



## Memorandum

### AGENDA ITEM 15

**DATE:** May 27, 2021

**TO:** Transportation Authority Board

**FROM:** Eric Cordoba - Deputy Director for Capital Projects

**SUBJECT:** 06/08/21 Board Meeting: Update on the Pennsylvania Avenue Extension Project

<b>RECOMMENDATION</b> <input checked="" type="checkbox"/> Information <input type="checkbox"/> Action	
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None. This is an information item.

#### SUMMARY

The Pennsylvania Avenue Extension (PAX) project will grade-separate current Caltrain passenger rail operations from local vehicular and pedestrian traffic patterns in the Mission Bay and Potrero Hill neighborhoods. When completed, PAX will replace existing at-grade Caltrain crossings at Mission Bay Drive and 16<sup>th</sup> Street with a rail tunnel, as recommended in the 2018 Railyard Alignment and Benefits (RAB) Study prepared by the San Francisco Planning Department. The proposed project will serve Caltrain and future California High-Speed Rail (CHSR) operations, connecting to the Downtown Rail Extension (DTX) at the future 4<sup>th</sup> and Townsend Station. The Transportation Authority is currently leading the Pre-Environmental Study and scoping phase of work and has identified a range of potential alternative alignments for the project. These alternatives reflect multiple tunnel lengths and potential construction methods, with different implications for existing and potential future station locations along the alignment. Based on a preliminary evaluation of constructability, cost, schedule, risk, environmental considerations and benefits, the Study will recommend a set of alternatives to be advanced into subsequent environmental review phase of analysis and outreach. We are currently completing the final phase of technical analysis and inter-agency engagement for the Pre-Environmental Study and plan to present the final report in September 2021.

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| <input type="checkbox"/> Fund Allocation<br><input type="checkbox"/> Fund Programming<br><input type="checkbox"/> Policy/Legislation<br><input type="checkbox"/> Plan/Study<br><input checked="" type="checkbox"/> Capital Project Oversight/Delivery<br><input type="checkbox"/> Budget/Finance<br><input type="checkbox"/> Contract/Agreement<br><input type="checkbox"/> Other: _____ |
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## **BACKGROUND**

In 2018, the San Francisco Planning Department, in partnership with the Transportation Authority and other partner agencies, concluded the RAB Study. The RAB Study assessed options for the alignment of the Caltrain corridor through San Francisco and identified the City's preferred alignment as a tunnel beneath Pennsylvania Avenue, connecting to the planned alignment for the DTX between 4th and King/Townsend streets and Salesforce Transit Center. The Transportation Authority Board endorsed this alignment in September 2018 through approval of Resolution 19-12.

The PAX project will connect to the DTX's southern limits adjacent to the existing Caltrain railyard at 4<sup>th</sup> and King streets and will continue south via 7<sup>th</sup> Street and Pennsylvania Avenue. The southern limit of PAX will vary depending on the eventual preferred alternative.

The primary purpose of PAX is to eliminate existing at-grade rail crossings at Mission Bay Drive and 16<sup>th</sup> Street. PAX will serve Caltrain and CHSR trains traveling between southern San Francisco and the future 4<sup>th</sup> and Townsend Station. In the future, Caltrain and the California High-Speed Rail Authority (CHSRA) plan to operate up to 12 trains per peak hour per direction, for a bi-directional total of 24 train movements per peak hour in the corridor. Implementing grade separations at these locations will greatly improve street grid connectivity between the Mission Bay/Dogpatch and neighborhoods to the west and northwest.

In November 2019 the Transportation Authority Board appropriated \$1.6 million in Prop K sales tax funds for the PAX Pre-Environmental Study. In June 2020 the Transportation Authority Board approved the award of a consulting contract to McMillen Jacobs Associates to undertake the PAX Pre-Environmental Study's technical work program. We are currently completing the final phase of technical analysis and inter-agency engagement for the Study, and plan to bring forward the final report in September 2021.

## **DISCUSSION**

The purpose of the PAX Pre-Environmental Study is to identify viable rail alignment alternatives to advance to the environmental clearance phase. The Study includes assessment of initial concept design options against a set of evaluation criteria.

**Work to Date.** Over the past several months, the PAX Study Team has completed the following tasks:

- Identification of a range of conceptual alternatives;
- Initial screening to identify viable alternatives for more detailed study;
- Development of preliminary designs, costs, and risks for the most viable alternatives;
- Assessment of the alternatives against a set of evaluation criteria;



- Analysis of tunnel construction methodologies, constraints, and constructability; and
- Preparation of technical studies to assess geotechnical conditions, hydrology, environmental constraints, and traffic impacts.

We have also undertaken technical engagement with Caltrain, CHSRA, the Transbay Joint Powers Authority (TJPA), and other partner agencies.

**PAX Alternatives and Evaluation.** The Study initially identified a wide range of alignments for consideration; after initial analysis and screening, three most-viable alternatives were identified. The screening process consisted of technical analysis and a third-party peer review. The three alternatives under detailed evaluation are as follows:

- A. Long Alternative – This alternative would provide a tunneled rail alignment from DTX to a point immediately north of Cesar Chavez Street. Alternative A requires replacement of the existing 22<sup>nd</sup> Street Caltrain Station.
- B. Mid-Length Alternative – This alternative would provide a tunneled rail alignment from DTX to approximately the site of existing 22<sup>nd</sup> Street Caltrain Station. This station would require some modifications as part of construction of PAX.
- C. Short Alternative – This alignment would allow for preservation of the existing 22<sup>nd</sup> Street Caltrain Station.

Alternative A and Alternative B both have two variant options, reflecting “single bore” (single tunnel for both north- and southbound tracks) and “twin bore” (separated tunnels) approaches to construction. Alternative C requires a “split” alignment with more significant separation between northbound and southbound tunnels and multiple tunneling methods.

The Study Team, in consultation with agency partners, has prepared an evaluation framework to assess and compare the alternatives. This framework includes criteria reflecting project goals, interfaces with related projects, constructability, environmental considerations, and cost, schedule, and risk.

**Related Projects.** We are closely coordinating the PAX work with related initiatives, including the DTX led by the TJPA, the Southeast Stations Study led by the San Francisco Planning Department, and multi-agency planning and coordination for the 4<sup>th</sup> and King Railyard. The project will interface with DTX and the Railyard at the PAX’s northern segment. Design coordination for this location is underway, to be furthered in future stages of PAX development and planning for the Railyard.

The Planning Department’s Southeast Stations Study is assessing alternative locations or configurations for the 22<sup>nd</sup> Street Caltrain Station, as well as sites for an infill Caltrain Station in the Bayview. As described above, PAX may require modification or replacement of the 22<sup>nd</sup> Street Station, depending on the alternative. The PAX concept design work is being coordinated with the development of the Southeast Stations Study.



**Next Steps.** We are currently completing the final phase of technical analysis and inter-agency engagement for the Pre-Environmental Study.

Key activities to complete this Study phase include:

- Finalization of concept designs for the identified alternatives;
- Development of planning-level capital cost estimates;
- Completion of initial risk analysis, including planning-level risk response/approach;
- Initial public engagement efforts; and
- Preparation of final report to document Pre-Environmental Study analysis and findings.

We plan to undertake initial public/stakeholder engagement over the summer, potentially in coordination with Southeast Stations Study. We plan to bring forward the final report in September 2021, in conjunction with recommendations regarding advancing the project to environmental review.

## **FINANCIAL IMPACT**

None. This is an information item.

## **SUPPLEMENTAL MATERIALS**

Attachment 1 – PAX Pre-Environmental Study Update Presentation