May 6, 2024

To: Members of the Board of Directors

From: Darrell E. Johnson, Chief Executive Officer

Subject: Coastal Rail Resiliency Study Updates

Overview

On March 11, 2024, staff provided an update on coastal rail emergencies in south San Clemente as well as a progress report on planning for short and mid-term railroad protection measures through the Coastal Rail Resiliency Study. As part of this effort, an Initial Assessment was conducted to identify areas where the railroad tracks were under immediate threat of being undermined leading to passenger rail service disruptions. Based on the Board of Directors, public, and other stakeholders' input, staff has incorporated updates to the initial conceptual solutions for consideration and direction on next steps.

Recommendation

Direct staff to further develop the updated concepts in the Initial Assessment and return to the Board of Directors with a comprehensive plan to integrate both engineering and sand nourishment solutions to help protect the rail corridor in the immediate timeframe.

Background

The Orange County Transportation Authority (OCTA) owns the Orange Rail Subdivision in Orange County, between the cities of Fullerton and San Clemente. In July 2023, the Board of Directors (Board) authorized the preparation of the South Coast Rail Infrastructure Feasibility Study and Alternative Concepts Analysis (also known as the Coastal Rail Resiliency Study [Study]) to assess existing and future risks, as well as challenges with the maintenance and operation of rail services along the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor in south Orange County.

The Study area includes the cities of Dana Point and San Clemente and unincorporated portions of Orange and San Diego counties, spanning approximately seven miles. The Study began in fall 2023 and will identify and

assess solutions to protect the existing rail corridor in place for the short term (next decade-plus) and mid term, approximately 30 years.

A separate but equally important long-term study, including the potential relocation of the rail line inland, is also planned. Given the complexity and regional significance of potentially realigning the rail corridor, OCTA and other regional transportation agencies have requested that the State lead this study.

Discussion

The Study's objective is to address ongoing challenges with the rail line along the southern Orange County coast. The following discussion provides an overview of the Study's Initial Assessment, including feedback provided to date.

The Initial Assessment evaluated and identified areas along the seven-mile stretch of the Study area that pose an imminent threat to rail operations. The Initial Assessment includes preliminary potential solutions to address the identified at-risk areas in the City of San Clemente, where coastal storm surges, combined with failing slopes and other environmental factors, have resulted in extended passenger rail service disruptions since 2021. These service disruptions not only have a significant effect on the service quality but also impact service reliability, a distinguishing characteristic in attracting users to public transit.

As part of the Study, OCTA held listening sessions to obtain feedback on the challenges and opportunities identified in the Initial Assessment. A wide array of stakeholders have been and will continue to be engaged including community groups, interested parties, as well as local, state, and federal agencies. Between January and April 2024, OCTA hosted eight listening sessions and nine focus meetings. Listening sessions have occurred at the technical staff level with participants from the cities of Dana Point, San Clemente, California Department of Transportation, County of Orange, LOSSAN, the Southern California Regional Rail Authority (Metrolink), and others.

Listening sessions and focus meetings have also been held with resource agencies (California Coastal Commission [CCC], U.S. Army Corps of Engineers [USACE], California State Lands Commission, etc.), California State Parks, University of California, Irvine, University of California, Santa Cruz, major employers, freight and goods movement stakeholders, emergency responders, coastal and marine habitat community-based organizations, residential groups, and the general public. Two additional listening sessions are planned for May 2024. One will be held with local, state, and federal elected officials and

their staff, and a second listening session for the general public will be held in the City of San Clemente.

A wide range of comments and input have been received on the Initial Assessment and the Study as a whole. The feedback includes but is not limited to the following suggestions and concerns:

- Consider other natural solutions (sand, living shoreline, etc.)
- Seek partnering opportunities (city, county, state, etc.)
- Integrate the previous work of others into the Study as appropriate
- Support for following the prescribed environmental processes
- Consider the impacts of armoring and its effects on coastal erosion
- Support for early, comprehensive, preventive action
- Obligation for OCTA to keep the railroad operational
- Continue coordinated streamlined communication of service disruptions
- Concern regarding impacts to employee commute patterns and regional tourism
- Consult coastal and marine habitat experts

Updated Initial Assessment Concepts

The Initial Assessment, conducted early in the Study process, identified four areas in need of immediate attention to avoid additional railroad closures. Three of these areas are just north of the San Clemente Pier and the fourth area is in the vicinity of San Clemente State Beach. Three of the four areas face challenges on the seaward side, either lacking a beach or insufficient beach. One of the four areas faced challenges inland of the railroad where a portion of the hillside collapsed in January 2024, leading to the most recent two-month passenger rail closure earlier this year at Mariposa Point, Mile Post 204.2. The potential solutions identified in the Initial Assessment at a conceptual level included:

- Additional riprap proposed to be placed to protect the rail line from coastal erosion where little or no beach remains
- A catchment wall proposed to be built to address potential additional landslides from the hillside inland of the tracks
- An engineered revetment proposed to protect the rail line from the eroding coast where sufficient beach still remains to allow for engineered revetment to be placed

Sand nourishment was not initially contemplated to be integrated simultaneously with the aforementioned potential solutions since there is currently no mechanism to secure the necessary permits on a concurrent

timeframe. Attachment A includes a map of the four Initial Assessment areas in need of immediate attention.

