

APPENDIX E

**State Route 37 Corridor Planning and
Environmental Linkages Study
Alternatives Evaluation Criteria
Memorandum**

Memorandum

To: TAMMY MASSENGALE
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Division of Environmental Analysis
Headquarters

Date: November 14, 2022

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Subject: **STATE ROUTE 37 CORRIDOR PLANNING AND ENVIRONMENTAL LINKAGES STUDY
EVALUATION CRITERIA MEMORANDUM**

This memorandum is one of a series of memoranda that documents the process led by California Department of Transportation (Caltrans) District 4 to develop and refine the evaluation criteria for the *State Route 37 Corridor Planning and Environmental Linkages Study* (SR 37 PEL Study) for the entirety of SR 37 between U.S. Highway (US) 101 and Interstate (I-) 80. As detailed in this memorandum, Caltrans District 4 and other stakeholders participating in the PEL Study will use the evaluation criteria to screen alternatives.

The identification of alternatives to be brought forward into the screening process is detailed in a prior memorandum: *State Route 37 Corridor Planning and Environmental Linkages Study Alternatives Identification* (April 2022).

1. STATE ROUTE 37 CORRIDOR PLANNING AND ENVIRONMENTAL LINKAGES STUDY PURPOSE AND NEED

The SR 37 PEL Study is undertaking a collaborative and integrated approach to transportation decision-making that uses the information developed during transportation planning, including stakeholder and regulatory agency engagement, to inform a subsequent environmental review process. In collaboration with stakeholder focus groups and input from the public, Caltrans has developed a comprehensive vision, and purpose and need statement for the SR 37 PEL Study.

Please refer to the *Vision, Goals, and Purpose and Need Memorandum* for details regarding the SR 37 PEL Study stakeholder outreach process and focus groups.

Based on feedback received during the outreach process, the SR 37 PEL Study need is grounded in the following issues:

- Resiliency and extreme events
- Route movement and functionality
- Travel time reliability
- Lack of multimodal options
- Maintaining access to properties
- Need to address existing inequities in the transportation network

Development of the purpose statement for the SR 37 PEL Study was also an iterative process. With careful consideration of the stakeholder feedback received, the proposed purpose statement for the SR 37 PEL Study was updated five times and reflects the current focus for the SR 37 PEL Study. The final purpose statement for the SR 37 PEL Study is comprised of the following five objectives:

- Preserving a critical regional transportation corridor that is resilient to extreme events, while integrating ecological resiliency, which facilitates adaptation to sea-level rise.
- Providing reliable travel time and increasing average vehicle occupancy.
- Providing safe mobility for bicyclists and pedestrians.
- Maintaining and enhancing public access, including to recreational areas.
- Providing equitable transit and multimodal transportation solutions that improve access for, and provides meaningful benefits to, all users of SR 37, with special consideration of underserved communities.

2. EVALUATION CRITERIA

Caltrans implemented a three-level evaluation process to determine which SR 37 PEL Study alignments/alternatives would be carried forward and studied in the subsequent Project Approval and Environmental Document (PA/ED) phase.¹

¹ In engagements 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

- The first level of evaluation determines if the alignments meet the purpose and need.
- The second level of evaluation determines how well the alternatives meet key objectives around design, environmental, traffic, and feasibility-related issues.
- The third level of evaluation will more deeply investigate certain design, environmental, traffic, and feasibility-related issues, with particular attention to trade-offs between the benefits gained from a specific alternative versus the potential impacts of the alternative.

Caltrans reviewed and refined all initial draft evaluation criteria with feedback from the Technical Working Groups (TWGs). All three sets of criteria were finalized based on TWG feedback and internal team discussion. Caltrans engaged the TWGs to seek input on application of the SR 37 PEL Study evaluation criteria to the alternatives. At these meetings, TWG participants were asked to apply each criterion to preliminary alternatives, including considering removal of alternatives from further consideration based on not meeting criteria. Please refer to the separate memoranda for more detail:

- *State Route 37 Corridor Planning and Environmental Linkages Study Level 1 Evaluation Criteria Screening Memorandum (May 2022)*
- *State Route 37 Corridor Planning and Environmental Linkages Study Level 2 Evaluation Criteria Screening Memorandum (October 2022)*
- *State Route 37 Corridor Planning and Environmental Linkages Study Level 3 Evaluation Criteria Screening Memorandum (October 2022)*

1. LEVEL 1 CRITERIA

To initiate the development of the SR 37 PEL Study evaluation criteria, Caltrans reviewed each component of the final SR 37 PEL Study purpose statement. As shown in Table 1, for each purpose statement component, the team drafted factors to consider, and prospective criteria.

