STAFF REPORT FOR CALENDAR ITEM NO.: 11
FOR THE MEETING OF: November 18, 2021

TRANSBAY JOINT POWERS AUTHORITY

BRIEF DESCRIPTION:

As part of the Downtown Rail Extension (DTX) design development and optimization process, the San Francisco Peninsula Rail Program Executive Steering Committee (ESC) is supportive of configuration management changes recommended by the Integrated Program Management Team (IPMT) that include a reduction of approximately ½ mile of third track between Fourth and Townsend Station and approximately midway between Harrison and Folsom Streets, and modifications to the underground Fourth and Townsend Station to include changes to the station layout, specifically a two-track arrangement with a center platform serving Caltrain and two side platforms serving California High Speed Rail, resulting in an expansion of the station footprint under the Caltrain Fourth and King railyard.

The purpose of this staff report is to apprise the Board of Directors of these proposed changes and to outline a path forward for future additional ESC consideration, and eventual review and approval by the TJPA Board of Directors.

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 DTX project to ready for procurement status. Among other provisions, the MOU established the IPMT, comprised of senior technical representatives from the MOU partners, the Metropolitan Transportation Commission (MTC), the San Francisco County Transportation Authority (SFCTA), the Peninsula Corridor Joint Powers Board (Caltrain), the California High-Speed Rail Authority (CHSRA), and the City and County of San Francisco (Mayor's Office), and the TJPA.

The IPMT conducted several technical studies to advance the project. Among those is an update of earlier Operations Analyses for the purpose of validating infrastructure design as new information regarding the rail operators' vehicles and operating plans were defined, as well as to determine if optimized configurations could be developed that will enhance the rail service and/or result in reduced project cost. This effort to optimize the project will continue through ongoing design development and value engineering. As the IPMT considers these and future optimizations, proposed modification(s) that result in a change to the project baseline, [(as defined in the 2018 Final Supplemental Environmental Impact Statement/Environmental Impact Report (FSEIS/EIR)], they will be presented to the ESC for review and recommendation to the TJPA Board of Directors for approval. The changes described herein were presented to and discussed by the ESC at the October 22, 2021 meeting.

CONFIGURATION CHANGES:

Reduction in the length of Third Track

Description: The baseline concept (See Attachment 1, Baseline Concept) included a three-track tunnel configuration beginning just west (outbound) of the Fourth and Townsend Station along

Townsend and Second Streets all the way to the throat section in the vicinity of Tehama Street. Through the aforementioned Operations Analysis and proposed reconfiguration of the Fourth and Townsend Station layout (described below), an alternative operating scenario was developed and tested with a reduced three track configuration utilizing an extended two track section of tunnel in conjunction with the proposed Fourth and Townsend Station layout. In this configuration, the three-track section need not begin until approximately mid-way between Harrison and Folsom Streets along 2nd Street (see Attachment 1, Third Track Reduction). This configuration does not change the project configuration inbound of this new three-track section, including the throat structure where the three tracks are expanded to six to access the six-track transit center layout.

Implications: Rail Operations consistent with the operators' service plans (8 peak hour each direction Caltrain trains and 4 peak hour each direction CHSRA trains) has been modeled under normal, perturbed, and contingency scenarios. In all cases, performance was consistent with operators' established service standards.

Because the construction of a reduced three track tunnel section would result in less excavation and construction material, and presumably a shorter construction schedule, environmental effects are presumed to be reduced and would likely require only an environmental technical memorandum to document the configuration change. This approach to National Environmental Policy Act (NEPA) has been informally reviewed with the Federal Transit Administration and favorably received although formal approval will be required during the Capital Investment Grants Project Development process, planned to commence in the next few months.

The reduced three track configuration was also analyzed in a through running configuration through a sketch-level planning study. No reduction in through-put at the transit center was observed.

Capital Cost Change: Compared to the baseline project (as defined in the FSEIS/EIR, adoption of this configuration change is estimated to result in a cost reduction of $200,000,000, escalated to a mid-point of construction of 2027 and includes soft costs, contingency, and reserves.

