

Project Study Report-Project Development Support (PSR-PDS)


To

Request Programming for Capital Support (Project Approval and Environmental Document Phase) in the 2022 STIP

On Route _____ 125 _____

Between _____ Otay River _____
And _____ Birch Road _____

APPROVAL RECOMMENDED:



Jeff O'Connor, Accepts risks identified in this PSR-PDS and attached risk register

APPROVAL RECOMMENDED:



Ann Fox, District Division Chief, Planning

APPROVAL RECOMMENDED:



Brooke Filak, Caltrans Project Manager

APPROVED:



Gustavo Dallarda, District Director

11/02/2022

Date

Vicinity Map



In San Diego County in Chula Vista on State Route 125 from 0.9 miles south of the Otay River to the Birch Road Undercrossing

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

REGISTERED CIVIL ENGINEER

10/14/2022

DATE



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1. INTRODUCTION

Project Description:

HomeFed Corporation (“HomeFed” or “Permittee”), in cooperation with the California Department of Transportation (“Caltrans”) and the City of Chula Vista (“City”), has initiated this Project Study Report-Project Development Support (PSR-PDS) to evaluate alternatives that provide new local street connections to complete the local and freeway system connections shown in the City of Chula Vista’s 2005 General Plan. The new connections shown in the general plan are proposed to accommodate anticipated increased traffic demand due to new development expansion in the eastern Otay Ranch area of Chula Vista.

A summary of relevant project data is shown in the following table:

Project Limits	<i>11-SD-125 PM0.0/PM2.3</i>
Number of Alternatives	5
Current Capital Outlay Support Estimate for PA&ED	\$3.1M
Current Capital Outlay Construction Cost Range	<i>Alternative A - \$60M-\$65M Alternative B - \$70M-\$75M Alternative C - \$75M-\$80M Alternative D - \$40M-\$45M Alternative E - \$0</i>
Current Capital Outlay Right-of-Way Cost Range	<i>Alternative A - \$1M-\$2.5M Alternative B - \$1M-\$2.5M Alternative C - \$1M-\$2.5M Alternative D - \$0 Alternative E - \$0</i>
Funding Source	City of Chula Vista Developer Impact Fee (DIF), additional funding sources are also being considered.
Type of Facility	<i>6 to 4 lane toll facility</i>
Number of Structures	5
Anticipated Environmental Determination or Document	CEQA - IS/MND NEPA - EA
Legal Description	<i>In San Diego County in Chula Vista on State Route 125 from 0.9 miles south of the Otay River to the Birch Road Undercrossing</i>
Project Development Category	3

The remaining capital outlay support, right-of-way, and construction components of the project are preliminary estimates and are not suitable for programming purposes. A project report will serve as the programming document for the remaining components of the project and will serve as approval of the “selected” alternative.

The PA&ED and PS&E phases will be completed by HomeFed and Caltrans will assume the role of Independent Quality Assurance (IQA). It is anticipated that the project construction would begin in 2026.

Other approvals required are:

- California Transportation Commission (CTC) – Modified Access
- City of Chula Vista /Caltrans – Freeway Agreement
- City of Chula Vista/ San Diego Association of Governments (SANDAG)/Caltrans – Maintenance Agreement
- SANDAG/Caltrans – Joint Use Maintenance Agreement for tolling infrastructure
- City of Chula Vista - Approvals/Permits for work within City of Chula Vista right-of-way
- City of Chula Vista Development Services – Coordination with local developments
- Caltrans/HomeFed Corporation - Highway Improvement Agreements for PA&ED, PS&E, and Construction Phases

2. BACKGROUND

The City of Chula Vista has experienced exponential growth over the course of the past 30 years in what are now the communities of Otay Ranch and Eastlake, resulting in a major increase in population, therefore, creating a large demand for transportation infrastructure to improve mobility. Population has increased from approximately 141,015 to approximately 276,785 between the years of 1991 and 2022. In order to accommodate for such rapid expansion, developments in local and regional infrastructure have been implemented by local and regional agencies. Such developments include the extension of major arterial roads, construction of pedestrian and bike facilities, construction of SR-125 and the development of the regional Bus Rapid Transit corridor (South Bay Rapid). The development of the aforementioned facilities were the product of many decades of detailed evaluation and coordination between the City of Chula Vista, SANDAG, and Caltrans.

The City of Chula Vista General Plan sets the foundation for the further expansion of the eastern communities of Eastlake and Otay Ranch. Specifically, the Master Plan delineates the construction of Village 8 located west of SR-125, and conversely Village 9 and the University Innovation District to the east of SR-125. Planned construction of the proposed developments will result in more dwelling units and increased traffic demand within the project area.

Caltrans and the City of Chula Vista are studying improvements to the interchange network at the future Main Street and Otay Valley Road overcrossings to accommodate the anticipated increase in traffic, improve mobility throughout the community and provide a means of ingress and egress between the future developments and SR-125. The interchange system would alleviate anticipated

congestion and will integrate the proposed developments to the regional transportation infrastructure by connecting Main Street and Otay Valley Road to SR-125. Currently there have been four feasible build alternatives and a no-build alternative identified and studied within this report.

Existing Facility

State Route 125

SR-125 has three northbound lanes and two southbound lanes at the location of the proposed project. The northbound direction transitions from two lanes to three lanes within the project limits. SR-125 is part of the California Freeway and Expressway System. Bikes are currently allowed to use the SR-125 shoulders between Otay Mesa Road and Birch Road.

Main Street and Otay Valley Road

Both Main Street and Otay Valley Road are future planned streets in the area. Main Street will be a six-lane major street with a Class IV protected bikeway. Otay Valley Road will be a four-lane major street with a Class IV protected bikeway. City of Chula Vista Street Improvement Standards will be utilized within the City of Chula Vista right-of-way for Main Street, the multi-purpose overcrossing, and Otay Valley Road. Caltrans standards will be utilized for the interchange design, improvements on SR-125, Main Street and Otay Valley Road within Caltrans right-of-way.

Project Sponsors and Project Proponents

This project is being funded by the City of Chula Vista and HomeFed Corporation. HomeFed is funding the Project Initiation Document (PID), Project Approval and Environmental Document (PA&ED), and Plans, Specifications and Estimate (PS&E) phases of the project. Caltrans and the City of Chula Vista are the lead agencies for the PID, PA&ED, and PS&E phases. The City of Chula Vista is funding construction through Development Impact Fees collected by the City of Chula Vista pursuant to the Mitigation Fee Act. Although the City is planning on funding the construction, the project team is searching for other potential funding sources, including federal funds. It is anticipated that Caltrans will advertise, award, and administer (AAA) the construction contract through a cooperative agreement with the City of Chula Vista.

Regional Agency Involvement

Representatives from the San Diego Association of Governments (SANDAG) and Metropolitan Transit System (MTS) have been involved in the preliminary planning of the project. Additional coordination will continue throughout the development of the project.

Context Sensitive Solutions (CSS)

Caltrans uses CSS as an approach to plan, design, construct, maintain, and operate its transportation system. CSS employs a collaborative, interdisciplinary approach involving all stakeholders to promote concepts that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. As the project progresses through the next phase (PA&ED),

the incorporation of CSS should be implemented through coordination amongst the Project Development Team (PDT). CSS will be considered in the development of the proposed structure design. Similarly, new or modified retaining walls and sound walls may be required and should blend with or match existing walls to preserve and enhance the aesthetics of the communities within the project areas. Project design shall consider hardscape treatment features such as light standards and softscape treatments such as re-vegetation, or other landscape treatments to reduce visual impacts and enhance the aesthetic quality of the various project components.

3. PURPOSE AND NEED

Purpose:

The purpose of the proposed project (“Project”) is to develop one or more circulation elements adjacent and connected to SR-125 to integrate future segments of the Otay Ranch community of Chula Vista into the San Diego regional transportation network to accommodate anticipated traffic demands.

Need:

The need for the Project is to better connect anticipated development in the eastern Chula Vista region. Population increases affiliated with the adjacent planned development would create a need for better connections to jobs, schools, and commercial centers; and solutions based on active transportation through safer and more efficient bicycle and pedestrian connectivity, improved traffic operations, facilitated transit services, first and last mile solutions and other demand management strategies within and adjacent to the project area in accordance with the 2050 Regional Transportation Plan, City of Chula Vista’s General Plan, Otay Ranch Section Planning Area (SPA), and other relevant City planning documents.

