



June 2, 2010

Peninsula Corridor Joint Powers Board (Caltrain)  
Mr. Michael Scanlon, Executive Director  
Mr. Robert Doty, Director of Rail Transportation  
Mr. Mark Simon, Executive Officer for Public Affairs  
Mr. Seamus Murphy, Government Affairs Manager  
1250 San Carlos Ave.  
P.O. Box 3006  
San Carlos, CA 94070-1306

**RE: Compatibility of the Electrification Project with the California High Speed Rail Project**

Californians For High Speed Rail (CA4HSR) is a grassroots, statewide coalition of high speed rail supporters advocating for the high-speed rail project approved by California voters in November 2008. Founded in 2005 and re-launched in 2009, we exist to educate, inform, and organize Californians about ways they can help make high speed rail a reality in this state. Additionally, CA4HSR also encourages sustainable development of the high speed rail (HSR) system, promoting the building of HSR stations in city centers and surrounding transit-oriented development, as well as advocating for the improvement of feeder transit systems.

We would first like to thank you for meeting with our organization on May 20<sup>th</sup> and discussing the compatibility of Peninsula Corridor Joint Powers Board's (PCJPB) electrification project with the planned high-speed rail project. The meeting was very helpful and informative.

To begin, we would like to express our organization's support for an improved Caltrain and the concept of electrification. We support a fully interoperable corridor that enables Caltrain to access HSR tracks and platforms to allow for efficient Caltrain express service, allow for convenient cross-platform transfers between local Caltrain service and HSR/Caltrain express services, and general flexibility in the operations of passenger rail services along the corridor. We believe this approach is extremely important to the success of HSR, the future of Caltrain, and improved passenger rail service in the Bay Area. Furthermore, we see no problem with funding Caltrain electrification with federal HSR stimulus funds as long as the infrastructure and design of the project is fully compatible with HSR, thereby completing most if not all of the electrical work the Authority would need to undertake (minus any grade separated tracks that are separated from the Caltrain tracks).

As we discussed with Mr. Simon and Mr. Murphy, this letter serves as a follow up to our meeting to get clarification of some of the specifics aspects of the electrification project, as outlined in the Caltrain Electrification Program Environmental Assessment/Final Environmental Impact Report (Electrification EIR). We have included some recommendations in this letter as to how this project should proceed, in

order to provide for an efficient project that meets the needs of Caltrain and HSR, based on what we have learned so far.

### **Location of Traction Power Facilities**

Of primary concern to CA4HSR is the location of the proposed traction power facilities. Based on Figures 2.3-6 through 2.3-15 in the Electrification EIR, it appears that eight out of the 10 proposed traction power facilities are located within close proximity to the two existing tracks. We are concerned that the locations of these eight facilities may negatively impact the ability of the Authority to plan for an expansion of the railway corridor to four tracks. Of these eight, six appear to be definitely located in a way that would prevent at-grade or aerial expansion of the tracks, while two have the potential to impede expansion depending on the final design for HSR tracks. These eight facilities of concerned are listed below.

The six parallel stations are as follows:

- 1) Paralleling Station PS2 (Mile Post 4.95, located in San Francisco just north of the Bayshore Caltrain Station).
- 2) Paralleling Station PS3 (Mile Post 15.02, located in Burlingame just north of Broadway Street).
- 3) Paralleling Station PS4 (Mile Post 20.05, located in San Mateo just west of the racetrack site). Note, the location of this station is close to the existing tracks, but may be far enough away to avoid future track expansion.
- 4) Paralleling Station PS5 (Mile Post 33.55, located in Mountain View immediately west of the intersection of Greenmeadow Way/Alma Street intersection).
- 5) Paralleling Station PS6 (Mile Post 38.85, located in Sunnyvale immediately west of the North Murphy Avenue/West Hendy Avenue intersection).
- 6) Paralleling Station PS7 (Mile Post 51.02, located in southern San Jose).

The one switching station location is as follows:

- 1) Switching Station SWS1 (Mile Post 26.62, located in Redwood City just north of the Dumbarton junction). Note, the location of this station is close to the existing tracks, but may be far enough away to avoid future track expansion.

