Draft Project Report for

Broadway Bridge Project

TGR2DGL 5447(043)

City of West Sacramento
Capital Project and Transportation Department

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PROJECT REPORT
Broadway Bridge Project

March 3, 2022

1. INTRODUCTION

Project Description:

The City of West Sacramento, in cooperation with the City of Sacramento and the California Department of Transportation (Caltrans), proposes to construct a new bridge over the Sacramento River south of the Pioneer Bridge (US 50) to provide local interconnectivity across the river and between neighborhoods. The new connection will also reduce future traffic congestion, improve operations and safety, serve multiple modes of transportation, and comply with current American Association of State Highway and Transportation Officials (AASHTO), Caltrans, and local agency design standards.

The project is included in the Sacramento Area Council of Governments (SACOG) 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy and the SACOG 2019 Metropolitan Transportation Improvement Program (ID YOL19328). The project also is identified in the 2003 Sacramento Riverfront Master Plan, the 2011 Sacramento River Crossings Alternative Study, the 2014 Pioneer Bluff Transition Plan, the 2015 Broadway Bridge Feasibility Study, the West Sacramento General Plan 2035, the Interstate (I-5) Subregional Corridor Mitigation Program, Sacramento's West Broadway Specific Plan, and a plan currently being prepared-West Sacramento's Pioneer Bluff and Stone Lock Reuse Master Plan.

The project would be located over the Sacramento River between the cities of West Sacramento and Sacramento, approximately 1,000 feet south of the existing Pioneer Bridge. In general, the project limits start in West Sacramento, along 15th Street at Jefferson Boulevard continue east over the Sacramento River into the City of Sacramento along Broadway to the 5th Street intersection. The project limits also extend along Jefferson Boulevard approximately 1,300 feet south of the 15th Street intersection to Alameda Boulevard, along South River Road approximately 1,300 feet south and 650 feet north of 15th Street, along Marina View Drive approximately 400 feet south of Broadway, along Front Street approximately 350 feet north and south of Broadway, along 3rd Street approximately 350 feet north of Broadway to X Street, and along 5th Street approximately 200 feet north and south of Broadway. The project limits include proposed improvements to the northbound I-5 off ramp to Broadway.

The limits of the installation of a proposed fiber optic line that would be placed in West Sacramento to connect communications of the Broadway Bridge with the proposed replacement of the I Street Bridge-the future connection over the river between C Street and Railyards Boulevard-and the existing Tower Bridge would extend north along Riverfront Street to Tower Bridge Gateway and 3rd Street, ending at the intersection of 3rd Street and C Street. Last, staging areas that would be accessed via South River Road in West Sacramento and Front Street in Sacramento also are proposed and included in the project area.

The project is subject to state and federal environmental review requirements because of use of federal 2014 Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant funds from the Federal Highway Administration (FHWA). Accordingly, project documentation has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The City of West Sacramento is the lead agency under CEQA, with the City of Sacramento as a responsible agency, and Caltrans is the lead agency under NEPA. The

Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact was adopted by the City of West Sacramento in May 2022 and a Notice of Determination was filed by the City of Sacramento in June 2022.

2. BACKGROUND

Existing Conditions:

The project is anticipated to be constructed in the future and because of that, the existing conditions that are in the project area now will be different based on implementation of the planned future development and infrastructure improvements identified in the related plans and projects. The following section describes existing conditions in 2021, an interim year of 2030, and a design year of 2040.

2021 Existing Conditions:
In West Sacramento, Pioneer Bluff's existing non-conforming land uses are industrial, including tank farms and corporation yards. The road network comprises of Jefferson Boulevard and South River Road as the north-south connections and 15th Street as the east-west connection. The area also includes the UPRR east-side rail line that runs in the north-south direction parallel to and just east of Jefferson Boulevard.

In Sacramento, the existing land uses in the project area are both industrial and recreational, including tank farms and Miller Regional Park/Sacramento Marina. The road network consists of Broadway as the east-west connection and Marina View Drive and Front Street as the north-south connections. A two-lane off-ramp from northbound I-5 connect to Broadway between Front Street and 3rd Street (south). The area also includes railroad tracks owned by California State Parks that run through the project area in the north-south direction.

Interim Year (2030) Conditions:
In West Sacramento, the approved mobility network (see Attachment I) was used to develop the network for the interim year (opening day 2030) conditions. The land use plans for the area include pipeline and tank farm removal or relocation and de-industrialization of Pioneer Bluff.The following are assumptions are for the interim (opening day 2030) roadway network conditions without the proposed project.

