Chapter 3
Responses to Comments

This chapter includes responses for each of the numbered comments identified in the comment letters in Chapter 2, *Comments Received on the Draft EIR*.

There are Master Responses and Individual Responses. Master Responses that address subject areas for which multiple comments were received. Individual Responses address all other comments on issues that fall outside the Master Responses.

In responding to comments, a Lead Agency is not required by CEQA to conduct every test or perform all research, study, or experimentation recommended or demanded by a commenter. Rather, a Lead Agency need only respond to significant environmental issues and does not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR (CEQA Guidelines Sections 15088, 15204).

It is also important to note that, under CEQA, responses are limited to comments concerning the adequacy of the environmental analysis in the EIR. Comments advocating support or opposition to the project are noted and will be considered by the JPB, but are not responded to in this document. An EIR is not the document by which to consider the merits of the project, because CEQA is focused on describing the environmental impacts of a project and of the evaluated alternatives.

Revisions to the Draft EIR, pursuant to Master Responses and Individual Responses and pursuant to JPB staff-initiated changes are included in Volume I of this Final EIR.

3.1 Master Responses

Master Responses are developed for the following subject areas:

1. Segmentation and Independent Utility
2. Alternatives
3. Use of Proposition 1A Funding
4. Ridership and Capacity
5. Environmental Benefits
6. Visual Aesthetics (Including Tree Removal)
7. Air Quality and Greenhouse Gas Emissions
8. Train Noise
9. Bikes on Board
10. Traffic Analysis
11. Freight

12. Recirculation

3.1.1 Master Response 1 – Segmentation and Independent Utility

A number of commenters assert that the analysis of the PCEP in a separate EIR from the CEQA environmental review document addressing high-speed rail (HSR) operations on the Caltrain Corridor in a "Blended Service" condition is not allowed by CEQA because it is improper "segmentation" of the project, is "piecemealing," and does not result in proper disclosure of all environmental effects. Commenters also assert that the PCEP does not have independent utility from the HSR project because over $600 million of Proposition 1A revenue would be used as funding for the bulk of the infrastructure costs for the PCEP. Finally, commenters assert that the inclusion of the project objective of providing electrical infrastructure compatible with HSR inescapably links the PCEP such that the PCEP lacks independent utility.

CEQA's prohibition against piecemealing (or "segmentation") applies to artificially dividing a single, integrated project into segments so as not to reveal its full extent, in order to "game the system." The object of such piecemealing is evading otherwise-required environmental review, e.g., by avoiding environmental analysis/review for the current (and future) segments, or by reducing impact disclosures to gain approval, thus easing review and approval of the (undisclosed) future segment.

There are several tests that are applied to an EIR in order to evaluate whether or not it is improperly piecemealing analysis:

- **Independent Utility**: Can the project stand on its own with all the physical improvements included in the project description or does it require additional actions that are not analyzed in the project EIR? In this case, all the infrastructure and rolling stock necessary to provide Caltrain electrified service is included in the project description. Operating a Caltrain electrified service does not physically require operation of blended high-speed rail service. All of the project elements included in the PCEP EIR are required to provide Caltrain electrified service. If blended high-speed rail service does not occur in the future for any reason, Caltrain electrification can fully function as intended to provide Caltrain commuter electrified service. There are no unnecessary elements to the PCEP included solely to serve high-speed rail. Electrified 25 kilovolt alternating current (kVA) systems using overhead contact systems are one of the most common platforms for electrified service in the world and a proven technology. Long-before the 2008 Proposition 1A or any discussion of Blended Service, Caltrain was already envisioning electrification using a 25 kVA overhead contact system (OCS) and electrified trains (as demonstrated by the 2000 Notice of Preparation for the prior EIR, the 2004 Caltrain Draft EIR, and the 2009 EIR, all of which describe using a 25 kVA OCS). That HSR is also using a 25 kVA OCS only demonstrates the commonality and utility of this technology for electrified rail systems, whether for commuter or intercity purposes.
- **Logical Termini:** Does the project have logical end points in terms of fully disclosing all elements of the project and providing for an independently functioning project? Improper piecemealing can occur if a portion of a project included in the project description requires completion in an undisclosed future process in order to operate. For example, this could occur if one entity disclosed electrification along only a portion of the intended route and someone else had to complete the rest of the electrification at some future date in order for the project to

operate. That is not the case here: The PCEP project description includes a full end-to-end description of the infrastructure and operation of EMUs to complete the project's purposes.

- **Environmental Evaluation/Impact Disclosure:** Another consideration is whether evaluation of the current project in any way avoids environmental review of future projects or avoids disclosure of impacts of the current project. The primary concern expressed about the PCEP in regards to piecemealing has to do with potential environmental effects of high-speed rail service on the Peninsula corridor. In no way does evaluation of the PCEP in the current EIR sidestep or shortchange environmental review of high-speed rail service. First, and foremost, high-speed rail service will require its own separate environmental review pursuant to the requirements of CEQA, with the California High-Speed Rail Authority (CHSRA) as the CEQA lead agency. Second, the PCEP Draft EIR discloses the potential environmental impacts of Blended Service, as they can be understood at a conceptual level, in the cumulative analysis, so that the reader is fully aware that: 1) high-speed rail service has been proposed by CHSRA; 2) there are distinct potential environmental impacts of high-speed rail service on the Caltrain corridor; and 3) the potential contribution of Caltrain electrification to cumulative impacts when considering high-speed rail service as a potential future project is disclosed. At this time, there is no actual design for high-speed rail service on the Caltrain corridor – thus the specifics necessary to fully analyze HSR impacts are not available. The PCEP Draft EIR shows clearly that: 1) there are potential environmental impacts of high-speed rail service; 2) that separate environmental review of high-speed rail service will be required before it can operate on the Caltrain corridor; and 3) Caltrain electrification would have certain discrete contributions to cumulative impacts.

CEQA court decisions support the appropriateness of the approach in the Draft EIR. For example, the recent decision in *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209 is of particular relevance. At issue in that case was whether installing a road that would serve two different projects – one a city park, the other a private development proposal – required both projects to be considered in the same EIR. The City prepared two separate EIRs and the court upheld that approach. As stated in the court's ruling:

> "….two projects may properly undergo separate environmental review (i.e., no piecemealing) when the projects have different proponents, serve different purposes, or can be implemented independently. (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 99 [108 Cal. Rptr. 3d 478] (*CBE*) [refinery upgrade and construction of pipeline exporting excess hydrogen from upgraded refinery were "independently justified separate projects with different project proponents"]; *Planning & Conservation League v. Castaic Lake Water Agency* 2009) 180 Cal.App.4th 210, 237 [103 Cal. Rptr. 3d 124] (*Castaic Lake*) [water transfer had "significant independent or local utility" from broader water supply agreement, and would be implemented with or without it]; *Sierra Club v. West Side Irrigation Dist*. (2005) 128 Cal.App.4th 690, 699 [27 Cal. Rptr. 3d 223] (West Side Irrigation) [two water rights assignments to city were "approved by different independent agencies" and "could be implemented independently of each other"]; *Plan for Arcadia*, supra, 42 Cal.App.3d at p. 724 [shopping center EIR could exclude road work the city had "long before" decided would be needed due to new freeway].)"

The two projects have different proponents (JPB for the Peninsula Corridor Electrification Project; CHSRA for high-speed rail).

The two projects have different purposes. The purpose of the PCEP is to upgrade an existing commuter railroad serving the San Francisco Peninsula by replacing diesel service with electrified service and expanding service between San Jose and San Francisco with multiple local stops in between. The high-speed rail project is an intercity rail project intended to provide rapid rail service between distant cities, including between San Francisco and Los Angeles, among other destinations. Caltrain electrified service can physically be implemented without high-speed rail service.

The two projects have independent utility as described above. Is electrification of the Caltrain corridor necessary in order to operate electrified high-speed rail trains? Yes. But does analysis of the PCEP in a separate EIR avoid any disclosure of potential environmental impacts of high-speed rail service or avoid any necessary separate environmental review of high-speed rail service and any necessary improvements? No. That is the fundamental test regarding segmentation under CEQA.

Review and approval of the PCEP does not provide the improvements necessary to operate Blended Service on the Caltrain corridor. With the PCEP, there is no physical way for HSR to connect to the Caltrain corridor from the south; additional improvements are necessary. Second, the PCEP does not include any platform improvements (such as at Diridon Station in San Jose or at Millbrae Station) to allow for separate HSR platforms that would allow for passengers to access HSR or any improvements to platforms to allow HSR passengers to access HSR trains at existing Caltrain stations. Third, as described in the cumulative analysis in the Draft EIR, passing tracks (at locations yet to be determined, would be necessary for operation of Blended Service with 6 Caltrain trains and up to 4 HSR trains per peak hour per direction (which is the current conceptual plan for Blended Service). Fourth, in order to meet service goals for HSR, which envisions speeds faster than the current allowable speeds of 79 mph up to 110 mph on the Caltrain corridor, system improvements to be determined later would be necessary on the route to allow for an increase in top speed.

Further, it is premature to analyze HSR service along the Caltrain corridor at this time given the conceptual level of definition of HSR service and necessary physical improvements. There is no design for blended system improvements that could support a project level analysis and it will take a number of years of further planning and design in order to actually frame the blended system and the project details. In contrast, there is already a preliminary engineering design for the PCEP that does allow for project-level analysis.

Caltrain electrification also has independent utility from HSR. Caltrain electrification is planned to be in operation starting in 2020, and can then immediately start to provide project benefits in terms of improved service, lower fuel costs, improved air quality, reduced greenhouse gas emissions, and lower operational subsidy for Caltrain compared with that of a diesel system. Current plans for HSR envision the earliest date for HSR service on the Caltrain Corridor would be 2026 (per the 2014 CHSRA Business Plan). Thus, the PCEP would provide project benefits for a minimum of 8 years before HSR service begins on the corridor. More critically, HSR is designed to provide intercity rail services between Northern California, the Central Valley, and Southern California with only a few stops on the Caltrain corridor — in San Jose, Millbrae (and possibly Redwood City) and San Francisco, whereas the PCEP is intended to provide electrified commuter rail services between San Jose and San Francisco with stops at numerous locations along the route. In order for Caltrain to start providing electrified service in 2020, it is necessary to complete the environmental process now to allow for the approximately 4 years it will take to complete the PCEP final design, construct the system, and complete testing. Because it will take a number of years of a planning process to figure out the design for the blended system, as well as the time to complete environmental analysis of the blended system delaying the environmental process for both the PCEP and the HSR together would delay the ability to derive project benefits from the PCEP as soon as possible.

Thus, it is completely appropriate and fully in compliance with CEQA requirements and precedent to analyze the PCEP in the current EIR, disclosing the potential future cumulative impacts with high-speed rail in the cumulative section of the current EIR based on the current conceptual understanding of that future project, and completing separate environmental review of high-speed rail service in a separate future document.

3.1.2 Master Response 2 – Alternatives

Some commenters assert that the Draft EIR does not analyze a reasonable range of alternatives, non-electrification alternatives or alternative electrification technologies including alternatives that do not provide electrical infrastructure compatible with HSR, or other specific alternatives such as level boarding. Some commenters requested an alternative using Tier 4 diesel locomotives instead of EMUs. Some commenters also assert that the No Project Alternative should be revised to account for replacement of aging Caltrain commuter fleet locomotives more accurately. Some commenters also requested a detailed analysis of a level boarding alternative.

This Master Response addresses the broad issues of adequacy of the alternatives analysis in the EIR. Individual comments on certain alternatives not addressed by this Master Response are provided in response to individual comments.

CEQA Requirements

Key provisions of the State CEQA Guidelines (Section 15126.6) pertaining to the alternatives analysis are explained in Chapter 5, *Alternatives*, and are summarized below.

- The discussion of alternatives will focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the project objectives or be more costly.
- The no project alternative will be evaluated along with its impacts. The no project analysis will discuss the existing conditions at the time the notice of preparation was published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. Alternatives will be limited to those that would avoid or substantially lessen any of the significant effects of the project.
- An EIR need not consider an alternative with effects that cannot be reasonably ascertained, when implementation is remote and speculative, and if its selection would not achieve the basic project objectives.
- The range of potentially feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives, as described in State CEQA Section 15126.6(f)(1), are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

As shown in Chapter 5, *Alternatives*, the EIR initially considered a wide range of potential alternatives, including 51 different alternatives to some or all of the project elements, including all alternatives suggested during project scoping.

Non-Electrification Alternatives and Electrification Technology Alternatives

A number of commenters objected to the inclusion of "provision of electrical infrastructure compatible with high-speed rail" as a PCEP project objective because they feel that the inclusion of this objective would overly narrow the consideration of potential electrification and non-electrification alternatives from consideration that may be able to avoid one or more significant effects of the PCEP including, but not limited to, aesthetic impacts of the overhead contact system poles related to tree removal.

The EIR prepared for the PCEP adequately considered both electrification infrastructure alternatives as well as non-electrification alternatives and the JPB did not use the HSR-compatible project objective to eliminate consideration and analysis of any electrification infrastructure alternatives or any non-electrification alternatives. Elimination of this project objective would not expand the range of alternatives initially considered or the alternatives actually analyzed in the EIR.

The JPB has been planning modernization of its system for more than 10 years, including the potential for electrification to meet its modernization needs. The JPB has identified electrification as its preferred approach to meet all of the project objectives. The HSR has also been considering operations along the Caltrain corridor in recent years. The CHSRA has also agreed to provide substantial funding for electrification of the corridor as an "early investment" for future HSR service and Caltrain has entered into a MOU (*High Speed Rail Early Investment Strategy for a Blended System in the San Francisco to San Jose Segment known as the Peninsula Corridor of the Statewide High-Speed Rail System*) with multiple parties, including CHSRA supporting future Blended Service. Thus, inclusion of this particular project objective is a logical extension of earlier planning and is not intended as any means of overly narrowing discussion of potential alternatives during the PCEP environmental process.

The primary concern of commenters on this issue is that the range of alternatives considered in the EIR would be too restrictive and not allow for an adequate consideration of alternatives to the Proposed Project. Pursuant to State CEQA Guidelines Section 151266 (c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are an alternative's: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

As shown in Chapter 5, *Alternatives*, the list of 52 alternatives includes numerous non-electrification alternatives as well as electrification alternatives, such as third-rail technology, that would not meet the project objective of electrification infrastructure compatible with HSR. Thus, the EIR provides a preliminary consideration of a wide-range of alternatives that is not overly narrow.

Using the CEQA Guidelines "three-part test" for alternatives that need not be considered in further detail in an EIR, the JPB "screened" the alternatives down from 52 alternatives to 11 potential alternatives. Forty-one alternatives were dismissed from detailed consideration because they were either considered infeasible (22), were feasible, but did not avoid or lower significant environmental impacts (17), were feasible and would avoid or lower significant environmental impacts but did not meet most of the project's purpose and need/objectives (2). Seven of the remaining alternatives were incorporated into the Proposed Project as part of the project or as part of mitigation or did not meaningfully expand the range of alternatives analysis. The remaining four alternatives are analyzed in the EIR including three non-electrification alternatives.

The two alternatives dismissed from further consideration because they would not meet most of the project's purpose and need/objectives were Alternative S1 (5 trains per peak hour per direction with 6-car consists) and S2 (5 trains per peak hour per direction with 8-car consists). Both of these two alternatives would use the same electrical infrastructure as the Proposed Project and are completely unrelated to the question of considering non-electrification alternatives or different electrical infrastructure alternatives (such as third rail).

The different electrification technology alternatives were dismissed for failure to meet criteria other than providing consistency with the HSR-compatible electrification objective. The Draft EIR considered two electrification infrastructure alternatives: Alternative T4 (Third Rail Alternative for Caltrain) and T5 (Extend BART from Millbrae to Santa Clara). These alternatives would not have overhead contacts systems and would operate on direct current (DC), thus providing consideration of alternatives not only to overhead poles and wires but also to an alternative power system (DC instead of AC). As explained in Chapter 5, *Alternatives*, neither of these alternatives is feasible due to financial reasons, as the EIR estimates cost of Alternative T4 could range from $8 to $9 billion and Alternative T5 could range from $5.1 to $5.3 billion, not including operational costs. These costs are between 5 and 9 times the Proposed Project's updated infrastructure cost estimate of $950 to $958 million and far exceed the available capital costs that JPB can reasonably expect at this time. Comments on the Draft EIR also raised the possibility of an inductive charging rail systems (which use an embedded charging line in the middle of the tracks instead of an overhead system) as an electrification infrastructure alternative, but as responded to those comments, this technology is not proven for use in commuter rail systems to date, and thus cannot be considered feasible. Thus, the inclusion of the HSR-compatible electrification objective did not result in overly narrowing consideration of any feasible electrical infrastructure alternatives, because no feasible electrification infrastructure alternatives for the Caltrain system were identified independent of the HSR-compatible objective.

Two non-electrification alternatives were analyzed in the Draft EIR: The Diesel Multiple Unit Alternative and the Dual-Mode Multiple Unit Alternative. A third alternative, the Tier 4 Diesel Locomotive Alternative, was added for the Final EIR. All three of these alternatives would not include any electrification between San Francisco 4^{th} and King Station and San Jose. The Final EIR analyzes all three alternatives in detail, albeit at a lesser level of detail than the Proposed Project. CEQA Guidelines Section 15126 (d) specifies that:

> "The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison."

A number of commenters appear to be under the impression that CEQA requires an equal level of analysis of project alternatives. This is not correct; there is no obligation under CEQA to analyze alternatives at an equal level to that of the Proposed Project. The Draft EIR thus analyzed two non-electrification alternatives (the DMU Alternative and the Dual-Mode Multiple Unit Alternative), and a third alternative (the Tier 4 Locomotive Alternative) was added to the Final EIR, all of which would avoid the project impacts associated with an overhead contact system despite not meeting the HSR-compatible electrical infrastructure objective. The EIR identifies the Dual-Mode Multiple Unit Alternative as the environmentally superior alternative among the alternatives (though not environmentally superior to the Proposed Project).

Separate from the electrical infrastructure objective, all of the three non-electrification alternatives would not meet the objective of reducing operating fuel costs. Despite failing to meet this objective, as well as the HSR-compatible objective, the EIR still provides a sufficiently detailed analysis of all three alternatives.

Because the EIR analyzes a reasonable range of alternatives to the Proposed Project in sufficient detail, and no alternatives were summarily dismissed from consideration because they did not meet the HSR-compatible objective, adequate disclosure of potentially feasible alternatives has been provided as required under CEQA.

Tier 4 Diesel Locomotive Alternative

As noted above, some commenters asked for the EIR to analyze an alternative that would use Tier 4 diesel locomotives instead of EMUs. "Tier 4" refers to USEPA federal emissions standards for vehicles and equipment that take effect for new equipment in 2015. Thus a "Tier 4" diesel locomotive is a diesel locomotive that has advanced emission control technologies that meet the applicable EPA Tier 4 standards. Tier 4 equipment has lower air pollutant emissions than prior tier equipment.

In response to this comment, the Final EIR includes analysis of such an alternative. As described in the revised Chapter 5, *Alternatives*, the Tier 4 Diesel Locomotive Alternative is feasible and would meet some, but not all of the project objectives.

The Draft EIR did analyze a DMU Alternative that actually included Tier 4 emissions controls. Thus, the Draft EIR actually already analyzed a diesel-based alternative that met the Tier 4 emissions requirements. A DMU Alternative would have similar performance to the Tier 4 Diesel Locomotive Alternative in terms of acceleration.

As presented in the revised Chapter 5, *Alternatives*, a Tier 4 Diesel Locomotive Alternative that approximately matches the project schedule and performance has been added to the Final EIR. In order to match the project schedule, this alternative would include two locomotives per train consist where necessary to match the performance of the EMUs in the Proposed Project. Single locomotives train consists are also included where two locomotives are not necessary to match the project schedule. This alternative would have the following impacts relative to the project and the other analyzed alternatives:

- would avoid the project impacts on trees and aesthetic impacts of OCS poles and wires the same as the DMU and Dual Mode MU Alternatives;
- would have higher air quality impacts than the project in 2020 and 2040 and similar air quality impacts as the DMU and Dual-Mode MU alternative because of the additional locomotive per train consist to match the performance of the EMUs ;
- would have substantially greater greenhouse gas (GHG) emissions impacts compared with the project in 2020 and 2040 and greater GHG emissions than the DMU and Dual-Mode MU alternative because of the additional locomotive per train consist to match the performance of the EMUs;
- would have higher noise impacts than the project and greater noise impacts than the DMU and Dual-Mode MU alternative because of the additional locomotive per train consists to match the performance of the EMUs; and
- would have the same local traffic impacts as the project and greater local traffic impacts than the DMU and Dual-Mode MU alternatives; and

- would have other environmental impacts similar to the DMU and Dual-Mode MU alternatives.

As described above, concerning environmental impacts, the Tier 4 Diesel Locomotive Alternative would not have any major environmental advantages over the DMU and Dual-Mode MU alternatives and in some areas, like noise and GHG emissions would have higher impacts, although it would avoid any platform extension construction included in the DMU Alternative. Overall, as described in the revised Chapter 5, *Alternatives*, the Dual-Mode MU alternative is still considered the Environmentally Superior Alternative as it is considered environmentally superior to the Tier 4 Diesel Locomotive Alternative.

Thus, given that the Draft EIR already included two feasible non-electrification alternatives and the new alternative would have any major environmental advantages over the alternatives already included, the addition of the Tier 4 Diesel Locomotive Alternative to the Final EIR does not meaningfully expand the range of alternative considered overall.

Double-Deck DMU Alternative

As described in the Draft EIR, the Caltrain corridor has specific vertical clearance constraints, the most prominent of which are the San Francisco tunnels. Information has been added to the Final EIR to describe the specific vertical clearances at constrained locations. As shown therein, the nominal vertical clearance of Tunnel 1 and Tunnel 2 is approximately 15.5 feet and of Tunnel 3 and 4 is 17.08 feet. Existing bi-level EMUs such as the Alstom Coradia or the Siemens Desiro, that are similar to EMUs that would be used for the Proposed Project, have a vertical height of approximately 15 feet (PCJPB 2009). Available single-level DMUs (such as the Siemens Desiro or Bombardier DMUs) have vertical heights ranging from 13 to 15 feet.

There is no established current domestic or international double deck or bi-level DMU market in which proven platforms are readily available for sale by multiple suppliers. A search of the websites of major DMU manufacturers (like Siemens, Nippon Sharyo/Sumitomo and Bombardier) could not locate any details on new bi-level DMUs in production. The Caltrain 2011 technology assessment (Caltrain 2011) examined double-deck DMUs and identified a nominal vertical height of 19’ 8” which would not fit in any of the San Francisco tunnels. This was the basis of the conclusion in the Draft EIR that the double-deck DMUs could not fit in the San Francisco Tunnels. U.S. Railcar (formerly Colorado Railcar) has manufactured double-deck DMUs with a height of 19’10” in the past, several of which are in operation in the U.S. (US Railcar, no date), but no reference to new double-deck DMUs are in production or on order by US Railcar.

While it is possible that a DMU could be developed to fit within the Caltrain clearance envelope, maximizing passenger capacity within the constraints of existing platform lengths (basically a six-car train), such a train would not typically have the horsepower-to-weight ratio and adhesion to meet the 2.1 mphps acceleration rate required to deliver the proposed service model. To provide 500 to 600 passenger capacity, the train would have to be bi-level or double deck, similar to Caltrain’s existing coach fleet. To meet the desired acceleration rate, every vehicle would have to be fitted with diesel propulsion packages, which take up valuable passenger space and add weight, reducing the overall benefit that the DMU concept provides, which is a scalable train. Studies for other transit authorities have indicated that locomotive-hauled trains are more economical than double deck DMUs once the train length reaches approximately five cars, noting that every DMU application is slightly different depending on the authority. Furthermore, that prototype vehicle was 19 feet tall, roughly 4 feet taller than the existing gallery and bi-level cars. A DMU of this height would not fit through the Caltrain tunnels. This extra height was required to allow two full levels of seating, with the engines being installed beneath the main floor.

In concept, a 16-foot double deck DMU would give up most of the lower seating level to propulsion equipment. Alternate concepts have been proposed by US Railcar (the owner of the Colorado Railcar prototype design) in which single level DMUs pull bi-level coaches. This concept was proven at SFRTA in Miami by Colorado Railcar prior to construction of the double deck DMU prototypes. This provides a train that would meet the Caltrain clearance requirement, but does not meet the acceleration requirement. Given these factors, Caltrain would be better off retaining their existing locomotive-hauled trains, as neither the DMU nor DMU-Hauled coach concept would be able to practically deliver the proposed service model. Caltrain service would soon reach maximum capacity, and commuters would be required to look elsewhere for a means of transportation on the peninsula. If Caltrain commissioned the design and construction of a diesel trainset that met all of the requirements for the proposed service model (which the current selection of off-the-shelf double deck EMUs meet), a considerable schedule and budget risk would be imposed. It is very likely that there would be a single proposer, with limited passenger rolling stock production experience, and the design would be new, unique, and therefore unproven.

Mitigation Measure TRA-CUMUL-4 is only intended to provide effective vertical clearance up to the existing effective vertical clearance if needed for future freight service. This mitigation measure is not proposed to expand vertical clearances beyond existing clearances. Thus, the mitigation would not provide for sufficient vertical clearance for a double-deck DMU (based on available data as discussed above).

Even if a double-deck or bi-level DMU were built that could fit within the San Francisco tunnels, this would not substantially change the EIR analysis. No data on fuel consumption was located for double-deck DMUs, but assuming that a 4-car double-deck DMU had the same fuel consumption as a 4-car single-level DMU consist, then the fuel consumption would be assumed to be 2.0 gallons/mile using the same reference used for the single-level DMU (Mass. EOT 2008). An analysis of the impact of this fuel consumption assumption on the air quality analysis indicates that the Proposed Project in 2020 would still have substantially lower criteria pollutant emissions of NO_X and CO emissions, slightly lower ROG emissions and about the same emissions of particulate matter less than 10 micrometers (PM10) and particulate matter equal to or less than 2.5 micrometers (PM2.5) as a double-deck DMU alternative. In 2040, the Proposed Project would have substantially lower emissions of all criteria pollutants compared with a double-deck DMU alternative. The Proposed Project would also still have substantially lower GHG emissions and direct energy consumption (in BTUs) in both 2020 and 2040 compared with a double-deck DMU alternative. Because the commenter's apparent concern was about fuel consumption assumptions, which only affect the air quality, greenhouse gas and energy analysis, the results of the analysis above demonstrates that the overall conclusions of the EIR analysis, e.g., that the Proposed Project performs far better than the alternatives, including the DMU alternative, remains unchanged even if one were to include a double-deck DMU alternative.

However, since specifications for a double-deck or bi-level DMU in production today that could fit within the San Francisco tunnel were not located, such an alternative is considered speculative at this time and Chapter 5 of the EIR was not revised to provide a more detailed analysis of this alternative.

Appendix B of the EIR was revised pursuant to this comment to provide the air quality, GHG, and energy analysis for a double-deck/bi-level DMU alternative supporting the response above.

Natural Gas-Fueled Train Alternatives

Regarding natural gas fueled train alternatives (including liquefied natural gas – LNG, compressed natural gas CNG, or other natural-gas fueled variants), the JPB is not aware of any operating commuter or intercity passenger rail systems operating using these fuels today and is not aware of any proposals to use such trains by any operating commuter passenger railroad. Some of the Class I freight railroads like BNSF are beginning to evaluate natural gas fueled freight locomotives[1]. Such systems, while potentially feasible in the future, have a number of operational, financial, regulatory and mechanical challenges to them including the need to develop additional natural gas delivery infrastructure, volatile natural gas prices and the need to develop new regulatory standards. Natural gas fueled trains are only in their early stages of development for freight use.[2] Thus their potential use for commuter rails at this time is speculative.

Level Boarding

Some commenters requested that the EIR include analysis of a level boarding alternative. As indicated in Chapter 5, *Alternatives*, a level boarding alternative (combined with the Proposed Project and service increase) was considered for detailed analysis in the Draft EIR. A level boarding alternative was considered to be feasible, but level boarding would not avoid or substantially reduce any significant environmental impacts of the Proposed Project. Consequently, CEQA does not require the detailed analysis of an alternative that would not avoid or substantially reduce any significant environmental impacts of the project.

As noted in the Chapter 5, level boarding is not precluded by the Proposed Project.

Level boarding could occur with today's diesel locomotives as well as with the proposed EMUs. Level boarding is a different system improvement than the Proposed Project but neither required by the project nor precluded by the project. Therefore, level boarding is not a true alternative to the Proposed Project.

Other Comments on Alternatives

Commenters made other comments on alternatives not addressed above. These comments are responded to in the individual responses.

3.1.3 Master Response 3 – Use of Proposition 1A Funding

Comments on Proposition 1A included the following:

- Some comments asserted that the PCEP cannot be funded using Proposition 1A funds and assert that the Proposed Project could be fundamentally different if it were not being funded using Proposition 1A funds.

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[1] See http://www.csmonitor.com/Environment/2014/0123/Why-trains-may-switch-to-natural-gas-instead-of-diesel; http://www.eia.gov/forecasts/aeo/section_issues.cfm#liq_nat_gas; and http://www.progressiverailroading.com/mechanical/article/Liquefied-natural-gas-could-help-railroads-reap-locomotive-benefits-if-regulatory-technical-issues-are-resolved--39693

[2] Ibid.

- Some commenters assert their opinion that the Proposed Project would not provide infrastructure that would allow HSR service between San Francisco and San Jose (or between San Francisco and Los Angeles) to meet Proposition 1A travel time requirements and, thus, that Proposition 1A funds cannot be used to provide electrical infrastructure for the PCEP.
- Some commenters also assert that the PCEP EIR should not proceed until the lawsuits about use of Proposition 1A funds are resolved because the HSR project may change if the lawsuits find that Blended Service operations cannot meet Proposition 1A requirements.

The focus on CEQA is on identification, disclosure, and mitigation (where feasible) of significant physical environmental impacts. CEQA is not concerned with project funding or sources of funding. What is material for CEQA is the physical changes proposed by a project, which would happen regardless of the source of project funding. As such resolving issues about the use of Proposition 1A funding is not material to the environmental disclosure and analysis in the EIR for the PCEP.

That said, Proposition 1A funds can be used to fund the electrification infrastructure of the PCEP because it is compatible with potential future use of the infrastructure for HSR. As described in Master Response 2 (Alternatives), the PCEP alone is insufficient to allow for blended HSR service on the Caltrain Corridor. Thus the funding committed by CHSRA for the PCEP is only part of the funding that would ultimately be needed to provide HSR service on the Caltrain Corridor.

Any compliance with Proposition 1A funds in terms of HSR travel times along the Caltrain Corridor is a matter for CHSRA and its planning for the HSR system overall. The PCEP is limited to electrifying the Caltrain Corridor and providing electrified rolling stock. Provision of HSR intercity service meeting Proposition 1A requirements is not a PCEP project objective. However, the PCEP provision of HSR-compatible infrastructure does not in any way restrict the ability of HSR to later provide improvements necessary to provide HSR service on the Caltrain Corridor.

If, for any reason, Proposition 1A funds were not available for the PCEP, the JPB would need to seek alternative sources of funding for electrical infrastructure. The PCEP would not change in any material way from the Proposed Project described in the EIR. The 25 kVA, 60 Hertz (Hz) overhead contact system technical approach to providing electrified commuter rail service is based on one of the most common approaches to electrified rail systems in the world and the use of side poles is a default standard design. The use of an autotransformer (ATF) system is based on a system in operation on the Northeast Corridor (NEC) and results in less need for substations compared with a non-ATF system, and, thus, would be a solution for the PCEP regardless of the involvement of HSR. As a result, if Proposition 1A funds were not available, the PCEP design (and thus related environmental impacts) would be the same as that disclosed in the EIR. The best evidence for this is that Caltrain analyzed a nearly identical project in the 2004 Draft EIR 4 years before Proposition 1A was passed and long before any discussion of a Blended Service concept for the Caltrain Corridor.

Until the Proposition 1A lawsuits are legally resolved, and until or if CHSRA makes any necessary decisions in response to any such court rulings, it is speculative to analyze "what if" scenarios about potential changes in the HSR system (such as elimination of Blended Service). For the present, CHSRA has identified a blended system on the Caltrain Corridor in the 2012 and 2014 Business Plan and, thus, the EIR appropriately considers Blended Service in its analysis of potential cumulative impacts.

3.1.4 Master Response 4 – Ridership and Capacity

This master response provides information responsive to issues raised concerning ridership and capacity.

- Some commenters assert that the Draft EIR's growth projections do not adequately include additional growth on the San Francisco peninsula and do not take into account travel demand management (TDM) measures being incorporated into project approvals by local agencies that call for greater transit us.
- Some commenters also assert that the EIR should analyze a greater number of trains going to the Transbay Transit Center (TTC) in San Francisco than the two trains per peak hour per direction (out of 6) analyzed in the cumulative section of the EIR.
- Some commenters assert that the project should accommodate a greater amount of riders than proposed by the project.
- Some commenters assert that the project should accommodate 100% of the potential train rider demand.
- Some commenters assert that the EIR should analyze a greater amount of bicycle capacity on board Caltrain and the asserted environmental benefits of increased bicycle capacity.
- Finally, some commenters asked for a more thorough disclosure of the capacity calculations underlying the EIR analysis.

Accuracy of Growth Projections

Regarding the accuracy of growth projections, none of the comments provide quantitative substantiation of their concerns that the growth projections used in the EIR are in any way inadequate. The Draft EIR analysis of potential ridership demand, as described in Appendix I, Ridership Technical Memorandum, used the most recent comprehensive socioeconomic forecasts from the Association of Bay Area Governments (ABAG) Sustainable Communities Strategy (SCS) of the One Plan Bay Area effort. These forecasts were adopted in July 2013 by the Metropolitan Transportation Commission (MTC) approximately 6 months after release of the Notice of Preparation (NOP) for the PCEP EIR. As noted in Appendix I, in late 2013, ABAG and MTC released updated final versions of the regional projections. These were reviewed prior to release of the Draft EIR and, while there are differences in the forecasts, primarily due to a correction of missing jobs at San Francisco International Airport (SFO) and corrections to areas showing large decreases in jobs in the ABAG September 2012 version, overall system ridership is not expected to be significantly different. Therefore, the ridership forecasts presented in the Draft EIR are expected to be reasonable for the purposes of the EIR evaluation.

To date, ABAG and MTC have not produced any new updates to socioeconomic forecasts, although they will likely develop them in the future for the 2016 Regional Transportation Plan (RTP)/SCS. Thus, the socioeconomic forecasts used for the PCEP Draft EIR represent the best available data for comprehensive regional forecasts at the time of the EIR preparation.

It is possible that individual cities or locations along the Caltrain corridor may develop faster, slower or differently than assumed in the ABAG/MTC forecasts which could change the transit demand for services like Caltrain. It is unreasonable to expect constant updating of the ABAG/MTC forecasts for every change in development potential that might occur between periodic release of regional forecasts. Regardless, the socioeconomic forecasts used for the EIR are a reasonable analytical basis not only for ridership forecasting but also for other EIR analysis including traffic analysis.

Effect of TDM on Projections

As to the effect of TDM on projections of Caltrain ridership, it is possible that increasing local requirements for TDM may increase Caltrain riders over time. The PCEP is based on providing a specified level of service through increased peak hour trains and increased trains overall. While the PCEP would help to accommodate increased ridership, the PCEP is not designed to accommodate 100% of all future potential demands that may occur. The PCEP is defined as providing increased service within the performance of the technology, Corridor rail system capacity, and the amount of rolling stock funded by identified available funding. The system ridership model used for this EIR is a validated travel demand model, using the most recent socioeconomic models, and was run by qualified personnel in its use and thus provides a reasonable estimate of potential ridership with the Proposed Project.

Transbay Transit Center (TTC) Service and Ridership

The Draft EIR 2040 cumulative conditions presume completion of the downtown extension and the TTC. The 2040 ridership in the Draft EIR was based on a presumption of 2 Caltrain trains per peak hour going to TTC. Some commenters asked why the Draft EIR analysis did not analyze more trains running to TTC.

The PCEP project area is from the San Francisco 4th and King Station to 2 miles south of the Tamien Station in San Jose as that is the area of proposed electrification and proposed EMU operations that can be implemented by the JPB on its own using the funds identified for the project. In the cumulative condition, electrified operations to TTC become possible once the PCEP is completed and the TTC and Downtown Extension (DTX) are completed.

The Draft EIR presumed that two trains per peak hour per direction (out of six) would operate to TTC with DTX because Caltrain operational analysis to date has shown that this is reasonable given currently proposed four platforms for HSR and two platforms for Caltrain. It is certainly possible that more Caltrain trains could be accommodated at TTC. The exact timing of DTX is still unknown and implementation may occur a number of years after 2020. Consequently, it would be somewhat speculative at this time to determine exactly what the Caltrain service plan at TTC will be beyond the levels that have been shown to be feasible in Caltrain operational studies to date.

The latest ridership analysis from Transbay Joint Powers Authority (TJPA) for the DTX estimates that 2030 ridership (including both boardings and alightings) at TTC may range from 29,700 (with 5 Caltrain trains per peak hour per direction) to 34,100 (with 10 Caltrain trains per peak hour) (Cambridge Systematics 2008). Interpolating between the ridership estimates prepared for TJPA for 5 to 7 Caltrain trains per peak hour per direction, it was estimated that ridership with 6 trains per peak hour per direction would be 31,500 (Cambridge Systematics 2009). Although the studies were done for different timeframes using different socioeconomic growth estimates, a rough comparison of ridership between six trains and two trains can be made by comparing the Cambridge Systematics estimate for six trains of 31,500 to TTC to the PCEP Draft EIR system-wide ridership model results of 17,053 for two trains to TTC.

The cumulative analysis in the Final EIR has been updated to note that TTC ridership (boardings and alightings) would depend on the amount of Caltrain service ultimately provided to TTC and thus could range between the Draft EIR estimate of 17,053 (with 2 trains based on system-wide ridership modeling done for the PCEP Draft EIR) up to 31,500 (with 6 Caltrain trains based on Cambridge Systematics analysis for TJPA) (see Table 3-1). In addition, because Caltrain reports ridership in terms of boardings whereas TJPA and some other systems report ridership in terms of boardings and alightings, Tables 3-2 and 3-3, showing the PCEP ridership in terms of boardings and alightings is shown below.

Table 3-1. Comparison of Potential Ridership to TTC with Varying Service Level Assumptions (Boardings and Alightings by Station)

	Service	4th and King/ 4th and Townsend	Transbay Transit Center	Total of 2 Stations
Cambridge Systematics (2009) (1)	6 trains to 4th and King	30,900	N/A	30,900
	6 trains to 4th and Townsend and to TTC	17,100	31,500	48,500 (2)
PCEP Draft EIR System-wide Ridership Modelling (2014) (3)	6 trains to 4th and King	31,782	N/A	31,782
	4 trains to 4th and King 2 trains to 4th and Townsend and TTC	29,058	17,053	46,112 (2)

Notes:
For 2030. Estimates prepared in 2008 based on pre-recession growth forecasts.
Totals may not be exact due to rounding.
For 2040. Estimates prepared in 2013 based on post-recession growth forecasts.

Table 3-2. Caltrain Boardings: 2013, 2020 and 2040

Station	2013	2020 No Project	2020 Project	2040 No Project	2040 Project
Transbay Terminal[a]	N/A	N/A	N/A	N/A	8,527
4th and King	10,760	12,347	13,692	15,891	14,529
22nd	1,303	2,108	2,479	3,089	3,525
Bayshore	190	816	1,186	1,610	2,455
SSF	373	1,038	1,378	1,688	1,949
San Bruno	451	674	693	1,104	1,311
Millbrae	3,259	2,882	3,775	4,790	6,643
Broadway	0	0	558	0	619
Burlingame	780	1,129	1,010	1,536	1,650
San Mateo	1,570	2,052	2,230	2,844	3,579
Hayward Park	334	647	980	1,269	1,212
Hillsdale	2,278	3,036	3,695	4,407	6,430
Belmont	508	623	868	912	1,190
San Carlos	1,170	1,823	1,909	2,486	2,495
Redwood City	2,588	3,226	3,454	5,627	6,124
Atherton	0	0	444	0	570
Menlo Park	1,571	1,750	1,685	2,374	2,329
Palo Alto	5,613	6,630	8,280	10,319	14,219
Cal Avenue	1,261	1,192	1,164	1,722	1,283
San Antonio	643	674	782	1,080	1,268
Mountain View	3,834	3,849	5,253	5,879	8,841
Sunnyvale	2,272	2,030	2,456	2,641	3,481
Lawrence	688	1,102	1,370	1,639	2,005
Santa Clara	792	828	986	902	885
College Park	118	67	138	71	0
Diridon	3,523	4,368	5,765	6,905	10,994
Tamien	783	1,003	1,641	1,104	1,477
Capitol	39	101	109	127	91
Blossom Hill	63	147	165	225	189
Morgan Hill	129	175	200	304	310
San Martin	45	136	163	197	215
Gilroy	128	595	644	1,075	1,032
All	47,066	57,047	69,151	83,815	111,427

[a] TTC ridership is based on assumed 2 trains per peak hour; higher TTC ridership would occur with increased service

Source: System wide Ridership Modelling conducted for PCEP Draft EIR

Table 3-3. Caltrain Boardings and Alightings 2013, 2020 and 2040

Station	2013	2020 No Project	2020 Project	2040 No Project	2040 Project
Transbay Terminal [a]	N/A	N/A	N/A	N/A	17,053
4th and King	21,520	24,693	27,383	31,782	29,058
22nd Street	2,606	4,216	4,958	6,178	7,049
Bayshore	380	1,631	2,373	3,219	4,909
South San Francisco	746	2,076	2,757	3,377	3,897
San Bruno	902	1,347	1,386	2,208	2,621
Millbrae	6,518	5,764	7,549	9,579	13,287
Broadway	0	0	1,116	0	1,238
Burlingame	1,560	2,257	2,019	3,072	3,299
San Mateo	3,140	4,104	4,461	5,688	7,158
Hayward Park	668	1,294	1,960	2,538	2,424
Hillsdale	4,556	6,073	7,391	8,814	12,861
Belmont	1,016	1,245	1,736	1,823	2,381
San Carlos	2,340	3,645	3,818	4,972	4,989
Redwood City	5,176	6,452	6,908	11,254	12,249
Atherton	0	0	888	0	1,140
Menlo Park	3,142	3,500	3,370	4,748	4,658
Palo Alto	11,226	13,260	16,559	20,639	28,438
Cal Avenue	2,522	2,384	2,328	3,445	2,567
San Antonio	1,286	1,348	1,564	2,160	2,536
Mountain View	7,668	7,698	10,507	11,758	17,682
Sunnyvale	4,544	4,061	4,912	5,281	6,963
Lawrence	1,376	2,204	2,740	3,279	4,009
Santa Clara	1,584	1,655	1,973	1,804	1,771
College Park	236	134	276	142	0
Diridon	7,046	8,737	11,529	13,809	21,988
Tamien	1,566	2,006	3,282	2,207	2,954
Capitol	78	203	217	254	181
Blossom Hill	126	294	331	450	377
Morgan Hill	258	349	400	607	621
San Martin	90	273	325	395	431
Gilroy	256	1,190	1,288	2,149	2,064
All	94,132	114,094	138,302	167,630	222,854

[a] TTC ridership is based on assumed 2 trains per peak hour; higher TTC ridership would occur with increased service.

Source: System wide Ridership Modelling conducted for PCEP Draft EIR

Long-term ridership forecasts are subject to numerous assumptions. For example, Caltrain's service plans for the number of regular versus baby bullet trains, the number of peak-hour trains that use the existing Caltrain terminus at Fourth and King Streets versus those that would use the new Transit Center, and the frequency of the trains; the price of gas; future land use and population/employment forecasts; and future economic conditions all factor into and create variability in future ridership. While increasing the number of Caltrain trains to TTC would change ridership, it is speculative to conclude exactly where and when that additional ridership might occur, in part due to the uncertain date of completion of DTX. Additional ridership after completion of DTX, would only result in some of the traffic impacts around Caltrain stations identified for 2040 in the Draft EIR to occur several years earlier than would otherwise occur due to the expected continued growth in ridership demand. Further, the ridership analysis shows that Caltrain trains will be approaching their capacity based on the 2040 numbers and, thus, the Draft EIR's 2040 ridership analysis is a reasonable basis by which to analyze any ridership-related secondary effects (like local traffic around stations). While additional trains going to the TTC might increase the rate of ridership growth after DTX is completed, the overall level of ridership that could be physically accommodated by Caltrain in 2040 would not be expected to substantially change, and thus additional analysis would not produce any useful information that would substantially change the portrayal of project impacts or cumulative impacts in the Draft EIR.

