

APPENDIX F

**State Route 37 Corridor Planning and  
Environmental Linkages Study  
Level 1 Evaluation Criteria  
Screening Memorandum**

# Memorandum

**To:** TAMMY MASSENGALE  
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**Subject:** **STATE ROUTE 37 CORRIDOR PLANNING AND ENVIRONMENTAL LINKAGES STUDY  
LEVEL 1 EVALUATION CRITERIA SCREENING MEMORANDUM**

This memorandum summarizes work by the California Department of Transportation (Caltrans) District 4 as part of the *State Route 37 Corridor Planning and Environmental Linkages Study* (SR 37 PEL Study).

This memorandum documents how the PEL Study Project Management Team (PEL Study Team) engaged the three Technical Working Groups (TWGs) in applying Level 1 Evaluation Criteria to the initially identified alignments. It further documents how the PEL Study Team iterated the results of that screening through the TWGs, the project's Stakeholder Working Group (SWG), and ultimately the Executive Steering Committee (ESC).

For background, please refer to previous memoranda on Evaluation Criteria and Alternatives. These memos are incorporated by reference.

## 1. INITIATION

In previous engagement with the three TWGs, the SWG, and the general public in December 2021 and January 2022, the PEL Study Team finalized the initial alignments to serve as prospective alternatives, as well as the Level 1 Evaluation Criteria.

As documented in previous memoranda, the PEL Study Team found that *alignment*-level information was adequate to conduct the Level 1 Evaluation; Levels 2 and 3 would be conducted at the *alternatives* level.

In February 2022, the PEL Study Team asked the TWGs to consider each of the eight alignments in light of each of the Level 1 Evaluation Criteria. The Level 1 Evaluation Criteria were derived from the project Purpose and Need. Project Purpose and Need had been established in fall 2021, in conjunction with TWG

and SWG participation. Accordingly, how each alignment met the Level 1 Evaluation Criteria helps determine how the alignments meet the Project Purpose and Need.

The PEL Study Team grouped the ten Level 1 Evaluation Criteria so that each of the three TWGs—Environmental (ETWG), Design (DWTG), and Traffic (TTWG)—could focus on the criteria most closely related to their prescribed subject area and respective fields of expertise and interest. In the three February 2022 TWG meetings, the PEL Study Team presented relevant criteria along with the following.

- Pertinent background information
- A reminder of how the criterion related to the Project Purpose and Need
- Initial observations about how each alignment did or did not meet a particular criterion

Please refer to the three February 2022 TWG presentations (Appendix A) for more detail. Questions and discussion from each meeting were recorded and included in the meeting record (Appendix B). In a related “homework” assignment (included with Appendix B), all TWG members were given the opportunity to provide additional thoughts and comments on the application of the Level 1 Evaluation Criteria to the alignments.

For each Alignment in Level 1, and each Alternative in Level 2 and 3 screening, a determination will be made as to whether an alignment or alternative is carried forward in the PEL Study, and if so, how it is carried forward (concept or supplemental element).

- **Carried forward as a Core Concept** – Standalone improvement that directly meets the PEL Study’s Purpose and Need.
- **Carried forward as a Supplemental Element** – Additional improvement that does not fully meet the Purpose and Need on its own but improves the Core Concepts.
- **Eliminated** – Core Concept or Supplemental Element that does not meet the Purpose and Need identified for the PEL Study.
- **Not Recommended** – Core Concept or Supplemental Element that will not be evaluated further in the PEL Study because of comparatively negligible benefits or higher impacts than other concepts/elements.

## 2. SYNTHESIZING TECHNICAL WORKING GROUP INPUT; INITIAL LEVEL 1 SCREENING RECOMMENDATIONS

Following the three February TWG meetings, the PEL Study Team collected homework assignments and reviewed responses alongside the meeting record.

To organize feedback and foster decision-making, the PEL Study Team prepared a summary matrix (Appendix C). This matrix organized input and considerations of how each alignment met, partially met, or did not meet Level 1 Evaluation Criteria.

From careful consideration of the summary matrix, the PEL Study Team made a screening recommendations following the scheme presented above.