- 15th Street between Jefferson Boulevard and South River Road realigned to approximately 300 feet south from its existing location.
- Rail Street constructed from Merkley Avenue to 15th Street.
- Eastbound US 50 on-ramp modifications constructed at South River Road.
- Riverfront Street extended to connect to South River Road.
- South River Road widened to a four-lane facility (two northbound and two southbound lanes) with a median or left-turn pocket, sidewalk, and a bike lane on both sides of the road. At the US 50 on-ramp, the cross section will include two northbound left-turn lanes onto US 50). The widening will be from Mill Street to approximately 200 feet south of the new 15th Street and South River Road intersection.
- River Walk Trail extended south from Mill Street to run along the Sacramento River and extend west along the Barge Canal to connect to Jefferson Boulevard.
- Planned transportation maintenance facility designed under US 50 near Riverfront Street. The facility will include storage tracks and a maintenance building.
- Relocation of the UPRR east-side rail line that parallels Jefferson Boulevard. Yolo County, as well as the City of West Sacramento, plans to relocate the UPRR tracks. The relocation is part of the de-industrialization effort being made in the Pioneer Bluff area City of West Sacramento 2014 Pioneer Bluff Transition Plan.

In Sacramento, the design of the Broadway Complete Street Project was used to develop the interim and design year conditions in Sacramento. The following assumptions are for the interim (opening day 2030) conditions in Sacramento without the proposed project.

- Broadway from 3rd Street to Franklin Boulevard converted from a four-lane to a two-lane facility with a two-way left-turn lane.
- Buffered bike lanes on Broadway.
- On-street parking on Broadway in locations where it can be accommodated.

Design Year (2040) Conditions:
In West Sacramento, the approved mobility network was used to develop the network for design year (2040) conditions without the project in West Sacramento. The roadway network will include the network items listed above for the interim year, in addition to those listed below.

- South River Road realigned to the east.
- Rail Street extended from 15th Street to Stone Boulevard.
- Riverfront Street extended from Jefferson Boulevard to South River Road.
- East-west local roadway connections from Jefferson Boulevard to South River Road constructed at Circle Street, Alameda Boulevard, 17th Street, and 19th Street.

In Sacramento, design year conditions without the proposed project were assumed to be the same as those listed for the interim year.

3. PURPOSE AND NEED

Purpose
The purpose and objectives of the project are listed below.

- Increase the number of river crossings that meet current design standards and encourage travel by walking, bicycling, low-energy vehicles, and public transit.
- Increase the number of persons that can safely, efficiently, and reliably cross the river.
- Increase options for emergency response teams to cross the river.
- Increase options for evacuations.
- Improve the connectivity to, and accessibility of, business, recreational areas, and new or redevelopment opportunity sites located in the urban core of Sacramento and West Sacramento without affecting the use of Miller Regional Park or the Sacramento Marina and without precluding, or negatively restricting, redevelopment options in the Pioneer Bluff or West Broadway areas of the cities.
- Reduce trip length distances across the river between major origins and destination.
- Reduce the growth in transportation-related energy use, air pollution emissions, and greenhouse gas (GHG) emissions.
- Reduce the growth in vehicle traffic on local neighborhood streets, especially cut-through traffic.
- Alleviate growth of local trips on the State Highway System.
- Provide a project design that does not preclude the future addition of light-rail, streetcar, or other mass transit mode, as a separate stand-alone project.

Need:
The project is needed for the following reasons.

- Limited connectivity across the river creates longer trip lengths, which discourage walking and bicycling.
- Longer trip lengths create dependence on automobile use that generates negative public health effects and adverse environmental effects such as emissions of air pollutants and GHGs.
- Limited connectivity across the river creates concentrated vehicle traffic flows on existing bridges and their connecting approach roadways, resulting in undesirable travel delays for vehicular traffic, including public bus transit during weekday peak periods and special events.
- Limited connectivity across the river reduces options for emergency response teams, thereby increasing response times and limiting alternatives for evacuations.
- Limited connectivity across the river is a barrier to economic activity, social exchanges, recreational opportunity, and access to jobs within the urban core of Sacramento and West Sacramento.
- Limited connectivity to the riverfront reduces the potential to achieve planned urban development and redevelopment of opportunity sites identified in the adopted plans of Sacramento and West Sacramento.
- Limited connectivity reduces the opportunity to use the riverfront for enjoyment and recreation.
- Peak AM/PM congestion is caused by local intercity commuters using the State Highway System as a result of having few local river crossing options.

Construction of the proposed project has independent utility because it can provide a local roadway connection between West Sacramento and Sacramento and their existing roadway networks that does not rely on construction of other facilities to operate. The project would meet the purpose and need without being dependent on construction of other projects or improvements.

4. ALTERNATIVES

4A. Proposed Alignment Alternatives

The build alternatives under consideration are two alignments for the new bridge and approach roadways. The lettering of each build alternative reflects its similarity to alignments considered in the feasibility study. See Attachment B for geometric drawings of the two alignment alternatives.