The one substation location is as follows:

- 1) Substation TPS2 – Alternate #1 (Located in Santa Clara immediately south of I-880). Note, the preferred location and alternate location #2 appear to be of sufficient distance to avoid future track expansion, and if either one of these location are chosen, we would no longer be concerned regarding the TPS2 facility.

Given the fact that both Caltrain and the Authority have been planning a four-track corridor for years, we are perplexed as to why so many of the power traction facilities are located in a way that appears to assume a two-track configuration. We are very concerned about the cost and community impacts of having to move traction power facilities to new locations when HSR construction begins. Given that the electrification project proposes to use HSR stimulus funding, CA4HSR would prefer that traction power facilities are located in a way that will not require relocation when HSR project is constructed.

CA4HSR does understand there is some flexibility in the final location of the parallel and switching stations. According to the Electrification EIR (page 2-16),

Sites have also been evaluated for the intermediate paralleling and switching station facilities, but the design incorporates some flexibility with regard to their positioning. These facilities do not

require connection to the utility high-voltage system, or such large tracts, so final site selection will be coordinated with local authorities during final design of the electrification systems.

We encourage the PCJPB to coordinate the location of these facilities (preferably outside of the ROW unless sufficient space is available for track expansion) not only with local authorities, but with the Authority.

**Please clarify the thinking behind the location of these traction power facilities. What strategies will be undertaken to ensure that these facilities will not interfere with the final design and location of tracks and other infrastructure related to the HSR system and that these facilities will not need to be relocated at great expense and disruption.**

### **Electrical Capacity**

The second issue related to traction power facilities (and the overhead contact system (OCS)) is their electrical capacity. We are encouraged by the following statement in the Electrification EIR. On pages S-5 thru S-6, the following is stated:

This power supply and distribution system and voltage are compatible with the requirements of *HSR* and will accommodate future development of *HSR* in the Caltrain corridor. Furthermore, the OCS conductors and traction power equipment were sized and located based on a computerized analysis of traction power load flow requirements using the probable maximum capacity of the Peninsula Corridor alignment (including a mixture of Caltrain and HSR).

The Electrification EIR also states on page 2-42:

The OCS configuration and auto-transformer power supply arrangement envisioned for the Caltrain commuter rail system could support rail operations at speeds greater than 90 mph, if this were to be required for *HSR* operations in this corridor.”

**Please clarify how the “probable maximum capacity of the Peninsula Corridor alignment” is defined.**

**Please clarify what upgrades, if any, would be necessary to the traction power facilities and the OCS to allow HSR to operate at speeds of 125 mph and allow for the maximum number trains necessary to serve both Caltrain and HSR based on current projections. If expansion of these facilities is necessary for HSR, would traction power facilities be able to expand capacity within the footprint of where they are constructed, or would the HSR Authority need to add new facilities? Furthermore, would the OCS system need to be retrofitted in anyway to accommodate higher loads?**

### **Location and Types of the Overhead Contact System**

We are very concerned that installing the OCS prior to construction of HSR in the corridor will create the necessity for relocating a significant portion of the poles and overhead wiring associated with the OCS system. If the OCS is installed prior to HSR construction, it is likely that much the OCS will need to be relocated twice. First, since much of the Caltrain tracks will be relocated during the HSR construction, the OCS will need to be relocated from the original location associated with the electrification project to these temporary locations. Second, after the construction of the four-track corridor is completed, then the OCS will need to be once again relocated to its final location. Furthermore, we are concerned about the pole types (i.e. side pole, center pole, two-track cantilever) associated with the OCS and if they will be re-usable in the new four-track configuration.

**We would like to get clarification on Caltrain’s view of which specific segments of the corridor**

**will require the relocation of the OCS system when HSR construction commences, and how much that would likely cost.**

**Additionally, we would like clarification if the Caltrain is planning to closely coordinate the specification of pole types so that all of them will be re-usable when the tracks are expanded along the corridor.**

For sections of the corridor already constructed with four tracks (Bayshore, Hillsdale, and Lawrence), we see no issue with installing the OCS system prior to HSR construction as long as the Authority can confirm that it is compatible with their plans.