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.

Caltrans presented the initial draft Level 1 evaluation criteria to the Design, Environmental, and Traffic TWGs in November 2021. TWG participants were asked to comment on the suitability of each prospective Level 1 criteria and to offer any other prospective criteria they felt necessary and/or appropriate. Specifically, each of the three TWGs was asked to comment on how well the initial evaluation criteria represented the SR 37 PEL Study purpose, the measurability of each criterion, suggested modifications, and other factors to consider.

To provide an idea of the range and level of detail of input, some TWG feedback included the following:

- Why would an alignment not connect U.S. 101 and I-80?
- Service as an emergency evacuation route is not a necessity but would be an added benefit.
- Criteria regarding reduction of sea-level rise (SLR) impact exposure and integration of ecological resilience are too general.
- Consider the shift to electric vehicles and buses.
- How are vehicle miles traveled (VMT) and travel time related to connectivity of U.S. 101 and I-80?
- Separated paths are needed for bicyclists and pedestrians.

Refer to Appendix A for the PEL Study Team's November 2021 presentations to the TWGs and summaries of TWG input received.

Table 1 Initial Level 1 Criteria Considerations – November 2021

| Purpose Statement Component | Factors to Consider in Generating Evaluation Criteria | Prospective Level 1 Criteria |
|--|--|--|
| <ul style="list-style-type: none"> Preserving a critical regional transportation corridor that is resilient to extreme events while integrating ecological resiliency which facilitates adaptation to SLR | <ul style="list-style-type: none"> Maintaining a vital transportation corridor in the North Bay | <ul style="list-style-type: none"> Does the alternative preserve connectivity between U.S. 101 and I-80 corridors? Estimated travel time between key origin destination pairs? (e.g., Vallejo & Novato) Estimated VMT between key origin/destination pairs? Ability of alternative to serve as emergency evacuation route? |
| | <ul style="list-style-type: none"> Current likelihood of flooding in the corridor, which is expected to increase in frequency/magnitude with sea level rise | <ul style="list-style-type: none"> Potential of the alternative to reduce exposure to projected levels of storm surge/ flooding, up to/including 2130 projection of sea level under the OPC² Guidance? Potential for the alternative to integrate ecological resilience to sensitive habitats of the North Bay and promote ecological connectivity improvements (such |

² Ocean Protection Council

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| | | as Bay Area Critical Linkages concepts)? <ul style="list-style-type: none"> • Ability of alternative to allow for future tidal and habitat transition zones? |
| <ul style="list-style-type: none"> • Providing reliable travel time and promoting increases in average vehicle occupancy | <ul style="list-style-type: none"> • Recurring Congestion (traffic) • Non-Recurring Congestion (crashes, etc.) • Crash reduction • Emergency detours / alternate routes around incidents | <ul style="list-style-type: none"> • Ability of alternative to serve/accommodate anticipated travel demand (2050)? • Potential for alternative to improve travel time reliability compared to baseline conditions? • Ability of alternative to support/incorporate new multi-modal and transit options (increase travel choices in corridor)? • Ability of alternative to provide preferential treatment of HOV and transit options (e.g., HOT³ lanes)? |
| <ul style="list-style-type: none"> • Provides safe mobility for bicyclists and pedestrians | <ul style="list-style-type: none"> • Opportunities to expand recreational use | <ul style="list-style-type: none"> • Potential for alternative to provide dedicated or separated |

