

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102



9/9/2020

September 8, 2020

Governor's Office of Planning &amp; Research

Sep 09 2020

## STATE CLEARINGHOUSE

Mark McLoughlin  
California High Speed Rail Authority  
770 L Street, Suite 620 MS-1  
Sacramento, CA 95814

Re: Draft Environmental Impact Report (DEIR)  
San Francisco to San Jose High-Speed Train Project DEIR/EIS  
SCH# 2016052019

Dear Mr. McLoughlin:

The California Public Utilities Commission's (Commission) Rail Crossing Engineering Branch (RCEB) is taking this opportunity to address the California High-Speed Rail Authority's (CHSRA) Draft Environmental Impact Report/Environmental Impact Statement (DEIR) for the San Francisco to San Jose High Speed Train (HST) project. RCEB staff offers the following comments.

Commission Requirements and Policy

The Commission has jurisdiction over the safety of highway-rail crossings (crossings) in California. The Commission has exclusive power over the design, alteration, and closure of crossings, pursuant to Public Utilities Code Section 1201 et al . Based on Commission Rules of Practice and Procedure, Rule 3.9, an application to the Commission is required to construct a railroad across a public road. The HST project is subject to a number of other rules and regulations involving the Commission. The design criteria of the proposed project will need to comply with the California Manual on Uniform Traffic Control Devices (MUTCD) and Commission General Orders (GO's). The following GO's, among others, may be applicable:

- GO 26-D (regulations governing clearances on railroads and street railroads with reference to side and overhead structures, parallel tracks, crossing of public roads, highways and streets)
- GO 72-B (rules governing the construction and maintenance of crossings at grade of railroads with public streets, roads and highways)
- GO 75-D (regulations governing standards for warning devices for at-grade highway-rail crossings)
- GO 88-B (rules for altering public highway-rail crossings)
- GO 95 (rules for overhead electric line construction)

- GO 118 (regulations governing the construction, reconstruction, and maintenance of walkways adjacent to railroad trackage and the control of vegetation adjacent thereto)
- GO 176 (Rules for Overhead 25 kV Railroad Electrification Systems for a High-Speed Rail System)

### Specific Project Comments

- RCEB recommends the entire High Speed Rail corridor be grade separated with no at-grade highway-rail crossings. Grade separated crossings provide a greater level of safety, for both the roadway users as well as railroad employees, than at-grade highway-rail crossings.
- The Peninsula Corridor Joint Powers Board (Caltrain) owns the rail corridor in the project area. Caltrain concurrence is required for all modifications.
- High Speed Rail platforms within the station are required to comply with GO 26-D clearance requirements.
- RCEB recommends all pedestrian underpasses have a minimum vertical clearance of 10 feet.
- At-Grade Crossing General Concerns:
  - There have been 59 train incidents at at-grade crossings and 50 trespassing incidents on the Right of Way along the corridor between San Francisco and San Jose between January 1, 2014 and December 31, 2019. Adding high speed trains traveling at 110 mph at-grade along this corridor will likely lead to detrimental impacts to safety.
  - Caltrain's proposed electrified train detection system potentially leads to longer gate down times for at-grade crossings. Longer gate down times commonly lead to motorist and pedestrian frustration resulting in questionable behavior including, but not limited to, gate drive-around, bypassing lowered gates, and rushing through the crossing to beat a train.
  - An increased volume of trains along the rail corridor due to electrification will lead to increased train horn noise. The train engineers will begin sounding the train horns earlier on approach to rail crossings due to the much higher proposed train speeds to comply with FRA train horn requirements, resulting in more noise pollution throughout the rail corridor. RCEB does not support quiet zones and believes train horns provide a substantial rail crossing safety benefit.
  - Proposed 4 quad gate systems are required to comply with GO 75-D, including vehicle detection within the crossing.
  - Much of the rail corridor travels adjacent to major roadways. The close proximity leads to motorists queuing onto the tracks regularly. Required mitigation measures would include:

- Advance railroad preemption with gate down detection circuit, supervised circuit, and advance pedestrian clearance phase.
- Pre-signals. Installing pre-signals likely eliminates right turn on red movements over the railroad crossings. The design of pre-signals will be required to accommodate proposed exit gates in a 4 quadrant gate system.
- Caltrain currently experiences numerous motorists accidentally turning onto the crossing surface, driving off the crossing and getting stuck on the tracks. RCEB recommends reflective delineators be installed along the edge of the roadway at the crossing to provide a visual indicator to motorists of the roadway path. Please refer to figure 1 in use on LA Metro crossings.

**Figure 1:**



- RCEB recommends pedestrian approaches travel over the tracks at a 90 degree angle. Several of the existing at-grade rail crossings on this corridor have sidewalks skewed as they travel over the tracks. This condition results in a longer distance for pedestrians to travel over the tracks and can lead to wheelchair wheels getting stuck in the tracks.
- Adjacent driveways and frontage roads to at-grade crossings can cause queues onto the tracks. RCEB recommends all nearby driveways and frontage roads be closed.