### **Signaling Systems**

We understand Caltrain's view that the Communications Based Overlay Signal System (CBOSS), currently under development to implement positive train control (PTC) along the corridor, will serve as bridge signal system while HSR is under construction and possibly continue to operate side-by-side another PTC signaling system associated with HSR. However, we would like more information about why Caltrain believes a separate signal system from the one the Authority is planning to implement is necessary. We are concerned about the safety risks associated with Caltrain's very ambitious timeline for developing CBOSS, a brand new system never before used. Furthermore, we are concerned about devoting \$231 million in scarce HSR funds for CBOSS, especially if there is a possibility of using a common PTC signaling system with the HSR system.

As documented in the Program Management Team Overview (Attachment 3, PMT Engineering Management Schedule), which was presented to Board Operations Sub-Committee Meeting on March 3, 2010, the Authority is moving ahead with the design of the statewide HSR system using ETCS/ERTMS as the assumed/selected train control/signaling system. This document can be found at [http://www.cahighspeedrail.ca.gov/images/chsr/20100226152847\\_19-BoardOperationsSub-CommitteeMeeting03032010FINAL.pdf](http://www.cahighspeedrail.ca.gov/images/chsr/20100226152847_19-BoardOperationsSub-CommitteeMeeting03032010FINAL.pdf). With the global reach and proven track record of ETCS/ERTMS, used successfully in Italy for HSR for over five years and the worldwide standard for all new HSR systems except those in Japan and Taiwan, this is a reasonable decision.

Californians For High Speed Rail is concerned by the large scheduling and safety risks inherent in the development of new life-critical signaling systems and their potential to impact the start of the HSR infrastructure on the peninsula. The ability of CBOSS to act as a "bridge" allowing improved Caltrain operations during the construction of HSR requires that CBOSS be installed and in operation before HSR infrastructure construction begins. The Authority currently anticipates that their Final EIS/EIR NOD will be released by Oct. 2011. Construction work could begin within less than a year of that date. This would potentially mean that CBOSS would need to be fully developed, prototyped, tested, installed and put into revenue operation within less than three years. For comparison, the much simpler 2nd ATCS Channel project recently completed by Caltrain, took four years to complete. The ARRA investment strategy adopted by the MTC in June 2009 envisioned that construction of PTC will take place from December 2011 to June 2013. Not only would this schedule mean that CBOSS would not be fully installed until a year into HSR began, but also leaves less than a year and a half for the new CBOSS system to be developed, prototyped, tested, accepted, and receive all regulatory approvals before construction has to commence. This is far shorter than the nine year period from when ETCS specification was written in 1996 until the first HSR line went into operation in 2005, after six years of testing. Please provide us with the planned timeline and milestones for how Caltrain plans to achieve such a timeline.

Californians For High Speed Rail is concerned that adopting a novel, yet-to-be fully developed signaling technology exposes Caltrain and HSR systems to short-term and mid-term schedule and cost escalation risks and long-term unnecessary costs. It would seem that adoption of a mature and fully debugged system such as ETCS/ERTMS would greatly simplify project complexity and improve the ability to meet the milestones for both Caltrain's electrification project and the HSR project. Further, such a strategy would seem to save money over the next decade as the same system would be used over the entire CA HSR network, eliminating the need to install multiple signaling systems on the peninsula or on the actual train sets.

**We would like clarification on what analysis has been conducted by Caltrain and the Peninsula Rail Partnership to quantify the costs and feasibility of pursuing CBOSS. We would also like know if Caltrain and/or the Peninsula Rail Partnership have evaluated the costs, benefits, and feasibility of implementing ETCS/ERTMS for the Caltrain electrification project so that ETCS/ERTMS can act as a both "bridge" signaling system during construction HSR and as the final signaling system for joint Caltrain/HSR operations? Please provide us with a copy of any such analysis if it has been undertaken or an explanation why Caltrain is proceeding without first undertaking such.**