- Alternative B would realign 15th Street to connect to Jefferson Boulevard in West Sacramento and connect to Broadway at 5th Street in Sacramento. This alignment would require modification to the planned mobility network for South River Road and 15th Street in Pioneer Bluff.
- Alternative C (a modified Alignment C from the *Broadway Bridge Feasibility Study*) would connect as a "T" intersection to South River Road in West Sacramento and connect to Broadway at 5th Street in Sacramento. This alignment would require modification to the planned mobility network for South River Road in Pioneer Bluff.
- No Build (No-Project) Alternative would *not* build a bridge across the Sacramento River from the Pioneer Bluff area of West Sacramento to Broadway in Sacramento. The future no-project conditions planned by both cities would be developed as proposed.

Alternative B

Alternative B would realign 15th Street between Jefferson Boulevard and South River Road, consistent with the approved mobility network shown in attachment J, to connect the new bridge to the roadway network in West Sacramento. The bridge would connect to Broadway on the Sacramento side.

Interim Year (2030) Features of Alternative B

Project features that would be constructed and in operation by 2030 include the following.

- New bridge and roadway modifications, including a redesigned intersection connection for the bridge at 15th Street and new turn pockets on South River Road to facilitate traffic turning movements at the bridge connection in West Sacramento.
- Stormwater drainage management features.
- Utility relocations.
- Fiber optic cable installation for operational communications.

In West Sacramento, modifications to the approved mobility network would be necessary for construction of Alternative B. These modifications include the following.

- Constructing a northbound right-turn pocket on South River Road at 15th Street.
- Constructing a southbound right-turn pocket on South River Road at 15th Street.

In Sacramento, Alternative B requires the following modifications to the existing (or planned opening day) conditions.

- Reconstructing 350 feet of Marina View Drive to provide for a new connection to Broadway.
- Modifying property access along Broadway west of I-5.

The existing at-grade State Parks railroad crossing at Broadway in Sacramento would remain in the same location. Construction of the interim year design of Alternative B would create approximately 2.0 acres of new impervious surface.

RSP would be installed on the river side of the bridge abutments both above and below the ordinary high water mark (OHWM) to stabilize the shoreline on each side of the river. The estimated linear feet and area and volume above and below the OHWM.

Design Year (2040) Features of Alternative B

Project features that would be constructed by 2040 include the following.

- Roadway alignment modifications in West Sacramento necessary to shift the alignment of South River Road and connection of the new bridge to the east to conform with the approved mobility network alignment of South River Road.
- Roadway striping and turn pocket additions on Jefferson Boulevard, South River Road, and Alameda Boulevard.

In both West Sacramento and Sacramento, no additional modifications to the assumed design year conditions without the project would be needed. Construction of the design year features of Alternative B would not increase impervious surface area from that created during the interim year phase.

Below are design variances on the West Sacramento side of the project:

- 15th Street within the project limits is classified as a collector with a posted 25 mph speed limit and South River Road is a two-lane collector with a posted speed limit of 35 mph.
- The mainline of the project in West Sacramento consists of one horizontal curves. The horizontal curve exceeds the minimum radii for 30 mph with a normal crown for low-speed urban streets (AASHTO - A Policy Geometric Design of Highways and Streets, 6th Edition, 2018, Table 3-13).

The one crest vertical curve and one sag vertical curve exceed 45-mph design speed (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018).

Below are Alignment B design variances on the Sacramento side of the project:

- Broadway is designated as a 2-lane arterial and provides mobility and regional connectivity with a posted speed limit of 25 mph east of Riverside Boulevard and a posted speed limit of 30 mph west of Riverside Boulevard. According to the City's Design and Procedures Manual, an arterial should have a design speed of 50 mph. There are, however, many arterial designated streets in Sacramento that are posed at 25 mph due to how they function and the build out of the parcels surrounding those arterials (i.e. downtown I Street, L Street, and downtown N Street). The decision was made to propose a lower design speed of 30 mph to conform with the policy directive to provide a neighborhood friendly bridge, conform to approved land-use, and to meet the expectations.
- The mainline of the project in Sacramento consists of one horizontal curve, two sag vertical curves, and two crest vertical curves. The one horizontal curve exceeds the minimum radii for 30 mph with a normal crown for low-speed urban streets (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018, Table 3-13). The two crest vertical curves and two sag vertical curves meet at least 45-mph design speed (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018). All vertical and horizontal curves meet a 30-mph design speed for the project, but do not meet the city speed requirements for an arterial (50 mph).

Alternative C

Alternative C (modified from the feasibility study) would connect to South River Road at a new intersection between 15th Street and Circle Street on the West Sacramento side and would connect to Broadway on the Sacramento side.

