



San Francisco Peninsula Rail Program

Memorandum

To: Executive Steering Committee
From: Stephen J. Polechronis, Interim Project Director
Date: October 23, 2020
Re: Agenda Item 7 – Phasing Study and Operations Analysis Update

BACKGROUND: The San Francisco Peninsula Rail Program Memorandum of Understanding (MOU), effective June 5, 2020, described, in part, an organizational structure to support the efforts of the TJPA to develop the Downtown Rail Extension (DTX) project to ready for procurement status.

Among the activities of the MOU Summary Work Plan is a Project Phasing Study with the express purpose of identifying an initial operating project that could be constructed and operated within reasonably available funding sources.

The Integrated Project Management Team (IPMT) has been highly focused on conceiving, developing, and testing elements of the project (phasing concepts) which could be deferred to the future while still providing an initial operating project that is safe, reliable, and meets the transportation needs of the region. This work has been conducted through a series of workshops, supported by technical evaluation.

Background: The Evaluation Criteria were initially presented to the Executive Steering Committee (ESC) on August 21, 2020. The IPMT subsequently further refined these for clarity:

Evaluation Criteria - An initial task was to establish criteria against which the phasing concepts could be tested. As applicable, each phasing concept will be evaluated using the criteria established by the IPMT and changes in effect, if any, from the current project as disclosed in the approved environmental documents will be described. The analysis will be presented in a Project Phasing Report for ESC review and recommendation to the TJPA Board of Directors for review and approval.

The criteria and sub criteria as determined by the IPMT are:

1. Initial Capital Cost Savings and Future Retrofit Cost
 - a. Cost savings of deferred phasing concept
 - b. Impact on Federal Transit Administration (FTA) evaluation
 - c. Cost of future implementation of deferred phasing concepts
 - d. Right-of-Way cost

2. Consistency with Regional Plans, Context, and Transportation Benefits
 - a. Impact on users
 - b. Impact on other regional projects (and vice versa)
 - c. Impact to DTX Regional Significance
 - d. Support for regional resiliency and equity strategies (Plan Bay Area 2050)
 - e. Impact to passengers' cost of using service
 - f. User Benefit (e.g. travel time reduction, transit trip increases)

3. Environmental Effects
 - a. Consistency with DTX environmental document and/or need for additional environmental review
 - b. Dependency on another non-environmentally cleared project
 - c. Community Impact

4. Operations Effects
 - a. Changes to Operations cost
 - b. Constraints on service flexibility
 - c. Changes in operational reliability, security, and/ or safety
 - d. Constraints on future service growth
 - e. Impact on service during future retrofit

5. Maintenance Effects
 - a. Changes to Maintenance costs
 - b. Changes in Resilience
 - c. Changes to maintenance access and crew safety
 - d. Changes in response time for repairs
 - e. Blurring of O&M responsibilities

Phasing Concepts:

1. Reduce Trainbox Extension (Exhibit A) – this concept involves reducing the Trainbox extension from approximately Main Street to extend only as far as a trapezoidal property owned by TJPA just east of Beale Street. This change is made possible due to changes in platform requirements approved by the California High Speed Rail Authority (CHSRA).

2. BART/Muni Pedestrian Connector – this concept would defer the sub-surface pedestrian connector between the Transit Center and Embarcadero Station. Transferring passengers would continue to use surface streets.

3. Intercity Bus Terminal Facility – this concept would defer the Intercity Bus Terminal proposed for construction on the block west of Beale Street. Intercity buses would continue to use the Transit Center or city streets.

4. Fit out of CHSRA elements – High Speed Rail-specific elements would be deferred to a date supportive of such service to the Transit Center.

5. Fit out of 4th and Townsend Station – the station box would be constructed, but elements of the station required to support service to the station itself would be deferred to a future date.
6. Two vs three tracks in tunnel – a reduction in capacity from three to two tracks between the 4th and Townsend Station and the Transit Center would result from either construction of a tunnel permitting no more than two tracks, or deferral of track and systems fit-out of the third cell in a three-cell tunnel.

