared with All Alternatives:

- Construction of the managed lanes along the existing roadway through median and outside widening (from the Solano/Yolo County line to the beginning of the Yolo 80 Pavement Rehabilitation project limits near Chiles Road), lane conversion, and restriping. (Except that Alternative 7A will not add a managed lane in the median, but will rather restripe the existing inside lane to an HOV 2+ lane.)
- Widen portion of eastbound I-80 loop off-ramp to Richards Blvd to conform to City of Davis Richards Interchange Improvement project.
- Restripe the Yolo Causeway (West and East) Bridges, I-80/Sacramento River Bridge (Bryte Bend Bridge), and the US 50/Sacramento River Bridge (Pioneer Bridge) to add a managed lane in each direction. (Except that Alternative 7A will not add a managed lane in the median, but will rather restripe the existing inside lane to an HOV 2+ lane.)
- Grind existing mainline pavement and add 0.1' Rubberized Hot Mix Asphalt- Open Graded (RHMA-O)
- Westbound and Eastbound Culvert rehabilitation and extension.
- Structure work
 - Construct retaining wall at southern Richards Blvd abutment to accommodate proposed eastbound I-80 loop off-ramp widening (Br No to be determined)
 - Installing fiber optic conduits on 4 bridges on Sol 80 (Old Davis Rd, 23-0155R; South Davis Rd OH, 23-0156R; S113/E80 Connector Separation, 23-178F & 23-0179F; South Davis Rd OH, 23-0156R)
- Upgrading overhead sign structures
- Upgrade/fix lighting and other electrical systems as needed.
- Upgrade existing Thrie Beam Barrier in the median to Concrete Barrier, from Richards Blvd to east of Mace Blvd
- Upgrade and/or install ITS elements, such as fiber optics, detection, changeable message signs, closed camera television (CCTV), to enhance mobility conditions and incident management strategies between jurisdictions
- Install Fiber Optic lines from Sol 80 PM 40.7/ R44.7 and Yol 80 PM 0.0/4.1 or from west of Kidwell Rd to east of Mace Blvd, which results in installing fiber optic conduits on 4 bridges.
- Install Fiber Optic lines in existing conduit from west end of I-80/ Sacramento River (Bryte Bend) Bridge to I-80/ El Camino Rd
- Upgrade and install new ramp metering
 - Southbound SR-113 to I-80 Eastbound

- Old Davis Rd to I-80 Eastbound
- Richards Blvd to I-80 Eastbound
- Mace Blvd loop to I-80 Eastbound
- Mace Blvd Slip to I-80 Eastbound
- Mace Blvd Slip to I-80 Westbound
- Modify Signal & Lighting at I-80, Mace Blvd & Chiles Rd.
- Construct Auxiliary Lane along eastbound I-80, from Old Davis Road to Richards Blvd.
- Construct Auxiliary Lane along Westbound US 50, from Harbor Blvd to SR 275/ Jefferson Blvd.
- Realign and widen to 2-lanes the eastbound Yol 80 on-ramp from Richards Blvd
- Realign the beginning of the eastbound off ramp at Mace Boulevard
- Construct Pedestrian Path/ Bike lane extension along the westbound I-80 off-ramp to Chiles Road, from west end of the Yolo Causeway bridge to CR 32A/ Chiles Rd
- Hot Mix Asphalt paving of existing Pedestrian Path/ Bike Lane on each the western approach to the Yolo Causeway (west) bridge and to the eastern approach to the Yolo Causeway (East) bridge
- Construction of new maintenance vehicle pullouts and CHP pullouts
- Modify existing maintenance vehicle pullout and CHP enforcement areas
- Construct Park and Ride facility (Mobility Hub) at the southeast quadrant of I-80/ Enterprise Blvd
- Remove and replace existing sub-standard asphalt dikes along the I-80 mainline and ramps with proposed work
- Construct Storm Water Treatment Best Management Practice (BMP) facilities for storm water impact mitigation
- Gore paving
- Install lighting for Bike Facility and Pedestrian Facility

HOT Lane Scope of Work: For preferred Alternative 4B and other HOT lane rejected alternatives: also requires consideration of a signing strategy of both median overhead signs and median barrier mounted roadside signs, but also includes a requirement for both pricing signs and read points. This toll equipment will be strategically placed throughout the corridor to capture where motorists are entering and exiting the toll lanes.

- Install Toll Reader (TR) Poles, and TR Electronic Equipment on Gantry
- Install Variable Toll Message Sign Poles (VTMS) and the associated Pricing Signs
- Install HOT Lighting
- Install Fiber Optics System (separate from FO for ITS Elements) for HOT Equipment TR, VTMS and BackOffice/HUB Equipment

Managed Lane Connector Ramp Scope of Work: For preferred Alternative 4B and other HOT lane rejected alternatives:

- Structure work
 - Managed Lane Connector Ramp Structure to connect motorists in the I-80 portion of the managed lane through the I-80/US 50 interchange
 - Managed Lane Connector Ramp Retaining walls
 - Enterprise Retaining wall (along westbound I-80)
 - Eastbound I-80 Retaining wall (east of Enterprise Blvd)
- Widen eastbound and westbound I-80, from west of the Enterprise Blvd interchange to the I-80/ US 50 interchange
- Realign the westbound I-80 off-ramp to West Capital Ave
- Realign the existing westbound I-80 auxiliary lane between West Capital Ave and the Westbound I-80 to Westbound I-80 Connector.

The Typical Sections and Layout Sheets for each project alternative are in Attachment B and C of this report, respectively.

Preferred Alternative: Alternative 4B

Preferred Alternative 4B is a variation of the rejected Alternative 4A but also includes a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. Like rejected Alternative 4A, preferred Alternative 4B will include a High Occupancy Toll (HOT 3+) managed lane which would allow multi-occupancy vehicles of 3+ people to use the lane for no charge, while single occupancy vehicles (SOV) and multi-occupancy vehicles of 2 people would pay a toll to use the lane. For both westbound and eastbound traffic, the HOT lanes would require a transition into the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/Yolo County line, the I-5 / US 50 Interchange and the I-80/West El Camino Road Interchange.

Preferred Alternative 4B includes all the improvements described in the “Scope of Work Shared with All Alternatives”, “HOT Lane Scope of Work”, and “Managed Lane Connector Ramp Scope of Work” sections.

Hours of operation, access design consideration, and tolling methodology would be determined in the Concept of Operations, which will be conducted during the design phase. Median enforcement areas will also be identified in the design phase.

Other Alternatives Considered but Rejected:

Alternatives 2A through 7A

Rejected Alternatives 2A through 6A differ primarily by type of managed lane proposed, while rejected Alternative 7A involves converting an existing lane to a managed lane. This section describes the unique aspects for each of these six alternatives resulting from the managed lane type, and all improvements in common are listed in the “Scope of Work Shared with All Alternatives” section.

Alternative 2A

Rejected Alternative 2A includes all improvements listed in the “Scope of Work Shared with All Alternatives” section and a high occupancy vehicle (HOV) managed lane which would allow multi-occupancy vehicles of 2+ people. This rejected alternative requires additional consideration of a signing strategy of both median overhead signs and median barrier mounted roadside signs.

The HOV 2+ managed lane will be designed as a part-time contiguous managed lane. The hours of operation will be determined during the design phase. The design will not have a buffer separation from the adjacent general-purpose lanes with traffic free to enter and exit throughout its length. This will allow the managed lane to revert back to a general-purpose lane after the part-time HOV 2+ hours of operation.

It is recommended to defer the design of the enforcement areas until the design phase since location selection requires significant median barrier and median sign coordination unique to each type of managed lane. The layout sheets in Attachment C show preliminary enforcement area locations.

Alternative 3A

Rejected Alternative 3A includes all improvements described in the “Scope of Work Shared with All Alternatives” section and a High Occupancy Toll (HOT 2+) managed lane which would allow multi-occupancy vehicles of 2+ people to use the lane for no charge, while single occupancy vehicles (SOV) would pay a toll to use the lane. The price to use the lane would be based on maintaining acceptable operation in the lane (i.e. congestion based pricing). For both westbound and eastbound traffic, the HOT lanes would require a transition into the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / US 50 Interchange and the I-80/ West El Camino Road Interchange.

Rejected Alternative 3A includes improvements as listed in the “HOT Lane Scope of Work” section.

Alternative 4A

Rejected Alternative 4A includes all improvements described in the “Scope of Work Shared with All Alternatives” section and a High Occupancy Toll (HOT 3+) managed lane which would allow multi-occupancy vehicles of 3+ people to use the lane for no charge, while single occupancy vehicles (SOV) and multi-occupancy vehicles of 2 people would pay a toll to use the lane. The price to use the lane would be based on maintaining acceptable operation in the lane (i.e. congestion based pricing). For both westbound and eastbound traffic, the HOT lanes would require a transition into the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / US 50 Interchange and the I-80/ West El Camino Road Interchange.

Rejected Alternative 4A also includes the improvements listed in the “HOT Lane Scope of Work” section.

Hours of operation, access design consideration, and tolling methodology would be determined in the Concept of Operations, which will be conducted during the design phase. Median enforcement areas will also be identified in the design phase.

Alternative 5A

Rejected Alternative 5A includes all improvements listed in the “Scope of Work Shared with All Alternatives” section and an Express Lane (EL) where all users would pay a toll to use the lane. The price to use the lane would be based on maintaining acceptable operation in the lane (i.e. congestion based pricing). For both westbound and eastbound traffic, the Express lanes would require a transition into the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / US 50 Interchange and the I-80/ West El Camino Road Interchange.

Hours of operation, access design consideration would be determined in the Concept of Operations, which will be conducted during the design phase. Median enforcement areas will also be identified in the design phase.

Alternative 6A

Rejected Alternative 6A includes all improvements described in the “Scope of Work Shared with All Alternatives” section and a transit-only lane. This rejected alternative would provide a Transit Only Lane and would transition both westbound and eastbound directions of the managed lanes to the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / U-50 Interchange and the I-80/El Camino Rd interchange.

Rejected Alternative 6A also requires consideration of a signing strategy of both median overhead signs and median barrier mounted roadside signs.

Hours of operation, access design consideration for the Transit Only Lane would be determined in the Concept of Operations, which will be conducted during the design phase. Enforcement areas will also be identified in the design phase. This rejected alternative is like Alternative 2A in that it will consist of additional roadside signs.

Alternative 7A

Rejected Alternative 7A includes all improvements described in the “Scope of Work Shared with All Alternatives” section. Instead of proposing a new additional managed lane like rejected Alternatives 2A through 6A, rejected Alternative 7A will repurpose the existing inside lane in each direction into a managed lane.

This rejected Alternative 7A includes a high occupancy vehicle (HOV) managed lane that would allow multi-occupancy vehicles of 2+ people. This rejected alternative differs from Alternative 2 (Nickname: HOV 2+) as it proposes to take the existing inside #1 lane to part-time contiguous HOV 2+ managed lane.

This HOV 2+ managed lane will also be designed as a part-time contiguous managed lane. The hours of operation will be determined during the design phase. The design will not have a buffer separation from the adjacent general-purpose lanes with traffic free to enter and exit throughout its length. This will allow the managed lane to revert to a general-purpose lane after the part-time HOV 2+ hours of operation.

Alternatives 2B, 3B, 5B, 6B and 7B

Rejected Alternatives 2B, 3B, 5B, 6B and 7B are the same as rejected Alternatives 2A through 7A, but with the addition of a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange.

Rejected Alternatives 2B, 3B, 5B, 6B and 7B include all the improvements described in the “Scope of Work Shared with All Alternatives” and “Managed Lane Connector Ramp Scope of Work” sections.

This proposed Managed Lane Connector Ramp would begin from the east of Enterprise Blvd in the median and traverse over the westbound US 50 at the same elevation as the existing eastbound 80 to eastbound 80 (EB I-80 to EB I-80) connector structure and re-connect with the median of the I-80 near West Capitol Avenue.

The construction of the Managed Lane Connector Ramp will require widening of the outside of eastbound and westbound I-80, from Enterprise Blvd to the existing EB I-80 to EB I-80 Connector structure. The B Alternatives proposed to realign the existing westbound I-80 off-ramp to West Capitol Avenue within current right of way. Retaining walls will be required at the outside shoulders of the proposed eastbound and westbound I-80 widening.

Alternative 2B

Rejected Alternative 2B includes all the improvements described in the “Scope of Work Shared with All Alternatives” section and a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. This rejected alternative would be a high occupancy vehicle (HOV) managed lane which would allow multi-occupancy

vehicles of 2+ people. This rejected alternative requires additional consideration of a signing strategy of both median overhead signs and median barrier mounted roadside signs.