- Existing railroad preemption should be reevaluated. RCEB recommends advance railroad preemption be installed with advance pedestrian clearance.
- Most of the at-grade crossings in San Francisco and San Mateo counties have automatic pedestrian gates which are non-compliant with current MUTCD requirements by being mounted on the same mast as the vehicular railroad gates. The automatic pedestrian gates are required to be brought into compliance with MUTCD standards by being relocated into their own masts.
- Several of the Caltrain stations contain at-grade pedestrian crossings with narrow center platforms and no warning devices. These stations should be redesigned to allow for either grade separated pedestrian crossings or at-grade pedestrian crossings with automatic warning devices.
- Several of the existing at-grade crossings have either mountable raised concrete medians or low and narrow raised concrete medians are easily mountable. RCEB recommends all mountable medians be replaced with 8 inch tall unmountable raised concrete medians.
- All medians should be squared off on the track side to discourage motorists from making U-Turns on the tracks.
- Comments at specific rail crossings:
  - The 16<sup>th</sup> Street at 7<sup>th</sup> Street, San Francisco crossing is located beneath Highway 280. The direction of the sun rising and setting, in combination with a transition from sunlight to sudden shadows results in motorist and bicyclist complaints of not being able to see the railroad crossing before their eyes can adjust. The San Francisco Municipal Transportation Agency also plans to use electrified buses on 16<sup>th</sup> Street. The overhead electrified bus lines conflict with the proposed 25 kV railroad overhead electrified lines.
  - The Broadway, Burlingame crossing has had eight incidents in the past five years. The crossing is complex as it is located between two signalized intersections and has a very high traffic volume due to the close proximity to Highway 101. The signalized intersections at Rollins Rd and the Highway 101 on/off-ramp also can lead to queuing back to the Broadway crossing. While the crossing has railroad preemption, the queues along Broadway from Highway 101 can prevent queues from clearing the tracks. RCEB recommends the crossing be grade separated.
  - The Oak Grove, Burlingame and North Lane, Burlingame crossings provide access to Burlingame High School and experiences heavy vehicular and pedestrian traffic as a result. North Lane at California Drive is STOP controlled which can cause queuing back onto the tracks. RCEB recommends either the STOP control be moved to California Drive with North Lane having a through movement or the intersection be signalized with railroad preemption.

- The 1<sup>st</sup> Ave and 2<sup>nd</sup> Ave, San Mateo crossings have adjacent crosswalks and/or mid-block crosswalks. Adjacent crosswalks and can cause queues onto the crossings as vehicles wait for pedestrians occupying the crosswalks. There is no railroad preemption to mitigate queues from the crosswalks at these two locations. RCEB recommends all adjacent crosswalks be removed.
- The Ravenswood Ave, Menlo Park crossing regularly experiences queuing from the El Camino Real intersection. The large distance to the intersection is not conducive to installing railroad preemption. RCEB recommends CHSRA consider alternative queue mitigation measures including a queue cutter.
- The Churchill Ave, Palo Alto crossing has very heavy bicycle use from the adjacent high school. The volume of bicyclists overwhelm the roadway during the times school begins and ends. The crossing has also had four incidents in the past five years, all of which were vehicles stopping and fouling the tracks. The project must include measures to mitigate these issues.
- The West Meadow Dr, Palo Alto crossing has had four incidents in the past five years. All four incidents involved motorists who stopped on the tracks. Mitigation measures must be provided to reduce the number of motorists who stop on the tracks.
- The West Charleston Rd, Palo Alto crossing has had six incidents in the past five years. Five of the incidents involved motorists who stopped on the tracks. Mitigation measures must be provided to reduce the number of motorists who stop on the tracks.
- The Castro St, Mountain View crossing can experience multiple gate activations sequentially and within a short time period as Caltrain trains enter and exit the adjacent Mountain View Caltrain station. This condition can lead to the northbound Central Expressway phase being bypassed multiple times. This condition causes traffic to back up on Central Expressway, resulting in queues one mile south to the Central Expressway Santa Clara Valley Transportation Authority light rail crossing. An increased volume of trains will increase the number of occurrences of this condition. RCEB recommends the Castro Street crossing be converted to a pedestrian only crossing or grade separated.

The comments above are a cursory review of the at-grade crossings and should not be construed as a complete review or with RCEB concurring with either alternative with at-grade high speed rail crossings. RCEB continues to recommend the entire high speed rail corridor be grade separated with no at-grade rail crossings as that configuration provides the largest safety considerations to the public.

The Commission is the responsible agency under CEQA section 15381 with regard to this project. As such, we greatly appreciate and thank you for the opportunity to work with the

Mark McLoughlin  
September 8, 2020  
Page 6

CHSRA to improve public safety as it relates to crossings in the San Francisco to San Jose segment of the HST system in California. We request that RCEB be kept informed of all developments associated with the HST project. Meetings should be arranged with the Commission's RCEB staff to discuss relevant safety issues and conduct diagnostic reviews of any proposed and impacted crossing locations along the proposed alignment in the San Francisco to San Jose HST project.

If you have any questions please contact Felix Ko via email at [felix.ko@cpuc.ca.gov](mailto:felix.ko@cpuc.ca.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Felix Ko', followed by a long horizontal line extending to the right.

Felix Ko  
Senior Utilities Engineer  
California Public Utilities Commission  
Rail Safety Division  
Rail Crossings and Engineering Branch