Furthermore, the TJPA EIR/EIS for the DTX project (TJPA 2004) has analyzed the potential impacts not only of extending Caltrain service to the TTC, but also high-speed rail service to the TTC. Thus, the project level CEQA document for extending service to downtown San Francisco has already been completed. The TJPA document already analyzed the potential environmental impacts at TTC of higher numbers of Caltrain service to TTC and thus impacts have been previously disclosed associated with the DTX.

Bike Capacity

This issue is discussed in the Master Response 9 (Bikes on Board), below.

Capacity Analysis Conducted for the EIR

A number of comments asked for clarification on the capacity analysis that was conducted for the ridership analysis used in the Draft EIR.

The capacity analysis was conducted in order to understand the changes in ridership and capacity between 2013, 2020 and 2040 conditions. For future scenarios, both No Project and Proposed Project scenarios were analyzed. This analysis is described in more detail in Attachment D to Appendix D (Transportation Impact Analysis) of the Draft EIR.

Appendix D of the EIR has been updated to provide further clarification of the capacity analysis and results.

Key Assumptions

Basic assumptions and terminology underlying this analysis include:

- The peak periods for Caltrain schedules are weekdays between 6:00 – 9:00 AM and 4:00 – 7:00 PM. These same assumptions were used for future year scenarios. See Appendix I for the prototypical 2040 Project scenarios service schedule.
- "Peak period" trains refer to trains that depart San Jose (Northbound) or San Francisco (Southbound) during the peak period. For purposes of the capacity analysis, trains which originate before 6:00 AM or 4:00 PM are not considered peak hour trains, even if part of the train run (duration of train trip) does overlap with the peak period. Similarly, trains that

originate before 9:00 AM or before 7:00 PM are considered peak period trains, even if part of their run extends beyond the peak period.

- All analysis was conducted for four peak period and direction combinations: northbound AM, southbound PM (referred to later as "traditional peaks"); and southbound AM, northbound PM (referred to later as "reverse peaks"). More information on traditional and reverse peaks can be found in Section 2.1 of Appendix D to the Draft EIR.
- The capacity and ridership calculations in the Draft EIR make use of Santa Clara Valley Transportation Authority (VTA) travel demand model results directly.
- Adequate room for standing passengers is defined in the Transit Capacity and Quality of Service Manual (2nd edition, 2003) as 5.4 square feet per standing passenger.

Various assumptions about train capacity and train schedules were also made in order to perform this analysis, summarized below.

2020 No Project Assumptions

The 2020 No Project scenario assumes the same schedule as today. During the peak period, a total of five trains run per hour per direction (northbound or southbound), with several different schedule and consist types[3], listed below.

- Three trains run per hour on a Limited schedule. Limited service trains operate as skip-stop for one-half of the route and as local trains for the other half. Skip-stop service stops at fewer stations than Local trains, skipping as many as one to three stations along the route.
- Two trains run per hour on an express (Baby Bullet service) schedule. Baby Bullet service operates between San Francisco and San Jose, making the trip in less than one hour, stopping only at key stations.

Peak hour service is a mixture of Gallery cars and Bombardier cars, described below.

- Gallery cars have an average of 138 seats per passenger car and 97 seats per bike car. An additional 32 square feet of standee space is available in the vestibules to comfortably accommodate approximately six standees. A standard consist of 3 passenger cars and 2 bike cars would have a seating capacity of 608 seats. Averaged over 5 cars, this would be approximately 122 seats per car.
- Bombardier cars have an average of 142 seats per passenger car and 115 seats per bike car. An additional 70 square feet of standee space is available in the vestibule to comfortably accommodate approximately 13 standees. A standard consist of 3 passenger cars and 2 bike cars would have a seating capacity of 658 seats. Averaged over 5 cars, this would be approximately 132 seats per car.

For more detail on the 2020 No Project Scenario, see Section 3.2.2 of Appendix D.

[3] "Commute Fleets." Peninsula Corridor Joint Powers Board. 2014. <http://www.caltrain.com/about/statsandreports/commutefleets.html>

2020 Project Assumptions

During the peak period, a total of six trains run per hour in each direction, a prototypical schedule was assumed for the purposes of the EIR and includes several different schedule and consist types, listed below.

- Four trains run per hour serving all stations.
- Two trains per hour run serving a Baby Bullet schedule as described above.

Peak hour service is a mixture of electric multiple units (EMU) cars, Gallery cars and Bombardier cars, described below.

- EMU cars were assumed to have an estimated average of 100 seats per car. An additional 100 square feet of standee space is available in the vestibule to comfortably accommodate approximately 18 standees, expanding the capacity by 20 percent to nominally 110 passengers per train. The above numbers are general estimates of potential EMU capacity; the actual layout, design, and number of seats remain to be determined during the EMU procurement process
- Gallery and Bombardier cars were assumed to be the same as existing conditions described above.

For more information on fleet requirements for the electrification program, see Chapter 2 of the Draft EIR or Section 3.2.2.1 of Appendix D.

2040 No Project Assumptions

2040 No Project operates under the same operating characteristics as 2020 No Project. The operating schedule and rolling stock would remain as it is under existing conditions. For more detail on the 2040 No Project Scenario see Section 3.4.1 of Appendix D.

2040 Project Assumptions

During the peak period, six trains per hour run in each direction, a prototypical schedule was assumed serving all stations in varied patterns. During the peak hours, the train consists with the Proposed Project would consist of six EMU cars, with an assumed capacity of up to 110 passengers per car.[4]

Calculating Capacity and Ridership

A full capacity analysis was performed for the 2040 No Project and 2040 Project scenarios. For the 2020 No Project and 2020 Proposed Project scenarios a full capacity analysis was not performed, as the 2020 scenarios have lower ridership forecasts than the 2040 scenarios. Thus, if the 2040 scenarios do not exceed capacity, it follows that the 2020 scenarios would as well.

The capacity and ridership calculations involved several steps. Each is described in detail below.

[4] In 2040 with the Proposed Project, diesel locomotives would still be used for Gilroy to San Jose service only.

Passenger Loading Factor

Step 1: Passenger Loading Factor

The Passenger Loading Factor estimates the seat turnover rate, which is the average number of times a seat is occupied by a passenger during a trip. The passenger loading factor is calculated by dividing the total ridership from the peak period by the maximum passenger load during the peak period. The maximum passenger load is the maximum number of passengers on-board for a specific segment of a train trip.

Observed 2013 passenger loading factors are approximately 1.3 in the southbound AM reverse peak direction and 1.6 in the northbound AM traditional peak direction. Hence current trips tend to be longer in the reverse peak direction than the traditional peak direction.

The passenger loading factor was calculated for the 2013 modeled results, 2013 observed results, and 2040 No Project and Project modeled results for each scenario, period, and direction of train travel (traditional and reverse peak).

Step 2: Calibrate Passenger Loading Factor

The differences between the 2013 modeled passenger loading factor and the actual 2013 passenger loading factor necessitated adjustments to the passenger loading factors for the future 2040 conditions. The percent change between 2013 model conditions and 2040 model conditions was applied to the 2013 observed conditions to estimate a more realistic 2040 scenario.

Future origin-destination patterns for the northbound AM traditional peak reflected in the VTA travel demand model (based on the prototypical schedule and regionally-adopted ABAG land use projections) show an decrease in trip length as compared with today, meaning passengers are forecast to make shorter trips when heading north during the AM peak period. As a result, northbound AM passenger loading factors are forecast to increases to 2.0 for 2040 Project conditions. Under the 2040 Project scenario, the origin-destination patterns showed that southbound AM reverse peak passengers are forecast to make similar length trips to current trends. The 2040 Project scenario passenger loading factor is unchanged from the 2013 factor of 1.3 in the southbound AM reverse peak.

Capacity Analysis

Step 3: System Capacity during Peak Hours

Using the Passenger Loading Factor calculated above and a representative mix of consist types for each scenario, the total peak period capacity was calculated for Caltrain for the 2040 No Project and Project scenarios.

Calculating Capacity Utilization

The next steps of the analysis involved calculating the ridership demand of the future Caltrain system in order to compare the ridership forecasts with the calculated peak period capacity. This provided the overall utilization of the future Caltrain system as well as information about what percentage of capacity the future system would be using.

Step 4: Adjust for Shift from Peak Period Travel

Caltrain recent ridership trends show that riders are shifting away from the typical AM and PM peak periods into the peak shoulders (just outside of the peak hours) and off-peak periods. In 2006, only eight percent of Caltrain's daily ridership was outside the peak three-hour period; this proportion rose to 19 percent in 2013.[5] Initial ridership model results showed only 17 percent of trips would occur outside of peak hours in the 2040 scenarios, which is slightly less than the current off-peak percentage rather than continuing the current shift away from the peak.

To maintain a conservative estimate, we assumed that 22 percent of forecast trips would fall outside the peak periods in 2040. The model ridership numbers for these scenarios were therefore adjusted downward by approximately six percent.

Step 5: Comparing Ridership Demand and Calculated Capacity

The final step was to combine the ridership values from Step Four with the capacity values from Step Three in order to determine what percentage of capacity the projected ridership would be using under future scenarios.

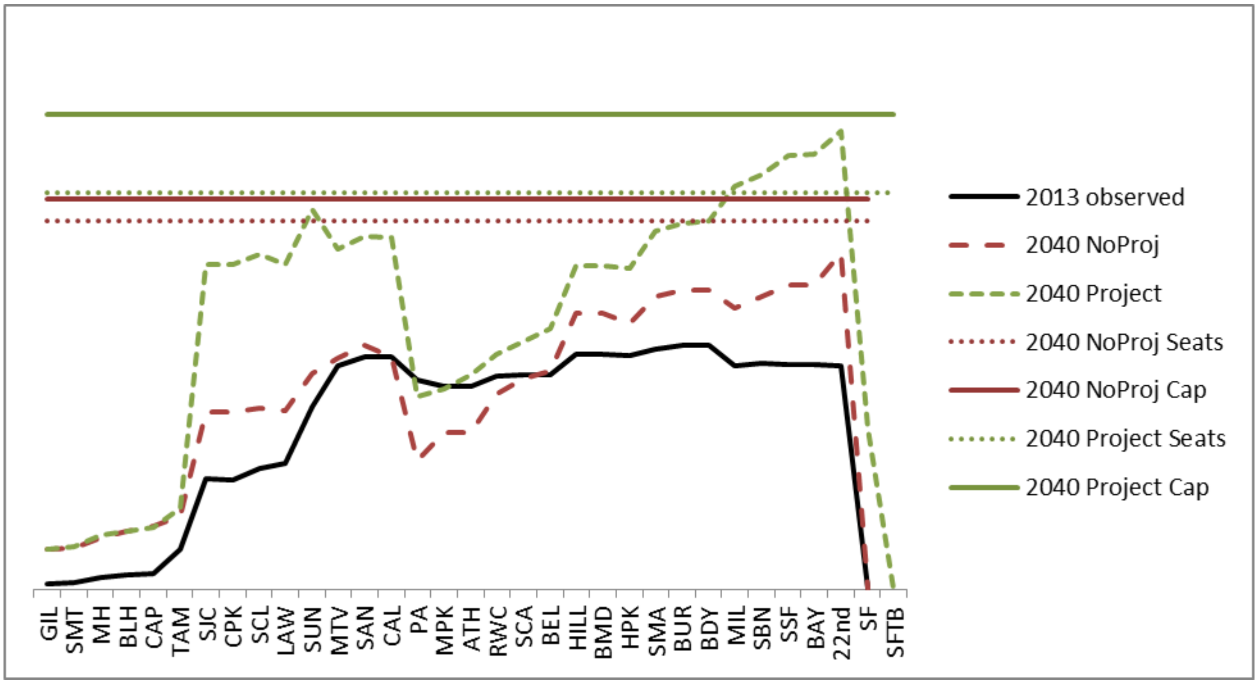
Capacity Trends

The analysis of passenger loading factors illustrates several general trends expected to occur between now and 2040. Under existing conditions, San Francisco is by far the most common destination for travel in the traditional AM peak, with passenger load relatively flat from Mountain View to San Francisco. The 2040 scenarios both predict that the number of AM peak trips to San Francisco would not grow as quickly as the number of trips to other Peninsula destinations, such as Palo Alto and Mountain View. This predicted decentralization of AM destinations would lead to shorter trips in the traditional direction, leading in turn to more capacity in the system as a whole because seats would turn over more quickly.

In the reverse peak direction, trips in 2013 are already longer on the whole than trips in the traditional peak direction, as indicated by the lower passenger loading factor for observed 2013 trips for this direction. Most of the common destinations for the AM reverse commute are in the southern portion of the route between Palo Alto and Mountain View, and the prevalence of these destinations is expected to continue. With a large proportion of destinations in the southern portion of the route between San Jose and San Francisco and with the origins being centralized in the northern part of the route, there is not as much room for seat turnover as in the traditional peak direction. In 2040, it is expected that the most common destinations for AM reverse peak travel would continue to be in the southern portion of the route, leading to very little change in seat turnover rates.

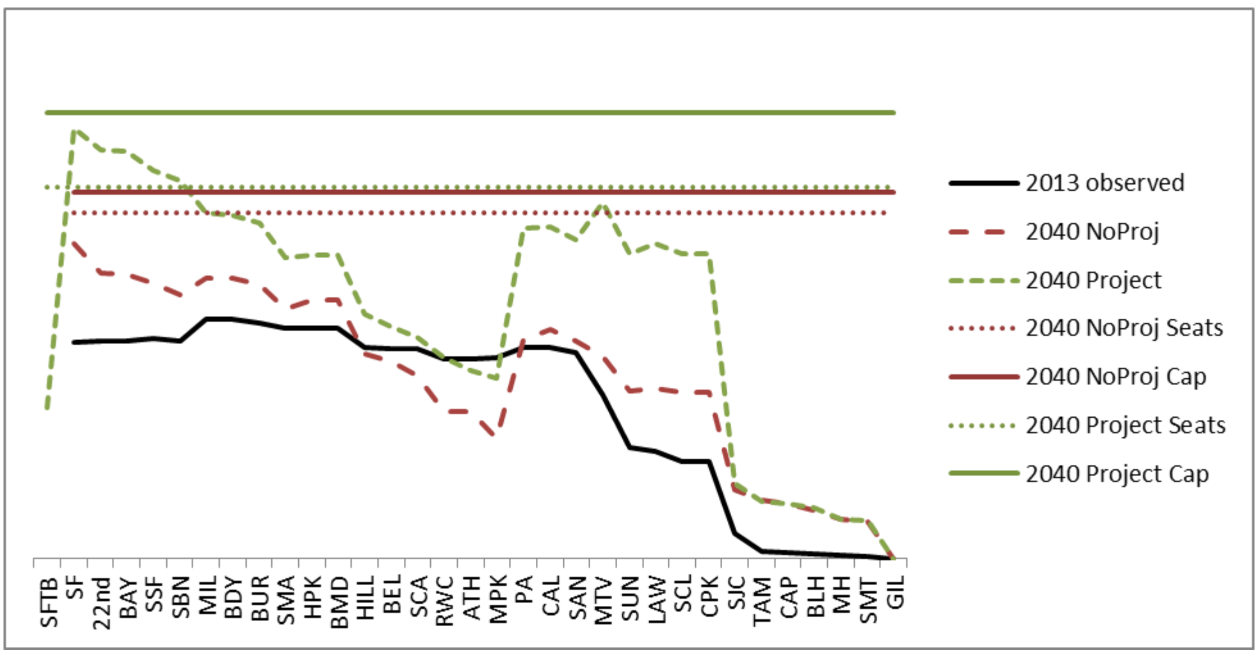
Figures 3-1 to **3-4** below present an approximate visual summary of the capacity utilization and ridership projections presented above. They incorporate the projections from both 2040 scenarios, along with the adjustments described above to account for demand shifting away from the peak period. The change in passenger loading factors from the 2040 models to the factors used in the capacity analysis was accounted for indirectly by adjusting the scale of the model results. The dotted lines represent the seating capacity, with the solid lines incorporating standing room as described in the assumptions above. The capacity for 2013 is identical to the 2040 No Project scenario.

[5] Source: Caltrain Annual Passenger Counts 2006 – 2013. San Mateo County Transit District. < http://www.caltrain.com/about/statsandreports/Ridership.html>



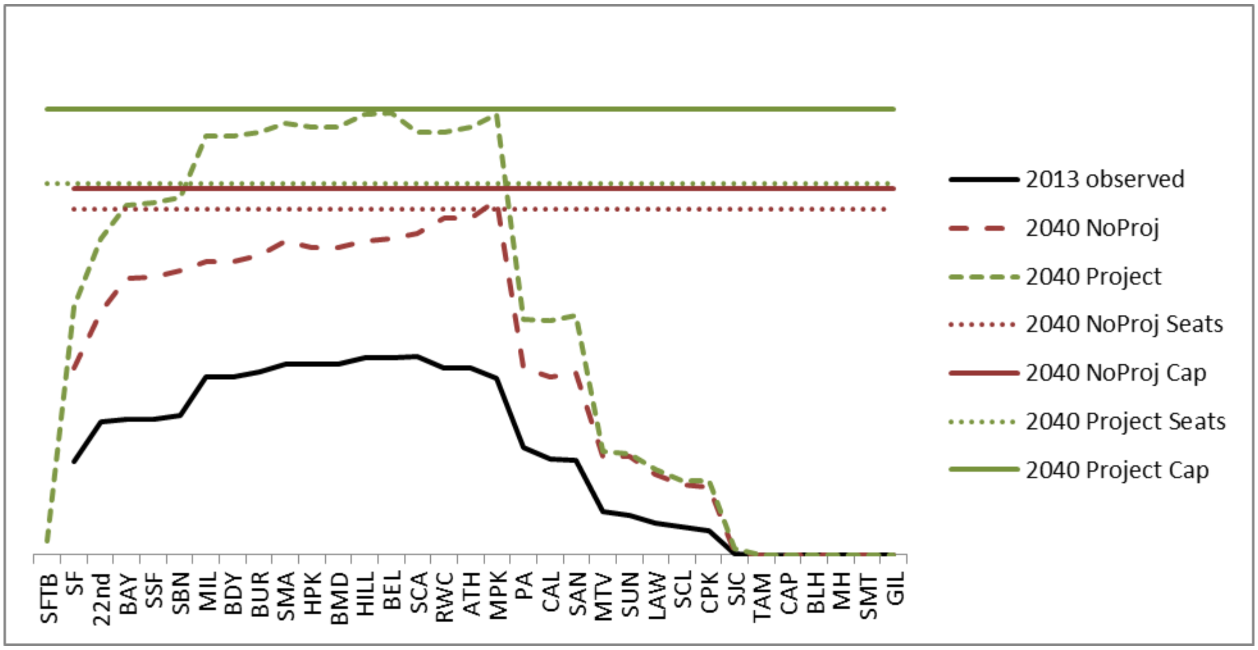
Source: Fehr & Peers, 2014.

Figure 3-1. AM Peak Northbound Capacity, 2040 No Project and Project Scenarios



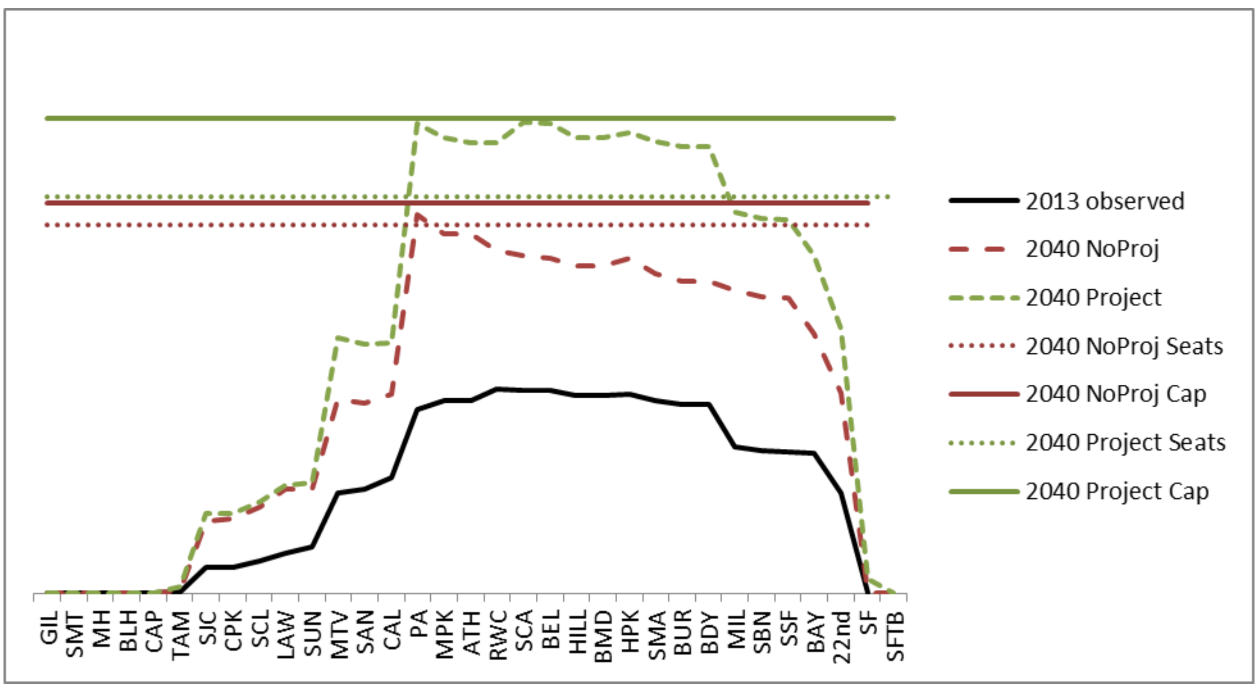
Source: Fehr & Peers, 2014

Figure 3-2. PM Peak Southbound Capacity, 2040 No Project and Project Scenarios



Source: Fehr & Peers, 2014

Figure 3-3. AM Peak Southbound Capacity, 2040 No Project and Project Scenarios



Source: Fehr & Peers 2014

Figure 3-4. PM Peak Northbound Capacity, 2040 No Project and Project Scenarios

The passenger load profiles shown above apply to the entire three-hour peak. The conclusion that the system would not exceed capacity in the 2040 Project scenario rests on the assumption that ridership would be uniformly distributed throughout the three-hour peak periods. At present, some peak period trains already approach capacity, while others have lower ridership, leading to a three-hour average that is well below the overall system capacity. In the 2040 Project scenario presented here, the three-hour average approaches, but does not exceed overall capacity.

In conclusion, under the 2020 and 2040 project scenario, the system would have the capacity to accommodate ridership demand within the three-hour morning and evening peak periods. The 2020 Project scenario is an intermediate stage between existing conditions and 2040 project during which capacity would increase to 2040 project levels with ridership growth approaching, but not matching or exceeding that of the 2040 Project scenario. Under both 2040 scenarios, there are unlikely to be spillover impacts on adjacent highways from unmet transit trips.

3.1.5 Master Response 5 – Environmental Benefits

Some commenters assert that the Draft EIR understates the environmental benefits that would result from the Proposed Project and the EIR should more clearly note these benefits.

The Proposed Project would result in overall beneficial impacts related to improvements in regional air quality, reduction in local diesel emissions, greenhouse gas emissions, total and local vehicle miles traveled, and quieter engine noise. The Proposed Project would further the regional and statewide GHG emissions reduction goals. These benefits are explained below.

- *Air Quality:* Proposed Project regional criteria pollutant emissions (such as ozone precursors and particulate matter) would be lower than under existing conditions and under No Project conditions in both 2020 and 2040. The Proposed Project would lower diesel combustion and lower vehicle miles travelled which would result in substantial net reductions in criteria pollutant emissions even when accounting for the lesser increases in emissions due to electricity generation. This would be a regional health benefit for the San Francisco Bay Area as a whole and a localized health benefit along the San Francisco Peninsula.
- *Local Diesel Emissions along the JPB ROW:* The Proposed Project would reduce the number of diesel locomotives operating along the Caltrain corridor between San Francisco and San Jose, and would therefore reduce localized DPM concentrations, resulting in a beneficial project-level impact on a local scale. Diesel train particulate emissions would be lowered by approximately 87% compared with existing conditions in 2020.
- *Greenhouse gas emissions:* Implementation of the Proposed Project would substantially reduce operational Caltrain system GHG emissions in 2020 relative to the existing Caltrain service by approximately 68,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) and by approximately 80,000 MTCO2e compared with 2020 No Project conditions. These reductions would help the state to meet its GHG reduction goals under AB 32.
- *Vehicle miles travelled:* Daily VMT in all cities along the corridor would decrease under the 2020 Project scenario compared with the 2020 No Project scenario. Total daily VMT under the 2020 Project scenario is projected to decrease by an average of 1.6 percent in the cities along the corridor compared with the 2020 No Project scenario. While the Proposed Project would result in localized traffic impacts at certain grade crossings and certain Caltrain stations, the total effect is that total VMT in each city would decrease because of the Proposed Project. Thus, the Proposed Project would have a beneficial impact on regional and city-level traffic overall by reducing vehicle miles traveled. This would support the regional goals of the MTC Regional Transportation Plan/Sustainable Communities Strategy (Plan Bay Area) under SB 375.

- *Noise:* EMUs are notably quieter than corresponding diesel locomotives and, thus, train engine noise would decrease along the ROW. Because the Proposed Project includes an increase in the number of trains, train horn noise would increase near grade crossing. The combined effect of this is that noise levels would be somewhat less at about two-thirds of the studied locations, about the same at one-sixth of the studied locations, and would slightly increase at the remaining one-sixth of locations (but at a level less that the Federal Transit Administration (FTA) moderate noise thresholds, which are used as the significance thresholds in the EIR).

3.1.6 Master Response 6 – Visual Aesthetics (Including Tree Removal)

The following comments are addressed in this Master Response:

- concern about the visual impacts of the Traction Power Facilities (TPFs);
- concern about the visual appearance of the overbridge protection;
- concern about the visual impacts of the overhead contact system (OCS);
- concern about the visual impacts of tree removal; and
- consideration of alternative pole designs and alignments (including center poles) to reduce and avoid aesthetic impacts due to tree removal.

Comments about the noise and air quality impacts of tree removal are addressed separately in other Master Responses.

Traction Power Facilities

In response to concerns about the aesthetic impact of traction power facilities near existing residential areas (such as PS3-Option 1 in Burlingame, PS5-Option 1 in Palo Alto, PS6-Option 1 in Sunnyvale, and PS7 in San Jose) or planned mixed use areas (PS4-Option 1 and 2 in San Mateo, SWS1 in Unincorporated San Mateo County, and PS5, Option 2 in Palo Alto), Mitigation Measure AES-2b has been strengthened to include more specific language regarding the vegetated screening that would be planted to minimize visual impacts of the paralleling stations that would be located in areas adjacent to residential or park areas that could change the visual character of those areas.

In addition, the Final EIR has added a several new options for certain paralleling stations that would be further from potentially sensitive areas including a second PS3 option in Burlingame, a third PS4 option in San Mateo, and a second SWS option.

Visual simulations Figures 3.1-12 (Simulation 10, PS6, Option 1) and 3.1-17 (Simulation 16, PS5, Option 1) were revised to present different vegetation screening options to help reduce the visual impacts on views from adjacent residential areas. A vegetated wall/fence was suggested in a comment from the City of Palo Alto for the paralleling station option adjacent to the Greenmeadow neighborhood and Mitigation Measure AES-2b would include this mitigation approach as a potential element for TPFs proposed adjacent to residential areas where it is not feasible to achieve effective screening using tree plantings.

All of the potential locations for the two substations are in commercial and/or industrial areas that are not considered visually sensitive. Although the switching station is currently located in a commercial/industrial area, San Mateo County has plans to promote mixed residential/commercial/light industrial uses in adjacent areas so a second switching station option was included in the Final EIR that is adjacent to existing commercial areas not adjacent to the planned mixed use area.

Overbridge Protection

In response to concerns about the aesthetic effects of overbridge protection, additional photographic images of potential overbridge materials has been added to the Final EIR to provide the reader an idea of their appearance. Mitigation Measure AES-2b has also been modified to include consultation with local cities during the design phase to solicit input on the aesthetic design of overbridge structures.

Overhead Contact System

Impacts due to the new poles and wires were evaluated in the EIR in terms of impacts on scenic vistas and impacts on visual character. Impacts relative to tree removal are discussed separately below.

Regarding scenic vistas, the Caltrain ROW is embedded into the urban and suburban fabric of the communities through which it passes. Due to existing residential, commercial, and industrial development along the ROW, there are no long-range scenic vistas wherein one can observe the specific features within the ROW such that the addition of the poles and wires would substantially change the scenic vista itself. From a distance, the OCS infrastructure would either be obstructed by existing vegetation or development or the poles and wires would fade into the background. Thus, the EIR concludes that the addition of the OCS would not have a significant impact on scenic vistas.

Regarding visual character, the JPB recognizes that local residents and business occupants could consider the new OCS poles and wires as a visual intrusion that detracts from the existing visual character of the rail corridor. Some of the commenters on the Draft EIR are of the opinion that the new poles and wires would substantially change the visual character and that no mitigation could reduce that impact to a less-than-significant level. While respecting those personal opinions, it is the judgment of the JPB that the introduction of OCS poles and wires within the existing Caltrain corridor would not constitute a substantial visual change. The reasons for this determination include the following:

- ***The existing ROW is a long-standing active transportation corridor***: The ROW is not a natural landscape feature. The ROW contains train rails, warning signs and lights, overhead signal bridges, spur tracks, and the frequent presence of passenger trains and freight trains with their attendant visual features, engine noise, and horn noise at grade crossings. In areas, the ROW includes elevated embankments and grade separations that can be substantial structures. In certain areas, such as Mountain View and Millbrae, the ROW includes adjacent other transit facilities such as VTA light rail and BART. In certain areas, including in South San Francisco, in Redwood City, and in Santa Clara and San Jose, there are extensive freight tracks and freight train movements. In many locations, there are overbridge fencing protection and fencing along the ROW. This is an active corridor where there is a transportation intensity of activity and infrastructure that can be different from adjacent residential and commercial areas. The ROW has been an active transportation corridor for 150 years and Caltrain commuter rail operations has been operating for decades. As a result, an intensity of transportation-related infrastructure and operations is the expected aesthetic character of the ROW. The addition of OCS poles and wires along the ROW would introduce a new linear visual feature, but not one that is out of character with an active transportation character.

- ***Utility wires are a normal part of the ROW and adjacent landscape and do not inherently compromise the visual character of adjacent residential areas:*** In response to comments from certain parties, including the City of Menlo Park and the City of Palo Alto that the EIR should better discuss the visual impacts of the OCS from visual corridors within the adjacent cities (and not just provide simulations looking down the ROW), additional photographs of the ROW from Menlo Park and Palo Alto visual corridors and three additional visual simulations of the OCS from these visual corridors were added to the Final EIR. These additional simulations are presented in the Final EIR in Section 3.1, *Aesthetics*. As shown in the additional photographs and the new simulations (and in many of the prior photographs and simulations, the existing visual corridors along the ROW or looking toward the ROW often have existing utility wires for phone or power services. The addition of new poles and wires for the OCS along the Caltrain ROW would not be an unprecedented visual feature in areas with existing overhead poles and wires. As shown in the new visual simulations along Alma Street in Palo Alto and along Ravenswood and Glenwood Avenues in Menlo Park, the addition of OCS poles and wires would not substantially change the visual character of views along these roadways toward the Caltrain ROW. The poles and wires can be observed at grade crossings and when looking directly at the ROW, but then when shifting view laterally, the poles and wires are usually obscured from view by existing vegetation outside the ROW and/or other existing development.
- ***The ROW is not readily observable from ground-level areas that are not directly adjacent to the ROW itself.*** The view of a long line of poles and wires shown in the visual simulations looking down the ROW, such as at Churchill Avenue in Palo Alto or Oak Grove in Burlingame is only available when crossing the ROW itself or at Caltrain stations and rarely from any other locations due to intervening vegetation and structures. From other viewpoints directly along the ROW, such as at residences with a clear view of the ROW, several poles and the immediately adjacent wires would be observable to viewers looking at the ROW. However, residences are usually setback somewhat from the ROW and intervening vegetation, fences, or structures often obscure the view down the ROW except when viewers stand right at the ROW fence itself. From streets that are not directly parallel to the ROW, it is difficult to see the ROW and would be difficult to readily observe the poles and wires because of intervening structures and vegetation. When considering the visual character of a City or a neighborhood, one must consider the full range of views available throughout daily activities and whether a new visual feature does or does not become a dominant feature that actually defines the character of an area. While the new OCS poles and wires would become part of the visual character of the Caltrain ROW itself (consistent with its current transportation intense character), and would affect certain immediate views from adjacent residential, commercial and park areas, the new OCS poles and wires would, over time, become more of a background condition to the visual character, like the existing utility poles and wires shown in the new simulations in Menlo Park and Palo Alto. Thus, it is ICF's judgment that the new OCS poles and wires by themselves would not result in a substantial change in the visual character of adjacent residential, commercial, or park areas.

Certain commenters also suggested that the simulations of the OCS along the Caltrain ROW did not accurately show the heights of the OCS in certain locations. In response to this comment, the visual simulations showing views along the ROW with the OCS at Fair Oaks Lane in Atherton, Oak Grove Avenue in Burlingame, and Churchill Avenue in Palo Alto were revised very slightly in terms of the horizontal spacing of the OCS poles relative to the tracks, but the revisions are not readily apparent and thus do not substantially change the understanding of the aesthetic impacts of the OCS.

Individual opinions may vary as to the change in visual character, but it is ICF's judgment that the remnant severity of the impact is less than significant is based on a careful consideration of the existing visual setting of the Caltrain ROW and neighboring areas and the degree of change in visual character resulting from adding the new visual feature of the OCS poles and wires.

The EIR's identification of a significant impact of the OCS poles and wires before mitigation was intended to acknowledge that there are certain aesthetic mitigation treatments for the pole design and color that can help to minimize the observability of the OCS as opposed to identification of a significant aesthetic impact of having new poles and wires at all. For example, if the OCS poles were to have a shiny steel finish, this would make the poles stand-out due to sun glare on the finish, which would make them abnormally obvious. The EIR mitigation, including the use of non-reflective surfaces, is intended to address this specific aesthetic impact.

The Draft EIR conclusion has been clarified to make it clear that JPB has not made a determination that OCS poles and wires alone would result in a significant aesthetic impact, but rather unusually vivid OCS pole designs or colors could result in overly obvious changes in visual character that would not help the system to fade into the background as one moves away from the Caltrain ROW.

Pole alignment options are addressed below in the discussion of tree removal.

Tree Removal

Many commenters expressed concern about the impacts of tree removal on aesthetics, air quality, biology and noise. Concerns about air quality and noise related to tree removal are addressed in other Master Responses. Concerns about biological impacts related to tree removal are addressed in the responses to individual comments. This response focuses on aesthetic impacts, which the EIR recognizes as significant and unavoidable, even with mitigation.

The Draft EIR presented a worst-case scenario for tree removal along the Project corridor assuming that the OCS design would include the use of side poles located on either side of the rails. The poles were assumed to be located approximately 12 feet from the centerline of the outermost rail, the poles were assumed to be 2 feet in diameter, and the vegetation clearance was assumed to be 10 feet from the poles, which resulted in a 24 foot area wherein tree removal was assumed to be required. The area nominally within 10 to 15 feet of the current tracks is usually clear of trees and thus the area of vegetation removal would mostly occur in the areas from 10 to 24 feet from the center of the outermost tracks.

As described in the Draft EIR, trees and vegetation within 10 feet of the OCS alignment would be removed or pruned to provide for electrical safety. The JPB would only remove trees for safety reasons. In areas with sparse vegetation, tree removal, and therefore the OCS, would be more noticeable. In areas where it is feasible to replace trees between sensitive receptors and the ROW, the impact would be long-term, but temporary, while replacement trees are growing. In areas where it is infeasible to replace trees between sensitive receptors and the Caltrain ROW, the impact would be permanent. Although the JPB is exempt from local land use regulations, including tree ordinances, within its ROW and in areas where Caltrain acquires electrical safety easements outside its ROW, the JPB has committed to avoid and/or minimize impacts on trees along the ROW by locating the OCS poles and alignment in such a way to minimize tree removal and pruning while remaining consistent with safety, operations, and maintenance requirements (refer to Mitigation Measure BIO-5). The JPB would only remove trees as necessary to provide adequate safety clearance and, in areas where operational and safety requirements permit, the JPB would use alternative pole alignments/designs (such as two-track cantilevers or other designs) which would further minimize tree removal and pruning. The JPB would consult with each jurisdiction along the Project corridor during the design phase to identify where trees removals can and cannot be avoided with project design measures.

A number of commenters requested consideration of a Center Pole Alternative. Such an alternative was already considered in the Draft EIR. As shown in Table 5-7 in Chapter 5, *Alternatives*, of the Draft EIR, this alternative was found to be logistically infeasible because there is insufficient track separation in many areas. Because a 100% center pole alternative is considered infeasible, it was not analyzed in detail in the Draft EIR. However, Mitigation Measure BIO-5 would include evaluation of the potential for center poles and other pole designs (such as two-track cantilevers) in certain areas, where feasible given existing track infrastructure and station configuration and considering maintenance, operational, and safety considerations.

Many commenters asked for the EIR to evaluate alternative alignments and pole designs now as part of the EIR to examine ways to lower tree removal impacts, where feasible. Mitigation Measure BIO-5 already requires Caltrain to complete an evaluation of alignment and pole design options to reduce tree removal impacts where feasible and where compatible with construction, maintenance, operational and safety requirements. In response to these comments, the JPB conducted a feasibility analysis of implementing Mitigation Measure BIO-5 in five "test" areas along the Caltrain route (Gannett Fleming 2014). This study indicates that pole design options have the potential to substantially reduce the project's impact on trees as follows:

- The worst-case electrical safety zone (ESZ) used in the Draft EIR of 24 feet from the outer track centerline is likely more than is needed for the OCS design in most locations. At present, the likely ESZ for standard side pole designs in most cases should be approximately 21 feet. Thus, the more likely case for the ESZ would be 3 feet less than the Draft EIR worst-case assumption in most areas. It is possible that the ESZ may need to be wider than 21 feet in some areas due to site-specific needs, existence of signal structures, or other contingencies, but is not expected to be beyond 24 feet.
- Most areas with 3 or more tracks would require use of portal structures except that headspans would be used at the Central Equipment Maintenance Operations Facility (CEMOF) and the San Jose Diridon Station. Portals would likely require an ESZ of 18 feet from the outer track centerline and headspans would require an ESZ offset of 21 feet from the outer track centerline. Thus, the likely case for multi-track areas would be less than the Draft EIR worst-case assumption by up to 6 feet in areas where portals are used and by up to 3 feet where headspans are used. It is possible that the ESZ may need to be up to 24 feet in some areas due to site-specific needs, existence of signal structures, or other contingencies, but the ESZ is not expected to extend beyond 24 feet.

Pursuant to these findings, the project description was changed to note a potential ESZ of 21 feet from the outermost track along the entire ROW and a potential ESZ of 18 feet from the outermost track where portals are used (with possible contingencies in some places up to 24 feet). The Final EIR analysis of tree removal was revised to add an estimate for tree removal for these potential ESZ extents. With the potential ESZ offsets noted above, only approximately 1,000 trees would need to be removed, which would be a reduction of 55% from the worst-case amount of trees estimated in the Draft EIR for a 24 foot ESZ (tree prunings are estimated to be reduced from 3,600 trees in the

Draft EIR to approximately 3,200 trees with the likely ESZ offsets noted above). Thus, the amount of trees removed would be somewhere between 1,000 trees (estimates for potential ESZ described in the Final EIR) and the 2,200 trees worst-case scenario estimated in the Draft EIR). Use of the potential ESZ areas noted above would result in a reduction of the amount of ROW on private land needed from approximately 7 acres to approximately 2 acres (including reduction of ROW encroachment on residential and commercial parcels). Mitigation Measure BIO-5 would likely reduce these amounts even further, as described below.

The feasibility assessment in the five "test" areas identified the following specific design options:

- North Fair Oaks area in San Mateo County (Milepost [MP] 26.4 to MP 27.4): A combination of portals and offset insulator poles[6] could be used in this area to reduce the ESZ from the Draft EIR worst-case 24 feet to 18 feet on both sides of the ROW. The Draft EIR identified tree impacts in this area as 50 trees removed and 174 trees pruned. A combination of portals and offset insulator poles described above would result in a reduction to 14 trees removed and 43 trees pruned due to the use of portals instead of side-poles. This alternative pole design could also reduce the ROW encroachment on private land from 32 to 15 parcels.
- City of Atherton (MP 27.4 to MP 28.1): A combination of portals, two-track cantilevers, center poles and offset insulator side poles could be used in this area to reduce the ESZ from the Draft EIR worst-case 24 feet to 18 feet on both sides of the ROW for this entire section with the section of center poles only requiring a 16-foot offset. The Draft EIR identified tree impacts in Atherton as 142 trees removed and 206 trees pruned. A combination of portals, two-track cantilevers, center poles and offset insulator side poles could potentially reduce tree impacts to only 7 trees removed and 274 trees pruned. This alternative pole design could eliminate the ROW encroachment for the ESZ on private land in Atherton and could also reduce the ROW encroachment for the ESZ in Holbrook-Palmer Park.
- City of Menlo Park (MP 28.1 to MP 29.7): A combination of offset insulator side poles, center poles, two-track cantilevers, and portals could be used in this area to reduce the ESZ from the Draft EIR worst-case 24 feet to 18 feet on both sides of the ROW and in one short area with a center pole, the ESZ can be reduced to 16 feet. The Draft EIR identified tree impacts in Menlo Park as 188 trees removed and 441 trees pruned. A combination of offset insulator side poles, center poles, two-track cantilevers, and portals could reduce the tree impacts in this area to only 7 trees removed and 501 trees pruned. This alternative pole design could eliminate the ROW encroachment on private residential land and could reduce the amount of ROW encroachment on one commercial parcel in Menlo Park.
- A portion of the City of Sunnyvale (MP 39.8 to MP 40.5): This segment is all multi-track so portals would be used here and would reduce the ESZ from the Draft EIR worst-case 24 feet to 18 feet on both sides of the ROW. The Draft EIR identified tree impacts in this area as 55 trees removed and 94 trees pruned. The use of portals could reduce this impact to 5 trees removed and 225 trees pruned. This alternative pole design could also reduce the ROW encroachment on private land in this segment from 16 to 9 parcels.

[6] Offset insulator poles include energized elements of the OCS on the trackside of the OCS poles, which thus reduces the ESZ area needed relative to poles that otherwise include energized elements of the OCS on the outer edge of the poles. <u>A figure showing the offset insulator poles has been added to Section 3.3, Biological Resources, under discussion of Mitigation Measure BIO-5.</u>

- A portion of the City of Santa Clara (MP 45.3 to MP 45.8): This segment is all multi-track so portals would be used here and would reduce the ESZ from the Draft EIR worst-case 24 feet to 18 feet on both sides of the ROW. The Draft EIR identified tree impacts in this area as 9 trees removed and 17 trees pruned. The use of portals could eliminate all tree removal or pruning in this area. This alternative pole design could also reduce the ROW encroachment on private land in this segment from 17 to 4 parcels.

These results are preliminary and the JPB must complete further due diligence on construction, operational, maintenance, and safety implications before committing to alternative pole designs in these five areas (or other areas).

However, the five "test case" feasibility assessment results definitively show that the tree removal impacts (as well as ROW encroachment) can be substantially reduced through alternative pole designs/alignments. As part of implementation of Mitigation Measure BIO-5, Caltrain would complete a similar analysis for the entire ROW where there are tree impacts and/or encroachment outside the ROW. This is expected to reduce impacts resulting from tree removal substantially including aesthetic impacts and biological impacts.[7]

While many commenters requested that Caltrain complete its final design as part of the EIR instead of after the EIR, a final design is not required as part of CEQA provided that the EIR fully discloses the potential impacts of the project, identifies feasible mitigation that can reduce any identified significant impacts, and considers alternatives that would avoid or substantially reduce identified significant impacts. The EIR meets all these requirements. It discloses the impact fully and has included feasible mitigation to reduce tree removal impacts. See discussion of alternatives in Chapter 5 of the EIR and the Master Response 2 (Alternatives) that substantiates this determination.

