

Transportation Infrastructure Owner

California Department of Transportation

Roles & Responsibilities



The California Department of Transportation (Caltrans) manages a state highway system (SHS) of more than 50,000 miles of the state's highways and freeways, including U.S. Route or Highway (US) 101 and California State Route (SR) 255 in the Humboldt Bay area. US 101 forms a critical transportation corridor that traverses approximately 18 miles of the eastern shoreline of Humboldt Bay. Humboldt

County's SLR Vulnerability Assessment identifies three low-lying segments of these 18 miles of US 101: a north segment along the shoreline of Arcata Bay (5.8 miles), a middle segment between King Salmon and South Eureka (2.3 miles), and a south segment on South Bay (2.7 miles). These segments are primarily protected from SLR by dikes or the railroad grade, both of which are not owned by Caltrans.

Caltrans District 1 has identified where SR 255 and US 101 surround and traverse the bay as one of their most vulnerable sections of the SHS due to SLR and land subsidence. Erosion, tidal inundation, and groundwater changes are Caltrans concerns in the Eureka to Arcata US 101 corridor area.

There are many divisions within Caltrans but the two that would be most involved in SLR planning in the Humboldt Bay region are:

Capital Outlay Support (COS) Program

The COS Program is the funding mechanism for construction contracts and right-of-way acquisition for projects that preserve and improve the SHS. In managing construction capital budgets, Caltrans balances risk in project budgeting with the need to ensure that an appropriate mix of projects is brought forward in sufficient quantities to use their annual federal obligation authority. Complete and reasonable estimates are necessary to avoid undesired consequences, including loss of federal or local funds. The COS Program is responsible for developing capital projects on the SHS and preparing the construction contract documents for these projects. COS functions include the activities necessary to deliver construction projects such as engineering and design work; environmental analysis and studies; right-of-way acquisition support; and construction administration and inspection activities.

Division of Transportation Planning (DOTP)

Caltrans' DOTP articulates a long-term vision for California's transportation system and implements statewide transportation policy through partnerships with state, regional, and local agencies. The Division provides quality planning products, services, and information to support and guide transportation investment decisions.

Specific Hydrological Unit Assets and Concerns

Arcata Bay



- **Eureka to Arcata US 101 Corridor**
 - Caltrans, in cooperation with the Humboldt County Association of Governments (HCAOG) and the Federal Highway Administration (FHWA), proposes to make improvements to this corridor. The corridor improvement project will also assess and respond to sea level rise by incremental raising of structures (such as medians, curbs and ramps) and Caltrans will remain flexible about future on-alignment adaptation projects. The current proposal will:
 - Improve safety and reduce delays at intersections.
 - Reduce operational conflicts.
 - Resurface, restore, and rehabilitate the existing Route 101.
 - Extend or construct right-turn acceleration and deceleration lanes.
 - Areas of proposed improvements for sea level rise and adaptability in this hydrologic unit includes raising Jacoby Creek Bridge and improving three tide gates. This area has documented existing vulnerabilities, most notably the highest recorded tidal elevation in Humboldt Bay at 9.5 ft in 2005. The dikes protecting most of the area are predominantly over 100 years old and are susceptible to overtopping in extreme tide events. These dikes are controlled by multiple private landowners which include North Coast Rail Authority (NCRA) and the California Department of Fish and Wildlife (CDFW)
 - Jacoby Creek Bridge does not have a dike protecting it
- **SR 255 runs through SLR vulnerable area**

Eureka Slough

- **Eureka to Arcata Route 101 Corridor**
 - Caltrans, in cooperation with HCAOG and FHWA, proposes to make improvements to this corridor. Areas of proposed improvements for sea level rise and adaptability in this hydrologic unit includes raising the Indianola Road/Highway 101 Intersection, beginning a project on Airport Road, and improving one tide gate.
 - Indianola interchange currently has moderate protection