Rejected Alternative 2B also includes the improvements listed in the “Managed Lane Connector Ramp Scope of Work” section.

The HOV 2+ managed lane will be designed as a part-time contiguous managed lane. The hours of operation will be determined during the design phase. The design will not have a buffer separation from the adjacent general-purpose lanes with traffic free to enter and exit throughout its length. This will allow the managed lane to revert to a general-purpose lane after the part-time HOV 2+ hours of operation.

It is recommended to defer the design of the enforcement areas until the design phase since location selection requires significant median barrier and median sign coordination unique to each type of managed lane. The layout sheets in Attachment C show preliminary enforcement area locations.

Alternative 3B

Rejected Alternative 3B includes all the improvements described in the “Scope of Work Shared with All Alternatives” section and a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. Rejected Alternative 3B would be a High Occupancy Toll (HOT 2+) managed lane which would allow multi-occupancy vehicles of 2+ people to use the lane for no charge, while single occupancy vehicles (SOV) would pay a toll to use the lane. The price to use the lane would be based on maintaining acceptable operation in the lane (i.e. congestion based pricing). For both westbound and eastbound traffic, the HOT lanes would require a transition into the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / US 50 Interchange and the I-80/ West El Camino Road Interchange.

Rejected Alternative 3B also includes the improvements described in the “HOT Lane Scope of Work” and “Managed Lane Connector Ramp Scope of Work” sections.

Hours of operations, access design consideration, and tolling methodology would be determined in the Concept of Operations, which will be conducted during the design phase. Median enforcement areas will also be identified in the design phase.

Alternative 5B

Rejected Alternative 5B includes all the improvements described in the “Scope of Work Shared with All Alternatives” section and a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. Rejected Alternative 5B would be an Express Lane (EL) where all users would pay a toll to use the lane. For both westbound and eastbound traffic, the Express lanes would require a transition into the existing

HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / US 50 Interchange and the I-80/ West El Camino Road Interchange.

Rejected Alternative 5B also includes the improvements described in the “Managed Lane Connector Ramp Scope of Work” sections.

Hours of operation, access design consideration would be determined in the Concept of Operations, which will be conducted during the design phase. Median enforcement areas will also be identified in the design phase.

Alternative 6B

Rejected Alternative 6B includes all the improvements described in the “Scope of Work Shared with All Alternatives” section and a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. This rejected alternative would provide a Transit Only Lane and would transition both westbound and eastbound directions of the managed lanes to the existing HOV 2+ lanes in the vicinity of I-80 at the Solano/ Yolo County line, the I-5 / U-50 Interchange and the I-80/El Camino Rd interchange.

Rejected Alternative 6B also includes the improvements described in the “Managed Lane Connector Ramp Scope of Work” section.

Rejected Alternative 6B also requires consideration of a signing strategy of both median overhead signs and median barrier mounted roadside signs.

Hours of operation, access design consideration for the Transit Only Lane would be determined in the Concept of Operations, which will be conducted during the design phase. Enforcement areas will also be identified in the design phase. This rejected alternative is like Alternative 2A in that it will consist of additional roadside signs.

Alternative 7B

Rejected Alternative 7B includes all the improvements described in the “Scope of Work Shared with All Alternatives” section, a high occupancy vehicle (HOV) managed lane, and a Managed Lane Connector Ramp, which would connect the proposed I-80 Managed Lanes in the median at the 80/50 Interchange. This rejected alternative would allow multi-occupancy vehicles of 2+ people and differs from Alternative 2 (Nickname: HOV 2+) as it proposes to take the existing inside #1 lane to part-time contiguous HOV 2+ managed lane.

Rejected Alternative 7B also includes the improvements described in the “Managed Lane Connector Ramp Scope of Work” section.

This HOV 2+ managed lane will also be designed as a part-time contiguous managed lane. The hours of operation will be determined during the design phase. The design will not have a buffer separation from the adjacent general-purpose lanes with traffic free to enter and exit throughout

its length. This will allow the managed lane to revert to a general-purpose lane after the part-time HOV 2+ hours of operation.

B. PROPOSED ENGINEERING FEATURES

The preferred alternative includes about 17-miles of Managed Lanes in each direction (34 lane miles in total). The preferred alternative minimizes outside pavement improvements by constructing into the median and narrowing the inside shoulders where needed to maintain standard outside shoulder widths except at existing bridges. Narrow outside shoulders are proposed for the Sacramento River Viaduct (aka Pioneer Bridge), Lake Washington Overhead, and Sacramento River Bridge Overhead (Bryte Bend Bridge) as widening these structures would not be feasible due to high costs, environmental and right of way impacts. The proposed median construction and cold planing and paving of the existing pavement, a thickness of 0.3-feet, will occur from Yolo 80 PM 0.0 to 4.1. The project proposes to restripe the existing roadway from Yolo PM 4.1 to the east, extending into Sacramento County on both US 50 and I-80, to construct the HOT 3+ lanes in each direction.

i. Auxiliary Lanes

The project proposes constructing an auxiliary lane along eastbound I-80 at the existing terminus of an acceleration lane, from Old Davis Road to Richards Boulevard, which is about half a mile in length. Adding a HOT 3+ lane and eliminating the lane drop from 4 to 3 lanes will help reduce congestion/bottle neck and improve person throughput along this segment of I-80. An additional auxiliary lane is proposed along Westbound US 50, from Harbor Blvd to SR 275/ Jefferson Blvd.

ii. Intelligent Transportation Systems (ITS) Elements

The Project proposes to install ITS elements throughout the project limits, including ramp meters, closed-circuit televisions (CCTV), Changeable Message Signs (CMS), Traffic Management System (TMS), and Microwave Detection Systems (MVDS). 8-miles of fiber optic cable and conduit are proposed throughout the project limits to improve ITS communication through the I-80 and US 50 corridors.

This project will include the placement of fiber optic lines within the project limits, from 04-SOL-80-40.7/R44.7; 03-YOL-80-0.00/R4.1 and connect to the proposed fiber-optic cables in the 03-4F650 Pavement Rehabilitation project on I-80 in Yolo County at PM 4.1, resulting in continuous fiber optic lines within the limits of this project. This project will improve the communication performance throughout the I-80 and the US 50 corridors since it will connect all existing ITS elements and signals to the fiber-optic network.

The need for ITS work is currently identified at the following locations:

| No. | Improvement | Freeway | Post Mile | Direction | Location |
|-----|----------------------------------|---------|-----------|-----------|---|
| 1 | Closed circuit television | I-80 | 41.776 | EB | Kidwell Road |
| 2 | Changeable message signs | I-80 | 41.817 | EB | Kidwell Road |
| 3 | Emergency management system | I-80 | 41.983 | WB | Kidwell Road |
| 4 | Emergency management system | I-80 | 42.081 | WB | Kidwell Road |
| 5 | Closed circuit television | I-80 | 42.669 | WB | Junction I-80/SR-113 |
| 6 | Transportation management system | I-80 | 42.669 | WB | Junction I-80/SR-113 |
| 7 | Ramp meter | I-80 | 43.259 | EB | SB SR-113 to EB I-80 freeway to freeway connector ramp |
| 8 | Ramp meter | I-80 | 43.636 | EB | Old Davis Road to EB I-80 slip on-ramp |
| 9 | Changeable message signs | I-80 | 44.557 | WB | Just west of Richards Boulevard |
| 10 | Automatic vehicle classification | I-80 | 0.002 | WB | Solano/Yolo County Line |
| 11 | Closed circuit television | I-80 | 0.235 | WB | Richards Boulevard |
| 12 | Ramp meter | I-80 | 0.369 | EB | Richards Boulevard |
| 13 | Changeable message signs | I-80 | 0.776 | WB | Olive Drive |
| 14 | Closed circuit television | I-80 | 0.793 | WB | Olive Drive |
| 15 | Transportation management system | I-80 | 1.25 | EB | East of Pole Line Road |
| 16 | Transportation management system | I-80 | 1.997 | EB | I-80 WB at Mace Boulevard |
| 17 | Ramp meter | I-80 | 2.506 | WB | Mace Boulevard to WB I-80 slip on-ramp |
| 18 | Traffic signal | I-80 | 2.593 | EB | Yolo I-80 EB at Chiles Road |
| 19 | Ramp meter | I-80 | 2.604 | EB | SB Mace Boulevard to EB I-80 loop on-ramp |
| 20 | Traffic signal | I-80 | 2.662 | WB | Yolo I-80 WB at Mace Boulevard |
| 21 | Closed circuit television | I-80 | 2.7 | EB | Mace Boulevard |
| 22 | Ramp meter | I-80 | 2.762 | EB | NB Mace Boulevard to EB I-80 slip on-ramp |
| 23 | Transportation management system | I-80 | 3.502 | EB | East of Mace Boulevard |
| 24 | Transportation management system | I-80 | 3.986 | EB | West of CR-105D |
| 25 | Closed circuit television | I-80 | 4.313 | EB | Chiles Road (100 feet west of existing changeable message sign) |
| 26 | Changeable message signs | I-80 | 4.361 | WB | Chiles Road |
| 27 | Changeable message signs | I-80 | 4.365 | EB | Chiles Road |
| 28 | Transportation management system | I-80 | 4.484 | EB | East of CR-105D |
| 29 | Closed circuit television | I-80 | 0.366 | MEDIAN | Bryte Bend Bridge |
| 30 | Changeable message signs | I-80 | 0.606 | WB | West El Camino Avenue |
| 31 | Closed circuit television | I-80 | 1.358 | WB | West El Camino Avenue |
| 32 | Ramp meter | I-50 | 2.614 | EB | Jefferson Boulevard |
| 33 | Ramp meter | I-50 | 2.869 | EB | South River Road |

EB = eastbound; NB = northbound; SB = southbound; WB = westbound

iii. Ramp Metering

The project will install ramp meters. Ramp meters regulate the flow of vehicles entering the freeway, reduce congestion on the mainline, and facilitate safer and easier merging by breaking up vehicle platoons. With ramp meters during peak commute hours, vehicles are released onto the freeway proportional to the level of congestion on the mainline.

Ramp meters are proposed at these locations for all the build Alternatives:

| Location | Description |
|---------------------------|-------------------------------------|
| SB SR-113 to I-80 EB | Connector ramp metering |
| Old Davis Road to I-80 EB | Reduce to 1 lane and add ramp meter |
| Richards Blvd to I-80 EB | Add Ramp Meter |
| Mace Blvd loop to I-80 EB | Add meter to existing HOVPL |
| Mace Blvd slip to I-80 EB | Add meter to existing HOVPL |
| Mace Blvd slip to I-80 WB | Add Ramp Meter |

HOVPL: High Occupancy Vehicle Preferential Lane

iv. Overhead Pricing Signs and Toll Readers (Alternatives 3, 4 and 5)

Managed lane alternatives 3, 4, and 5 require the installation of tolling equipment and associated signage. The types of systems to be used will be determined in the design phase.

The project will require OH pricing signs and toll readers to be installed in the median. Where possible, the locations may be combined in the design phase to minimize the number of structures required to mount the equipment. Final locations for tolling equipment will be determined in the design phase.

v. Structures and Special Design Involvement

The project proposes the following structure work:

Structure Information

| Structure Name | Structure Number | Route | Post Mile | Structure Work |
|---|------------------|---------|-----------|---|
| South Fork Putah Creek | 23-0054R | Sol 80 | 42.36 | Place fiber-optic conduit |
| Old Davis Road Undercrossing | 23-0155R | Sol 80 | R43.5 | Place fiber-optic conduit |
| South Davis Overhead | 23-0156R | Sol 80 | R43.93 | Place fiber-optic conduit |
| SB 113/EB 80 | 23-178F | Sol 113 | R22.08 | Place fiber-optic conduit |
| SB 113/EB 80 | 23-0179F | Sol 113 | R22.17 | Place fiber-optic conduit |
| Richards Boulevard Overcrossing RW NO. 3 | TBD | Yol 80 | 0/0.60 | Retaining wall at abutment along eastbound I-80 off-ramp to Richards Boulevard |
| I-80 Managed Lane Managed Lane Connector Ramp | TBD | Yol 80 | 9.5/10.0 | Proposed managed lane connector ramp; managed lane connector ramp retaining wall #1; Proposed managed lane connector ramp retaining wall #2; RW#3 (NE of Enterprise Bridge); RW #4 along EB 80 to replace portion of Soundwall and place on top of RW#4 |

vi. Managed Lane Connector Ramp

Refer to Section 5.A.i above for additional description of Managed Lane Connector Ramp Scope of Work.