³ High-Occupancy Toll

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| | <ul style="list-style-type: none"> • Opportunities to expand commuter use of bicycle mode | <p>bicycle and pedestrian paths within the SR 37 corridor?</p> <ul style="list-style-type: none"> • Ability of any bicycle/pedestrian paths to connect with destinations/points of interest along the corridor? |
| <ul style="list-style-type: none"> • Maintaining and enhancing public access, including to recreational areas | <ul style="list-style-type: none"> • Properties accessed from existing SR 37 • Opportunities for enhanced public access | <ul style="list-style-type: none"> • Ability of alternative to maintain existing automobile access to private property? • Ability of alternative to enhance access to recreational areas by <ul style="list-style-type: none"> • Automobile? • Other modes? |
| <ul style="list-style-type: none"> • Providing equitable multimodal transportation solutions that improves access for, and provides meaningful benefits to all users of SR 37, with special consideration of underserved communities | <ul style="list-style-type: none"> • Modes utilized for movement of people and goods • Existing environmental and transportation challenges faced by historically disadvantaged communities • Communities that are well-served and underserved by transportation infrastructure | <ul style="list-style-type: none"> • Potential for alternative to accommodate physical transit infrastructure or transit service improvements? • Ability of alternative to enhance regional access for underserved communities? • Potential for alternative to reduce adverse environmental conditions affecting disadvantaged communities? • Potential for alternative to increase shift from SOV to transit modes? |

Ms. Massengale
November 14, 2022
Page 8

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| | | <ul style="list-style-type: none">• Potential for alternative to reduce diversions to local roads relative to existing? |
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1. Refined Level 1 Evaluation Criteria—December 2021

The PEL Study Team refined the draft Level 1 evaluation criteria, based on input on the initial evaluation criteria. The refined Level 1 criteria were:

- Does the alternative preserve connectivity between U.S. 101 and I-80 corridors?
 - Does it maintain current connection points? Or establish one or more new ones?
- Estimated travel time reliability (relative to future no project) by mode between key origin-destination pairs?
- Potential of the alternative to reduce exposure to projected levels of storm surge/ flooding, up to/including 2130 projection of sea level under the OPC Guidance?
- Ability for alternative to integrate the seven principles of the landscape resilience framework?
- Ability of alternative to change directionality during emergency events and/or use shoulders as emergency auxiliary lanes?
- Ability of alternative to serve/accommodate anticipated travel demand (2050)?
- Ability of alternative to support/incorporate/accommodate multi-modal options in the corridor (aside from pedestrian/bicycle facilities) that would increase vehicle occupancy?
- Ability of alternative to enhance regional access for all communities?

2. Input on Refined Level 1 Evaluation Criteria—December 2021

In December TWG meetings, the PEL Study Team took the feedback received from the TWGs in November and presented refined Level 1 screening criteria. To provide an idea of the range of types of input and level of detail of input, example input on the refined Level 1 evaluation criteria included:

- For the criterion regarding preserving connectivity between the U.S. 101 and I-80 corridors, a potential pro is that maintaining current access to land use is important, while a potential con is that establishing new connection points may induce new land uses and result in higher levels of travel demand.
- For the criterion on ability to incorporate, support, or accommodate multi-modal options in the corridor that would increase vehicle occupancy, a potential pro is whether the alternative would increase travel choices that offer reliability travel times or reliable and competitive travel time.

- For the criterion regarding reducing flood exposure considering SLR projections, a potential pro is that such a criterion takes into account flooding that is not related to SLR. Refer to Appendix B for the PEL Study Team's December 2021 presentations and summaries of TWG input.

3. Finalized Level 1 Evaluation Criteria

Based on feedback from the TWGs as well as on an assessment of the timing of data development/availability, the PEL Study Team finalized the Level 1 evaluation criteria in January 2022 as follows:

- Does the alignment preserve connectivity between existing interchanges on U.S. 101 and Interstate 80? Or would new interchanges be required?
- Would the alignment preserve existing and projected travel patterns for key origin and destination pairs that currently use the SR 37 corridor?
- Could the alignment improve corridor travel time reliability for high-occupancy vehicles relative to baseline conditions?
- Does the alignment reduce the exposure of transportation infrastructure to projected sea level rise as stated in the OPC guidance - a rise of 8.6 to 10 feet by 2130?
- Does the alignment integrate ecological resilience which facilitates adaptation to sea level rise? If so, how well?
- Could the alignment balance VMT regional goals against projected travel demand?
- Could the alignment prioritize other transportation modes that would increase person-throughput, including commuter bus and rail?
- Could the alignment provide safe pedestrian and bicycle facilities?
- Does the alignment provide equitable transit and multimodal transportation solutions?
- Does the alignment maintain and enhance public access, including to recreational areas?