DTX Operations Analysis – The IPMT determined that a Phasing Study-specific operations analysis would be required in order to fully evaluate the impact of certain of the phasing concepts. Existing and available analyses did not provide the information required to test the phasing concepts against the Evaluation Criteria. Accordingly, the operating partners, Caltrain and CHSRA, developed a scope of work with their operations consultant. Caltrain has executed a contract and issued Notice to Proceed, effective September 17, 2020.

The primary objective of the Operations Analysis task is to assist Caltrain and the CHSRA in the following:

- Develop analysis of ideal and acceptable infrastructure requirements for a range of service concepts (combined for CT/HSR) including:
 - track layout and signal system performance
 - station configuration at 4th/Townsend
 - the number and configuration of platforms needed for both CHSRA and Caltrain at the Transit Center
- Identify what levels of service and demand can be served given infrastructure constraints (iterative with Phasing Study)
- Develop analysis of contingency operation plan scenarios for illustrative potential service interruptions

The operational parameters defined in the Caltrain Business Plan, including both Caltrain and High-Speed Rail service frequency and passenger demand will be used as the base case. The result of this work will be a robust analysis detailing future infrastructure needs, necessary track capacity through DTX, infrastructure necessary at 4th/Townsend, and an operational platform occupancy plan at the Transit Center for CHSRA and Caltrain. This work will also explore the implications, both to station operations and capacity through the DTX corridor of potential future run-through operations.

The operations consultant will perform this analysis through a Technical Working Group (TWG), with members from Caltrain and CHSRA to address the following key questions:

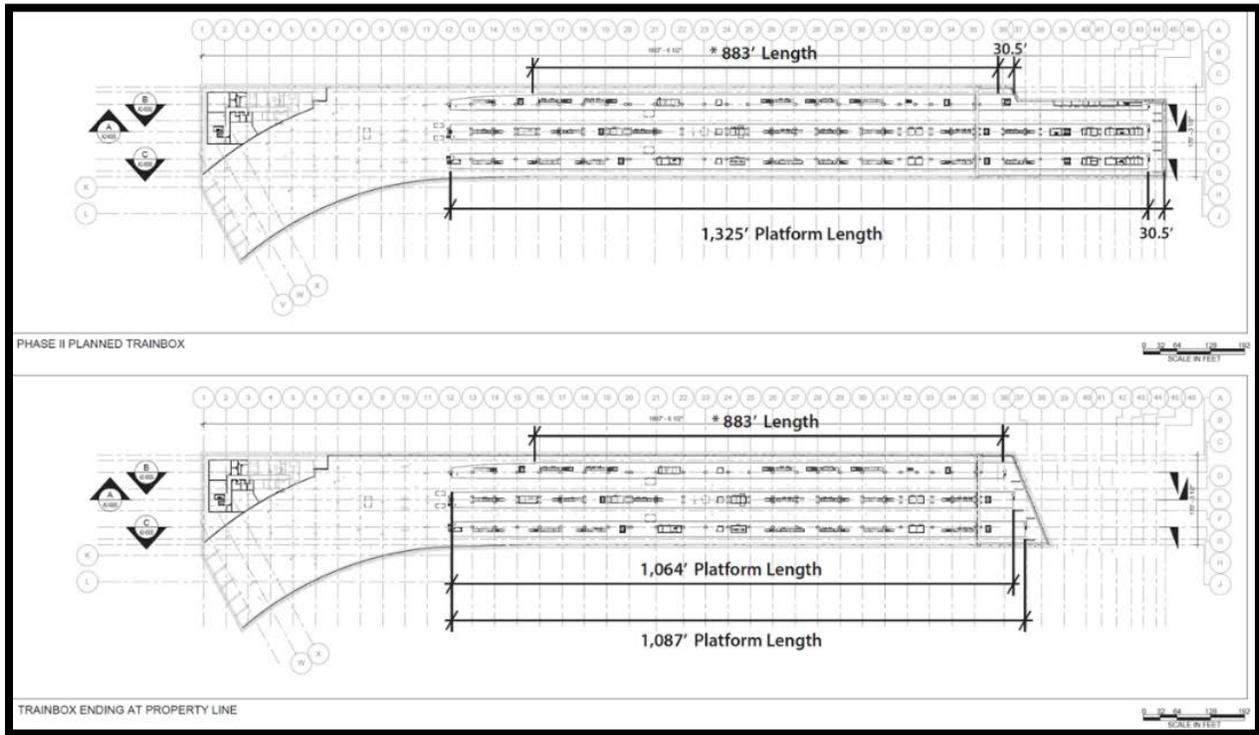
- What operational parameters and costs are required to operate the future service plan reliably?
- What is the level of infrastructure required to operate the future service plan reliably?
- How resilient is the operating plan and infrastructure for managing potential service disruptions?
- What are the implications of potential future run-through operations?