Design has developed 2 options for the Managed Lane Connector Ramp which are described in the table below:

Managed Lane Connector Ramp

| Option | Inside Shldr Width (ft) | Lane width (ft) | Outside Shldr Width (ft) | Structure Width (ft) | Structure Length (ft) | Design Speed (mph) | Right of Way Required |
|--------|-------------------------|-----------------|--------------------------|----------------------|-----------------------|--------------------|-----------------------|
| 1 | 2 | 12 | 8 | 49.5 | 2,900 | 40 | No |
| 2 | 5 | 12 | 10 | 59.5 | 2,750 | 60 | No |

The first Managed Lane Connector Ramp alignment option was designed within current State right of way, but the proposed vertical curves resulted in a design speed of 40 miles per hour

(mph). This Managed Lane Connector Ramp option was rejected by the Design team since several design standards could not be met.

The second proposed Managed Lane Connector Ramp (Option 2) has vertical and horizontal alignments that result in a design speed of 60 mph, but requires widening the existing I-80/Enterprise bridge to the north and south, additional retaining walls and removing and replacing a sound-wall. This proposed Managed Lane Connector Ramp (Option 2) was the preferred alignment option and was used in the layouts and cost estimates for the Alternatives 2B-7B.

Refer to Attachment C for planning level layouts of the Managed Lane Connector Ramp Options for Alternatives 2B-7B.

The August 2023 Advanced Planning Studies (APS) prepared by Structures Design are in Attachment D of this report for all of the proposed structures except those related to the Managed Lane Connector Ramp.

vii. Ramp Improvement

The project will include proposed realignment of the existing eastbound I-80 on-ramp from Richards Boulevard and eastbound I-80 off-ramp to Mace Blvd to meet current Caltrans roadway geometric requirements and improve motorist rideability.

viii. Highway Planting and Erosion Control

The Landscape Architecture Assessment Study (LAAS) is included in Attachment K of this report. The study provided highway planting and erosion control recommendations and cost estimates. The LAAS had suggestions for construction best management practices (BMP) to install temporary BMP features to reduce the potential of erosion of the project site during construction and reduce exposed soil areas at the end of construction; the LAAS made suggestions to flatten fill side slopes to minimize erosion. These changes will protect existing vegetation where feasible. A separate and future project will deliver highway planting work with a plant establishment period.

Refer to Attachment K for a copy of the LAAS.

ix. Transportation Analysis Report (TAR) Alternatives Summary

Project Report Alternatives versus TAR Alternatives

| PA&ED Project Report Alternatives | TAR Alternatives | Alternative Description |
|-----------------------------------|------------------|--|
| ALT 1 (NO BUILD) | 1 | No Build |
| Alt 2A | 2 | Add one HOV 2+ lane in each direction |
| Alt 3A | 3 | Add one HOT2+ lane in each direction |
| Alt 4A | 4 | Add one HOT3+ lane in each direction |
| Alt 5A | 5 | Add one Express lane in each direction |
| Alt 6A | 6 | Add one Transit Only lane in each direction |
| Alt 7A | 7 | Convert one GP lane to HOV2+ lane in each direction |
| Alt 2B | 8 | Add one HOV 2+ lane in each direction with Median Ramps |
| | 9 | Add one HOV 2+ lane in each direction (without Enterprise Crossing) |
| | 10 | Add one GP lane in each direction |
| Alt 3B | 11 | Add one HOT2+ lane in each direction with Median Ramps |
| Alt 4B | 12 | Add one HOT3+ lane in each direction with Median Ramps |
| Alt 5B | 13 | Add one Express lane in each direction with Median Ramps |
| Alt 6B | 14 | Add one Transit Only lane in each direction with Median Ramps |
| Alt 7B | 15 | Convert one GP lane to HOV2+ lane in each direction with Median Ramps |
| | 16 | Add one HOT lane and convert one existing GP to HOT lane in each direction |

HOV: High Occupancy Vehicle Lane

HOT: High Occupancy Toll Lane

*Note: Alternatives 2-6 (phase A) are similar impact area with the difference being the “managed lane and sign/stripe.

**Note: “ Median Ramps” reference in the TAR is the same as the managed lane connector ramp (1-lane in each direction) referenced in the project report.

The Alternatives were analyzed in the TAR based on these performance measures: Vehicle hours of travel (VHT), Vehicle hours of delay (VHD), Vehicle miles of travel (VMT), Passenger miles of travel (PMT), PMT per lane-mile, Vehicle trips and Off-peak average speed. The measures were calculated both on a regional scale, which is the six-county extend of the model, and on a corridor scale, which includes I-80 and US 50 links within the study area.

Level of service (LOS) is a term used to quantitatively describe the operating condition of a roadway based on factors such as speed, travel time, maneuverability, delay and safety. The level of service of a facility is designated with a letter, A to F, with A representing the best operating condition and F the worst.

The Highway Capacity Software (HCS) implements methods documented in the Highway Capacity Manual (HCM).

The HCS analysis in the TAR (Section 4.2 Freeway Operations, 4.2.1 Planning Analysis) identified the following locations with existing (2019) LOS F conditions during AM peak hour:

- I-80 eastbound from Mace Boulevard off-ramp to Mace Boulevard northbound on-ramp
- US 50 westbound from SR 99 on-ramp to 16th Street
- US 50 westbound from 15th Street to I-5
- I-80 westbound from West Capitol Avenue eastbound on-ramp to westbound on-ramp

The HCS analysis identified the following locations with LOS F conditions during the PM peak hour.

- I-80 eastbound from Mace Boulevard off to on-ramp to Mace Boulevard northbound on-ramp
- I-80 eastbound from County Road 32B off to on-ramp to County Road 32B on-ramp
- I-80 eastbound from I-5 southbound on-ramp to Truxel Road
- US 50 eastbound from Jefferson Boulevard on-ramp to South River Road on-ramp
- US 50 eastbound from 11th Street on-ramp to SR 51/SR 99
- US 50 westbound from SR 99 on-ramp to 16th Street
- US 50 westbound from 15th Street to I-5
- US 50 westbound at Jefferson Boulevard off-ramp
- US 50 westbound at West Capitol Avenue westbound on-ramp

TAR Alternatives 2 and 8 have the best overall performance including very good performance in two categories for TAR Alternative 2 and four categories for Alternative 8. Alternative 2 would have at least good performance for all categories, and Alternative 8 would have neutral performance for only regional VMT. These alternatives would increase capacity in the form of an HOV lane so that the faster travel time would be available to vehicles eligible for HOV lane.

These alternatives would increase both vehicle and person throughput at the key bottlenecks: eastbound I-80 at Mace Boulevard and westbound I-80 at the Yolo Bypass. ¹

Refer to table below copied from the TAR:

Table ES-1 provides a qualitative assessment of selected performance measures for the horizon year 2049.

Table ES-1: Alternatives Comparison – Horizon Year 2049

| Performance Measure | TAR Alternative (Project Report Alt) | | | | | | | | |
|------------------------------------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1(1) | 2(2A) | 3(3A) | 4(4A) | 5(5A) | 6(6A) | 7(7A) | 8(2B) | 9(NA) |
| Regional VMT | 5 | 2 | 3 | 2 | 1 | 4 | 2 | 3 | 3 |
| Corridor PMT | 5 | 2 | 1 | 3 | 4 | 5 | 5 | 2 | 3 |
| Persons served at bottlenecks | 3.5 | 1 | 2 | 2.5 | 2.5 | 3.5 | 5 | 1 | 1 |
| GP peak hour travel time | 3.5 | 1.5 | 1.5 | 2 | 2 | 3 | 5 | 2 | 1.5 |
| GP peak hour planning time index | 4 | 2 | 2 | 2.5 | 1.5 | 3 | 5 | 2.5 | 2.5 |
| Managed lane peak hour travel time | 4.5 | 2 | 1.5 | 1.5 | 1.5 | 3 | 5 | 1.5 | 2 |
| Vehicle hours of delay | 4 | 2 | 2.5 | 2 | 1.5 | 2.5 | 5 | 1.5 | 2 |
| Average speed | 4 | 1.5 | 2.5 | 2 | 2 | 2.5 | 5 | 1 | 2 |
| Total vehicles served | 3.5 | 1.5 | 2 | 3 | 3 | 3 | 5 | 1 | 2 |
| Total persons served | 3 | 1 | 2 | 4 | 3 | 2.5 | 5 | 1 | 1.5 |
| Deficient segments | 5 | 2.5 | 2.5 | 2 | 1.5 | 3 | 4 | 1.5 | 2.5 |
| Average score | 4.1 | 1.7 | 2.0 | 2.4 | 2.1 | 3.2 | 4.6 | 1.6 | 2.1 |

Note: The scale is 1 for very good performance and 5 for very poor performance.

Although a similar configuration, Alternative 3 (Add HOT2+), 4 (HOT 3+) and 5 (Express Lane) would not perform as well as Alternatives 2 and 8 because more vehicles would be eligible for the managed lane than in the HOV alternatives, so congestion would be higher where vehicles are entering and leaving the managed lane.

Notes 1, 2, 3, 4: Refer to TAR dated July 23, pages 7 and 8, Alternatives Comparison

TAR Alternative 6 (Add Transit) would not perform well compared to the other alternatives. While person throughput could be improved if additional bus service were provided, the forecasted passenger vehicle volume would be constrained by the network capacity resulting in performance similar to Alternative 1 (No Build) for many performance measures.¹

TAR Alternative 7 (Convert HOV) would perform poorly. While the HOV lane would provide lower travel time than in the general-purpose lanes, the general-purpose lanes would be so congested that HOVs would be severely delayed entering and exiting the HOV lane.²

On an overall basis, TAR Alternative 8 (Add HOV with Managed Lane Connector Ramp) would perform similarly to TAR Alternative 3. TAR Alternative 8 would reduce congestion at the I-80/US 50 interchange for some paths during some peak periods (primarily westbound during the AM peak period). However, the interchange is not a bottleneck, so the median ramps would only marginally improve operations.³

Additional alternatives were considered that would add the managed lane median ramps (or Managed Lane Connector Ramp) at the I-80/US 50 interchange to TAR Alternatives 3 through 7. The biggest benefit for TAR Alternative 8 would be the reduced westbound AM peak hour travel due to the proximity of the bottleneck at Yolo Causeway. TAR Alternatives 11 through 15 (project report alternatives 3B through 7B) would likely have better overall score for the horizon year 2049 performance measures than Alternatives 3 through 7.⁴

As mentioned in Section 1.3.10 of the TAR, Peak period conditions for TAR Alternatives 2 and 8, which are the HOV lane alternatives with and without the managed lane median ramps at the I-80/US 50 interchange, were modeled using a calibrated traffic simulation model. The changes in traffic conditions between these two alternatives are also expected to apply and be similar to TAR Alternatives 3 versus 11, TAR Alternatives 4 versus 12, etc., as the only difference between these respective alternatives would be the addition of the managed lane median ramps. Therefore, operational analyses were not conducted for TAR Alternatives 11 through 15, but a qualitative discussion of the expected operations is provided in the TAR. Further detail from the travel demand modeling analysis is provided in the *I-80/US 50 Travel Demand Modeling Report* (2023).

Refer to Attachment I for a copy of the Transportation Analysis Report cover sheet. A copy of the complete Transportation Analysis Report is available upon request.

Notes 1, 2, 3, 4: Refer to documentation in the Transportation Analysis Report, dated July 2023

x. Design Standard Risk Assessment

The proposed improvements include nonstandard design features. The table below lists the proposed preliminary nonstandard features.