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

The following is a summary of findings from the Traffic Engineering Performance Assessment (TEPA). For additional information see **Attachment S4**.

Existing Operations Analysis Findings and Deficiencies

The findings of the TEPA showed that the existing segment of SR-125 in the immediate vicinity of the proposed future interchanges (between Birch Road and Otay Mesa Road), and the signalized intersections at the existing Birch Road/SR-125 interchange operated at LOS A during the peak hours under the existing conditions scenario per the November 6, 2014 University Villages Traffic Impact Assessment (TIA), prepared by Chen Ryan & Associates. Based on more recent traffic volume data provided by SANDAG, the existing segment of SR-125 between Birch Road and Otay Mesa Road continues to operate at LOS A during the peak hour based on 2019, 2020 and 2021 traffic volumes. A Vehicle Miles Traveled (VMT) analysis was not completed with the TEPA. A detailed VMT analysis will be completed during PA&ED.

Forecast Year 2030 Operations Analysis Findings and Deficiencies

The year 2030 analysis results that were taken directly from the November 6, 2014 University Villages TIA showed the following:

- The signalized intersections at the Main Street/SR-125 interchange would operate at LOS B or better under Alternative A (Main Street/SR-125 interchange only).
- The November 6, 2014 University Villages TIA did not include analysis of the Alternative B interchange configuration, but it is anticipated that the intersections would operate at a similar LOS to the intersections under Alternative C.
- The signalized intersections at both the Main Street/SR-125 and Otay Valley Road/SR-125 interchanges would operate at LOS B or better under Alternative C (two full interchanges).
- The November 6, 2014 University Villages TIA did not include analysis of the Alternative E “No Build” configuration.
- The roadway segments in the immediate vicinity of the interchanges would operate at LOS D or better under Alternative A (Main Street/SR-125 interchange only).
- It is expected that under Alternative B, the roadway segments in the immediate vicinity of the interchanges would operate at a similar LOS to Alternative C.
- The roadway segments in the immediate vicinity of the interchanges would operate at LOS C or better under Alternative C (two full interchanges).
- The SR-125 freeway segments in the immediate vicinity of the interchanges would operate at LOS D or better under Alternative A (Main Street/SR-125 interchange only).
- The November 6, 2014 University Villages TIA did not include a freeway segment analysis for Alternative C (two full interchanges). It is expected that the freeway segments for both Alternative B and Alternative C would operate at LOS D or better.
- The November 6, 2014 University Villages TIA did not include a freeway weaving section analysis with the addition of either one new interchange (Main Street/SR-125) or two interchanges (Main Street/SR-125 and Otay Valley Road/SR-125). It is anticipated that Alternative A and Alternative B would have similar weaving operations with only one weaving section for both alternatives. Alternative C is anticipated to have the worst weaving operations due to two weaving sections between Otay Valley Road and Birch Road.

Existing Safety Performance Assessment Findings and Deficiencies

Existing collision data along SR-125 in the vicinity of the Project interchanges area (between Birch Road and Otay Mesa Road interchanges) were obtained from the Statewide Integrated Traffic Records Systems (SWITRS). The results of the collision data showed that over the latest 3-year reporting period from August 2018 to August 2021, there were a total of six (6) collisions on SR-125 in the vicinity of the Project interchanges area (between Birch Road and Otay Mesa Road interchanges). Out of the 6 collisions that were reported, 3 collisions involved injuries and 3 collisions did not involve injuries. There were no collisions involving fatalities during the 3-year period of reported data on the study segment of SR-125.

The accident rate for the study segment of SR-125 over a 3-year period was calculated to be approximately 0.15 accidents per million vehicle miles traveled. The average accident rate for all freeways within Caltrans District 11, which includes San Diego and Imperial Counties, was approximately 0.71 accidents per million vehicle miles traveled for the year 2018, the latest year with published accident rates by Caltrans.

Recommended or Required Features, Systems, Devices

Due to the close spacing of the proposed Main Street/SR-125 and Otay Valley Road/SR-125, the need for auxiliary lanes between the interchanges should be considered in the scope of work for the PA&ED Phase. It is expected that all entrance ramps would be metered during the peak congestion periods on weekdays, and that High Occupancy Vehicle (HOV) lanes would be provided on the entrance ramps. At this time, it is unknown as to whether or not SR-125 would remain as a Toll Road by the time the interchange project is constructed. It is anticipated that the Project would include overhead toll collection cameras or other toll facilities on the entrance ramps with the assumption that SR-125 will remain as a Toll Road.

Based on the analysis findings in the November 6, 2014 University Villages TIA prepared by Chen Ryan, the Project alternatives that are currently proposed for the two SR-125 interchanges, and the current Caltrans and City of Chula Vista transportation study requirements, the recommended scope of work during the PA&ED Phase is provided in the TEPA.

5. DEFICIENCIES

Although previous analysis had shown the Birch interchanges were forecasted to operate at LOS A/B in the year 2030 with buildout of the future Otay Ranch development, it is expected that based on the forecast volumes shown in previous studies, delays at this interchange are anticipated to worsen to a deficient LOS if neither the Main Street nor the Otay Valley Road interchanges at SR-125 were constructed. The new and statutory approach to evaluating impacts due to transportation projects replaces LOS with Vehicles Miles Traveled (VMT) and evaluates the number and length of vehicle trips induced by development projects and transportation. The VMT approach supports active transportation, creates healthier communities, and helps reach the State's climate goals. If there is no connectivity through the interchanges or the multi-modal bridge, it is anticipated that VMT in the vicinity would increase due to increased population density. Connectivity for pedestrians, bicyclists, and Neighborhood Electric vehicles through the interchange and via the multi-modal bridge will help reduce the VMT effects of planned population growth in Otay Ranch Village 8 East and Village 9.

6. CORRIDOR AND SYSTEM COORDINATION

SR-125 is a north-south corridor that extends from State Route 11/State Route 905 in the Otay Mesa community within the City of San Diego to the northern terminus at State Route 52 in Santee. SR-125 serves as a major arterial that integrates the east San Diego County and the South Bay to Metropolitan San Diego via State Route 905 (SR-905), State Route 54 (SR-54), State Route 94 (SR-94), Interstate 8 (I-8), and State Route 52 (SR-52). In addition, SR-125 connects east county communities to the US-Mexico border, providing an essential path for international commuting and commercial routes.

More specifically, the southern segment of SR-125, which extends from Otay Mesa Road to SR-54 is part of the toll road known as the South Bay Expressway. This segment was completed and opened to the public on November 16, 2007. SANDAG acquired South Bay Expressway on December 21, 2011 and has operated it since January 2012 via a Franchise Agreement with Caltrans. The facility is planned to operate as a toll road at least through the year 2035. However, end of tolling could be sooner if bonds are paid off. SR-125 traverses industrial complexes in Otay Mesa, 2.5 miles of undeveloped land, the communities of Otay Ranch, Eastlake, San Miguel Ranch in eastern Chula Vista, and the County of San Diego unincorporated communities of Bonita and Sunnyside which encompass a mix of rural residential zones and commercial facilities.

The proposed improvements for each of the build alternatives have been compared against the SANDAG 2050 Regional Transportation Plan (RTP). Based on the RTP, segments of SR-125 would be widened to include 8 general purpose lanes (4 northbound and 4 southbound) located within the existing median. The proposed Project improvements would account for the reconnection of ramps to conform to future SR-125 widenings within the project limits. Also, the proposed interchange overcrossings would be designed to accommodate the ultimate SR-125 width in all alternatives.

In accordance with Chapter 5 of the City of Chula Vista 2005 General Plan, the future Main Street extension through Otay Ranch will be classified as a 6-lane prime arterial that will function as a major east-west thoroughfare connecting western Chula Vista to the newly developed communities in eastern Chula Vista. As Main Street crosses the SR-125 corridor to the east, it will connect to existing Hunte Parkway at the intersection with Eastlake Parkway. Hunte Parkway is a 6-lane Gateway Street to the east of the SR-125 centerline. In addition, Main Street will convey approximately 50,000 Average Daily Trips (ADT) and will serve as a Regional Transit Route connecting western Chula Vista to eastern Chula Vista via bus rapid transit per Chapter V of the City of Chula Vista Urban Core Specific Plan and the SANDAG 2050 RTP.

