



Memorandum

Date: June 18, 2018
To: Transportation Authority Board
From: Eric Cordoba – Deputy Director for Capital Projects
Subject: 07/10/18 Board Meeting: Adopt the Pennsylvania Alignment as the Preferred Alternative for Grade Separations at 16th Street and Mission Bay Drive on the Approach to the Caltrain Downtown Extension

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| <p>RECOMMENDATION <input type="checkbox"/> Information <input checked="" type="checkbox"/> Action</p> <p>Adopt the Pennsylvania Alignment as the preferred alternative for grade separations at 16th Street and Mission Bay Drive on the approach to the Caltrain Downtown Extension (DTX).</p> <p>SUMMARY</p> <p>At the May 22 Transportation Authority Board meeting, the Planning Department presented the staff recommendations stemming from the Rail Alignment and Benefits Study (RAB), previously known as the Railyard Alternatives and I-280 Boulevard Feasibility Study. RAB is a multi-agency program studying transportation and land use alternatives in the southeast quadrant of San Francisco. The RAB study is comprised of five components, one of which is the rail alignment into the Salesforce Transit Center. The purpose of this memo is to present the rail alignment options studied in the RAB Study and to seek adoption of the Pennsylvania Alignment as the preferred alternative. It is anticipated that the Transportation Authority and other city agencies will be asked to adopt separate or a joint resolution of support for the Pennsylvania alignment as the preferred alternative, establishing it as city policy, in July or September 2018. This will provide clear guidance to the Transbay Joint Powers Authority (TJPA), city agencies, funders, and other stakeholders, and will enable the project to be more competitive for discretionary funding.</p> | <ul style="list-style-type: none"> <input type="checkbox"/> Fund Allocation <input type="checkbox"/> Fund Programming <input checked="" type="checkbox"/> Policy/Legislation <input type="checkbox"/> Plan/Study <input checked="" type="checkbox"/> Capital Project Oversight/Delivery <input type="checkbox"/> Budget/Finance <input type="checkbox"/> Contract/Agreement <input type="checkbox"/> Other: _____ |
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DISCUSSION

Background.

Led by the Planning Department, the RAB study is comprised of five components: 1) rail alignment into the Salesforce Transit Center; 2) Salesforce Transit Center Loop/Extension; 3) railyard reconfiguration/relocation; 4) assessment of a boulevard replacing the north end of I-280; and 5) creation of urban form and land use opportunities.

The Planning Department initiated the RAB study in mid-2014 to gain better understanding of the transportation and land use changes at the state, regional, city, and neighborhood level impacting the southeast quadrant of the city. One of the main purposes of the study was to address the need for the future Caltrain/High Speed Rail alignment to be below grade at 16th Street, a critical link for Muni's electric trolley line and the only continuous east-west arterial in the Mission Bay area. Previously, the Caltrain Downtown Extension had been designed as a surface route at the intersection of 16th Street, but the City has been unified for several years that this intersection needed to be grade separated. The RAB study examined alternative ways to achieve grade separation in the area and also looked at other planning issues along the alignment in the southeast quadrant of the City, inclusive of both known and potential projects, to fully understand the impacts and benefits to the City and its residents in the most rapidly growing area of San Francisco. As the study developed it became evident that I-280 did not need to be removed to accommodate a future rail alignment and this element was dropped from additional study.

The recommended action and the rest of this memo focus only on component #1 of the RAB Study, rail alignment to the Salesforce Transit Center.

Component # 1: Rail Alignment.

This component of the study sought to answer the most time-sensitive question of the RAB: how to bring both Caltrain and High-Speed Rail from the county line into the Salesforce Transit Center. There are currently two at-grade intersections (7th/Mission Bay Drive and 7th/16th Street) that serve east/west traffic between Mission Bay and the rest of the City. These are the only two connections for more than a mile providing east/west connections. Each time the intersections close for trains, traffic will stop. When Caltrain electrifies in 2022, the number of trains will increase from five to six during peak commute hours. When High Speed Rail begins operations in 2027, the number of trains will again increase by another two trains and eventually by another two trains (4 total for High Speed Rail) for a total of ten trains per hour per direction. This traffic would result in gate-down times of 20 minutes per hour or more. Such long gate-down times would have a major impact in traffic to and from Mission Bay, affecting not only passenger traffic but, most critically, emergency services such as ambulances going to the UCSF hospital.

As these impacts were analyzed it became evident that in order to maintain east/west connections between Mission Bay and the rest of the city and avoid degradation of the intersections, a grade separation will be needed. While numerous possible alignments were reviewed and analyzed at some level, three alignments were finally selected for in-depth analysis. The three alignments illustrated in Attachment 1 are:

- **Future with Surface Rail** - Composed of the DTX as currently cleared plus a grade separation at 16th Street that leaves the rail on the surface and depresses the streets
- **Pennsylvania Avenue Alignment** – Composed of the DTX as currently cleared plus a grade separation effected by a tunnel beneath Pennsylvania Avenue and 7th Street starting just north of the current 22nd Street Station
- **Mission Bay Alignment** – A brand new alignment starting in the neighborhood of the 22nd Street Station and veering east towards the Bay and proceeding northbound beneath 3rd Street until it meets up with the current DTX alignment on 2nd Street

After developing study-level designs and construction methodology, preliminary estimates of probable costs and estimated timing of the three rail alignment options were prepared as summarized in the table below.

| | Preliminary Net Cost | Expected Completion Date² |
|---|-----------------------------|---|
| Future with Surface Rail (DTX + Trenched Streets) | \$ 5.1 Billion | 2026 |
| Pennsylvania Avenue (DTX + Extended Tunnel) | \$ 6.0 Billion ¹ | 2027 |
| Mission Bay/3 rd Street (Modified DTX + 3rd St Tunnel) | \$ 9.3 Billion ¹ | 2031 |

¹Includes costs of construction and moving railyard, as well as value capture and impact costs associated with each alignment. Note: relocation or resizing of the 4th/King Railyard are options that are subject to future policy decisions and will be informed by underway and anticipated follow up studies and efforts.