Proposed nonstandard design features (Alternatives 2A-6A, 7A, 2B-6B and 7B)

| Alternative | Design Standard from Highway Design Manual Tables 82.1A & 82.1B | Probability of Nonstandard Design Feature Approval (None, Low, Medium, High) | Location where Standard not Met | Justification for Probability Rating |
|-------------|---|--|--|--|
| All | 305.1(3) Non-standard Median Width, Facilities under Restrictive Conditions | High | The Median from the Sol/Yol 80 County line to the Richard Blvd, on Yol-80 Yolo Causeway Bridges, and Yol-80 near Enterprise Blvd (UC). From the West Capitol Ave to West El Camino Ave is 15 feet maximum and less than the minimum standard of 36 feet. | Narrow median widths are proposed to fit the managed lane due to potential environmental and right of way impacts to meet standard widths. The outside shoulder width will be kept at the standard width 10 feet in roadway sections to allow for emergency vehicle recovery area. |

| | | | | |
|-----|----------------------|------|---|---|
| All | 301.1 Lane Width | High | <p>#1, 2 & 3 Lanes both WB & EB Yolo 80 are less than 12 feet through Yolo Causeway bridges.</p> <p>#1, 2 & 3 Lanes WB Yolo 50 are less than 12 feet from west of Westacre Rd through the US 50 /Pioneer bridge. All four lanes Yolo 80 WB & EB are less than 12 feet at the Yolo80/Lake Washington bridge. All four lanes Yolo 80 WB & EB are less than 12 feet at the Yolo80/Bryte Bend bridge. Majority of the collisions within the project limit is due to speeding congestion and not due to lane width issues.</p> | <p>The location that requires a DSDD is at a pinch point to fit the managed lane at the existing bridge structures and the Managed Lane Connector Ramp.</p> |
| All | 302.1 Shoulder Width | High | <p>The inside shoulder is less than 5 feet and less than standard 10 feet At Richards Blvd OC, CHP median pullout east of Mace Blvd, from east of Mace Blvd t Webster UC, Webster bridge to Enterprise Blvd Route 80 and from Harbor Blvd to throughout the Pioneer bridge limits on Route 50.</p> | <p>The location that requires a DSDD is at pinch points. It is proposed to restripe the shoulders, between one and ten feet in width, where structural and Right of Way constrains exist; in order to add a Managed Lane in each direction. The outside shoulder width on roadway portions will be kept at the standard width 10 feet to allow for emergency vehicle recovery area. Outside shoulders on existing bridges will most likely vary from 5 to 10 feet wide.</p> |

| | | | | |
|-----|---|------|---|--|
| All | 201.4 Stopping Sight Distance at Grade Crests and 201.5 Stopping Sight Distance at Grade Sags | High | Sol-80 at South Davis OH (over railroad), Yol-80 at Webster UC, Yol-80 At Enterprise Blvd UC, Yol-80 At Lake Washington OH (over railroad) and Yol/Sac - 80 Sacramento River Br (Bryte Bend Bridge) | This project proposes perpetuating the non-standard crest vertical curve SSD at these five locations. Rebuilding these bridges is outside the project scope of work. The collision data for this roadway segment does not indicate an incident pattern related to non-standard stopping sight distance for the proposed work locations. The design team does not anticipate increases in the frequency or severity of collisions resulting from the proposed improvements. |
| All | 204.4 Non-standard Vertical Curve Length | High | Yol-80 at Chiles Rd, Yol-80 at Webster UC, Yol-80 from Enterprise Blvd UC to 80/50 I/C and Yol-80 at West Capital Ave UC | This project proposes perpetuating the non-standard vertical curve lengths at these locations. Rebuilding these portions of Yol-80 and bridges is outside the project scope of work. Collision data does not indicate collision patterns or concentrations related to vertical curve length for the proposed work locations. The design team does not anticipate increases in the frequency or severity of collisions resulting from the proposed improvements. |

| | | | | |
|-----|-------------------|------|---|--|
| All | 304.1 Side Slopes | High | <p>The existing embankment side slopes are steeper than the standard 4:1 at these spot locations: Yol-80 at the Yolo Causeway Levee, Yol-80 East of Yolo Causeway (east) bridge to East of Enterprise Blvd UC, Yol-80 at West Capital Ave UC to Yol-80 Bryte Bend Bridge.</p> | <p>This project proposes to perpetuate the existing non-standard side slopes. Rebuilding these portions of Yol80 would result in significant environmental and right of way impacts and are outside the scope of work of this project. Traffic Safety anticipates that the primary collision pattern identified will likely remain the same as most collisions occur at speeds below the posted speed limit. Most collisions have been within the travel lanes, and the vehicles remain on the roadway. Traffic Safety does not anticipate any increase in collisions due to the increased slopes.</p> |
|-----|-------------------|------|---|--|

| | | | | |
|-----|--|------|---|--|
| All | 301.3.2(b) Non-standard Lane Cross Slope | High | Existing cross slopes less than the standard 1.5%-3% at various locations from Yol-80 Putah Ped UC to Webster UC, Yol-80 on Yolo Causeway Levee, on Yol-80 from East of the Yolo Causeway (Eat) bridge to yol-50 at Jefferson Blvd UC, Yol-80 at West Capital Ave to Bryte Bend Bridge. | This project proposes to perpetuate the existing lane slopes that do not meet the 2% standard for new construction or the 1.5% to 3%, for the rehabilitation standard. The pavement cross slope correction is outside the scope of work of this project, which proposes cold plane and overlay from Yol-80 Putah Creek Ped UC to east of Mace Blvd and restriping only east of the Yolo Causeway (East) bridge. Most of the collisions occur at lower speeds during those congested times of the day. Another identifying factor for this pattern is the lower collision severity. Most of these collisions result in either minor injuries, complaint of pain, or property damage only. Traffic Safety anticipates that the primary collision pattern identified will likely remain the same as most collisions are occurring at speeds below the posted speed limit and roadway cross slope is not identified as a factor in these collisions. |
| All | 302.2.2 Non-standard Left Shoulder Slope & 302.2.3 Non-standard Right Shoulder Slope | High | Existing shoulder cross slopes less than or greater than the standard 2%-5% at various locations throughout the project. | Same justification as non-standard lane slopes above. |
| All | 204.3 Non-standard Profile Grade | High | Existing profile grade less than the standard 3% in various locations throughout the project. | This project proposes to perpetuate the existing profile grade that do not meet the 3% grade. The pavement correction to meet standard profile grade is outside the scope of work of the project. |

| | | | | |
|-------|--|--------|---|---|
| All | 202.2(1c) Non-standard Superelevation Rate | High | Existing superelevation rate less than the standard for the design speed and the existing roadway geometrics in various locations throughout the project. | This project proposes to perpetuate existing non-standard superelevation e-Max conditions to avoid scope expansion for the project. |
| 2B-7B | Typical HOV Managed Lane Connector Ramp Entrances and Exits; Caltrans HOV Geometric Design, Chptr 3, Figure 3 | Medium | Cannot provide standard length for merge escape area for westbound Yol-80 traffic on the Direct Connector connection to westbound Yol-80 near Enterprise Blvd UC. | Due to the proximity of the west end of the proposed I-80 Managed Lane Connector Ramp to the existing Enterprise Blvd UC and Yolo Causeway (East) bridges there is not enough length to fit the standard HOV Managed Lane Connector Ramp Exit merge escape areas. |

xi. Description of Project Study Report-Project Development Support (PSR-PDS) Alternatives

Build Alternatives 2A-6A and 2B-6B are based on the Alternative 3 from PSR-PDS.

The PSR-PDS Alternative 3 is an interim alternative that would start from Solano/Yolo County line west of the City of Davis to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US 50 in Sacramento County, approximately 16 miles. The PSR-PDS Alternative 3 proposes to construct managed lanes in both directions, eastbound and westbound. This would be accomplished by widening in the median from Solano/Yolo County line to west of the Yolo Causeway and continues eastward by restriping to West El Camino Ave on I-80 and I-5 on US 50 in Sacramento County. The PSR-PDS Alternative 3 is similar to the PA&ED project report alternatives 2 through 6.

C. REJECTED PSR-PDS ALTERNATIVES

The following alternatives were considered during the Project Initiation Document (PID) phase, documented in the Project Study Report-Project Development Support (PSR-PDS) report, and have been considered and eliminated by the PDT in the PA&ED phase.

Alternative 1: No Build Alternative (from PSR-PDS and PA&ED)

This alternative does not address the purpose and need of the project by not making the corridor improvements and relieving transportation congestion. It will not extend the pavement's service life, reduce maintenance expenditures, provide improved transportation operations tools, or improve ride quality for the traveling public. This “no build” alternative was rejected by the Project Development Team because it does not meet the project purpose and need.

Alternative 1A (from PSR-PDS):

This alternative proposes constructing approximately 21 miles of Managed Lanes in both directions from the Kidwell Road overcrossing in Solano County to the US 50/I-5 and I- 80/West El Camino Ave interchanges in Sacramento County to alleviate bottlenecks and address an increase in travel demand. The Managed Lanes in Solano County under Alternative 1A proposes to convert an existing general-purpose lane to a Managed Lane. This alternative also offers a new separate bicycle/pedestrian structure adjacent to and north of the existing Yolo Causeway structure. The proposed separate bicycle/pedestrian structure, as presented in the PID document with a 12-Foot width, lacks access if an emergency occurs and requires regular maintenance. This alternative proposes to build lanes and shoulders to full standard widths.

The Solano County portion of the project is within the Solano County Metropolitan Transportation Commission (MTC) area and Caltrans District 4. The 2017 Solano County Regional Transportation Plan (RTP) does not include Managed Lanes between the Kidwell Road interchange and the Yolo County line. Caltrans District 4 has indicated that they will coordinate with these organizations and Solano Transportation Authority (STA) to amend the Solano County bus/carpool lane section of the MTC's MTP and possibly add an HOV lane in Solano County on a different and future District 4 project.

Constructing the separate bicycle bridge would require a floodplain impact analysis. Approval is mandatory for the proposed work in the floodplain from the Central Valley Flood Protection Board, the United States Army Corps of Engineers, the Federal Emergency Management Agency, and other jurisdictional permitting agencies. The construction of a bicycle bridge will most likely have impacts to existing environmental endangered species habitat and require mitigation. The mitigation measures required to execute the scope of work would be extensive and cost-prohibitive to implement and reduce impacts to the existing floodplain and environmental features.

The Project Development Team determined that the Alternative 1A proposal for a separate bike bridge facility along the Yolo Causeway corridor would not be a viable add-on feature due to the low benefit to cost ratio. The bicycle bridge was estimated to cost about **\$74, 500,000**, and the current bicycle usage is low, or about 44 total weekday and 109 total weekend bicycle riders

(counted in 2021). Environmental studies have revealed several impacts on the existing plants and wildlife due to constructing a separate bicycle bridge. The Project Development Team rejected this alternative due to the anticipated environmental impacts and environmental mitigation required.

Alternative 1B (from PSR-PDS):

This alternative is like Alternative 1A except that the bicycle and pedestrian access across the Yolo Bypass will be provided by widening the existing Yolo Causeway structures or attaching the lightweight structure to them instead of constructing a separate bicycle/pedestrian structure. This option would be more expensive than the structure in Alternative 1A due to the need to seismic retrofit the existing Yolo Causeway bridges. Also, this would prove to have a less of an environmental impact in the Yolo Bypass wetland area and address the safety/security/emergency access concerns. Additional earthwork would be needed on the westbound side of I-80 in the levee area within the Yolo Bypass between the two Causeway structures, which would affect existing environmental features.

The Project Development Team rejected Alternative 1B because it would require widening each side of the existing Yolo Causeway structures. Seismic upgrades to the existing Yolo Causeway structures would have been more expensive than building a new independent and separate structure. Building new bridges over the Yolo Causeway would require extensive flood plain analysis and coordination with the Regional Water Quality Control board and the Army Corps of Engineers and environmental mitigation measures.

Alternative 1C (from PSR-PDS):

This alternative includes a Managed Lane in each direction. Also included is a new I-80 HOV connector ramp/bridge at the I-80/US 50 interchange to provide direct connectivity between the proposed Managed Lanes on I-80. The Project Development Team considered outside widening from Yol 80 PM 0.0 to Yolo Causeway and adjacent to the I-80/US 50 interchange for the I-80 Managed Lane Connector Ramp on this proposed project.

Alternative 1C is the same as Alternative 1A except use existing Yolo Causeway bike/pedestrian facility and restripe Yolo Causeway with Managed Lanes in each direction.

This Alternative 1C was rejected for the same reasons as Alternative 1A since no pavement work or Multimodal Lane in Solano County or Caltrans District 4, and because of additional Right of Way costs and environmental impacts of the proposed outside widening.

Alternative 1D (from PSR-PDS):

This alternative proposed widening into the median in Solano County to add Managed Lanes.

Alt 1A was different because it suggested taking an existing general-purpose lane for conversion to a Managed Lane in Solano County.

Design rejected this alternative for the same reason as Alternative 1A and because of the inclusion of Alternative 1D in the Metropolitan Transportation Commission listing as not supported by Caltrans District 4.

Alternative 2 (from PSR-PDS):

This alternative proposed an interim eastbound reversible lane from just west of Yolo County Line to Enterprise Boulevard. Convert an existing mixed-flow lane to Managed Lanes on the US 50 to the I-5 interchange.

Reversible Lanes were evaluated using the 2018 High Occupancy Vehicle Guidelines referenced in section 2 of the Interim Guidance on AB 2542 Reversible Lane Requirement. Section 2.1 of the 2018 High Occupancy Vehicle Guidelines states that:

“When a metropolitan area largely consists of a central business district with weekday commuter traffic from outlying areas, often referred to as a “radial” geographical area, the traffic demands on each corridor normally would indicate definite directional peaks during the morning and afternoon commute periods. If traffic in the off-peak direction is light (35% or less of the total freeway traffic during the peak periods) and is forecast to remain light during the design life of the project, then a reversible HOV operation may be appropriate.”