A number of commenters also requested that the EIR include more specific maps of tree removal and pruning. The Final EIR includes more specific maps of tree impacts in response to this comment (see Appendix J). However, it is important to note that the analysis and information presented in the Draft EIR regarding tree removal is considered adequate. The Draft EIR included a detailed tree assessment, maps of the general canopy removal by City, a detailed inventory of trees in surveyed areas, and identification of trees affected by jurisdiction. In addition, the EIR presents a clear exhibit (Figure 2-8) that shows the area of vegetation clearance along the ROW that the reader could readily use to identify whether or not there was likely tree removal adjacent to their area of concern. In addition, additional special notices, in addition to the Notice of Availability, were sent to all property owners where the Draft EIR analysis indicated potential ESZ encroachment on their property which informed them of potential ROW encroachment and tree removal on their property and which enclosed Figure 2-8. Thus, the addition of the more specific maps of tree removal (and of the OCS and ESZ) does not trigger any recirculation requirements because they only amplify and clarify the information already presented in the Draft EIR.

[7] Implementation of Mitigation Measure BIO-5 would also reduce potential noise and air quality effects resulting from tree removal, but as discussed in other Master Responses, the effects of tree removal on noise levels and air quality would be minimal.

3.1.7 Master Response 7 – Air Quality and Greenhouse Gas Emissions

Commenters on the Draft EIR asked about a number of technical matters in terms of the air quality and GHG emissions analysis that are addressed in this Master Response:

- One commenter suggested a technical change in accounting for specific train equipment for the No Project and Project conditions.
- Commenters asked about the potential for increased particulates from wheel-rail contact, entrained dust, and wearing of the EMU pantograph contact strips.
- Commenters also asked about the effect of removing trees along the ROW on local air quality along the ROW.
- Regarding GHG emissions, commenters questioned whether the impact analysis included the GHG emissions of construction, electricity used to power the EMUs and tree removal.

No Project and Project Assumptions Regarding Train Equipment

Some commenters suggested that the air quality and GHG emissions for the No Project conditions (the No Project Alternative) as well as the project conditions should be analyzed using the actual Caltrain equipment and a specific locomotive replacement schedule.

In the Draft EIR, the existing, 2020 and 2040 air quality/GHG emissions analysis for diesel emissions in both the No Project and Proposed Project conditions was based on diesel locomotive fleet averages for 2013, 2020 and 2040. The 2020 No Project and 2020 Project analysis included some Tier 4 equipment and the 2040 No project and 2040 project analysis included only Tier 4 equipment. The air quality analysis and GHG analyses were both based on a fuel consumption basis.

In response to this comment, in the Final EIR, the air quality/GHG emissions analysis was revised using the following key assumptions:

- *Existing Conditions:* Continued operation of the mixed fleet of the 201980's era F40 diesel locomotives, the three 1998 F40 diesel locomotives and the six 2003 MP 36 locomotives. Current schedule of 92 trains/weekday and 5 trains per peak hour/per direction
- *No Project 2020 conditions:* Continued operation of the three 1998 F40 locomotives and the six 2003 MP 36 locomotives as they would still be within their useful life in 2020. Replacement of the 1980's era F40 diesel locomotives in operation with 16 new Tier 4 diesel locomotives as well as new carriages where needed to replace carriages that have reached the end of their service life. Same schedule as today.
- *Project 2020 conditions:* Continued operation of the three 1998 F40 locomotives and the six 2003 MP 36 locomotives. Replacement of the 1980's era F40 diesel locomotives in operation with 96 new EMUs. Project schedule of 114 trains/day and 6 trains per peak hour/per direction.
- *Tier 4 Diesel Locomotive Alternative 2020 conditions*: Continued operation of the three 1998 F40 locomotives and the six 2003 MP 36 locomotives. Replacement of the 1980's era F40 diesel

locomotives in operation with 18 to 35 new Tier 4 diesel locomotives and replacement of carriages that have reached the end of their useful life[8]. Same as project schedule.

- *No Project 2040 conditions:* Use of 25 Tier 4 diesel locomotives only and replacement of carriages that have reached the end of their useful life. Same schedule as today.
- *Project 2040 Conditions:* Use of 138 – 150 EMUs for 100 percent of the San Jose to San Francisco service and Tier 4 diesels for the Gilroy to San Jose service. Project schedule of 114 trains/day and 6 trains per peak hour/per direction.
- *Tier 4 Diesel Locomotive Alternative 2040 conditions:* Use of Tier 4 diesel locomotives only and replacement of carriages that have reached the end of their useful life. Same as project schedule.
- While the GHG analysis continues to be done on a fuel consumption basis, the criteria pollutant analysis was revised using a braking horsepower hour (BHP-hr) emission factor basis as the BHP-hr emission factors are more specific for individual train equipment and the new assumptions about specific equipment supported this change.
- The same approach was used for calculating the existing, project, and Tier 4 Diesel Locomotive Alternative air quality and GHG emissions analysis in order to have appropriate comparisons to the No Project conditions. The DMU criteria pollutant analysis remains on a fuel consumption basis (using Tier 4 equipment) as specific horsepower assumptions for the DMU equipment were not available.

The revisions of the air quality and GHG analysis for the Final EIR did not change the conclusions of the Draft EIR in relation to criteria pollutants or GHG emissions. The Proposed Project would still have no significant air quality or GHG emission impacts and would have lower criteria pollutant emissions and GHG emissions compared with existing conditions and to No Project conditions (in both 2020 and 2040). In addition, the Proposed Project would have lower criteria pollutant emissions and substantially lower GHG emissions than the DMU, Dual-Mode Multiple Unit, and Tier 4 Diesel Locomotive alternatives.

Particulates from Wheel-Rail Contact

Particulate matter may be generated from friction between rail and locomotive wheels (wheel-rail interaction). This abrasion process can suspend metals such as iron, chromium, manganese, and copper, which can attach to the airborne particulates. This is an existing condition relative to the existing Caltrain and freight trains operating along the Caltrain corridor. The Proposed Project would increase the number of trains by 22 trains/day compared with the 94 to 125 trains/day at present using the corridor between San Jose Diridon Station and San Francisco (including Caltrain, freight, ACE, Capitol Corridor, and Amtrak).

The amount of abrasion is influenced by the condition of the wheels and track as well as the weight on the train wheels. Because the EMUs are expected to be lighter and newer than today's diesel locomotives and carriages, they would result in lesser wear of the rails (Caltrain 2009 – EMU Report). Accordingly, while there would be approximately 20 percent more trains with the Proposed Project, the new EMUs would result in less abrasion on a per train basis than existing diesel

[8] In order to match project schedule, two locomotives per consist will be required for much of the service. If only single locomotives were used, then only 18 new locomotives would be required, but then the project peak hour schedule could not be maintained.

equipment. Thus, although the number of trains would increase, the increase may or may not result in an actual increase in particulate emissions due to wheel/rail contact.

While receptors adjacent to the Caltrain ROW may be exposed to particulates from existing and future operations, the contribution of wheel/rail wear particulates to the overall PM10 composition is expected to be minimal and well below established exposure guidelines. For example, Gehrig et al. (2007) measured PM10 and its elemental composition near two busy railway stations in Switzerland that serve over 700 trains per day, nearly exclusively electric locomotives (thus excluding diesel train emissions). Results of their study indicate that the difference in PM10 levels between urban background locations and locations 10 meters from the railway ranged from 1.4 to 2.0 μg/m^3.[9] Total PM10 levels ranged from 22.8 to 23.7 μg/m^3 at the three railway study sites indicating that railway contributions might be 6 to 8 percent of the total PM10 level. PM10 concentrations were also noted to decrease rapidly as function of distance. Chemical analysis of the particulates at the background and the railway locations indicated that the largest fraction of the increase in PM10 was due to an increase iron, with only trace levels of other metals. Exposure to increases in other metal concentrations reported by Gehrig et al. (2007) due to 700 trains would also be well below recommended exposure levels published by OEHHA (2014). For example, the reference exposure level for copper is 100 μg/m^3 but the increased level over background found due to 700 trains range from 0.03 to 0.06 μg/m^3.[10] It is expected that elemental concentrations along the Caltrain ROW would be far lower than those reported by Gehrig et al. (2007), which are based on over 700 trains per day whereas the busiest part of the Caltrain Corridor has only 125 trains today (between Santa Clara and San Jose). It is important to note that this study did not specifically attribute the increases only due to wheel-rail abrasion, and thus the results may also reflect minor contributions of particulates due to induced wind as well as pantograph contact strip wear on electrical trains.

Other studies on wheel-rail interaction confirm that while slightly elevated concentrations of PM10 can be observed along railways, the concentrations are minimal and may be lower than levels generated from tier and brake wear along roadways (Kam 2013).

There are no studies that compare the exact particulate levels along the Caltrain ROW with urban background locations on the San Francisco Peninsula. Thus, a conceptual evaluation has been completed as follows. As noted above, the PCEP would increase train totals on the corridor by 22 trains. Using the Gehrig studies above, and crudely scaling down for the number of additional trains on the Caltrain Corridor (22/700), PM10 contributions due to increased trains might be rail wear today might be 0.04 to 0.06 μg/m^3. By comparison, the 24-hour California standard for PM10 is 50 μg/m^3 so this increase is only about 0.1% of the standard. While this is a somewhat crude estimate that is based on reasoning by proxy, it does demonstrate that the likely contributions of PM10 related to the increased number of trains and increased rail wear is very small.

Moreover, as noted above, the potential for increased rail abrasion and resultant particle suspension due to an increase in the number of trains may be somewhat or entirely offset due to the lighter weight and lesser friction of the EMU equipment compared with the diesel equipment it is replacing.

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[9] The overall PM10 results are only slightly outside the uncertainty level reported for the study of 0.9 μg/m^3, thus there is some uncertainty in the overall results, but the iron increase was quantified with a higher confidence.

[10] Another example is total chromium, where the Gehrig study found increased levels due to 700 trains of 0.003 to 0.004 μg/m^3 compared to background compared to the California OEHHA inhalation REL for hexavalent chromium of 0.2 μg/m^3 (not to mention that the total chromium may not consist entirely of hexavalent chromium).

Furthermore, the Proposed Project would result in a substantial reduction in diesel engine PM10 emissions compared with existing and No Project conditions which would more than offset any minor increase in rail wear that might occur. Thus, including potential particulate emissions resulting from wheel-rail contact in the analysis would not change the overall conclusions of the EIR in relation to particulate emissions.

Particulates from Entrained Dust

Several commenters questioned whether the EIR has accounted for an increase in “dust” due to the increased number of trains.

By “dust”, it is presumed that the commenters are referring to operational emissions of particulate matter. Particulate matter is commonly measured as PM 10 (particulate matter of size less than 10 microns) and PM 2.5 (particulate matter of size less than 2.5 microns) which are the sizes of particulates of concern for respiratory health concerns.

The prior response addressed particulates due to wheel-rail contract. Another potential source of particulates from increased numbers of trains is due to the induced wind from passing trains. Trains create gusts of wind as they pass along the ROW that are short-lived and affect the area immediately adjacent to the tracks themselves. The California High-Speed Rail Authority (CHSRA 2012) studied induced winds for the Fresno-Merced segment EIR. In that study, CHSRA looked at FRA guidance and literature studies, EPA methodologies for modelling wind erosion, contacted researchers in the field, and performed calculations to identify potential induced wind and the effect on particulate matter concentrations along the high-speed rail segment. The study noted that an exact, analytical equation describing the induced wind from passing high-speed trains is unavailable because the technical means of obtaining it do not exist. Consequently, generally accepted scientific methods were used to extrapolate data from existing high-speed train studies to approximate the induced winds expected from the California HSR. The results showed that for trains running up to 220 mph, there would be minor resuspension of PM 10 and PM2.5 outside the track gravel between 3 to 10 feet from the train with no resuspension beyond 10 feet.

Using the same methodology as the CHSRA study, the potential for resuspension was estimated for the Caltrain service with the PCEP. The Caltrain service is only up to 79 mph and, thus, the induced winds are far lower than from a high-speed train running at 220 mph. When running at 79 mph, the estimated induced winds within the first ten feet of the train range from 13 mph (1 foot from the train) to 4 mph (10 feet from the train). Using these estimated induced winds, assuming there is friable soil immediately adjacent to the rails (whereas in reality most of the ROW is graveled) and conservative assumptions about the threshold friction velocity of soils along the ROW (e.g. the wind speed necessary to suspend particulates), it is estimated that potential wind erosion due to induced wind would be limited to the first three feet from the train. Over the approximate 52 mile project area from San Jose to San Francisco, assuming the area within three feet were actually covered in friable soil (instead of gravel), annual fugitive dust emissions for the Caltrain service as a whole would be estimated as 1.49 tons of PM10 and 0.22 tons of PM 2.5. Averaging this on a daily basis, it would be 8.2 lbs/day of PM10 and 1.23 lbs/day of PM2.5. These are estimates for the Caltrain service as a whole. As noted above, this analysis assumes friable soils are along the entire 52-mile Caltrain corridor, whereas much of the ROW adjacent to the rails is covered in gravel (including the 3 feet from the track edge at virtually all locations), and thus is an unrealistic overestimate of the potential for particulate resuspension. This analysis also assumes that over a year, the soils in the right of way adjacent to the rails is disturbed twice monthly by maintenance, thus making soil available for resuspension.

In reality, there is very little residual soil on the gravel along the tracks that could be actually resuspended and the induced wind beyond the first three feet from the tracks falls to less than a conservative estimate of the threshold friction velocity. The existing 92 Caltrain trains per day are likely already resuspending the small amount of friable soil present within gravel along the tracks. As a result, the addition of 22 additional trains per day is not likely to result in any meaningful change in particulate resuspension along the tracks. The amount of increased fugitive dust from induced wind due to the PCEP is a trivial amount by comparison to the amount of reduced particulates from switching from diesel locomotives to EMUs. <u>This analysis has been added to Section 3.2, *Air Quality*, of the EIR, but it does not change the conclusions of the Draft EIR.</u>

Particulates from Pantograph Contact Strip Wear

One commenter stated that the Draft EIR did not analyze the potential carbon and copper particulates that may occur due to wear of the pantograph contact strips and that such particulate emissions may be significant in particular given the adverse health effects of copper.

As described in the EIR, the pantograph contact strips on the EMUs consist of a carbon-copper matrix. The wear characteristics of in-use pantograph contact strips of New Jersey Transit (NJT) are similar to those likely to be used for the PCEP and thus were used as the basis of evaluation for the EIR. New pantograph contact strips were weighed and compared with contact strips that had been changed out as part of regular inspection cycles. Based on the material loss over the inspection cycle period and the average miles travelled during the same period by an average vehicle, a wear characteristic pattern was calculated on a per mile basis. The average copper content of the contact strip was 12 percent. The average weight loss per contact strip was determined to be 10.4 grams per 1,000 miles. The impact per pantograph was identified as twice the individual strip due to the fact that there are two contact strips per pantograph on the NJT vehicles and thus the material loss per vehicle would be 20.8 grams per 1,000 miles (LTK 2014-PANTO).

In 2020, the PCEP would result in approximately 8 EMUs per peak hour (both directions) operating between San Jose and San Francisco In 2040, the PCEP would result in approximately 12 EMUs per peak hour (both directions) operating between San Jose and San Francisco. Peak hours would be the highest period of EMU activity. The Proposed Project includes 6-car EMU consists. For the purposes of this analysis, it was assumed that half of the EMUs would be powered (meaning their pantograph would be active), which is a common operating scenario (actual operating scenario may vary). On a weekday daily basis, the PCEP would result in approximately 90 EMUs per day in 2020 and 114 trains per day in 2040 between San Jose and San Francisco. Using weekday daily miles, EMU daily particulate emissions from pantograph collector strip wear would be approximately 0.5 lb/day in 2020 and 0.7 lb/day in 2040.

As shown in the revised air quality analysis in the Final EIR not including pantograph wear, in 2020 the PCEP would result in a net regional reduction of PM10 emissions of 179 lbs/day and a net regional reduction of PM2.5 of 51 lbs/day compared with No Project conditions. Focusing only on train emissions along the Caltrain ROW, in 2020, the PCEP would result in PM10 and PM2.5 emissions 136 to 132 lbs. less than existing conditions (87 percent reduction). Compared with the 2020 No Project conditions, the Proposed Project would have slightly (2 lbs/day) lower weekday train emissions along the Caltrain ROW, but this difference would only be changed by 0.5 lbs/day in

2020 when including the pantograph wear particulate emissions, and this calculation does not include the positive effect of lowering vehicle emissions along the San Francisco Peninsula. At any rate, the difference between the Proposed Project and No Project train emissions overall would be less than the BAAQMD thresholds even when including pantograph particulate emissions. A similar conclusion applies in the 2040 timeframe.

Regarding copper emissions, the threshold used for evaluation is the acute reference exposure level (REL) from OEHHA (OEHHA 1999) for copper of 100 $\mu g/m^3$ over a one-hour period. The worst-case hour for pantograph emissions would be during the peak hour, when up to 8 EMUs in 2020 and 12 EMUs in 2040 would pass (in both directions) any one location between San Jose and San Francisco. A hypothetical calculation was performed by assuming that all of the particulate emissions from pantograph wear would be concentrated within an area 15 feet high by 75 feet wide (which would result in a substantial overestimate of concentrations because there would be far more dispersion under realistic conditions) and that none of the particulate would settle within one hour of being emitted. Based on these conservative assumptions and using the 12% copper fraction noted above, hypothetical worst-case peak hour increase in copper concentrations within the ROW could be approximately 0.33 to 0.49 ug/m^3 on a one-hour basis (range is from 2020 to 2040) which is less than 0.5% of the threshold of concern of 100 ug/m^3. Twenty-four hour and annual averages would be lower than the peak hour and emissions outside the ROW would be far less with dispersion. The Gehrig et al. (2007) study above of the increased daily particulate concentrations compared with background for 700 trains/day in Switzerland, all of which (or virtually all) are identified as electric trains (which utilize pantographs) indicated that the copper increase in ambient concentrations was only 0.03 to 0.06 ug/m^3. This shows that the hypothetical calculation above is likely highly unrealistic and would overstate emissions substantially.

Thus, copper emissions along the ROW due to the pantograph wear are not considered a significant impact.

<u>The analysis of pantograph wear has been added to the Final EIR.</u>

Tree Removal Effect on Particulates

While vegetative barriers have been shown to reduce PM10 and PM2.5 emissions under certain circumstances, their effectiveness is variable and heavily influenced by wind speed conditions (California Air Resources Board 2012; Cahill 2008). Average annual wind speeds along the project corridor range from 6.8 miles per hour (mph) to 10.3 mph (Western Regional Climate Center 2014). Induced winds from train movement, estimated as ranging from 4 to 10 mph in the first 10 feet adjacent to the train (see discussion above relative to entrained dust) can also contribute for vegetation very close to the tracks. Laboratory research conducted by Cahill (2008) demonstrates that at a wind speeds ranging of 8.4 mph with vegetation very close to and in the direct line of dispersion from the particulate source, PM removal effectiveness for three different tree types (redwood, deodar and live oak) ranged from 2 to 26 percent. Other studies document the complexity of vegetative barriers, with variable results depending on particular size, leaf density, tree species, season, and tree spacing (Steffens et al. 2012, Hagler et al. 2012). Some studies have even documented potential *increases* in downstream pollutant concentrations as a result of certain vegetative conditions (Fitzgerald and Bush 2013).

While there is some evidence that removal of existing trees could reduce filtration benefits, the research is variable, highly-location dependent, and limited with respect to real-world quantification. In addition, the specifics of the Caltrain diesel emissions need to be taken into account. The train's diesel engine exhaust exits the engine and is dispersed vertically at the top of the train meaning that it is not emitted directly toward adjacent trees, but rather is dispersed into the air column and then transported downwind. PM10 can remain suspended in the air for minutes to hours and travel from a hundred yards to as much as 30 miles (BAAQMD, no date). PM2.5 can remain suspended in the air for days or weeks, and can travel hundreds of miles before settling out of the air column (BAAQMD, no date). As a result, the PM10 emitted by diesel trains vertically from the train are not necessarily being filtered by the trees immediately adjacent to the right of way that may be most affected by Proposed Project tree removal.

Even if one were to make the unrealistic assumption that the existing vegetation achieved the 26 percent filtration rate from the Cahill study (2008), electrification of the Caltrain system by 2020 would still result in over 80 percent reduction in PM10 emissions along the ROW, relative to the existing conditions (see Table 3-4a and 3-4b below). Similarly, comparisons to the No Project conditions or to the Tier 4 Diesel Locomotive Alternative (or the other alternatives) would not be substantially changed even if you used the 26 percent assumption.

Given the pattern of train emission dispersion and the annual average wind speeds in the project area, and current literature that documents the variability in the effectiveness of vegetative barriers, the above example likely substantially overstates existing benefits provided by trees within the Caltrain ROW. Moreover, as EMUs replace the remaining diesel locomotives over time, Caltrain would be able to completely eliminate diesel emissions from the Caltrain ROW, improving further the net PM10 reductions compared with existing conditions, No Project conditions and conditions under alternatives.

Combined Effects of Proposed Project on Particulate Matter Emissions

As described above, the Proposed Project would affect particulate matter in emissions in a number of ways. The dominant effect of the Proposed Project would be lower diesel engine particulate emissions as a result of replacing diesel locomotives with EMUs. While EMUs eliminate diesel engine emissions, there would be minor particulate emissions due to pantograph contact strip wear. With increased numbers of trains (independent of whether they are EMUs or diesel trains in the alternatives considered), there is a potential for increased rail wear, although with lighter EMUs, the wear effect of more trains may be offset by the change to lighter equipment. With increased numbers of trains, the potential for increased particulates from winds induced by passing trains also increases.

Above, a number of conceptual examples were derived to give an idea of the magnitude of the changes in particulate emissions other than the diesel engine emissions. Using those conceptual examples (while noting the limitations described above for each of the estimates), Tables 3-4a and 3-4b give an idea of the potential rough net effect of the Proposed Project on particulate emissions compared with existing conditions and to the Tier 4 Diesel Locomotive Alternative.[11]

[11] The Tier 4 Diesel Locomotive Alternative is used for comparison because it has the lowest particulate emissions of the alternatives analyzed in detail.

Table 3-4a. Comparison of 2020 Daily PM10 Emissions using Conceptual Estimates for Other Particulate Sources (lbs/day)

	Existing	2020 No Project	PCEP 2020	2020 DMU Alternative	2020 T4 Diesel Locomotive Alternative (DH[12])	Notes
Diesel Engine Emissions	159	23	21	32	33	From Revised Section 3.2 analysis
Wheel-Rail Particulates	NA	NA	NA	NA	NA	Negligible change from existing conditions for PCEP or alternatives pursuant to discussion above, so not meaningful for comparison.
Entrained Particulates (Conceptual Estimate)	NA	NA	NA	NA	NA	Area adjacent to ROW is graveled and contains limited soil available for resuspension.
Pantograph Particulate Emissions	0	0	0.5	0	0	
Subtotal Emissions Along ROW	*159*	*23*	*21*	*32*	*33*	
Tree Removal Benefit	NA	NA	NA	NA	NA	Speculative to estimate reductions over entire route given varying tree cover, density, and proximity to route. Tree cover is also absent in many commercial, industrial, and open areas and is low density in other areas.
Subtotal Net Emissions Along ROW	*159*	*23*	*21*	*32*	*33*	
Electricity Emissions	0	0	5	0	0	Non PCEP conditions include a small amount of emissions for idle power when plugged in at terminal.
Total Caltrain System	*159*	*24*	*26*	*33*	*33*	
Lowered VMT emissions	NA	0	-181	-181	-181	VMT reductions are relative to 2020 No Project.
TOTAL	**NA**	**24**	**-155**	**-148**	**-147**	

[12] DH = Double-head scenario = mostly two diesel locomotives per train consist where necessary to maintain project schedule and some single-head train consists where schedule less pressed.

Table 3-4b. Comparison of Daily PM10 Caltrain Emissions using Conceptual Estimates for Other Particulate Sources (lbs/day) For a Hypothetical Mile with Consistent Tree Buffer (Between San Jose and San Francisco)

	Existing	2020 No Project	PCEP 2020	2020 DMU Alternative	2020 T4 Diesel Locomotive Alternative (DH)	Notes
Diesel Engine Emissions	3.24	0.47	0.36	0.64	0.78	Only includes emissions for diesel emissions north of San Jose divided by route miles.
Wheel-Rail Particulates	NA	NA	NA	NA	NA	Negligible change from existing conditions for PCEP or alternatives pursuant to discussion above, so not meaningful for comparison.
Entrained Particulates	NA	NA	NA	NA	NA	Area adjacent to ROW is graveled and contains limited soil available for resuspension.
Pantograph Particulates	0.00	0.00	0.01	0.00	0.00	
Subtotal Emissions Along ROW	*3.24*	*0.47*	*0.37*	*0.64*	*0.78*	
Tree Removal Benefit - LOW (Conceptual Estimate)	-0.06	-0.01	0.00	-0.01	-0.02	Used lower range (2%) of Cahill estimate for 8.4 mph wind speed in laboratory study. No reduction assumed for PCEP although replanting mitigation may provide some benefit in certain locations.
Tree Removal Benefit - HIGH (Conceptual Estimate)	-0.84	-0.12	0.00	-0.17	-0.20	Used higher range (26%) of Cahill estimate for 8.4 mph wind speed in laboratory study. No reduction for PCEP. Likely substantially overstates reduction because assumes complete filtering of train diesel emissions by trees next to ROW, when train diesel emissions are emitted vertically and disperse broadly, not horizontally and given periodic openings in most tree buffer areas.
Total Net Emissions per hypothetical mile (Low tree filtration scenario)	*3.18*	*0.46*	*0.37*	*0.63*	*0.76*	*Excludes VMT reductions of PCEP and alternatives*
Total Net Emissions per hypothetical mile (High tree filtration scenario)	*2.40*	*0.35*	*0.37*	*0.47*	*0.58*	*Excludes VMT reductions of PCEP and alternatives*

Note: Even if one used the hypothetical high tree filtration scenario and multiplied by the nominal 52-mile route from San Jose to San Francisco, the difference between the PCEP and the No Project (excluding VMT reduction) would only be 1 lb/day of PM10, which would be less than significant in comparison to the BAAQMD threshold of 54 lbs/day. Multiplying by 52-miles and including VMT reduction, the PCEP would have lower PM10 emissions than existing, No Project, and Tier 4 alternative conditions.

GHG Emissions

The GHG emissions calculations for the project operational impact analysis presented in Section 3.7, *Greenhouse Gas Emissions and Climate Change*, take into account remaining diesel emissions in 2020 (the PCEP would only replace about 75 percent of the fleet) and the emissions associated with electricity generation to power the EMUs, as well as the loss in carbon sequestration from tree removal. Separate calculations of construction period GHG emissions were also provided in Section 3.7, *Greenhouse Gas Emissions and Climate Change*.

Regarding tree removal, the Draft EIR does include for the carbon released due to removal of existing trees as well as the ongoing loss in carbon uptake (also called sequestration) due to tree removal. Further, any increase in carbon sequestration due to tree plantings under the tree mitigation plan was not taken credit for. Therefore, the EIR presents a worst-case scenario for loss in sequestration due to tree removal. Even with the loss in carbon sequestration from tree removal, the Proposed Project would result in substantially reduced GHG operational emissions compared with existing conditions, No Project conditions, and to the DMU, Dual-Mode Multiple Unit, and Tier 4 Diesel Locomotive alternatives.

As noted above, the air quality and GHG analysis were technically revised in respond to certain technical comments. However, the conclusions in the Draft EIR were not changed by the change in methodology.

3.1.8 Master Response 8 – Train Noise

This Master Response addresses the following comments:

- noise methodology used and whether it included both engine noise and horn noise;
- noise related to wheel/rail interaction;
- aerodynamic noise;
- wire "corona" noise;
- the selection of noise study locations;
- the potential effect of shifting freight hours if temporal separation is required;
- the effect of removing trees on noise levels;
- mitigation for existing noise, project noise, and/or cumulative noise effects; and
- mapping of train noise effects.

Noise Modelling Methodology

The noise analysis for the EIR follows standard methodological guidelines established by the Federal Transit Administration. The noise model includes the following: train horn noise, noise from the wheel/rail interaction, locomotive engine or propulsion noise and aerodynamic effects. The latter include noise at the train noise, around the wheels and at the pantograph (catenary). As noted on page 3.11-27 in the Draft EIR, at speeds below 150 mph, the aerodynamic noises do not contribute to the overall train noise, and thus they have not been explicitly calculated for this analysis. The stationary corona noise that can be heard for power transmission lines is very low[13], on the order of 25 dBA at the edge of the right of way for a 250 KV system. The low hum from these transmission lines can be enhanced during periods of high humidity, but the overall noise level is well below that caused by the existing Caltrain system, and thus, does not contribute to the overall train noise.

Under the FRA *Train Horn Rule* (49 CFR Part 222[14]), locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. If a train is traveling faster than 60 mph, engineers will not sound the horn until it is within one-quarter mile of the crossing, even if the advance warning is less than 15 seconds. There is a "good faith" exception for locations where engineers can't precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. Thus, there can be some variation amongst different trains and different train engineers. Under the PCEP, horn soundings would continue to be required pursuant to the FRA regulations and increased horn soundings (primarily during peak hours) due to increase train service is fully included in the noise impact analysis.

The relative contributions for the locomotive or propulsion systems and the wheel/rail noise from non-powered cars is described on page 3.11-26 and graphically illustrated in Figure 6-2 of Appendix C. At low speeds (35 mph), the diesel locomotive dominates the noise generated, gradually diminishing as the wheel/rail noise predominates at higher speeds. For conventional electric trains with EMUs, the wheel/rail noise is slightly less than conventional diesel systems due to better maintenance of the wheels and rails. More details are discussed in Section 6.1.1, *Train Operations*, of Appendix C.

As noted on page 3.11-27 in Section 3.11, *Noise and Vibration*, of the Draft EIR, it is assumed track curves would not change as a result of the Proposed Project because no track work is included in the Proposed Project. Therefore, there would be no potential for a change in wheel squeal levels and it is not included in this analysis.

The noise analysis takes into consideration several factors, including the noise from a mixed fleet of EMU and diesel locomotives in 2020, the increased number of trains, including specifically during the peak hour and the cumulative case with future high-speed trains in operation and 100% EMU fleet for Caltrain. Broadly speaking, for the year 2020 with 75% EMU and 25% diesel fleet, the reduction from 92 diesel Caltrain trains per day to 24 diesel Caltrain trains per day between San Jose and San Francisco reduces the contribution of diesel locomotives and trains by about 5 dBA. More details are provided in Appendix C, Table 6-1, which also includes Figure 6-1 illustrating that the EMU trains generally reduce the noise by about 2 dBA (horns excluded). The increased number of daily trains from 92 to 114, would increase noise (all things being equal) by almost 1 dBA. Thus, the combination of these three changes provides a net reduction in the noise from Caltrain. As listed in Table 3.11-15, the net change is a decrease in noise at most locations but at some locations the increase in train horn soundings would offset the Proposed Project's reductions and the Proposed Project would result in modest increases that are below the FTA moderate impact threshold.

[13] http://www.cpuc.ca.gov/Environment/info/aspen/tri-valley/17%20-%20Corona%20and%20Induced%20Current%20Effects.pdf

[14] http://www.fra.dot.gov/Page/P0104

The DMU alternative was assumed to provide 4 DMU powered cars and 4 non-powered cars. The noise for this combination would be about 2 dBA lower than the existing configuration at low speeds (35 mph) would be essentially the same as the existing configuration at normal operating speeds. More detail on this is included in Section 6.1.1, *Train Operations*, in Appendix C. A Tier 4 Diesel Locomotive Alternative was added to the Final EIR in response to comment. A Tier 4 Diesel Locomotive Alternative would have noise impacts higher than the Proposed Project and the DMU alternative, especially for the scenario involving the use of two diesel locomotive train consists match the project schedule with EMUs.

Tables 4-11 and 4-13 of Section 4.1.4, *Cumulative Impact Analysis*, in the Draft EIR summarize the noise impacts for the cumulative condition with the Proposed Project and HSR (Year 2040). This analysis shows that moderate and severe noise impacts would be generated with the inclusion of the cumulative conditions and the new HSR project, over and above the case for the year 2020. Additional details are found in Table 8-5 of Appendix C.

Selection and Adequacy of Study Locations

The general rule for selecting representative receptors is to use locations which are typical of the setback distance and general ambient noise conditions, and as noted on page 5-1 in Appendix C, sensitive receptors were selected by their proximity to the alignment and land usage, with coverage of the length of the alignment in mind. From the noise measurements done for the original study in 2001 and 2002, it was determined that the noise environment near the Caltrain corridor is dominated by the railroad activities. Exceptions to this were areas near major highways or expressways and areas in close proximity to SFO. Furthermore, for areas close to grade crossings, the horn soundings dominate the noise environment above all other sources. These noise sources have not changed in the last few years since measurements were conducted for the California HSR project in 2009 and 2010. Thus, the combination of the California HSR measurements and those conducted in 2013 is sufficient to update the noise environment information. The results obtained in 2009 and 2010 and 2013 were all very comparable, thus the general application of these results were applied to the Proposed Project. More discussion is provided in Section 5.2 of Appendix C.[15]

Freight Operational Window Change and Noise

As discussed in the Master Response 11 (Freight) (see below), the Project Description now assumes that temporal separation of the EMUs and freight equipment would not be required and, thus, that freight operational windows would not substantially change from today. Freight trains today avoid the peak hours, which would be the period of most substantial change with the PCEP. Consequently, because of the lack of any substantial change in freight operational hours caused by the PCEP, no noise effects are expected. It should be noted that freight trains do operate at night today, which does result in night-time noise, which would not be changed by the PCEP; however, this is an existing conditions, not a project-related impact.

[15] This Master Response is focused on noise but in terms of selection of study locations, similar practices apply to vibration. Unlike noise, which is measured by the energy equivalent over a 24-hour period, the metric used for vibration is the maximum vibration measured over several typical passbys. There is local variation based on soil conditions at the each measurement location, but generally speaking there a general similarity in the measured train vibration level across all locations. Responses to comments on vibration are addressed in the individual responses.

Effect of Tree Removal

Dense tree zones can provide noise control, but only in specific cases, where the zone is particularly wide (FTA guidance states tree buffer should be at least 100 feet deep to include attenuation)[16] , blocking line of sight between the receiver and the source and extending above the source and laterally beyond the source length. If one or two rows of trees are being removed (5 to 20 feet deep), it should not have any meaningful effect on the A-weighted noise level from trains. While it is possible that our ears can detect a change in the timbre or frequency content of the sound, those changes would not appreciably affect the A-weighted noise level. A related effect involves the ground type; the change from a deep tree zone to a hard concrete surface would affect how sound travels, but the effect of one or two rows of trees is insubstantial compared with the rest of the ground. The PCEP does not propose any new hard concrete surfaces along the ROW as part of the overhead contact system and the only hard concrete surfaces would be for the traction power facilities.

The conclusion above on tree removal on noise is backed up by research on the effect of tree buffers. For example, the State of Virginia commissioned a study in 2007 to research the effect of a dense conifer stand as a noise barrier for highway noise reduction (Lee et al. 2007). In this paper, they summarized prior literature findings that greatest reductions were found with vegetation belts of between 20 and 30 meters (66 to 99 feet) but that some studies concluded that the noise attenuation was so small it would not be perceived by humans. The literature review also concluded in order for vegetation to reduce noise, it needed to be densely planted with no gaps to let noise through. The Lee 2007 study used tree depth of 20 meters (66 feet) consisting of conifers and evaluated 15 different locations but found that there was minimal noise attenuation due to the tree buffer. No matter how the sites were examined analytically, there was no measurable difference in road noise relative to tree characteristic and all the differences at the more distant measurement locations were due simply to the distance effect rather than to any additional mitigating effects of trees. Most differences in noise levels from the studied tree buffers were on the order of plus or minus 1.0 dB (Lee et al. 2007).

Based on the evidence described above, the removal of trees along the Caltrain ROW should not have a substantial effect on noise levels. As described in the Master Response 6 (Visual Aesthetics), tree removal impacts would be reduced with revised project design assumptions as well as the implementation of Mitigation Measure BIO-5, which will include alternative pole design/alignments where feasible and replanting of trees where removal would be unavoidable. Some of the replacement trees may also be placed outside the electrical safety zone, but between the rails and receptors, where feasible and where property owners allow (if on private property).

Consideration of Mitigation

A number of commenters requested that the project include noise mitigation for different conditions.

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[16] For example, the Federal Highway Administration (FHWA) describes that in general plantings do not provide much sound attenuation adjacent to roadways, but they recommend buffers of up to 100 feet where proposed for noise reduction. See: http://www.fhwa.dot.gov/environment/noise/noise_compatible_planning/federal_approach/audible_landscape/al04.cfm. Also the FTA Transit Noise and Vibration Impact Assessment (FTA 2006) specifies that the attenuation effect of trees should only be included where there are at least 100 feet of trees between source and receiver. See: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf

Some commenters requested that Caltrain mitigate existing noise levels. While these comments are noted, CEQA only requires mitigation to be identified and adopted when a project would result in noise level increases that are significant. Consequently, the EIR does not identify mitigation for existing noise levels.

As noted in the Draft EIR, the Proposed Project is not expected to result in increases in train operational noise that exceed the FTA moderate impact thresholds along the ROW. The only significant project-level noise impact was identified in relation to one of the substation locations (TPS1, Option 3 adjacent to a hotel), for which mitigation is identified. CEQA does not require identification or imposition of mitigation of less than significant impacts, so the EIR does not identify mitigation measures for less-than-significant impacts.

As noted in the Draft EIR, cumulative noise increases would be significant at many study locations, and the EIR identifies cumulative mitigation to address these increases that would require the participation of the responsible parties to the cumulative impact. Caltrain on its own would only contribute adversely to a limited number of cumulative impacts with the PCEP because the dominant effect of the PCEP on noise is to lower noise levels relative to existing levels due to replacement of diesel locomotives with EMUs. In 2020, Caltrain would contribute to cumulative impacts at 7 study locations. In 2040, Caltrain would only contribute adversely to cumulative impacts at 1 study locations, presuming that by this time all the remaining diesels used for San Jose to San Francisco service have been replaced with EMUs. Thus the provision of EMUs by 2020 and afterward has a mitigating effect on both existing and cumulative noise levels since EMUs are quieter than current diesel locomotives. Pursuant to the mitigation identified in the EIR, Caltrain would work with other responsible parties, including the High-Speed Rail Authority, other passenger rail services (like Altamont Commuter Express, Capitol Corridor, and Amtrak service) and UPRR to obtain fair-share participation to implement noise mitigation measures as needed over time to address significant cumulative noise impacts. Because the ability to secure mitigation commitments from all parties is unknown at this time, the Draft EIR discloses that cumulative noise impacts may remain significant and unavoidable.

For cumulative impacts, the Draft EIR describes the following potential cumulative mitigation measures:

- **Wayside Horns**: Train horn noise can be reduced through use of a wayside horn, which is an automatically triggered horn located at the at-grade crossing itself that sounds upon approach of a train. Because the horns are located at the crossing itself, the area of effect is smaller than the area of effect due to train horns, but sensitive receptors near the at-grade crossing would still be affected by horn noise. Wayside horns are included as one option as described on pages 4-89 and 4-92 of Section 4.1, *Cumulative Impacts*, of the Draft EIR.
- **Low noise barriers (for wheel noise):** As discussed on page 4-90 of Section 4.1, *Cumulative Impacts*, of the Draft EIR, soundwalls are not considered a feasible mitigation to address horn noise because train horns are elevated and thus soundwalls would have to be as high or higher than the locomotives themselves to be effective at shielding train horn noise. Along the Caltrain corridor, such high walls would not likely be acceptable to local communities. Soundwalls cannot be placed at the at-grade crossing which also reduces their effectiveness for horn noise reduction. While lower soundwalls would help to reduce engine and wheel noise for adjacent receptors, lower soundwalls are not considered cost-effective given that they would only be partially effective at addressing train noise and would not address train horn noise which is the dominant concern.

- **Quiet Zones:** The FRA has established a process by which a local jurisdiction can pursue a specific area containing at-grade crossings as a "quiet zone", provided that certain supplemental safety measures (SSM) are used in place of the locomotive horn to provide an equivalent level of safety at the at-grade crossing. The implementation of quiet zones requires that the local municipality take the lead role. The local jurisdiction may also incur certain liability for proposing the quiet zone and this is a constraint for some jurisdictions in pursuing a quiet zone. There could be variations along the corridor in terms of some jurisdictions willing to pursue a quiet zone and other not willing to do so. Caltrain cannot force jurisdictions to adopt a quiet zone; it must be at their initiative. Further details are described on pages 4-89, 4-90, and 4-92 of Section 4.1, *Cumulative Impacts*, of the Draft EIR.
- **Grade separations:** While grade separations are a technically feasible way to significantly reduce the need for train horn use at at-grade crossings, it is a highly expensive mitigation strategy. Caltrain has supported prior grade separation efforts, such as the San Bruno Grade Separation project, led by Caltrain, which will be completed in 2014. Further details are discussed on pages 4-90, 4-91, and 4-93 of Section 4.1, *Cumulative Impacts*, of the Draft EIR.
- **Building Sound Insulation**: One method of reducing the impact of train horn noise is building sound insulation. Sound insulation of residences and institutional buildings improve the outdoor-to-indoor noise reduction. Although this approach has no effect on noise in exterior areas, it is a feasible method for sites where noise barriers are not feasible or desirable, for buildings where indoor sensitivity is of most concern, or where the horn noise dominates the noise environment. Improvements in building sound insulation can often be achieved by adding an extra layer of glazing to the windows and by sealing any holes in exterior surfaces that act as sound leaks. Further details are discussed on pages 4-89 and 4-92 of Section 4.1, *Cumulative Impacts*, of the Draft EIR.

Noise Mapping

Some commenters requested more detailed mapping of noise and vibration effects. Noise and vibration measurement locations are shown in Figure 3.11-5 in Section 3.11, *Noise and Vibration*, of the Draft EIR. Detailed figures showing the measurement and modeled receptor locations are shown in Attachment C of Appendix C. This is considered adequate disclosure of the locations of potential Proposed Project and cumulative effects.

3.1.9 Master Response 9 – Bikes on Board

This Master Response addressed the following comments:

- Numerous commenters requested that the PCEP increase the amount of bicycle capacity onboard from current levels, based on their opinion that bicycle riders would increase substantially in the future[17] but would mostly only ride Caltrain if they can bring their bikes on board.
- Commenters also note the environmental benefits of bikes on board including reduction of local vehicle emissions at both the embarkation and debarkation locations compared with emissions resulting from riders that drive to Caltrain or that use cabs or other vehicles at their destination.

[17] Many commenters assert that bicycle riders will be 20 percent of Caltrain riders in the future, though it is uncertain as to what studies or analytical basis for that assertion.

There is no doubt that there are environmental benefits from Caltrain riders who ride their bikes, take them on board, and then use them to reach their destinations. These include less vehicle emissions and traffic by using Caltrain in the first place, less vehicle traffic congestion around Caltrain stations and less air quality and GHG emissions from all of the above. There is also no doubt that the demand for bicycle capacity on board has increased in recent years, as evidenced by the "bumping" of bikes when the bicycle cars are full.

Currently, the gallery train set can accommodate 80 bikes (40 bikes in each of two bike cars) and the Bombardier trains set can accommodate 48 bikes (24 in each of two bike cars). Several commenters express concern about being "bumped" or denied boarding with a bicycle. An average of approximately 4,900 bicycles board Caltrain per day (in 2013). According to self-reporting to the advocacy group San Francisco Bicycle Coalition, from May 2013 to May 2014, monthly "bumps" ranged from less than 50 to over 200 per month.[18] Bicycle denials were largely reported at the Redwood City, Millbrae, and 22nd Street Stations but have been observed and reported throughout the system.

As described in the Draft EIR (pages 3.14-59 to 3.14-60), with the Proposed Project implementation, Caltrain would continue to accommodate bicycles on board the new EMUs. However, the Draft EIR made no assumption about specifically how many bikes on board would actually be provided given that EMU procurement is only being started at this time. In order to complete the EIR analysis, it was not necessary to make a specific estimate of bikes on board. As explained in Appendix I of the Draft EIR, like most regional travel demand models, the VTA model does not separately model the bike mode of access and thus the bike mode is subsumed within the other modes (specifically the walk mode). The Fehr & Peers Direct Ridership Model (DRM) can disaggregate the bike mode of access and was used to support the analysis of local traffic in terms of mode of access and mode of egress. The DRM analysis examined land use and accessibility factors, including future changes in station area conditions such as concentrations of population and jobs within 0.5 mile of the station, local access and circulation improvements and the amount of private shuttles. The DRM based its identification of the mode of access and mode of egress based on the local accessibility and connectivity factors independent of any specific assumption about the number of bikes on board. The resultant bicycle share for modes of access and egress presume that the bicycle demand is met through some combination of bicycle parking at or near the station, bikes on board, and/or bike share programs. The combined VTA/DRM modelling is considered an adequate basis by which to look at overall system ridership as well as local modes of access and egress for the purposes of analyzing local traffic conditions.