²Date for completion is based on the assumption that all money was available on January 1, 2017.

For in-depth data on all of the Study components, their analysis, and preliminary recommendations/findings, please see the Technical Report on the RAB Study website (<http://sf-planning.org/rail-alignment-and-benefits-study>). The 50-page Executive Summary is included as an attachment to this memorandum.

Recommended Alignment: Pennsylvania Avenue.

Based on a careful analysis of trade-offs (including, but not limited to cost, schedule, ridership, urban design and land use considerations), implementation considerations, and needs known in the study area, San Francisco agency staff, including Transportation Authority staff, recommends the Pennsylvania Avenue rail alignment. A summary of the primary benefits of the Pennsylvania Avenue alignment include the following:

- Solves the significant traffic operation conflicts that currently exist at the 16th Street at-grade intersection and the 7th/Mission Bay Drive at-grade intersection. This alignment unites Mission Bay with the City, removes the barrier of the Caltrain line as well as the anticipated 20+ minute closures of these two essential intersections during the peak hour, maintains access and mobility for critical life-saving services, and avoids a long, deep trenching of streets to maintain east/west connections.
- Provides for opportunity to reknit over 1 mile of the city east/west. This creates at least six additional east/west street connections with the removal of surface rail north of 22nd Street.
- Provides for potential need for increased operational capacity via underground expansion of the 4th/Townsend station to allow for additional storage or staging opportunities for Caltrain.
- Maximizes options for phasing the project (DTX first, Pennsylvania Avenue extension opening quickly thereafter subject to funding availability).
- Pennsylvania alignment could be built an estimated 4 years sooner and at a significantly lower cost than the 3rd Street alignment, pending a full funding plan.

Next Steps.

There are many steps and studies that remain to be completed for the successful implementation of this recommendation, some of which are:

- **Project Delivery Method** – The Transbay Joint Powers Authority (TJPA), with the participation of the Transportation Authority, needs to determine the best delivery method for the project, for both the DTX and the Pennsylvania tunnel. This work is anticipated to take place in Fiscal Year 2018/2019 as TJPA conducts 30% design studies and prepares cost estimates.
- **Blended Service Operations Plan** –California High Speed Rail Authority (CHSRA) and Caltrain will complete the Blended Service Operations Plan at the end of 2018 which details what the Caltrain and High Speed Rail services will look like at any given time of day and what is necessary to maintain reliable operations.
- **Caltrain Business Plan** – This effort will provide a common understanding for how Caltrain would like to grow in the future, including service plans, associated capital improvements such as fully electrifying their fleet, and organizational changes. This effort is underway and is expected to be completed in 2019.
- **Caltrain Storage and Maintenance Plan**—This should be included in the Caltrain Business Plan and will help inform options for modifying, downsizing or relocating the 4th/King Railyard.
- **22nd Street Station Study** – This would be a follow-on study to the RAB Study and will be led by SF Planning in coordination with Caltrain and the Transportation Authority. It will evaluate the potential to relocate the 22nd Street Station for better accessibility and consider the consolidation of other planned San Francisco stations as well. The Planning Department anticipates starting this work in late 2018 with a 2-year process.
- **DTX Design** – With the Record of Decision on the Supplemental Environmental Impact Statement/Environmental Impact Report anticipated in July 2018, the TJPA will be authorized to continue the design for DTX. Transportation Authority staff are recommending approval of a Prop K funding request for TJPA to continuing advancing DTX toward 30% design and appropriating funds to the Transportation Authority for related technical services.
- **Pennsylvania Avenue Preliminary Design and Environmental Clearance** – TJPA will need to start analysis and preliminary design on the extension of the DTX using the Pennsylvania Avenue alignment. Transportation Authority staff are discussing this work with TJPA, Planning Department and partner agencies.
- **Continued study on a railyard reduced footprint/relocation** – Building on the work completed under the RAB study, further study on this topic should happen as the Blended Service Plan and Caltrain Business Plan are completed.
- **Transit Corridors Study** – The ConnectSF long-range transportation planning program includes a citywide transit planning study led by the SFMTA with Transportation Authority staff supporting the effort and leading regional components. We will be coordinating transit corridor planning in the DTX/High Speed Rail blended corridor including the potential extension eastward in the Transbay Corridor via a second rail tube. This work will provide input to the Transportation Authority’s San Francisco Transportation Plan 2050 (countywide plan) and Plan Bay Area 2021.

Agenda Item 12

FINANCIAL IMPACT

There is no impact on the agency's adopted Fiscal Year 2018/19 budget associated with the recommended action.

CAC POSITION

The CAC will consider this item at its June 27, 2018 meeting.

SUPPLEMENTAL MATERIALS

Attachment 1 – Rail Alignments to Salesforce Transit Center

Enclosure – Executive Summary