The work will be conducted in 5 tasks including:

- Task 1 – Initial Parameter Development
- Task 2 – Operations Planning / Concept Refinement
- Task 3 – Conceptual Phasing
- Task 4 – Contingency Planning
- Task 5 – Future Run-Trough Options Assessment

The Operations Analysis is scheduled to be completed no later than January 2021, in sufficient time to support the Phasing Study schedule. The Comprehensive Work Plan currently envisions a draft final Phasing Report and recommendations to the ESC in July 2021 and the TJPA Board of Directors in August 2021.

Exhibit A



San Francisco Peninsula Rail Program Executive Steering Committee

Item 7 – Phasing Study and Operations Analysis Update
Integrated Program Management Team (IPMT) Report

October 23, 2020



Phasing Plan

Identify an initial operating project

- Safe
- Reliable
- Meets regional transportation needs
- Consistent with realistic available funding

Evaluation Criteria

1. Initial Capital Cost Savings and Future Retrofit Cost

- Cost savings of deferred phasing concepts
- Impact on Federal Transit Administration (FTA) evaluation
- Cost of future implementation of deferred phasing concepts
- Right-of-way cost

2. Consistency with Regional Plans, Context and Transportation Benefits

- Impact on users
- Impact on other regional projects (and vice versa)
- Impact to Downtown Rail Extension (DTX) regional significance
- Support for regional resiliency and equity strategies (Plan Bay Area 2050)
- Impact to passengers' cost of using service
- User Benefit (e.g. travel time reduction, transit trip increases)

Evaluation Criteria

3. Environmental Effects

- Consistency with DTX environmental document and/or need for additional environmental review
- Dependency on another non-environmentally cleared project
- Community impact

4. Operations Effects

- Changes to operations cost
- Constraints on service flexibility
- Changes in operational reliability, security and/or safety
- Constraints on future service growth
- Impact on service during future retrofit

Evaluation Criteria

5. Maintenance Effects

- Changes to maintenance costs
- Changes in resilience
- Changes to maintenance access and crew safety
- Changes in response time for repairs
- Blurring of O&M responsibilities

Phasing Concepts

1. Reduce Train Box Extension
2. Defer BART / Muni Pedestrian Connector
3. Defer Intercity Bus Facility
4. Defer fit-out of high-speed rail components
5. Defer fit-out of Fourth and Townsend Street Station
6. Two vs. three tracks in tunnel

Operations Analysis

- Identify infrastructure required for a range of service concepts
 - Track layout and signal system performance
 - Station configuration at Fourth and Townsend
 - Number and configuration of platforms at Salesforce Transit Center
- Identify service and demand constraints driven by deferral concepts
- Analyze contingency operating plans for service interruption scenarios
- Assess service under future run-through options

Questions