Chapter 5 of the City of Chula Vista General Plan identifies the future Otay Valley Road as a 4-lane major street that will convey approximately 40,000 ADT. The

Chapter V of the City of Chula Vista Urban Core Specific Plan and the SANDAG 2050 RTP identify a proposed Bus Rapid Transit station in close proximity to the proposed Otay Valley Road overcrossing and incorporate Otay Valley Road to the existing MTS South Bay Rapid (bus rapid transit) route.

In concurrence with the City of Chula Vista 2020 Active Transportation Plan, Main Street and Otay Valley Road, the proposed Village 8, Village 9 and University Innovation District developments will all incorporate Class IV protected bikeways to conform to the Regional Active Transportation Model per the SANDAG 2050 RTP. The facility is anticipated to have moderate to high design speeds and high traffic volumes; therefore, the design of the intersection approaches should minimize conflicts with cyclists. Consideration of protected intersections and other traffic calming design elements will be evaluated during PA&ED. Evaluation of these elements is consistent with Caltrans guidance and policies including the Contextual Guidance for Bicycle Facilities and Director's Policy 37 (DP-37) on Complete Streets. Existing conditions permit cyclists use of freeway shoulders for north-south travel between Birch Road and Otay Mesa Road. A benefit to the incorporation of the interchanges would be a reduction for the length of cyclists of up to 1.6 miles on freeway shoulders.

The future interchange construction at Main Street and SR-125 is identified in the City of Chula Vista Eastern Urban Center Sectional Planning Area (SPA) Plan (approved in 2009) and the City of Chula Vista General Plan and is considered vital for the successful integration of the future developments to the regional transportation network. Likewise, the construction of an interchange at SR-125 and Otay Valley Road is identified, but not compulsory until further analysis is conducted on the feasibility of a dual interchange system.

The proposed interchanges would be cohesive with the proposed Village 8 and Village 9 improvements, which are private developments located along SR-125 between the future Main Street overcrossing and the Otay River Valley. As such, the Highway Improvement Agreement dated October 26, 2020 (Agreement 11-0732) between HomeFed and Caltrans was executed to determine the feasibility of various alternatives.

One of the key objectives of both the Otay Ranch Village 9 and Otay Ranch Village 8 East SPA Plans is to establish an urban pedestrian-oriented village with a village core designed to reduce reliance on the automobile and promote multi-modal transportation, including walking, bicycle use, buses, and regional transit.

Pedestrian linkages to the planned Bus Rapid Transit (BRT) station in the Village 8 West Town Center are planned to further connect Village 8 East residents with transit. Internal streets have been designed to accommodate bicycles and a series of pedestrian paths are provided throughout the village to provide alternatives to automobile travel.

An objective of parking management would be to manage parking facilities to encourage a reduction in the number of single vehicle trips. Designated parking areas would be located at the rear and sides of buildings to maintain a pedestrian-oriented village streetscape. Joint parking use is encouraged within the village core.

SR-125 is listed as a California Legal Route per the California State Highways Truck Network. Therefore, the design vehicle for the project will be the CA-Legal truck. While the project is not listed on the Surface Transportation Assistance Act of 1982 (STAA) Network or Extralegal Load Network (ELLN), consideration will be given during PA&ED to include provisions to allow for STAA or ELLN vehicles due to the proximity to the Otay Mesa Port of Entry and the planned Otay Mesa East Port of Entry by way of the planned easterly extension of SR-11. Further coordination with the Caltrans Headquarters Truck Liaison will occur during the PA&ED phase.

7. ALTERNATIVES

There are four build alternatives identified in this report, not including the No Build Alternative. The alternatives were developed by the Project Development Team (PDT) during a series of alternative development workshops. The PDT began alternatives development by establishing the project purpose and need, key evaluation criteria, and discussion of potential alternatives. One of the build alternative requirements was that the project must cohesively integrate an Otay Valley River Bridge southbound structure in the future. As a result of the workshops, four build alternatives were identified to conceptually meet the purpose and need of the project and have been included in this PSR-PDS.

All four build alternatives will provide for the construction of a multi-purpose bridge facility across SR-125 halfway between the Main Street and Otay Valley Road overcrossings consistent with the Chula Vista Otay Ranch Village 8 East and Village 9 SPA Plans. The multi-purpose bridge facility will provide for pedestrian mobility within the proposed developments and will potentially serve as a means of mobility for “golf cart” sized Neighborhood Electric Vehicles (NEVs) that are anticipated to circulate throughout the future communities when fully built. Each of the build alternatives would also consider the potential for multi-modal transit integrated within the project limits in the local road network and would provide for a multi-purpose bridge overcrossing half-way between the Main Street and Otay Valley Road overcrossings to facilitate safe pedestrian, NEVs and cyclist mobility within the future Village 8 East, Village 9 and University Innovation District.

Adjacent to the Project limits the proposed Village 8 East and Village 9 communities, will be constructing eight-foot-wide protected Class IV protected bikeways on Main Street and Otay Valley Road, which will be crossing SR-125 at the future overcrossings. To be consistent with the approach roadways and regional plans, a Class IV protected bikeway option will be implemented at the Main Street and Otay Valley Road overcrossings and any additional local roads (if applicable) for this Project. Class IV intersection features will be included for the class IV bikeways on

Main Street, Otay Valley Road, and other additional local roads (if applicable). These class IV intersection features may include (but are not limited to) bicycle signals, protected intersections, and traffic calming elements to create comfortable bicycling facilities for all ages and abilities.

As noted in the Background and Corridor System Coordination sections, proposed improvements to the SR-125 corridor within the project area are anticipated to be constructed in the years to come. The proposed alternatives have been designed to accommodate the future conditions of SR-125.

No major utility impacts are anticipated for any of the proposed build alternatives.

The following list of engineering reports and studies will be required for all alternatives during the PA&ED phase. Additional studies may be required as the alternatives are further developed.

- Project Report
- Preliminary Hydraulic/Hydrology Study
- Storm Water Data Report, Long Form
- Intersection Control Evaluation (ICE)
- Traffic Management Plan
- Traffic Analysis, See TEPA for additional information
- Modified Access Report
- Life-cycle cost analysis
- Design Standard Decision Document
- 11-Page Estimate

Additionally, the proposed alternatives require amendments to the existing Freeway Maintenance Agreement and Joint Use Maintenance Agreements for the addition of new overcrossings and/or interchanges.

Alternative A: Partial Cloverleaf Interchange at Main Street

Alternative A consists of constructing a partial cloverleaf interchange (Type L-9 per Caltrans 2018 Highway Design Manual (HDM) Section 502.2(C)) at Main Street and an overcrossing with no connection to SR-125 at Otay Valley Road. Auxiliary lanes will be constructed on SR-125 between the proposed Main Street Interchange and the existing Birch Road Interchange to improve weaving conditions associated with the interchange spacing. See **Attachment B** for schematic layouts and cross sections for this alternative.

This alternative will include three new overcrossings of SR-125 at Main Street (approximately 110' to 120' wide), Otay Valley Road (approximately 95' to 105' wide), and a new multi-purpose crossing (approximately 22' wide). The three structures are anticipated to be two-span, cast-in-place prestressed concrete box-girder bridges. Additionally, this alternative requires widening the two existing Bob Pletcher Way undercrossing structures to accommodate the additional auxiliary lane on SR-125.

Main Street will be a six-lane prime arterial and six-lane gateway street with a Class IV protected bikeway. Otay Valley Road will be a four-lane major street with a Class IV protected bikeway. City of Chula Vista Street Improvement Standards will be utilized for Main Street within the City of Chula Vista right-of-way, the multi-purpose overcrossing, and Otay Valley Road. Caltrans standards will be utilized for the interchange design, improvements on SR-125, and Main Street within Caltrans right-of-way.

Although this configuration would prove beneficial for pedestrian, cyclist, and vehicular mobility within the proposed developments as compared to the no-build alternative, Alternative A would not provide access to SR-125 from Otay Valley Road. Therefore, this alternative provides reduced mobility throughout the project area as compared to the other build alternatives.