The specific design of the EMUs has not been completed and thus it would be speculative at this time to identify a specific capacity for bicycles on board. The EMU design must balance numerous factors including the amount of seated space, areas for riders in wheelchairs, the number and placement of bathrooms, access and circulation within the vehicles, the amount of standing space, heating, ventilation and air conditioning, cost, functionality, safety, maintenance as well as bicycle capacity and other passenger amenities. Caltrain intends to solicit public input, including from the bicycle community, when going through the EMU design process.

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[18] https://www.sfbike.org/news/getting-bumped-off-caltrain/. Self-reporting has not been subject to quality assurance/quality control review or independent verification by Caltrain and thus no conclusion can be made as to its accuracy.

While many commenters believe that the bicycle riders' share of overall riders would increase over time, the exact composition of future riders is difficult to predict. A more optimistic assumption of bicycle riders for the EIR would also mean a more optimistic assumption about local traffic impacts of the Proposed Project. While that might be a desirable outcome for bike riders and for local traffic, Caltrain cannot necessarily guarantee such a ridership would occur. Consequently, from a CEQA impact disclosure point of view, it is more conservative for the traffic analysis to assume that the percentage of riders overall would be similar to existing conditions than to assume a more optimistic share of bicycle riders.

Similarly, guaranteeing a specific level of bikes on board at this time as part of the Proposed Project or as part of mitigation for local traffic impacts is not included in the EIR because Caltrain cannot predict the specific results of the multi-variable EMU design process (which would include stakeholder and public involvement) at this time and because Caltrain cannot compel a specific level of bicycle use of its system. If for some reason, a limitation on bicycle on boards would somehow constrain system ridership, this is not likely to result in new significant PCEP environmental impacts related to reducing VMT, air quality emissions, regional traffic, or GHG emissions compared with No Project conditions (No Project conditions are used as the baseline for assessment of these impacts). Instead ridership might be lower than anticipated in the Draft EIR, which would reduce the positive benefits of the Proposed Project related to VMT, air quality and GHG emissions, and regional traffic but not result in increased impacts over baseline. Thus, a revised ridership analysis presuming a larger amount of bicycles on board was not conducted for the Final EIR for the reasons noted above. As noted above, this does not preclude the possibility of a greater amount of bicycles on board.

<u>It is important to note that nothing in the EIR analysis precludes the possibility of a larger share of bicycles on board in the future</u>. If anything, if the expectations of many bicycle advocates that bicycle share of Caltrain riders will increase overall were to come true, then traffic impacts at some of the Caltrain stations could be lower than disclosed in the EIR.

Commenters also made a number of suggestions to help increase on-board capacity including charging an extra fee for bicyclists, bike-hanging hooks, horizontal bike storage, luggage racks for folding bikes, spaces for strollers and family bikes, removing all seats in the bike cars, and providing real-time bike availability technology to notify bikers of full bike cars. These suggestions are noted and will be considered by the JPB. Commenters also included assertions that more bikes on board make Caltrain more "green," and promote mental and physical health. These comments are noted and do not concern the adequacy of the EIR.

While Caltrain is committed to continuing the bikes on board program with the PCEP, it is also seeking to expand bicycle parking options at stations and bike share options.

3.1.10 Master Response 10 – Traffic Analysis

This Master Response addresses the following comments:

- Some commenters requested that the traffic analysis should use different traffic modelling tools and approaches than those used.
- Other cities requested specific additional analysis of certain roadway locations and conditions.
- A number of commenters, including a number of local cities requested that the JPB should consider grade separations to be feasible for certain locations to address traffic impacts that can be addressed through other mitigation.

Methodology

Responses to individual comments on traffic analysis methodology, including those by the City of Menlo Park are provided in the individual responses.

As explained in the Draft EIR and Appendix D, the EIR traffic analysis uses commonly used modelling tools (VISSIM and SimTraffic) and normal professional methods in analyzing traffic. The specific rationale for selecting study locations and models, methods used to calibrate and validate the models, and specific analytical assumptions are described in Appendix D. Although there are different models and tools used in some locations along the Caltrain corridor in the various local jurisdictions, that does mean that these models are necessarily more or less accurate than those used in the PCEP EIR. Caltrain chose to use the same models, approach and significance criteria across the entire project corridor, so that traffic impacts could be treated equally for all cities. To use separate models and methodology for each of the 17 cities along the ROW would not only be needlessly expensive, but it could have resulted in a disparity of identification of significant impacts and application of mitigation in different cities. What might be a significant impact in one city might not have been identified as a significant impact in another city. Caltrain desires that there be a consistent basis for identifying potential significant impacts and for determining the need for mitigation.

Study Intersections

In response to certain specific comments, additional traffic analysis was conducted at 10 new intersection locations and the analysis at certain locations included in the Draft EIR was re-evaluated. No new significant and unavoidable impacts were identified through this additional analysis. For the specific new analysis, please refer to the revised analysis in Section 3.14, *Transportation*.

Responses to individual comments on specific traffic intersections or corridors are provided in the individual responses.

Grade Separations

A number of commenters request grade separations as mitigation for existing, project, or cumulative traffic impacts.

As noted above, CEQA does not require identification of impacts of existing conditions. The EIR does identify significant project-level and cumulative level traffic impacts, some of which would remain significant and unavoidable with the mitigation proposed in the EIR.

Grade crossings are intersections where vehicles and/or pedestrians and bicyclists cross train tracks at the same elevation as trains. Trains always have the right of way at these locations.[19] Currently there are 42 at-grade crossings along the Caltrain corridor (Section 2.6.3, Appendix D to the Draft EIR). Safety and roadway traffic congestion are two of the major concerns associated with grade crossings. A common means to addressing these concerns is to remove an at-grade crossing and convert it to a grade-separated crossing. A grade-separated crossing separates the elevation levels at which roads, railroads, and pedestrian/bicycle paths cross one another in order to prevent

[19] Caltrain Design Criteria: Chapter 7 – Grade Crossings. Peninsula Corridor Joint Powers Board, 2011. < http://www.caltrain.com/assets/_engineering/engineering-standards-2/criteria/CHAPTER7.pdf>'

the disruption of flow for each mode or the possibility of accidents. Oftentimes the separation is realized through the construction of elevated structures or tunnels to isolate flows.

Some of the potential pros of grade separation include: Elimination of train collisions with vehicles, pedestrians, and bicyclists; delay cost and time savings for motorists; fuel and pollution mitigation cost savings (from idling of queued vehicles); and improved emergency access. Some of the potential cons of grade separation include: high capital costs; road closures and traffic disruptions during construction; extensive right-of-way acquisitions; life-cycle maintenance costs; aesthetic concerns due to height of elevated structures; and space-intensive designs. The decision to grade separate an intersection is primarily a matter of economics. As such, when making such a decision, the agencies and jurisdictions involved should evaluate the costs and benefits closely. In order to make such a decision, a detailed investigation should be carried out, including a physical feasibility study, consideration of land use access, environmental, safety, and other relevant concerns.[20]

Overall, grade separations are a highly expensive mitigation strategy. Caltrain has supported past and present grade separation projects and will support future efforts for grade separation where acceptable to local communities and where local, state, and federal funding can be secured to fund these improvements (e.g., the San Bruno Grade Separation Project).

Using an average assumed cost of $50 million to $100 million per crossing; grade separating the 11 nearest at-grade crossings near the 11 significantly affected intersections under the 2020 Project scenario would cost $550 million to $1.1 billion. Additionally, grade separating can sometimes cost more than $50 million to $100 million. The recent San Bruno Grade Separation Project to grade separate three intersections in San Mateo County cost $147 million. It was completed in April 2014 and funded through a combination of Measure A tax dollars, state funds, and federal funds. [21]

The total cost of a grade separation project is dependent on a number of factors related to:

- The specific siting of the grade separation
- Roadway geometry, utility locations and depths
- Proximity to station and existing tracks
- Other related factors, such as soil quality, surrounding land uses, etc.

The San Bruno Grade Separation project required sewer relocation, temporary street closures, deep excavation and soil hauling, temporary tracks to provide a detour around the construction area (i.e. shoofly tracks), construction and maintenance of a temporary station, on-street parking removal, and adjustment of train operations. All of these elements contributed to the total cost of the project.

Given the high costs and disruptions associated with grade separations, Caltrain cannot commit to a grade separations as part of mitigation for the Proposed Project because the funding for the PCEP does not include sufficient funding to provide grade separations. The JPB currently neither has funding nor expects to receive sufficient funding in the next 5 years to add grade separations to the Proposed Project by 2020.

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[20] Gitelman, V., et al. "Screening Tools for Considering Grade Separation at Rail-Highway Crossings." Journal of Transportation Engineering ASCE. January, 2006 (13), 52-59

[21] "San Bruno Grade Separation Project Community Meeting Presentation July 13, 2011." San Mateo County Transit District, 2011. <http://www.caltrain.com/Assets/_Public+Affairs/Capital_Program/San_Bruno_Grade_Sep/Community+Presentation+-+7-13-2011.pdf>

However, Caltrain, in cooperation with local jurisdictions, transportation funding agencies, and state and federal agencies, will support grade separations at locations of cumulative traffic impacts over time as funding becomes available. Caltrain will also work with local, state, and federal partners to establish priorities for roadway improvements and grade separations to be implemented as funding becomes available. This may also include working with local jurisdictions that are pursuing grade separation projects on their own to ensure that the Proposed Project, to the extent possible, does not create conflicts with future grade separation efforts. Finally, Caltrain will also work with other rail parties to seek funding participation from multiple sources as opportunities arise.

For more detail on grade separations and grade crossings, see Section 3.6.6.1 and Section 3.6.7.2 of Appendix D to the Draft EIR.

3.1.11 Master Response 11 – Freight

This Master Response addresses the following comments:

- A number of commenters raise concerns about the effect of the PCEP on freight operations and systems, as well as potential secondary effects of freight operational changes.
- Commenters raised concern about the PCEP effect on existing vertical clearances in constrained areas such as tunnels and bridges, which could restrict the height of freight equipment.
- Commenters raised concern that with temporal separation, the PCEP would constrain freight operational windows to the midnight to 5 a.m. period, which they assert would restrict freight operations and result in diversion of freight from rail to truck modes, which would in turn result in secondary effects on air quality, greenhouse gas emissions, noise and traffic.
- Commenters also raised concern that the EMF levels from the PCEP OCS would interfere with the freight signal system and result in safety concerns.
- Union Pacific Rail Road (UPRR) requested that the PCEP not electrify MT-1 south of CP Coast.
- Finally, Union Pacific asserts that the PCEP would not comply with the Trackage Rights Agreement (TRA) between Union Pacific and the PCJPB in regards to the TRA-specified vertical clearances, the daytime operational window, and electrifying MT-1 and that the project description should be changed to include a project consistent with the TRA.

Vertical Clearances

Regarding vertical clearances, there are currently clearance constraints resulting from existing bridges and tunnels which limit types of freight equipment that can utilize the corridor. The four San Francisco tunnels have the lowest existing vertical clearance between San Jose and San Francisco.

The JPB analyzed the vertical clearances with the PCEP and determined that with minor modifications of several tunnels and lowering of the tracks at several bridges existing freight equipment used on the Caltrain corridor can continue to be used on the corridor to serve existing customers without any constraint. A table showing all of the existing vertical clearances, the existing height of freight equipment, and the vertical clearances with the Proposed Project have been added to the Final EIR.

For cumulative impacts involving vertical clearances, it is possible that freight operators may desire to operate with higher equipment than being used at present, but which could be operated on the Caltrain corridor today. <u>A table showing all of the existing vertical clearances, the existing effective</u>

vertical clearance, the existing height of freight equipment, the vertical clearances with the Proposed Project and the cumulative impacts on vertical clearances has been added to the Final EIR. As shown in the analysis, there would be a constraint on operating equipment at certain locations south of Bayshore (MP 5.10). Feasible mitigation has been identified to maintain existing effective vertical clearances south of the Butterhouse Spur (MP 41.4) such that with mitigation, no cumulative impacts would occur. With the PCEP, from the Butterhouse Spur to Bayshore, all train heights (including freight) would be limited to a maximum height of 19.11' due to the constraint at the San Francisquito Bridge. Currently, the effective vertical clearance from the Butterhouse Spur to Bayshore is 21.05', which is the clearance at the San Francisquito Bridge. The highest equipment used on this section at present is 18.92'. Thus, the Proposed Project would not limit the use of existing equipment, but would limit the hypothetical future use of Plate H freight cars (nominal height of 20.25') in this section. From the south up to the Butterhouse Spur, Plate H railcars could be used with the cumulative mitigation identified in the EIR.

In the Draft EIR, Cumulative Mitigation Measure TR-CUMUL-3 specifies that the JPB would work with UPRR to restore existing effective vertical clearances where actually needed to support future freight needs. The JPB reviewed the feasibility of replacing or modifying the San Francisquito bridge to provide such effective vertical clearance and found that major modification of the San Franciscquito Bridge was not feasible due to (1) the overall cost of bridge replacement, estimated as $48 million; (2) the need to construct a shoofly track and temporary bridge while the current bridge is modified/replaced which would have substantial disruption to both passenger and freight operations as well as additional impact on the riparian corridor along the creek; and (3) the environmental and operational disruption was not justified in order to provide a vertical clearance height that is not being used by current freight traffic (Caltrain 2014 – Vertical Clearance memo).

Although the PCEP would limit the maximum vertical height of freight to approximately 19 feet (instead of a nominal 20.25' clearance for Plate H), which is a theoretical constraint to future freight operations, this is not considered a significant physical environmental effect because (1) existing freight has been operating successfully on this route using equipment less than 19 feet high; (2) the additional freight that could utilize slightly higher freight railcars can in most cases be placed in the 18.92' railcars in use on the corridor today; (3) a few additional railcars on some freight consists would not substantially change environmental conditions for air quality, greenhouse gas emissions or regional traffic. As a result, although the slight lowering of allowable heights would limit the future ability to run Plate H from MP 41.4 to MP 5.10, this is not considered to result in a significant physical environmental effect related to air quality, greenhouse gas emissions or regional traffic.

However, in a cumulative setting with potential increases in future freight service and freight equipment height, there is the possibility of limited amounts of diversion of freight (such as special deliveries that might work with 20' of clearance but not 19' of clearance) that might have localized effects on noise or traffic, depending on the actual haul route and the EIR discloses this as a potentially significant and unavoidable impact.

Operational Windows and Temporal Separation

Freight today operates both during the day and during the night including approximately 3 round trips (6 trains) per weekday north of Santa Clara. The Draft EIR project description assumed that temporal separation would be required pursuant to the existing FRA Waiver. However, as noted in footnote 4 on page ES-9 and footnote 7 on page 2-11, the following:

> "It should be noted that the FRA is currently in a rulemaking process for "Alternative Compliant Vehicles" that is relevant to the EMUs in the Proposed Project. It is Caltrain's understanding that when the rule is in place, the FRA waiver and the temporal separation requirement may no longer be necessary. For the purposes of this EIR, it is assumed that the current FRA waiver requirement would be in force."

The Draft EIR analyzed potential effects on freight operations assuming temporal separation is required as temporal separation is part of the current FRA Waiver. Pursuant to comments from freight operators and in light of recent discussions with vehicle providers and in consideration of the current FRA rule-making for alternative compliant vehicles, the JPB is now confident that the FRA Waiver requirement for temporal separation with freight can be eliminated through either modification of the waiver or through the compliance process in the new FRA rule-making.

As explained in the LTK Analysis (Caltrain 2014 - TempSep):

- Waiver of current FRA Tier 1 passenger vehicle requirement (49 CFR 238 et seq.) requires that the waiver demonstrate an equivalent level of safety. That can be demonstrated through vehicle design criteria, track improvements, signal improvements, operational limitations or other means. Thus, there is no specific regulatory requirement that mandates temporal separation for mixed use operation of EMUs and FRA Compliant equipment.
- Caltrain's petition submittals (Caltrain 2009) demonstrated that the individual EMU design features, using European rail safety standards, combined with PTC, alone would provide an equivalent level of safety to current FRA Tier 1 Standards.
- The Engineering Task Force (ETF) 2011 report to the FRA's Railroad Safety Advisory Committee (RSAC) (FRA 2011) concerning alternative compliant equipment demonstrates that design criteria for such equipment can provide an equivalent level of safety to current Tier 1 Standards and that temporal separation would only be an option in the event that a rail operator could not demonstrate the equivalent level of safety through design features. Caltrain would not be the first commuter rail authority to obtain approval to operate non-standard passenger equipment without temporal separation. The Denton County Transportation Authority received a FRA Waiver to operate Stadler GTW 2/6 Diesel Multiple Units (DMUs) without temporal separation.
- FRA rule-making concerning alternative compliant equipment, expected to be released for public comment in early 2015, is expected to draw heavily on the recommendations in the 2011 ETF report. A March 2013 discussion draft of the proposed rule text does not include temporal separation as a requirement for mixed use operation. Therefore, the FRA will not likely mandate temporal separation as a requirement for mixed use operation of Alternative Compliant Equipment and FRA Compliant equipment.
- Caltrain EMUs would meet current European safety standards and would be able to meet the equivalent level of safety criteria in the ETF report and criteria likely to be included in the future FRA rule-making.
- With adoption of the forthcoming FRA rule-making and Caltrain EMU design compliance with the new design criteria, the current FRA Waiver requirements, including temporal separation, would no longer be required. Should the subject FRA rule-making not proceed for any reason, Caltrain will apply for a revision of the FRA Waiver prior to mixed use operations to request a removal of temporal separation.
- Thus, the reasonably foreseeable project condition for the PCEP in 2020 is that temporal separation will not be required and this condition is therefore the basis of the EIR analysis.

- Should Caltrain's expectations about FRA rule-making (or the fall-back provision of amending the FRA Waiver) prove incorrect, then Caltrain will conduct supplemental environmental analysis, as necessary under CEQA, to examine potential environmental effects of requiring temporal separation, including, but not necessarily limited to, analysis of impacts on freight operations.

As a result, the Final EIR has been revised to no longer assume temporal separation. Thus, for the project analysis, freight operations should be able to continue to operate in a manner that is more or less similar to present operations. The Proposed Project would primarily increase passenger train operations during the peak hours, and during that time freight operations do not use the corridor because of the limited available headways. Outside of the peak hours, the PCEP prototypical schedule shows that there are numerous times of 30 minute headways during which freight train operations could be conducted as they are conducted today.[22] Thus, no impact on freight operations is expected due to temporal separation and no secondary impacts due to potential diversion of freight from rail to truck modes would occur. The EIR analysis has been updated to present this conclusion.

One commenter (Union Pacific) asserted that even its daytime operational window is preserved and that the EIR should analyze potential changes in project schedule needed to accommodate freight during daytime hours. The Trackage Rights Agreement between the JPB and Union Pacific, Section 4.3 says JPB has to give freight one 30 minute headway in both northbound and southbound direction between 10 a.m. and 3 p.m. but that the trains have to operate at "Commuter Service Train Speeds" (which means up to 79 mph). The prototypical schedules in the Draft EIR (Appendix I) for 2020 and 2040 have 30 minute headways from 9 a.m. to 3:30 p.m. in both directions and, thus, conform to the terms of the TRA. As a result, this is not an issue.

EMF Effects on the Freight Signal System

Union Pacific and others raised concern that EMF levels from the PCEP OCS might interfere with freight signal systems which could result in unsafe freight operations. A number of commenters specifically reference comments that Union Pacific and BNSF have filed in a current CPUC General Order rule making process in regards to high-speed rail.

As described in the Draft EIR, page 3.5-11:

> "the Proposed Project will protect the existing railroad signal system, the grade crossing system, and the Positive Train Control system from electromagnetic interference created by the 25kv AC system by:
>
> - designing the catenary system using proven solutions that minimize the effect of EMI;
> - providing sufficient shielding for electronic equipment;
> - installing specialized components, such as filters, capacitors, and inductors; and
> - ensuring that the electric vehicles are designed with a frequency that does not interfere with the frequency of the grade crossing warning system."

The PCEP's 25 kV electrification system is neither unprecedented nor is there a lack of technical history or understanding of the issues regarding electrified rail systems and freight signal systems.

[22] Prior to service cuts in August 2009, Caltrain operated with weekday midday headways of 30 minutes and thus there is precedent of freight operations working with 30 minute headways. (See: http://www.caltrain.com/about/News_Archive/Caltrain_Board_Approves_Service_Reductions_Parking_Increase___Capital_Budget.html)

25kV overhead contact systems to power trains are in use throughout Europe and Asia, and already exist in several U.S. rail corridors.

In 2000, Amtrak commissioned a 25 kV 60 Hz extension to the Northeast Corridor (NEC) electrified network on the 160 miles of track between New Haven, Connecticut and Boston, Massachusetts. The NEC electrification system has supplied 25kV 60 Hz power to Amtrak's Acela trains for operations up to 150 mph in a safe and efficient manner for over 13 years. The Amtrak route has demonstrated the viability and compatibility of 25kV electrification in areas where freight and diesel passenger operations share the 25kV electrified tracks in the states of Connecticut, Rhode Island and Massachusetts without impacts to their operations. The ability of 25kV electrification to be used for joint high-speed and commuter rail operations has led to the conversion of New Jersey Transit's North Jersey Coast Line from lower voltage to 25kV in 2002.

Diesel locomotives run compatibly side-by-side and on shared tracks with electric trains on the NEC and its connected commuter railroads in areas of dense, critical rail service, at speeds up to 150 mph. The NEC electric trains have power systems that are similar to those planned for the PCEP. The NEC electric train traction voltage and electrical current levels are similar to those planned for PCEP. The NEC electrified and non-electrified tracks have similar signal systems to those broadly and routinely used on electric rail transit lines across the U.S. The electrified and non-electrified commuter railroads connected to the NEC have grade crossing systems that are similar to those used on sections of the Union Pacific lines and to those broadly and routinely used on light rail and commuter rail lines across the U.S.

There are many portions of the NEC where freight and electrified trains share tracks such as the Providence-Worchester Line. According to the Northeast Corridor Master Infrastructure Plan[23], on a typical day, seven freight railroads operate up to 50 trains over Amtrak-owned portions of the NEC. The only portions of the entire NEC network without active freight service are between Queens, NY and Newark, NJ and between Landover, MD and Washington DC. The Acela operates between Washington, DC, New York, and Boston, which means that electrified passenger rail and freight are sharing the NEC for the vast majority of the electrified service area. Figures A and B below show shared right of way operations of the electrified Acela service with non-electrified Providence & Worcester freight rail and specifically show diesel freight trains operating "under the wires" of electrified OCS for electrified passenger trains. Any signal systems in such segments are in shared use by both electrified passenger trains and non-electrified freight trains. The Acela and freight have been operating successfully and safely for many years on the NEC. There are also shared rail systems in Europe and Russia and in Chile where diesels are running "under the wire".

[23] NEC Master Plan Working Group. 2010. Northeast Corridor Master Infrastructure Plan. Working Group includes representatives of 12 states, the District of Columbia, Amtrak, FRA, 8 commuter and 3 freight railroads operating on the NEC. May. Available: http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf.

Low speed freight trains and high-speed passenger trains operating at up to 150 mph share the NEC right-of-way as illustrated here by Amtrak *Acela Express* operating with Providence & Worcester.

Figure A: Photograph of Shared Acela and Freight Operations on the Northeast Corridor

(Source: NEC Master Plan Working Group. 2010)

Figure B: Photograph of Providence and Worchester freight railroad operating on shared tracks with electrified 25 kV overhead contact system overhead on the Northeast Corridor

The Denver Rapid Transit District and its concessionaire Denver Transit Partners (DTP) are building the Eagle P3 Commuter Rail Project (EP3), a thirty seven (37) mile 25 kV ac electrified railway that runs parallel to Union Pacific and the BNSF tracks for lengthy sections between downtown Denver and the airport. In some sections of significant length, the distance between an EP3 electrified track and the adjacent BNSF and Union Pacific track is 25 feet or less. The EP3 will have signal and grade crossing systems similar to those broadly and routinely used on light rail and commuter rail lines across the U.S. The 25 kV electrification of the Denver EP3 will also be compatible with the adjacent freight railroad PTC signaling and grade crossing systems. For the EP3 project, DTP, BNSF, and Union Pacific exchanged technical information, performed joint engineering studies and analysis, and where needed took individual and joint action to ensure EMC of the two lines.

In short, there are numerous well-established and contemporary precedents for the straightforward integration of conventional railroads with electrified railroads like the PCEP.

The PCEP would follow American Railway Engineering and Maintenance-of-Way Association (AREMA), Institute of Electrical and Electronics Engineers (IEEE) and standards used by Amtrak on the NEC for 25 kV 60 Hz electrification. The present track circuits existing on the Caltrain corridor are for the most part General Electric Transportation System (GETS) Electrocode 4 (EC 4) track circuits between interlockings and DC track circuits within interlockings. The PCEP would convert the EC 4 track circuits to Electrified Electrocode track circuits and steady energy 200 Hz track circuits within interlockings. These products were developed specifically by the manufacturers for use on electrified railroads. They have been deployed and safely and reliably maintained in service for many years.

The PCEP would replace all track circuits that currently exist on the Caltrain corridor, including the Union Pacific-owned tracks MT-1 and the controlled siding with the track circuits mentioned above. This will be done whether or not MT-1 and the controlled siding are electrified to insure compatibility with the new 25 kV 60 Hz electrification. if Union Pacific owned tracks that are parallel to the Caltrain corridor MT-1 and the controlled siding) are not electrified, they will be equipped with the same signal equipment used on the PCEP to ensure that no interference would result from the 25 kV Hz electrical energy in close proximity to their operation.

The signal equipment to be implemented for the Proposed Project is equipment that is currently operating on the NEC. There are both high-speed passenger trains and slower speed freight trains operating over the same segment of tracks. There are also several areas where non-electrified freight tracks merge onto the electrified corridor. The PCEP would be employing engineering standards and equipment already in place and tested to FRA standards in the same environment as the NEC.

Responses to specific concerns raised by Union Pacific are as follows:

False activation of grade crossings: The track circuits would be replaced as stated above. The grade crossing issues addressed here would be treated in two methods. The Constant Warning Time (CWT) devices that currently exist would not function when the electrification is energized and the impedance bonds are installed.

The CBOSS PTC project is presently installing a solution for CBOSS equipped trains (both diesel and EMU) to activate the crossings with CWT. CBOSS will be communicating directly with the grade crossings through a Wayside Interface Unit (WIU) to initiate the crossing warning device.

For non-Caltrain trains without CBOSS, the Draft EIR project description, Section 2.3.5, *At-Grade Warning Devices*, discusses the proposed solution. The technical solution identified is to install audio frequency overlays (AFOs), also known as track circuits, at fixed locations along the Caltrain ROW, allowing the at-grade crossing gates to function safely through an audio frequency that can be used non-Caltrain equipment. An AFO is a sensor that activates the at-grade crossings when the train is approaching. The AFOs are also the backup system for Caltrain equipment in case there is a failure of the CBOSS system for any reason.

Component Failures and Signal Equipment Damage: The PCEP would employ Bonding and Grounding standards that are presently in place on the 25 kV 60 Hz section of the NEC. These methods have been proven and in place for many years and inspected under the authority of the FRA. Proper grounding and cross bonding of adjacent tracks would be designed and constructed so that return currents are properly channeled back to the substations. The PCEP final signal design would also be using signal standards in place on electric railroads for use of shielded cable and limited use of lightening arrestors to mitigate these issues.

Overreliance on Effectiveness of Current Cancellation: The autotransformer-based feeder system not only provides field cancelation due to close proximity between OCS conductors and negative feeder conductors, but also institutes the preferred path for return current to flow to the traction power substation. Most return current returns via the overhead autotransformer feeder than the running rail structure, so that leakage currents to ground can be minimized. The concerns cited related to induced voltages caused by magnetic fields are being addressed by instituting cross bonding cable connections to equalize the voltage potentials of all running rails of the electrified and adjacent non-electrified tracks that are in the vicinity of the OCS. These cross bond connections, in addition to incorporating industry recognized signal detection systems that were designed specifically for electrification, eliminate concerns of rail imbalance and compatibility of the signal detection system. It is a well-recognized fact that most leakage currents to ground occur "in-section" (within a feeding section where one or more trains are demand or generating power), before the autotransformers have a chance to rebalance the outgoing current in the OCS and the return current in the negative feeders. Quantifying the return current distribution through simulation studies based on the Caltrain system conditions will be part of the work of the system design team in final design stages.

Site-Specific Return Currents: The Initial Traction Power system design effort begins with developing a model to size OCS distribution components, inputting the available rail return structure (where track structures are set) and determining substation spacing purposely in the absence of any influences of return paths via earth/ground. This is to ensure that the electrical current carrying components are conservatively sized to allow for a safety and reliability with respect to OCS voltages for proper train operation and rail potential rise for those nearby the track area.

The amount of propulsion current entering the earth is mainly attributed to the bonding between rails and static/ground wires via impedance bonds, and to the leakage conductance between rails and ground. The static/ground wires are connected to the ground through distributed grounding systems including OCS pole foundations and concentrated grounding in substations (supply substations, autotransformer substations and switching station, etc.). This is mainly due to consideration of safety requirements regarding accessible voltages during normal operations and touch and step voltages during fault conditions. Ballast resistivity values that are suitable for the railroad signal system must be maintained for the correction function of the signal system, which limits the extent of direct leakage current from rails to ground. The overall grounding system to meet the safety requirements would be part of the system work of the system design team in final design stages.

The design approach to employ track circuit equipment compatible with AC traction power, in addition to cross bonding of running rails in the areas adjacent to the electrified tracks, alleviates concerns related to EMF/EMI issues with the signal system.

JPB agrees that additional ground resistivity measurements are necessary to perform final design calculations of accessible voltages, step and touch voltage along the line to establish any additional bonding/grounding interconnections.

Adequacy of Mitigation and Approach to Addressing EMF for the PCEP: The steps proposed in designing the equipment/systems to known applicable standards, monitoring the equipment during the factory testing stage to meet those standards and performing final integration testing prior to final commissioning to determine product/system acceptability are prudent.

There are no directly applicable standards in the United States specific to railroad electrification and EMF/EMI impacts and none are specific to intersystem operations. European Standard EN 50121, a series of documents related to "Railway Applications – Electromagnetic Compatibility", is the most applicable, however these are also not truly identical given the distribution and grounding aspects between European and North America Power Systems are different.

EN50121-1, Article 4 Performance Criteria states:

> "The variety and the diversity of the apparatus within the scope of this set of standards makes it difficult to define precise criteria for the evaluation of the immunity test results. If, as a result of the application of the test defined in this set of standards, the apparatus becomes dangerous our unsafe, the apparatus shall be deemed to have failed the test."

The major components of railroad signaling/communications and railroad traction power systems have been developed over time based upon the manufacturer's product lines, and have successfully operated on the identical power system proposed for Caltrain, namely Amtrak's NEC North End Electrification. Through careful system studies and designs in the design stages, comprehensive integration tests in the commissioning stages, and close coordination with all concerned parties, any potential incompatibility between the Caltrain electrification system and other systems would be effectively addressed.

Mitigation Measure EMF-2 has been revised as Union Pacific requested in their comment letter to include the following additional requirements to ensure that significant EMI effects on the freight signal system are avoided:

- acknowledge that Union Pacific as well as other entities and operators, operates sensitive electric equipment in or adjacent to the right-of-way;
- require coordination with Union Pacific in addition to the listed entities and operators;
- require testing and evaluation of EMI impacts during Project operation; and
- require shutdown and modification of the Project electric propulsion system in order to eliminate the impacts, if at any time its operation causes EMF/EMI impacts interfering with signaling, automatic grade crossing warning devices, train control or other equipment necessary for safe and reliable operation of freight and passenger trains in the corridor.

Electrifying MT-1

Union Pacific requested that Caltrain not electrify the Union Pacific-owned MT-1 tracks (also referred to by Union Pacific as the "new Coast Main" or "mainline 1" (MT-1) from Milepost 44 near the Santa Clara junction to Milepost 51.4 near CP Link.

Caltrain evaluated the consequence of not electrifying MT-1 in this area and found that Caltrain can reliably conduct passenger operations with the PCEP without electrifying MT-1, provided the South Terminal Phase III project is completed[24]. It is presumed that the other passenger railroads (Capitol Corridor, ACE, and Amtrak) will continue to use MT-1 as they do today, but that Caltrain will not operate electrified trains on that track.

Since Caltrain is already planning to implement the South Terminal Phase III project and has environmentally cleared that project and can operate reliably without electrifying MT-1, the project

[24] CEQA has already been completed for the South Terminal Phase III project. NEPA clearance is expected in early 2015.

description has been changed to eliminate electrify MT-1 as requested by Union Pacific. This project change would not result in any new environmental impacts as it would result in a slight reduction in the amount of construction, operations would be the same as studied in the Draft EIR, and the South Terminal Phase III project was previously cleared environmentally and approved.

Trackage Rights Agreement Issues

Union Pacific raised concerns in its comment letter on the Draft EIR that the PCEP, as proposed in the Draft EIR, would not comply with the TRA requirements in three areas concerning: 1) provision of the vertical height clearances described in the TRA; 2) the daytime operation window requirement in the TRA; and 3) and electrification of MT-1. Union Pacific asserts that the Draft EIR must be revised to examine the environmental consequence if the Proposed Project is altered to avoid conflict with the TRA. Union Pacific also states that the cumulative analysis is deficient because Union Pacific holds the intercity passenger rights on the Caltrain corridor and has not yet granted them to CHSRA for future high-speed intercity operations on the Caltrain corridor.

The TRA was negotiated between the JPB and Union Pacific's predecessor in interest, Southern Pacific Transportation Company, in 1991, with the understanding and expectation that passenger service would increase over time and could ultimately restrict freight operations. The TRA was filed with the Interstate Commerce Commission (predecessor of the Surface Transportation Board) as part of an approval process. Over time, passenger service has increased steadily due, in part, to significant public investment in the corridor. Since 1991, substantial capital investments in the corridor have been made by the JPB, including track improvements, station improvements, technology enhancements, and grade separations, all as required to support expansion of passenger service as contemplated by the TRA.

Project TRA Issues

As noted above, Caltrain has decided to not electrify MT-1 and this is no longer a TRA concern. The remainder of this response addresses the other TRA issues raised by Union Pacific.

The JPB acknowledges that Union Pacific holds certain legal rights under the terms of the TRA and the Draft EIR takes specific note of those rights (See Draft EIR pp. 2-1 and 3.14-65). To the extent, if at all, that the Proposed Project may cause a variance from those rights requiring Union Pacific's consent, the JPB will engage with Union Pacific to negotiate an amendment to those provisions or, if necessary, seek other legal remedies to effect modifications of the agreement (as discussed below). The JPB looks forward to engaging in good faith negotiations with Union Pacific regarding these issues, in keeping with past practice when issues of interest or concern to either party have arisen under the TRA.

As respects Section 2.10 of the TRA, the Proposed Project assumes that certain vertical clearances would need to be reduced in order to accommodate overhead catenary wires. However, as described above, these changes would not affect Union Pacific’s ability to operate trains of a height currently and historically (last 8 years) utilized on the corridor. Although the changes may slightly limit the ability of Union Pacific to operate trains in the future with a higher vertical profile than present trains, there has been no documentation of a proposal to operate such equipment on the part of Union Pacific. The JPB acknowledges that to implement revised clearances, the TRA would need to be amended by mutual agreement.

As discussed above, based upon the premise that the Federal Railroad Administration will render a determination that temporal separation of freight trains and passenger operations using non-compliant rail vehicles will not be required, the Proposed Project would not affect the daily freight window provided for under Section 4.3 of the TRA. Because temporal separation is no longer part of the project description for the Final EIR, the daily freight operational window can be maintained, and no TRA conflict should exist.

The Union Pacific comment quotes from the trial court's decision in the *Town of Atherton v. California High-Speed Rail Authority* case, a decision with no legal precedential value, in which the court rejected a Final Program EIR for failure to address the potential impacts if Union Pacific's right of way were not available for use by the HSR project. The comment states that the Draft EIR must be revised to reflect a project that maintains the overhead clearances and daytime freight window, or alternatively if JPB is not able to modify the TRA, a re-evaluation of Proposed Project impacts is required. The circumstances with regard to the Proposed Project are quite different than those at issue in the *Atherton* case. Here the Proposed Project's sponsor owns the corridor and Union Pacific's rights are governed by an agreement whose terms contemplate changed conditions resulting from increases in passenger service, as well as capital investments to enhance passenger service involving changed technology, such as the conversion of a diesel propulsion system to an electrified one as contemplated by the Proposed Project. Union Pacific's predecessor willingly entered into the TRA recognizing freight operations would be modified from time to time, and, in an extraordinary circumstance, potentially terminated if necessary to accommodate passenger service upgrades (See TRA Section 8.3).[25] Thus, the TRA contains certain assumptions and protocols regarding modifications of the relationship over time. The JPB anticipates engaging in good faith negotiations with Union Pacific regarding these issues.

Because the TRA anticipates that changes to accommodate passenger service needs and JPB negotiations with Union Pacific will resolve the vertical clearance issue by amending the TRA, the EIR project description is adequate under CEQA as it describes a project that can be legally built, taking into account the TRA requirements and amendment provisions.

Thus, there is no need to change the project description to include a project variant that provides for TRA vertical clearances or to change the EIR impact analysis to consider potential environmental impacts that might occur in order to provide such TRA clearances.

Cumulative Analysis TRA Issues Raised by Union Pacific

Union Pacific also states in its comment letter that development of the blended system on the Caltrain corridor would impair Union Pacific's rights under the TRA, intruding into the midnight to 5 am freight and intercity rail window and also conflicting with Union Pacific's exclusive rights to operate intercity rail.

Since the PCEP does not propose intercity rail or impairment of the TRA operational windows, as such, this comment is only relevant to Blended Service cumulative impacts.

[25] Failing agreement between Union Pacific and the JPB on the TRA issues, the JPB has the legal right to seek abandonment of freight rights under the TRA without Union Pacific objection or opposition. Caltrain is not proposing to seek abandonment at this time as it presumes that this issue can be negotiated between the parties to the TRA. As discussed in the analysis above, freight operations can continue and be compatible with the Proposed Project using the project-proposed vertical heights. Consequently, the EIR does not analyze potential abandonment of freight operations along the Caltrain corridor.

With regard to intercity rights, the TRA contemplates that additional parties may seek to share the right of way to provide intercity passenger service and requires the parties to negotiate with such third parties in good faith (Section 2.7(b)). Caltrain does not propose to operate intercity rail under Blended Service. At this time, according to the 2014 Business Plan, CHSRA does propose to use the Caltrain Corridor as part of Blended Service. Caltrain does not dispute that UPRR retains intercity passenger rail service rights. If high-speed intercity rail operations are to occur along the Caltrain corridor, then CHSRA would need to obtain intercity passenger rail rights from Union Pacific. Given that current CHSRA plans are to operate in the Caltrain Corridor, it is appropriate that the PCEP EIR conceptually analyze Blended Service operations in the Caltrain Corridor. If CHSRA is not able to obtain the intercity passenger rights to operate in the Caltrain Corridor, then there would be no Blended Service on the tracks that Caltrain shares with freight today. In concept, CHSRA would then be required to operate on separate tracks from those covered by the TRA, which may have different environmental impacts than the proposed Blended Service. This issue is more appropriately addressed in the project-level environmental analysis of high-speed rail operations on the Caltrain Corridor. It would be highly speculative for the JPB to analyze an alternative high-speed rail system for the corridor that has neither been designed nor is proposed by CHSRA at time in the cumulative analysis for the PCEP EIR. The JPB has analyzed cumulative impacts based on the current Blended Service concept (as well as the other cumulative projects) at this time; if any subsequent change in the Blended Service concept is ultimately considered, this is best addressed in the separate environmental review process for Blended Service.

With regard to the midnight to 5 a.m. TRA window for freight and intercity operations, the EIR cumulative analysis included potential high-speed rail operations up until 12:30 a.m. This issue is similar to that above discussed for intercity passenger rail operations. Unless CHSRA obtains the intercity passenger service rights, it could not operate on the trackage for which Union Pacific retains the intercity passenger service rights including up until 12:30 a.m. The JPB has appropriately analyzed conceptual Blended Service as proposed by CHSRA at this time. To attempt to complete a project-level analysis at this time without further planning and specific design would be highly speculative and premature.

<u>The cumulative analysis in the EIR has been revised to describe the TRA issues described above</u>, but the addition of this information has not resulted in the identification of any new or substantially more severe cumulatively significant impacts than disclosed in the Draft EIR.

3.1.12 Master Response 12 – Recirculation

Some commenters assert that the Draft EIR requires changes to the analysis and that those changes would result in identification of greater impacts than disclosed in the Draft EIR and, thus, that the Draft EIR must be partially or entirely recirculated for an additional period of public comment. In addition, the JPB has made a number of changes to the EIR in response to comment, some of which change the EIR analysis.

Pursuant to CEQA Guidelines Section 15088.5, recirculation or part of all of a Draft EIR is only required when specific criteria are met:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term “information” can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (Mountain Lion Coalition v. Fish and Game Com. (1989) 214 Cal.App.3d 1043)

(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

The text below discusses both changes to the EIR made in response to comment as well as changes to the EIR made by the JPB subsequent to the Draft EIR and why recirculation is not required.

Blended Service

A number of commenters asserted that the EIR for the PCEP should analyze Blended Service in detail in the same EIR, including the design for all required infrastructure elements including trackage improvements, passing track locations, station improvements, and other improvements and that the Draft EIR should provide a proposed service schedule.

As discussed in Master Response 1 (Segmentation and Independent Utility), the PCEP has independent utility from high-speed rail service and, thus, Blended Service can be analyzed in a separate environmental document. The PCEP EIR is not the final environmental document that would be required in order to approve and operate a Blended Service project. The JPB, in considering this EIR, and potentially approving the PCEP, would not be making a decision to environmentally clear or approve Blended Service. Instead the PCEP EIR properly discloses the potential cumulative impacts of the PCEP and Blended Service, as they are conceptually understood today. Because there is no design proposed yet for Blended Service, the PCEP cumulative analysis of this potential future project at a conceptual level only.

There is no proposed service schedule for Blended Service. The 2014 CHSRA Business Plan includes an example service plan, but it is not a proposed service plan and is only for morning peak hours. Therefore, it is not the proper basis for an environmental analysis.

Because CEQA requires project-level analysis of high-speed rail service along the San Francisco Peninsula, the PCEP EIR does not need to be revised and recirculated to provide such an analysis.

Aesthetic Impacts of the Overhead Contact System

As discussed above, some commenters are of the opinion that the aesthetic impacts of OCS poles and wires are significant and unavoidable even with mitigation. Caltrain reviewed these comments, and conducted additional analysis including additional field review, photographs, and visual simulations.

Aesthetics is a particularly challenging subject under CEQA because there is often a diversity of opinion and judgment about the severity of aesthetic changes. Caltrain acknowledges that there are differences in opinions which is to be expected given that aesthetic judgments are not readily compared with fixed objective thresholds.

Caltrain has disclosed the rationale for the conclusions about the significance of aesthetic impacts related to the OCS poles and wires (see Master Response 6 (Visual Aesthetics including Tree Removal), above). The significance determination takes into account both the existing context of the Caltrain corridor as an intensively used long-standing transportation corridor and the intensity of change with the OCS poles and wires. An important part of the existing contextual consideration is that utility poles and wires are a common visual feature throughout the areas adjacent to the ROW, including in residential areas. Thus, the reasons for EIR determination are neither arbitrary nor capricious and there is no need to change the conclusion regarding significance. As such, there is no need for recirculation.

Air Quality and Greenhouse Gas Analysis

One commenter asserted that the air quality and GHG calculations needed to be redone due to technical changes needed to more accurately account for Caltrain specific train equipment, especially for the No Project conditions. As described above in Master Response 7 (Air Quality and Greenhouse Gas Emissions), the air quality and GHG calculations were revised pursuant to comments on the Draft EIR, but the revised results do not result in identification of any new significant impacts nor any substantially more severe air quality or GHG impacts. The Proposed Project would still have lower criteria pollutant and GHG emissions relative to existing conditions, No Project conditions, and to the two alternatives in the Draft EIR (the DMU and Dual-Mode MU Alternative) and the new alternative in the Final EIR (the Tier 4 Diesel Locomotive Alternative.

Since no new significant or substantially more severe impacts are identified due to this revised analysis, recirculation is not required.