Modify the Footprint, Track and Platform Arrangement at Fourth and Townsend Street Station

Description: The baseline concept (see Attachment 2, Transverse Section - Baseline Concept and Attachment 2, Aerial Plan View – Baseline Concept) includes a three-track single Caltrain platform configuration with CHSRA trains running through the station without stopping. No platform for CHSRA is provided in the Baseline Concept. Since the time this concept was developed, CHSRA has determined that they will serve the Fourth and Townsend Street Station and thus require platform and other limited passenger facilities. During the operations analyses, several alternative layouts for the station were evaluated to accommodate both Caltrain and CHSRA service at the operators' service plans (8 peak hour each direction Caltrain trains and 4 peak hour each direction CHSRA trains). The optimum solution was determined to include two tracks serving one center platform for Caltrain passengers and two side platforms servicing CHSRA passengers (see Attachment 2, Transverse Section – Station Concept C and Attachment 2, Aerial Plan View – Station Concept C).

Implications: The Fourth and Townsend Street Station Concept C arrangement permits service for both operators with the desirable dedicated platforms and results in the elimination of conflicting inbound and outbound train movements in the throat section, enabling the significant reduction of third track as discussed above.

This proposed arrangement does increase the width of the station box, encroaching an additional approximate 17 feet into the Caltrain Fourth and King Yard, with some additional encroachment at the vertical circulation and ventilation structures along the station length. However, the relative impacts are reduced by the fact that the baseline concept includes several "bump outs" required for passenger access, emergency egress, and ventilation structures that extend beyond the station box and at the surface. Since Station Concept C largely incorporates these structures into the station box, the net additional encroachment is .16 acres. (see Attachment 2, Street Level Plan View – Baseline Concept and Attachment 2, Station – Concept C, and Summary Table).

Coordination with the potential development is continuing through the Fourth and King Railyard Working Group chaired by the San Francisco Planning Department in order to provide as much integration as possible between DTX, Caltrain yard requirements, and the eventual redevelopment of the yard.

The environmental effects associated with this configuration change include additional excavation and disposal of spoil material and an increase in the delivery of construction material, both due to the increased size of the station box. However, these are similar effects to those already reported in the approved FSEIS/EIR. As mentioned above, there is further encroachment for this proposed alternative under the Caltrain Yard as compared to that described in the FSEIS/EIR.

While the effects associated with this configuration are somewhat greater than those described in the FSEIS/EIR, they generally occur in a non-residential area and are believed to require only an environmental technical memorandum to document the configuration change. This approach to NEPA has been informally reviewed with the Federal Transit Administration and favorably received although formal approval will be required during Capital Investment Grants process, planned to commence in the next several months.

Capital Cost Change: Compared to the baseline project (as defined in the FSEIS/EIR), adoption of this configuration change is estimated to result in a cost increase of $150,000,000, escalated to a mid-point of construction of 2027 and includes soft costs, contingency. and reserves.

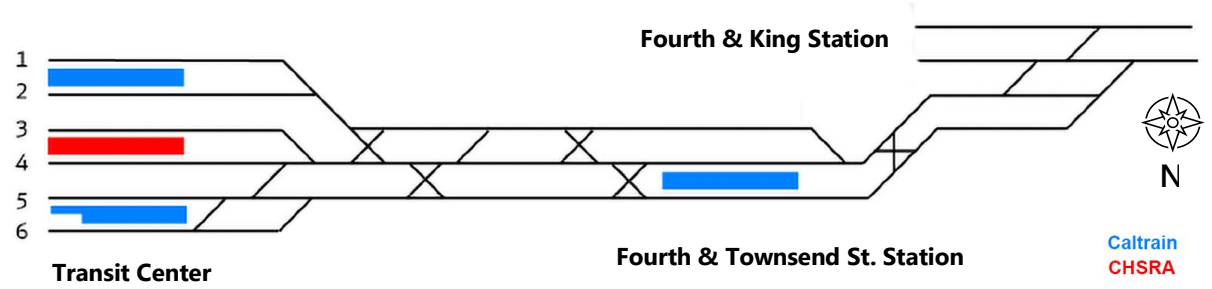
Summary: The reduction in the length of third track was made possible by the operational and trackwork changes resulting from the station configuration changes identified above at Fourth and Townsend Streets. Combined, these two design configuration changes provide a project cost reduction of $50,000,000, escalated to a mid-point of construction of 2027 and includes soft costs, contingency, and reserves. The ESC is supportive of these configuration management changes as recommended by IPMT.

NEXT STEPS:
The design for these two modifications will be further developed to fully validate their effectiveness. The environmental effects will then be characterized, and continued discussions will be undertaken with the Federal Transit Administration after entry into project development to gain agreement on the proper documentation for NEPA compliance purposes. Concurrently, TJPA staff will develop the required documentation for California Environmental Quality Act (CEQA) compliance purposes. Continued coordination will be conducted by TJPA with the Fourth and King Railyard Working Group in support of a potential future development of the railyard.