Alternative A would require acquisition of approximately 21.6 acres of new Caltrans right-of-way and 4.1 acres of new City of Chula Vista right-of-way from the surrounding privately owned property to construct this alternative. It is anticipated that approximately 1.4 acres of existing Caltrans right-of-way would be transferred back to the City of Chula Vista, then again to the adjacent property owner. Consequently, this would require changes to the current tentative maps for the proposed Village 8 and Village 9 developments.

During PA&ED, an Intersection Control Evaluation (ICE) will be conducted to evaluate the type of intersection control at the proposed ramp intersections. The ICE will also look at bicycle access at Otay Valley Road to/from Otay Mesa. Additionally, the PDT will evaluate the potential for additional interchange configurations such as a diverging diamond, single point urban interchange, and roundabouts to be studied.

See **Table 7.1** for information on the anticipated design standard deviations required for the alternative.

Alternative B: Couplet/Parallel Street System Interchange

Alternative B consists of a couplet/parallel street system interchange with ramps at Main Street and Otay Valley Road acting as a single freeway access point via connected one-way frontage roads (Type L-5 per Caltrans Highway Design Manual (HDM) Section 502.2(B)). For this alternative, vehicles traveling northbound on SR-125 would exit at Otay Valley Road and enter SR-125 from Main Street. Similarly, southbound vehicles would exit SR-125 from Main Street and enter SR-125 from Otay Valley Road. The on/off ramps at Otay Valley Road and Main Street will be connected by two-lane, one-way frontage roads. The two-lane, one-way frontage roads will prohibit on-street parking, but include bike lanes. Auxiliary lanes will be constructed on SR-125 between the proposed Main Street Interchange and the existing Birch Road Interchange to improve weaving conditions associated with the

interchange spacing. See **Attachment B** for schematic layouts and cross sections for this alternative.

Like Alternative A, this alternative will include three new overcrossings of SR-125 at Main Street (approximately 106'-4" wide), Otay Valley Road (approximately 94'-4" wide), and a new multi-purpose crossing (22' wide). The three structures are anticipated to be two-span, cast-in-place prestressed concrete box-girder bridges. This alternative also requires widening of the two existing Bob Pletcher Way undercrossing structures by a total width of 24'-3.5" to make way for the additional auxiliary lane on SR-125.

Main Street will be a six-lane prime arterial with a Class IV protected bikeway. Otay Valley Road will be a four-lane major street with a Class IV protected bikeway. City of Chula Vista Street Improvement Standards will be utilized for Main Street and Otay Valley Road within the City of Chula Vista right-of-way, the one-way frontage roads, and the multi-purpose overcrossing. Caltrans standards will be utilized for the interchange designs, ramp intersections, improvements on SR-125, and Main Street and Otay Valley Road within Caltrans right-of-way.

Under Alternative B, cyclists traveling to and from Otay Mesa along the SR-125 shoulders are able to access SR-125 from Otay Valley Road. This alternative will provide cyclists access to dedicated bike lanes on the one-way frontage roads from Otay Valley Road to Main Street, reducing the exposure of cyclists to freeway traffic. Therefore, resulting in increased cyclist safety.

The proposed frontage roads would be owned and operated by the City of Chula Vista, thus allowing access control and direct driveway access to the Village 8 east and Village 9 developments, enhancing mobility throughout the vicinity, reducing congestion, and reducing travel distances. Caltrans will have control of ramp intersection operations, including traffic signals. Alternative B would require the planned multi-purpose bridge over SR-125 to span across both frontage roads, thus resulting in a taller pedestrian bridge facility. This alternative will be constructed to conform to the proposed condition of the site and would require a moderate amount of earthwork activities to accommodate for the proposed ramps and frontage roads.

Moreover, Alternative B would require acquisition of approximately 13.2 acres of new Caltrans right-of-way and 8.8 acres of new City of Chula Vista right-of-way from the surrounding privately owned property to construct the new facilities. It is also estimated that approximately 2.4 acres of existing Caltrans right-of-way would be transferred to the City of Chula Vista. Depending on access and agreements, 2.2 acres of existing Caltrans right-of-way would likely be transferred to the City before being transferred to the adjacent property owner.

During PA&ED, an ICE will be conducted to evaluate the intersection control at the proposed ramp intersections. Additionally, the PDT will evaluate the potential for

additional interchange configurations such as a diverging diamond, single point urban interchange, and roundabouts to be studied.

See **Table 7.1** for information on the anticipated design standard deviations required for the alternative.

Alternative C: Two-Quadrant Cloverleaf Interchanges at Main Street and Otay Valley Road

Alternative C consists of building two-quadrant cloverleaf interchanges at Main Street and Otay Valley Road (Modified Type L-7/L-8 per Caltrans Highway Design Manual (HDM) Section 502.2(C)). Under the planned layout, the ramps on both interchanges would be located to the northside of the respective local road in an effort to help optimize interchange spacing. Flipped iterations of the layouts will be evaluated during the PA&ED phase for optimization of interchange spacing. This alternative would also construct auxiliary lanes from Otay Valley Road to Main Street and Main Street to Birch Road to address the weaving condition for three closely spaced interchanges. See **Attachment B** for schematic layouts and cross sections for this alternative.

This alternative will include three new overcrossings of SR-125 at Main Street (approximately 106'-4" wide), Otay Valley Road (approximately 94'-4" wide), and a new multi-purpose crossing (22' wide). The three structures are anticipated to be two-span, cast-in-place prestressed concrete box-girder bridges. Additionally, this alternative requires widening the two existing Bob Pletcher Way undercrossing structures for the additional auxiliary lane on SR-125.

Main Street will be a six-lane prime arterial with a Class IV protected bikeway. Otay Valley Road will be a four-lane major street with a Class IV protected bikeway. City of Chula Vista Street Improvement Standards will be utilized for Main Street and Otay Valley Road within the City of Chula Vista right-of-way, and the multi-use overcrossing. Caltrans standards will be utilized for the interchange designs, improvements on SR-125, and Main Street and Otay Valley Road within Caltrans right-of-way.

Even though this alternative would prove beneficial from a mobility standpoint and allow for a full means of ingress/egress between both overcrossings and SR-125, it may prove to be restrictive for interchange spacing between Otay Valley Road and Main Street and introduce weaving concerns. It is anticipated that this alternative would have similar benefits to the local street network, cyclist, and pedestrian access as Alternative B.

Alternative C would require acquisition of approximately 23.9 acres of new Caltrans right-of-way and 2.2 acres of new City of Chula Vista right-of-way from the surrounding privately owned property to construct the new facilities. It is also estimated that approximately 1.1 acres of existing Caltrans right-of-way would be transferred to City of Chula Vista before being transferred to the adjacent property

owner. Subsequently, in order to accommodate the project site for the wider loop ramps of the two-quadrant clover leaf interchanges, Alternative C would require extensive earthwork.

During PA&ED, an ICE will be conducted to evaluate the intersection control at the proposed ramp intersections. Additionally, the PDT will evaluate the potential for additional interchange configurations such as a diverging diamond or a single point urban interchange and roundabouts to be studied.

See **Table 7.1** for information on the anticipated design standard deviations required for the alternative.

Alternative D: Minimum Build

The Minimum Build Alternative assumes that the City of Chula Vista completes the Village 8 and Village 9 developments and the project would construct the Main Street and Otay Valley Road overcrossings with no connections to SR-125. There would be minimal improvements on SR-125 that would be limited to providing shielding at the new bridge columns in the median. See **Attachment B** for schematic layouts and cross sections for this alternative.

This alternative will include three new overcrossings of SR-125 at Main Street (approximately 106'-4" wide), Otay Valley Road (approximately 94'-4" wide), and a new multi-purpose crossing (22' wide). The three structures are anticipated to be two-span, cast-in-place concrete box-girder bridges.

Main Street will be a six-lane prime arterial with a Class IV protected bikeway west of the SR-125 centerline; to the east of the SR-125 centerline, Main Street will be a six-lane Gateway Street. Otay Valley Road will be a four-lane major street with a Class IV protected bikeway. All roadways will be designed per City of Chula Vista standards as there would be no connection to the state facility.

