



JPB Board of Directors  
Meeting of May 6, 2021

Correspondence as of April 9, 2021

# Subject

- 1 Northern California Mountain Pass Crossing Alignment Optimization Report
- 2 Transportation and Infrastructure Request – Burlingame Broadway Station Project

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**From:** Roland Lebrun <ccss@msn.com>  
**Sent:** Monday, April 5, 2021 1:09 AM  
**To:** CHSRA Board  
**Cc:** CHSRA Public Records; Baltao, Elaine [board.secretary@vta.org]; MTC Info; cacsecretary [@caltrain.com]; SFCTA Board Secretary; SFCTA CAC; Board (@caltrain.com); TJPA CAC; Donald Pollitt  
**Subject:** Northern California Mountain Pass Crossing Alignment Optimization Report  
**Attachments:** brdmtg0102\_agenda7\_Quantm\_Alignment\_Optimization\_Report\_Item.pdf

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Dear Chair Richards and Board members,

Further to my comments at the March 25 Board meeting, please refer to Agenda Item 7 of the January 2002 Board Meeting (attached for your convenience) and provide the following information pursuant to Government Code Section 6250 et seq.:

- 1) "Executive summary on the methodology used and results of the optimization task" attachment
- 2) "Full 75-page report available upon request"

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Thank you in advance for your prompt attention to this request.

Roland Lebrun

CC

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SFCTA Commissioners  
TJPA Board

VTA PAC  
Caltrain CAC  
SFCTA CAC  
VTA CAC  
TJPA CAC

**To:** Chairperson and Authority Members      **Date:** January 4, 2002  
**From:** Mehdi Morshed, Executive Director  
**Subject:** Agenda Item 7 – Quantm Alignment Optimization Report

**Discussion:**

To further clarify the screening decisions to be made on the alignment options in both the northern and southern mountain passes an alignment optimization and refinement effort has been undertaken. This task is intended to analyze the range of horizontal and vertical alignment options in an iterative manner to provide more certainty concerning alignment selection, cost estimates and potential impacts. This analysis/optimization of literally millions of alignment options are made possible in a relatively short period of time with the “Quantm” automated alignment optimization and refinement system that is now widely used in Australia and was initially developed for the Australian Very Fast Train (VFT) project.

The Program Management and Regional Study Teams worked with Quantm to analyze the alignments using data collected for the screening analysis, and previous studies. Immediately following the Authority’s ‘Tunneling Summit’, the relevant conclusions from this tunneling conference were incorporated into the Quantm alignment optimization study. An executive summary on the methodology used and results of the optimization task is attached (the full 75-page report is available upon request). Although this work was completed over a three-week period (including one-week for training), the results are quite remarkable. Because “millions” of alignment options have been evaluated, the Authority can have a very high level of confidence that all possible route alignments – that meet the established design criteria – have been investigated and the “optimal alignments” selected to represent each corridor alternative are those that minimize cost and the amount of tunneling. The results for the Northern California mountain pass are the most striking. In past study, the Pacheco Pass was estimated to have no less than 12-miles of tunneling; using Quantm, an alignment has been created that reduces the total amount of tunneling to just over 5-miles. Furthermore, the 31-mile “Direct Tunnel” alternative can now be replaced by a new alignment that totals only 11-miles of tunneling – with no single tunnel exceeding 5-miles in length.

Originally, the alignment optimization (and the agreement with Quantm) was to be solely for the investigation of the southern mountain pass between Sylmar and Bakersfield. Once this work was underway, and the tunneling summit conclusions became available, it was clear that the Quantm system would be ideal for determining optimized alignments for the northern mountain pass alternatives as well. A subsequent agreement was reached to use Quantm tool for the northern mountain pass using additional funds from the Authority’s operating budget. The southern mountain pass investigation was funded from the Proposition 116 funds for studies between Los Angeles to Bakersfield.



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April 6, 2021

The Honorable Jackie Speier  
Congress of the United States  
House of Representatives  
2465 Rayburn House Office Building  
Washington, D.C. 20515-0514

Re: Transportation and Infrastructure Request – Burlingame Broadway Station Project

Dear Representative Speier:

On behalf of the Peninsula Corridor Joint Powers Board (Caltrain), I would like to offer our support for the City of Burlingame's (City) Transportation and Infrastructure Committee request for the Broadway Grade Separation Project (Project).

By way of background, Caltrain is the seventh largest and most efficiently run commuter rail system in the country. It spans 77.3 miles and 32 stations. Prior to the COVID-19 pandemic and associated disruption to transportation systems worldwide, Caltrain had an average mid-weekday ridership over 63,000. With the economy beginning to re-open, Caltrain is hopeful ridership will rebound and by 2040, daily ridership is projected to triple.

Grade separating Broadway Avenue is crucial, as it is the only gateway to the City from U.S. 101, connecting the freeway to the Downtown Business District, the Rollins Road Industrial District, numerous City services, and hospitality facilities. Additionally, Broadway Avenue provides connections between downtown and a new Facebook campus and numerous hotels adjacent to U.S. 101 including Hyatt, Hilton, and Marriott to name a few. The concentration of these major destinations generates high traffic volumes that are compounded by the current at-grade railroad crossing which experiences some of the worst traffic congestion in the area.

With over 10,000 at-grade railroad crossings throughout the state, the Broadway at-grade railroad crossing in Burlingame is ranked first California by the California Public Utilities Commission (CPUC) as part of the Statewide Grade Separation Priority Ranking for fiscal years 2020-2021 and 2021-2022. The Project is currently included as part of the Caltrain Grade Separation Program in the Metropolitan Transportation Commission's (MTC) Long-Range Transportation Plan 2040 with Project ID No. 17-06-0039. Furthermore, the Project is also included as part of Caltrain Grade Separation Program in the draft Plan Bay Area 2050, which is anticipated to be adopted by MTC in June 2021.

The Project also includes the re-construction of the current Caltrain commuter rail station at Broadway, which is currently only served on weekends due to operational constraints associated with the "hold-out-rule" whereby trains that pass through the current station must hold outside of the station when a train is stopped at the station. With the new station at the grade-separated railroad crossing, this constraint will no longer be a factor and could be served by weekday trains which provide connections to major employers along the Caltrain rail line, such as Google, Salesforce, and Facebook, as well as connections to major sporting destinations such as Levi's Stadium in Santa Clara, and the Chase Center and Oracle Park in San Francisco.

Caltrain is closely working with the City of Burlingame and San Mateo County Transportation Authority to fund and implement the Project. Now that the Project has received environmental clearance from the Federal Transit Administration in October 2020, final design is underway and is well-positioned to move toward construction quickly and efficiently.

Thank you for considering the City's request for this important project along our rail corridor.

Sincerely,



Michelle Bouchard

Chief Operating Officer, Rail

Cc: Peninsula Corridor Joint Powers Board of Directors