Local Traffic Impacts and Mitigation

Some commenters assert that there are additional traffic impacts that are not disclosed in the Draft EIR and/or that the EIR should include additional traffic mitigation, such as grade separations.

As discussed in the Master Response 10 (Traffic Analysis), additional analysis of traffic impacts was done in response to comments. That additional analysis did not identify any new or substantially more severe traffic impacts than disclosed in the Draft EIR.

As discussed in the Master Response 10 (Traffic Analysis), grade separations were considered by JPB, but due to their cost and the unavailability of sufficient funding at this time, they are not included in the proposed mitigation for the project effects. Because the mitigation is financially infeasible and has not been added to the EIR, the impacts disclosed in the Draft EIR have not changed and the potential for secondary impacts due to grade separations has not changed. Thus, recirculation is not required.

Freight

Some commenters assert that project impacts on freight operations and secondary environmental impacts due to project changes to freight operations would result in undisclosed impacts not discussed in the Draft EIR.

As described above in the Master Response 11(Freight), there would be no changes in existing freight operations due to changes in operational windows because the project description no longer presumes that temporal separation would be required. Further, the change in project vertical clearances would not affect existing freight operations because all existing freight heights would be accommodated by the Proposed Project. Consequently, there would be no increase in project impacts on freight compared with impacts disclosed in the Draft EIR. Instead, project impacts on freight would be less than disclosed in the Draft EIR, which presumed temporal separation and a limitation in operational windows[26]. Furthermore, with avoidance of changes in freight operational windows, there is no need for further analysis of potential nighttime noise changes due to change in freight operational timing or additional noise impacts. Thus, no new or substantially more severe project impacts on freight (or secondary environmental impacts due to freight changes) than disclosed in the Draft EIR would occur.

Regarding the TRA issues raised by Union Pacific, as discussed above, there is no requirement to change the project description in regards to TRA vertical heights as JPB and Union Pacific can mutually resolve any needed TRA amendment. Thus, no project description changes in vertical clearances regarding the TRA is necessary and no new or substantially severe impacts are identified. Recirculation is not required for this issue.

Tree Removal and OCS/ESZ Specific Mapping

Some commenters requested that specific mapping of tree removals and/or ROW encroachments should be added to the Draft EIR and it be recirculated.

Regarding tree removal and ROW encroachment mapping, the Draft EIR disclosed the impact on trees and ROW at an appropriate level of detail. The Draft EIR provided specific graphics (like Figure 2-8) that the reader could use to determine if their specific property or trees might be affected as well as a detailed tree inventory assessment and general tree canopy mapping (see Appendix F). In addition, residents and owners along the ROW received the Notice of Availability and property owners affected by ROW encroachment received special notices describing potential ROW effects on their property.

More detailed maps of tree impacts and ROW encroachment have been added to the Final EIR (Appendix J), but these maps only amplify and clarify the discussion of project impacts, but don’t result in identification of any new or substantially more severe impacts. As discussed in the Master Response 6 (Visual Aesthetic including Tree Removal), due to project design changes, the tree and ROW encroachments identified in the Final EIR are actually less than disclosed in the Draft EIR.

[26] As discussed in Master Response 11, Freight, Alternative Compliant EMUs would provide equivalent safety to the FRA Tier 1 passenger train safety requirements and thus temporal separation is not assumed to be necessary for the project.

Since the provided maps only amplify and clarify the discussion of project impacts, no new impacts are identified, and the public had ample information in the Draft EIR by which to comment on the project's environmental impacts, no recirculation is required.

OCS Pole Alignment Alternatives

Some commenters also asked for project design pole design/alignments to be analyzed in detail for the entire route in the EIR and it be recirculated.

As discussed above in the Master Response 6 (Visual Aesthetics including Tree Removal), the Draft EIR did consider a 100% center pole alternative which was determined to be infeasible. Mitigation Measure BIO-5 in the Draft EIR already requires Caltrain to complete an alternative pole design/alignment study as part of final design and to implement alternative pole designs/alignments where feasible and where consistent with operational, maintenance, and safety requirements and also to consult with each jurisdiction during design to identify where tree removals can and can't be avoided with project design features.

Thus, completion of final design prior to completion of the EIR is not necessary to either avoid or minimize an identified environmental impact. As discussed above in the Master Response 6 (Visual Aesthetics including Tree Removal), Caltrain completed a preliminary feasibility assessment for 5 test segments which shows that tree removals can be reduced, in some cases substantially, through implementation of Mitigation Measure BIO-5. The feasibility assessment shows that tree impacts would not be worse than disclosed in the Draft EIR and, if anything, should be less.

Since the substantive request of commenters that Caltrain complete an alternative pole design/alignment evaluation and adopt such designs where feasible is already met by the requirements of Mitigation Measure BIO-5 and the preliminary feasibility assessment demonstrates the effectiveness of this measure, there is no need to complete final pole design prior to completing the EIR and thus no need for recirculation.

Cost Analysis

Some commenters asserted that the Draft EIR should have included an updated cost analysis and that it should be recirculated with the updated cost analysis.

While costs are always a public concern for public agency projects, the inclusion of an updated cost analysis is not a mandatory requirement under CEQA. Regardless, the Final EIR includes an updated capital cost analysis given the public interest. An operations and maintenance (O&M) cost estimate for the PCEP is in progress. The specific costs associating with operating and maintaining the rail services and infrastructure analyzed in the PCEP EIR will be influenced by organization and management structure to be further examined and refined through the design-build contractor procurement and vehicle procurement and contract approvals targeted for late 2015.

Inclusion of the updated capital cost analysis in the Final EIR does not result in disclosure of any new or substantially more severe environmental impacts of the PCEP and, thus, recirculation is not required. Because CEQA does not require an updated cost analysis, the provision of the updated O&M cost estimate after the CEQA process is not a CEQA concern.

Proposition 1A Funding/Blended Service Changes due to Court Rulings

Some commenters asserted that court decisions on appeals regarding the high-speed rail project may eliminate the availability of Proposition 1A funding for the project and/or fundamentally change the character of Blended Service or HSR plans for San Jose to San Francisco service such that the project, as proposed, could not proceed and/or the cumulative analysis would need to be revised.

Subsequent to release of the Draft EIR, several important rulings have been issued concerning the high-speed rail project. In one Appellate Court ruling in the *Tos et al v. CHSRA* case concerning Proposition 1A funding, the court ruled that CHSRA did not need to revise its Prop. 1A required funding plan, that the rail authority's finance committee acted properly when it voted to approve the issuance of bonds. The *Tos et al* ruling was appealed to the California Supreme Court which decided to not hear the case and thus the appellate court ruling stands. The courts have yet to rule in the second part of the *Tos et al v. CHSRA* case concerning compliance with Prop, 1A technical requirements regarding service times and other requirements.

In another Appellate Court ruling, *Atherton et al vs. CHSRA*, the court ruled that the Program EIR for the Bay Area to Central Valley route was adequate in regards to several specific alleged inadequacies by plaintiffs in regard to alternative consideration, site-specific horizontal alignments, and revenue and ridership models. This ruling was not appealed to the California Supreme Court.

At this time there are no legal rulings that prevent the use of Prop. 1A funds for the PCEP or Blended Service on the San Francisco Peninsula. Thus, there is no need to revise the project description or the cumulative analysis due to any changes resultant from the recent court rulings.

Non-Electrification Alternatives

Some commenters, like the Town of Atherton, assert that the Draft EIR did not consider non-electrification alternatives and that the EIR should be revised to include such analysis and recirculated. As noted above in the Master Response 2 (Alternatives), the Draft EIR did analyze two non-electrification alternatives, the DMU Alternative and the Dual-Mode Multiple Unit (Dual Mode MU) Alternative, thus this comment does not require recirculation.

Commenters on the Draft EIR assert that a Tier 4 Diesel Locomotive Alternative would have similar air quality and greenhouse gas benefits as the Proposed Project, but would avoid the project impacts associated with the OCS and tree removals. In response to other comments, the Final EIR analyzes this alternative. This alternative was not analyzed in the Draft EIR because it would not meet several of the project objectives including lower operational fuel costs, lowering engine noise, and providing electrical infrastructure compatible with high-speed rail.

The Draft EIR already assumed Tier 4 emissions requirements[27] for the DMU and the Dual-Mode MU alternatives and thus the addition of a Tier 4 Diesel Locomotive Alternative does not substantially change the EIR conclusions relative to air quality impacts of alternatives.

As explained above in the Master Response 2 (Alternatives) and in the revised Chapter 5, *Alternatives*, the Draft EIR already included two feasible non-electrification alternatives and the new alternative would not have any major environmental advantages over the alternatives already

[27] Tier 4 emissions requirements are for criteria pollutants only like ROG, NOx, and PM10, and include no requirements for control of greenhouse gas emissions.

included. The addition of the Tier 4 Diesel Locomotive Alternative to the Final EIR does not meaningfully expand the range of alternative considered overall. The Dual-Mode MU Alternative is still considered the Environmentally Superior Alternative.

The inclusion of the new alternative in the Final EIR is not substantial new information because it does not reveal anything substantial about the ability to avoid OCS pole and wire aesthetic impacts and tree removal impacts associated with the PCEP compared with the alternative discussion already included in the Draft EIR.

Other Specific Comments on Recirculation

There are several other specific comments asserting that recirculation is required due to asserted inadequacies in the analysis. These comments are addressed in the responses to individual responses. As described therein, none of the requirements triggering recirculation were identified in the responses to these other comments.

JPB Initiated Project Revisions

The JPB also initiated some project revisions, some in response to comments, and some at JPB's initiative only, each of which is reviewed below:

- New TPF Options: the Final EIR includes new traction power facility options as follows:
    - South San Francisco: TPS1, Option 4 on JPB property adjacent to the South San Francisco Caltrain station was added at the request of the City of South San Francisco due to concerns about TPS1, Option 3 where a current hotel proposal application is under evaluation. This option would avoid any potential conflict with land use designations or current uses of the other three TPS1 sites.
    - Burlingame: PS3, Option 2, on the east side of the ROW on JPB owned property opposite PS3, Option 1 was added at the request of the City of Burlingame to move the facility further from residences on California Drive. This site would have less impact on views from residential areas.
    - San Mateo: PS4, Option 3, in the Caltrain parking lot immediately south of Hillsdale Blvd. was added at the request of the City of San Mateo to avoid potential future impacts on the mixed use proposed as part of the Hillsdale Station Area Plan.
    - Redwood City: SWS1, Option 2, on Samtrans-owned property adjacent to Orchard Hardware and Costco was added at the request of San Mateo County due to concerns about a planned mixed use area adjacent to SWS1, Option 1.
    - Palo Alto: PS5, Option 1b, on the east side of the ROW on JPB-owned property just south of the Alma St. intersection with Ferne Avenue was added at the request of the City of Palo due to concerns about PS5, Option 1 located adjacent the intersection of Alma St. and Greenmeadow Way.
    - Each of these sites were reviewed in the field for biological and cultural resources and evaluated for all subjects in the Final EIR.
    - None of the sites would have new significant or substantially more severe impacts than the other TPF options included in the Draft EIR. Given their commercial/industrial settings no

new significant impacts would occur at these locations with implementation of project mitigation.

- ○ As a result, recirculation is not triggered.

- No temporal separation
  - ○ As explained in the Master Response 11 (Freight), above, the project description has been changed to not presume temporal separation would be required for the PCEP. Because the new EMUs would provide an equivalent level of crashworthiness as current safety requirements for FRA-Compliant passenger equipment, the PCEP would not result in a decrease in safety relative to existing conditions. Consequently, the change in the project description would not result in a new significant impact or a substantially more severe impact.
- Vertical clearance information
  - ○ Several commenters requested that specific information concerning vertical clearances with the project in constrained areas (like tunnels and bridges) should be added to the EIR. Tables showing the vertical clearance under project conditions and project impacts and a separate table showing the cumulative impact analysis have been added to the EIR pursuant to these comments. The addition of this detail only amplifies and clarifies the impact analysis in the Draft EIR and no new significant or substantially more severe impacts are identified due to inclusion of this information.
- Not electrifying MT-1
  - ○ As explained in Master Response 11 (Freight), above, the project description has been changed to not include electrification of MT-1. Caltrain operations would be similarly reliable as with electrification of MT-1, with implementation of the South Terminal Area, Phase III project, and thus would deliver the same ridership benefits as the project. The Phase III project was previously environmentally cleared under CEQA and approved by Caltrain and planned for implementation with or without electrification[28]. Not using MT-1 would not result in use of tracks that would not already be used and thus this change would not result in changes in noise impacts of the project. Thus, eliminating electrification of MT-1 would not result in new significant impacts or any substantially more severe impacts.
- Project variants
  - ○ As noted in revisions in the Final EIR, Caltrain has identified a number of variants that might be employed to lower project costs including the following:
    - Electrifying to just south of the Tamien Station, deferring electrification of the CP Michael yard, and moving paralleling station PS-7 to one of two locations adjacent to Alma Street.
    - Deferral of electrification of storage tracks at the San Francisco 4th and King Station.
    - Electric locomotives may be used instead of EMUs for backup train sets.
    - Combining guy wires and OCS pole foundations.

[28] CEQA clearance has been completed. NEPA clearance is expected in early 2015.

- ○ As described in revisions to the Final EIR, the project variants would not result in any new significant or substantially more severe significant impacts than disclosed for the Proposed Project and thus recirculation is not required.

3.2 Individual Responses

3.2.1 Responses to Comment Letter S1

S1-1

The JPB will work the CPUC and other railroads with operating rights on the Proposed Project corridor to ensure that the automatic warning devices functions in a safe manner. In addition, CBOSS PTC (which stands for Communications Based Overly Signal System Positive Train Control) will also improve the efficiency of at-grade crossing warning functions.

S1-2

The current scope of the PCEP is to convert Caltrain from the existing diesel-hauled trains to Electric Multiple Unit (EMU) trains between San Francisco and San Jose. This includes new electrical infrastructure to support these operations and new electrified vehicles to use this infrastructure. The PCEP does not include infrastructure improvements such as grade separation.

Regarding fencing of remaining at-grade sections of the corridor, as discussed in the EIR with the PCEP and CBOSS PTC, there should be an improvement in safety with an improvement in the signal system and the use of higher performance equipment and thus the EIR does not identify fencing as mitigation under CEQA.

The JPB takes note of the comment recommending fencing.

S1-3

<u>The referenced text in Section 3.14 has been revised per the information in this comment.</u>

S1-4

<u>As suggested in the comment, Section 3.14.1.1 *Transportation and Traffic*, in Volume I of this Final EIR, has been revised to include information on CPUC's General Orders 72-B (Construction and Maintenance), 72-D (Warning Device Requirements), and 88-B (Modification of Railroad Crossings).</u> Addition of these requirements does not change any results in the EIR. The PCEP will be built in compliance with all applicable CPUC regulations.

S1-5

As suggested in the comment, CPUC will be involved in testing phase. The PCEP will be built in compliance with all applicable CPUC regulations.

S1-6

Traffic improvements are proposed where feasible in order to mitigate effects from increased Caltrain service. These improvements are proposed both at intersections near grade crossings and at intersections used to access Caltrain stations. Proposed mitigations can be found in Table 3.14-17 in the Final EIR.

Caltrain is also committed to working in cooperation with local agencies and other parties to improve local roadway conditions along Caltrain corridor near at-grade crossings and Caltrain stations where the Project would make an adverse contribution to traffic delays (see Mitigation Measure TRA-1b in Chapter 3.14 of the Final EIR).

A review of the significantly affected intersections identified two locations (7th/16th Street in San Francisco and South B Street/9th Ave. in San Mateo) where with the proposed Draft EIR mitigation there is a possibility of queues backing up to the grade crossing.

Mitigation Measures TRA-1c and TRA-CUMUL-1 have been modified to include pre-emption, pre-signals or queue cutters at these locations to prevent an increase in potential queue back to the grade crossing.

S1-7

Two different options for handling the intersection of the Fillmore-22 ETB OCS and the PCEP OCS at 16th street are described in Mitigation Measure TRA-CUMUL-2 in Section 4 of the EIR.

S1-8

Caltrain currently does not have any vehicular at-grade crossings where the proposed "normal" clearance of 23 feet above the roadway cannot be met.

S1-9

Caltrain currently has 20 roadway at-grade rail crossings with automatic gate arms greater than 32 feet in length. Please see the table below for specific crossings (including list of gate arms with one or both arms longer than 32'.) Although there are gate arms that are longer than 32, and those do not conflict with any existing utilities, the new OCS wires will be inside of the gate arms and therefore there will be no new conflicts with any of the gate arms (including the ones over 32 feet) and the OCS wires. Therefore there is no conflict with existing utilities or with the PCEP OCS.

Table 3-5. Caltrain Corridor At-Grade Crossings with Gate Height more than 32 feet.

Crossing	West Gate Height (ft)	East Gate Height (ft)
16th St.	35	24
Linden	44	35
Scott	30	32
Broadway (Burlingame)	43	42
Peninsula	34	30
Third Ave.	28	38
Fourth Ave.	36	26
Ninth Ave.	38	38
25 Ave.	37	37
Whipple	44	32
Brewster	35	38
Broadway (Redwood City)	32	31
Alma St.	35	38
Churchill	24	33
W. Meadow	33	34
Charleston	34	38
Rengstorff	48	46
Castro St.	28	42
Mary Ave.	25	36
Sunnyvale	30	35

S1-10

The project does not include physical reconfiguration of grade crossings, such as additional lanes, tracks, medians, or crossing gates. There will be ancillary work associated with the project that will require changes to the activation equipment and the existing instrument housings and may require additional instrument housings and underground cables at crossing locations.

S1-11, 12

The San Francisco tunnels and the four bridge overcrossings already have lower clearances than 22 feet 6 inches under existing conditions. The proposed notching and track lowering is in order to ensure that all existing freight equipment can continue to use the tunnels.

CEQA does not require a project to mitigate existing conditions; it only requires a project to mitigate significant impacts over baseline. As such, expansion of the tunnels to 22 feet 6 inches is not required as mitigation under CEQA

S1-13

As discussed in Master Response 11 (Freight), the PCEP will be designed to avoid disruption of any freight signaling or advance warning devices related to EMI from the PCEP power system including the TPFs. Mitigation Measure EMF-2 has been revised to include coordination with Union Pacific during the design phase and monitoring after installation to ensure continued safe operation of freight signaling and advanced warning devices.

S1-14

As explained in Section 3.5, the EMF levels drop off rapidly as one proceeds further from the electrified lines. As discussed in Master Response 11, design of electrified rail systems adjacent to non-electrified and passenger rail systems have successfully addressed the issue of potential EMI with existing signal systems.

Mitigation Measure EMF-2 has been revised to require the JPB will work with Union Pacific, SCVTA and other concerned parties during project design to ensure that signals for other freight or passenger rail facilities are not disrupted by EMI from the PCEP OCS.

S1-15

Mitigation Measure TRA-1c has been modified to note that the JPB will coordinate with the CPUC during the final design phase of the project concerning adjustment of traffic signals adjacent to at-grade crossings as well as road geometry at the listed intersections through the GO 88-B process.

S1-16

Mitigation Measure TRA-3b has been modified to note that the JPB will coordinate with the CPUC during the final design phase of the project concerning signal adjustments at 4th Street / King Street to ensure light rail vehicle operational safety through this intersection.

3.2.2 Responses to Comment Letter S2

S2-1

Comment noted. CHSRA's comments in support of the proposed project are noted. Please see responses to comments S2-2 through S2-7 for concerns raised by CAHSR Authority.

S2-2

Comment noted. CHSRA agrees that a separate environmental impact analysis and documentation will be proposed for improvements not proposed by the PCEP. No revisions to the Draft EIR are necessary.

S2-3

As CHSRA is aware, there is no design for the blended system as present, and thus the location of passing tracks, the design of stations, the location of maintenance facilities, system improvements and any ancillary equipment needed to provide blended service is not known. Further, the track designs to connect the Caltrain Corridor to the grade-separated dedicated HSR tracks south of Santa Clara are not yet resolved. As such, it is premature for the JPB to revise the PCEP OCS or TPF design to take into account the future potential blended service improvements. The 25 kVA OCS system is compatible with future high-speed rail use as well as overhead clearances and overhead line design. That is the limit of PCEP design in terms of compatibility with and as yet undefined blended system design.

The JPB will coordinate with CHSRA during the PCEP and blended service design processes to manage any potential design compatibility issues and to efficiently manage costs where feasible without compromising the PCEP proposed in-service date of 2020. If any changes to the PCEP design are later identified as necessary, the JPB will complete any necessary additional CEQA review of the changes and/or the changes will be analyzed in the blended service separate environmental process as necessary prior to adoption and construction of any such changes.

No revisions to the EIR were made in response to this comment.

S2-4, 5

<u>Table 4-3 and the text in the EIR were updated to disclose potential system upgrades and reconfiguration where needed to increase line speeds up to 110 mph, and the contingency of interim high-speed rail platform improvements at the 4th and King Station, if an interim high-speed rail terminal station is required due to prolonged delay of the Downtown Extension Project. Addition of this new information does not change the results of the blended service cumulative impact analysis except the potential for a modified station platforms.</u>

Construction of an interim high-speed rail terminal within the Caltrain ROW at the 4th and King Station would not overlap in time with the Proposed Project. Potential cumulative environmental impact areas from construction of an interim terminal could include temporary air quality, cultural resources, GHG emissions, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and public services and utilities. The potential impacts from the interim station would occur within a developed area and the individual impacts of this construction, if proposed would be considered in a separate environmental document. These potential impacts would not substantially worsen the Blended Service cumulative impact analysis compared to that disclosed in the Draft EIR.

S2-6

Comment noted.

As a general guiding methodology, the fair-share should be roughly based on the impact contribution of each cumulative project to the change in the level of impact from existing conditions to the cumulatively significant level. If for example, one project were to result in 10 percent of the noise increase at a cumulatively significant impact location compared to existing conditions, then the proponents of that project should be responsible for 10 percent of the cost of mitigation.

As noted in the comment, JPB is committed to working with CHSRA and other rail operators regarding mitigation costs. No revisions to the Draft EIR are necessary.

S2-7

Comment noted. As noted in the comments, JPB is committed to working collaboratively with CHSRA.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.3 Responses to Comment Letter S3

S3-1

The Existing Intersection Delay and Level of Service (LOS) shown in Table 3.14-7 takes into account the vehicle delay incurred during gate-down events for study intersections near at-grade crossings. While longer gate-down times would increase traffic queues, the gate-down times used for the Existing Conditions analyses were based on the gate-down event records collected in the field in 2013. For more information on existing gate down time analysis methodology, see Section 2.6.3.1 of Appendix D to the Final EIR.

S3-2

Under CEQA, mitigation is not required to address existing conditions, only where a project results in a significant impact over baseline. This comment is noted, but it is outside of the scope of the EIR to address deficient existing conditions.

Regarding cumulative impacts, the Draft EIR identified significantly affected intersections due to the project compared to No Project conditions in both 2020 and 2040 and identified feasible mitigation to address identified impacts where available. Both 2020 and 2040 conditions included anticipated area growth. The evaluation of the eight intersections mentioned in this comment is summarized below:

- San Mateo Avenue/San Bruno Avenue (San Bruno): Intersection analyzed in Draft EIR. No significant project impacts identified for 2020 or 2040.
- Broadway/California Street (Burlingame): Intersection analyzed in Draft EIR. No significant project impacts identified for 2020 or 2040.
- Carolan Avenue/Oak Grove Avenue (Burlingame): Intersection analyzed in Draft EIR. Significant project impact for 2020 and 2040. Mitigation is included to signalize the intersection but would not mitigate to less than significant.
- Anita Road/Peninsula Avenue (San Mateo): Intersection analyzed in the Draft EIR and no significant project impacts found for 2020 or 2040.
- Peninsula Avenue/Woodside Way (San Mateo): Because no significant impacts were found at Anita Road and Peninsula Avenue adjacent to the grade crossing, it is unlikely that significant impacts would occur at this intersection which is further from the grade crossing.
- El Camino Real/Ralston Avenue (Belmont): Intersection analyzed in Draft EIR. No significant project impact for 2020, but significant impact identified for 2040. Mitigation is included to restripe the westbound shared through left turn lane into a through lane and to revise signal timing and phasing that would reduce the project impact to less than significant.
- Fair Oaks Lane/Middlefield Road (Atherton): Intersection analyzed in Draft EIR. No significant project impact for 2020, but significant impact identified for 2040. Mitigation is included to signalize the intersection that would reduce the project impact to less than significant.
- Glenwood Avenue/Middlefield Road (Menlo Park): Intersection analyzed in Draft EIR. Significant project impact for 2020, but no significant impact identified for 2040. Mitigation is included to signalize the intersection that would reduce the project impact to less than significant.

As the Draft EIR already analyzed 7 of the 8 intersections appropriately and the traffic study completed is adequate to conclude that the one unanalyzed location would not be significantly affected by the project, no revisions to the EIR are necessary pursuant to this comment.

S3-3

The Draft EIR identified locations where the project would significantly affect local traffic intersection operations and identifies mitigation that the JPB will implement. Since these are JPB responsibilities, the JPB will include them in its financial planning. The mitigation has not been designed and thus the precise costs will be determined during the design process.

Regarding locations where physical mitigation measures cannot or will not improve conditions, these are not considered feasible mitigation under CEQA and thus no contribution can be required of the JPB to implement infeasible mitigation under CEQA. As noted in the EIR, Caltrain is willing to work with local, regional, state, and federal funding partners to implement grade separations along the Caltrain corridor to help address noise and traffic impacts of existing and cumulative train traffic, but cannot make a financial commitment to implement such grade separations on its own, lacking sufficient current funding.

S3-4

Caltrain's 2010 Comprehensive Access Program Policy Statement[29] emphasizes station access by walking, transit, and bicycling over automobile access at most stations. The policy targets different access strategies at different stations based on the station characteristics and access opportunities. For example, the San Francisco 4th and King Station is a transit center where the access priority for autos is the lowest priority after transit, walking and bicycles. Caltrain is committed to working with these jurisdictions to effectively manage parking supply in a way that accommodates parking demand while supports the goals of the Comprehensive Access Program Policy Statement. In addition, Caltrain currently supports existing transportation demand management (TDM) efforts led by local jurisdictions in various ways, including providing discounted passes via the GO Pass program, an employer-subsidized annual fare card, and working with 511 RideMatch at park-and-ride stations. Caltrain would continue to support TDM efforts in the future, working with local jurisdictions to achieve their specific TDM goals.

Since the Draft EIR concludes that parking impacts are not a significant physical impact on the environment, no mitigation for parking is warranted. As noted in the Draft EIR, although less likely, it is possible that Caltrain may not capture 100 percent of the predicted increase in ridership if some of the vehicle-dependent individuals decide to not take the train due to parking shortages or difficulty. However, given the levels of deficits which are focused at a limited number of stations, this is not expected to substantially reduce the overall level of ridership.

The discussion above is relevant to Caltrain's ongoing efforts related to access, including parking, separate from the PCEP.

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[29] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http://www.caltrain.com/Assets/_Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

S3-5

The intersections of Broadway / Rollins Road and Rollins Road / Cadillac Way-US 101 Southbound Ramps were added to the list of study intersections for the Final EIR. These two intersections will be modified in the future as part of the US 101 / Broadway Interchange Reconstruction Project. The 2020 and 2040 analyses of these intersections incorporate improvements (i.e., the realignment of Broadway and modification to the US 101 southbound ramps) planned as part of the US 101 / Broadway Interchange Reconstruction Project. In the updated traffic analysis, no new traffic impacts were identified at these additional study intersections. For updated information on the traffic operations at these two intersections, see Section 3.14 of the Final EIR.

For more information on grade separation considerations, see Master Response 10 (Traffic Analysis).

S3-6

When the gate is down at the intersection of Central Expressway and Rengstorff Avenue, northbound-left turn and southbound right-turn traffic waits in queue. Traffic traveling eastbound and westbound is stopped until the train has passed and the gate arms are up. While the gate is down, the eastbound and westbound movements, as well as the northbound left-turn and southbound right-turn movements, incur more delay and experience longer queues because the movements cannot be served. The table below shows the delay for the northbound left-turn, southbound-right turn, and the average intersection delay for the Existing Conditions and future scenarios. As shown from the table below, the southbound right-turn delays are typically lower than the overall intersection delays, but the northbound left-turn delays are typically greater than the overall intersection delays except in the PM peak hours under the 2040 No Project and 2040 Project scenarios. Additional intersection delay information can be found in Appendix D, Attachment H of the Final EIR.

The intersection of Alma Street / Oregon Expressway is an uncontrolled intersection with free-right turn ramps, Oregon Expressway is grade separated, and the intersection is not close to the California St. (by roadway access) and thus it was not selected as a study intersection because it is not likely to be substantially affected by the project.

For more information on how study intersections were selected, please see Section 2.6.4 of Appendix D of the Final EIR.

Table 3-6. Central Expressway and Rengstorff Avenue Delays

	Scenario				
Movement	Existing	2020 No Project	2020 Project	2040 No Project	2040 Project
Northbound Left-Turn Delay	87.5 (>120)	>120 (>120)	>120 (>120)	>120 (>120)	>120 (87.3)
Southbound Right-Turn Delay	41.6 (38.7)	39.1 (61.1)	48.2 (74.9)	107.4 (>120)	78.8 (>120)
Overall Intersection Delay	75.5 (90.9)	>120 (>120)	>120 (>120)	>120 (>120)	>120 (>120)

Notes:
AM Peak Hour Delay (PM Peak Hour Delay)
Source: Appendix D, Attachment H

S3-7

As per Mitigation Measure TRA-1a, Caltrain would coordinate with local jurisdictions to develop a Traffic Control Plan (TCP) to mitigate construction impacts. Potential mitigation measures may include limiting the time frame of closures as much as possible and making use of alternative traffic routings. Advance notice of all construction-related street closures, durations, and detours would be provided to local jurisdictions and motorists. If necessary, a Maintenance of Traffic Plan and / or a Traffic Management Plan would be established in accordance with Caltrans' *Manual on Uniform Traffic Control Devices.*[30] These plans would be reviewed by Caltrans in advance of implementation.

S3-8

Comment noted. In Table 2-6 of the Draft EIR, it is noted that the JPB will seek an encroachment permit and submit a traffic control plan for overbridge barriers with State right-of-way. Therefore, as requested in the comment, design of overbridge barriers with State right-of-way will be coordinated with Caltrans. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

S3-9

As noted in the prior response, the JPB will work with Caltrans during design and the encroachment permit process to address technical concerns.

S3-10

Support attachments may be necessary at some undercrossings. If any are required for Caltrans facilities, the JPB will work Caltrans during design and the encroachment permit process to address technical concerns.

S3-11

As described in Section 3.13 in the Draft EIR, there are some overhead utility lines that will be required to be relocated. However, based on designs to date, there is no need to relocate any other overhead structures, including at U.S. 101 at Sierra Point Parkway.

S3-12

The JPB (and/or the Design-Build Contractor) will coordinate with Caltrans during development of the construction vibration plan required as part of Mitigation Measure NOI-2a in regards to construction vibration near Caltrans facilities. This has been revised in the EIR.

S3-13

The JPB (and/or the Design-Build Contractor) will coordinate with Caltrans during design of any project-required track lowering that may occur in or near Caltrans facilities. This has been revised in the EIR.

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30 "*California Manual on Uniform Traffic Control Devices.*" Caltrans. 2012. <http://www.dot.ca.gov/hq/traffops/engineering mutcd/index.htm>

S3-14

Comment noted. JPB will coordinate with Caltrans regarding utility work in the vicinity of its facilities.

S3-15

Comment noted. The lead agency will prepare and adopt a Mitigation Monitoring and Reporting Program that will include information on scheduling, implementation and reporting responsibilities.

The Draft EIR identified locations where the project would significantly affect local traffic intersection operations relative to No Project Conditions and identifies mitigation that the JPB will implement. The traffic mitigation identified in the EIR is entirely Caltrain's responsibility and thus it is not done on a fair-share basis. Since these are JPB responsibilities, the JPB will include them in its financial planning. The traffic mitigation has not been designed and thus the precise costs will be determined during the design process.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

S3-16

Please see response to Comment S3-7.

S3-17

Comment noted. Construction activities would predominantly occur within Caltrain's existing ROW which has been previously disturbed. Extensive background research and documentation has been conducted for this Project, dating back to 1999. Since then, as the Project has been refined and modified, additional record searches have been conducted, in 2001 and 2008, both by Far Western Anthropological Research Group, Inc. (Far Western). No new archaeological sites have been identified in the project area since 2008.

No new records search was conducted for this EIR because the 2013 Proposed Project updates did not include any new parcels beyond those covered in the 2008 supplemental records search conducted by Far Western. Mitigation Measure CUL-2 a through f would apply to all uncovered sites.

An updated records search will be done as part of the Section 106 consultation process being conducted through the FTA along with updating of other Section 106 documentation. As appropriate, documentation of the 106 consultation will be provided to Caltrans as relative to encroachment permits for work within Caltrans ROW and facilities.

Regarding NEPA, the previously approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) under NEPA was determined to be valid for the Proposed Project by FTA (federal lead agency). All NEPA determinations are up to the FTA, not Caltrain. This does not concern the EIR, which is done in accordance with CEQA, not NEPA.

S3-18

Per Mitigation Measure TRA-1a, Caltrain would coordinate with local jurisdictions to develop a Traffic Control Plan (TCP) to mitigate potential construction impacts. If the Project is approved, the Traffic Control Plan would be part of a later phase of the Project and would be prepared in accordance with the Caltrans' *Manual on Uniform Traffic Control Devices*.[31] In addition, the necessary transportation permits would be acquired. Details would be determined as part of the final design phase of the Project.

S3-19

Comment noted. In Table 2-6 of the Draft EIR, it is noted that the lead agency with seek an encroachment permit for actions within State right-of-way. Therefore, as requested in the comment, an encroachment permit will be sought from Caltrans. The encroachment permit guidelines provided in the comment are appreciated and will be adhered to. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.4 Responses to Comment Letter S4

S4-1

Comment from State Clearinghouse stating that no state agencies have submitted comments through the clearinghouse is noted.

S4-2

Comment from State Clearinghouse provides a late comment submitted by California Public Utilities Commission. CPUC's comment letter is provided as Comment Letter S1 in this Final EIR.

3.2.5 Responses to Comment Letter R1

R1-1

As described in the Draft EIR (see page 2-5), clearances for maintenance and operation of the OCS would be designed to allow for existing freight railroad and tenant passenger rail clearances and operations. Normal design clearances up to 23 feet would be provided in all open, unconstrained areas. Special designs could be employed in close clearance tunnels or under bridges in order to provide sufficient clearances to existing freight and diesel passenger trains. As described in Chapter 2, *Project Description*, the Proposed Project will protect the existing railroad signal system, the grade crossing system, and the Positive Train Control system from electromagnetic interference (EMI) created by the 25 kilovolt (kV) alternating current (AC) system by:

- designing the catenary system using proven solutions that minimize the effect of EMI;
- providing sufficient shielding for electronic equipment;
- installing specialized components, such as filters, capacitors, and inductors; and
- ensuring that the electric vehicles are designed with a frequency that does not interfere with the frequency of the grade crossing warning system.

Refer to Impact EMF-2 in Chapter 3.5 of the EIR for information regarding electromagnetic interference.

[31] "*California Manual on Uniform Traffic Control Devices.*" Caltrans. 2012. <http://www.dot.ca.gov/hq/traffops/engineering mutcd/index.htm>

R1-2

Existing commuter train services along the Project corridor, and their associated facilities, will not be adversely affected during PCEP operations. Any construction activities and potential temporary disruption to routine activities will be coordinated with all other train operators per Mitigation Measure TRA-1b.

R1-3

The existing agreements for operation of Capitol Corridor trains and attendant use of station facilities will be honored and maintained. There will be no change in existing platforms with the PCEP.

R1-4

The Project will not impede any of Capitol Corridor's future expansion plans.

3.2.6 Responses to Comment Letter R2

R2-1

As identified in a letter sent to SCVWD on or about March 6, 2014, the potential encroachment on SCVWD property is for the ESZ. No OCS poles or wires are proposed on SCVWD property. The ESZ would restrict vegetation (other than ground cover) within 10 feet and structures within 6 feet of energized elements.

As to equipment work within the ESZ, truck access should not be affected. Calabazas Creek near the ROW can be readily accessed from Agate Drive. The OCS and ESZ will not block access from adjacent roads for vehicles and equipment to reach the portions of Calabazas Creek or San Tomas Aquino Creek adjacent to the JPB ROW. Use of overhead cranes may be constrained underneath the OCS itself (which will be within the JPB ROW at these two creeks), but work within the ESZ in proximity but not immediately adjacent to the OCS can likely be conducted provided adequate safety margins and procedures are followed. The JPB will work with SCVWD during the easement acquisition process to define the limits of allowable equipment and activities to facilitate SCVWD access and maintenance while maintaining electrical safety.

R2-2

The City of Santa Clara released a final Creek Trail Network Expansion Feasibility Study for the Calabazas Creek, Saratoga Creek, and Hetch Hetchy Corridor in November 2013. According to the Study, the Calabazas Creek Trail would require an engineered structure to support a full grade-separated trail alignment. As described on page 46 of the Study, the preliminary crossing solution is a tunnel along the east bank of the creek passing beneath the 80-foot-wide Caltrain corridor. The tunnel would reach grade within the existing UPRR lands and extend at grade over the top of the box culvert to the west bank of the creek. This solution affords a short tunnel and takes advantage of the existing box culvert structure to cross from the east bank to the west bank.

As stated on page 47 of the Study, a trail overpass was also considered for this area. However, this crossing solution was not developed because the land to the south of the Caltrain corridor is residential. Under existing conditions (without the Proposed Project), the trail overpass spanning the Caltrain corridor would need to provide 26 feet of clearance from the tracks. Therefore, a structure this tall would be a significant impact on the adjacent residences and implementation of this alternative is unlikely.

The Project does not propose Traction Power Substations, Switching Stations, or Paralleling Stations in the area where the trail, tunnel, and ramps are proposed along Calabazas Creek. Additionally, the proposed OCS (OCS) would be limited to the right-of-way and would not encroach on adjacent properties along the Calabazas Creek trail. Therefore, the construction of the tunnel and the ramps for implementation of the Calabaza Creek Trail would not be impacted by the Proposed Project. This comment is noted, and no revisions to the Draft EIR are necessary.

R2-3

As requested in the comment, JPB will coordinate with SCVWD regarding project construction, ROW needs or facilities that may have the potential to affect SCVWD facilities.

3.2.7 Responses to Comment Letter R3

R3-1

BART's comment in support of the PCEP is noted.

R3-2

Caltrain intends to work with BART staff during design for the OCS in the vicinity of BART facilities. BART's comment in appreciation for Caltrain staff working with BART on ridership issues prior to releasing the Draft EIR is noted.

R3-3

Comment noted. BART's concern regarding installation of OCS poles adjacent to BART ROW is noted. Please see responses to comments R3-4 through R3-21 for responses to specific comments.

R3-4

Table 2-6 has been revised in the EIR to describe responsibilities under the UOM Agreement relevant to the project.

R3-5 to R3-10

Facilities proposed in and adjacent to BART property are limited to OCS poles and wires, as well as overbridge protection on overhead walkways and roadways. There are no traction power facilities or duct banks proposed in or adjacent to BART facilities.

Caltrain provided a letter dated March 4, 2014 to BART identifying the areas of potential OCS encroachment (from just north of Millbrae Station to the Millbrae Avenue crossing) and ESZ encroachment (in San Bruno and Millbrae). Maps showing the OCS pole outer alignment and the ESZ have been added to provide clarification to public and private property owners of potentially affected areas (see Appendix J).

Presently the preliminary engineering documents describe what type of structures will be installed in the area. At present, Caltrain does not expect any major modifications to BART facilities themselves to install OCS poles and wires and overbridge protection. The preliminary engineering is subject to modification for the Design-Build RFP. The final OCS pole and wire configuration will not be developed until the Design Build Team selected is finished with the final design. Therefore final foundation locations and wire alignments cannot be determined at this time. It should not change significantly from the RFP documents and if design criteria changes are required the contractor will need a design variance. If any design changes would result in major modifications to BART facilities, then the JPB would conduct any necessary additional CEQA review.

Regarding access, the known primary track access locations along the ROW and staging areas are listed in Section 2.3.8.2 of those there are several staging areas in San Bruno and Millbrae that are adjacent to BART property, but are located on Caltrain ROW or SamTrans property. Specific access and staging areas adjacent to BART property will be coordinated with BART during final design. If specific access through or under BART's property is needed, the JPB will coordinate with BART to ensure no disruption to BART operations or harm to BART facilities occurs.

R3-11

As the comment describes, the EIR, Section 3.14 does discuss construction impacts, as well as operational impacts due to transit demand and safety. The comment does not describe precisely what operational impacts might occur separate from concerns about transit demand and safety.

Caltrain and BART operate on separate systems and thus there are no operational effects of the PCEP that might disrupt movement and scheduling of BART trains. The commenter might also be thinking about potential EMI effects. EMI effects are addressed separately in Section 3.5. A cross-reference to Section 3.5 discussion of EMI effects to other rail systems, including BART, has been added to Section 3.14.

The commenter might also be thinking about potential operational fire department access to doors located in the wall between the BART and Caltrain tracks, between San Bruno and Millbrae which is addressed in response to Comment R3-19 below.

R3-12

Caltrain has reviewed the proposed locations for the BART facilities between San Jose Diridon Station and the Santa Clara Station and has not identified any conflict between BART's plans and the PCEP.

R3-13

Please see the response to Comments R3-15, 16, and 17 below.

R3-14

Caltrain conducted a prior assessment of the potential impact on the PG&E electrical supply system in 2008 (LTK 2008). The results of the study show that the PG&E transmission and generation system stands up well to the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. It was concluded, that, the PG&E system would accommodate the planned traction power system loads.

This study will be updated to current conditions as part of final design, but as shown in Table 3.13-4, electricity demand in 2012 in Santa Clara/San Mateo counties is actually 5 percent less than in 2008 and thus there is no reason to think that the 2008 report conclusions on reliability will change with the updated study.

R3-15, 16, and 17

As described in Chapter 2, *Project Description*, the Proposed Project will reduce potential EMI effects on existing signal systems by:

- designing the catenary system using proven solutions that minimize the effect of EMI;
- providing sufficient shielding for electronic equipment;
- installing specialized components, such as filters, capacitors, and inductors; and
- ensuring that the electric vehicles are designed with a frequency that does not interfere with the frequency of the grade crossing warning system.

These measures will also help to reduce EMI effects on the BART system.

The dominant magnetic field is the 60 Hz field disclosed in the Draft EIR, with lesser amounts in other frequency ranges. This is demonstrated by field wayside monitoring of passbys by the electrified Acela and regional trains on the 25 kV 60 Hz portion of the NEC, which indicated levels from 5 to 15 meters for different frequency bands as follows: 7.2 to 0.2 mG (2 – 48 Hz), 53.1 to 4.8 mG (48 – 62 Hz), 3.8 to 0.4 mG (62 – 302 Hz), and 1.2 to 0.4 mG (302 – 3,000 Hz) (FRA 2006). There are no proposed traction power facilities (substations, paralleling stations, or switching station located adjacent to BART facilities and thus the concern is with EMF from the OCS and passbys. The field is at its strongest during passbys, so the data above is relevant to this comment.

The PCEP will follow AREMA, IEEE and standards used by AMTRAK on the Northeast Corridor (NEC) for 25 kV 60 Hz electrification. The PCEP will be employing engineering standards and equipment already in place and tested to FRA standards in the same environment as the NEC. The NEC includes several segments of parallel third-rail commuter rail systems, such as the 750 VDC third rail for the Long Island Rail road trains in the East River Tunnels in New York City and the 650 VDC MBTA Orange Line in Boston for 4 miles between Back Bay and Forest Hills, including 8 MBTA orange Line stations (FRA 2003). In Europe, there are several 25 kVA high-speed rail systems running parallel to 1,500 VDC overhead systems such as the HSL-Zuid in the Netherlands.

The steps proposed in designing the equipment/systems to known applicable standards, monitoring the equipment during the factory testing stage to meet those standards and performing final integration testing prior to final commissioning to determine product/system acceptability are prudent.

There are no directly applicable standards in the United States specific to railroad electrification and EMF/EMI impacts and none are specific to intersystem operations. European Standard EN 50121 is a series of documents related to “Railway Applications – Electromagnetic Compatibility” most applicable, however these are also not truly identical given the distribution and grounding aspects between European and North America Power Systems are different.