The Minimum Build Alternative would not improve the future operational conditions of the local roadway system and SR-125 since it would result in the saturation of the existing local street network and would overburden the Birch Road and Olympic Parkway interchanges.

This alternative would require a minimum amount of grading/excavation operating and would have no Right-of-Way impacts.

No known nonstandard design features are associated with this alternative.

Alternative E: No Build

The No-Build Alternative functions as the baseline and would leave the project area within the state right-of-way unchanged with no new connections or overcrossings at Main Street or Otay Valley Road. The No-Build Alternative is inconsistent with the Purpose and Need and local planning documents. The No-Build alternative will

result in the prolongation of limited access, and likely increases in levels of congestion and traffic delays within the local street network and adjacent freeway interchanges. This is based on the anticipated growth of the area and planned city circulation network improvements per local planning documents. Although this alternative does not meet the project Purpose and Need, the No-Build Alternative is required to be considered in the PA&ED phase.

The Design Standard Risk Assessment table lists the known nonstandard features for each alternative and their probability of being approved. The contents of this table were reviewed and concurred by Victor Mercado, Acting Division Chief of Design, on March 24, 2022.

Table 7.1 – Design Standards Risk Assessment

Alternative	Location	Alignment	Design Standard from Highway Design Manual Tables 82.1A & 82.1B	HDM	Standard	Provided	Probability for Approval	Justification for Probability Rating
A	NB Loop On-Ramp and SB Loop On-Ramp	“Main2”	Standards for Superelevation	202.2	0.12	Less than 0.12	High	Due to the geometry of the proposed loop ramps, it may not be possible to achieve the standard 12% superelevation rate for the loop ramp. The contributing factor for this is insufficient run-out/runoff length within the curve to achieve the full superelevation. During design, superelevation rate will be based on the maximum comfortable speed per Figure 202.2 or greater.
		“Main5”						
A	NB Loop On-Ramp and SB Loop On-Ramp	“Main2”	Standards for Curvature – Minimum Radius	203.2	188’ (V=30 mph, e = 0.12)	150’-180’	High	Proposed non-standard curve radii at loop ramps. Per HDM 504.3(8) loop ramps should have radii ranging from 150’ to 200’. The selected radii fall within this range. During design, curve radii and tangents will be optimized.
		“Main5”						
A	Main Street and Birch Road	“Main”	Interchange Spacing	501.3	1.0 Mile (urban)	0.87 Miles	Medium	Proposed non-standard interchange spacing between Birch Road and Main Street will be less than the required 1 mile. Spacing is approximately 0.87

											<p>miles. The location of the Main Street overcrossing was determined by the City of Chula Vista's planning documents. Shifting Main Street 0.13 miles to the south was deemed to be non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard spacing may be approved with an acceptable weaving analysis.</p>
A	Main Street NB On-Ramp and Main Street SB Off-Ramp	"Main3"	<p>Minimum Entrance Ramp-to-Exit Ramp Spacing</p>	504.7	2000'	900'	Medium			<p>Proposed non-standard distance between the Birch Road ramps and the proposed Main Street ramps will be less than the required 2000'. The location of the Main Street overcrossing was determined by the City of Chula Vista's planning documents. Shifting Main Street 1100 feet to the south was deemed to be non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard ramp spacing may be approved with an acceptable weaving analysis.</p>	
		"Main6"									
A	NB Loop On-Ramp and SB Loop On-Ramp	"Main2"	<p><u>Superelevation</u> <u>Runout Transition</u></p>	202.5(1)	420'	6% per 100'	High			<p>Proposed non-standard super elevation runout transition lengths at loop ramps. The contributing factor for this is insufficient run-out/runoff length within the curve to achieve the full superelevation length. Restrictive situation utilizing 6% per 100' will require reduced transition (HDM 202.5 (3)).</p>	
		"Main5"									

A	Main Street	“Main”	<u>Use of Curb with Posted Speeds of 40 mph or greater</u>	<u>303.1</u>	No curb when speed in excess of 40mph.	Use of curb with speed 45mph.	High	The posted speed on Main Street will be 45 mph. Per the City of Chula Vista’s design manual, concrete curb is required for the local facility. A design standard deviation will be required to meet the City of Chula Vista Street Cross Section requirements within Caltrans right-of-way.
A	NB Loop On-Ramp and SB Loop On-Ramp	“Main2”	<u>Freeway Inlet Nose Design Speed</u>	<u>504.2(4)(b)</u>	50mph	25mph	Medium	Per HDM 504.3(8) loop ramps should have radii ranging from 150’ to 200’, which provide design speeds less than 50 mph. These curves typically terminate near the freeway inlet nose. Due to this, the design speed of the loop ramp will need to be lower than the required 50 mph at the freeway inlet nose.
		“Main5”						
A	NB Loop On-Ramp and SB Loop On-Ramp	“Main2”	<u>Ramp Lane Drop Taper at 6-foot Separation Point</u>	<u>504.3(d)</u>	<u>30:1 to 50:1</u>	15:1	High	To maintain sufficient storage on the loop ramp at the ramp meter, it will be necessary to use a 15:1 taper to drop the second lane before the 6-foot point. It should be noted that vehicles will be traveling at a slower speed due to the radii of the loop ramp. Therefore, the 15:1 taper will provide sufficient length for vehicles to merge.
		“Main5”						
B	Main Street and Birch Road	“Main”	Interchange Spacing	501.3	1.0 Mile	0.87 Miles	High	Proposed non-standard interchange spacing between Birch Road and Main Street will be less than the required 1 mile. Spacing is approximately 0.87 miles. The location of the Main Street overcrossing was determined by the City of Chula Vista’s planning documents. Shifting Main Street 0.13 miles to the south was deemed to be
		“Birch”						

									<p>non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard spacing may be approved with an acceptable weaving analysis.</p>
B	Main Street NB On- Ramp and Main Street SB Off- Ramp	"Main 1"	Minimum Entrance Ramp-to-Exit Ramp Spacing	504.7	2000'	900'	Medium	<p>Proposed non-standard distance between the Birch Road ramps and the proposed Main Street ramps will be less than the required 2000'. Spacing is approximately 0.87 miles. The location of the Main Street overcrossing was determined by the City of Chula Vista's planning documents. Shifting Main Street 1100 feet to the south was deemed to be non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard ramp spacing may be approved with an acceptable weaving analysis.</p>	
		"Main2"		303.1	No curb when speed in excess of 40mph.	Use of curb with speed with speed 45mph.	High	<p>The posted speed on Main and Otay Valley will be 45 mph. Per the City of Chula Vista's Design Manual, concrete curb is required for the local facility. A design standard deviation will be required to meet the City of Chula Vista Street cross section requirements within Caltrans right-of-way</p>	
C	NB Loop Off-Ramp and SB Loop On- Ramp at	"OVR-1"	Standards for Superelevation	202.2	.12	Less than 0.12	High	<p>Due to the geometry of the proposed loop ramps, it may not be possible to achieve the standard 12% superelevation rate for the loop ramp. The contributing factor for this is</p>	
		"OVR-2"							

	Otay Valley Rd									insufficient run-out/runoff length within the curve to achieve the full superelevation. During design, superelevation rate will be based on the maximum comfortable speed per Figure 202.2 or greater.
	NB Loop Off-Ramp and SB Loop On-Ramp at Main St	“Main 1”	“Main 4”							
C	NB Loop Off-Ramp and SB Loop On-Ramp at Otay Valley Rd	“OVR-1”	“OVR-2”							Proposed non-standard curve radii at loop ramps. Per HDM 504.3(8) loop ramps should have radii ranging from 150’ to 200’. The selected radii fall within this range. During design, curve radii and tangents will be optimized.
	NB Loop Off-Ramp and SB Loop On-Ramp at Main St	“Main 1”	“Main 4”							
C	Main Street and Birch Road	“Main”								Proposed non-standard interchange spacing between Birch Road and Main Street will be less than the required 1 mile. Spacing is approximately 0.87 miles. The location of the Main Street overcrossing was determined by the City of Chula Vista’s planning documents. Shifting Main Street 0.13 miles to the south was deemed to be non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard spacing may be approved with an acceptable weaving analysis.