Eureka Bay

- **Broadway Corridor**
 - The 101-Broadway corridor is the most highly traveled corridor and is undergoing planning to fix safety issues within this SLR vulnerable location.
 - There is a project to construct improvements on U.S. Highway 101 for compliance with the Americans with Disabilities Act (ADA) from just north of the Herrick Interchange to just north of Cedar Street in the City of Eureka. Work would include replacing or installing curb ramps, sidewalks, driveways, and splitter islands. The project would also improve drainage and the install audible pedestrian systems at all existing signalized intersections.
- **SR 255 runs through SLR vulnerable area**

Elk River Slough

- US 101 runs through SLR vulnerable area

South Bay

- US 101 runs through SLR vulnerable area

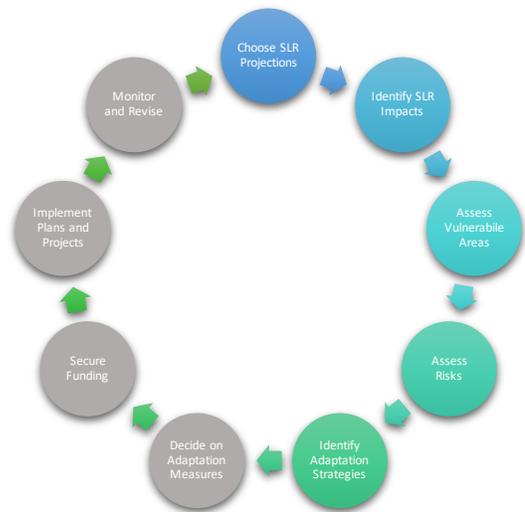
General Concerns

	Shoreline Management		Sea Level Rise Impacts:
✓	Property Ownership and Adaptation Responsibility	✓	Erosion
✓	Regulatory Authorization and Compliance	✓	Tidal Inundation
✓	Feasible Adaptation Strategies	✓	Backwater and/or Emerging Groundwater Flooding
	Funding	✓	Saltwater Intrusion

Planning Efforts

In 2014 Caltrans District 1 and Humboldt County Association of Governments completed a Climate Change Vulnerability Assessment Pilot Study. This agency was one of 22 partners in the Humboldt Bay Sea Level Rise Adaptation Planning Working Group (APWG) which ended in 2015. Caltrans conducted multiple studies and a SLR Vulnerability and Adaptation Solutions study (2019) on the Eureka-Arcata HWY 101 Corridor. District 1 concluded a Climate Change Vulnerability Assessment in 2019.

A Coastal Development Permit was issued for the Eureka-Arcata U.S. Highway 101 Corridor Improvement Project in September 2019 that included conditions to annually monitor and report SLR and flooding impacts and to develop a Long-Term SLR Comprehensive Adaptation and Implementation Plan (CAIP) by 2025. The CAIP must include a feasibility of potential project alternatives such as accommodation, protection, relocation, and no action. As of January 2021, baseline monitoring had occurred, a technical working group was developed, stakeholder outreach scoping was started by Humboldt State University students, and hazard mitigation was ongoing.



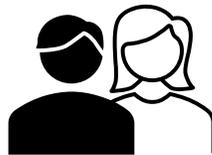
Caltrans staff participates in the technical advisory group for Humboldt County’s Natural Shoreline Infrastructure in Humboldt Bay for Intertidal Coastal Marsh Restoration and Transportation Corridor Protection Project (2020-2021). They also participate in the technical advisory group for the Sea Level Rise Adaptation Plan for Humboldt Bay/Eureka Slough Area (2018-2022) Project that was funded by the Caltrans Adaptation Planning Grant program. Additionally, Caltrans staff participates with the Humboldt

State University Sea Level Rise Initiative, which is a subcommittee of the Humboldt Marine & Coastal Science Institute at Cal Poly Humboldt.