### **Rolling Stock and Platform Heights**

As in Los Angeles, many people in the Bay Area would like to see an interoperable system where Caltrain and HSR trains can utilize each others tracks to allow for flexible and efficient operation of all passenger rail services along the corridor. We are encouraged that Caltrain is supportive of track-sharing as a way to achieve interoperability. However, to truly design an efficient corridor, trains not only need to share tracks, but they also should have the ability share platforms to allow for cross platform transfers between local Caltrain trains and HSR/Caltrain Express trains. To accomplish this, we believe platforms must be the same height. Correspondingly, the rolling stock of both HSR and Caltrain would need to be designed to serve the same platforms. Unfortunately, it is our understanding that this is not currently being contemplated by either Caltrain or the Authority.

**Please clarify Caltrain's current thinking regarding platform heights and the corresponding specifications of the rolling stock.**

We strongly encourage Caltrain to work with the Authority and local officials and representatives to take the necessary steps to achieve common platform heights. We also urge Caltrain to hold off on creating specifications for the new rolling stock associated with electrification until the issue of platform heights is resolved. Our organization understands that there is a State of California rule related to freight operations that are driving the decision to have differing platform heights for the Caltrain trains and the HSR trains. However, the rule in question is a state regulation that is an anachronism (related to freight operators hanging off the side of a freight train) that is not relevant to the corridor. We strongly encourage Caltrain work with other agencies, including the Authority, to either get a waiver from this rule or get the rule eliminated if it is no longer needed. Given that there are only six freight trains daily in the vast majority of the corridor, it makes little sense to compromise efficient transfers between local trains and express/HSR trains.

## General Compatibility/Request for Implementation Plan and MOU

In addition to the specific elements of the electrification project listed above, it is likely there are numerous other elements of the design of the project that will require close coordination with Authority to avoid reconstruction and avoid wasting limited public funds.

Therefore, we are strongly encouraging that a joint implementation plan be developed by both the PCJPB and the Authority for the electrification project. An implementation plan would preferably include the following:

- Detailed construction schedule for individual elements and segments of the corridor.
- Detailed discussion of strategies to avoid having to perform any demolition and reconstruction when HSR is constructed.
- Discussion of possible addendums to the Electrification EIR related to design and phasing of construction, that would allow the document to be highly compatible with the Authority's project-level environmental and engineering work. The Transbay Joint Power Authority, another agency that has a shovel-ready project that also lays the foundation for HSR, has approach their environmental engineering work in this way. Their experience may serve as a model for how to proceed forward with electrification project.

To solidify such an implementation plan, we would also like to see a new Memorandum of Understanding (MOU) between the PCJPB and the Authority that would clearly layout how the two agencies will work together to ensure that incompatibilities are eliminated and public funds will not be wasted unnecessarily. Furthermore, a MOU should be binding.

Given the rapid progression of this project, we would greatly appreciate a response to this letter by the end of next week. Thank you for your consideration of our concerns regarding this critical project.



Brian Stanke  
Executive Director  
Californians For High Speed Rail



Robert Cruickshank  
Chair  
Californians For High Speed Rail

cc:

Speaker Nancy Pelosi  
Congressmember Jackie Speier  
Congressmember Anna Eshoo  
Congressmember Zoe Lofgren  
Congressmember Mike Honda  
State Senate Transportation Committee  
State Senator Mark Leno  
State Senator Leland Yee  
State Senator Joe Simitian  
State Assemblymember Ira Ruskin

State Assemblymember Fiona Ma  
State Assemblymember Tom Ammiano  
State Assemblymember Jerry Hill  
State Assemblymember Ira Ruskin  
State Assemblymember Paul Fong  
Mayor Gavin Newsom, City and County of San Francisco  
Chris Daly, City and County of San Francisco Supervisor  
Peninsula Corridor Joint Powers Board  
California High Speed Rail Authority Board  
Roelof van Ark, Executive Director of the California High Speed Rail Authority  
Dominic Spaethling, Regional Manager, San Francisco to San Jose section of CA HSR  
Joseph Szabo, Administrator, Federal Railroad Administration