		<p>“OVR”</p>				<p>0.57 Miles</p>	<p>Low</p>	<p>Proposed non-standard interchange spacing between Otay Valley Road and Main Street will be less than the required 1 mile. Spacing is approximately 0.57 miles. The location of the Main Street overcrossing and Otay Valley Road Overcrossing was determined by the City of Chula Vista’s planning documents. Shifting Otay Valley Road Street 0.43 miles to the south was deemed to be non-compliant with the local planning documents. Additionally, this would likely require improvements to the Otay River bridges at the south end of the project. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard spacing may be approved with an acceptable weaving analysis.</p>
<p>C</p>	<p>Otay Valley Rd NB On-Ramp and Main Street NB Off-Ramp Main Street SB Off-Ramp and Otay Valley Rd SB Off-Ramp</p>	<p>“OVR-2” “Main 1” “Main4” “OVR-3”</p>	<p>Minimum Entrance Ramp-to-Exit Ramp Spacing</p>	<p>504.7</p>	<p>2000’</p>	<p>1100’</p>	<p>Low</p>	<p>Proposed non-standard distance between the Otay Valley ramps and the proposed Main Street ramps will be less than the required 2000’. The location of the Otay Valley and Main Street overcrossings were determined by the City of Chula Vista’s planning documents. Shifting Otay Valley Road 900 feet to the south was deemed to be non-compliant with the local planning documents. Additionally, this would likely impact the Otay River bridges to the south of the project. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard ramp</p>

									spacing may be approved with an acceptable weaving analysis.
		“Main2”							Proposed non-standard distance between the Birch Road ramps and the proposed Main Street ramps will be less than the required 2000’. The location of the Main Street overcrossing was determined by the City of Chula Vista’s planning documents. Shifting Main Street 1100 feet to the south was deemed to be non-compliant with the local planning documents. The project proposes to include auxiliary lanes to mitigate this condition. The nonstandard ramp spacing may be approved with an acceptable weaving analysis.
Main Street NB On-Ramp and Main Street SB Off-Ramp		“Main3”				900’	Medium		
C	NB Loop Off-Ramp and SB	“OVR-1”							Proposed non-standard super elevation runoff transition lengths at loop ramps. The contributing factor for this is insufficient run-out/runoff length within the curve to achieve the full superelevation length. Restrictive situation utilizing 6% per 100’ will require reduced transition (HDM 202.5 (3)).
	Loop On-Ramp at Otay Valley Rd	“OVR-2”	<u>202.5(1)</u>	420’	6% per 100’	High			
	NB Loop Off-Ramp and SB	“Main 1”	<u>Superelevation</u> <u>Runout Transition</u>						
	Loop On-Ramp at Main St	“Main4”	<u>Use of Curb with</u> <u>Posted Speeds of 40</u> <u>mph or greater</u>	<u>303.1</u>	No curb when speed in excess of 40mph.	Use of curb with speed with speed 45mph.	High		
C	Main Street and Otay Valley Road	“Main”							The posted speed on Main and Otay Valley will be 45 mph. Per the City of Chula Vista’s Design Manual, concrete curb is required for the local facility. A design standard deviation will be required to meet the City of
		“OVR”							

C	NB Loop Off-Ramp and SB Loop On-Ramp at Otay Valley Rd	"OVR-1"	<u>Freeway Inlet Nose Design Speed</u>	50mph	25mph	Medium	Chula Vista Street Cross-Section requirements within Caltrans right-of-way
		"OVR-2"					
	"Main1"						
	"Main4"						
C	NB Loop Off-Ramp and SB Loop On-Ramp at Otay Valley Rd	"OVR-1"	<u>Ramp Lane Drop Taper at 6-foot Separation Point</u>	30:1 to 50:1	15:1	High	To maintain sufficient storage on the loop ramps at the ramp meters, it will be necessary to use a 15:1 taper to drop the second lane before the 6-foot point. It should be noted that vehicles will be traveling at a slower speed due to the radii of the loop ramps. Therefore, the 15:1 taper will provide sufficient length for vehicles to merge.
		"OVR-2"					
	"Main1"						
	"Main4"						

8. ADDITIONAL CONSIDERATIONS

Complete Streets

Complete Streets guidelines and principals, including a heavy emphasis on multimodal accommodation, have been considered in the development of the project. During the future phases, proposed improvements to Otay Valley Road and Main Street will continue to be weighed in this context by the local responsible agencies.

Climate Change Considerations

Reduction of Greenhouse Gas Emissions (GHG):

Executive Order B-30-15 was issued to establish a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. Climate change will be considered in planning and investment decisions, which are guided by the following principles:

- Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions
- Where possible, flexible, and adaptive approaches should be taken to prepare for uncertain climate impacts
- Actions should protect the state's most vulnerable populations
- Natural infrastructure solutions should be prioritized.

Construction emissions are unavoidable but will be reduced to the maximum extent possible throughout the project delivery process. Further considerations on climate change mitigation and reduction of GHG emissions will be evaluated during the PA&ED phase.

Climate Adaptation Strategy

The California Climate Adaptation Strategy, mandated by Assembly Bill 1482, links together the state's existing and planned climate adaptation efforts, to fit together to achieve California's six climate resilience priorities. The Strategy is organized around outcome-based priorities, enabling a coordinated, integrated approach to building climate resilience.

Vehicles Miles Traveled (VMT)

California Senate Bill 743 (SB 743) which took effect on July 1st, 2020, replaces level of service (LOS) with VMT as the primary CEQA metric for evaluating environmental impacts attributable to development projects and transportation projects. SB 743 changes the process in CEQA that we use to measure the environmental impacts of projects by measuring how many new miles of auto travel a project's residents, visitors, shoppers, and employees will produce. Measuring vehicle miles traveled (VMT) considers whether a new development is located close to jobs, businesses and services that would enable shorter trips and travel mode choices besides driving alone. Caltrans seeks to avoid inducing new traffic, as measured in VMT, as it manages and evolves the State Highway System. The VMT approach evaluates the number and length of vehicle trips induced by development projects and transportation, making sure they are built in a way that allows Californians more

options to drive less. This approach supports the implementation of active transportation, multi-modal design elements that do not induce VMT, enhancing transit, pricing, and other demand management strategies. A VMT analysis, including mitigation measures, will be done during the PA&ED to evaluate the total impacts within the vicinity.

This project will improve connectivity in the region and will reduce travel time between proximate land uses. The multi-modal bridge, located between the two planned local street overcrossings at Main Street and Otay Valley Road, will connect areas with increased densities and will assist the community get to their destinations in a safer and more efficient manner and is a VMT-reducing active transportation component. In addition, Village 8 east, Village 9, and the University district are being designed to accommodate neighborhood electric vehicles (NEVs) which will further contribute to the VMT reduction in the area.

Compact housing can reduce VMT compared to housing that is lower density. Affordable housing produces less VMT compared to market-rate housing. Denser, more affordable housing is a powerful VMT-reduction tool. Factors to consider for land use relating to residential development include density of housing, affordability of new housing, current household VMT, the level of contribution committed by the mitigation, and location of the housing project. For projects that include affordable multifamily housing, units that are permanently dedicated as affordable for lower income families, VMT can be estimated at approximately 30% reduced from market-rate housing. Village 8 East, Village 9, and the University District will contain a wide variety of housing types ranging in density from medium to mixed-use/high. The variety of housing types will accommodate families, singles, and those with special housing needs, including residents with disabilities and the elderly. The City of Chula Vista General Plan Housing Element has a residential threshold for affordable housing, which would be implemented through an Affordable Housing Agreement between the City and the Developer.

Another key factor for reducing VMT is the accessibility of employment centers in close proximity housing populations. Village 8 East, Village 9, and the University District will contain a variety of academic/university, industrial, commercial, and retail uses. This will create jobs for the local community which will contribute to VMT reductions. For example, the University District alone is projected to support 8000 new jobs.

Transportation Demand Management (TDM) aims at getting workers to their jobs while reducing peak-hour vehicle travel. TDM can also be focused on other groups such as students, tourists, and the general community. Measures to consider include transit and micro-mobility pass discounts, carpool matching and incentives, bike facilities at workplaces, vanpools, emergency-ride-home service for non-driving employees, and education and information on non-Single Occupancy Vehicle (SOV) travel. Consideration of a mobility wallet program, which provides free passes for

transit and bike-and-scooter share, is a VMT reducing component. Transit use is currently free for those 18-years old and younger.