Key Stakeholder Coordination Themes

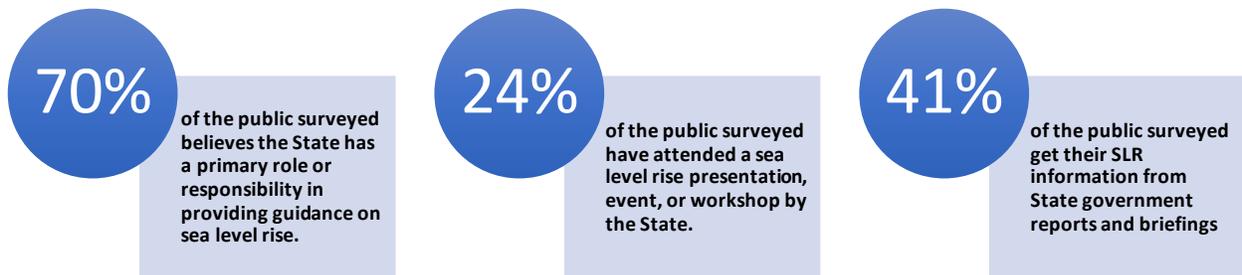
During the SLR Stakeholder Interview 2021, 22 shared themes about SLR regional planning and adaptation were identified to have been explicitly mentioned by two or more stakeholder groups. The Caltrans interview contained 6 of these shared themes as shown in the table to the right, reported from highest to lowest percent of stakeholder groups interviewed that shared each interview theme. For more description of themes, reference the Key Stakeholder Themes section of the Introduction on page 12.

Interview Themes Important to Caltrans
 Shared Funding Coordination
 Increased Landowner Participation
 Increased Communication between Stakeholders
 Restoration and Mitigation
 Interest in County leading
 Include more NGOs



Relevant SLR Public Survey Findings

There were 577 total participants during the SLR Public Survey 2021, though participation varied by individual question. One question asked respondents to identify one or more entities that had a primary role or responsibility in providing guidance on SLR and had the option of “City Government”, “County Government”, “State Government”, “Federal Government”, and “Other”. There were 403 respondents who identified the State Government (70%) as having a primary role or responsibility. Participants were also asked to estimate how many sea level rise presentations, events, or workshops they had attended in the last five years. Out of 308 respondents who had attended events, 24% (n=75) had attended SLR outreach events hosted by a City Government. When asked where survey participants got their information about sea level rise, 41% (n=236) said State agency reports and briefings.



Survey respondents were also asked to rate the priority of assets located within the Humboldt Bay region for consideration in flood protection and future SLR planning, two of which was identified above in this catalogue section as assets to Caltrans that could be subject to sea level rise impacts: "Highway 101" and "local roads and highways". Responses for priority ratings ranged from "not at all a priority" to "exceptionally high priority". Both assets received high overall priority ratings with over 80% of respondents rating these assets as a moderate priority to exceptionally high priority with "Highway 101" getting 89% (n=553) and "Local roads and highways" getting 88% (n=546). Results are shown in a graph below.

