



SUMMARY REPORT

Agenda Date: 5/17/2022

To: Board of Supervisors

Department or Agency Name(s): Permit Sonoma and Transportation and Public Works

Staff Name and Phone Number: Tennis Wick, 707-565-1900 and Johannes J. Hoevertsz, 707-565-2231

Vote Requirement: Majority

Supervisory District(s): Fifth

Title:

Bohemian Highway Bridge Replacement Draft Environmental Impact Report

Recommended Action:

- A. Hold a public hearing to receive public comment on the proposed Bohemian Highway Bridge Project and the Draft Environmental Impact Report.
- B. Accept public comments on the Draft EIR for the proposed Project.
- C. Direct staff to evaluate all received comments, prepare a written response to the comments, and prepare the Final EIR for the Bohemian Highway Bridge Project.

Executive Summary:

This public hearing is to receive public comment on the proposed Department of Transportation and Public Works project and the draft Environmental Impact Report (EIR) related to the removal of the existing bridge on the Bohemian Highway over the Russian River and the plan to construct a new bridge on an alternate alignment.

This public hearing is to receive public comment on the adequacy of the project's draft EIR. Comments in writing will also be accepted throughout the forty-five day public review and comment period, which commenced on April 4, 2022. After close of the required public comment period, a final EIR will be prepared and returned to your Board for further actions on the EIR and as to the project.

The replacement bridge structure would be approximately 846 feet long and composed of the following:

- The south approach would be a continuous cast-in-place concrete post-tensioned slab structure with three spans ranging from 60 to 65 feet long.
- The main span over the Russian River would be a 390-foot long steel tied arch structure. The peak of the arch would be approximately 65 feet high above the deck.
- The north approach would be a continuous cast-in-place concrete post-tensioned box girder structure with three spans ranging from 80 to 85 feet long.

Discussion:

Background:

The current Bohemian Highway Bridge over the Russian River in Monte Rio is a steel and concrete structure built in 1934. The current structure is considered seismically and structurally obsolete by CalTrans and would require extensive retrofitting in order to meet current state and federal standards. A feasibility study prepared by Drake Haglan & Associates in 2013 concluded that Caltrans and the Federal Highway and Bridge Program would only consider funding a replacement bridge due to the high cost of seismic retrofit and the short life-span of a rehabilitation. In December 2015, County staff facilitated a community meeting to discuss the feasibility study, and a petition requesting the County fast-track the project was signed by approximately 150 local residents. Based on the results of the feasibility study and support of the local community the County awarded an engineering and design contract for a new bridge to Biggs Cardoza Associates, Inc. On October 24, 2017.

The proposed bridge is being designed to meet the current American Association of State Highway Transportation Officials (AASHTO) bridge design standards and the seismic design would be in accordance with the Caltrans Seismic Design Criteria and Seismic Design for Steel Bridges. The bridge would vary in width, from approximately 52 feet at the approaches to approximately 60 feet at the main span. The bridge would be supported on concrete piers with deep, large diameter cast-in-drilled-hole piles, embedded up to approximately 120 feet below the riverbed. Rock slope protection (RSP) would be installed at both abutments for scour protection.

The proposed roadway would be designed to provide a multimodal route for vehicles, bicycles, and pedestrians. The proposed alignment for the Bohemian Highway Bridge would connect to Main Street in Monte Rio west of the existing bridge and east of Moscow Road, and terminate at SR 116 to the north. The proposed roadway design would accommodate two 12-foot vehicular lanes (one lane in each direction), concrete barriers, the steel arch members, and 5-foot shoulders/Class II bike lanes and 6-foot pedestrian sidewalks/Class I bike lanes on both sides of the bridge.

The Project construction is estimated to be completed over three consecutive years. Traffic will continue to use the existing bridge in years one and two. For the third year, traffic would be switched to the new bridge as the old structure is deconstructed. Construction would occur year- round, generally on weekdays, with in channel and over water work occurring in the low flow summer months. Construction related Best Management Practices will avoid or minimize environmental impacts associated with the Project to the extent feasible.

Hearing Purpose

The purpose of this hearing is to receive public comments on the adequacy of the Draft Environmental Impact Report (EIR) for the Bohemian Highway over the Russian River Bridge Replacement Project and the analysis of potential impacts and associated mitigation measures. After this hearing, additional comments from the public and any other stakeholders will be accepted in writing until 5:00 p.m. on May 18, 2022. After this hearing and the close of the public comment period, staff will prepare written responses to all comments received at this hearing and also to the written comments received during the comment period. These responses will be included in the Final EIR. If significant new impacts are identified that are not considered in the Draft EIR, recirculation may be required.

After preparation of the Final EIR, a second hearing is scheduled to be held in August 2022 on the certification of the Final EIR. Typical practice by the Board has been to take a straw vote at this second hearing on whether to certify the final EIR. After the second hearing a third and final hearing will be held where the Board will decide whether to certify the Final EIR. .

Project Purpose

The purpose of the Project is to provide a safe, functional, and reliable crossing on the Bohemian Highway over the Russian River between the north and south portions of the Monte Rio community.