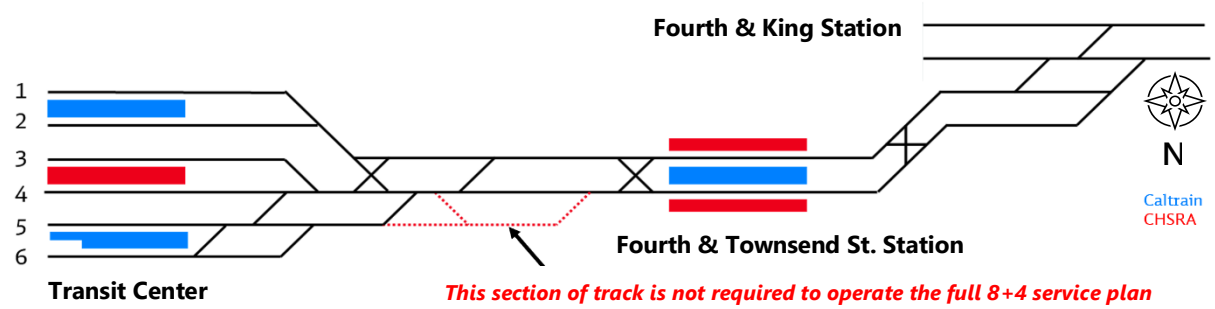
Staff will return to the ESC with a formal proposal to recommend these configuration changes to the TJPA Board of Directors for formal adoption into the project baseline once the above "next steps" are further developed with the IPMT and a recommendation is made.

Attachments:
Attachment 1: Third Track Reduction
Attachment 2: Fourth and Townsend Street Station Modifications