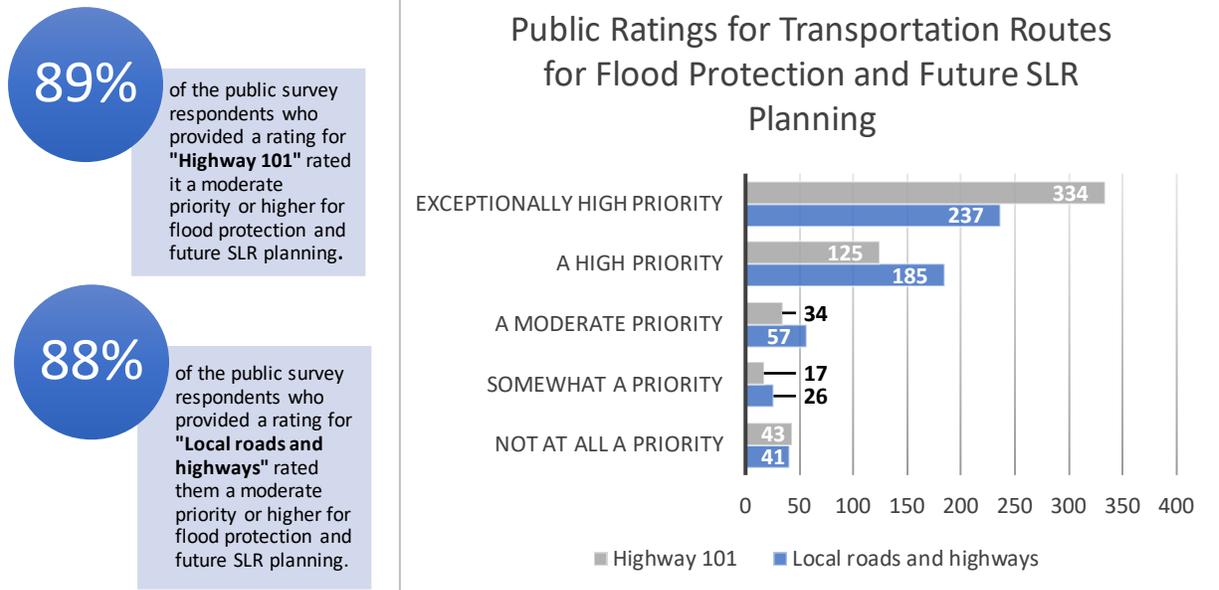


Figure 102. Priority Ratings for Highway 101 (n=553 in grey) and Local roads and highways (n=546 in blue) regarding Flood Protection and Future SLR Planning by participants of the SLR Public Survey 2021

Relevant SLR Coastal Professionals Survey Findings

Results presented in this section for the SLR Coastal Professionals Survey 2021 do not necessarily represent an official view of the agency/organization or categories with which respondents identified, as explained in the introduction. Results presented below are intended only to provide general guidance in future planning and collaboration efforts. For more information on sampling methods and data collection, refer to the section on Community Input within the Introduction on page 2 and Appendix ii - SLR Regional Coordination: Coastal Professional Survey Results within the Appendices beginning on page 229.

During the SLR Coastal Professionals Survey 2021, survey participants were given a sliding scale ranging from "Local" to "State" to "Federal" to show what level of government they thought should hold the majority of the planning control and authority for SLR. A total of 80 individuals provided responses, a majority of which preferred the planning authority to include a mix of local-and-state control at 64% as shown in the graph on the next page.

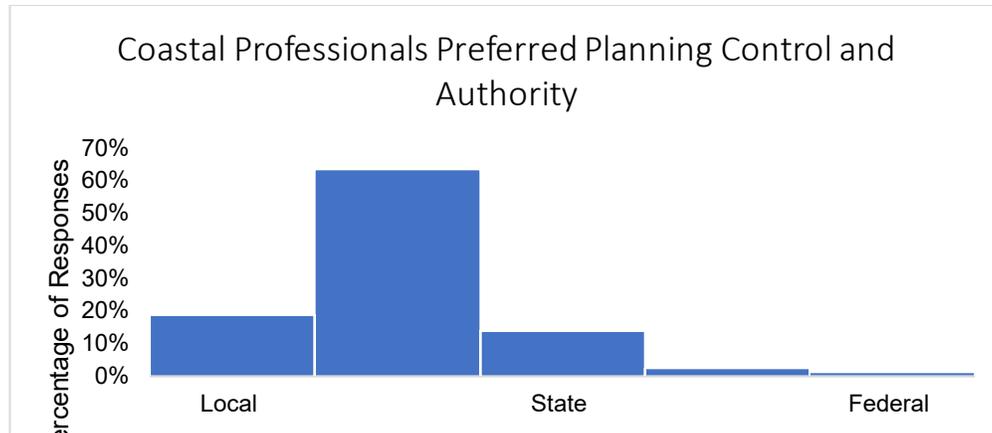


Figure 103: Survey respondents' preference for what level of government should hold the majority of the planning control and authority from the SLR Coastal Professionals Survey 2021 (n=80).

For the State Government category of participants, there was a total of 25 respondents though participation for individual questions varied. Participants included the California Coastal Commission, California Department of Fish & Wildlife, California Geological Survey, California State Coastal Conservancy, Caltrans, Humboldt County Resource Conservation District, North Coast Regional Water Quality Control Board, Governors' Office of Planning and Research, and State Lands Commission. These Coastal Professionals were asked a variety of questions including what the preferred level of involvement in SLR planning was for the entity they represented. Respondents were given a sliding scale to rate their role ranging from "not involved" to "participate" and "lead". The results for the State Government category ranged from "participate" to "lead" with a 65% preference for participation as shown in the graph below.