4. Application of Level 1 Evaluation Criteria

Application of Level 1 evaluation criteria is described in the memos prepared for alternatives screening, including:

- **State Route 37 Corridor Planning and Environmental Linkages Study Alternatives Identification (April 2022):** documents how Caltrans' PEL Study

Team identified initial alignments to bring forward into the Level 1 screening process as prospective alternatives.

- **State Route 37 Corridor Planning and Environmental Linkages Study Level 1 Evaluation Criteria Screening Memorandum (May 2022):** documents how the PEL Study Team engaged the 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 State Route 37 Executive Steering Committee (ESC).

2. LEVEL 2 CRITERIA

Level 2 criteria evolved from Level 1 criteria, but it is important to note that the Level 2 criteria were not as bound as Level 1 criteria in terms of their connection to the PEL Study purpose as alternatives screening moved from a focus on purpose and need to a consideration of environmental and other factors. Table 2 shows the prospective Level 2 criteria in association with Level 1 criteria, where there is such an association. Caltrans presented the initial Level 2 evaluation criteria to the Design, Environmental, and Traffic TWGs in December 2021 and asked for input on potential pros and cons of the criteria. To provide an idea of the range of types of input and level of detail of input, example input on the Refined Level 2 evaluation criteria included:

- How the alternative improves overall resiliency or the ecology of the area is a critical question.
- Tolls might result in diversions to non-toll roads, and an alternative without a toll might not occur. This could also lead to alternatives with more capacity.
- Identify which plans and policies apply, and consider limiting the evaluation to plans and policies with jurisdiction in the corridor.

Refer to Appendix B for the PEL Study Team's December 2021 presentations and summaries of TWG feedback.

Table 2. Proposed Level 2 Criteria – December 2021

| Purpose | Level 1 Criteria | Proposed Level 2 Criteria |
|--|---|--|
| <ul style="list-style-type: none"> Preserving a critical regional transportation corridor that is resilient to extreme events while integrating ecological resiliency which facilitates adaptation to SLR | <ul style="list-style-type: none"> Does the alignment preserve connectivity between existing interchanges on U.S. 101 and Interstate 80? Or would new interchanges be required? | <ul style="list-style-type: none"> None |
| | <ul style="list-style-type: none"> Would the alignment preserve existing and projected travel patterns for key origin and destination pairs that currently use the SR 37 corridor? | <ul style="list-style-type: none"> Potential for alternative to generally reduce diversions to local roads relative to future no project conditions? Potential to reduce specific diversions to roads including but not limited to Lakeville Highway, Atherton Avenue, SRs 12, 116, and 121; others? |
| | <ul style="list-style-type: none"> Does the alignment reduce the exposure of transportation infrastructure to projected sea level rise as stated in the OPC guidance - a rise of 8.6 to 10 feet by 2130? | <ul style="list-style-type: none"> Potential for alternative to adapt if changing conditions warrant? |

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| | <ul style="list-style-type: none"> Does the alignment integrate ecological resilience which facilitates adaptation to sea level rise? If so, how well? | <ul style="list-style-type: none"> Ability of alternative to integrate natural or nature- based features into the project, such as wetland restoration, hydrological connectivity, and landscape resiliency features. |
| | <ul style="list-style-type: none"> Could the alignment balance VMT regional goals against projected travel demand? | <ul style="list-style-type: none"> Estimated degree of change in VMT between key origin/destination pairs? |
| <ul style="list-style-type: none"> Providing reliable travel time and promoting increases in average vehicle occupancy | <ul style="list-style-type: none"> Could the alignment improve corridor travel time reliability for high-occupancy vehicles relative to baseline conditions? | <ul style="list-style-type: none"> None |
| <ul style="list-style-type: none"> Provides safe mobility for bicyclists and pedestrians | <ul style="list-style-type: none"> Could the alignment provide safe pedestrian and bicycle facilities? | <ul style="list-style-type: none"> None |
| <ul style="list-style-type: none"> Maintaining and enhancing public access, including to recreational areas | <ul style="list-style-type: none"> Does the alignment maintain and enhance public access, including to recreational areas? | <ul style="list-style-type: none"> None |
| <ul style="list-style-type: none"> Providing equitable multimodal transportation solutions that improves access for, and provides meaningful benefits to all users of SR 37, with special | <ul style="list-style-type: none"> Could the alignment prioritize other transportation modes that would increase person-throughput, including commuter bus and rail? | <ul style="list-style-type: none"> None |