As quoted in EN50121-1, Article 4 Performance Criteria, it states…"The variety and the diversity of the apparatus within the scope of this set of standards makes it difficult to define precise criteria for the evaluation of the immunity test results. If, as a result of the application of the test defined in this set of standards, the apparatus becomes dangerous our unsafe, the apparatus shall be deemed to have failed the test."

The major system components of railroad signaling/communications and railroad traction power system have been developed over time based upon the manufacturer's product lines, and have successfully operated on the identical power system proposed for Caltrain, namely Amtrak's Northeast Corridor North End Electrification. Through careful system studies and designs in the design stages, comprehensive integration tests in the commissioning stages, close coordination with all concerned parties, any potential incompatibility between the Caltrain electrification system and other systems will be effectively addressed.

Section 3.5 has been revised to disclose additional information on potential EMF levels in other frequency ranges based on monitoring completed for other electrified rail system, to provide further context that there are successfully operating parallel OCS AC and third rail and OCS DC systems, to discuss the specific concerns of BART. In addition, Mitigation Measure EMF-2 has been revised to include the following additional requirements to ensure that significant EMI effects to the BART system are avoided:

- acknowledge that BART as well as other entities and operators, operates sensitive electric equipment in or adjacent to the right-of-way;
- require coordination with BART in addition to the listed entities and operators;
- require testing and evaluation of EMI impacts during Project operation; and
- require shutdown and modification of the Project electric propulsion system to eliminate the impacts, if at any time its operation causes EMF/EMI impacts interfering with signaling, warning devices, train control or other equipment necessary for safe and reliable operation of BART trains in the corridor.

R3-18

Groundwater impacts are analyzed in Impact HYD-2 in Section 3.9, *Hydrology and Water Quality,* of the Draft EIR. During Project construction, shallow groundwater could be encountered during installation of OCS poles (to a depth of 15-20 feet below ground surface) or limited relocation/installation of underground utilities (which are typically to a depth of approximately 3-4 feet). In the event groundwater is encountered during construction, temporary dewatering would be conducted locally. Impacts on groundwater would be limited to areas with high groundwater tables where construction-related dewatering would occur on a temporary, short-time term (during construction) basis.

As stated under Impact HYD-1a, in the event groundwater is encountered during construction, dewatering would be conducted locally, and according to methods described in Mitigation Measure HYD-1. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges provided that dischargers prove the quality of water to be sufficient and not affect beneficial uses. However, the San Francisco Bay Regional Water Board will need to be notified if dewatering will occur and the contractor may be subject to dewatering requirements in addition to what is outlined in the Construction General Permit, including discharge sampling and reporting. These measures would ensure that groundwater impacts during construction would be less than significant. Text was added to the EIR to clarify that potential groundwater intrusion from dewatering is unlikely during project construction.

The Proposed Project would not involve contact or use of groundwater for Project operation and maintenance, and therefore groundwater impacts would be less than significant. Groundwater dewatering is not expected to occur during Project operation. In addition, the underground portions of the OCS poles and utilities would cover a small area (overall and locally) relative to other underground structures, and the foundation would be sealed once the pole is installed, thus removing the potential for intrusion following construction; and thus the OCS poles and utilities are not expected to cause groundwater intrusion into BART facilities from shallow groundwater aquifers. This change is shown in Section 3.9, Hydrology and Water Quality, in Volume I of this Final EIR.

R3-19

As described in Section 3.14.2.3, Impact TRA-5a, impacts to emergency vehicles access during construction would be mitigated through Mitigation Measure TRA-1a. JBP will coordinate with local public works department and local emergency providers in the development of the traffic control plan to specifically address emergency response concerns.

Impacts to emergency vehicles access and response times during operation are discussed in Section 3.14.2.3, Impact TRA-5b, which are considered less than significant. <u>The Proposed Project operation would not affect fire department access through the access doors located in the wall between the BART and Caltrain tracks, between San Bruno and Millbrae. Access for the fire department would be maintained as is currently.</u> <u>This has been noted in the EIR, in Section 3.13.</u>

Requirements and standard procedures for emergency response will be developed as part of the PCEP. Current Caltrain rules and regulations will be modified to include procedures like those contained in AMTRAK's AMT-2 Electrical Operating Instructions (AMTRAK 2005). This document will outline in detail how all abnormal situations are handled with the electrification system. Once these instructions and rules have been developed extensive training will be deployed to employees, first responders (Police, Fire, EMT etc.) adjacent transit agencies (BART, VTA, ACE, CCJPA, Samtrans, AMTRAK, and UPRR) and other agencies and the public. <u>This information has been added to Section 3.13 of the EIR.</u>

R3-20

PCEP construction is not expected to disrupt BART track operations because of the separation between BART tracks and Caltrain tracks, but construction work in and adjacent to the BART ROW will be coordinated with BART including any necessary BART safety monitors. <u>BART considerations have been added to Mitigation Measure TRA-2a.</u>

R3-21

Caltrain will coordinate with BART during design and construction. While disruption to BART service is not expected at this time given that OCS construction is not expected within the operating portion of the BART system, it cannot be entirely ruled out. <u>Mitigation Measure TRA-2a has been revised to include coordination with BART regarding any potential service disruption.</u> If any design changes after completion of the EIR would result in new significant impacts or substantially more severe impacts than disclosed in the EIR, then the JPB would conduct additional environmental review as required under CEQA.

3.2.8 Responses to Comment Letter R4

R4-1

The EIR presents ridership in terms of the number of people that use the Caltrain system daily, instead of by trips. In order to get trips one would nominally need to double the boarding numbers. The same would be required to get the total number of boardings and alightings at a particular station. At the TTC in the 2040 case, the total number of boardings is 8,527 and the total number of boardings and alightings would be 17,054.

The comment does not indicate any inadequacy in the presentation of data in the EIR, which consistently uses the “boardings” approach. The TJPA’s preference for a total number of trips is noted. <u>An explanation of the boardings vs. boardings and alightings has been added to the EIR and Appendix D.</u>

Also see Master Response 4 which provides a summary of the VTA system ridership modeling showing the total of boardings plus alightings for all Caltrain stations (and TTC in the 2040 scenario)

R4-2

See Master Response 4 (Ridership and Capacity).

R4-3

<u>As suggested, the terminology for the future Transbay Program facilities has been revised so that all references are to the Transbay Transit Center (TCC) and the Downtown Extension (DTX). These changes are made in Volume I of this Final EIR.</u>

R4-4

As described in the 9-party MOU between the funding partners, DTX and TTC are part of the blended system for the Peninsula Corridor. TTC is designated by Proposition 1A as the northern terminus of the HSR. The Draft EIR recognizes DTX and TTC as part of the interrelated program of projects. Reference to the “Core Capacity” projects does not include DTX/TTC as these projects are described as not being identified yet, whereas DTX and TTC are already approved projects with environmental clearance and TTC is in construction. <u>The Draft EIR text has been clarified in select locations in the Executive Summary, Chapter 1, Chapter 2, Appendix C, and Appendix D to clarify the role of DTX and TTC in blended service.</u>

R4-5

<u>Reference to the northern terminus for the HSR system have been revised to state TTC, not San Francisco.</u>

R4-6

The DTX is a separate project from the PCEP that will provide electrified service from just south of 4th and King Station to TTC. The PCEP's purpose is to provide electrified service from San Jose to the Fourth and King Station; the PCEP cannot on its own provide service to TTC. The EIR is clear that the PCEP will allow Caltrain to use the DTX (once the DTX is completed) which will help to increase cumulative ridership. <u>Revisions have been made to Chapter 1 to note the opportunity to increase cumulative ridership, but the project's purpose has not been changed.</u>

R4-7

Please see Master Response 4 (Ridership and Capacity) which responds to this comment.

R4-8

<u>The cumulative impact analysis has been revised to clearly note that TTC/DTX is a separate project from blended service.</u> However, both blended service and TTC/DTX are discussed together in relation to cumulative projects in San Francisco because the reader would be highly confused to discuss them separately. The comment itself acknowledges that the TTC/DTX is an integral part of Blended Service.

R4-9

<u>The text was revised to indicate that the DTX is an approximately 1.3-mile extension rather than a 2-mile extension.</u> This change was made in Sections 4.1.3.1 in Volume I and in Appendix D] in Volume III of this Final EIR.

R4-10

The 2004 EIS/EIR for the DTX/TTC project described platform reconfiguration in the project description. TJPA identified in its comment on the PCEP EIR that platform reconfiguration is not part of DTX but has always been assumed to be completed by others. <u>The EIR has been revised to describe that TJPA has clarified that the DTX project does not include platform reconfiguration and that at present there is no funding for platform reconfiguration.</u>

The comment that the blended system does not include HSR service to the Fourth and King terminal is true provided that DTX is completed before HSR service to the San Francisco Peninsula occurs. CHSRA in their comments on the PCEP Draft EIR requested that the JPB include the potential for interim use of the Fourth and King Terminal in the event that DTX is unduly delayed. Thus, there is the potential for HSR interim use of Fourth and King. <u>This detail has been added to the EIR.</u>

R4-11

The PCEP does not include service TTC which is included in TJPA's DTX/TTC project. Cumulatively, once DTX/TTC is completed, then Caltrain will be able to access TTC. As a result platform sharing at TTC is an issue outside the scope of the PCEP and platform sharing at TTC or other HSR stations along the Caltrain Corridor is not an alternative to PCEP.

The JPB is considering level boarding and platform height issues separately from the PCEP. The PCEP neither provides for nor precludes level boarding or potential common platform heights with HSR.

R4-12

The necessary editorial changes have been made to Section 2.4.2.1 of Appendix D to the Final EIR. Section 2.4.2.1 now reflects the most recent progress. "Phase 2 is in planning stages" has been revised to "Phase 2 has completed preliminary engineering and the Transbay Joint Powers Authority (TJPA) is carrying out a supplemental environmental review."

R4-13

The necessary editorial change has been made to Appendix D, Section 3.4.2.1

R4-14

Section 3.14.1.1 has been revised to include the San Francisco Downtown Extension (DTX) as a major project in *Plan Bay Area*. This change is shown in Section 3.14, *Transportation and Traffic*, in Volume I of this Final EIR. Addition of this information does not change the conclusions in the section.

R4-15

The necessary editorial changes have been made to Appendix D to the Final EIR. The legends for figures 2-26, 2-27, 2-28, and 2-29 in Section 2.6.4 of Appendix D have been updated to show both AM and PM.

3.2.9 Responses to Comment Letter R5

R5-1

Capitol Corridor service to San Jose would not be affected by the PCEP because Capitol Corridor diesel trains will be able to run under the OCS wires. Potential extension of Capitol Corridor service to Salinas is also not precluded by the PCEP for the same reason. The JPB holds the commuter passenger rail rights along the Caltrain-owned corridor and thus expansion of commuter rail is subject to JPB review and approval, but this is not affected by the PCEP. Union Pacific holds the intercity rail rights along the Caltrain Corridor and all rail rights on the UPRR Corridor south of Tamien to Gilroy and any expansion of intercity rail use is subject to UPRR approval as appropriate.

3.2.10 Responses to Comment Letter L1

L1-1

CEQA requires that the public review period for draft EIRs that are submitted to the State Clearinghouse be no fewer than 45 days (Section 15105). The public review period for the Project's draft EIR was 60 days, thereby exceeding the 45-day requirement. The CEQA Guidelines state that the public review period for a draft EIR should not be longer than 60 days except under unusual circumstances. The Project's draft EIR was not released to the public under any unusual circumstances. Therefore, the JPB considers the 60-day public review period to be appropriate.

L1-2

See Master Response 1 (Segmentation and Independent Utility).

L1-3

See Master Response 1 (Segmentation and Independent Utility).

L1-4

See Master Response 2 (Alternatives). As explained therein, the comment is incorrect that non-electrification alternatives were not considered.

L1-5

The comment is incorrect that non-electrification alternatives are not analyzed in the Draft EIR. Chapter 5 includes the Draft EIR alternative analysis. Two non-electrification alternatives (the DMU alternative and the Dual-Mode MU alternative) were analyzed in the Draft EIR and a third non-electrification alternative (the Tier 4 Diesel Locomotive Alternative) has been added for the Final EIR. The commenter asserts that CEQA requires a "complete" analysis of such alternatives, by which the commenter appears to mean that CEQA requires that alternatives have to be considered at the same level of detail as the Proposed Project.

The commenter is mistaken. CEQA does not require alternatives to a project to be analyzed in the same detail as the Proposed Project. CEQA Guidelines Section 15126.6 require only that an EIR include "sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project" and the guidelines also allow that "a matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison." The EIR provides much more than a simple matrix comparison (although a table of comparisons is also provided) including quantitative analysis of operational air quality, GHG emissions, and noise as these are critical areas of comparison subject to quantitative analysis based on the available information on alternatives. The level of detail is sufficient for the public and decision-makers to understand the environmental impact tradeoffs between the project and the non-electrification alternatives, which is fundamentally what CEQA requires.

L1-6

The City's opinion regarding aesthetic impacts of the OCS is noted.

The Town of Atherton has been developed around the railroad right of way, and thus, the railroad infrastructure and related facilities have been a part of the Town's aesthetic character since its beginning. The OCS will be part of the railroad right of way and facilities, which have a specific transportation character that will not be fundamentally changed with the addition of the OCS for electrified rail operations.

In addition to dense landscaping and vegetation, OCS poles would also be obscured from view from many public streets and areas by existing development along the project corridor. Overhead utility poles are currently located within and just outside of the project corridor and are not an unprecedented or uncharacteristic visual component in the adjacent communities. Within Atherton, utility poles can be seen in Figure 3.1-8 along Fair Oaks Lane.

Please see Master Response 6 (Visual Aesthetics including Tree Removal) which further discusses the rationale for the EIR's conclusions regarding the significance of aesthetic impacts of the OCS.

The EIR does disclose that tree removal, where not feasible to replace on-site, would result in significant visual aesthetic impacts in sensitive locations along the right of way. <u>The EIR aesthetics analysis has been revised to make the reasons for the significance conclusion clearer and to also assess the impact on views toward the Caltrain ROW from adjacent areas including additional visual simulations which further clarify, but do not alter, the EIR's aesthetic impact conclusions.</u>

Also, as discussed in Master Response 6, the JPB expects that the worst-case impacts of tree removal on aesthetics described in the Draft EIR will be lessened overall with the implementation of Mitigation Measure BIO-5 as shown by the feasibility assessment for test cases including within Atherton where tree removal impacts were lowered through the use of alternative pole designs.

L1-7

The town's comment on aesthetics is noted. However, as described in the prior response and in Master Response 6, the catenary wires and wires are proposed within an existing rail corridor and are consistent with the visual character of a railroad corridor.

Regarding alternatives, as described in Chapter 5, *Alternatives*, the JPB conducted a comprehensive three-step screening analysis to determine if alternatives presented during the scoping period were feasible, whether they would avoid or substantially lower one or more significant impact of the Project, and whether they would meet most of the Project's purpose and need. The Draft EIR considered several alternatives which would not require the use of overhead wires. As discussed in Master Response 2 (Alternatives), induction power is not yet a proven technology for heavy commuter rail. Therefore, the analysis in the Draft EIR is considered sufficient and does not need to be revised in response to this comment. Please see Master Responses 2 (Alternatives), 6 (Visual Aesthetics including Tree Removal) and 12 (Recirculation).

L1-8

As described in Section 3.10, *Land Use and Recreation*, JPB activities within the Caltrain ROW are exempt from local building and zoning codes. There would be no OCS poles located outside of the ROW in the City of Atherton.

Furthermore, the OCS poles within Atherton should be on the order of 30 to 40 feet. The description of 30 to 50 feet within the Draft EIR includes the potential height for headspans, which are only proposed for use in certain areas (CEMOF, San Jose Diridon Station) and are not proposed in Atherton.

See also Master Response 6 (Visual Aesthetics including Tree Removal).

L1-9

Please see the prior responses to Comment L1-6 through L1-8 and Master Response 6 (Visual Aesthetics including Tree Removal).

L1-10

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L1-11

As described in Master Response 6 (Visual Aesthetics including Tree Removal), the use of alternative pole designs should be able to reduce, but not fully avoid, tree removal and pruning effects along the ROW including in Atherton. A feasibility assessment was done for the ROW in Atherton to identify the potential to reduce impacts. Mitigation Measure BIO-5 includes both avoidance and minimization (through pole design options) and replacement (where removal is unavoidable).

As prescribed in Mitigation Measure BIO-5, for trees removed outside of the Caltrain ROW in the Town of Atherton, the JPB will replace protected trees using the local requirements described in Appendix F, Attachment 1. In Atherton, the JPB will replace trees at a 3:1 ratio for protected trees and at a 1:1 ratio for non-protected trees. In accordance with Atherton's Tree Removal Procedures, protected trees will be replaced with three 15-gallon, two 24-inch box, or one 15-gallon and one 36-inch box. Non-protected trees will be replaced with a 15-gallon tree. Protected trees within Caltrain's ROW will be replaced at a 1:1 ratio using 15-gallon trees, where feasible. As prescribed in Mitigation Measure BIO-5, if there is insufficient space for tree replacement within Caltrain's ROW (outside of the ESZ), then tree replacement may occur on other part of the affected property. Alternatively, JPB may pay into a local urban forestry fund to support local tree planting programs. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L1-12

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal, which is an appropriate approach for disclosure of potential impacts under CEQA. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Potential feasible options include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L1-13

Text has been added to Impact AQ-4b in Chapter 3.2, *Air Quality*, to discuss the potential effect of removing existing vegetation on health risk reductions achieved by the project. This change is shown in Chapter 3.2 in Volume I of this Final EIR. See also Master Response 7 (Air Quality and Greenhouse Gas Emissions) on tree removal effects on particulate emissions.

L1-14

Loss of trees as a result of the project is considered significant and unavoidable in the EIR. As described on page 3.3-43 of the Draft EIR (lines 20-27), the JPB is not required to comply with local land use regulations within its ROW or in areas where Caltrain acquires electrical safety easements outside its current ROW. Regardless, where local tree ordinances provide specific replacement ratios and trees are removed outside of the JPB ROW, then the replacement protocol will be to use the local tree ordinance specifics. For removal of trees inside the JPB ROW, Caltrain will be replacing trees on a 1:1 basis.

The inconsistency with the Town's General Plan is noted.

Comments from the Town Arborist are responded to under responses to comments L1-31 through L1-37. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L1-15

See Master Response 7 (Air Quality and Greenhouse Gas Emissions). The USEPA's Tier 4 emissions standards for diesel equipment are focused on reducing criteria pollutant emissions, not GHG emissions and thus the assertion that these locomotives would reduce GHG emissions by 75 to 85 percent is not supported by evidence.

The analysis in the Draft EIR included an assumption of change-out of equipment under the No Project scenario. As explained in Master Response 7 (Air Quality and Greenhouse Gas Emissions), the analysis of air quality and GHG emissions has been updated to assume a specific equipment replacement scenario. While the numbers have changed, the conclusion of the Draft EIR that the PCEP would have substantially lower GHG emissions than No Project conditions and all of the analyzed non-electrification alternatives has not changed.

L1-16

The Draft EIR evaluates both criteria pollutant and GHG emissions associated with increased electricity required to power the electric locomotives. Please refer to Table 3.7-3 in Chapter 3.7, *Greenhouse Gas Emissions and Climate Change*, and Table 3.2-7 in Chapter 3.2, *Air Quality*. See also responses to comments L1-26, O5-50, and I68-17.

The Air Quality and GHG emissions analysis accounted for both the reduction of emissions from replacement of diesel equipment with electrical equipment and the increase in emissions from the increase in electricity. The net effects is a substantial reduction in both criteria pollutant emissions and GHG emissions overall. Thus, this project is more consistent with California's policies promoting sustainability, improved air quality, and energy consumption because it changes the energy use from an energy source with greater impacts (diesel) to an energy source with lesser impacts (electricity).

Regarding non-air quality or GHG effects of increased generation of electricity, the Draft EIR discusses this impact in Section 3.13 (see Impact PSU-9).

L1-17

Construction-generated GHG emissions are evaluated in Impact GHG-1 in the Draft EIR. The analysis considers mobile and stationary construction equipment exhaust, employee haul truck vehicle exhaust, and loss of carbon stock tree removal. Estimated construction emissions associated with the Proposed Project are summarized in Table 3.7-2. Total emissions over the five-year construction period are expected to be 5,216 metric tons (MT) of carbon dioxide equivalents (CO_2e). The majority of these emissions would primarily be the result of carbon stock loss due to tree removal. As discussed on page 3.7-10 of the Draft EIR, GHG benefits achieved through operation of the Proposed Project would offset the short-term construction emissions in far less than one year.

L1-18

See Master Response 8 (Train Noise). The EIR analyzed the net effects of more trains with different (EMU) equipment. Increased horn noise and wheel noise are taken into account in the overall analysis.

L1-19

See Master Response 8 (Train Noise). The wire noise is not a substantial source of train noise.

L1-20

See Master Response 1 (Segmentation and Independent Utility). Cumulative noise analysis of blended service is provided in Chapter 4.

L1-21

System-wide ridership forecasts were developed using the Santa Clara Valley Transportation Authority (VTA) travel demand model and refined through development of a Caltrain-specific Direct Ridership Model (DRM). Fehr & Peers developed a calibration process that adjusted the system-wide model inputs using factors found to be correlated with Caltrain station-level ridership. Attachment C to Appendix D includes detailed information on the development of the DRM used for the PCEP EIR. Detailed results from the DRM are available in Attachment D of Appendix D as well as Section 3.7.1 of Appendix D.

The proposed project is expected to increase Caltrain ridership, and as a result, there would be more individuals driving to and from certain stations. However, at other stations the primary mode of access is forecasted to shift from driving to transit and non-motorized modes, and as a result there would be reduced traffic volumes access routes to those station.

Furthermore, because total system-wide ridership is expected to substantially increase due to the Project, there would be traffic reductions on major arterial roadways and freeways along the Caltrain corridor, such as El Camino Real, SR 84, SR 92, I-280, and US 101. For example, a comparison of 2020 No Project and 2020 Project roadway volumes showed that the AM peak hour traffic on northbound El Camino Real would decrease by as much as three percent near the Atherton and Menlo Park stations. Similarly, a comparison of the roadway volumes showed that the PM peak hour traffic on southbound El Camino Real would decrease by as much as 2.5 percent. In addition to reduced volumes on El Camino Real, local roadways surrounding the Atherton station would also see a reduction in vehicle volumes during the AM and PM peak hours.

For more information on forecast traffic volumes at designated study intersections, as well as the mode of access and mode of egress models developed for the PCEP EIR, see Attachments C and D to Appendix D of the EIR.

L1-22

Table 3.14-15 of the Final EIR presents the Weekday Daily Regional Vehicle Miles Traveled within Each City, 2020 Scenario. This table provides the vehicle miles traveled (VMT) at the city-level. Under 2020 No Project conditions, daily city-level VMT reductions would range from 0.5 to eight percent, and the reduction for all cities combined would be about one percent. In particular, Atherton is expected to see a daily VMT reduction of one percent (104,000 miles under 2020 No Project conditions and 103,000 miles under 2020 Project conditions), which is slightly greater than the average reduction for all cities combined.

L1-23

The overhead electrical lines are not readily accessible from the ground as they will be a minimum of 16 feet overhead and usually 23 feet from the ground. The OCS poles will not have ladders or other means to facilitate climbing. Furthermore, the project design documents will require the provision of "Danger Live Wire" signs at the following locations: every OCS Pole; every grade crossing; every overhead bridge protection location; at all passenger stations and at all traction power facilities (substations, switching station and paralleling stations). As described in the EIR, no overhanging vegetation will be allowed above the wires or within 10 feet of the energized elements. Vegetation could not be used to access the wires either as the ESZ would preclude any vegetation near the wires. Also as explained in the EIR, structures would not be allowed within 6 feet of the wires or to overhang the wires and thus there would not be a simple route of access to the wires themselves.

Thus if vandals want to harm the OCS wires in any way, they would have to not only have to find a way to reach the elevated wires from the ground (or get around the overbridge protection from above), they would have to ignore the serious risk of injury or possible death from contact with the high voltage live wires. These system features and protections are sufficient to protect the system from vandalism.

Regarding birds, there is nothing to prevent birds from alighting on the OCS wires themselves. The OCS poles will not provide sufficient space for nesting, but birds cannot be prevented from landing on the wires. Birds on a single live wire would not be harmed because they would not complete a circuit that would otherwise allow current to flow through their body. The only potential for harm to the OCS system would be in the unlikely event a bird were to contact two wires of different voltage or a live wire and grounded element, in which case the bird could be electrocuted and start a fire on the ground. However, the OCS is not flammable and the ground would be cleared of vegetation under the OCS, so this is not likely to start a fire under the OCS.

Regarding squirrels, the OCS poles are metal with no protuberances and thus unclimbable. With trees removed in proximity to the OCS poles and structures segregated from the OCS system, it will be difficult for a squirrel to actually access the OCS wires. It may be possible for squirrels to climb other infrastructure (such as signal bridges) or to drop from overpasses or bridges onto the wires. If this occurs, given the metal construction of the OCS, squirrels would not expect to affect the system by chewing. Similar to birds, in the unlikely event that a squirrel were to touch a live wire and either a grounded element or another live wire, it could be electrocuted and possibly be set on fire but given the metal construction of the OCS and the lack of vegetation below, this would not be expected to result in a fire that could harm the OCS.

L1-24

As noted in the response to L1-23, the live wires of the OCS will be very difficult for people to easily reach and signage of the live wire dangers will be ubiquitous throughout the system. The overhead bridge protection will help to prevent access from above the OCS at overpasses. The poles are not readily climbable and vegetation and structures will be set back from the OCS. Thus, in order to reach the live wires, one would need to get on top of a train, use a ladder, or scale around the overbridge protection, which is very involved and thus a deterrent to potential suicide attempts.

The suicides that occur along the Caltrain system involve individuals purposefully walking (and in some cases driving) in the path of an oncoming train. The ability to do so at train stations and grade crossings will not be changed with or without electrification. Electrification would be a much more involved method of suicide than walking into an oncoming train and is a much more remote possibility and thus is not expected to increase the potential for suicide along the Caltrain corridor.

Since the EMU equipment is lighter than today's diesel locomotives, it can brake much faster. While braking faster might be able to help in theory, as long as an individual attempting suicide enters the rail tracks immediately before passage of an oncoming train at speed, the potential for suicide will not be avoided.

Caltrain has an ongoing commitment with the local communities to support efforts to prevent suicides along the Caltrain ROW. Caltrain has installed suicide prevention signs along the ROW with a hotline number to a local crisis intervention agency. Caltrain recently launched a special page on its website dedicated to suicide prevention information and outreach. The page, under the rail safety menu, includes a crisis hotline number and links to local, regional and national suicide prevention resources. A list of guidelines developed by mental health professionals that outline the most effective way media to cover suicide also will be available on the website. Caltrain transit police are trained in crisis intervention and provide referrals to treatment with people in danger of harming themselves on Caltrain's ROW. Caltrain will continue to work at providing information and partnering with the community to continue these efforts.

In summary, the PCEP is not expected to increase the potential for suicide along the Caltrain corridor.

L1-25

As stated in Section 3.13, *Public Services and Utilities*, in the Draft EIR (see page 3.13-28, lines 28-32), if new power plants or distribution facilities are required for the cumulative electricity demand, these would be planned by the power production and distribution companies, not by JPB.

Caltrain conducted a prior assessment of the potential impact on the PG&E electrical supply system in 2008 (LTK 2008). The results of the study show that the PG&E transmission and generation system stands up well to the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. It was concluded, that, the PG&E system would accommodate the planned traction power system loads.

This study will be updated to current conditions as part of final design, but as shown in Table 3.13-4, electricity demand in 2012 in Santa Clara/San Mateo counties is actually 5 percent less than in 2008 and thus there is no reason to think that the 2008 report conclusions on reliability will change with the updated study.

As stated on page 3.13-28 (lines 8-11), there are on-going meetings with the PG&E to continue coordinating on the Proposed Project. JPB will submit a formal PG&E application to put the necessary electricity provider agreement in place.

Regarding energy savings, the Draft EIR identified the changes in diesel fuel and electricity consumption and overall savings in terms of BTUs in Table 4-20 compared to existing energy use. The Final EIR updated this analysis and compared Proposed Project energy use to both existing and No Project energy use in Table 4-24 in the Final EIR.

Regarding energy savings in terms of costs, Chapter 5, *Alternatives*, Table 5-4 shows estimates for the change in fuel costs for Caltrain comparing 2020 No Project conditions to 2020 Proposed Project conditions.

L1-26

It is not anticipated that the Project would result in an increase in electrical shortages or rolling blackouts. As described in the Draft EIR (page 3.13-27, lines 20-26), the PG&E transmission and generation system would support the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. No remedial measures to the PG&E system are proposed.

L1-27

Regarding the potential effect of the OCS on the freight signal systems, please see Master Response 11. Caltrain and Union Pacific are in dialogue about the PCEP. Mitigation Measure EMF-2 requires coordination with Union Pacific to ensure that PCEP OCS operation does not result in significant impacts to the Union Pacific signal systems.

L1-28

This comment appears to be referencing potential changes in project improvements if blended service is approved and constructed. The OCS system is being designed to be compatible with HSR use, so the poles and wires do not need to be replaced to serve HSR. Where the segment of passing tracks is to be located, there may or may not need to be relocation of PCEP poles and wires depending on the configuration of the passing tracks. For example, if passing tracks were to be designated where there are already 4 electrified tracks, such as south of the Bayshore Station, new trackage and new (or relocated) OCS poles and wires would likely not be needed. However, if two new tracks were added to an existing two-track system, there may need to be modification of the PCEP OCS poles and wires (such as converting side poles into portals, for example). Similarly, there may need to be OCS changes if separate HSR platforms are built at HSR stations like Millbrae. TPF facilities are set back from the current operating portion of the ROW. If additional passing tracks fit within the operating ROW, there may be no effect to PCEP TPFs located more toward the edge of the ROW, but if new passing track alignments come outside the operating portion of the ROW, any subject TPF facility may require modifications. Because the TPFs have been set at the edge of the ROW, it is less likely that they will require modification, but it remains a possibility. During the blended service design, the JPB will work with CHSRA to minimize effects to the PCEP OCS where feasible.

Blended service has not been designed and the passing track location is not known and other design features are not yet resolved, thus it is speculative to determine specifically what the potential changes to the OCS system or the TPFs might be at this time. This issue would have to be addressed during subsequent design and environmental review for the blended system. If changes are needed, then the environmental impacts of constructing those changes would need to be addressed in the separate environmental review.

L1-29

See Master Response 3 (Use of Proposition 1A Funding).

L1-30

See Master Responses 2 and 12.

L1-31

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please see responses to comments L1-32 through L1-37 for responses to specific comments raised.

L1-32

Recording individual diameters instead of size classes could make the tree survey more accurate in some ways, but identifying a tree as "protected" was a specific parameter collected during field surveys, and was not determined by diameter class. HortScience uses the word "protected", instead of "heritage" throughout the Tree Survey report to include the range in terms used by different jurisdictions to identify trees with special protection. HortScience identified "protected" trees according to the specific trunk diameter specified in each jurisdiction. For instance, in Atherton, Heritage (protected) trees are defined as live oaks, blue oaks, and valley oaks 15.3 inches and greater at 48 inches above grade. Trunk diameter was estimated visually and not measured. All trees were assessed in the field in Atherton (no model predictions); HortScience estimated that 173 heritage trees would be affected by the worst case scenario.

Prior to and during tree work, arborists will be on-site to determine how much pruning each tree can withstand and which trees will require removal. This arborist will have extensive knowledge of species tolerance to such pruning and to assess the potential for sun scald.

L1-33

Prior to and during tree work, arborists will be on-site to determine how much pruning each tree can withstand and which trees will require removal. The pruning standards for PCEP are different from those of utility pruning standards in that Caltrain does not allow any vegetation overhang within the ESZ. PG&E allows branch overhang of utility distribution lines with 10 to 14 feet of clearance.

L1-34

Loss of trees as a result of the project is considered significant after mitigation under CEQA in this EIR. Please see Master Response 6 (Visual Aesthetics including Tree Removal).

L1-35

Refer to page 2-14 for a description of construction hours for pole foundation construction and pole installation. Please also see response to comment L1-12 and Master Response 6 (Visual Aesthetics including Tree Removal) regarding the potential for pole design options to reduce tree impacts.

L1-36

Comment in support of center pole placement is noted. Please see response to comment L1-12 and Master Response 6 (Visual Aesthetics including Tree Removal).

L1-37

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.11 Responses to Comment Letter L2

L2-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L2-2

Mitigation Measure AES-4a has been revised to include construction outreach and a point of contact for residents. This change is shown in Section 3.1.2.3 in Volume I of this Final EIR.

L2-3

The Proposed Project should not affect the operation or maintenance of Belmont Creek at any time during Project construction. Further, any construction activities within Belmont will be coordinated with the City of Belmont.

L2-4

This comment concerns an existing drainage issue along Old County Road that is not related to this project. As described in the Draft EIR (see pages 3.9-24 to 3.9-25), overall drainage patterns in the project area would not be largely altered as part of the Proposed Project. The additional impervious surface areas from the new OCS pole pads would not significantly increase the rate or volume of surface runoff. There would be no traction power facilities in the City of Belmont and no other new impervious areas along the alignment. The Proposed Project would not create any new or exacerbate any existing flooding problems.

L2-5

As described in Master Response 11, freight trains will no longer be required to maintain temporal separation from passenger trains; the existing freight operations will be unchanged. See *Consideration of Mitigation* in Master Response 8 (Train Noise) for response to quiet zones.

L2-6

The modeled receptor locations are shown in Attachment C, Appendix C. Noise tables in Section 3.11 has been updated accordingly to indicate the City in which the study location is noted. This change is shown in Section 3.11 in Volume I of the Final EIR.

L2-7

Based on current design, the OCS will be entirely within the JPB ROW in Belmont, so no ROW acquisition is expected for the OCS. However, there will be a need to acquire easements for the ESZ (ESZ) where it occurs outside the JPB ROW. Based on preliminary engineering, ESZ easements will be needed on a number of commercial properties and a few residential properties in Belmont. In addition, there is one location on public property where an ESZ will be needed near Ralston Ave. Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J for the exact locations where the ESZ is proposed outside of the ROW in Belmont.

L2-8

The current scope of the Peninsula Corridor Electrification Project (PCEP) is to convert Caltrain from the existing diesel-hauled trains to Electric Multiple Unit (EMU) trains between San Francisco and San Jose. This includes new electrical infrastructure to support these operations and new EMUs to use this infrastructure. The PCEP does not include infrastructure improvements such as station modification.

While longer trains would support additional passenger capacity, there are various aspects of Caltrain system and the PCEP that restrict the possibility of using longer trains. One of these is that some stations cannot currently accommodate longer trains because the length of the station platform cannot fit a train with more cars. Currently, trains have five cars and one locomotive. For more detail on Caltrain's existing rolling stock, please see Section 2.3.2 of Appendix D to the Final EIR. A May 2014 presentation by Caltrain ("Longer Trains / Platforms") states that to lengthen trains to eight cars, 18 stations would require platform extensions. These platform extensions would be "challenging" at 12 of the 18 stations, meaning that there are right-of-way considerations or other site constraints that would complicate platform extension. Among these, 12 stations where extensions would be "challenging" are five of the 10 stations with the highest ridership in Caltrain system. In addition to physical constraints, the cost to for making these types of improvements (not including EMU vehicle costs) can range from $1 to 2 million per station or more for platforms alone; at 22nd street there would be additional costs due to constraints related to existing columns and likely additional improvements needed for access. The PCEP does not preclude longer trains/platforms.

Insufficient platform length at most Caltrain stations is a concern also because of the proximity of some of the stations to grade vehicle and pedestrian crossings. With longer trains, trains may extend into the grade crossing when stopped at a station. Addressing this problem could also require costly and extensive infrastructure improvements in order to both relocate the station platform and extend the platform to fit the length of the train. Costs for grade separation improvements could range between $50 to 100 million per location (or more for complex locations).

Regarding bicycle facilities, Caltrain will continue to work with local jurisdictions to implement Caltrain's Bicycle Access and Parking Plan per Mitigation Measure TRA-4b.

Regarding shuttles, the comment is noted but the Draft EIR does not identify a significant environmental impact related to shuttles. Separate from the project, Caltrain will continue to work with local jurisdictions on access improvements for Caltrain stations.

L2-9

The project does not propose any modifications to the crossings along Ralston Avenue and Harbor Boulevard. The project traffic analysis did not identify a significant impact at Ralston and El Camino Real for 2020 but did identify a significant impact for 2040. The proposed mitigation is to restripe the westbound shared through/left turn lane into a through lane and to revise signal timing and phasing to better serve traffic. The JPB will work with the City to implement this mitigation. No modifications are proposed at Harbor Blvd.

L2-10

As described under Impact BIO-5b (see page 3.3-46 of the Draft EIR), routine tree maintenance along the Project corridor would be similar to existing maintenance practices. Please also see Master Response 6 (Visual Aesthetics including Tree Removal) which describes that tree impact maps have been added to the Draft EIR. A Tree Maintenance Plan will be developed as part of Mitigation Measure BIO-5 and this has been added to the measure.

L2-11

As prescribed by Mitigation Measure BIO-5, if tree replacement cannot occur within the Caltrain ROW or on an adjacent property, the JPB will pay into a local urban forestry fund to support local tree planting programs, provided JBP and local municipalities can agree on the appropriate fund and amount. This could include payment into the City of Belmont's tree replacement fund for offsite planting.

Additionally, as prescribed in Mitigation Measure BIO-5, for trees removed outside of the Caltrain ROW in the City of Belmont, the JPB will replace protected trees using the local requirements described in Appendix F, Attachment 1. In Belmont, in accordance with Belmont's Tree Ordinance (Municipal Code Section 25), the JPB will replace trees at a 3:1 ratio for protected trees and at a 1:1 ratio for non-protected trees. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L2-12

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L2-13

Comment noted. Caltrain looks forward to working with the City of Belmont.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.12 Responses to Comment Letter L3

L3-1

Figures ES-1, ES-2, 2-1, and 2-2 have been revised to show the correct location of the San Francisco/San Mateo county line and Bayshore Caltrain Station. These changes are shown in the Executive Summary and Chapter 2, *Project Description*, in Volume I of this Final EIR.

L3-2

Table 2-2 has been revised to show that the Tunnel Avenue overcrossing is a bridge with barriers on both sides. This change is shown in Chapter 2, *Project Description*, in Volume I of this Final EIR.

L3-3

The EIR has been revised concerning staging areas that staging activities will be coordinated with local jurisdictions in advance of operations and that any city permits obtained, if and where necessary.

L3-4

Impact AES-1b has been revised to describe the existing views along Bayshore Boulevard at the Brisbane Lagoon. Although the PCEP OCS will introduce new features into this view that is primarily enjoyed by cars, the new poles and wires will not obscure or block the availability on long range views to the east. Bayshore Boulevard is not a designated scenic roadway and the dominant viewers of this view are motorists oriented north and south for their travel (and thus not facing the eastward view except in passing). The PCEP OCS does not substantially change the transportation corridor visual character of the JPB ROW. For these reasons, the project is not considered to result in a significant impact to views along Bayshore Blvd.

L3-5

The text was revised to show that the City of Brisbane maintains storm drains as well as sewers. This change is shown in Section 3.13.1.2 in Volume I of this Final EIR.

L3-6

Table 3.14-1 and 3.14-4 were corrected to indicate that the Caltrain Bayshore station is in Brisbane. It should be noted that a small portion of the platforms are in San Francisco. This change is shown in Section 3.14.1.2 in Volume I of this Final EIR.

The station is actually partially in both cities and the parking lot and access are actually in San Francisco, not Brisbane. Table 3.14-2 does not mention the Bayshore station.

L3-7

VMT with and without the project for Brisbane have been added to the EIR.

L3-8

Transportation 2035 Change in Motion Appendix 1 lists the project as project reference No. 22227; Geneva Avenue to the US 101/Candlestick Point interchange (includes Caltrain grade separation at Tunnel Avenue and other local street improvements). Chapter 4, Table 4.3, *Other Major Transportation Improvements*, was updated with the Geneva Avenue to US 101/Candlestick Point interchange project. This change is shown in Chapter 4 in Volume I of this Final EIR.

The second project, Candlestick/Highway 101 Interchange Improvement was already included as part of Project 15, Major Highway Improvements on the Peninsula, as shown in Table 4-3 and on page 4-36 in the Draft EIR.

L3-9

The 3700 Bayshore Boulevard (#21) project listed in Table 4-9, *Land Use Development Projects Adjacent to the Caltrain ROW*, was revised to show a 1.3-acre development with 36 condominiums. This change is shown in Chapter 4 in Volume I of this Final EIR.

L3-10

VMT with and without the project for Brisbane have been added to the EIR.

L3-11

Comment noted. Caltrain looks forward to working with the City of Brisbane.

3.2.13 Responses to Comment Letter L4

L4-1

Comment noted. The commenter is correct that this EIR does not provide any clearance for the construction of the HSR Project. High speed rail service will require its own separate environmental review per the requirements of CEQA. See also Master Response 1 (Segmentation and Independent Utility).

L4-2

The Draft EIR discloses that EMI from the OCS could affect sensitive equipment on certain facilities and the Health Diagnostics and Burlingame Police Department facilities are specifically described as sensitive facilities. The EIR has been revised to note potentially sensitive facilities near Trousdale Drive and California Avenue as well.

Regarding pacemakers or other personal medical devices, the EMF levels onboard the EMUs or along the ROW are lower than the identified levels of concerns from the American Council of Industrial Hygienists (ACGIH) for pacemakers and thus no significant effects are expected. This has not been a concern for individuals riding or residing adjacent to electrified rail operations (such as the Acela in the Northeast Corridor) to date. This additional clarification has been added to the EIR.

L4-3

All impacts to geology, soils, and seismicity were determined to be less than significant either with implementation of mitigation measures or prior to implementation of mitigation measures. Erosion impacts are discussed under Impact Geo-2 in Section 3.6, *Geology, Soils, and Seismicity,* of the EIR. The analysis includes a discussion regarding requirements under the Construction General Permit (CGP). The requirements include standard construction Best Management Practices (BMPs) to be implemented under a mandatory construction Storm Water Pollution Prevention Plan (SWPPP). An impact determination of less-than-significant was assigned to the threshold.

Other geologic conditions would be addressed via the California Building Code and implementation of site specific geotechnical recommendations provided in further geotechnical studies. The studies would provide valuable information to be used in the design specifications of TPFs and would help minimize potential geologic impacts to those facilities.

L4-4

All of the topics presented in the comment are addressed in Section 3.9, *Hydrology and Water Quality*, of the EIR. The JPB will ensure that all requirements involving protection of hydrology and water quality will be adhered to during construction and operation of the Project. Please refer to Section 3.9, *Hydrology and Water Quality,* for information regarding CWA Section 401 and Streambed Alteration, CWA Section 402 (NPDES), pesticide permits, the California Climate Action Team, and Coastal flooding and sea level rise. Mitigation Measure HYD-7 requires JPB to adopt and implement a sea level rise vulnerability assessment and adaptation plan and work with other local partners to identify and implement adaptation measures to protect people and structures. No revisions to the Draft EIR are necessary.

L4-5

Any construction activities within Burlingame will be coordinated with the City of Burlingame. The Proposed Project should not affect the operation or maintenance of any channels or creeks that are parallel or perpendicular to the Caltrain ROW.

L4-6, 7, 8

This comment discusses the existing traffic conditions along Broadway in the City of Burlingame, but it does not express a particular concern about the adequacy of the PCEP EIR. Comment is noted.

The Broadway Avenue corridor study intersections from US-101 to California Drive were reanalyzed and have been included in the Final EIR. The updated analysis includes additional intersections at the US-101 interchange and accounts for the upcoming US-101 / Broadway Interchange Reconstruction Project. The additional analysis was conducted for the following surrounding intersections:

- Broadway / California Drive
- Broadway / Carolan Avenue
- Broadway / Rollins Road
- Rollins Road / Cadillac Way

- Broadway / US 101 SB Ramps (Future intersection in US 101 / Broadway Interchange Reconstruction Project)

This updated analysis includes roadway volume and geometry changes associated with the US 101 / Broadway Interchange Reconstruction project. Please see Section 2.6 (Existing Conditions) and Section 3.6 (Future Roadway System) of Appendix D to the Final EIR and Section 3.14 of the Final EIR for updated traffic analysis results at these intersections.

Additional analysis was conducted at the US-101 Southbound / Broadway based on comments received on the Draft EIR. This updated analysis includes roadway volume and geometry changes associated with the US 101 / Broadway Interchange Reconstruction Project.