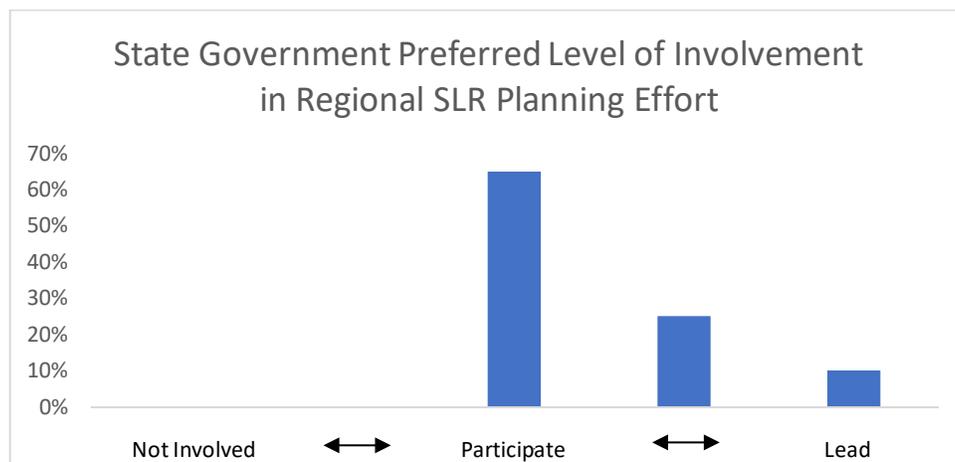


Figure 104. State Government respondents' preferred level of involvement in SLR planning effort from the SLR Coastal Professionals Survey 2021 (n=20)

These Coastal Professionals were also asked about their preferred spatial scale for SLR planning. Respondents were given a sliding scale ranging from planning on a "project by project" basis to planning on a larger scale of "Watershed/HU" and "Humboldt Bay". The results for the State Government category ranged from a Watershed/HU to a Humboldt Bay spatial scale with a 68% preference for a Humboldt Bay approach as shown in the graph on the next page.

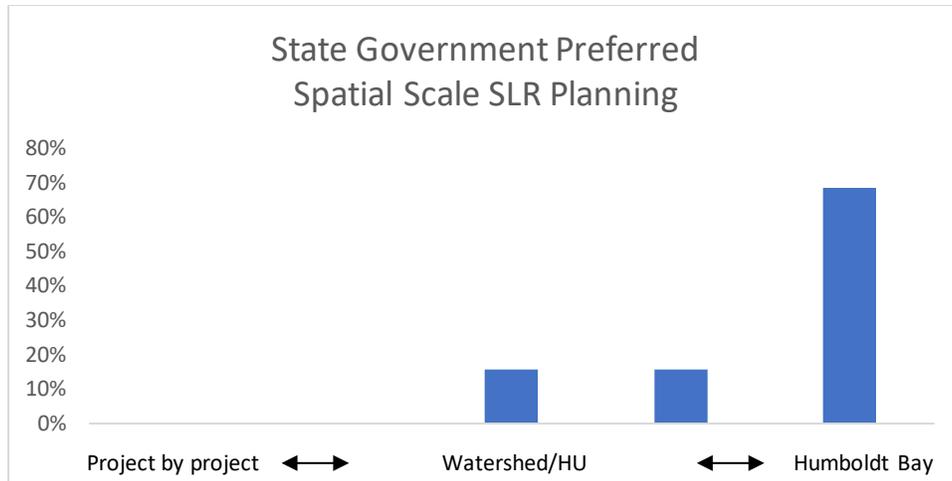


Figure 105. State Government respondents’ preferred spatial scale to focus regional SLR coordination efforts in the SLR Coastal Professionals Survey 2021 (n=19)

To better understand the preferred style of future regional SLR coordination, Coastal Professionals were asked their level of support for several potential regional SLR planning options on a five-point Likert scale ranging from "strongly oppose" to "strongly favor". The results for the State Government favored creating a formal collaborative partnership with 72% of respondents rating this option somewhat favorable or higher. Similarly, 95% of respondents answered they somewhat or strongly oppose having no regional planning as shown in the graph below.