Interim Year (2030) Features of Alternative C

Project features that would be constructed and in operation by 2030 include the following.

- New bridge and roadway modifications, including construction of a new "T" intersection on the existing alignment of South River Road.
- Stormwater drainage management features.
- Utility relocations.
- Fiber optic cable installation for operational communications.

In West Sacramento, modifications to the approved mobility network shown in Figure 1-2 would be necessary for Alternative C. These modifications include the following.

- Creating a "T" intersection on South River Road between 15th Street and the future Circle Street location.
- Constructing an interim northbound right-turn pocket on the existing alignment of South River Road at Broadway.
- Constructing an interim southbound left-turn pocket on the existing alignment of South River Road at Broadway.

In Sacramento, Alternative C requires the following modifications to existing conditions.

- Reconstructing 350 feet of Marina View Drive to provide for a new connection to Broadway.
- Modifying property access along Broadway west of I-5.

The existing at-grade State Parks railroad crossing at Broadway in Sacramento would remain in the same location. Construction of the interim year design of Alternative C would create 2.2 acres of new impervious surface.

Design Year (2040) Features of Alternative C
Project features that would be constructed by 2040 include the following.

- Roadway alignment modifications in West Sacramento necessary to shift the alignment of South River Road and the "T" intersection connection of the new bridge approximately 100 feet to the east to conform with the approved mobility network alignment of South River Road.
- Roadway striping and turn pocket additions on Jefferson Boulevard, South River Road, and Alameda Boulevard.

In West Sacramento, additional modifications to the approved mobility network would be necessary to construct the design year components of Alternative C. Leading up to the design year, development in Pioneer Bluff will occur following a new alignment of South River Road (road shifting to the east as shown in Figure 1-3). After construction of the proposed project in the interim year, the new alignment of South River Road would require the proposed project to reconstruct the bridge's roadway connection to match. Modifications to the approved mobility network in West Sacramento include the following.

- Creating a new "T" intersection matching the new more eastern alignment of South River Road between 15th Street and Circle Street.
- Constructing the final northbound right-turn pocket on South River Road at Broadway.
- Constructing the final southbound left-turn pocket on South River Road at Broadway.

In Sacramento, no additional changes from the interim design are needed.

Construction of the design year features of Alternative C would not increase impervious surface area from that created during the interim year phase.

Below are Alignment C design variances on the West Sacramento side of the project:

- 15th Street within the project limits is classified as a collector with a posted 25 mph speed limit and South River Road is a two-lane collector with a posted speed limit of 35 mph. The mainline of the project in West Sacramento consists of no horizontal curves. The one crest vertical curve and one sag vertical curve exceed 45-mph design speed (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018).

Below are Alignment C design variances on the Sacramento side of the project:

- Broadway is designated as a 2-lane arterial and provides mobility and regional connectivity with a posted speed limit of 25 mph east of Riverside Boulevard and a posted speed limit of 30 mph west of Riverside Boulevard. According to the City's Design and Procedures Manual, an arterial should have a design speed of 50 mph. There are, however, many arterial designated streets in Sacramento that are posed at 25 mph due to how they function and the build out of the parcels surrounding those arterials (i.e. downtown I Street, L Street, and downtown N Street). The decision was made to propose a lower design speed of 30 mph to conform with the policy directive to provide a neighborhood friendly bridge, conform to approved land-use, and to meet the expectations.
- The mainline of the project in Sacramento consists of one horizontal curve, two sag vertical curves, and two crest vertical curves. The one horizontal curve meets the minimum radii for 45 mph with a normal crown for low-speed urban streets (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018, Table 3-13). The two crest vertical curves and two sag vertical curves meet at least 50-mph design speed (AASHTO - A Policy Geometric Design of Highways and Streets, 7th Edition, 2018).

Common Features of the Build Alignment Alternatives:

Bridge Construction

The proposed project would construct a new bridge over the Sacramento River, south of the Pioneer Bridge. The total length of the new bridge would vary from approximately 800 to 1,020 feet, with an up to 83-foot-wide deck consisting of two vehicle lanes, a median, on-street Class II buffered bike lanes, and sidewalks along both sides of the bridge. The bridge would include two fixed-span approach structures that tie into the banks of the river; the approach structures would vary from approximately 200 to 300 feet in length on the West Sacramento bank and from 450 to 600 feet in length on the Sacramento bank. The center span of the bridge would be movable. The bridge soffit elevation would be set a minimum of 3 feet above the 200-year water surface elevation to comply with the Central Valley Flood Protection Board (CVFPB) freeboard requirements. Rock slope protection (RSP) assumed 1/4 ton stone weight, machine positioned [i.e., Method B]) would be installed on the river side of the bridge abutments both above and below the OHWM to stabilize approximately 400 linear feet of shoreline on each side of the river.