The Project area is in a region of relatively high seismicity. The most recent (2020) Caltrans Bridge Inspection Report for the existing multi span slab bridge notes a number of structural deficiencies and identifies the bridge as fracture critical. The following deficiencies have been observed:

- The bridge has been identified as being at seismic risk. In 2013, a detailed rehabilitation-versus-replacement study was performed. The Caltrans Seismic Design Criteria sets parameters for designing a bridge in order to meet an identified earthquake level, which is referred to as a “design level earthquake.” During the study, the bridge was analyzed to see how it would likely perform in a design level earthquake. The study results showed that the bridge is not capable of withstanding a design level earthquake and the piers were deficient.
- Hydraulic analysis shows that the bridge does not meet the current requirements for passage of either 100-year or the 50-year flood events.
- Geotechnical analysis indicates that the south side in particular is prone to liquefaction of multiple layers within the upper 100 feet of the ground surface. On the north side, several potentially liquefiable layers were encountered within the upper 35 feet of the ground surface.

The existing bridge has also been identified as functionally obsolete. The two travel lanes have substandard width, and there are no shoulders. Due to insufficient width, large vehicles such as busses or semi-trailer trucks must cross the bridge alone while other traffic waits. Additionally, the narrow sidewalk width and lack of bike lanes create pedestrian and bicycle safety concerns. The existing bridge does not meet the current AASHTO design requirements, nor the current design requirements of the California Department of Transportation (Caltrans) Highway Design Manual.

Project Objectives

1. To provide a bridge that meets current seismic design standards, as failure or collapse of the existing bridge from an earthquake would cause long-term disruption to travel, emergency response, evacuation, and the local economy.
2. To provide a bridge that meets current structural design standards

3. To provide a bridge that does not fail or overtop during high river flows
4. To provide a bridge that meets current standards for two-way vehicle traffic
5. To provide a bridge with sidewalks that meet current ADA standards
6. To provide a bridge that meets current design standards for bicycle lanes

Summary of Draft EIR and Significant Effects:

State CEQA Guidelines Section 15123(b) requires that a summary section include a description of areas of controversy known to the lead agency, including issues raised by agencies and the public; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant impacts. Known areas of controversy include emergency vehicle access, a bridge fully accessible and traversable by all vehicle types and modes of transportation, beach access for recreational activities at the Project site, the preservation of swallow nesting habitat, and the preservation of cultural and historic resources.

The EIR concludes that with the exception of potential impacts to cultural resources (see below), any and all impacts that would result from the proposed Project are either less than significant or less-than-significant with the implementation of mitigation measures. Significant and unavoidable impacts to cultural resources are summarized below.

The Bohemian Highway Bridge over the Russian River (Bridge No. 20C-0018), is a Sonoma County Local Historic Landmark, and has a zoning designation of “HD” as part of the Sonoma County Historic Bridges Thematic District. For the Purposes of CEQA, projects “included in a local register of historical resources” are historical resources. (Pub. Resources Code § 21084.1.) The Bohemian Highway Bridge is a resource listed in “a local register of historical resources”, and is therefore a historical resource under CEQA. Furthermore, “[a] project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.” To reduce the impact, the EIR includes Cultural Resource Mitigation Measure CUL-1 below; however, the Draft EIR found the impact to be significant and unavoidable even with mitigation.

Cultural Resource Mitigation Measure CUL-1 Architectural History: Prior to implementing the proposed project, the DTPW shall provide an evaluation of the Bohemian Highway Bridge that includes a final historical documentation and a photographic archive of the bridge. The evaluation shall address the bridge in the context of the structure including photo-documentation and additional historical research necessary to complete the State of California’s Department of Parks and Recreation 523 forms, which constitute official documentation of historical resources for the State Office of Historic Preservation. Copies of documentation shall be provided to the Northwest Information Center (NWIC) of the California Historical Resources Information System, including the History Annex of the Sonoma County Library.

Because the proposed Project would remove and replace an existing bridge that is designated as historically significant by Sonoma County, a significant unavoidable (SU) impact to historical resources is projected as a result of the proposed project (i.e., cause a substantial adverse change in the significance of a historical resource, or of a unique archaeological resource).

Alternatives

As required by the California Environmental Quality Act (CEQA), the EIR examines alternatives to the proposed Project. Studied alternatives include the following four alternatives. Based on the alternatives analysis, alternative 1 No Project would have the least immediate environmental impacts, and of the potential projects analyzed alternative 4 to Replace and Remove was determined to be the environmentally-superior alternative.

1. Alternative 1: No Project
2. Alternative 2: Retrofit of the Existing Bridge
3. Alternative 3: Replace and Retain
4. Alternative 4: Replace and Remove (Note: Five preliminary alignment options were analyzed under the remove and replace alternative.)