The existing and projected "off-peak" directional split of the total freeway transportation is greater than 35%, with almost equal directional splits in some segments of the project area during the PM peak period. Therefore, based on existing guidance, transportation data, and projected traffic growth, a reversible HOV lane would not be an appropriate alternative to consider for this project.

Alternative 4 (from PSR-PDS):

This interim project proposes to extend the HOV lanes from the I-80/West El Camino Interchange to west of Reed Avenue. The addition of HOV would be achieved by striping Managed Lanes on I-80/Sacramento River (Bryte Bend) bridge, add bridge lighting, and install Dynamic Lane Assignment System.

The HOV portion of this alternative was adopted but the Dynamic Lane Assignment was rejected because it would not meet the purpose and need by not providing adequate operational improvements for the entire corridor.

Alternative 5 (from PSR-PDS):

Same as PSR-PDS Alternative 1A, except using Managed Lanes exclusively for transit use.

A portion of this alternative was adopted for project report alternative 7. But the full width lanes and shoulders proposed for this alternative were rejected due to the costs and environmental impacts to replace the bridges within the project limits.

This alternative is a modified version of PA&ED Alternative 7. The difference between this PSR-PDS alternative and PA&ED Alternative 7 is that this alternative has the larger general impact area similar to Alternative 1A footprint, while our PA&ED Alternative 7 was based on the smaller general impact area.

The Bus on Shoulder option was also analyzed. The California Highway Patrol does not support Bus on Shoulder or part-time use of the shoulder. Use of outside shoulder for buses may confuse motorists, reduce the available areas for vehicles to park in an emergency and restrict emergency vehicle access to a collision site. The Bus on Shoulder was not a viable option east of the Yolo Causeway due to the high-volume traffic that merges from the ramps to the mainline. Existing outside shoulders are used to collect stormwater runoff from the pavement, and the Bus on Shoulder concept could be used only in dry conditions. The Bus on Shoulder operations would also eliminate the emergency and inoperable vehicle refuge area.

Alternative 6 (from PSR-PDS):

This alternative is like Alternative 1A, except it proposes to construct two Managed Lanes in each direction.

This alternative is a modified version of PA&ED Alternatives 2S through 6A by adding one managed lane in the median and converting one general purpose lane to a manage lane. The difference between this and PA&ED Alternatives 2A through 6A is that this has the larger general impact area similar to the Alternative 1A footprint, while PA&ED Alternatives 2A through 6A are based on the smaller general impact area.

This alternative is like Alternative 1A, except it proposes to construct two managed lanes in each direction. The PDT is still evaluating the narrower lanes and shoulder version of this alternative. The Project Development Team discussions indicated that there might be merging and weaving issues for traffic merging onto and out of the two managed lanes.

The TAR Alternative 16 is a reduced version of the PSR-PDS and is a viable alternative.

Alternative 7: No Build Alternative (from PSR-PDS):

This PSR-PDS Alternative 7 is the "No Build" alternative, and it is the same as the PA&ED Alternative 1. The PDT rejected Alternative 7 because it did not meet the project's need and purpose.

6. CONSIDERATIONS REQUIRING DISCUSSION

A. HAZARDOUS WASTE

A Hazardous Waste Initial Site Assessment (ISA) was conducted by the North Region Office of Environmental Engineering to identify hazardous materials present within the project limits. The ISA provided recommendations identifying the potential presence for the following hazardous materials: aerially deposited lead (ADL) soil testing and removal, Lead Compliance Plan for the removal of existing pavement stripe and markings that may contain lead paint, Treated Wood Waste special provision for the removal of chemically treated wood posts along with metal beam guard rail removal, Asbestos Containing Material testing and removal plan for any proposed modifications to existing structures, Air Pollution Control District (APCD) or Air Quality Management (AQM) permit notifications and requirement for an Asbestos Compliance Plan (ACP).

In 2023 the Environmental Hazardous Waste staff reviewed the 2021 ISA and found that no updates were necessary.

A copy of the ISA can be found in Attachment E,

B. VALUE ANALYSIS

A Value Analysis Study for this Project is required and was performed in August 2021 as this project meets the threshold of having a total project cost of **\$50,000,000** or more. The Value Analysis Study (VA) developed four alternatives and 16 design suggestions to improve project efficiencies, save money in construction, and better meet the goals of enhancing mainline operations, local operations, maintainability and reducing temporary impacts to the public during construction. The VA Study was finalized based on the review of the PDT and Caltrans executive staff comments.

The first VA Study Alternative was to construct a single column westbound only Managed Lane Connector Ramp in lieu of both eastbound and westbound. The current traffic demand would cause a westbound only HOV Connector structure to be built first. The project development team and Caltrans executive staff rejected this alternative and determined that each of the Eastbound & Westbound lane on the connector is needed and would cost more to build these structures separately.

The second VA Study recommendation was to Construct managed lane connector with precast concrete in lieu of cast-in-place concrete. This alternative was suggested to reduce construction time. The project development team asked the VA team to confirm the anticipated working day benefit. But due to additional costs, the project development team and Caltrans executive staff rejected this alternative.

The third VA Study Alternative was to add safety features to the County Road 32 bike path connector, including realigning the proposed connection of the bike path to CR32A, additional warning signs, flashing beacons, stop signs, and crosswalks. Since the CR32A speed limit is 50 or 55 mph, stop signs are not applicable. The project development team did not agree with rectangle flashing beacons, and the concern was that these devices would cause a false sense of security. In addition, providing the infrastructure to support the beacons significantly increased the need for an encroachment permit and potholing to determine if conflicts with existing utilities. The project development team wants the proposed bike path closer to the existing stop sign and crossing at the I-80 westbound off-ramp connection to CR 32. The project development team will consider including some of the additional safety signs. The PDT has added a pedestrian/bicycle path along the westbound 80 off ramp to Chiles Road/CR32A for all of the build alternatives. The Caltrans executive staff concurred with the project development team's comments.

The fourth VA Study Alternative used a metal movable barrier system to provide a 3-lane/2-lane or 2-lane/3-lane temporary travel pattern for motorists during construction. This movable barrier system may provide an easy way of shifting the barrier over to allow traffic to flow during construction and move the barrier during nighttime work. Existing Caltrans construction specifications allow for this movable barrier system. The project development team recommended giving the option to the contractor for consideration during construction. Caltrans executive staff indicated that the concept is intriguing. However, the executive staff thought it too expensive for the Department to pursue and suggested that the project specifications include language for using the construction cost reduction incentive program to benefit the contractor for providing a moveable barrier plan for a cost-efficiency review by the Caltrans construction staff.

C. RESOURCE CONSERVATION

This project will seek to conserve energy and nonrenewable resources where practical. The project proposes to preserve existing materials by salvaging metal guard railings removed on this project. The existing pavement section will be recycled as part of the new pavement. The new structural section incorporates rubber from disposed vehicle tires in the Hot Mix Asphalt, as recommended by the District 3 Materials Engineer in Attachment F of this report.

D. RIGHT OF WAY ISSUES

The preferred alternative will require temporary and permanent real estate rights and encroachment permits from public and private entities for construction of proposed project improvements.

i. Utilities

Utility potholing was completed within the project limits. It was determined that the preferred alternative will be designed to avoid existing utilities as much as possible, with the exception of the construction of the Managed Lane Connector Ramp. There are existing overhead PG&E Transmission lines at YOL 50 PM 0.15 that will require relocation or the raising of those lines. Installation of the new fiber optic facilities (ITS Elements) will be designed/ built to avoid conflicts with existing underground PG&E, AT&T, and ZAYO facilities.

ii. Railroad

There are Union Pacific Railroad Co, Sierra Northern Railway and Yolo Short line Railroad Co tracks within the project limits. UPRR will require a drainage modification permit, wireline crossing agreement, and maintenance consent letter with railroad agreement coordination clauses to be included with the project standard special provisions. SERA and YOLO will require short clauses in the contract special provisions as work will not affect operations.

iii. Airspace Lease Areas

There are several existing Airspace sites within the project limits. Coordination will be required prior to and during construction. It is not anticipated that any of the existing Airspace leases will need to be cancelled.

There are several areas within the project for potential future airspace leases that will be evaluated for project impacts as the design of the project progresses.

Right of Way Data sheets for each of the proposed Alternatives are included in Attachment G.

E. ENVIRONMENTAL COMPLIANCE

The project alternatives have been analyzed for environmental impacts in an EIR/EA, a joint document that will satisfy requirements under both CEQA and NEPA. The draft EIR/EA was circulated for 62 days for public comment (from November 13, 2023 to January 12, 2024) prior to determining the preferred alternative.

Environmental issues that influenced project design, schedule or cost including mitigation, construction work and operational considerations, are further discussed within the EIR/EA. In summary, key issues include:

- Vehicle Miles Traveled (VMT) impacts
- Community Impacts of tolling relative to equity
- Traffic and Transportation/ Pedestrian and Bicycle Facilities
- Visual/ Aesthetics
- Hazardous Waste
- Mandatory Findings of Significance (Cumulatively Considerable)

Refer to the EIR/EA, Chapter 2 for further discussion on the project's potential impacts to these environmental features:

- Human Environment (including Community Impact Assessment)
- Physical Environment
- Biological Environment
- Cumulative Impact

Since the Project Study Report-Project Development Support (PSR-PDS) was signed in September of 2019, there are additional SB 743 requirements on determining if the project has significant transportation impacts to VMT and providing mitigation measures to reduce the potential VMT impacts. Please refer to the EIR/EA for more VMT discussion.

i. Wetland

Based on EIR/EA Chapter 3, section 2.2.4.2, Impacts to wetlands are less-than-significant.

The project includes roadway improvements such as replacing culverts and installing a fiber optic line and vaults. As discussed in Section 2.3.2, Wetlands and Other Waters, 0.12 acre (58.296 linear feet) of jurisdictional waters is estimated to be temporarily affected, and approximately 0.055 acre (377.98 linear feet) is estimated to be permanently affected by the project. Prior to construction, Caltrans would obtain a Section 404 permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, which would require the purchase of compensatory mitigation for the permanent loss of waters. Caltrans would also obtain a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Additionally, Standard Measures BIO-1, BIO-3, and BIO-4 have been incorporated into the project which includes measures to minimize water quality and erosion during construction, as such impacts would be less than significant. Further, with incorporation of AMMs BIO-1, BIO-2, and BIO-3, impacts on aquatic resources would be minimized; and the project would not result in substantial adverse effects to aquatic resources.

ii. Floodplain

EIR/EA Section 2.2.1.2, effected Environment, Flood Zones was prepared using the Floodplain Hydraulics Study prepared for this project (Caltrans 2021b).

FEMA Flood Zones

The project is located in areas designated by the Federal Emergency Management Agency (FEMA) as Special Flood Hazard Area (SFHA) Zone A, SFHA Zone AE, and SFHA Zone 99A. Additionally, the project is also located within areas designated by FEMA as Other Areas of Flood Hazard Zone X (both shaded and unshaded). FEMA uses Zone A to characterize areas subject to inundation by the 1 percent annual chance flood (100-year flood) where no Base Flood Elevations (BFEs) have been determined. FEMA uses Zone AE to characterize areas subject to inundation by the 1 percent annual chance flood (100-year flood) where BFEs have been determined. FEMA uses Zone A99 to characterize areas to be protected from the 1 percent annual chance flood by a federal flood protection system under construction where no BFEs have been determined. FEMA uses shaded Zone X to characterize areas of 0.2 percent annual chance flood (500-year flood); areas of 1 percent annual chance flood (100-year flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1 percent annual chance flood (100-year flood). FEMA uses unshaded Zone X to characterize areas determined to be outside of the 0.2 percent annual chance flood (500-year flood).

Section 408 Locations

- 1) Proposed pavement replacement along the Western Yolo Causeway Levee.
- 2) The 408-permit jurisdictional area lies between PM 5.8 and 8.9, as I-80 crosses the Yolo Bypass, in the vicinity of the Yolo Causeway. The west and east levees of the Yolo Bypass, located at PM 5.8 and 8.9 respectively, are State Plan of Flood Control Levees and are part of the Sacramento River Flood Control Project. Consequently, the levees are under the jurisdiction of both the CVFPB and the USACE. Proposed fiber optic across the bridge.
- 3) Proposed pavement replacement along the Eastern Yolo Causeway Levee.

iii. Air Quality Conformity

The preferred alternative is fully compatible with the design concept and scope described in the current regional transportation plan.