Improved transit would replace auto trips and can facilitate transit-oriented development (TOD), which provides low-VMT housing, employment, retail, and other land uses. While congestion reduction on the facility may allow for better service, mitigation should be based on actual transit service improvements. Considerations for increased transit service would include transit-signal priority, lane management, and installing bus stops in the Village 8 East village core. Improved transit in the project vicinity would be a VMT reduction strategy.

9. RIGHT-OF-WAY

It is anticipated that partial property acquisitions and temporary construction easements will be required for Alternatives A, B, and C. It is anticipated that Alternative D will require temporary construction easements. In addition, the existing freeway access control limits will require modification to accommodate new ramp connections at Main Street and Otay Valley Road. Acquisitions and access control modifications will be required. For additional information, refer to the findings included in the Conceptual Cost Estimate – Right-of-Way Component, which is included as **Attachment F**.

Utilities: No major utility impacts are anticipated for this project. The City of Chula Vista is determining whether utilities will be needed in the new overcrossing structures to service the area. This will be further studied in the PA&ED Phase. In the event utilities are needed in the structures, the utilities will comply with encroachment and utility policies in Chapter 17 of the Project Development Procedures Manual.

Railroad: Not applicable; no railroad facilities are located within the project vicinity.

Park-and-Ride Facilities: Currently there are no existing or proposed Caltrans park-and-ride facilities within the project limits. The City of Chula Vista and MTS maintain a park-and-ride facility just north of the project limits at the Otay Ranch Mall adjacent to the Otay Ranch Bus Rapid Transit Station. Park and Ride Facilities will be considered in the PA&ED phase.

10. STAKEHOLDER INVOLVEMENT

Representatives from the City of Chula Vista have been involved in the development of the alternatives during PDT meetings. Coordination with representatives from SANDAG, and the San Diego Metropolitan Transit System (MTS) has taken place to determine their involvement and to identify whether any potential Project features could be incorporated based on their interests. Currently, SANDAG/MTS have a planned expansion of the bus rapid transit (BRT) system that would utilize either the Main Street or Otay Valley Road interchange to provide users a connection to the

Otay Mesa Port of Entry. The PDT would determine future stakeholder outreach and the opportunity for public meetings would be organized during the PA&ED phase.

A Highway Improvement Agreement (HIA) was previously executed between HomeFed and Caltrans to implement the PSR-PDS process. Additional HIAs between HomeFed and Caltrans will be executed for the future phases of the Project.

11. ENVIRONMENTAL COMPLIANCE

Based on past experience with similar actions and information provided by reviewers, along with the range of environmental resource issues and potential impacts, the PEAR anticipates the environmental document needed for this project would be an EIR for CEQA and a routine EA leading to a FONSI for NEPA. A joint CEQA/NEPA document should be considered. The environmental document will be evaluated to ensure the appropriate level throughout the project development process. Caltrans would serve as the Lead Agency under CEQA, with the City of Chula Vista as a Responsible Agency. Caltrans, as assigned by FHWA, would also serve as the Lead Agency under NEPA. The environmental technical reports and EIR and EA/FONSI are estimated to take approximately 18 to 24 months to prepare and process for final approval/adoption, including time for substantive review by Caltrans staff. Any changes in scope will require further project review and assessment of the level of environmental documentation.

Based on the preliminary analysis contained in this PEAR, all project alternatives have the potential to result in potentially significant environmental impacts related to land use, traffic and transportation, visual/aesthetics, cultural resources, geology/soils, paleontological resources, hazardous materials, air quality, noise, GHG emissions, and biological resources. Potential impacts and the magnitude of potential impacts associated with these environmental issues would vary by alternative, as summarized below.

- **Land Use:** The project would potentially be inconsistent with adopted land use plans (Alternatives A and D) and could impact planned land uses in the project area (Alternatives A, B, and C).
- **Traffic and Transportation:** The project could potentially result in VMT impacts (all alternatives). During construction, lane closures on SR 125 may be required intermittently and full closure at the overcrossings and interchange locations may also be required for short windows (all alternatives).
- **Visual/Aesthetics:** Construction of new overcrossings and interchange infrastructure would introduce new elevated visual elements in the project area. The project would also affect the visual environment by widening an undercrossing and local streets and by constructing ramps and frontage roads. New retaining walls and sound walls may be required. Full freeway landscaping would be required within the project footprint and contractor use areas to integrate the project with the existing urban freeway landscaping in the City of Chula Vista (all alternatives).

- **Cultural Resources:** Grading and excavation activities could adversely impact unknown subsurface archaeological and/or tribal cultural resources (all alternatives).
- **Geology/Soils:** Geologic hazards may be located in the project vicinity that would require special design and construction measures (all alternatives).
- **Paleontological Resources:** Grading and excavation activities could adversely impact fossils (all alternatives).
- **Hazardous Materials:** Hazardous materials in the form of pesticides and herbicides could potentially be present in soils due to previous agricultural uses in the project area (all alternatives).
- **Air Quality:** The addition of new overcrossings and interchanges would place vehicles closer to existing and future planned/approved sensitive receptors, potentially exposing them to increased concentrations of criteria pollutant emissions. An increase in overall VMT could also result in an increase in criteria pollutant emissions. Construction activities also would generate emissions of criteria pollutants near existing and future sensitive receptors (all alternatives).
- **Noise:** Noise impacts may occur due to the construction of SR 125 overcrossings that would carry through traffic near existing and future planned/approved NSLUs. Construction noise impacts may also occur to nearby NSLUs (all alternatives).
- **GHG Emissions:** Construction activities and vehicular operations (increase in VMT) would generate GHG emissions that could result in climate change impacts.
- **Biological Resources:** Sensitive vegetation (Diegan coastal sage scrub, maritime succulent scrub, and non-native grassland) occurs in the southern portion of the project site (near the Otay Valley Road interchange location). Additionally, sensitive habitat in the southern portion of the site could potentially support special status species. Potentially jurisdictional resources also occur in portions of the project site (all alternatives).

Technical studies should be prepared once more detailed design has been completed for the overcrossing to determine the extent of the potential impacts and identify design and mitigation measures needed to avoid, minimize or mitigate the impacts related to these issues. It is anticipated that the following technical studies would likely be needed during the PA&ED phase:

- Community Impact Assessment (CIA)
- Intersection Control Evaluation (ICE)
- Induced Travel/Vehicle Miles Traveled (VMT) Analysis and Local Mobility Analysis (LMA)
- Visual Impact Assessment (VIA) – Moderate Level
- Archaeological Survey Report (ASR)
- Historic Property Survey Report (HPSR)
- Preliminary Drainage Study
- Stormwater Data Report

- Preliminary Geotechnical Report
- Paleontological Identification Report (PIR)/Paleontological Evaluation Report (PER)/Paleontological Mitigation Plan (PMP)
- Initial Site Assessment
- Preliminary Site Investigation (PSI)
- Air Quality Report
- Air Quality Conformity Analysis
- Noise Study Report
- Natural Environment Study – Minimal Impacts (NESMI)

Required permits would be similar for all the alternatives because they are located in the same general area and would impact the same resources and require the same agency approvals. The permits and coordination required for the alternatives are listed below. These permits would be required prior to project construction.

- If jurisdictional aquatic resources cannot be avoided, regulatory permits could be required such as:
 - CWA Section 404 Permit from the USACE
 - CWA Section 401 Water Quality Certification or WDR from the RWQCB
 - Section 1602 Streambed Alteration Agreement from the CDFW.
- If listed species cannot be avoided, wildlife agency consultation and/or permits would be required including:
 - USFWS Section 7 ESA consultation or Section 10 implementation
 - Section 2080.1 CESA Consistency Determination from CDFW, or a
 - Section 2081(b) ITP from CDFW.

The permitting process associated with jurisdictional resources and/or permitting tied to listed species can take up to approximately 12 to 16 months.

- Impacts to cultural resources sites (should they occur) could require consultation with the SHPO. The SHPO process can take several months to complete depending on the type and significance of the resources.

Refer to Section 5 of the PEAR for potential environmental commitments for the alternatives.