The two fixed-span approach structures would have a superstructure depth (or total bridge thickness) of approximately 4 to 10 feet depending on the selected alternative. Each approach structure would be a one- to six-span bridge.

The required length of the movable span portion of the bridge was determined through coordination with the United States Coast Guard (USCG). The movable span would provide a 170- to 230-foot clear channel opening (depending on the alignment alternative) that would line up with the western pier of the existing Pioneer Bridge located upstream. The new bridge would have the same minimum vertical clearance of 59 feet above the maximum river elevation of 31 feet in the open position that the existing Pioneer Bridge provides (measured to the 29 National Geodetic Vertical Datum).

Bridge Type

One of three movable span types would be constructed: a vertical lift span, a swing span, or a bascule span. Each bridge alignment alternative could be built as any one of the three types. To address the possible impacts of the bridge type that ultimately is built, the largest in- and over-water footprint and the greatest number of construction-related impacts of the three types were assumed for the environmental analysis.

After an alignment alternative is selected and the project is approved, final aesthetic design criteria would be developed in cooperation with the selected bridge architect. Some of the guiding principles of the bridge aesthetics will be how the bridge fits within the surrounding setting and within the overall Sacramento region history, values, and vision. Selection of the type of movable span would be part of the aesthetic design of the bridge.

Regardless of the bridge type that is constructed over the Sacramento River as part of the proposed project, a bridge fender system would be installed around the movable span piers to protect the piers from errant watercrafts that are navigating along the river.

A brief description of each of the three movable span types follows.

Vertical lift span bridges have a movable span that is lifted vertically to permit passage of boats beneath it. The Tower Bridge over the Sacramento River upstream of the proposed Broadway Bridge is an example of a vertical lift span bridge.

Swing span bridges rotate the movable span on a center pivot pier, allowing navigational traffic to pass the bridge on either side of the center pier. Because of the span lengths required by the USCG for the proposed project and the requirement of creating a neighborhood-friendly river crossing with low vertical grades, the superstructure of a swing span most likely would be a through-truss design (the truss would be

cross-braced above and below vehicular traffic). The existing I Street Bridge is an example of a swing span bridge.

Bascule span bridges operate by raising into the air one side of a counterweighted movable span while the other side rotates on a horizontal axis. The rotating axis could be fixed (like a hinge) or rolling (like a rocking chair). A bascule bridge can be designed with a single movable span or two movable spans (double bascule bridge). The Freeport Bridge over the Sacramento River in the town of Freeport is a double bascule span bridge.

Roadway Modifications

Proposed roadway modifications that would be part of all build alternatives are described below.

In West Sacramento, all build alternatives would include a new intersection for the bridge roadway at South River Road.

In Sacramento, common roadway modifications include repaving and reconstructing the sidewalk along Broadway from the new bridge east to 5th Street. Roadway modifications also would include a modified intersection at Marina View Drive and Broadway; widening of the northbound I-5 off-ramp at Broadway to two left-turn lanes and one right-turn lane; and improvements at intersections of Broadway and Front Street, 3rd Street (south), 3rd Street (north), and 5th Street to transition bridge traffic into roadway network.

Class I Bikeway Improvements

In West Sacramento, a future Class I River Walk trail extension is planned in West Sacramento. The trail is proposed within the levee setback. As part of the proposed project, the grade of the trail would be separated to allow it to pass under the proposed bridge structure. Cyclists and pedestrians approaching Broadway Bridge in either direction from the trail would have the option to continue along the trail under the new structure, avoiding the need to cross the roadway, or to connect to the structure and cross the river into Sacramento or travel westward in West Sacramento.

In Sacramento, the existing Class I Sacramento River Bike Trail would be reconstructed approximately 1,000 feet north and 300 feet south of Broadway as part of the proposed project. In order to reconstruct the trail, permanent right-of-way acquisition from four adjacent private parcels would be necessary (acquisitions and easements are discussed in detail in Section 1.3.1.2, *Unique Features of Build Alternatives*, below.). The trail would be grade-separated under the proposed bridge structure. Cyclists and pedestrians approaching Broadway in either direction would have the option to continue along the trail under the new structure, avoiding the need to cross the roadway, or to connect to the structure and cross the river into West Sacramento or travel westward on Broadway in Sacramento.

Bridge Communication Fiber Optic Line

A fiber optic cable is proposed to interconnect operational communications of the proposed project (the new Broadway Bridge), the Tower Bridge, and the I Street Replacement bridge. The fiber optic line would be placed in West Sacramento under Riverfront Street. From the proposed project, the fiber optic line would run north until Riverfront Street turns into 3rd Street and would end at the intersection of 3rd Street and C Street (see Figure 1-4.). The fiber optic line would be installed within an existing City of West Sacramento-owned conduit along Riverfront Street to Tower Bridge Gateway. North of Tower Bridge Gateway, a new conduit would be placed within the 3rd Street right-of-way north to the intersection of 3rd Street and C Street. To minimize ground disturbance, the construction method for the new fiber optic line would be jack and bore.