The results of the additional analysis showed that the 2020 and 2040 Project scenarios would have less than significant impacts at all intersections with mitigation. Two of these intersections required mitigation strategies to make the impact less than significant. These mitigations are described below:

- Broadway / California Drive – 2020 PM scenario
    - Signal timing improvements to this intersection would mitigate the impact.
- Broadway / Carolan Avenue – 2040 AM scenario
    - Signal timing improvements to this intersection would mitigate the impact.
- Broadway / Carolan Avenue – 2040 PM scenario
    - Signal timing and phasing improvements and a northbound right run overlap from Carolan to Broadway at this intersection would mitigate the impact.

This additional analysis has been incorporated into the Final EIR. Please see Appendix D, Section 2.6 (Existing Conditions) and Section 3.6 (Future Roadway System) and Section 3.14 of the Final EIR for updated traffic analysis results at these intersections.

L4-9

The intersection analysis and results for Broadway / California Drive and Broadway / Carolan Avenue have been revised for the Final EIR. The analysis was revised to include the geometry and traffic circulation changes resulting from the US 101 / Broadway Interchange Reconstruction project. Under 2020 conditions, there is only an impact at Broadway / California Drive during the PM peak hour (the Draft EIR indicated an impact during the AM and PM peak hours). However, modification of the signal timing splits reduced the impact to a less-than-significant level. Under 2040 conditions, there are impacts at Broadway / Carolan Avenue during the AM and PM peak hours (the Draft EIR indicated an impact only during the AM peak hour). However, the addition of a northbound right-turn overlap at the intersection of Broadway / Carolan reduced the impacts to less-than-significant levels. While city staff may have already examined signal timing modifications and calculated optimum signal timing and phasing plans, the signal timing modifications proposed in the Final EIR are optimized for future traffic patterns and volumes (2020 and 2040 Project scenarios) rather than for existing traffic patterns and volumes. Additional information regarding the traffic analysis can be found in Appendix D to the Final EIR.

L4-10

All adopted mitigation will be included in the PCEP's Mitigation Monitoring and Reporting Program (MMRP). Detailed design of the proposed intersection and roadway improvements that would be constructed as mitigations would be completed in the Final Design phase of the Peninsula Corridor Electrification Project (PCEP). Caltrain will work in cooperation with local agencies and other parties to develop a phased program with fair share agreements to fund roadway improvements, including the signalization of the Oak Grove Avenue / Carolan Avenue intersection.

L4-11

The process for determining intersections for a full traffic analysis as part of the Peninsula Corridor Electrification Project (PCEP) is described in Section 2.6.4 of Appendix D to the Final EIR. This process is summarized below.

Intersections near the Caltrain right-of-way within the Study Area were selected based on the following criteria:

- Intersection Operations / Level of Service (LOS): Currently operating at LOS D, E, or F during peak hours
- Transit-Oriented Development (TOD): Adjacent to station where significant TOD is planned
- Gate down times: Adjacent to grade crossing where Project would result in substantial change in gate down times
- Intersection Geometry: Unusual geometry and / or signal operations

Intersections that met one or more of these criteria were selected as study intersections for which a full traffic analysis was conducted (Appendix D). In addition to this traffic analysis, over 50 other intersections within the Study Area were considered for inclusion as a study intersection. These intersections were not selected because they are operating at an acceptable level of service (LOS) under existing conditions with no expectation of deterioration in the future. Other intersections that are adjacent to study intersections that either currently operates at LOS E or F or will in the future were not always selected, as some of these intersections are not expected to be impacted by spillover effects such as queuing.

Gate down time for the grade crossings adjacent to the intersections of California Drive / Bayswater Avenue and California Drive / Howard Avenue is detailed in Appendix D. Existing gate down times are provided in Section 2.6.3.1. Gate down times for both 2020 Project and 2020 No Project scenarios are available in Section 3.6.4.1.1. Gate down times for both 2040 Project and 2040 No Project scenarios are available in Section 3.6.4.2.1.

The intersection of California Drive / Bayswater Avenue was added as an additional study intersection in the Final EIR. The results for the existing intersection analysis can be found in Section 2.6.4 of Appendix D, 2020 results can be found in Section 3.6.5.1 of Appendix D, and 2040 results can be found in Section 3.6.5.2 of Appendix D.

The intersection of California Drive / Howard Avenue was not selected as a study intersection. This is due to the reduction in gate down time around this intersection that would occur as a result of the Project based on the analysis using the prototypical schedule in Appendix I in the EIR. This intersection is located adjacent to the Howard Avenue grade crossing and in close proximity to the

North Lane grade crossing. Compared to No Project conditions, the North Lane grade crossing has a reduction in gate down time between 35 and 40 seconds in both the AM and PM peak hours in the 2020 Project scenario. In the 2040 Project scenario, the gate down time is projected decrease by approximately 90 seconds during the AM peak hour and by 150 seconds during the PM peak hour compared to No Project conditions. As a result, automobile traffic delay is expected to decrease at this location as a result of the Project.

L4-12

Attachment C to Appendix D of the Final EIR contains detailed information on the development of the Direct Ridership Model (DRM) and the Mode of Access and Egress models (MOA / MOE). Development of the MOE model is covered in Section 4.1 of Attachment C to Appendix D. The DRM takes into consideration a number of factors and includes a detailed measurement of land use proximity and the availability of local transit and shuttle services and network connections. The MOE was used to directly link the estimates of the modes of egress from Caltrain stations with the modes used by alighting passengers as observed through passenger intercept surveys conducted in June 2013 for the PCEP EIR analysis. For more information on the surveys see Attachment A to Appendix D.

Since some of the parking deficits identified are at stations where providing automobile access is not a priority, provision of additional parking facilities at these stations would conflict with Caltrain's Comprehensive Access Program Policy Statement (2010).[32] Where parking deficits are at auto-oriented stations, provision of additional auto parking would be a priority, subject to feasibility and available funding. The Comprehensive Access Program Policy Statement is used by Caltrain in cooperation with local jurisdictions as part of Caltrain's long-term planning and Capital Improvement Program; however, access improvements are implemented as funding is available. Caltrain also works with local jurisdictions, other transit agencies, and local, state and federal funding partners to fund improvements to access to Caltrain stations via alternatives to automobiles including transit connections, bicycle and walking. Where future investments in these access modes are realized, they would help to reduce some of the excess parking demand. Caltrain is also working with many local jurisdictions concerning transit-oriented developments including exploring shared parking opportunities where appropriate.

A future parking deficit, or the need to find a parking space off-site not at Caltrain station parking lot, while inconvenient, is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circle to find an available space, but it can be expected that most Caltrain passengers would modify their behavior to take into account parking deficits, therefore taking alternative actions. These alternative actions may include parking at a public or private off-site parking lot in proximity to the station or changing their access or egress mode. Some riders may choose not to use Caltrain due the parking deficit at certain stations, while this may result in not achieving 100 percent of the predicted ridership increase, as explained in the EIR, the project would still result in a substantial ridership increase over No Project conditions.

[32] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http://www.caltrain.com/Assets/_Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

L4-13

The commenter is correct. The PCEP would not include the construction of passing tracks. Please also see Master Response 1 (Segmentation and Independent Utility).

L4-14

As stated in Master Response 6 (Visual Aesthetics including Tree Removal), the JPB has prepared PCEP OCS/ESZ/Tree Impact Maps that detail which trees fall within the ESZ, the trees that are outside of Caltrain's ROW, and parcel lines. The map book depicts which trees, in a worst-case scenario, would be removed, trimmed, or left alone by parcel.

There are also visual simulations included in Section 3.1, *Aesthetics* that show before and after images of tree trimming. Specifically, Figure 3.1-5 shows the existing view and a simulated view of the Jules Francard Tree Grove as seen from Oak Grove Avenue. As discussed in Appendix F in Volume III of the Final EIR, between one and three trees along the 0.9-mile extent of the Jules Francard Grove in Burlingame would be removed, and approximately 28 would be pruned (for a total of 31 trees to be affected in the worst-case scenario). The majority of trees in the grove would not be affected by the Project.

As stated in the discussion for Impact BIO-5b, tree maintenance activities would be similar to existing maintenance practices along the Project corridor.

L4-15

Based on the current design, no ROW acquisition is expected in Burlingame. Maps of potential OCS and ESZ encroachment have been added to the EIR and they do not indicate any current areas of encroachment.

Regarding paralleling station PS4, in response to this comment, Caltrain has studied a second option for the PS3 (Option 2), which is located on the east side of the JPB ROW opposite the Draft EIR proposed location on the west side of the JPB ROW (Option 1). While the new location has a number of operational concerns, it is considered technically feasible. Option 2 would have less aesthetic impact than Option 1 as it is farther from residential areas and across the tracks.

If PS3, Option 1 is selected and tree/shrub planting is insufficient to screen the facility from residential views, then Caltrain will consider the use of a vegetated wall/fence at this location. A simulation of a vegetated wall/fence is shown in revised Figure 3.1-12. With mitigation, the aesthetic impacts at this location would be considered less than significant.

If PS3, Option 2 is selected, then the project would not have a significant impact on aesthetics at this location and landscaping mitigation would no longer be warranted on the west side of the JPB ROW. Regarding the opportunity for a dedicated bicycle lane adjacent to California Drive, this is not part of the PCEP and is not required as mitigation for the PCEP and thus does not concern the project or this EIR.

L4-16

See Master Response 8 (Train Noise) for a response on noise issues. As described therein, temporal separation is no longer assumed and thus substantial change in freight operational windows is no longer expected.

L4-17

The draft EIR assumes the use of side poles because it presents an analysis for the worst-case scenario for potential tree impacts and disclosure of potential maximum right of way needs.

Please see Master Response 6 (Visual Aesthetics including Tree Removal) regarding aesthetics and Mitigation Measure BIO-5 including employment of alternative pole designs. Please also see Section 3.3, Cultural Resources in the EIR regarding OCS effects at the historic Burlingame Station. As noted therein, Mitigation Measure CUL-1d has specific OCS design requirements for the Burlingame Station in order to avoid significant impacts to the historic station.

All of the OCS poles in Burlingame would be within the existing ROW.

L4-18

The gate down time analysis for existing conditions is based on the existing Caltrain timetable, which does not include weekday service to the Broadway Station. This timetable can be found in Attachment J to Appendix D of the Final EIR. The gate down time analysis for the 2020 Project scenario uses the 2020 prototypical schedule found in Appendix I, which includes 54 trains stopping at the Broadway Station on weekdays. The gate down time analysis for the 2040 Project scenario uses the 2040 prototypical schedule found in Appendix I, which includes 51 trains stopping at the Broadway Station on weekdays. As a result of this increased service, gate down time increases at the Broadway grade crossing. In the 2020 Project condition, gate down time during the AM and PM peak hours increases by approximately three minutes and 30 seconds over the 2020 No Project conditions. In the 2040 Project condition, gate down time during the AM and PM peak hours increases by approximately one minute and 30 seconds over the 2040 No Project conditions.

Tables showing the changes in gate-down time are located in Appendix D; see Table 2-15 for existing gate-down times: Table 3-2 in Appendix D for a comparison of 2020 gate-down times with and without the project; and Table 3-4 in Appendix D for a comparison of 2040 gate-down times with and without the project.

For more detail on the additional traffic operations analysis performed for the Final EIR, please see the response to Comment L4-8.

L4-19

Gate down times for all grade crossings are detailed in Section 3.6.4 of Appendix D to the Final EIR. Table 3-20 in Appendix D provides a comparison of the change in cumulative gate down times during the AM and PM peak hours for each grade crossing under 2020 conditions. Table 3-22 in Appendix D gives a comparison of the change in cumulative gate down times during the AM and PM peak hours for each grade crossing under 2040 conditions. The gate-down times at grade crossings are factored into the traffic analysis models. As a result, delay associated with a change in gate down time at a grade crossing is accounted for in the levels of service and delay reported for study intersections in Appendix D.

Mitigations for impacts under the 2020 Project scenario are described in Section 3.6.6.1 in Appendix D. Mitigations for impacts under the 2040 Project scenario are described in Section 3.6.6.2 in Appendix D.

L4-20

Gate down times were studied extensively in the PCEP EIR process under existing, 2020 No Project, 2020 Project, 2040 No Project, and 2040 Project conditions. Existing gate down times are available in Section 2.6.3.1 of Appendix D to the Final EIR. 2020 gate down times for both Project and No Project conditions are available in Section 3.6.4.1.1 of Appendix D. Gate down times for both 2040 Project and 2040 No Project conditions are available in Section 3.6.4.2.1 of Appendix D.

As detailed in these sections, compared to Existing Conditions the total 2020 No Project gate down time during the peak hour decreases at some locations due to improvements from the Communications Based Overlay Signal System and Positive Train Control (CBOSS PTC) advanced signal system discussed in Section 2.4.1 of Appendix D. These gate-down times for the grade crossings are factored into the traffic analysis models. CBOSS PTC in included in all 2020 and 2040 No Project and Project scenarios. As a result, delay associated with a change in gate down time at a grade crossing is accounted for in the levels of service and delay reported for study intersections. The gate down times for the Broadway grade crossing under Existing, 2020 No Project, 2020 Project, 2040 No Project, and 2040 Project conditions are shown Appendix D

Also, while the total gate down time during the peak hour increases for some scenarios (e.g., in the AM peak hour between 2020 No Project and 2020 Project conditions), this does not necessarily translate to greater delays. The LOS reported in the Final EIR is based on the average intersection delay and takes into account the delay from all movements. When the gate arms are down, certain movements are prohibited and thus the delay for these movements increases. However, the intersection also dwells in the northbound and southbound movements and reduces the delay for those vehicles. In addition, queues form when the gates down events occur, but the queues do not grow indefinitely. Over time, the queues begin to dissipate and the roadway system recovers.

L4-21

Caltrain is the lead agency for environmentally clearing the PCEP. This EIR would not environmentally clear high-speed rail service in the Peninsula corridor, including any related grade separation efforts. For more information on grade separation considerations relative to traffic impacts of this project, see Master Response 10 (Traffic Analysis).

The California High-Speed Rail Authority (CHSRA) would be the lead agency for a subsequent a separate environmental clearance document at a future time to environmentally clear high-speed rail service in the Peninsula corridor. Regarding grade separations and blended service, that is a matter for the subsequent environmental process.

L4-22

The JPB will require the Design-Build Contractor to prepare an outreach plan describing construction outreach methods, schedule, and actions including advanced coordination with local jurisdictions. The outreach plan will require use of multiple modes of disseminating information about upcoming construction and provide clear contact avenues for information queries from local residents. This is an issue for implementation, but need not be further elaborated in the EIR.

L4-23

The comment is noted. Caltrain will continue to comply with CEQA, as necessary.

3.2.14 Responses to Comment Letter L5

L5-1

Comment noted. See responses to comments L5-2 through L5-29 for responses to each of the City of Menlo Park's concerns.

L5-2

Comment noted. The PCEP would not include an elevated structure, expansion to four tracks, or construction of any passing tracks. Please also see Master Response 1 (Segmentation and Independent Utility).

L5-3

Comment noted. See response to comment L5-2 and L5-4 through L5-29.

L5-4

Comment noted. This comment reiterates information found in the Draft EIR. Refer to responses to comments L5-5 through L5-29.

L5-5

A total of seven intersections within the City of Menlo Park were included in the Draft EIR transportation analysis. Study intersections were identified according to the methodology described in Section 2.6.4 of Appendix D to the Final EIR. Study locations included intersections along Laurel Street, Glenwood Avenue and Oak Grove Avenue. These locations were reviewed by City staff participating in the City/County Staff Coordinating Group (CSCG) meetings on the Caltrain Modernization Program in the Fall of 2013, and no comments were received requesting the analysis examine alternate or additional locations.

For the selected study intersections, existing conditions analysis results are presented in Table 3.14-7 of Appendix D, 2020 conditions are presented in Table 3.14-16, and 2040 conditions are presented in in Table 4-17 of Appendix D.

Based on the above comment, additional analysis was conducted at the following five new intersections and is included in the Final EIR:

- Encinal Avenue & El Camino Real
- Encinal Avenue & Middlefield Road
- Laurel Street & Oak Grove Avenue
- Laurel Street & Glenwood Avenue
- Laurel Street & Encinal Avenue

The additional analysis did not identify any new significant impacts at any of these intersections.

The significance criteria used in the PCEP EIR are described in Section 3.5.6 of Appendix D. These significance criteria were developed by Caltrain and reviewed by local jurisdictions prior to issuance of the Draft EIR. Because the study intersections in the Study Area span multiple cities and counties in the Study Area, the same significance criteria were applied to all intersections. The significance criteria used by Caltrain are generally consistent with the criteria and significance thresholds of significance used by many jurisdictions along Caltrain corridor. As a result, individual transportation impact guidelines specific to a particular city or county in the Study Area were not used in lieu of applying a uniform methodology for all study intersections.

L5-6

The Menlo Park Transportation Impact Analysis Guidelines[33] recommends the use of the VISTRO traffic analysis software program as the City’s preferred analysis methodology, as of January 2014.

Due to the complexity and scope of the Study Area the use of microsimulation analysis software was evaluated and selected as a more comprehensive option for analysis. Microsimulation analysis programs, including the Synchro / SimTraffic and VISSIM programs that were used, provide greater accuracy, are customizable based on local traffic characteristics, and allow for more detailed signal timing and phasing information to be included as input variables. The intersections studied in Menlo Park were modeled using the Synchro / SimTraffic and VISSIM software packages.

VISSIM was used at intersections along Caltrain corridor where there are high levels of congestion, frequent transit service, high automobile volumes, high pedestrian or bicycle volumes, or special traffic signal systems.

The Menlo Park TIA Guidelines recommend that, “The Highway Capacity Manual Special Report 2009 (HCM), latest version shall be used for intersection analysis.” Both the SimTraffic and VISSIM models are consistent with the Highway Capacity Manual (HCM) (Transportation Research Board 2000).

- SimTraffic was used for El Camino Real & Glenwood Avenue, El Camino Real / Oak Grove Avenue, El Camino / Santa Cruz Avenue, Merrill Street / Santa Cruz Avenue, Ravenswood Avenue / Laurel Street, Encinal Avenue / El Camino Real, Encinal Avenue / Middlefield, Laurel Street / Oak Grove, Laurel Street / Glenwood, and Laurel Street / Encinal intersections.
- VISSIM was used for the Ravenswood Avenue / Alma Street, and El Camino Real & Ravenswood Avenue intersections.

L5-7

Section 15064.7 of the CEQA Guidelines grants lead agencies discretion to adopt and apply significance criteria for projects. As a result, the significant criteria used for this Project was developed by Caltrain with input from local jurisdictions. While the criteria may differ from local agencies, it is consistent with the typical traffic level of service (LOS) criteria and significance thresholds used by most jurisdictions along Caltrain corridor.

For this Project, a significant impact to a signalized intersection occurs if the Project results in one of the following conditions:

- The Proposed Project causes an intersection to deteriorate from LOS D or better to LOS E or F conditions, or

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[33] “City of Menlo Park Transportation Impact Analysis Guidelines.” City of Menlo Park. 2014. < http://www.menlopark.org/DocumentCenter/Home/View/302>

- The Proposed Project causes an intersection currently operating at LOS E or F conditions to increase in overall delay by four seconds or more.

The criteria listed above apply to all signalized intersections except where a jurisdiction has adopted criteria permitting higher levels of congestion in certain areas or at certain intersections. More detail regarding transportation significance criteria can be found in Section 3.5.6.1 of Appendix D to the Final EIR.

Based on the significance criteria listed above, El Camino Real / Ravenswood Avenue is not identified as an intersection with an impact. Under the 2020 No Project and Project scenarios, the intersection would operate at an LOS E or F, but the change in delay is 1.4 seconds during the AM peak hour and 1.8 seconds during the PM peak hour. Under the 2040 No Project and Project scenarios the intersection would operate at LOS F, but the change in delay is -21.0 seconds during the AM peak hour and -4.9 seconds during the PM peak hour. Therefore both 2020 and 2040 No Project and Project scenarios the change in delay is less than four seconds during AM and PM peak hours.

L5-8

Other studies have looked at the intersections of El Camino Real and Glenwood Avenue, El Camino Real and Oak Grove Avenue and Ravenswood Avenue and Laurel Street. The Menlo Park El Camino Real / Downtown Specific Plan Final EIR (2012) [1] studied all three of these intersections. El Camino Real and Glenwood Avenue and El Camino Real and Oak Grove Avenue would both operate at LOS D under Existing plus Project conditions and Cumulative Plus Project Conditions. As a result, no mitigation measures were proposed for El Camino Real and Glenwood Avenue and El Camino Real and Oak Grove Avenue. However, Ravenswood Avenue and Laurel Street was found to be a significant impact and the Specific Plan proposed addition of an eastbound right-turn lane as a mitigation measure. This modification would improve the PM peak-hour level of service to LOS D under Cumulative plus Project conditions (2035). The additional eastbound lane would increase the crosswalk distance and duration of pedestrian and bicyclist exposure to motor vehicle traffic. However, the addition of the eastbound right-turn lane would require right-of-way acquisition and tree removal along Ravenswood Avenue, the precise feasibility of which could not be determined until further study was conducted. Because of these constraints and uncertainties, the impact was considered to be significant and unavoidable in the Specific Plan. Given this conclusion in conjunction with the request from the City of Menlo Park to explore secondary impacts at this intersection as identified in the PCEP Draft EIR, further analysis was conducted at this intersection for 2020 Project and 2040 Project conditions.

The SimTraffic model shows that the queues from Ravenswood / Alma and Ravenswood / El Camino Real spill back into the Ravenswood / Laurel intersection. The distance between Ravenswood Avenue / Alma Street and Ravenswood Avenue / Laurel Street is approximately 700 feet. However, the intersection of Ravenswood / El Camino Real was analyzed in VISSIM rather than SimTraffic due to the high levels of existing traffic and complex intersection operations. Upon a detailed review of the VISSIM model results for this intersection, there would not be a secondary impact at Ravenswood and Laurel. The maximum westbound Ravenswood queue (as measured backwards from Alma Street) in the 2020 Project AM VISSIM model is 292 feet on average, with a standard deviation of 77 feet. The VISSIM model results suggest that it is highly unlikely that queues would spill back into Ravenswood / Laurel, with or without the implementation of mitigation measures along the El Camino Real corridor north of Ravenswood. Therefore, the secondary impact at

Ravenswood Avenue and Laurel Street was overestimated in the Draft EIR results. Appendix D and Chapter 3.14 of the Final EIR have been amended to reflect this change.

L5-9

Increased delay and traffic congestion resulting from the Project would cause the greatest impact at at-grade crossings due to an increase in the number of gate-down events. Menlo Park has four at-grade crossings located at Encinal Avenue, Glenwood Avenue, Oak Grove Avenue and Ravenswood Avenue. In the Final EIR, additional analysis was conducted for the at-grade crossing at Encinal Avenue. Therefore, all at-grade crossings in the City of Menlo Park were evaluated as part of the Final EIR. Table 3-20 in Section 3.6.4 of Appendix D to the Final EIR has been updated to show the change in gate down times between 2020 Project and 2020 No Project conditions at these locations. Analysis of gate-down times in the EIR is based on the prototypical schedule in Appendix I in the EIR.

In 2020 and 2040 during the AM peak hour, Ravenswood Avenue is the only crossing that would experience an increase in aggregate peak hour gate down time. As a result, it would be the most likely location where traffic could potentially divert to parallel routes in order to bypass increased delay resulting from the Project. Based on the distance and the speed that cars are allowed to travel through the residential areas it was concluded that it would take approximately the same amount of time to travel to the other nearby crossings as it would to wait for the train to pass. Therefore, it is unlikely that drivers would shift to alternate crossings. However, in order to capture the full effects of the Project, additional intersections were analyzed and added to the Final EIR: Encinal Avenue / Laurel Street, Glenwood Avenue / Laurel Street, and Oak Grove Avenue / Laurel Street. Ravenswood Avenue and Laurel Street were analyzed in the Draft EIR. No impacts were found at any of these intersections and the Final EIR has been updated to reflect the results of the additional analysis conducted for these intersections.

Under 2020 and 2040 Project conditions, during the PM peak hour, both the Glenwood Avenue and Ravenswood Avenue grade crossings would experience increases in aggregate gate down times. While traffic could divert to Oak Grove Avenue or Encinal Avenue, all four of the crossings (Encinal, Glenwood, Oak Grove, and Ravenswood) are within very close proximity to each other. Similar to the AM, any route diversion through the residential area would not provide any time savings, and therefore the Project is not expected to cause additional traffic diversion on local City streets.

L5-10

If the Peninsula Corridor Electrification Project (PCEP) is approved, ridership would increase at Caltrain stations in response to the increased frequency of service. With the change in ridership, a change in mode of access (MOA) to the stations would also occur. The MOA for passengers accessing Menlo Park Station under existing and future conditions for both 2020 and 2040 No Project and Project scenarios are provided below in Appendix D (See Figures 3-20 to Figure 3-23).

It is important to note that the No Project condition does not include weekday service to Atherton whereas the Proposed Project would include weekday service to Atherton and thus ridership at Menlo Park is being affected by the change in service at the neighboring station. In addition, the model also takes into effect the increase in private shuttles assumed for Menlo Park with the growth in employment in the land use assumptions.

The number of people walking or biking to access the station during the AM Peak period will increase over existing conditions (+ 28 to +88 walking and +12 to +53 biking in 2020 and 2040 respectively compared to 2013). The number of people walking or biking for egress from the station during the AM Peak period will decrease compared to existing conditions in 2020 and 2040.

Under 2020 Project AM peak period conditions, there would be virtually no change in the number of people walking or biking for egress from the Menlo Park Station compared to 2020 No Project conditions. Under 2040 Project AM peak period conditions, there would be slight increase in the number of people using bikes (+20) or walking (+74) for egress whose destination is Menlo Park compared to No Project conditions.

The changes in the number of walkers or bikers in the peak period and will be spread over the peak hour to access the 6 trains per peak hour per direction with the Proposed Project which further diminishes the potential effect on capacity. Thus no significant impacts were identified related to access or egress for walkers or bikers at the Menlo Park Station.

For more information about the mode of access / mode of egress model used in this analysis, please see Attachment C of Appendix D to the Final EIR.

L5-11

System-wide ridership forecasts were developed by using the VTA model and refined through development of a Caltrain-specific Direct Ridership Model (DRM). The DRM accounts for factors including walking and bicycling access to stations and number of shuttles serving each station. At Menlo Park, the Project ridership is expected to decrease slightly compared to No Project conditions due to the restoration of service to / from Atherton (54 trains / day) and the increase in high frequency service at Palo Alto (up to 108 trains / day).

Historically, ridership at the Menlo Park station has generally increased since 2005, with a slight drop in ridership in 2010 followed by an increase in 2011. Between 2005 and 2013, ridership growth was slower at the Menlo Park station (34 percent growth) than the system-wide growth rate (41 percent growth) and the growth at the nearby Palo Alto Station (56 percent growth). The Atherton station currently has no weekday service and therefore no weekday ridership. However, as mentioned, service would be restored to this station with the Project, as per the prototypical schedule in Appendix I to the Final EIR.

The VTA model uses ABAG socioeconomic projects which include future increases in population and employment in the area, which would be expected to result in increased ridership at the Menlo Park Station, as well as increased service to nearby stations such as Atherton and Palo Alto. The DRM considered factors such as AM private and public shuttles serving the station, the walkability of the station area, density of uses around the station and whether or not the station is in San Mateo County in refining the VTA model forecasts. The refined model performed very well in predicting existing daily ridership at the Menlo Park Station and predicted existing ridership at the station within 4 percent of actual daily ridership.

The refined model projects slightly lower ridership under 2020 with Project conditions (1,516 daily boardings) versus Existing Conditions (1,526 daily boardings). However, ridership is projected to increase under all other scenarios. Furthermore, peak period ridership is forecasted to increase from Existing Conditions under all future scenarios, including 2020 Project. Walk and bike boardings are also forecast to increase under all future scenarios compared to 2013 Existing Conditions.

Furthermore, while ridership at the Menlo Park Station alone decreased slightly (by just 10 daily boardings) between existing 2013 conditions and 2020 Project conditions, ridership between the Atherton, Menlo Park and Palo Alto stations combined increased between 2013 Existing Conditions (6,995 daily boardings) and 2020 Project conditions (9,707 daily boardings). This may be the result of some ridership shifting from the Menlo Park Station to the Atherton or Palo Alto station. See also Master Response 4 (Ridership and Capacity).

L5-12

This comment does not concern the adequacy of cumulative impact analysis chapter. The City's opposition is to the Middle 3-Track (San Mateo to southern part of Palo Alto) passing track alternative within the City's jurisdiction is noted. No revisions to the Draft EIR are necessary.

L5-13

Comment noted. Poles for the overhead wire system are proposed within the Caltrain ROW within Menlo Park. As the City's grade separation projects are only at the study phase and are not yet adopted or funded, it is not a mitigation requirement of the PCEP to anticipate where such facilities might be placed in the future or to pay for potential OCS relocation.

That said, the JPB will coordinate with the City regarding final design of the OCS and during design of future grade separations to minimize disruption to the OCS and potential costs to the future grade separation project.

L5-14

As described in Section 3.4, *Cultural Resources*, under Mitigation Measure CUL-1d, either center pole/two-track cantilevers or two-track cantilevers from the east side of the platform will be used within 100 feet of the Menlo Park Historic Station structure. Ravenswood Avenue and Oak Grove Avenue are located farther than 100 feet from the historic structure, which is beyond the distance required to address the impact to the historic resource. Thus, the request for a consistent pole design from Ravenswood to Oak Grove Avenue is not required as mitigation for cultural resources. Also, the JPB has committed to consulting with local jurisdiction during the design process and prior to final design regarding OCS arrangements at stations. Mitigation Measure AES-2b has been updated to clarify this commitment. This change is shown in Section 3.1, *Aesthetics*, in Volume I of this Final EIR.

Menlo Park's General Plan Policy 1-H-11 has been added to Section 3.4.1.1. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR.

L5-15

Please refer to Master Response 6 (Visual Aesthetics including Tree Removal). The analysis in the Draft EIR is based on a worst-case pole arrangement scenario (i.e., outside poles) which includes the worst-case scenario for the number of OCS poles and tree removal. As described in Master Response 6 (Visual Aesthetics including Tree Removal), a feasibility assessment was conducted of potential pole alignment options including in Menlo Park and it is expected that tree removal impacts will be less than disclosed in the Draft EIR.

Mitigation Measure BIO-5 already requires coordination with the local jurisdictions concerning pole alignments. Approval authority will remain with the JPB as the lead agency and project proponent.

L5-16, 17

See Master Response 6 concerning assessment of pole alignment options. See Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning particulates and tree removal, and Master Response 8 (Train Noise) concerning noise and tree removal.

Regarding the wildlife corridor portion of the comment, the existing Caltrain ROW, El Camino Real, commercial and residential development, and other roads already fragment the riparian habitat surrounding San Francisquito Creek near the ROW and lower the value of this habitat for wildlife species. The Caltrain ROW itself is not considered a wildlife corridor.

During construction, trees not scheduled for removal will be protected using barrier fencing. This has been added to Mitigation Measure BIO-5.

No revisions to the Draft EIR are necessary.

L5-18, 19

As stated in Master Response 6 (Visual Aesthetics including Tree Removal), the JPB has prepared PCEP OCS/ESZ/Tree Impact Maps that detail which trees fall within the ESZ, the trees that are outside of Caltrain's ROW, and parcel lines. The maps depicts which trees, in a worst-case scenario, would be removed, trimmed, or left alone by parcel. Tree species, health, and size are not included at this time as every tree along the Project corridor has not been surveyed. Tree species health and approximate size for trees within the survey areas are included in Appendix F.

Mitigation Measure BIO-5 includes the preparation of a replanting plan which will include the details of the tree replacement schedule. As required by Mitigation Measure BIO-5, the JPB will consult with jurisdictions along the route during development of the replanting plan, but approval will remain with the JPB as the lead agency. Tree replacements will vary along the Project route.

Refer to the visual simulations (Figures 3.1-3 through 3.1-17) included in Section 3.1, *Aesthetics*, for a visual depiction of how tree removal and pruning would affect views. New visual simulations showing views along view corridors, including two in Menlo Park, have been added to the Final EIR to illustrate the appearance of the OCS from areas within the City not directly adjacent to the JPB ROW. As shown in the new visual simulations, once one moves away from the ROW, the OCS features will start to fade into the background. This reinforces the Draft EIR's conclusion that the effect on visual character is limited to the JPB ROW and the immediately adjacent areas and not to the entire area. No additional mitigation was identified due to the additional analysis provided of local view corridors.

L5-20

The City's disagreement is noted.

Please see Master Response 8 (Train Noise) which explains that the EIR used the standard methodology recommended by the FTA to complete the noise and vibration analysis and also discusses the effect of tree removal on noise.

As discussed in the cumulative analysis in the EIR, quiet zones are one potential mitigation approach to address cumulative impacts (see Mitigation Measure NOI-CUMUL-1 under Impact CUMUL-11 in Chapter 4). Per FRA regulations, local jurisdictions must be the entity to lead the pursuit of a quiet zone. If quiet zones were implemented under Mitigation Measure NOI-CUMUL-1, then the cumulative contributors to train noise increases would be responsible to fund and/or construct the necessary crossing improvements, but the local city or county would have to lead the request for the designation of the quiet zone. The requirements of quiet zones and train horns are explained further in Appendix B of the Caltrain/HSR Blended Grade Crossing & Traffic Study (Caltrain 2013).

The City's support, if quiet zones are ultimately pursued, is acknowledged.

L5-21

Please refer to Master Response 8 (Train Noise) which responds to this issue. As explained therein, the project is no longer expected to require temporal separation and thus no substantial change in freight operational hours and any associated noise is expected to occur due to the PCEP.

L5-22

All property owners with land that would fall within the ESZ were notified with letters mailed between March 5, 2014 and March 10, 2014. An example letter to property owners is included in Appendix J.

Please also refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J. The PCEP OCS/OCS/ESZ Maps show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines. The PCEP OCS/ESZ/Tree Impact Maps also detail which trees fall within the ESZ, the trees that are outside of Caltrain's ROW, and parcel lines.

Within Menlo Park, based on current design, 1 commercial property and 5 residential properties may be affected by the need for ROW acquisition for an ESZ easement. All the owners were notified at the time of the Draft EIR circulation for public comment.

L5-23

Per Mitigation Measure TRA-1a, Caltrain would coordinate with local jurisdictions to develop a Traffic Control Plan (TCP) to mitigate potential construction impacts. Possible mitigation measures that would be incorporated as part of the TCP may include: limiting the time frame of closures as much as possible, providing detailed information about construction activities and upcoming closures, and making use of well-signed alternative traffic routings. Advance notice of all construction-related street closures, durations, and detours would be provided to local jurisdictions and motorists. If necessary, a Maintenance of Traffic Plan (MOT) and / or a Traffic Management Plan would be established as part of the TCP.

The EIR also assesses construction aesthetic, air quality, noise and vibration impacts and proposes mitigation measures accordingly.

Potential temporary economic impacts on business or the City during construction is not a required subject under CEQA as it is not related to a physical impact on the environment. Moreover, the City has not provided any substantial evidence indicating that such temporary economic impacts during construction could result in long-term business closures, blight or urban decay. The EIR has analyzed the relevant physical impacts on the environment associated with construction.

L5-24

Section 3.8, *Hazards and Hazardous Materials*, of the EIR addresses various safety considerations related to installation of OCS pole infrastructure. Seismic safety concerns are addressed in Section 3.6, *Geology, Soils, and Seismicity*, of the EIR. Section 3.6 analyzes possible safety concerns related to installation of OCS poles in areas of unstable, liquefiable and expansive soils during a seismic event.

As described in Chapter 2, *Project Description*, an ESZ (ESZ) will be established within 10 feet of the energized elements of the OCS. Vegetation would be removed within this zone and structures would not be allowed within 6 feet of the energized elements of the OCS. Creation of this zone will ensure that no trees or structures would interfere with the catenary system and will thus minimize the risks of potential fires or other consequences from downed wire events should they occur.

The system is designed to protect employees and the public from voltages caused by faults (i.e., energized wires coming into contact with earth/ground) and to remove power in the affected area. Under design conditions, it is estimated that clearing of the faulted area (e.g., the shutoff of power) should not exceed 10 cycles (0.167 seconds). In the unlikely probability the protection devices fail to detect abnormalities and energized wires come into contact with the earth, there would be arcing and the earth potential is raised and a potential for fire and other damage. This probability is very small and consistent with what you would expect from overhead electrical distribution lines already in service in the area. <u>This information has been added to Section 3.14, under Impact TRA-2c.</u>

Washington to New Haven is a different style OCS system and a fairly aged system. The New England Division of the Northeast Corridor (New Haven to Boston), which is a newer part of the system, generally has one incident per year. This corridor is approximately 150-miles long, or roughly three times the length of the Caltrain Electrification (mostly two-track territory as well).

Regarding grounding of the wires, the OCS must have a live wire over the train track in order to transfer power to the trains in order to operate and thus there is no avoiding having a live wire as part of the OCS.

Regarding potential constraints on property rights, where the OCS is placed on private property, the JPB will acquire the land in fee and thus it will be owned by Caltrain. None of the OCS encroachments are on residential property and none are in Menlo Park. For ESZ easements, vegetation (other than ground cover) will not be allowed within 10 feet and structures will not be allowed within 6 feet of the energized elements of the OCS. Regarding swimming pools, if they are not within the ESZ, there would be no restriction. Based on the Final EIR OCS/ESZ assumptions, no existing swimming pools have been identified with the preliminary ESZ. Where ESZ easements are acquired, future installation of swimming pools may be limited within the easement area in order to provide for electrical safety. The exact requirements for allowable activities within the easement will be established during final design.

L5-25

Regarding a guaranteed level of service to the Menlo Park station, as noted in the Draft EIR, a specific schedule has not yet been developed for 2020. Scheduling must take into account the needs of a changing ridership for the entire system. Locking in specific levels of guaranteed service 5 years in advance, before EMU selection to verify the types of performance possible on the round, and based on today's understanding of ridership needs (instead of that in 2020) would be arbitrary and premature. If the project is approved, the JPB will be operating 6 trains per peak hour per direction as described in the EIR and 22 more trains overall per day. The EMUs will allow the service to make more stops during peak hours than at present and/or provide shorter overall peak hour travel times. Please refer to the prototypical schedules in Appendix I which shows the increased number of stops per station compared to the existing schedule. In all likelihood, this will mean a substantial increase in service stops at the Menlo Park station (as presumed in the prototypical schedule), but it would be unwise for JPB to commit to a specific number of service stops at this time for the reasons noted above. The number of stops primarily affects local traffic impacts, parking and city VMT reduction. The prototypical schedule is considered a sufficient basis by which to estimate PCEP environmental impacts related to these local effects. Other impacts along the ROW (such as OCS aesthetics and tree removal) would not be changed by the specific ridership at Menlo Park as they relate to system infrastructural details.

As to dust generated within increased number of trains, please see discussion in Master Response 7 (Air Quality and Greenhouse Gas Emissions). As discussed therein, the contribution of additional dust from wheel-rail contact, induced wind entrainment, or EMU pantographs is more than offset by the reduction in diesel particulates and particulates associated with vehicle travel.

L5-26

See Master Response 1 (Segmentation and Independent Utility).

L5-27

The text has been revised to accurately reflect the City of Menlo Park's general plan goals pertaining to visual resources. This change is shown in Section 3.1.1.1 in Volume I of this Final EIR.

L5-28

The text has been revised to accurately reflect the correct locations of the Garfield Elementary School and Holbrook-Palmer Park. This change is shown in Section 3.1.1.2 in Volume I of this Final EIR.

L5-29

As stated by the commenter, the Menlo Park El Camino Real/Downtown Specific Plan was adopted in June 2012 and the City's General Plan was adopted in 1994, with amendments adopted in 2013 and updates to begin in 2014. The City is also currently working on the Menlo Park El Camino Corridor Study. This change is shown in Appendix D, Transportation Analysis, in Volume III of this Final EIR. Please note that while the commenter refers to Appendix F, the correct reference is to Appendix D.

3.2.15 Responses to Comment Letter L6

L6-1

Comment noted. Please refer to responses to comments L6-2 though L6-75 to responses to specific comments.

L6-2

All property owners with land that would fall within the ESZ were notified with letters mailed between March 5, 2014 and March 10, 2014**.** An example letter to property owners is included in Appendix J.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, parcel lines, and trees within the ESZ.

L6-3

Although the JPB is exempt from local land use regulations, including tree ordinances, within its ROW and in areas where Caltrain acquires electrical safety easements outside its ROW, the JPB has committed to avoid and/or minimize impacts on trees along the ROW by locating the OCS poles and alignment in such a way to minimize tree removal and pruning while remaining consistent with safety, operations, and maintenance requirements (refer to Mitigation Measure BIO-5). Mitigation BIO-5 provides that trees will be replaced on-site where possible. If on-site tree replacement cannot occur, then tree replacement will occur on other parts of the affected property (with concurrence of the land owner) or other parts of the local area (with concurrence of the local municipality). Alternatively, JPB will pay into a local urban forestry fund to support local tree planting programs, provided JPB and local municipalities can agree on the appropriate fund and amount. Mitigation Measure BIO-5 supports retention and improvement of green space and tree canopy to the extent possible. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L6-4

Please see response to comment L6-3 and Master Response 6 (Visual Aesthetics including Tree Removal).

L6-5

Comment noted. This comment is descriptive only and does not require response.

L6-6

For information about specific tree removals and the OCS location, please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J.

It is not necessary to provide visual simulations of the entire Project corridor within Mountain View in order to adequately disclose the potential visual aesthetic impacts of the project. Section 3.1, *Aesthetics,* of the Draft EIR includes two visual simulations of key locations in the City of Mountain View. Figure 3.1-10 includes a view looking northwest down the Caltrain corridor with the OCS system and the overbridge protection barrier as seen from the San Antonio Station platform. Figure 3.1-11 is a simulation of the San Antonio Caltrain Station as seen from the corner of Showers Drive and Pacchetti Way. Section 3.1 also includes several other simulations of the Caltrain corridor from various locations along the corridor (see Figure 3.1-1 in the Draft EIR) which provides additional context for the project's aesthetic impacts.

Existing Figure 3.1-18 provides a visual simulation of the overbridge protection barrier at San Antonio Road. Figure 2-23 prepared for the Final EIR shows the potential types of materials used for overbridge protection barriers.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L6-7

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the side outer pole arrangement is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by located OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L6-8

As described in the Section 3.1, *Aesthetics*, of the Draft EIR (see page 3.1-2, lines 10-15), JPB activities within the Caltrain ROW are legally exempt from local building and zoning codes and other land use ordinances. Nonetheless, the JPB will cooperate with local government agencies in performing improvements within its ROW and protecting visual quality. Coordination with local cities has been added to Mitigation Measure AES-2b and is already included in Mitigation Measure BIO-5. This change is shown in Section 3.1 in Volume I of this Final EIR.

L6-9

Mitigation Measure AES-2b has been revised to include coordination with cities on design of overbridge protection barriers. This change is shown in Section 3.1.2.3 in Volume I of this Final EIR. Please see Master Response 6 (Visual Aesthetics including Tree Removal) regarding JPB's commitments to minimizing impacts by evaluating local design precedence and coordination with cities. Additionally, new Figure X-X has been added to show the different types of material that could be used for the overbridge protection barrier. This change is shown in Chapter 2 in Volume I of this Final EIR.

L6-10

For information about specific tree removals, please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J. The EIR acknowledges that the loss of trees would substantially affect existing visual character where trees cannot be replanted near the areas they are removed. Under CEQA, this impact would be significant and unavoidable even after mitigation for tree replacement (Mitigation Measure BIO-5). Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

The loss of tree canopy would not have a substantial effect on increasing train noise. Please see Master Response 8 (Train Noise).

Regarding specific impacts in Mountain View, the impacts shown in the Draft EIR are before the application of Mitigation Measure BIO-5. As a result in some locations, impacts should be less than disclosed in the EIR.

L6-11, 12

For information about specific tree removals, please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

Near Rengstorff Park, based on current design the ESZ will be limited to within the JPB ROW and thus tree removal would not occur within the park and would be limited to the rail ROW. Rengstorff Park is separated from the JPB ROW by Crisanto Avenue including trees along the south side of Crisanto Avenue.

L6-13

As prescribed by Mitigation Measure BIO-5, during the design phase, JPB will assess the potential to modify OCS pole alignment and other facility design to avoid and/or minimize the amount of tree removal or pruning necessary consistence with maintenance, operation, and safety requirements. JPB will consult and coordinate with each jurisdiction along the route during the design phase to identify where tree removals can and cannot be avoided with Project design measures.