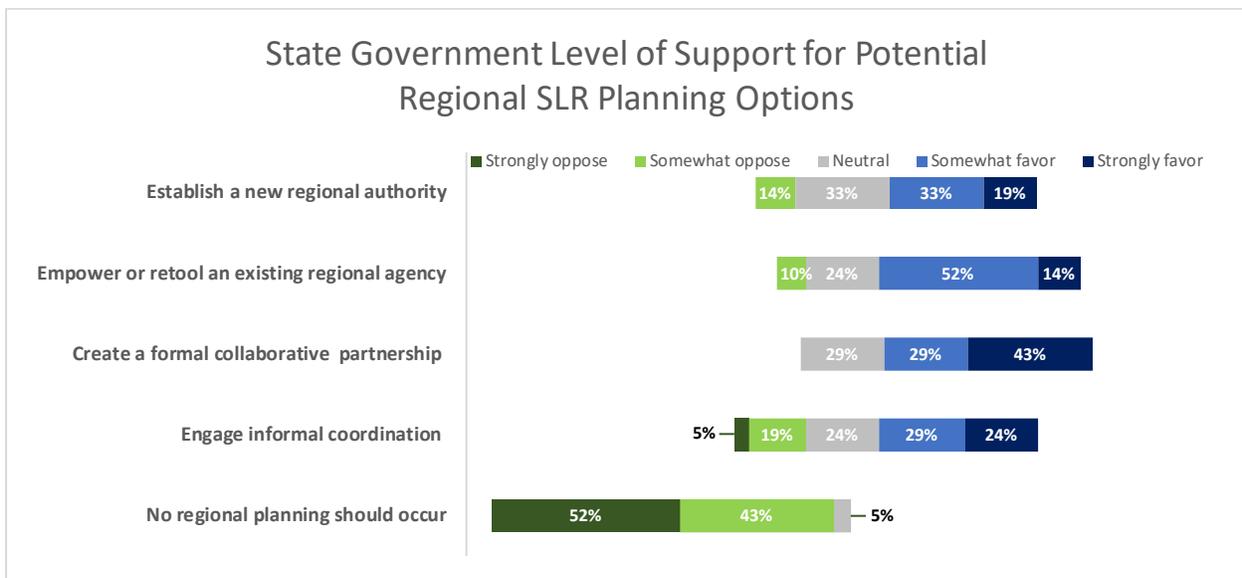


Figure 106. State Government respondents’ level of support or opposition for various strategies for regional coordination of SLR planning from the SLR Coastal Professionals Survey 2021 (n= 21)

Reference Links

<https://dot.ca.gov/caltrans-near-me/district-1/d1-projects>

https://www.eurekabroadwaycorridorplan.com/uploads/5/4/7/5/54754127/broadway_feasibility_study_final.pdf

<https://www.arcgis.com/apps/webappviewer/index.html?id=517eecf1b5a542e5b0e25f337f87f5bb>

Climate Change VA Summary Report (2019): <https://dot.ca.gov/-/media/dot-media/district-1/documents/d1-summary-report-a11y.pdf>

<https://dot.ca.gov/caltrans-near-me/district-1/d1-projects>

Caltrans Eureka-Arcata Corridor: Sea Level Rise Vulnerabilities and Adaptation Solutions (2019): https://digitalcommons.humboldt.edu/cgi/viewcontent.cgi?article=1007&context=hsuslri_state

Climate Change Vulnerability Assessment and Pilot Studies Federal Highway Administration Climate Resilience Pilot Project: <https://humboldt.gov/DocumentCenter/View/70095/Caltrans-District-1-Climate-Change-Vulnerability-Assessment---Main-Document>

Appendices: <https://humboldt.gov/DocumentCenter/View/70094/Caltrans-District-1-Climate-Change-Vulnerability-Assessment---Appendices>

City of Arcata

See page 23.

City of Eureka

See page 31.

Humboldt Bay Harbor, Recreation, and Conservation District

See page 52.

Humboldt County

See page 41.

North Coast Railroad Authority (Great Redwood Trail Agency)

See page 130.