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| <p>consideration of underserved communities</p> | <ul style="list-style-type: none"> • Does the alignment provide equitable transit and multimodal transportation solutions? | <ul style="list-style-type: none"> • Ability of alternative to enhance regional access for specific underserved/disadvantaged communities? • Which communities? |
| <p>N/A</p> | <p>N/A</p> | <ul style="list-style-type: none"> • Estimated compatibility of alternative with existing conservation easements? • Estimated land conversion to transportation use? • Potential for existing transportation to be converted to non-transportation use? • Potential for conflicts with adopted land use plans/policies? • Estimated capital cost of alternative? • Estimated maintenance cost of alternative? • Estimated construction duration? (Number of months of heavy equipment use, truck traffic, etc.) |

1. Refined Level 2 Criteria—March 2022

The PEL Study Team refined the draft Level 2 evaluation criteria, based on input on the initial evaluation criteria. The refined Level 2 criteria are listed below:

Design

- To what extent does the alternative utilize existing infrastructure and ROW?^{iv}
- To what extent does the alternative maintain existing connections to local routes currently served by SR 37?
- Would the alternative increase or decrease mileage over existing SR 37 for key origin and destination pairs?
- Would the alternative's proposed lane configuration prioritize transportation modes that would increase person throughput?
- Would the alternative encourage active transportation use, considering factors such as perceived safety, connections to recreational destinations, and similar features?
- Does the alternative include HOV, managed lanes, or transit services?
- Does the alternative serve any of the identified Equity Priority Communities?^v
- Which properties would maintain their existing access along the current 37 alignment?
- Which properties would lose their existing access along the current 37 alignment?
- Which areas, including recreational areas, would have enhanced access?

Traffic

- What changes in travel patterns are expected from the alternative?
- How much improvement in travel time reliability could result from each alternative relative to baseline conditions?
- Would the alternative increase or decrease VMT in 2050 relative to future baseline conditions?

^{iv} Right of way

^v Equity Priority communities are "census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. A combination of additional factors helps define these areas" (ABAG 2022). The PEL Study Team opted to adopt this designation into the PEL, rather than use individual indicators of community distress because the PEL Study Team thought these were well-documented.

Environmental

- Does the alternative require construction in future habitat transition and migration zones?
- Does the alignment allow for landward marsh migration?
- What opportunities/constraints does the alternative offer as infrastructure and landscape interaction are redesigned?
- Does the alternative promote space for habitat ranges to shift? Does the alternative provide adequate buffers for habitat zones? Are migration corridors and connectivity to upland habitats maintained by the alternative?

2. Input on Refined Level 2 Criteria—March 2022

To provide an idea of the range of types of input and level of detail of input, example input on the Refined Level 2 evaluation criteria included:

- Explain what it means to serve Equity Priority Communities and whether the criterion addresses potential negative impacts on Equity Priority Communities.
- Consider defining whether the criterion related to travel patterns is meant to be quantitative or qualitative.
- It would be helpful to quantify the extent to which each alternative improves active transportation use.
- There should be discussion of truck access and how to consider it during design.

Refer to Appendix C for the PEL Study Team's March 2022 presentations and summaries of TWG input.

3. Finalized Level 2 Evaluation Criteria

Based on TWG input, the PEL Study Team finalized the Level 2 evaluation criteria in May 2022:

Design

- To what extent does the alternative utilize existing infrastructure and ROW?
- To what extent does the alternative maintain existing connections to local routes currently served by SR 37?
- Would the alternative's proposed lane configuration prioritize transportation modes that would increase person throughput?

- How would the alternative promote active transportation use, considering factors such as perceived safety, connections to recreational destinations, and similar features?
- How well does the alternative connect with existing or planned multimodal facilities that provide access to the Equity Priority Communities?
- How would the alternative change existing access to parcels that currently utilize SR 37?