Utility and Other Owner Involvement

Utility A Letters were sent to utility owners and relocation of utilities within the project area is anticipated. Below is a summary of the existing utilities in the cities of Sacramento and West Sacramento.

City of West Sacramento:

- Consolidated Communication aerial fiber along South River Road, potential conflict with road reconstruction.
- Kinder Morgan has an underground gas goes under the Sacramento River, potential conflict at the proposed east abutment, under river portion can remain.
- Level 3 Communication/ XO Communication has underground communication lines that run under the Sacramento River, potential conflict at the proposed east abutment, under river portion can remain.
- PG&E Electric has overhead lines along South River Road, potential conflict with road reconstruction.
- PG&E Gas under the Sacramento River, no conflict identified.

Sacramento:

- City of Sacramento city fiber line that runs along Broadway and Front Street, potential conflict with road reconstruction.
- Kinder Morgan has an underground gas that runs under the Sacramento River, potential conflict at the proposed east abutment, under river portion can remain.
- Level 3 Communication/ XO Communication has underground communication lines that run under the Sacramento River, potential conflict at the proposed east abutment, under river portion can remain
- PG&E gas runs under the Sacramento River, no conflict identified.
- SMUD has overhead electric on Broadway that conflict with road reconstruction.

4B. Rejected Alternatives

As part of the development of this project and identification of a range of feasible and reasonable alternatives, and through initial coordination between USCG and Caltrans, several bridge alignments and roadway connection options were evaluated. Detailed evaluation of the alignments and other options are included in the Broadway Bridge Alignment Memo, see Attachment H and in the feasibility study available on the internet at https://www.cityofwestsacramento.org/government/departments/capital-projects-and-transportation/projects/broadway-bridge-projects. The Broadway Bridge Alignment Memo also summarizes the progression of the conceptual alignments and other options as they were designed, reconfigured, and refined into possible project alternatives. A summary of the alternatives identified by the studies, considered in additional analyses and then eliminated from further discussion, is presented below.

Alignment A and D

As mentioned in Section 1.1.2, Alignments A and D were identified in the feasibility study as two of the river crossing locations for the new bridge. From Broadway in Sacramento, Alignment A connected directly to Jefferson Boulevard at 15th Street in West Sacramento, and Alignment D connected directly to South River Road in West Sacramento approximately 1,300 feet south of the existing South River Road at 15th Street intersection. As alternatives for the proposed project were refined, the alignments assessed in the feasibility study were reviewed with additional consideration of effects on the approved mobility network and other redevelopment plans, effects related to the location of existing petroleum facilities and contamination hazards associated with them, and bridge length and construction cost.
Alignments A and D were eliminated from further discussion based on the attributes listed below.

- Alignment A was eliminated from further discussion primarily due to the following.

  - Requires realignment of the planned extension of Riverfront Street in West Sacramento, a conflict with the approved mobility network as well as a factor in the cost of this alignment.
  - Conflicts with planned redevelopment on the former Cemex property.
  - Requires revisions to the planned redevelopment in Sacramento described in the *West Broadway Specific Plan*.
  - Unlike other alignments considered, Alignment A requires a change in elevation of 1,000 feet of State Parks railroad tracks and a new location for the roadway crossing of the tracks at Broadway. Other alignments require only minor modifications to the existing track crossing.
- Alignment D was eliminated from further discussion primarily due to the following.
  - The traffic circulation pattern that would result from the alignment and the volume of traffic added to Circle Street requires widening Circle Street to an arterial roadway from its local street design shown in the approved mobility network for the roadway between Jefferson Boulevard and South River Road. An arterial roadway would not be consistent with the residential character envisioned for that area of Pioneer Bluff.
  - The volume of traffic added to Circle Street requires a signalized intersection at Jefferson Boulevard and Circle Street, inconsistent with the approved mobility network.
  - The moveable bridge span length, the greatest factor in project cost, is 35% longer than the span length needed for Alignment B and 28% longer than the length needed for Alignment C. Therefore, the cost of the moveable bridge span is significantly greater for Alternative D, compared to the other alternatives.