12. FUNDING

The proposed project is planned to be funded by Development Impact Fees collected by the City of Chula Vista pursuant to the Mitigation Fee Act. SANDAG is expected to cover the cost for any toll road tolling equipment using SR-125 revenue funds. As the Project continues to develop, additional local, state, and/or federal funding sources will be explored, such as funds from the Infrastructure Investment and Jobs Act. It has been determined that this project is eligible for Federal-aid funding.

It is not anticipated that the project would be eligible for funding through the Congestion Mitigation and Air Quality (CMAQ) Improvement Program.

Capital Outlay Project Estimate

	Range of Estimate		STIP Funds		Other Funds	
	Construction	Right-of-Way	Construction	Right-of-Way	Construction	Right-of-Way
Alternative A	\$60M-\$65M	\$1M-\$2.5M	\$0	\$0	\$60M-\$65M	\$1M-\$2.5M
Alternative B	\$70M-\$75M	\$1M-\$2.5M	\$0	\$0	\$70M-\$75M	\$1M-\$2.5M
Alternative C	\$75M-\$80M	\$1M-\$2.5M	\$0	\$0	\$75M-\$80M	\$1M-\$2.5M
Alternative D	\$40M-\$45M	\$0	\$0	\$0	\$40M-\$45M	\$0
Alternative E	\$0	\$0	\$0	\$0	\$0	\$0

The level of detail available to develop these capital outlay project estimates is only accurate to within the above ranges and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds. For additional details see **Attachment C**.

Approval of this PSR-PDS authorizes Caltrans District 11 to enter into a Cooperative Agreement and/or Highway Improvement Agreement for future phases for Environmental Documentation, Design, Right-of-way, and Construction.

Capital Outlay Support Estimate

Capital outlay support estimate for programming PA&ED for this project: \$3.1M.

13. DELIVERY SCHEDULE

Project Milestones		Scheduled Delivery Date (Month /Year)
BEGIN ENVIRONMENTAL	M020	8/2022
CIRCULATE DPR & DED EXTERNALLY	M120	7/2023
PA & ED	M200	7/2024

The anticipated funding fiscal year for construction is 2026/27.

14. RISKS

The revised Caltrans PSR-PDS guidelines generally call for less detail in the development of the preliminary alternatives. As such, it is necessary to initiate the Risk Assessment process earlier in project development. For this project, the PDT identified

potential risks. Each risk was categorized as an “opportunity” or “threat,” and labeled as to schedule, cost, or scope impacts. Those risks are included in the Risk Register shown in **Attachment G**. A summary of the most prominent risks has been included below.

Environmental:

The proposed highway project is related to the planned growth of the area. The proposed developments which are facilitating the growth in the area are being environmentally cleared as separate projects. During review of our environmental document resource, agencies and public comments may try to tie the projects together. Interconnecting the Project to any specific development(s) could lead to potential complications and delays if any development fails to obtain environmental clearance.

Funding:

The PID and PA&ED phases are anticipated to be funded privately by the local development community. Depending on the economic climate and market conditions private funding from the Sponsor may no longer be available. The project team is monitoring the funding and economic factors and searching for additional potential funding sources.

Organizational:

As a result of the multiple agencies involved in the project, cooperative agreements are needed between the City and Caltrans. There is a potential for schedule delay if the City and Caltrans cannot agree to Cooperative agreement terms. In order to prevent this from occurring, the City of Chula Vista and Caltrans have been actively working on together on this project. Delays are not expected.

Right-of-way:

All of the proposed alternatives will require the acquisition and transfer of right-of-way. During the right-of-way process there is a potential for delays or additional costs if the property owners are not cooperating with the sale and eminent domain is required. This is not anticipated as the parcels requiring acquisitions and transfers are owned by project partners.

15. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

The project is located off of the National Highway System, therefore it is not anticipated that the project will require FHWA coordination.

The project requires the following coordination:

US Army Corps of Engineers

See PEAR for anticipated environmental permits

California Department of Fish and Wildlife
See PEAR for anticipated environmental permits

California State Lands Commission
See PEAR for anticipated environmental permits

Regional Water Quality Control Board
See PEAR for anticipated environmental permits

Local Agency
Cooperative Agreements with SANDAG and City of Chula Vista

Other
Highway Improvement Agreement – HomeFed Corporation
Maintenance Agreement – SANDAG
Freeway Agreement - CTC

16. PROJECT REVIEWS

District Maintenance	<u>Shawn Rizzutto</u>	Date <u>1/12/2022</u>
District Traffic Safety Engineer	<u>Joselyn Suria</u>	Date <u>1/12/2022</u>
Headquarters Project Delivery Coordinator	<u>Luis Betancourt</u>	Date <u>1/12/2022</u>
Project Manager	<u>Brooke Filak</u>	Date <u>1/12/2022</u>
District Division Chief	<u>Victor Mercado</u>	Date <u>1/12/2022</u>

17. PROJECT PERSONNEL

NAME	AGENCY / COMPANY	PROJECT ROLE
Brooke Filak	Caltrans	Caltrans Project Manager (PM)
Joselyn Suria	Caltrans	Traffic Safety & Ops East
Frank Contreras	Caltrans	Design Division
Todd Traunero	Caltrans	Hydrology & Hydraulics
Karina Cantero-Angel	Caltrans	Traffic Engineering
Abu-Bakr Al-Jafri	Caltrans	Utilities
Seth Cutter	Caltrans	Active Transportation
Fariba Ramos	Caltrans	Electrical Design
Hanh-Dung Khuu	Caltrans	Traffic Safety & Ops East
Russell Simpson	Caltrans	Environmental

Shay Lynn Harrison	Caltrans	Environmental
Rachel Mueller	Caltrans	Design Liaison
Brandon Tobias	Caltrans	Active Transportation
Melina Pereira	Caltrans	System Planning
Anh Hoang	Caltrans	Traffic Engineering
Roya Yazdanifard	Caltrans	NPDES
Frank Rivera	City of Chula Vista	Principal Civil Engineer
Scott Barker	City of Chula Vista	Facilities Financing – Development Services
Laura Black	City of Chula Vista	Assistant Director of Development Services
Eddie Flores	City of Chula Vista	Principal Traffic Engineer
Bill Valle	City of Chula Vista	Director of Engineering & Capital Projects
Paul Oberbauer	City of Chula Vista	Senior Civil Engineer
Tim Belzman	Helix	Consultant Environmental Planner
Jeff O'Connor	HomeFed	Project Sponsor PM
Mark Jugar	Rick	Consultant Traffic Engineer
David Mizell	Rick	Transportation Planner
Nick Dorner	Rick	Principal Project Engineer
Dominique Navarro	Rick	Transportation Engineer

Edgar Camerino	Rick	Consultant Design Manager
April DeJesus	SANDAG	SANDAG Representative
Ryan Ross	SANDAG	SANDAG Representative
Michael Schwarting	SANDAG	SANDAG Representative
Jennifer Williamson	SANDAG	SANDAG Representative
Jeremy LaHaye	TYLI	Consultant PM
Jeff Burdick	TYLI	Consultant Project Engineer
Roberto Ruvalcaba	TYLI	Consultant Design Engineer
Pedro Orso-Delgado	UC	Project Consultant Liaison

18. ATTACHMENTS

- A. Location map (1)
- B. Project Schematics (15)
- C. Project Development Support Capital Outlay Project Estimate (13)
- D. Project Environmental Assessment Report (PEAR) (61)
- E. Transportation Planning Scoping Information Sheet (11)
- F. K Phase Conceptual Cost Estimate Form – Right-of-way (11)
- G. Risk Register (10)

Supplemental Attachments:

- S1. Project Quality Management Plan (121)
- S2. Stormwater Documentation (Storm Water Data Report) (17)
- S3. PSR-PDS Survey Needs Questionnaire (1)
- S4. Traffic Engineering Performance Assessment (TEPA) (39)
- S5. Division of Engineering Services PSR-PDS Scoping Checklist (5)
- S6. Project Initiation Document Design Scoping Index (7)
- S7. Log of Major Reviews (Provide at later submittal)
- S8. Capital Outlay Support Estimate (To be provided by Caltrans)






Final EA_11-43122_PSR-PDS

Final Audit Report

2022-11-02

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