Traffic

- What changes in travel patterns are expected from the alternative?
- How would the alternative change VMT in 2050 relative to baseline conditions? And if the alternative would increase VMT, could the increase be feasibly mitigated?

Environment

- How well does the alternative allow for future habitat transitions?
- How well does the alternative allow for landward marsh migration?
- How well are migration corridors and connectivity to upland habitats maintained by the alternative?
- How well does the alternative allow for incorporation of nature-based solutions, to advance both the protection of infrastructure as well as ecological resiliency?

Feasibility

- How much cut and fill might each alternative require?
- How well could the alternative incorporate on-site stormwater treatment?
- How many new acres of right-of-way would be needed to construct/operate the alternative? How many full/partial acquisitions might be needed?
- How feasible would the alternative be to construct?

4. Application of Level 2 Evaluation Criteria

Application of Level 2 evaluation criteria is described in the **State Route 37 Corridor Planning and Environmental Linkages Study Level 2 Evaluation Criteria Screening Memorandum (October 2022)**. It documents how the PEL Study Team engaged the TWGs in applying Level 2 evaluation criteria to the alignments that were carried forward from Level 1 screening and further refined into alternatives.

It further documents how the PEL Study Team iterated the results of that screening through the TWGs, the SWG, and ultimately the ESC.

3. LEVEL 3 CRITERIA

The PEL Study Team intended Level 3 criteria to focus on environmental, traffic, and feasibility-related issues that would foster differentiation between alternatives and thus help with the screening process. With this in mind, the PEL Study Team identified the following initial draft Level 3 evaluation criteria:

Traffic

- How much would each alternative increase short-term regional VMT relative to future baseline/future no project conditions?
- How much improvement in travel time reliability would result from each alternative relative to baseline conditions?
- Would any other adjoining roads/routes see substantial changes in traffic patterns?
- Would the alternative be compatible with planned rail improvements?
- How likely would the alternative be to have unplanned/ emergency closures due to wildfire? Flooding?
- Could the alternative provide access to recreational sites in the area, including public parks and preserves as well as privately owned facilities?

Environment

- What are the impacts to tidal marsh?
- What are the impacts to tidal zone transition areas?
- What are the disruptions to existing migration corridors and essential ecological connectivity areas for both terrestrial and aquatic species?
- How does the alternative allow for ecological landscape resiliency based on the seven principles of landscape resilience?^{vi}
- Does the alternative offer opportunities/constraints as infrastructure and landscape interaction are redesigned?
- Does the alternative allow for restoration and management of open space areas where native ecological communities can feasibly be restored?
- Does the alternative allow for landward marsh migration?

^{vi} The PEL Study Team adapted/adopted the analysis from SFEI's seven principles of landscape resilience which include setting, process, connectivity, diversity and complexity, redundancy, scale, and people.

- Does the alignment allow for the transport of water and sediment where needed to maintain critical tidal habitats?
- Does the alternative minimize development of floodplains and flood-prone areas below the anticipated new Mean Higher High Water elevation?
- Does the alternative promote space for habitat ranges to shift?
- Does the alternative reduce infrastructure risk from SLR inundation and Riverine flooding?
- Are migration corridors and connectivity to and within upland habitats maintained by the alternative?
- Does the alternative minimize impacts to threatened, endangered, and sensitive species and their critical habitat(s)?
- Does the alternative impact buffer areas around tidal and riverine floodplains?
- Does the alternative allow for interpretation and interaction with nature?
- Can coordination and partnerships be fostered to support long term planning to aid in adaptation and resiliency for the SR 37 corridor?
- Can roadway stormwater treatment be accommodated within the alternative corridor? Can passive treatment techniques be utilized? If not, will active treatment or frequent maintenance of BMPs be required (i.e., drop inlet filter bags)?
- How many acres of important farmland would each alternative convert to transportation use?
- What are the possible impacts to cultural resources (built environment, archaeological, and Tribal Cultural Resources)?
- How many acres of native vegetation would be converted to a transportation use?
- What are the impacts to wetlands by this alternative?
- How many acres of critical habitat would be converted to a transportation use? How many federally listed threatened or endangered species and state-listed species would potentially be affected?
- How many acres of high priority bird habitat would be converted to a transportation use? What are the impacts to migratory bird species?
- How many parcels and acres of land would be converted from a non-transportation use to a transportation use?
- Would the alternative have the potential to result in the indirect conversion of any land uses?
- Would the alternative be expected to have particularly acute construction period noise/vibration effects, such as pile driving, in areas with sensitive receptors (including wildlife)?