Variations of Alignment C

The feasibility study considered variations for Alignment C and put forward two recommendations, Alignments C1 and C2. Both connected directly to South River Road in West Sacramento approximately 500 feet south of the existing South River Road at 15th Street intersection and to Broadway in Sacramento. As described in the feasibility study, Alignment C2 aimed to optimize the bridge skew across the river and to minimize impacts on the Phillips 66 facilities. Alignment C2 conflicted with the active Kinder Morgan petroleum line that runs in the vicinity of Broadway and under the Sacramento River. Alignment C1 avoided the Kinder Morgan line, but also affected Phillips 66 facilities and created a greater skew across both the river and railroad tracks (CH2M 2015). Following the feasibility study, variations on Alignment C were assessed further. A single project alternative was developed with similar connection locations on both sides of the river while also minimizing the utility and property conflicts: Alternative C, studied herein. There was no need to carry forward multiple over-river alignments with similar on-land connection points, so other variations were eliminated from further discussion.

Connection to X Street in Sacramento

Connecting eastbound vehicular traffic from the new bridge to X Street instead of to Broadway was considered in response to community concerns over the potential for a large increase in traffic volumes on Broadway and adjacent streets, including the residential streets south of Broadway.

Traffic volumes and travel patterns with the new bridge and a connection to X Street were modeled to determine effects on the existing street network. The same analysis was done for a connection directly to Broadway. The analysis found that vehicles from the Broadway Bridge would disperse mostly using Front Street, but also 3rd Street and 5th Street to access downtown Sacramento.

To align the new roadway connection with X Street, the southbound I-5 off-ramp to X Street would need to be closed, diverting traffic to other exits. Closure of the southbound I-5 off-ramp to X Street would increase traffic volumes at the US-50 eastbound off-ramp to 15th Street, I-5 southbound off-ramp to Q Street, and the I-5 southbound off-ramp to Sutterville Road. Caltrans informed the project team that it

would not support the closure of the X Street off-ramp because of the resultant effects on the other off-ramps.

The evaluation of traffic volumes and intersection level of service with a bridge connection directly to Broadway found that the future daily traffic volume on Broadway would be well within the City's capacity threshold for the roadway and that roadway intersections along Broadway east of the bridge would operate at acceptable levels. The street grid that serves the area has redundancy in north-south connections to downtown that allows traffic to quickly disperse off of Broadway. East of 5th Street, because of the well-connected street grid, there was little difference in traffic volumes on Broadway between the X Street and Broadway bridge connections. See Appendix H for more information.

Further, the City of Sacramento plans, through separate capital projects, to convert 3rd Street between X Street and W Street from a southbound one-way road to a two-way road, and 5th Street between X Street and H Street from a northbound one-way road to a two-way road. Converting these roads to two-way travel would provide more opportunities for traffic to disperse from the new bridge through downtown.

Because the closure of the X Street off-ramp was not acceptable to Caltrans and the traffic that would be added to Broadway from the bridge would quickly disperse into the street grid, the X Street connection was eliminated from further discussion.

5. OTHER CONSIDERATIONS AS APPROPRIATE

5A. Public Engagement

The Riverfront Renaissance Community event was held on June 14, 2017. The event highlighted the Broadway Bridge, but showcased the many other ongoing project along the riverfront, including the I Street Bridge. Event provided an update on the project, the schedule, and collected community feedback on the project. More than 235 community members attended the event.

A scoping meeting was held September 19, 2017. The open house event provided an update on the Broadway Bridge project as it enters the environmental assessment phase and collected community feedback. More than 70 community members attended the outreach event.

A virtual community meeting was held on July 28, 2021. The meeting was held to provide an update on the project. The draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA) was available for public viewing and public comment. More than 200 community members in the West Sacramento and Sacramento region attended the virtual presentation. The project team also answered questions from the attendees about the Broadway Bridge Project.

The Draft EIR/EA was made available for public review on July 7, 2021, and the comment period ended on August 23, 2021. The comments received were from one federal and 10 state agencies, 4 organizations, and 12 individuals. All comments received during the public review period of the Draft EIR/EA were responded to and incorporated into the Final EIR/EA.

5B. Permits

Agency	Permit/Approval	Status
City of West Sacramento	City Council approval of project	Not yet initiated
City of Sacramento	City Council approval of project as co-sponsor and responsible agency	Not yet initiated
U.S. Coast Guard	Authorization under General Bridge Act of 1946, as amended, for new bridge over navigable waters of the United States	Initiated to determine required length of moveable bridge span
U.S. Army Corps of Engineers	Section 404 Clean Water Act authorization for fill of waters of the United States Section 408 Clean Water Act authorization for excavations in regulated levees	Not yet initiated
National Marine Fisheries Service	Coordination regarding threatened and endangered species	Biological Assessment submitted and consultation initiated
U.S. Fish and Wildlife Service	Coordination regarding threatened and endangered species	Biological Assessment submitted and consultation initiated
California Department of Fish and Wildlife	Section 1602 Department of Fish and Game Code Streambed Alteration Agreement	Not yet initiated
California Public Utilities Commission	GO-88B permit to modify at-grade railroad crossing in Sacramento	Not yet initiated
State Water Resources Control Board	Statewide National Pollutant Discharge Elimination System Permit (NPDES) compliance Statewide construction general permit stormwater pollution prevention plan (SWPPP) compliance	Not yet initiated
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification NPDES permit compliance Waste Discharge Requirements compliance for stormwater discharges and surface water protection	Not yet initiated
Central Valley Flood Protection Board	Encroachment Permit	Not yet initiated
State Lands Commission	Lease of State Lands	Not yet initiated
Sacramento Area Flood Control Agency	Approval of changes to levee	Not yet initiated
West Sacramento Area Flood Control Agency	Approval of changes to levee	Not yet initiated