Refer to section 2.2.6 of the EIR/EA for air quality discussion.

iv. Title VI Considerations

This project complies with Title VI requirements.

v. Noise Abatement Decision Report

A Noise Abatement Decision Report (NADR) was prepared for the proposed project alternatives. The Noise Study Report recommended a noise barrier location, and one new noise barrier was studied in the NADR as potential noise abatement. The Noise Study Report recommended that a NADR be prepared for a noise barrier location along eastbound I-80, between the I-80/ 113 interchange and Richards Boulevard, in Solano County.

Caltrans prepared the NADR to determine whether the proposed noise barrier locations were reasonable and feasible for the project. Title 23, Code of Federal Regulations (CFR), Part 772 of the Federal Highway Administration (FHWA) standards (23 CFR 772), and the Caltrans Traffic Noise Analysis Protocol (Protocol) requires that noise abatement be considered for projects predicted to result in traffic noise impacts. 23 CFR 772 requires that noise abatement measures that are reasonable and feasible and are likely to be incorporated into the project be identified before adopting the final environmental document (ED). The overall reasonableness of the noise abatement is determined by the noise reduction design goal, the cost of the noise abatement, and the viewpoints of the benefited receptors.

The FHWA sets the cost allowance for noise abatement for each benefited receptor, and the current cost allowance is **\$107,000**.

The Noise Study determined that the noise barrier could feasibly reduce the noise by 5 dB at the possible noise barrier location along eastbound I-80. The noise barrier would not abate traffic noise or meet the 7 dB noise reduction goal due to costs exceeding the allowance, and noise barriers will not be considered for the construction of this project.

The NADR is attached to the Noise Study Report and Draft Environmental Document.

F. LIFE-CYCLE COST ANALYSIS

The District 3 Office of Traffic Forecasting and Modeling, provided the following Life Cycle Analysis tables:

| Life Cycle Cost Analysis | |
|---|---------|
| SOL 080 40.7/R44.7 | |
| Construction Year AADT for both directions | 161,000 |
| 2-axle Truck % (of AADT) | 2.12 |
| 3-axle, 4-axle and 5+axle Truck % (of AADT) | 4.60 |
| Annual Growth Rate | 1.5% |

| Life Cycle Cost Analysis | |
|---|---------|
| YOL 080 0.00/R11.72 | |
| Construction Year AADT for both directions | 174,800 |
| 2-axle Truck % (of AADT) | 2.22 |
| 3-axle, 4-axle and 5+axle Truck % (of AADT) | 5.58 |
| Annual Growth Rate | 0.4% |

| Life Cycle Cost Analysis | |
|---|---------|
| YOL 050 0.00/3.12 | |
| Construction Year AADT for both directions | 171,600 |
| 2-axle Truck % (of AADT) | 3.22 |
| 3-axle, 4-axle and 5+axle Truck % (of AADT) | 4.38 |
| Annual Growth Rate | 0.4% |

| Life Cycle Cost Analysis | |
|---|---------|
| SAC 050 0.00/L0.617 | |
| Construction Year AADT for both directions | 225,300 |
| 2-axle Truck % (of AADT) | 3.01 |
| 3-axle, 4-axle and 5+axle Truck % (of AADT) | 4.09 |
| Annual Growth Rate | 0.7% |

| Life Cycle Cost Analysis | |
|---|---------|
| SAC 080 M0.00/M1.36 | |
| Construction Year AADT for both directions | 141,800 |
| 2-axle Truck % (of AADT) | 3.68 |
| 3-axle, 4-axle and 5+axle Truck % (of AADT) | 3.82 |
| Annual Growth Rate | 0.8% |

7. OTHER CONSIDERATIONS AS APPROPRIATE

A. PUBLIC HEARING PROCESS

An in-person public meeting was held on November 28, 2023 at the City of West Sacramento Community Center and on December 13, 2023 at the City of Davis Library and during the circulation of the draft project report and draft environmental document (DPR/DED). During the public meeting Caltrans staff highlighted the project scope, schedule, cost, environmental document, and other pertinent information. The public meetings had good participation from several local residents and local officials and Caltrans was able to inform the public and solicit comments on the DED. The Public Information Office disseminated the live Public Meeting notifications through social media, newspaper advertisement, and press release.

An on-line Notice of Preparation (NOP) meeting was held on August 25, 2021, to discuss the proposed project scope of work and alternatives.

Caltrans conducted three open houses or Community Workshops during the Project Initiation Document (PID) phase on June 6, 2018, Davis Senior Center; June 14, 2018, West Sacramento City Hall; June 21, 2018, Sacramento City Hall). During the PA&ED phase, Caltrans conducted an open house in the City of Davis Public Library in November 2019 and West Sacramento City Hall in February 2020. In all meetings, Caltrans received and responded to written public comments. The proposed project has been presented to the Yolo Transportation District (Yolo TD), Davis Bike Coalition, Yolo County Steering committee, and other various commissions and authorities for their input. The comments received have been considered, and some have been incorporated into the preliminary project plans.

B. ROUTE MATTERS

There are no new or revised freeway agreements, route adoptions, or relinquishments required as part of this project. Caltrans is in the process of preparing an Interstate System Access Change Request to the Federal Highway Administration (FHWA) for approval of the proposed I-80 Managed Lane Connector Ramp at the I-80/US 50 interchange. The Modified Access Report (MAR) will be submitted to the FHWA for approval prior to construction of the Managed Lane Connector Ramp.

C. PERMITS

Environmental jurisdictional permits may be required for proposed culvert extensions and any work on the existing Yolo Causeway levee. Environmental to add more permit discussions from DED.

| Agency | Permits, Licenses, Agreements, and Certifications | Status |
|---|---|--------------------------------------|
| United States Fish and Wildlife Service | Biological Opinion | Issued during the final design phase |
| United States Army Corps of Engineers | Section 404 Permit/Section 408 | Issued during the final design phase |
| California Department of Fish and Wildlife | 1602 Agreement for Streambed Alteration | Issued during the final design phase |
| Central Valley Regional Water Quality Control Board | Section 401 Certification | Issued during the final design phase |
| Central Valley Regional Water Quality Control Board | Construction General Permit | Issued during the final design phase |
| California Department of Fish and Wildlife (CDFW) | Incidental Take Permit | Issued during the final design phase |
| Central Valley Flood Protection Control Board | Encroachment Permit | Issued during the final design phase |
| Federal Highway Administration | Air Quality Conformity Determination | TBD |

| Agency | Permits, Licenses, Agreements, and Certifications | Status |
|-------------------------------------|---|--------|
| State Historic Preservation Officer | Concurrence on Eligibility Determinations/Finding of Effect | TBD |

TBD = to be determined

D. COOPERATIVE AGREEMENTS

The proposed Mobility Hub at Enterprise may require a cooperative agreement between Caltrans, the City of West Sacramento, and Yolobus for future facility maintenance.

Further Cooperative Agreements will be required for VMT Mitigation projects, in which Caltrans will enter into a financial agreement to provide mitigation funds to local agencies who will implement/construct VMT reducing projects/programs. These projects/programs will be for categories such as transit route expansions, rail service expansion and Travel Demand Management programs.

E. TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) Data Sheet has been prepared for this project. The Data Sheet has summarized the lane and ramp closure requirements, transportation handling practices, and other transportation mitigation strategies implemented during construction. The project cost estimates have included costs associated with transportation impact mitigation measures in the TMP Data Sheet.

The TMP included the following traffic volume table:

| Table-1: Traffic Volumes (2019 Traffic Volumes on California State Highways) | | | | |
|---|-----------------|---|-----------------|------------|
| Location Description | Type of Roadway | Peak-Hour (both directions combined) (vph) | % Truck Traffic | AADT (vpd) |
| 04-Sol-80 PM 41.3/44.72 | Multi-lane | 11,000 | 6.7 | 140,000 |
| 03-Yol-80 PM 0.00/11.72 | Multi-lane | 13,300 | 9.99 | 160,800 |

| | | | | |
|------------------------------|------------|--------|-------|---------|
| 03-Yol-50 PM 0.00/1.20 | Multi-lane | 11,200 | 7.39 | 121,000 |
| 03-Sac-50 PM L0.035/L1.37 | Multi-lane | 21,100 | 4.03 | 245,000 |
| 03-Sac-80 PM M 0.00/1.355 | Multi-lane | 8,800 | 10.74 | 98,000 |

The TMP Data Sheet is Attachment J.

F. STAGE CONSTRUCTION

Stage Construction plans will be developed in the PS&E (Plan, Scope and Estimate) phase.

The preferred alternative will require additional stages of construction to shift traffic to the outside while constructing the Managed Lane Connector Ramp structure in the median at the I-80/US 50 separation.

G. PEDESTRIAN AND BICYCLE LANE IMPROVEMENTS

The project will extend the existing Class 1 bike path from the western limits of the Yolo 80 Causeway structure to the west along the westbound I-80 off-ramp to County Road (CR) 32A. The existing Class 1 path on the west side of the Yolo 80 Causeway structure to the north (western Yolo Causeway levee) will remain open for cyclists and pedestrians, and the new bike path will be separated from the freeway traffic by a concrete barrier. The eastbound bicycle/pedestrians along CR 32A can use the new bike path. The westbound bicycle/pedestrians along the Yolo Causeway can use the current path on the western Yolo Causeway levee, so bicycles and pedestrians need not cross CR 32A to access the Causeway path.

Additional improvements proposed include access to bike racks at the proposed Mobility Hub.

The existing bike path pavement at the western and eastern approaches to the Yolo Causeway bridges will replace asphalt surfacing. This project proposes to replace asphalt surfacing on the existing bike path east of the Yolo Causeway (east) bridge, from the Roland Hensley Bike Park behind the gas station and connect to West Capitol Avenue. Caltrans is in coordination with the City of West Sacramento on the bike path repaving.

H. MOBILITY HUB

Additionally, this project proposes a new Mobility Hub to provide approximately 300 additional park and ride spaces to the I-80/Enterprise Blvd/West Capital Ave Interchange, where existing park and ride spaces frequently fill.

Caltrans will continue to coordinate with local transit agencies, the City of West Sacramento, UC Davis, Sacramento Regional Transit, and Yolo County to increase the possibility of providing a bus stop and bus transfer station. The Mobility Hub preliminary scope includes a pedestrian drop-off area, electrical vehicle charging stations for buses and vehicles, bus stop shelter, bike lockers, trees, lighting, landscaping, and vegetated infiltration basins/planters. This Mobility Hub will provide an ideal location and opportunity for pedestrians, bicyclists and carpoolers to transfer onto various bus routes.

I. CLIMATE CHANGE CONSIDERATIONS/ GREENHOUSE GAS EMISIONS

The Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Program/ Sustainable Communities Strategy (MTP/SCS) 2020 update prioritizes multiple transportation options to connect people with places. As a result, the plan forecasts less time spent in congestion, cleaner air, fewer greenhouse gas (GHG) emissions per capita, a modernized, more productive transit system, and more ways for residents to choose walking or cycling for some of their daily trips. SACOG considers managed lanes to be a critical component of the regional strategy to raise revenue sufficient to build and maintain the region's transportation system, provide mobility benefits to residents, manage traffic and congestion, and help to achieve the state mandated GHG reduction targets. The full scope of the Yolo County portion of the project is included in the 2020 MTP/SCS and is identified as requiring capital improvements in the Corridor System Management Plans, the Sacramento Region Managed Lane Network Vision, and the I-5 Transit Corridor Report.

The Solano County portion of the project is located within the Solano County Metropolitan Transportation Commission (MTC) area. The 2017 Solano County Regional Transportation Plan (RTP) does not include managed lanes between the Kidwell Road interchange and the Yolo County line. Accordingly, Caltrans continues to coordinate with Caltrans District 4 and Solano County MTC to include the Solano County portion of the project in their RTP update.

J. DRAINAGE

The preferred alternative will require replacing some existing culverts, culvert extensions, culvert lining, added culverts and inlets, and removing or repairing existing culverts and inlets at specific locations to accommodate the proposed median and minor outside widening. Some existing drainage facilities have been rated in “poor” condition and will need to be replaced within the project limits.

A Trash Rack is also proposed at the upstream entrance to an existing Box Culvert at West Acre Road and on the north side of US 50 to reduce the clogging and remove trash upstream of a primary drainage system before crossing US 50.

This project proposes to improve existing drainage facilities that connect to an existing reclamation district 900 (RD 900) reinforced concrete box culvert along US 50 east of the I-80/50 interchange. This project will pursue environmental clearance to clean the existing reclamation district 900 (RD 900) reinforced box culvert under US 50 in cooperation with RD 900.