### 2.1 ALIGNMENTS TO BE CARRIED FORWARD AS CORE CONCEPTS

Alignments 1, 4, 5, 6, and 7 were found to be strongest in meeting the Level 1 Evaluation Criteria (i.e., meeting the Project Purpose and Need). These five alignments were recommended to be **carried forward as core concepts**. Key aspects leading to this recommendation are summarized below. For further detail, please refer to Appendix C.

- **Alignment 1**—Would preserve existing connectivity on west side (Novato); portions along State Route (SR) 121 would be developed on upland areas, thus reducing exposure of transportation infrastructure to sea-level rise (SLR).
- **Alignment 4**—Portions along and near SR 116 would be developed on upland areas, thus reducing exposure of transportation infrastructure to SLR; the alignment would use existing interchange along U.S. Highway (US) 101 in Petaluma to maintain connectivity; overall, a reasonable “middleground” option among other “retreat” options (2, 3, & 8) proposed to be eliminated.
- **Alignments 5 & 6**—Would use current right-of-way (ROW) and thus maintain connectivity between Novato and Vallejo; by maintaining current ROW would be unlikely to increase vehicle miles traveled (VMT); would limit exposure to SLR through elevated roadways and/or enhanced levees.

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<sup>i</sup> In the context of this PEL Study, a “retreat” option means an alignment that would relocate SR 37 to an entirely new corridor, either upland from the existing corridor (all of alignments 2, 3, 4, and 8, as well as a portion of alignment 1) or a “southerly retreat” on a new bay crossing (alignment 7).

- **Alignment 7**—Would provide most direct routing between Novato and Vallejo and thus offer potential to reduce VMT; raised causeway or tunnel would reduce exposure to SLR.

As noted in the earlier “Alternatives” memorandum (April 2022), prior to the Level 2 screening, each of these *alignments* will be more fully developed into *alternatives*. In addition, Alignments 5 and 6 were recommended to be merged, since each would use the existing SR 37 ROW and differ only in construction methods (Alignment 5 a raised causeway; Alignment 6 a levee-protected roadway).

The following 3 alignments were recommended to be eliminated for faring worst in meeting Level 1 Evaluation Criteria. Each of these are considered “retreat” options in that they proposed to relocate SR 37 from its present corridor to further upland locations. Key aspects leading to this recommendation are summarized below. For further detail, please refer to Appendix D.

- **Alignments 2 and 3**—Each would require new interchanges on US 101 and on SR 29, not only changing travel patterns but limiting the ability for each alignment to connect to communities and provide viable transit service. As a consequence, each would also likely increase VMT. Additionally, substantial portions of each of these alignments would need to be constructed across the projected 2130 marginal zone of SLR, an environmentally sensitive area.
- **Alignment 8**—Although the only alignment that would stay entirely outside of the area projected to be affected by SLR, Alignment 8 did not meet the Level 1 Evaluation Criteria concerning community connectivity (with particular regard to Vallejo) and would thus likely generate significant additional VMT.

In further consideration of the feedback on the Level 1 Evaluation Criteria, the PEL Study Team also recommended the addition of a new alignment that would meet many Level 1 criteria. This new alignment, Alignment 9, was similar to Alignment 7 in providing a direct connection between Novato and Vallejo. Alignment 9, however, omits the southerly (and presumably overwater) extension of SR 121 that would meet the new cross-bay alignment at a central point. Figure 1 depicts Alignment 9.

**Figure 1. Alignment 9**



State Route 37 Planning and Environmental Linkages Study  
Preliminary Alignment 9



## 2.2 MODAL RECOMMENDATIONS

Reflecting on the “modal menu” previously presented to the TWGs, the PEL Study Team proposed recommendations on two modes.

### 2.2.1 Floating Bridge

A bridge that would “float” on pontoons rather than be fixed into the ground was initially considered as a possible means to be resilient to rising sea levels anticipated to affect San Pablo Bay. However, the PEL Study Team noted that floating bridges are more typically used in lake and river settings. The tidal environment of San Pablo Bay would introduce daily fluctuations in height and would also subject the structure to wave wash. More critically, a floating bridge across San Pablo Bay would pose challenges for marine navigation, particularly regarding access to the Petaluma River and Napa Slough. Noting these challenges, the PEL Study Team did not identify any countervailing advantages of a floating bridge. Accordingly, the PEL Study Team recommended that a

floating bridge either be eliminated or not recommended to be incorporated into alternatives.