Agency	Permit/Approval	Status
Sacramento Metropolitan Air Quality Management District	Formal notification prior to construction	Not yet initiated
Yolo-Solano Air Quality Management District	Formal notification prior to construction	Not yet initiated
Union Pacific Railroad	Approval of installation of fiber optic line that would pass under (north/south) at 3rd Street in West Sacramento	Not yet initiated

5C. Cooperative Agreements and Other Agreements

A cooperative agreement for the PA&ED phase was executed in November 2016 between the City of West Sacramento and the City of Sacramento. The City of West Sacramento is the lead implementing agency for PA&ED.

A future cooperative agreement for the Design phase, Construction phase, and bridge maintenance will be needed between the City of West Sacramento and the City of Sacramento.

6. DELIVERY SCHEDULE

The following tentative project schedule is contingent on available funding. Funding for design and construction has not been identified at this time.

- Approval of Environmental Documents May 2022
- Pursue Design and Construction Funding January 2023
- Kick Off Design Phase January 2025
- 65% PS&E Submittal Roadway and Structures January 2026
- 95% PS&E Submittal Roadway and Structures December 2026
- Property Appraisals July 2027
- 100% PS&E Submittal July 2027
- Right of Way Acquisition Complete June 2027
- Utility and Right of Way Certification June 2027
- Advertise for Bid August 2027
- Bid Opening October 2027
- Begin Construction December 2027
- End Construction December 2030

7. RISKS

The potential risks associated with the project are the following:

- Right of way acquisition - private property acquisitions are required for the project. A delay in negotiations with property owners may delay the project schedule.
- Environmental permitting and outside agency coordination – Many environmental permits and outside agency concurrence are required for the project. Coordination with the various agencies is necessary for permit approval; the risk is in the potential delay in receiving the approvals. List of permits is provided in the narrative above.

- Environmental work windows – There is work required in the surrounding riparian habitat. This work will have seasonal restrictions, and there could be potential construction delays due to these restrictions.
- Funding – The design and construction funding has not been identified or procured. Both cities will be seeking additional funding opportunities.

8. EXTERNAL AGENCY COORDINATION

Coordination with the following agencies is ongoing:

- Caltrans
- Sacramento
- Central Valley Flood Protection Board
- California Department of Fish and Wildlife
- Army Corps of Engineers Regulatory Division
- Union Pacific Railroad
- United States Coast Guard
- U.S. Army Corps of Engineers Flood Protection and Navigation Section
- National Marine Fisheries Services
- U.S. Fish and Wildlife Service
- State Water Resources Control Board
- State Lands Commission
- Sacramento Area Flood Control Agency
- West Sacramento Area Flood Control Agency
- Sacramento Metropolitan Air Quality Management District
- Yolo-Solano Air Quality Management District

9. PROJECT PERSONNEL

Name	**Title**
Jason McCoy	City of West Sacramento, Project Manager
Jesse Gothan	City of Sacramento, Project Manager
Katie Yancey	City of West Sacramento, Economic Development
Ron Bess	City of Sacramento, Community Development
Cecilyn Foote	City of Sacramento, Associate Engineer
Thaleena Bhattal	Caltrans, Environmental Project Manager
Ronald Milam	Fehr & Peers, Project Manager
Zach Siviglia	Mark Thomas, Project Manager
Jason Hickey	Mark Thomas, Structures Manager
Kira Caselli	Mark Thomas, Project Engineer
Claire Bromund	ICF, Consultant Environmental Project Manager

10. ATTACHMENTS

A. Location Map
B. Geometric Approval Drawing
C. Cost Estimate
D. Type Selection Report

E. Right of Way Impact Maps
F. Transportation Report
G. Risk Assessment Report
H. Alignment Memorandum
I. West Sacramento Pioneer Bluff and Stone Lock District Reuse Master Plan – Broadway Bridge Integration Memo
J. U.S. Coast Guard Letter Establishing Clear Channel Width and Height
K. Summary of Public Outreach
L. NEPA FONSI and CEQA EIR Approvals