Bay Area Toll Authority
Oversight Committee

May 13, 2026 **Agenda Item 6a-26-0344**

Information – Safeguarding Toll Bridges from Vessel Strikes: Initial Risk Evaluation Results and Path Forward

Subject:

Staff will present an update on the response to recent National Transportation Safety Board (NTSB) recommendations to owners of bridges over navigable waterways frequented by ocean-going vessels.

Background:

On March 26, 2024, the container ship MV Dali struck the Francis Scott Key Bridge in Baltimore, Maryland resulting in the collapse of the bridge. This incident highlighted vulnerabilities associated with vessel bridge allisions in the United States and the need to understand the risks, and prompted the National Transportation Safety Board (NTSB) to issue a series of marine and highway safety recommendations in 2025 following the completion of its investigation. An initial recommendation urged bridge owners, including the State of California, that did not understand the current risk to calculate whether the probability of a bridge to collapse from a vessel allision is above the most recent acceptable risk threshold established by American Association of State Highway and Transportation Officials (AASHTO). If so, it is also recommended to develop and implement a risk reduction plan. Five state-owned Bay Area toll bridges over navigable waterways frequented by ocean-going vessels were identified for analysis:

- Richmond–San Rafael Bridge
- Benicia–Martinez Bridge
- Carquinez Bridge
- Antioch Bridge
- San Mateo–Hayward Bridge

The Golden Gate Bridge and Coronado Bridge in San Diego County are the other California bridges identified for evaluation. The San Francisco Oakland Bay Bridge (West Span) was not identified due to ongoing project development on its fender upgrade, and the Dumbarton Bridge does not have many ocean-going vessels transiting under it.

The purpose of the analysis is to determine whether these structures meet current risk standards consistent with the AASHTO Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges. Under this guidance, the annual probability of bridge collapse resulting from a vessel allision should not exceed 0.01%.

Caltrans, as the bridge owner, informed the NTSB that it would complete the requested analysis. In support of this effort, BATA and Caltrans have coordinated closely with FHWA, the Golden Gate Bridge and Highway District, Harbor Safety Committee (HSC) of the San Francisco Bay and additional industry partners to ensure technical rigor and alignment with national best practices.

Caltrans completed the initial risk evaluation of bridge collapse due to vessel allisions for the five bridges. A summary of the initial evaluation is provided in the table below:

Bay Area Toll Bridges	**Within Vessel Allision Risk Threshold Guidance**
Richmond-San Rafael Bridge	No
Carquinez Bridge	No
Benicia-Martinez Bridge	No
Antioch Bridge	Yes
San Mateo-Hayward Bridge	Yes

It is important to note that being outside the current design guidelines does not indicate a bridge is unsafe. Rather, it reflects a slightly higher relative risk when compared with today's more stringent standards for bridges.

With an updated understanding of the allision risks, BATA and Caltrans are working on adding to a comprehensive risk reduction plan that includes short- and long-term strategies to reduce the risk and address any additional recommendations from NTSB. This work requires continued coordination with the maritime domain operators in the region, FHWA, and the Harbor Safety Committee. Harbor Safety Committees are mandated by State law to plan for the safe navigation and operation of tanker ships, tanker barges and other vessels within California's five major harbors. As strategies are developed and actions taken, staff will inform the Committee of the progress and update its recently adopted Toll Bridge Asset Management Plan and Capital Improvement Plans.

Recommendations:

None. Information Only.

Attachments:

- Presentation: Safeguarding Toll Bridges from Vessel Strikes: Risk Evaluation Results and Path Forward

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