A Drainage Report was prepared in Attachment L along with the Floodplain Hydraulics Study (FHS).

Drainage modifications will be required from Yolo 80 post mile 0.0 to 4.1 due to median reconstruction in the locations which sheet flow currently drains to accommodate median widening and minor outside widening. Drainage modifications will also be required for the proposed construction of the bicycle/pedestrian path along the westbound I-80 off-ramp to Chiles Road.

Drainage modifications will be necessary to accommodate the Managed Lane Connector Ramp.

K. STORM WATER COMPLIANCE

This project will comply with the Caltrans Statewide National Pollutant Discharge elimination (NPDES) Permit and the Construction General NPDES Permit, issued by the State Water Resources Control Board. It will also adhere to the requirements issued by the Central Valley Water Quality Control Board. The Engineer's Cost Estimate includes the estimated cost of Temporary Construction Best Management Practices to reduce potential erosion, and these Best Management Practices (BMPs) will be required for the project. See Attachment M, Storm Water Data Report cover sheet.

L. GEOTECHNICAL

The District Geotechnical Report (GDR) and the Structures Geotechnical Reports (SGR) are included in Attachment N of this report. The District report provides geotechnical recommendations for fill slopes and soils information. The Structures report provides geotechnical recommendations based on subsurface conditions for proposed structural element locations.

M. PAVEMENT STRUCTURAL SECTION

A Structural Section Recommendation is in Attachment F of this report. The R-values in the recommendation resulted from the laboratory testing of soil samples taken from the field.

8. FUNDING AND PROGRAMMING

A. FUNDING

The Sacramento Area Council of Governments (SACOG) is the federally designated Metropolitan Planning Organization (MPO) over Yolo County. SACOG granted Caltrans \$4,000,000 for the Preliminary Engineering (PE) of this Project (SACOG ID CAL21276), and SACOG's summary of the 2021 Regional program. Congestion Mitigation and Air Quality (CMAQ) grant awarded the project an additional \$4,000,000 to complete PE and \$60,000 in Right of Way Capital cost.

In June of 2021, the Yolo Transportation District (Yolo TD) was notified that it will be awarded \$85.9 million in Federal Department of Transportation Infrastructure for Rebuilding America (INFRA) grant funding for construction of this project, which proposes to improve traffic flow in the I-80 corridor on the west side of Sacramento-Yolo metro area. The project also received an additional \$1M in Federal RSTP funds for the Preliminary Engineering (PE) phase from the SACOG Transformative Grant in June 2023. Further, the project is seeking \$105M in Trade Corridor Enhancement Program funds for the RW Support, Construction Support, and Construction Capital phases.

Caltrans has a reasonable projected funding plan to continue constructing the project beyond the funds listed above.

B. PROGRAMMING

The project has programming for \$9M in PE funds for the PA&ED phase, \$3M in PE funds for the PS&E phase, and \$82.9M in Construction funds for the Construction Capital phase. Other

programmed funds are part of a reasonable projected funding plan that will continue constructing the project in future years.

Project Support Costs (\$K)

| Fund Source | | | | | | | | | |
|---------------------------|--------------|--------------|---------------|---------------|--------------|--------------|---------------|---------------|-------------------|
| 20.10.400.210 | Prior | 2023/24 | 2024/25 | 2025/26 | 2026/27 | 2027/28 | Future | Total | Programmed Amount |
| Component | | | | | | | | | |
| PA&ED Support | 6,442 | 2,524 | 0 | 0 | 0 | 0 | 0 | 8,966 | 9,000 |
| PS&E Support | 0 | 2,460 | 540 | 553 | 447 | 621 | 1,866 | 6,487 | 3,000 |
| Right-of-Way Support | 0 | 0 | 100 | 1,045 | 855 | 496 | 1,496 | 3,987 | 0 |
| Construction Support | 0 | 0 | 20,000 | 10,065 | 8,224 | 2,788 | 8,365 | 49,442 | 0 |
| Right-of-Way Construction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82,900 |
| Total | 6,442 | 4,984 | 20,640 | 11,663 | 9,526 | 3,905 | 11,722 | 68,882 | 94,960 |

* Project phases will be built based on availability of funding

** Funds are shown 1,000's of dollars

*** Total project cost (\$465M) = Total Cost (\$410M) + VMT Mitigation (\$55M)

The Programming Sheet is in Attachment O of this report.

Refer to Attachment P for Cost Estimates of Alternatives.

9. DELIVERY SCHEDULE

| Project Milestones | | Milestone Date (Month/Day/Year) | Milestone Designation (Target/Actual) |
|--------------------------------|------|------------------------------------|--|
| PROGRAM PROJECT | M015 | 3/25/2019 | 3/25/2019 |
| BEGIN ENVIRONMENTAL | M020 | 10/09/2019 | 10/09/2019 |
| NOTICE OF PREPARATION (NOP) | M030 | 06/07/2021 | 06/7/2021 |
| CIRCULATE DPR & DED INTERNALLY | M060 | 05/15/2023 | 05/15/2023 |
| CIRCULATE DPR & DED EXTERNALLY | M120 | 11/13/2023 | 11/13/2023 |
| PA & ED | M200 | 05/01/2024 | 05/01/2024 (T) |
| RIGHT OF WAY CERTIFICATION | M410 | 05/10/2024 | 05/10/2024 (T) |
| READY TO LIST | M460 | 05/13/2024 | 05/13/2024 (T) |
| HEADQUARTERS ADVERTISE | M480 | 06/10/2024 | 06/10/2024 (T) |
| AWARD | M495 | 08/30/2024 | 08/30/2024 (T) |
| APPROVE CONTRACT | M500 | 09/30/2024 | 09/30/2024 (T) |
| CONTRACT ACCEPTANCE (CCA)* | M600 | 05/14/2031 | |

*The dates for M200 - M500 are for 03-3H901. The CCA date is for construction of the entire ultimate project. Future phases to complete the ultimate project (03-3H900) will be updated in a Supplemental Project Report.

10. RISKS

There are ten risks in the Risk Register. The risks range from project scope changes, environmental studies, environmental permits, right of way, Utility relocations, approval of design exceptions, Central Valley Flood Protection Board and Army Corps permits that may delay, increase cost, and delay delivery of the project.

A copy of the Risk Register can be found in Attachment Q of this report.

11. EXTERNAL AGENCY COORDINATION

A. Federal Highway Administration

This project is an Assigned Project under the current FHWA and Caltrans Joint Stewardship and Oversight Agreement.

As previously mentioned, the project will submit a MAR to the FHWA for approval during the PS&E phase of the proposed Managed Lane Connector Ramp at the I-80/ US 50 interchange.

The project requires the following coordination:

B. U.S. Army Corps of Engineers

- Department of the Army Permit for:
- Clean Water Act Section 404
- Rivers and Harbors Act of 1899 Section 9
- Rivers and Harbors Act of 1899 Section 10
- General Permits (Regional Permit, Nationwide Permit or Programmatic Permit)
- Standard Permits (Individual Permit or Letter of Permission)
- Section 9 Permit
- 408 Permit.

C. California Department of Fish and Wildlife

California Fish and Game Code Section 1602, Lake or Streambed Alteration Agreement.

D. California State Lands Commission

California Public Resources Code Division 6 Permit.

E. Central Valley Flood Protection Board

California Water Code Division 5, Part 4 Encroachment Permit.

F. Regional Water Quality Control Board

Clean Water Act Section 401 Water Quality Certification.

G. Local Agency

Cooperative Agreements with City of West Sacramento (Maintenance Agreement for the proposed Mobility hub)

H. Railroads

Wireline Agreement will most likely be necessary for the proposed fiber optic conduit on the I-80 South Davis Road OC in Solano County and north of Yolo 80 near CR32A/CR105 intersection for drainage improvements.

12. PROJECT REVIEWS

Scoping team field review with Construction and Maintenance Area Supervisors (Jeffrey Hamm, Daniel Roberts, Monika Pedigo, Aaron Daniels, Joseph Estepa)

| | |
|--|----------------------|
| _____ | Date 2/10/2020 _____ |
| District Program Advisor <i>Manjot Gill</i> | Date _____ |
| District Maintenance _____ <i>Daniel Roberts</i> | Date 2/10/2020 _____ |
| District Safety Review _____ | Date _____ |
| Constructability Review _____ | Date _____ |

Other: Peer Review (3/16/2023) & PDT Review of M060 Date 3/22/2023

13. PROJECT PERSONNEL

| Name, Title | Functional Unit | Phone Number |
|---|------------------------------------|---------------------|
| Gurtej Bhattal, Project Manager | Project Management | 530-720-6153 |
| Solomon Stapp | Assistant Project Analyst | 530-821-8404 |
| Manjot Gill, TE | D3 Pavement Program Advisor | 530-682-3682 |
| Aloysius Pelly, TE | D3 Drainage Program Advisor | 530-682-4452 |
| Daniel Tecle, Const Area Engineer | Construction North Region | 916-801-3455 |
| Monika Pedigo, Design Senior TE | North Region Project Design | 530-812-5298 |
| Qi Zhao, Design Professional Engineer | North Region Project Design | 530-720-0296 |
| Joey Morrison, Project Engineer | North Region Project Design | 530-821-8347 |
| Steven Lee, Senior TE | Elect Designs | 530-634-7619 |
| Masum Patwary, Env Coord | Environmental | 530-812-7634 |
| Robert Wall, Senior Env Scientist | Environmental | 707-834-2471 |
| Abraham Gebrezgiabhier, Supervising TE | Geotechnical Services | 916-639-5919 |
| Segaran Logeswaran, Senior Engineer Geologist | Geotechnical Services | 916-227-1060 |
| Michael Mattson, Senior Hydraulics/Storm Water | Hydraulics | 530-812-5949 |
| Glen Parker, Manager Wood Rogers Consult | Hydraulics/ Utility Engineering | 619-306-7334 |
| Mike Sterle, Landscape Assoc | Landscape Architecture | 530-821-8438 |
| Daniel Roberts, Maintenance Area Superintendent | Maintenance | 916-949-9929 |
| Addisu Workineh, Senior TE | Materials | 530-682-5504 |
| Lee Martin, Associate ROW Agent | ROW | 530-821-8378 |
| Karen Basra, Senior ROW Agent | ROW | 530-812-7143 |
| Jeri Fabian, TE | Signing & Striping /Traffic Design | 530-741-5727 |
| Juan Rodriguez, Stormwater Coord | Stormwater Coordinator | 530-821-8460 |
| Keith Stillmunkes, TE | Structures | 916-204-7533 |
| Alex Padilla, Senior Planner | Planning | 916-798-1218 |
| Dennis Keaton, Aso Prog Anlst | Public Information Officer | 530-741-5474 |
| Sathish Prakash, TE | Freeway Operations | 530-821-8405 |
| Nick Liccardo, Senior TE | Traffic Operations | 530-708-5225 |
| Trin Campos | Traffic Forecasting | 530-65-3511 |
| Jody Norby-Allen, Senior | TMP | 530-821-8481 |
| Darryl Chambers, TE | Traffic Safety | 530-218-1919 |
| Mike Saghaimarroof, TE | Electrical Design | 530-821-3753 |
| Larry Chiea, Associate ROW Agent | Utilities | 530-821-8367 |
| Sumandeep Sudini, Senior TE | Utility Engineering Workgroup | 530-812-5949 |
| Tim Mallen | Reclamation District 900 | 916-371-1483 |
| Chris Dougherty | SACOG | 916-319-5193 |
| Bindu Abraham | SACOG | 916-340-6242 |

| | | |
|--|-------------------------|--------------|
| Darlene Comingore | Yolo County | 530-634-7614 |
| Ryan Chapman, Asst. Public works Dir. | City of Davis | 530-747-5846 |
| Dianna Jensen | City of Davis | 530-747-5846 |
| Gary Predoehl, Capital Imp Manager | City of West Sacramento | 916-617-4831 |
| Jason McCoy, Supervising TE | City of West Sacramento | 916-617-4832 |
| Heather Davis | UC Davis | 530-752-6043 |
| Lucas Griffith | UC Davis | 530-752-4222 |
| Autumn Bernstein, Exec. Director | Yolo TD | 530-402-2812 |
| Brian Abbanat, Acting Dir. Of Planning | Yolo TD | 530-402-2879 |
| Todd Riddiough, Principle Engineer | Yolo Co Public Works | 530-666-8039 |

14. ATTACHMENTS

List attachments with the number of pages, such as:

- A. Location map (1)
- B. Typical Cross Sections (55)
- C. Layouts (308)
- D. Advance Planning Studies (8)
- E. Initial Site Assessment (5)
- F. Preliminary Structural Section Recommendation (9)
- G. Right of Way Data Sheets (30)
- H. Draft Environmental Document
- I. Transportation Analysis Report
- J. Traffic Management Plan (3)
- K. Landscape Architecture Assessment Study (10)
- L. Preliminary Drainage Report and Floodplain Hydraulic Study (240)
- M. Draft Storm Water Data Report-unsigned cover sheet (1)
- N. District and Structures Preliminary Geotechnical Reports (67)
- O. Programming Sheet (2)
- P. Cost Estimate of Alternatives (60)
- Q. Risk Register (5)

| | | | | | |
|--|-------|------------|--------------|---|---------------------|
| Amendment (Existing Project) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | Date | 03/04/2024 09:17:46 |
| Programs <input type="checkbox"/> LPP-C <input type="checkbox"/> LPP-F <input type="checkbox"/> SCCP <input type="checkbox"/> TCEP <input type="checkbox"/> STIP <input checked="" type="checkbox"/> Other | | | | | |
| District | EA | Project ID | PPNO | Nominating Agency | |
| 03 | 3H901 | 033000075 | 8922A | Caltrans District 3 | |
| County | Route | PM Back | PM Ahead | Co-Nominating Agency | |
| Yolo County | 80 | 0.000 | 9.510 | Yolo County Transportation District, Sacramento Area Council of Governments | |
| | | | MPO | Element | |
| | | | SACOG | Capital Outlay | |
| Project Manager/Contact | | | Phone | Email Address | |
| Gurtej Bhattal | | | 530-720-6153 | gurtej.bhattal@dot.ca.gov | |

Project Title

Yolo 80 Managed Lanes

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

On I-80 from the Solano/Yolo County line to the I-80/US 50 interchange: Construct improvements consisting of tolled managed lanes, bicycle/pedestrian improvements, and Intelligent Transportation System (ITS) elements.

| Component | Implementing Agency |
|--------------|---------------------|
| PA&ED | Caltrans District 3 |
| PS&E | Caltrans District 3 |
| Right of Way | Caltrans District 3 |
| Construction | Caltrans District 3 |

Legislative Districts

| | | | | | |
|-----------|--------|---------|-----|----------------|-------|
| Assembly: | 4,6,11 | Senate: | 3,8 | Congressional: | 4,6,7 |
|-----------|--------|---------|-----|----------------|-------|

| Project Milestone | Existing | Proposed |
|---|------------|------------|
| Project Study Report Approved | 09/24/2019 | |
| Begin Environmental (PA&ED) Phase | | 10/09/2019 |
| Circulate Draft Environmental Document Document Type EIR | | 11/13/2023 |
| Draft Project Report | | 11/13/2023 |
| End Environmental Phase (PA&ED Milestone) | | 04/05/2024 |
| Begin Design (PS&E) Phase | | 04/08/2024 |
| End Design Phase (Ready to List for Advertisement Milestone) | | 04/16/2024 |
| Begin Right of Way Phase | | 04/08/2024 |
| End Right of Way Phase (Right of Way Certification Milestone) | | 04/12/2024 |
| Begin Construction Phase (Contract Award Milestone) | | 08/19/2024 |
| End Construction Phase (Construction Contract Acceptance Milestone) | | 10/01/2027 |
| Begin Closeout Phase | | 11/24/2028 |
| End Closeout Phase (Closeout Report) | | 04/26/2030 |

Date 03/04/2024 09:17:46

Purpose and Need

Purpose: to ease congestion and provide freight benefits such as increased throughput, speeds, and travel times.

Need: I-80 and US-50 corridors experience high travel demand, especially during peak and weekend commute periods. The demand has caused severe traffic congestion and impaired freight mobility along the route.

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

Project Outputs

| Category | Outputs | Unit | Total |
|----------------------------------|---|-------|-------|
| Pavement (lane-miles) | HOV/HOT mainline constructed | Miles | 17 |
| Active Transportation | Pedestrian/Bicycle facilities miles constructed | Miles | 0.4 |
| TMS (Traffic Management Systems) | Changeable message signs | EA | 5 |
| TMS (Traffic Management Systems) | Closed circuit television cameras | EA | 12 |
| TMS (Traffic Management Systems) | Communications (fiber optics) | Miles | 18 |
| TMS (Traffic Management Systems) | Traffic monitoring detection stations | EA | 1 |
| TMS (Traffic Management Systems) | Extinguishable message signs | EA | 4 |
| TMS (Traffic Management Systems) | Freeway ramp meters | EA | 6 |

Additional Information

| Performance Indicators and Measures | | | | | | |
|---|------------------------|---|-------------|-----------|-----------------|----------|
| Measure | Required For | Indicator/Measure | Unit | Build | Future No Build | Change |
| Congestion Reduction | TCEP | Change in Daily Vehicle Hours of Delay | Hours | 5,402 | 16,138 | -10,736 |
| | TCEP | Change in Daily Truck Hours of Delay | Hours | 279 | 1,010 | -731 |
| Throughput (Freight) | TCEP | Change in Truck Volume | # of Trucks | 15,096 | 14,284 | 812 |
| Velocity (Freight) | TCEP | Travel Time or Total Cargo Transport Time | Hours | 1,150,200 | 1,400,783 | -250,583 |
| Air Quality & GHG (only 'Change' required) | LPPC, SCCP, TCEP, LPPF | Particulate Matter | PM 2.5 Tons | 0.03 | 0.03 | 0 |
| | | | PM 10 Tons | 0.19 | 0.19 | 0 |
| | LPPC, SCCP, TCEP, LPPF | Carbon Dioxide (CO2) | Tons | 572 | 596 | -24 |
| Safety | LPPC, SCCP, TCEP, LPPF | Fatalities per 100 Million VMT | Number | 2.34 | 2.91 | -0.57 |
| | LPPC, SCCP, TCEP, LPPF | Number of Serious Injuries per 100 Million VMT | Number | 173 | 169 | 4 |
| Economic Development | LPPC, SCCP, TCEP, LPPF | Jobs Created (Only 'Build' Required) | Number | 2,600 | 0 | 2,600 |
| Cost Effectiveness (only 'Change' required) | LPPC, SCCP, TCEP, LPPF | Cost Benefit Ratio | Ratio | 2.9 | 0 | 2.9 |
| Truck & Vehicle Volume (Freight) | TCEP | Existing Average Annual Vehicle Volume on Project Segment | Percent | 92.6 | 92.6 | 0 |
| | TCEP | Existing Average Annual Truck Percent on Project Segment | Percent | 7.4 | 7.4 | 0 |
| | TCEP | Estimated Year 20 Average Annual Vehicle Volume on Project Segment with Project | Number | 187,630 | 180,290 | 7,340 |
| | TCEP | Estimated Year 20 Average Annual Truck Percent on Project Segment with Project | Number | 7.4 | 7.4 | 0 |

| District | County | Route | EA | Project ID | PPNO |
|-----------------------|-------------|-------|-------|------------|-------|
| 03 | Yolo County | 80 | 3H901 | 033000075 | 8922A |
| Project Title | | | | | |
| Yolo 80 Managed Lanes | | | | | |

| Existing Total Project Cost (\$1,000s) | | | | | | | | | Implementing Agency |
|--|-------|-------|-------|-------|-------|-------|--------|-------|---------------------|
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | |
| E&P (PA&ED) | | | | | | | | | Caltrans District 3 |
| PS&E | | | | | | | | | Caltrans District 3 |
| R/W SUP (CT) | | | | | | | | | Caltrans District 3 |
| CON SUP (CT) | | | | | | | | | Caltrans District 3 |
| R/W | | | | | | | | | Caltrans District 3 |
| CON | | | | | | | | | Caltrans District 3 |
| TOTAL | | | | | | | | | |

| Proposed Total Project Cost (\$1,000s) | | | | | | | | | Notes |
|--|-------|---------|--------|-------|-------|-------|--------|---------|-------|
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | |
| E&P (PA&ED) | 8,000 | 1,000 | | | | | | 9,000 | |
| PS&E | | 3,000 | | | | | | 3,000 | |
| R/W SUP (CT) | | 100 | | | | | | 100 | |
| CON SUP (CT) | | 20,000 | | | | | | 20,000 | |
| R/W | 60 | | | | | | | 60 | |
| CON | | 84,900 | 82,900 | | | | | 167,800 | |
| TOTAL | 8,060 | 109,000 | 82,900 | | | | | 199,960 | |

| Fund #1: | CMAQ - Congestion Mitigation (Committed) | | | | | | | | Program Code |
|-----------------------------|--|-------|-------|-------|-------|-------|--------|-------|------------------------------------|
| Existing Funding (\$1,000s) | | | | | | | | | Funding Agency |
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | |
| E&P (PA&ED) | | | | | | | | | Sacramento Area Council of Governm |
| PS&E | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | |
| R/W | | | | | | | | | |
| CON | | | | | | | | | |
| TOTAL | | | | | | | | | |

| Proposed Funding (\$1,000s) | | | | | | | | | Notes |
|-----------------------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | |
| E&P (PA&ED) | 4,000 | | | | | | | 4,000 | |
| PS&E | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | |
| R/W | 60 | | | | | | | 60 | |
| CON | | | | | | | | | |
| TOTAL | 4,060 | | | | | | | 4,060 | |

| | | | | | | | | | | |
|-----------------------------|---|-------|-------|-------|-------|-------|--------|-------|------------------------------------|--------------|
| Fund #2: | RIP - COVID Relief Funds - STIP (Committed) | | | | | | | | Program Code | |
| Existing Funding (\$1,000s) | | | | | | | | | | |
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | Funding Agency | |
| E&P (PA&ED) | | | | | | | | | Sacramento Area Council of Governm | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | | |
| R/W | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | | | | | | | | | | |
| Proposed Funding (\$1,000s) | | | | | | | | | | Notes |
| E&P (PA&ED) | 4,000 | | | | | | | 4,000 | | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | 4,000 | | | | | | | 4,000 | | |
| Fund #3: | RSTP - STP Local (Committed) | | | | | | | | | Program Code |
| Existing Funding (\$1,000s) | | | | | | | | | | |
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | Funding Agency | |
| E&P (PA&ED) | | | | | | | | | Sacramento Area Council of Governm | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | | |
| R/W | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | | | | | | | | | | |
| Proposed Funding (\$1,000s) | | | | | | | | | | Notes |
| E&P (PA&ED) | | 1,000 | | | | | | 1,000 | | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | | |
| R/W | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | | 1,000 | | | | | | 1,000 | | |

| | | | | | | | | | | |
|-----------------------------|--|---------|--------|-------|-------|-------|--------|---------|-------------------------------------|--------------|
| Fund #4: | Federal Disc. - Infrastructure For Rebuilding America (INFRA)Grant (Committed) | | | | | | | | Program Code | |
| Existing Funding (\$1,000s) | | | | | | | | | | |
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | Funding Agency | |
| E&P (PA&ED) | | | | | | | | | Federal Highway Administration | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | | |
| R/W | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | | | | | | | | | | |
| Proposed Funding (\$1,000s) | | | | | | | | | | Notes |
| E&P (PA&ED) | | | | | | | | | Cycle 4 funds request. | |
| PS&E | | 3,000 | | | | | | 3,000 | | |
| R/W SUP (CT) | | | | | | | | | | |
| | | | | | | | | | | |
| CON | | | 82,900 | | | | | 82,900 | | |
| TOTAL | | 3,000 | 82,900 | | | | | 85,900 | | |
| Fund #5: | State SB1 TCEP - Trade Corridors Enhancement Account (Committed) | | | | | | | | | Program Code |
| Existing Funding (\$1,000s) | | | | | | | | | | |
| Component | Prior | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29+ | Total | Funding Agency | |
| E&P (PA&ED) | | | | | | | | | California Transportation Commissio | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | | | | | | | | | |
| CON SUP (CT) | | | | | | | | | | |
| R/W | | | | | | | | | | |
| CON | | | | | | | | | | |
| TOTAL | | | | | | | | | | |
| Proposed Funding (\$1,000s) | | | | | | | | | | Notes |
| E&P (PA&ED) | | | | | | | | | Cycle 4 funds request. | |
| PS&E | | | | | | | | | | |
| R/W SUP (CT) | | 100 | | | | | | 100 | | |
| CON SUP (CT) | | 20,000 | | | | | | 20,000 | | |
| R/W | | | | | | | | | | |
| CON | | 84,900 | | | | | | 84,900 | | |
| TOTAL | | 105,000 | | | | | | 105,000 | | |