### **2.2.2 Ferry**

Given the presence of water, the existing ferry terminal in Vallejo, and the larger ferry system currently operating within San Francisco Bay, stakeholders proposed that ferries be considered as a potential alternative.

As a stand-alone alternative, the PEL Study Team noted that ferries (which typically can hold around 300 to 400 passengers) would lack the capacity to serve the thousands of peak-period and daily passengers who use SR 37. Moreover, travel origin and destination data suggested that westbound travelers along SR 37 are heading to a wide range of destinations, from southern Marin to northern Sonoma as well as points beyond (including San Francisco). Further, the westernmost community on SR 37, Novato, lies substantially inland from San Pablo Bay, complicating the potential viability of constructing/operating a ferry terminal in this area.

The PEL Study Team also noted the relative shallowness of northern San Pablo Bay. Excepting a central channel that is dredged to allow marine access to the Sacramento–San Joaquin Delta (and the ports of Stockton and Sacramento), as of current, the north-central portion of San Pablo Bay is less than 10 feet deep. Dredging would thus be required to introduce and maintain ferry service in this portion of San Pablo Bay.

Notwithstanding, the PEL Study Team observed that ferries could play a different but still important role in improving transportation in the North Bay. Existing ferry terminals in Vallejo, Larkspur, and Richmond each provide service to San Francisco, but as of 2022, there is no ferry service between these three terminals. A ferry service from Vallejo to Larkspur could serve some travelers who currently travel along SR 37 by car to reach a destination in southern Marin. Based on this information, the PEL Study Team recommended that ferries be carried forward as a supplemental element of prospective alternatives, and also be considered as prospective mitigation if an alternative were found to increase VMT.

## **3. FEEDBACK ON AND FINALIZATION OF LEVEL 1 SCREENING RECOMMENDATIONS**

In March 2022, the PEL Study Team presented its Level 1 Screening Recommendations to the three TWGs as well as the larger SWG (Refer to

Appendix D). The PEL Study Team sought feedback from these groups on these recommendations.

TWG and SWG members generally expressed agreement with the Level 1 Screening Recommendations, including the addition of Alignment 9, but with a few notable exceptions described in the following subsections. As detailed below, based on the TWG/SWG feedback, the PEL Study Team ultimately opted to modify one of its recommendations—namely, to reconsider the recommendation to eliminate Alignment 8.

### **3.1 ALIGNMENT 4**

In the “homework” assignment following the March TWG meetings, a TWG member noted that Alignment 4 would pose substantial construction and operational concerns and would also be likely to increase VMT. The TWG member questioned the recommendation that Alignment 4 be carried forward and recommended its elimination.

### **3.2 ALIGNMENT 8**

Though it was acknowledged that Alignment 8 had the potential to significantly alter travel patterns and increase VMT while not well-serving the community of Vallejo, multiple TWG members noted that Alignment 8 had two substantial benefits that should prevent its elimination at Level 1.

- 1) Alignment 8 would be comprised of portions of existing state routes (SR 116, SR 121, and SR 12); although some additional ROW might be needed, it was potentially less new land that would be needed compared with other alignments carried forward that would construct a new roadway where none currently exists (for example, portions of Alignments 1, 4, and 7).
- 2) By virtue of its upland location, Alignment 8 was the only alignment fully outside the area projected to be inundated by SLR (per the projections of the California Ocean Protection Council (OPC)). Accordingly, Alignment 8 would be unlikely to require construction of a causeway or other major structure to achieve resilience to SLR; its location outside the expected inundation area would constitute resilience to SLR.

### **3.3 ALIGNMENT 9**

Multiple TWG members observed that Alignment 9 would be a practical way to get across the bay, both for auto as well as for rail. In particular, the “straight shot” proposed by Alignment 9 would allow rail to travel at or near maximum



allowable speeds. Nonetheless, TWG members expressed concern that the abandonment of the existing SR 37 corridor associated with Alignment 9 would effectively create a dead end for SR 121 at Sears Point, posing access challenges that could be particularly acute for the Sonoma Raceway, area wineries, and the communities of southern Sonoma in general.

As a possible solution, a TWG member suggested amending Alignment 9 to incorporate the westernmost portion of the existing SR 37, between US 101 and SR 121. This “hybrid” would thus provide both a more direct bay crossing along with access to the west for users of SR 121.