Alternatives Considered but Rejected:

Alternative 1: No Project, refers to the analysis of existing conditions and what would reasonably be expected to occur in the foreseeable future if the Project was not approved, based on current plans and consistent with available infrastructure and community services. The No Project Alternative represents the continuation of use of the current structure, as it exists currently. This option would have minimal impact on the community and natural resources, until such time that the bridge began to fail, or a seismic event occurred. This alternative would forego any of the improvements required to meet seismic, vehicular loading, hydraulic, or geometric and ADA objectives. Due to the potential for collapse during an earthquake, this option carries an unacceptable risk to life safety. Also designated as Scour Critical by Caltrans, at some point in the future, as the bridge continues to degrade or becomes a safety concern for motorists, the costs to maintain the bridge may become too great and presumably require closure of the bridge permanently.

Alternative 2: Rehabilitation/Retrofit would include the rehabilitation of the existing bridge to meet current seismic and minimum vehicular loading standards. While the rehabilitation would upgrade the bridge, the option would only partially meet current design standards and the proposed Project objectives. A primary goal of a rehabilitation project would be to preserve the character of the bridge, which is a designated County landmark. However, it is believed the extensive modifications required to successfully reinforce the bridge would severely alter the look and character of the existing bridge. A rehabilitation project is anticipated to have service life of 20 years before another major undertaking is required.

In two separate studies (one in 1997, one in 2013) it was found that retrofit or rehabilitation would cost more than removal and replacement. Considerable review with the funding partners at Caltrans determined that the rehabilitation was not the financially prudent option, and a rehabilitation project would not qualify for federal funding.

Considering that rehabilitation would be more expensive, have a short service life, alter the character of the bridge, and meet few project objectives, Alternative 2 was rejected.

Alternative 3: Replace and Retain option would include the construction of a separate vehicular bridge and

retain the existing bridge for pedestrian and bicycle use. To retain the existing bridge, alternative 2 would have to be considered. Retention of the existing bridge for pedestrian and bicycle use would require retrofitting to ensure public safety. The seismic safety standards for vehicular and pedestrian bridges are the same, and therefore the rehabilitation of the existing bridge would be substantially similar to alternative 2. The character of the bridge would likely be impacted, reducing the benefit of retention. The permanent impact to the waterway would be greater than other options, as hydraulic issues in the area could worsen with two bridges impeding the waterway. Impacts associated with aesthetics, air quality, biology, cultural resources, GHG, noise, tribal cultural resources would all be similar or greater when compared to the proposed Project. Additionally, the cost of maintaining an additional bridge is greater. Caltrans/Federal Highway Administration does not provide funding for repair of pedestrian bridges and will not fund the rehabilitation of the pedestrian bridge or any future repairs.

While retaining the existing bridge for pedestrian and bicycle use would slightly reduce the cost of the new bridge because it would be modified to eliminate the sidewalks and bicycle lanes, the cost of a pedestrian bridge rehabilitation alone would be similar to the cost of a stand-alone rehabilitation. The overall cost of this alternative would be significantly more than other options, with a greater portion of the costs borne by the County.

Considering the costs, impacts to the character of the existing bridge, and impacts to the waterway, alternative 3 was rejected.

Alternative 4: Replace and Remove alternative would remove all elements of the existing bridge except potentially the abutments, which may remain in place. The proposed project includes a steel network tied-arch bridge. The new bridge would meet all the stated project objectives. A replacement project is anticipated to have a minimum service life of 75 years.

A number of replacement bridge alignment options were considered. Due to the location of existing connecting roadways, all conceptual replacement alignments in the vicinity of the existing bridge involve the use of the Monte Rio Recreation and Park District (MRRPD) properties. Alternate alignments were rejected due to engineering challenges, environmental constraints, higher costs, or because they do not meet the purpose and need of the project to serve the needs of the community.

Next Steps:

Staff will compile all comments timely received as to the Project, and will continue to prepare responses and a Final Environmental Impact Report.

Future decision as to the proposed Project will be had at a later time and separate Board hearing, after completion of the Final EIR.

Strategic Plan:

This item directly support the County's Five-year Strategic Plan and is aligned with the following pillar, goal, and objective.

Pillar: Resilient Infrastructure

Goal: Goal 3: Continue to invest in critical road, bridge, bicycle, and pedestrian infrastructure.

Objective: Objective 4: Identify and retrofit bridges in County that are at high risk for damage during earthquakes.

Prior Board Actions:

December 7, 2021 - Resolution Taking Jurisdiction Over The Proposed Monte Rio Bridge Project Environmental Impact Report

October 24, 2017- Original design contract awarded to Biggs Cardosa

FISCAL SUMMARY

Narrative Explanation of Fiscal Impacts:

There is no fiscal impact associated with this Board Item. The project is currently in the preliminary engineering/design phase under a contract approved by this Board. Prior to commencement of the construction phase, TPW staff will return to the Board for approval of construction and construction management contracts.

Narrative Explanation of Staffing Impacts (If Required):

None

Attachments:

BOS PowerPoint Presentation

Related Items “On File” with the Clerk of the Board:

Appendix A - Design Plans for Bohemian Hwy Bridge over Russian River Replacement Project
Draft Environmental Impact Report