Concept C Reduced - Third Track Reduction

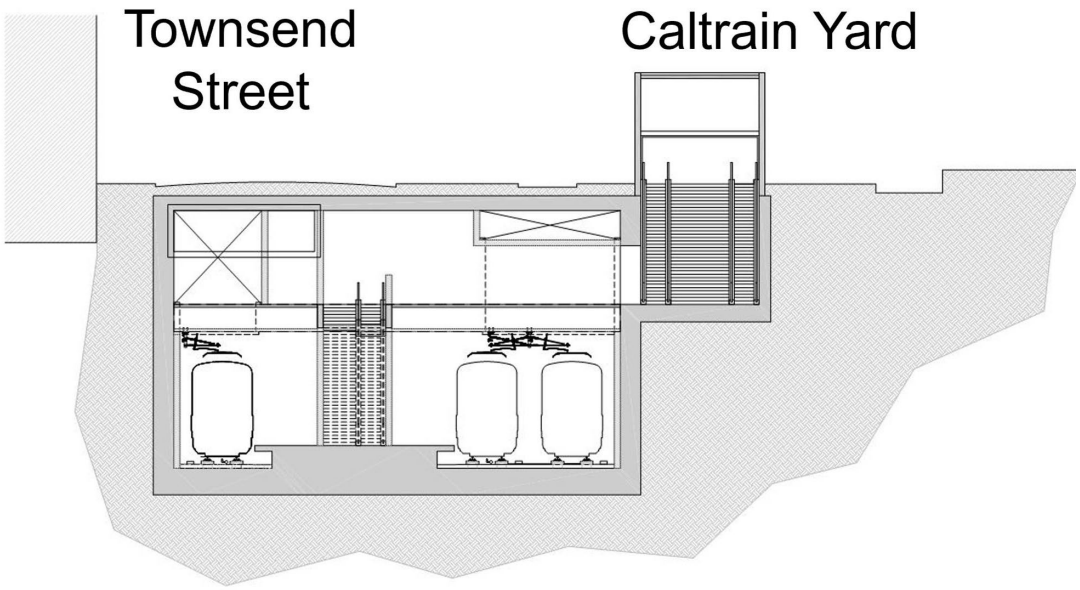


Schematic Layout - Baseline Concept

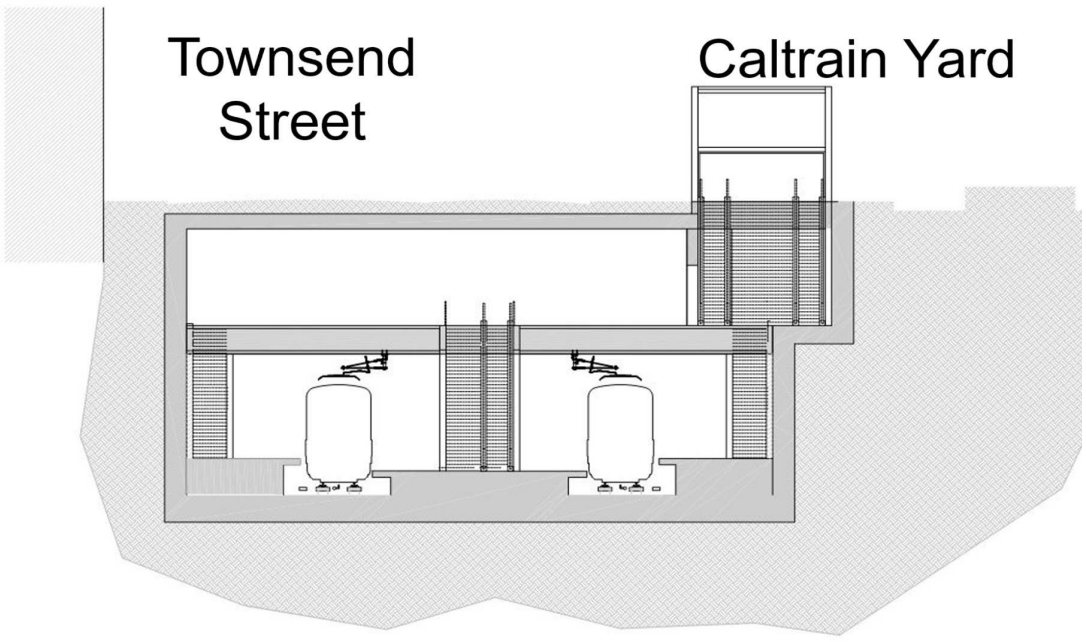


Schematic Layout – Concept C Reduced

Concept C Fourth and Townsend St. Station Modifications



Transverse Section - Baseline concept

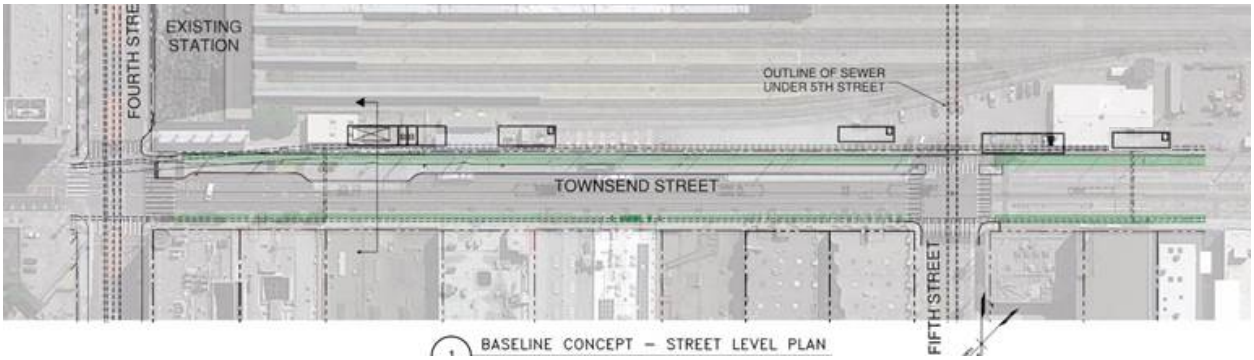


Transverse Section – Station Concept C

Aerial Plan View – Baseline Concept

\

Aerial Plan View – Station Concept C



Street Level Plan View – Baseline Concept

Street Level Plan View – Station Concept C

DESCRIPTION	BASELINE	CONCEPT C
VERTICAL CONVEYANCE (Platform to Concourse)	17	33
Structure Width (interior clear width)	76'-0"	92'-10"
Encroachment into Caltrain ROW (Main station box)	9'-9" (Main station box, approximately 875 ft in length)	26'-5" (South station box, approximately 875 ft in length)
Additional 'bump out' at street level structures	22'-2" (approximately 350 ft in length total divided over four locations)	9'-4" (approximately 80 ft in length total divided over two locations)
Encroachment into Caltrain ROW (at bump outs)	31'-11" (approximately 350 ft of 875 ft)	35'-9" (approximately 80 ft of 875 ft)
Encroachment into Caltrain ROW (acre)	0.37	0.53