- Would the alternative be likely to result in operational noise/vibration impacts on people and/or wildlife?
- From a noise/vibration perspective, would the alternative be attractive to pedestrian/bicycle users?
- What benefits and/or disadvantages would the alternative have to any Equity Priority Communities in the SR 37 Study Area?
- To what if any extent would the alternative foster development of Plan Bay Area's Priority Development Areas (PDAs)?
- Would alternatives impact any Section 4(f) resources – including publicly owned parks, open space areas, and wildlife/waterfowl refuges?
- How many linear feet of the alternative would be in areas highly susceptible to liquefaction? To landslides? Within designated Alquist-Priolo earthquake fault zones?
- How many contaminated sites might be encountered during construction of the alternative?
- Would construction and/or operation of the alternative be likely to result in a visual intrusion or an adverse change in visual character?

Feasibility

- What construction challenges would the alternative present that would influence its feasibility?
- Estimated Construction Costs
- Estimated Maintenance Costs
- Life Cycle Cost – What is the estimated cumulative Life Cycle Cost of each alternative?

The PEL Study Team presented the initial Level 3 evaluation criteria to the TWGs in June 2022, along with further detail on how each criterion would be measured, including anticipated data/information sources. To provide an idea of the range of types of input and level of detail of input, example input on the initial Level 3 evaluation criteria included:

- Identify potential challenges related to removal and/or repurposing of existing alignment fill and facilities in the event a new alignment is chosen.
- Evaluate projected increases in hazards.
- Eliminate Alternative 8.
- BIOS mapping from the California Department of Fish and Wildlife is broad and CNDDDB data is incomplete; local data and input are needed.

- Alternatives 9 and 10 could preclude direct access to the Bay and Water Trail, while Alternative 5/6 would retain existing access.
- Include some specific shallow subtidal/fish-related criteria and some upland habitat criteria in addition to the tidal marsh criteria.

Refer to Appendix D for the PEL Study Team's June 2022 presentations and summaries of TWG input.

1. Finalized Level 3 Criteria

Minor changes were made to the Level 3 evaluation criteria. The criterion regarding unplanned and emergency closures due to wildfire and flooding was split into two criteria that address wildfire and flooding separately instead of as one combined criterion:

- How likely would the alternative be to have unplanned/ emergency closures due to wildfire?
- How likely would the alternative be to have unplanned/ emergency closures due to flooding?

Because sufficient engineering information was not developed in time for Level 2 analysis, two criteria that had not been addressed in Level 2 alternatives screening were carried forward into the Level 3 criteria:

Feasibility

- What is the estimated cut/fill quantities (or similar metric)?
- What is the estimated feasibility of the alternative incorporating on-site stormwater treatment features/facilities?

Additionally, the criteria regarding construction challenges, estimated construction costs, estimated maintenance costs, and life cycle costs were deleted. While cost and construction challenges remained part of the discussion for screening alternatives, cost was not included in any criteria because of challenges around reliability of data at the level of design available at the Level 3 screening stage.

2. Application of Level 3 Evaluation Criteria

Application of Level 3 evaluation criteria is described in the **State Route 37 Corridor Planning and Environmental Linkages Study Level 3 Evaluation Criteria**

Screening Memorandum (October 2022). It documents how the PEL Study Team engaged the TWGs in applying Level 3 evaluation criteria to the alternatives that were carried forward from Level 2 screening. It further documents how the PEL Study Team iterated the results of that screening through the TWGs, the SWG, and ultimately the ESC.

3. APPENDICES

- A. November 2021 TWG Presentations and Input
- B. December 2021 TWG Presentations and Input
- C. March 2022 TWG Presentations and Input
- D. June 2022 TWG Presentations and Input

4. REFERENCES

ABAG. 2022. Equity Priority Communities. <https://abag.ca.gov/our-work/equity-priority-communities>. Accessed August 8, 2022.