This westernmost portion of the SR 37 corridor crosses Novato Creek. As recently as 2019, this portion of Novato Creek overtopped its banks, resulting in a multi-day closure of this portion of SR 37. While the SR 37 PEL Study is focused on finding a longer-term solution to the problems facing SR 37, Caltrans is proposing a flood control project (04-4Q320) as an interim measure to keep SR 37 fully operational in the anticipated years before a longer-term solution is identified through the PEL process.

### **3.4 FINALIZATION OF LEVEL 1 SCREENING RECOMMENDATIONS**

Based on robust feedback from the March TWG and SWG meetings, the PEL Study Team opted to modify its initial recommendations for Alignment 8. Instead of recommending Alignment 8 for elimination at Level 1, the PEL Study Team elected to carry Alignment 8 forward for further development as an alternative and screening in Level 2.

While acknowledging the concerns expressed about Alignment 4, the PEL Study Team opted to stick with its earlier recommendation that Alignment 4 be carried forward as a “middleground” retreat option.

Regarding Alignment 9 and the request to examine maintaining connectivity to SR 121 via the existing SR 37 corridor, the PEL Study Team did not make any immediate change but committed to take this into consideration in the upcoming formulation of alternatives.

### **3.5 EXECUTIVE STEERING COMMITTEE CONCURRENCE ON LEVEL 1 SCREENING RECOMMENDATIONS**

As the final step in the Level 1 screening process, the PEL Study Team delivered its Level 1 Screening Recommendations to the State Route 37 Executive Steering Committee (ESC), seeking its concurrence. The ESC, established at the start of

the SR 37 PEL Study, is comprised of the executive directors of the Caltrans, Bay Area Tolling Authority (BATA), and the four county transportation authorities with jurisdiction in the area:

- Transportation Authority of Marin (TAM)
- Sonoma County Transportation Authority (SCTA)
- Napa Valley Transportation Authority (NVTA)
- Solano Transportation Authority (STA)

The PEL Study Team presented its revised Level 1 Screening Recommendations to the ESC in April 2022. The presentation summarized the overall process to date, including the identification of initial alignments, the development of Level 1 Evaluation Criteria, initial Level 1 Screening recommendations, and how TWG/SWG input was considered at each of these stages.

Following the presentation, members of the ESC expressed their concurrence with the following Level 1 Screening Recommendations as described above and summarized below:

- **Alignments Carried Forward as Core Concepts (to be developed into Alternatives and Level 2 Screening)**
  - Alignments 1, 4, 5/6, 7, 8, and 9
- **Alignments Eliminated**
  - Alignments 2 and 3
- **Modal Choices**
  - Floating Bridge Eliminated
  - Ferries Carried Forward as a Supplemental Element

In addition, the ESC provided feedback for the PEL Study Team's consideration in the next stages of the SR 37 PEL Study process.

Regarding Alignment 8, ESC members asked the PEL Study Team to ensure that matters regarding resiliency not only consider SLR, but also risks of wildfire, noting the October 2017 wildfires that affected the area, particularly near the Napa Road intersection. Regarding Alignment 9, ESC members from Sonoma and Napa Counties emphasize the importance of continued access to SR 121 by incorporating into Alignment 9 the westernmost portion of SR 37 between US 101 and SR 121.

### **3.6 NEXT STEPS**

With the ESC's concurrence on the Level 1 Screening Recommendations, the PEL Study Team will evolve the alignments carried forward into complete alternatives, and will apply Level 2 Evaluation Criteria to those alternatives. The PEL Study Team will continue working through the TWGs and SWG in applying the Level 2 Evaluation Criteria to the alternatives, ultimately making Level 2 Screening Recommendations to be reviewed and validated by the TWGs/SWG and for ESC concurrence.

## **4. APPENDICES**

- A. February 2022 TWG Presentations
- B. Summaries of Comments from February 2022 TWG Meetings
- C. Summary Matrix of Level 1 Screening Recommendations
- D. March 2022 TWG Presentations

## **5. REFERENCES**

California Ocean Protection Council. 2018. State of California Sea-Level Rise Guidance. Available:  
[https://opc.ca.gov/webmaster/ftp/pdf/agenda\\_items/20180314/Item3\\_Exhibit-A\\_OPC\\_SLR\\_Guidance-rd3.pdf](https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf). Accessed: April 12, 2022.