As noted above, a majority of comments received to date involve the need to integrate the addition of sand, also referred to as sand nourishment, in conjunction with the potential solutions of placing additional riprap and engineered revetment. OCTA has had ongoing meetings with state regulatory agencies to discuss opportunities to integrate sand nourishment as a component of the potential solutions that would provide immediate protection for the rail line.

Under the traditional project implementation process, mitigation would be required to offset any project-related impacts. Currently, the CCC requires mitigation by permittees contributing to a sand mitigation fund. However, it is not certain that the sand mitigation fund would provide placement of sand in the actual vicinity of the project site and the timing also remains uncertain.

In light of the comments received to date indicating an overwhelming interest in sand being placed in the vicinity of the project sites, the proposed updated potential solutions would provide more than sufficient sand to mitigate potential impacts. As previously noted, the current expedited permitting processes do not have a mechanism to enable the permitting of sand nourishment in an expeditious manner. However, the CCC and USACE have indicated a willingness to find solutions that would enable concurrent approval of riprap placement, catchment wall, and engineered revetment along with sand nourishment. Attachment B includes OCTA letters to the CCC and USACE, requesting their assistance to help expedite the permitting processes to address imminent threats to the railroad in south Orange County.

Two scenarios have been prepared to determine the estimated timeframe it would take to implement potential solutions to address the reinforcement areas. The scenarios highlight the importance of expedited permitting. One scenario outlines the typical permit process and the other outlines an expedited permit process. The distinguishing factor between the two scenarios is under the typical permitting timeline, work can only start once the permit has been authorized by the CCC and USACE, whereas the expedited permit timeframe enables the work to start while OCTA finalizes the permit process. Both timeframes assume advance coordination with the CCC on the appropriate permit process. It could potentially take up to two years to obtain the regulatory permits under the typical permit timeline. This timeline places uninterrupted passenger rail service in jeopardy because of the imminent threats identified in the Initial Assessment. Attachment C presents an estimated timeframe for the typical permitting process. Attachment D presents an estimated timeframe for the expedited permitting process.

Updated Initial Assessment Concepts Risks

The Initial Assessment potential solutions development process occurred through a planning-level study and without the benefit of survey work. Consequently, detailed engineering, scope refinement, cost estimates, and schedule assumptions are subject to change as more information becomes available. The timelines also assume there is sufficient funding for all potential solutions proposed, which includes sand nourishment, riprap placement, engineered revetment, and catchment wall. The California Transportation Commission has granted OCTA $12 million to perform preliminary engineering and complete environmental phases. This funding is provided through the Local Transportation Climate Adaptation Program grant and a request to accept the grant and provide the required match is being recommended through a separate Board item on the same agenda as this report. Staff is currently working with the State on grant opportunities for implementation. It is important to note that further discussions are needed with the CCC and USACE to determine the appropriate permit path that would expedite the process as the timing of the permits also affects costs.

The sand nourishment component assumes the CCC and USACE would permit armoring and sand nourishment on a parallel path. However, the actual construction sequencing requires further development such as how the sand can be delivered to the desired location as one example. Off-shore dredging may be the most efficient method given initial estimated sand volume needed and limited accessibility considerations. There is very limited vehicular access to make trucking viable and using rail cars does not allow for getting the sand to the toe of rail slope where the sand should be placed. Close coordination with the passenger and freight operators would be necessary and likely require service disruptions to allow for work windows within the busy rail line schedule.

Next Steps

Following the conclusion of the remaining listening sessions, staff will be focused on the following activities.

- Continuing to refine the initial concepts to protect the rail tracks that are at immediate risk should the Board support staff recommendations for taking early actions
- Working with regulatory agencies to coordinate the permitting of the initial concepts inclusive of sand nourishment which is critical to the scope and schedule of the effort
- Exploring the logistics of sand delivery as part of the initial concept refinement

- Pursuing external funding opportunities necessary to implement the initial concepts as they are refined
- Developing the short- and mid-term proposed solutions in due consideration of input received and seek opportunities to coordinate the development and/or implmemtation with the work of other agencies
- Keeping the Board apprised of the progress while continuing to listen and inform the interested parties about the development of the protection measures

Summary

As a part of the Coastal Rail Resiliency Study, an Initial Assessment identified several areas of the railroad that are under immediate threat, which could lead to additional railroad service disruptions. An update on feedback of the Initial Assessment, including preliminary updated potential solutions, is presented for consideration. Upon Board approval, staff will develop a comprehensive plan to integrate engineering and sand nourishment solutions to protect the rail corridor in the immediate timeframe.

Attachments

A. Coastal Rail Resiliency Study Map
B. Letters to California Coastal Commission and United States Army Corps of Engineers
C. Coastal Rail Resiliency Study: Initial Assessment Estimated Project Timeline (typical permit process)
D. Coastal Rail Resiliency Study: Initial Assessment Estimated Project Timeline (expedited permit process)

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