L6-14

Mitigation Measure BIO-5 requires that protected trees removed outside of the Caltrain ROW be replaced using the local requirements. There is no specific language regarding requirements for the replacement ratio of trees for the City of Mountain View in the referenced part of the City Code in the comment. The only language providing specific tree replacement details in the Mountain View City Code Chapter 32, Article II is as follows:

> 32.35.b.7 (Re: Conditions of Approval for heritage tree removal permit) “Requiring payment of a fee or donation of a boxed tree(s) to the city or other public agency to be used elsewhere in the community should a suitable replacement location of the tree not be possible on-site. The fee for replacement of a tree or trees shall be, at a minimum, based on the cost of a 24" boxed tree of same species, delivered and installed.”

Accordingly, in Tree Inventory and Canopy Assessment, Attachment 1, recommended replacement for trees to be removed by PCEP should be 24” box using the specific found in the Mountain View City Code.

As noted in the Draft EIR, the JPB is not bound by local land use regulations; however Mitigation Measure BIO-5 has included specifics from local tree ordinances where specificity (as opposed to case by case processes) is provided in terms of size or ratios for tree replacement.

See also Master Response 6 (Visual Aesthetics including Tree Removal). No changes to the Draft EIR are required.

L6-15

As stated on page 3.10-12, *Land Use and Recreation*, of the Draft EIR, the Proposed Project would construct OCS poles and wires, which would be included within or adjacent to an existing, active commuter and freight rail corridor. Therefore, their operation would not constitute any new physical or psychological barriers that would divide, disrupt, or isolate neighborhoods, individuals or community focal points in the corridor. Access across the ROW at existing roads and bike paths, including Rengstorff Avenue, would be maintained under the Proposed Project. Although there would be some temporary delays to crossing the ROW during peak hours due to increased gate-down time at select at-grade crossings, including Rengstorff Avenue, the increase in gate-down time during peak hours would not create a new actual physical barrier.

As discussed on page 3.14-46, *Transportation and Traffic*, of the Draft EIR, a traffic delay would not occur in the AM Peak Hour at Rengstorff Avenue; however, a significant traffic delay would occur in the PM Peak Hour. Nonetheless, as stated above, this would be a temporary delay and would not constitute a barrier between the two sides of the Caltrain corridor. Vehicles, bicycles, and pedestrians on the east side of the Caltrain corridor would still be able to access Rengstorff Park, albeit a slight delay in the PM Park Hour. Although the Proposed Project would increase the delay, the Caltrain corridor is an existing barrier and the Proposed Project would not result in a significant change to this existing barrier.

Regarding grade separations, as presented in the Draft EIR, the PCEP does not have adequate funding to provide grade separations as mitigation for traffic or other project impacts. Caltrain will continue to work with local cities to support grade separation efforts where local, regional, state, and federal funding can be secured to implement grade separations.

No revisions to the Draft EIR are necessary.

L6-16

Table 3.10-1, starting on page 3.10-6, in Section 3.10, *Land Use and Recreation*, of the Draft EIR includes the predominant land uses along the Caltrain corridor. This table summarizes the principal land uses and is not intended to include all land uses adjacent to the Caltrain corridor. This land use data is based on GIS mapping by the Metropolitan Transportation Commission (MTC), review of aerials, and site visits. <u>However, per the revisions provided by the commenter in Comment L6-56 (below), Table 3.10-1, under Mountain View, has been edited</u>. This change is shown in Section 3.10, *Land Use and Recreation,* in Volume I of this Final EIR.

L6-17

The Draft EIR analysis included both the effect of increased number of horn soundings at grade crossings and the lowered train noise from the EMUs and concluded that no significant noise increases about FTA thresholds would occur. As shown in Section 3.11, under project 2020 conditions, noise levels at the 4 locations within Mountain View (Locations 37 – 40) would all be slightly lower with the project compared to existing conditions. Thus, the project would not have a significant impact on noise in Mountain View at three out of the 4 study locations.

The Draft EIR cumulative analysis found that with cumulative train traffic increases, there would be a significant impact at all four locations in Mountain View; however, the PCEP would not contribute adversely to these cumulative impacts and thus mitigation at these locations would be the responsibility of others.

See Master Response 8 (Train Noise).

L6-18

The noise study locations in Mt. View are locations 37 to 40. The tables in Section 3.11 and the Noise Technical Report in Appendix C can be referenced for study results for those locations. Tables in the EIR for noise have been updated to indicate which City they are located in.

L6-19

The comment describes the Draft EIR analysis at two locations in Mt. View and makes no comments on the Draft EIR.

Pursuant to other comments, additional analysis was conducted at the Castro Street / Moffett Boulevard and Rengstorff Avenue intersections in the Final EIR. The intersection analysis for these locations was updated in order to incorporate the new signal timing and phasing operations as a result of Caltrain Signal Preemption Improvement Project (completed in 2013). The results of this analysis can also be found in Appendix D to the Final EIR. This additional analysis did not result in any new significant impacts being identified in the Draft EIR.

The existing intersection analysis results are included in Section 2.6.4 of Appendix D to the Final EIR. For the 2020 No Project and Project scenarios, the results are located in Section 3.6.5.1.2 of Appendix D to the Final EIR. For the 2040 No Project and Project scenarios, the results are located in Section 3.6.5.2.2 of Appendix D of the Final EIR.

L6-20

Concerns about future automobile traffic and delay around the Mountain View Caltrain Station are noted.

Regarding economic impacts, this is beyond the scope of CEQA. While delay will be inconvenient to people accessing downtown, it is not likely to significantly affect the economic vitality of downtown businesses and thus no potential for blighted conditions and any physical impacts would occur due to increased traffic delay is identified.

As described in the EIR, feasible mitigation measures at the Central Expressway/Moffett Blvd/Castro Street intersection were not identified. Grade separation is likely the only mitigation able to address impacts at this location and the Draft EIR described that this is financially infeasible for the JPB. As described in the Draft EIR, Caltrain has worked in the past and will continue in the future to work with local communities to implement grade separation projects where local, regional, state and federal funding can be secured, but cannot make that commitment as mitigation for this project due to funding limitations at this time.

L6-21

Transit and shuttle systems would be subject to the same delays as single occupancy vehicles around the downtown Mountain View Caltrain Station. As noted in the above comment, some buses access the travel through the Castro Street / Moffett Boulevard / Central Expressway intersection to access the Mountain View Transit Center on Evelyn Avenue. These buses would experience similar delays to automobiles traveling through the Castro Street / Moffett Boulevard / Central Expressway intersection, and this impact was identified in Chapter 3.14 of the Final EIR and Appendix D to the Final EIR.

Potential impacts to transit center operations and public and private transit and shuttle systems are discussed in Section 3.7.4.1.1 of Appendix D. Impacts to transit and shuttle systems determined to be less than significant and beneficial as discussed in Impact TR-9: "The 2020 Project scenario would not disrupt any existing transit services. The increased train frequencies in the peak period would enhance connections to regional transit systems that connect to Caltrain. As a result, the impact is less than significant and beneficial."

L6-22

Based on the Direct Ridership Modelling conducted by Fehr & Peers (see Appendix D), under 2020 and 2040 Project AM peak period conditions, there would be a decrease in the number of people walking or biking to access the Mt. View Station compared to 2020 and 2040 No Project conditions and compared to existing conditions. Thus, no impacts are identified concerning access or egress for people originating their travel at Mt. View.

Under 2020 and 2040 Project AM peak period conditions, there would be an increase in the number of people walking or biking for egress from the Mt. View Station compared to 2020 and 2040 No Project conditions and compared to existing conditions which would be an increase in the number of people using bikes or walking for egress whose origin is not Mt. View and whose destination is Mt. View. The increase over existing conditions for 2020 and 2040 ranges from 320 to 621 for walking and 169 to 285 for bicycles. Although there will be more people exiting the station via walking and bike use compared to current conditions, these additional people would be spread over the peak period. The addition of one more train will not necessarily result in a walking or bike density at the station as people depart from the station quickly upon arriving, usually before the next train arrives. Trains will be more full in the future, so the number of riders alighting from each train will be higher and there would be likely be more walkers/bikers per train that at present. However, given the existing safety precautions in place, no safety or undue access constraints are expected.

Outside of peak periods, no capacity or access issues should occur as well since station use is lower than during peak periods.

Existing safety precautions are in place at the station. The Castro Street / Moffett Boulevard / Central Expressway intersection is currently signalized to allow for pedestrians to cross all legs of the intersection. The at-grade crossing also includes a warning system with gates to alert pedestrians and cyclists of oncoming trains.

Safety for crossing pedestrians or bikers at the at-grade crossings is also enhanced by the CBOSS PTC System which is expected to be functional by 2015 and would improve upon the existing wayside block system, which is presently dependent upon dispatchers and train engineers in events of pedestrian, bikers (or vehicles) stuck on the ROW. In addition, EMUs can decelerate faster than current diesel locomotives, which also increases safety. For more information see Sections 3.2.1.1.2 and 3.9 of Appendix D to the Final EIR.

Caltrain will continue to work with local jurisdictions to identify and make improvements, as funding is available, that improve safety for bicyclists and pedestrians but not as part of a mitigation commitment associated with the project as the Draft EIR does not identify impacts to bicycle or pedestrian safety due to the project.

L6-23

Emergency vehicle access is analyzed in the Draft EIR under Impact TRA-5a, during construction, (page 3.14-60) and Impact TRA-5b, during operation (page 3.14-60 to 3.14-51). As described under Impact TRA-5a, impacts from inadequate emergency vehicle circulation and/or access during construction would be reduced to a less-than-significant level with implementation of Mitigation Measure TRA-1a, Implement Construction Road Traffic Control Plan. As described under Impact TRA-5b, impacts from inadequate emergency vehicle circulation and/or access during operation would be less than significant. The JPB acknowledges that there would be longer gate-down times with implementation of the Project. This could cause some minor delay to emergency vehicles. However, delays would not substantially differ from typical congestion that already occurs around at-grade crossing locations and would only affect the small number of emergency vehicles that actually travel through the grade crossings. Furthermore, the overall reduction in vehicle miles travelled in the Peninsula corridor (approximately 235,000 miles per day in 2020) is anticipated to alleviate traffic congestion such that it would offset the localized effects at individual at-grade crossings and near Caltrain stations and result in a net improvement (compared with the No Project Scenario) in the emergency response times.

L6-24, 25

The City's concern about traffic impacts to the City downtown area at the Castro grade-crossing and adjacent streets are noted.

The Draft EIR used a uniform objective standard for evaluating traffic impacts in order to assess environmental impacts to all of the different communities along the Caltrain Corridor on a consistent basis. Thus, there are significant and unavoidable traffic impacts identified for 2020 and 2040 conditions with the project not only in downtown Mountain View, but also in San Francisco, Millbrae, Burlingame, San Mateo, Redwood City, Menlo Park, Palo Alto, Sunnyvale, and Santa Clara. Specific to the Castro/Central/Moffett intersection, the impacts are significant, but some of the other cities also have LOS E and F failing conditions with increases in delay due to the project that are similar to, and in some cases more than the delay at the Castro/Central/Moffett intersection.

A road underpass grade separation at the Castro Street locations would require that Castro, part of Central, part of Moffett, part of W. Evelyn Street, and the pedestrian crossings would likely all have to be depressed in order to maintain turning movements and access. Raising or lowering the rails instead would likely be more expensive and would require modifications to the nearby Mt. View Station (such as elevating the station) and may have grade issues. A mixed grade separation design of raising the rails some and depressing the roads some may be a possibility. The cost would likely be on the magnitude of $50 to $100 million and possibly more for this one location.

PCEP and the JPB does not have adequate funding for grade separation of the Castro/Central/Moffett intersection so it is infeasible at this time.

As it has done in the past, the JPB will work with local jurisdictions on potential grade separation projects where the local community desires grade separation and where funding can be obtained from local, state, and federal sources.

Also, please see Master Response 10 (Traffic Analysis).

L6-26

Caltrain will continue to work collaboratively with the City of Mountain View to improve station safety and access for pedestrians and bicyclists. The Caltrain Bicycle Parking and Access Plan[34] recommends several projects to improve access and circulation for bicyclists within the station area. Access improvements would be implemented as funding becomes available.

Caltrain has had high-level conceptual discussions with Mt. View as part of the City's North Shoreline corridor study concerning potential transit facilities on the north side of Central Expressway. As this is at a very early level of development, Caltrain would need to examine potential improvements as part of an overall station evaluation with joint participation from the City, Caltrain and VTA.

In regards to the potential for a new transit center or other transit facilities on the north side of Central Expressway as traffic mitigation for the PCEP, the exact impact on traffic of such potential facilities at the Castro Street/Moffett Blvd/Central Expressway is uncertain.

Under both existing conditions and all future scenarios, northbound (toward San Francisco) Caltrain service boards on the platform located on the north side of Central Expressway. Southbound (toward San Jose) Caltrain service boards on the platforms south of Central Expressway. The current Transit Center, serviced by VTA buses, public and private shuttles, is located on the south side of the JPB right-of-way (ROW). VTA Light Rail service is located north of the Transit Center closer to Central Expressway. The path a park-and-ride, carpooling, or kiss-in-ride, passenger needing to access the northbound platform would use varies by their direction of approach to the station. For example, a northbound passenger approaching from the north side of the JPB ROW may not have to drive through the Castro Street/Moffett Blvd/Central Expressway intersection if they are parking or being dropped-off at a safe location north of the affected intersection. However, northbound passengers approaching from the south side of the JPB ROW would likely have to drive through the affected intersection if they are not parking or being dropped off at on the south side of the station. As a result, passengers using Central Expressway to access the affected intersection and the Caltrain station at present, may or may not cross the intersection depending on the location of the potential new facilities. Whether or not this would reduce traffic at the affected intersection would depend on potential location of new facilities and the path of users of the new facilities relative to the affected intersection. Furthermore, the area adjacent to the north side of Central Expressway is zoned for residential and commercial uses. Thus ROW acquisition would be a concern for any such facilities. As a result, the potential for such a center or facilities as effective mitigation for traffic impacts is considered speculative at this early phase of development. The City's comment does not substantiate how such new facilities would potentially reduce traffic at the affected intersection without grade separation, which as discussed in Master Response 10, is not considered a feasible mitigation due to cost.

[34] "Caltrain Bicycle Access and Parking Plan." Caltrain, 2008. <http: / / www.caltrain.com / Assets / _Public+Affairs / pdf / Comprehensive+Access+Policy.pdf>.

L6-27

Concerns about future automobile traffic and delay around the Mountain View Caltrain Station are noted and would be appropriately addressed through a separate cooperative process involving Caltrain, the City of Mountain View, VTA and public and private shuttle operators.

In addition, the Comprehensive Access Program Policy Statement (2010)[35] is implemented by Caltrain in cooperation with local jurisdictions as part of Caltrain's long-term planning and capital improvement program. Access improvements are implemented on a funding available basis.

Caltrain also works with local jurisdictions, other transit agencies, and local, state and federal funding partners to fund access improvements to Caltrain stations via non-automobile modes including transit connections, bicycle and walking. Where future investments in these access modes are realized, they would help reduce projected excess parking demand. Finally, Caltrain is working with some local jurisdictions on transit-oriented development efforts, including exploring shared parking opportunities, where appropriate.

L6-28

Based on the City's concern for reduced parking a more detailed analysis was conducted. The impact to the intersection can be mitigated with a shorter left turn lane, which if implemented would reduce the number of parking spaces removed from Villa Street from ten to only five spaces. The proposed mitigation measure has been updated in the Final EIR to reflect the results of the updated analysis.

Additionally, per the Mitigation Monitoring and Reporting Program (MMRP) that will be adopted as part of Final EIR certification, intersection operations at this location will be monitored over time to measure if and when the proposed mitigation is necessary. The proposed mitigation of adding a left turn lane would be added to Villa Street only if needed in order to keep the intersection operating at a minimum peak hour level of service of D or better.

L6-29

This comment discusses the Rengstorff / Central Expressway intersection, but does not express a particular concern about the adequacy of the PCEP EIR. Comment is noted. For more information on grade separation considerations, see Master Response 10 (Traffic Analysis).

L6-30

See Master Response 10 (Traffic Analysis).

L6-31

The comment does not regard the adequacy of the cumulative impact analysis on aesthetics, but the City of Mountain View's opposition to one of five preliminary passing track alternatives. The City's opposition is to the South 4-Track (Mountain View to Santa Clara) passing track alternative within the city's jurisdiction is noted. No revisions to the Draft EIR are necessary.

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[35] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http: / / www.caltrain.com / Assets / _Public+Affairs / pdf / Comprehensive+Access+Policy.pdf>.

L6-32

Please see the prior response to Comment L6-24 and L6-25 and also see Master Response 10 (Traffic Analysis).

L6-33

For a description regarding the division of a community, please refer to response to comment L6-15. With regards to pedestrian and bicycle linkages, impacts are discussed on page 3.14-56 through 3.14-60, in Section 3.14, *Transportation and Traffic*, of the Draft EIR. Increased ridership under Proposed Project conditions would subsequently cause increased pedestrian volumes at pedestrian facilities surrounding Caltrain stations. The existing pedestrian facilities were evaluated to determine if pedestrian facilities would be capable of accommodating increased pedestrian volumes. Results showed the existing facilities are capable of accommodating increased pedestrian volumes at all stations with the exception of the 4th and King Station in San Francisco. Aside from minor delays due to increased gate-down times, it is not anticipated that existing pedestrian connections in Mountain View would be impacted by the Proposed Project.

The Proposed Project may increase future demand for bicycle facilities; however, most plans in the study area account for increased bicycle volumes through added bicycle infrastructure. The Proposed Project would not change the rail alignment and does not impede any existing or planned bicycle projects because the new improvements are limited to overhead infrastructure and the TPFs (which do not affect bicycle facilities). Mitigation Measure TRA-4b, on page 3.14-60 of the Draft EIR, would require Caltrain to continue implementation of its current planning to improve bicycle facilities at Caltrain stations using the guidance provided in the *Bicycle Access and Parking Plan.* Aside from minor delays due to increased gate-down times (at some locations) it is not anticipated that existing bicycle connections in Mountain View would be impacted by the Proposed Project.

As described on page 3.14-41 of the Draft EIR, although the Proposed Project would reduce regional vehicle miles travelled and overall daily VMT within Mountain View. While the Proposed Project would affect local traffic operations along the Caltrain corridor at certain intersections in the City near the JPB ROW, the net reduction in VMT within the City will be a City benefit to vehicular movement in general.

No revisions to the Draft EIR are necessary.

L6-34

As explained in Chapter 5, *Alternatives*, CEQA only required consideration of alternatives that substantially lower or avoid significant impacts of the Proposed Project.

The Draft EIR actually considered level boarding as an alternative (Alternative P1, see Tables 5-7 through 5-10 in the Draft EIR). While level boarding is feasible, level boarding with electrification would not avoid any project-level impacts over baseline. Future level boarding is not precluded by the PCEP but there is no funding in the PCEP to implement level boarding which may require substantial platform modifications to implement.

L6-35

The JPB, as part of its ongoing work, welcomes the opportunity to work with Mountain View in regards to potentially increasing commute shuttles and improving bicycle facilities.

The PCEP Draft EIR analyzed the impact of the service increase on local transit services and bicycle facilities and identified mitigation where significant physical impacts over baseline are expected to occur.

A May 2014 presentation[36] by Caltrain ("Longer Trains / Platforms") states that to lengthen trains to eight cars, 18 stations would require platform extensions. These platform extensions would be "challenging" at 12 of the 18 stations, meaning that there are right-of-way considerations or other site constraints that would complicate platform extension. Among these 12 stations where extensions would be "challenging" is the Mountain View station. San Antonio Station, located in Mountain View, would also require a platform extension to accommodate longer trains. In addition to physical constraints, the cost to for making these types of improvements (not including EMU vehicle costs) can range from $1 to 2 million per station or more; at 22nd Street there will be additional costs due to constraints regarding existing columns as well as complexities surrounding access.

Insufficient platform length at most Caltrain stations is a concern also because of the proximity of some of the stations to grade crossings. With longer trains, the trains may extend into the grade crossing when stopped at a station. Such a problem would also require costly and extensive infrastructure improvements in order to both relocate the station platform and extend the platform to fit the length of the train. Costs for these improvements could range between $50 and 100 million per location (or more for complex locations).

L6-36

The Draft EIR did not identify a significant physical environmental impact due to parking deficits and thus no parking mitigation is proposed in the EIR. A future parking deficit, or the need to find a parking space off-site not at Caltrain station parking lot, while inconvenient, is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circle to find an available space, but it can be expected that most Caltrain passengers would modify their behavior to take into account parking deficits, therefore taking alternative actions. These alternative actions may include parking at a public or private off-site parking lot in proximity to the station or changing their access or egress mode.

However, Caltrain is willing to work collaboratively with the City of Mountain View and other transit agencies operating out of the Mountain View Transit Center to identify strategies that would help reduce parking demand.

The Comprehensive Access Program Policy Statement[37] is implemented by Caltrain in cooperation with local jurisdictions as part of Caltrain's long-term planning and Capital Improvement Program; however, access improvements are implemented subject to funding availability. Caltrain also works with local jurisdictions, other transit agencies, and local, state and federal funding partners to fund transit, bicycle and walking improvements. Where future investments in these access modes occur, they would help to reduce excess parking demand.

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[36] "Longer Trains / Platforms May 22, 2014" Local Policy Maker Group, Caltrain, 2014. <http: / / www.caltrain.com / Assets / Caltrain+Modernization+Program / Presentations / Caltrain+Longer+Platform+and+Trains.pdf >

[37] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http://www.caltrain.com/Assets/_Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

L6-37

Please see Master Response 9 (Bikes on Board). Mitigation Measure TRA-4b requires the JPB continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available following guidance in Caltrain's Bicycle Access and Parking Plan. Specific improvements are not known at this time and will be informed by the Caltrain's Bicycle Access and Parking Plan according to needs of the riders at various locations.

L6-38

Regarding platform widening, the PCEP Draft EIR analyzed access and platforms and determined that there is adequate capacity along access facilities and platforms to handle the increase in ridership and thus no mitigation is identified accordingly.

L6-39

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please see responses to comments L6-43 through L6-75.

L6-40

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please see responses to comments L6-1 through L6-39.

L6-41

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L6-42

Comment noted. Caltrain appreciates the participation of Mountain View in the PCEP environmental review process.

L6-43

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J. In the city of Mountain View, all OCS poles and wires are proposed within the JPB ROW; none are proposed on City-owned lands or roads. Based on the current design, there would be approximately 0.67 acres of ESZ located in four areas that encroach on public road rights-of-way along Central Expressway east of Whisman, Castro St., Central Expressway E. of Rengstorff, and East Evelyn Avenue between SR 85 and Mondrian Avenue. The ESZ would also encroach on SCVTA land at several locations. A letter describing the potential ROW needs for City land were sent to the City in March 2014. The OCS/ESZ/Tree Impact Maps in Appendix J should help the City to see where the impacts to City road rights of way would occur. Vegetation removal would be required, but based on current designs no City facilities should be negatively affected by the need for an ESZ.

Overbridge protection would be required at several locations on overcrossings as noted in Chapter 2 of the Draft EIR. Overhead utilities that may require relocation are described in Section 3.13.

There is one potential known construction staging area within the Caltrain ROW in Mountain View. This potential staging area would be located on the east side of the ROW at mile post 35.2 (near Central Expressway and Farley Street).

As described under Impact PSU-8 in Section 3.13, *Public Services and Utilities*, the JPB would coordinate with all utility providers and local jurisdictions during the design phase of the Project to confirm the locations of all underground and overhead utility locations. As prescribed by Mitigation Measure PSU-8a, the JPB will provide continuous coordination with all utility providers to ensure that all potential utility location conflicts are identified.

Please refer to the other responses to comment letter L6 for responses to specific comments.

L6-44

Comment on permit conditions are noted. <u>Table 2-6 has been revised accordingly.</u>

L6-45

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J.

L6-46

See responses to comments L6-2, L6-43 and L6-45. No private property owners are expected to be affected in Mountain View.

L6-47

Mitigation Measure BIO-5 prescribes that JPB will consult with each jurisdiction along the route during the design phase to identify where tree removals can and cannot be avoided with project design measures. Regarding tree pruning rather than tree removal on the north side of Evelyn Avenue, Highway 85 to Bernardo Avenue, the trunks of the trees are within the Project Area; therefore, those trees were identified for removal. Pruning for clearance was not considered as an option where tree trunks were within the Project Area ESZ. Please also see Master Response 6 (Visual Aesthetics including Tree Removal) and response to comment L6-13.

L6-48

PCEP OCS/ESZ/Tree Impact Maps are included in this Final EIR as Appendix J. The maps detail trees that fall within the ESZ and parcel lines. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L6-49

As prescribed in Mitigation Measure BIO-5, if on-site tree replacement cannot occur on the Caltrain ROW or on adjacent property, then tree replacement will occur on other parts of the affected property or other parts of the local area, with coordination with and concurrence of the local municipality. Please also see Master Responses 6 and 8.

L6-50

This comment appears to reference Mountain View Municipal Code SEC 36.34.10 General landscaping standards.

> https://library.municode.com/HTML/16508/level4/PTIITHCO_CH36ZO_ARTXILA_DIV2GELARE.html
>
> b. 4. Twenty-four (24) inch or thirty-six (36) inch box for Heritage tree(s) replacement.

As noted in prior responses, no reference to specific City ratios could be located in the City Code and thus the Draft EIR is accurate in describing the City's specific language. <u>Appendix F has been updated to include 24" or 36" replacement per the above code reference. However, it should be noted that in Mountain View, none of the ESZ extends onto private land and thus the reference to private property Heritage Tree replacement sizes is not relevant to public land like the JPB ROW or the City's ROW.</u>

L6-51

Mitigation Measure AES-2b has been strengthened to include additional language to show that the JPB has committed to consulting with local jurisdictions during the design process and prior to the final design decision.

The amount of OCS equipment required is not related to funding, but related to safe and feasible operations of the electrified system. The OCS needs to be aboveground and thus undergrounding it is not a feasible approach. Reducing the amount of OCS to be installed is also not a feasible option. While replanting of trees removed along the ROW, where feasible is included as part of Mitigation Measure BIO-5. Integrating the wire-tensioning weights into support poles is included in Mitigation Measure AES-2b (see page 3.1-28, lines 10-11, of the Draft EIR: "The JPB shall also evaluate the potential to house OCS wire-tensioning weights inside larger diameter poles.") Mitigation Measure BIO-5 includes different pole design/alignment into the OCS arrangement, where feasible.

In Chapter 5, *Alternatives*, in the Draft EIR, it was determined that undergrounding all other utilities would not avoid or substantially lower significant impacts of the project because the OCS still needs to be aboveground. Furthermore, the impact of the OCS alone with the identified mitigation is not identified as a significant and unavoidable aesthetic impact, since the OCS will be part of the transportation character of the JPB ROW. Therefore, undergrounding other utilities would be a disproportionate mitigation to the residual impact and is not included in Mitigation Measure AES-2b.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L6-52

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J.

L6-53

Please see prior responses concerning simulating the entire corridor. The simulations in the Draft EIR provide the reader an adequate description of the visual effects of this project without simulating every location along the corridor. Also see the prior response to Comment L6-6.

L6-54

Section 3.9.2.3, *Impacts and Mitigation Measures*, states that the Proposed Project would comply with the municipal stormwater requirements, which addresses potential polluted stormwater runoff and stormwater treatment measures. Stormwater treatment is incorporated into the Project through stormwater management practices and minimization of stormwater impacts.

Stormwater treatment is only necessary at the traction power facilities, none of which are to be located in the City of Mountain View.

Section 3.9.2.3 was updated to include text regarding stormwater treatment requirements. This change is shown in Section 3.9, *Hydrology and Water Quality*, in Volume I of this Final EIR.

L6-55

Per the revisions provided by the commenter, Appendix H of the Draft EIR, *Land Use Information*, has been edited to include the following precise plans in the City of Mountain View: Mayfield Precise Plan, San Antonio Station Precise Plan, Villa-Mariposa Precise Plan, 111 Ferry-Morse Way Precise Plan, Sylvan-Dale Precise Plan, Mora-Ortega Precise Plan, and the Whisman Station Precise Plan. These precise plans have been added in Table H-2, *Adopted Specific, Precise, and Area Plans Adjacent to the Caltrain Corridor*, and Table H-4, *Project Consistency with Applicable Plans and Policies*. This change is shown in Appendix H in Volume III of this Final EIR.

L6-56

Per the revisions provided by the commenter, Table 3.10-1, under Mountain View, has been edited. This change is shown in Section 3.10, *Land Use and Recreation*, in Volume I of this Final EIR.

L6-57

The Draft EIR considered planned, proposed, and under-construction land development projects adjacent to or within 0.15 miles of the Caltrain ROW. The 405 San Antonio Road project and 400 San Antonio Road project are located approximately 0.30 miles from the Caltrain ROW. The 405 San Antonio Road project is located within the San Antonio Center Precise Plan (2011) and the 400 San Antonio Road project is located within the San Antonio Precise Plan Development Alternatives (January 2014). These projects were accounted for in their respective plans. The re-occupancy of the existing building at 100 Mayfield Avenue was not considered in the cumulative analysis because the use of this facility has already been considered by the Mayfield Precise Plan (2006). Therefore, the re-use of the existing structure is part of the existing land use condition, and not a foreseeable project. Appendix H, *Land Use Information*, was updated with a summary of the existing precise plans in Mountain View. This revision is shown in Volume III of this Final EIR.

L6-58

The Draft EIR considered planned, proposed, and under-construction land development projects adjacent to or within 0.15 miles of the Caltrain ROW. The San Antonio Station Precise Plan would provide area-specific development regulations for future public and private improvements within the area. The San Antonio Station Precise Plan is adjacent to the Caltrain ROW, but the plan does not propose an actual land development project and as a result it was not considered in the cumulative analysis. However, based on this comment, the San Antonio Station Precise Plan has been added to

Appendix H, *Land Use Information*, as included in Table H-2, *Adopted Specific, Precise, and Area Plans Adjacent to the Caltrain Corridor*, on page H-13. These changes are shown in Volume III of this Final EIR.

It is also important to note that traffic modelling was based on overall projections of growth in the area and thus a perfect accounting of every project was not necessary to providing an adequate traffic analysis for the EIR.

The listing of specific cumulative projects was intended to identify other potential projects directly adjacent to the JPB ROW itself to identify if there were or were not potential conflicts with the PCEP.

L6-59

<u>Noise tables in Section 3.11 has been updated accordingly to indicate the City in which the study location is noted. This change is shown in Section 3.11 in Volume I of the Final EIR.</u>

L6-60

The noise model for Mountain View shows very similar conditions in Mountain View compared to Palo Alto for similar noise environments. The 2013 measurement in Palo Alto (R36) was in very close proximity to the tracks (35 ft) compared to the three nearest Mountain View receptors (R37 to R39 (110 to 150 ft) where measurements were collected in 2009-2010. Adjusted for distance from the railroad, the noise levels measured in 2009–2010 for the Mountain View receptor locations nearest the Palo Alto receptor are very comparable to 2013 Palo Alto receptor location noise measurement, taking into account differences in nearby street noise.

More importantly, as shown in Table 3.11-15 in the EIR, the noise levels in 2020 with the project are expected to be less than under existing conditions. Thus, regardless of the precise noise level at the Mountain View receptor locations, the project will not result in a significant noise impact.

L6-61

As discussed in a prior response, under project 2020 conditions, noise levels at the 4 locations within Mountain View (Locations 37 – 40) would all be slightly lower with the project compared to existing conditions. Thus, the project would not have a significant impact on noise in Mountain View at three out of the 4 study locations.

The Draft EIR cumulative analysis found that with cumulative train traffic increases, there would be a significant impact at all four locations in Mountain View; however, the PCEP would not contribute adversely to these cumulative impacts and thus mitigation at these locations would be the responsibility of others.

The cumulative mitigation identified may include building insulation as noted in this comment, but since the PCEP would not contribute adversely to the cumulative noise in Mt. View, this is not further evaluated in the PCEP EIR.

L6-62

The list of existing utilities within the Caltrain corridor ROW in Table 3.13-2 of the Draft EIR is a general summary of existing utilities and is not meant to be exhaustive. As described on page 3.13-

11 of the Draft EIR, the JPB will coordinate with appropriate local jurisdictions and utility providers to ensure that all utilities that cross or run longitudinally along the Caltrain ROW are identified.

L6-63

See response to comment L6-62. In Mt. View, no OCS facilities are proposed outside the JPB ROW and thus the concern is with any utilities that are in the JPB's ROW. Facilities outside the JPB ROW should not be affected by OCS foundations. The JPB will coordinate with the City for any affected utilities within the ROW and any vegetation removal on City ROW outside the JPB ROW.

L6-64

Mitigation measures related to utility service systems are included in the Draft EIR as Mitigation Measures PSU-8a, PSU-8b, and PSU-8c. As described on page 3.13-24 of the Draft EIR (lines 15-21), Mitigation Measure PSU-8a requires that the JPB continuously coordinate with utility providers from preliminary engineering through final construction to ensure that potential conflicts are identified and disruption is minimized. As prescribed in Mitigation Measure PSU-8b, if unanticipated underground utilities are discovered, OCS pole foundations will be adjusted to avoid them. Additionally, Mitigation Measure PSU-8c requires that any short-term, limited service interruptions will be scheduled well in advance and appropriate notification is provided to users.

L6-65

As described under Impact PSU-3, any increase in wastewater generation would be negligible and likely indiscernible from existing wastewater needs. The Project would not include any traction power facilities in Mountain View and would, therefore, not result in any increase in stormwater runoff into Mountain View's stormwater facilities.

L6-66

Please refer to Chapter 3.13, *Public Services and Utilities*, of the Draft EIR for a discussion of water supply, wastewater generation, and stormwater runoff. As described under Impacts PSU-2, PSU-3, PSU-4, and PSU-5, the Project would not result in any increase in demand for water supply and any generation of wastewater would be negligible. The Project would not include any traction power facilities in Mountain View and would, therefore, not result in any increase in stormwater runoff into Mountain View's stormwater facilities.

L6-67

See response to comment L6-64. Please also refer to the PCEP OCS/ESZ/Tree Impact Maps added to the EIR in Appendix J.

L6-68

<u>Table 3.13-2 was revised for the City of Mountain View per the commenter's requests</u>. This change is shown in Section 3.13.1.2 in Volume I of this Final EIR. See prior response on utility coordination.

L6-69

New signal timings from Caltrain Signal Preemption Improvement Project were obtained, and traffic modeling was performed incorporating these signal timing and phasing changes. These changes are also made in the Appendix D to the Final EIR in Sections 2.6.4 and 3.6.5. The updates did not result in identification of any new significant impacts.

L6-70, 71, 72

Please see prior responses to these issues including responses to Comments L6-19 through L6-30.

L6-73

Please see prior response to comment L6-31.

L6-74

Please see prior response to comment L6-24, 25.

L6-75

Please see prior response to Comment L6-34 which raised the same issue.

3.2.16 Responses to Comment Letter L7

L7-1

Comment noted. Please refer to responses to comments L7-2 through L7-40.

L7-2

Concerns about future automobile traffic and delay in Palo Alto are noted.

The proposed intersection improvements at Alma Street/Sand Hill Road would be further defined in the final design phase of the PCEP in coordination with the City of Palo Alto. Caltrain is responsible financially to fund the identified traffic mitigation in the EIR. Implementation will be in cooperation with the City of Palo Alto.

If Caltrain, in coordination with the City later identifies an alternative mitigation that would be equally effective at this location, then if any additional CEQA review is necessary, it will be done at that time. For now, the proposed mitigation is feasible and is included in this EIR.

L7-3

At intersections #63, 66, and 68, no feasible mitigation was identified. The suggestion of improved bicycle and pedestrian facilities is noted, but these facilities would not in any meaningful way mitigate the vehicle delay impact identified in the EIR. Pedestrian and bicycle access separate from the vehicle roadway is available across all of the at-grade crossings in Palo Alto and grade-separated pedestrian and bicycle access is already available to both Caltrain Palo Alto stations. Thus, there is no evidence that additional bicycle and pedestrians facilities would meaningfully change the amount of bicyclists or pedestrians using Caltrain or have any meaningful effect on reducing traffic at the affected intersections. The PCEP will not increase safety risks to bicyclist or pedestrians. Thus there is no nexus between the vehicle delay impact and potential pedestrian and bicycle facilities suggested by the City.

For Intersection #63 (Alma Street and Meadow Drive), no mitigations were proposed due to right-of-way constraints for widening Alma Street and cost constraints to grade separate Meadow Drive from the Caltrain right-of-way in this location (For more information on the cost of grade separations, see Master Response 10 (Traffic Analysis).)

For Intersection #66 (Alma Street and Churchill Avenue), no mitigations were proposed due to right-of-way constraints for widening Alma Street and cost constraints to grade separate Churchill Avenue from the Caltrain right-of-way in this location.

For Intersection #68 (Alma Street and Charleston Road), no mitigations were proposed due to right-of-way constraints for widening Alma Street and cost constraints to grade separate Charleston Road from the Caltrain right-of-way in this location.

L7-4

See Master Response 10 (Traffic Analysis). As explained therein, a grade separation program is not financially feasible for Caltrain to commit to at this time. However, Caltrain will continue to work with local jurisdictions on grade separations when local, regional, state and federal funding is available and when local jurisdictions support grade separations.

Regarding the OCS, it will not preclude the ability to develop grade separations in the future. For roadway grade separations that go under the JPB ROW, there would usually be little to no need to relocate any portions of the OCS. For roadway grade separations that go over the JPB ROW, the roadway would need to clear the OCS for electrical safety. Any proposals to lower the OCS height below 23 feet would require consideration of access for freight railways and may require CPUC approval. For grade separations involving changing the railway grade, then the OCS would need to be moved with any track modifications.

L7-5

The commenter summarizes the conclusions of the visual impacts from installation of the OCS described in the Draft EIR. Please refer to responses to comments L7-6 through L7-18 for responses to specific comments raised.

L7-6

Environmental Vision has prepared a new visual simulation from Alma Street at North California Avenue, looking west in Palo Alto. This simulation is included in Section 3.1, *Aesthetics*, as Figure 3.1-9b in Volume I of this Final EIR. This figure shows a view of the Project corridor from the perspective of motorists and pedestrians on Alma Street.

L7-7

<u>The text has been revised to include reference to the Palo Alto Rail Corridor Study.</u> This change is shown in Section 3.1.1.1 in Volume I of this Final EIR. However, reference to the study has not meaningfully changed the proposed aesthetic mitigation, which already identifies the range of feasible mitigation for an OCS and for tree removal.

L7-8

OCS poles would be located within an existing transportation ROW and would become part of the visual character of the railroad. OCS poles and wires will be obscured from view in many locations by existing development, dense landscaping, and vegetation along the project corridor as one moves away from the ROW. Galvanized steel or weathered finished steel could be used, but would not recede in a view where there is vegetation as much as a darker painted surface. Painted pole finishes are very common for metal surfaces and are durable, such as ornamental street lighting standards, which are painted through the powder coating process. These finishes last for many years, provide weather protection for the metal so that they would last longer, are easy to maintain, and often help with graffiti maintenance. Please refer to the following information:

- http://www.powdercoating.org/11/Our-Industry/What-is-Powder-Coating
- http://www.powdercoating.org/12/Industry/Benefits-of-Powder-Coating
- http://www.signaturestreetscapes.com/files/sBsHNqRx755zTrDx/d113175850ba1bbfccd65b3811b897796/Plascoatpercent20PPApercent20571.pdf
- http://www.lanecoatings.com/powder-coatings/

Please also refer to Master Response 6 (Visual Aesthetics including Tree Removal) regarding JPB's commitments to minimizing impacts to trees that will be able to help screen OCS poles by leaving as many trees in place and also lowering the aesthetic effects of removing trees themselves.

L7-9

Mitigation Measure BIO-5 requires, where tree removal is unavoidable that replanting will occur, where feasible, in the nearby location. Thus, tree replanting will be done either in the JPB ROW (if room) or on adjacent private and public properties (where permitted by the landowner or the jurisdiction) where feasible. This will help to screen the OCS from view where allowed by public and private landowners. Caltrain will work with landowners and jurisdictions to maximize the aesthetic positioning of replanted trees during the implementation of Mitigation Measure BIO-5 and this has been clarified in the measure.

The City's comment on the residual impact of the OCS is noted. Please see Master Response 6 (Visual Aesthetics including Tree Removal) regarding JPB's assessment of the residual aesthetic impact of the OCS.

L7-10

Please refer to Mitigation Measure AES-2b. This measure has been revised to include coordination with local jurisdictions on design of overbridge protection barriers and vandalism abatement for those barriers. Additionally, a new figure has been prepared that shows the different types of material that could be used for the overbridge protection barriers.

Regarding the solid structures in Figure 3.1-17, this is the paralleling station which will be fenced for security which will be a deterrent to graffiti.

L7-11

CPUC General Order 118 is limited to management of vegetation in relation to walkways along railroads and does not apply generally to railroads as a whole. The PCEP does not propose any new walkways and thus General Order 118 is not applicable to this project generally.

Mitigation Measure BIO-5 has been revised to state that tree pruning will be done in accordance pruning specifications will follow American National Standards Institute (ANSI) A300 Standards and International Society of Arboriculture (ISA) Best Management Practices. In addition, if tree planting is done near walkways, it will be done consistent with General Order 118. This mitigation has also been revised to clarify that the JPB will consult with each jurisdiction, including the jurisdiction's arborist. This change is shown in Section 3.3, *Biological Resources*, in Volume I of this Final EIR.

L7-12

Mitigation Measure BIO-5 has been revised to state that off-site tree replacement *will* occur rather than tree replacement *may* occur. This change is shown in Section 3.3, *Biological Resources*, in Volume I of this Final EIR. Additionally, as described in Mitigation Measure BIO-5, the JPB will work with land owners and local municipalities regarding off-site tree replacement.

L7-13

Mitigation Measure BIO-5 has been revised to state that alternatively JPB "*will* pay" into a local urban forestry fund if tree replanting is not done by JPB itself, rather than "*may* pay". This change is shown in Section 3.3, *Biological Resources*, in Volume I of this Final EIR.

L7-14

As described in Mitigation Measure BIO-5 has been revised to clarify that the JPB will consult with each jurisdiction, including the jurisdiction's arborist. The City of Palo Alto Urban Forester would be included in "the jurisdiction's'' arborist." This change is shown in Section 3.3, *Biological Resources*, in Volume I of this Final EIR.

L7-15

The Tree Avoidance, Minimization, and Replacement Plan will be developed in consultation with a certified arborist and in consultation with cities, counties, and affected property owners along the project route. Mitigation Measure BIO-5 has been revised to include maintenance and monitoring for a minimum 5-year period and general survival criteria. More specific criteria would be included in the replacement plan itself.

L7-16

Mitigation Measure BIO-5 requires the evaluation of alternative pole designs/alignments to identify where it is feasible to lower impacts on tree removal and consistent with operational, maintenance, and safety requirements including center poles, two-track cantilevers, portals etc.

Please see Master Response 6 (Visual Aesthetics including Tree Removal) which describes test case feasibility assessments of the mitigation measure to illustrate how the measure is expected to work in implementation. As shown in the test case, it appears likely that tree impacts can be reduced in some locations with alternative pole design/alignment.

L7-17

Identifying a tree as "protected" was a specific parameter collected for the Tree Inventory, and was not determined by diameter class. HortScience identified "protected" trees according to the trunk diameter and species specified in Palo Alto Municipal Code, Chapter 8.10. Trunk diameter was estimated visually and not measured. HortScience was unable to measure trunk diameters directly because of lack of access on private property. "Protected" tree status was not determined in the Limited Tree Assessment areas (approximately 194 trees); those trees would need to be visually inspected to determine if they meet Palo Alto's criteria for "protected" trees.

HortScience individually analyzed for required trimming and the species ability to survive the trimming" for 464 trees that were subject to the Tree Inventory, where the Project Area was 29-feet wide, and adjusted when the Project Area was reduced to 24 feet.

As part of Mitigation Measure BIO-5, a 100 percent field survey of potential trees removed or trimmed will be completed, including obtaining trunk diameters wherever feasible, determining protected status, assessment of how much pruning each tree can withstand and which trees will require removal. The qualified arborist will have extensive knowledge of species tolerance to such pruning and how to assess the potential for sun scald.

L7-18

The desire to retain trees and their screening function is noted. The necessity for tree removal will be made on a tree-by-tree basis. Prior to and during tree work, arborists will be on-site to determine how much pruning each tree can withstand and which trees will require removal.

L7-19

As the comment acknowledges additional pedestrian access in or adjacent to the Caltrain ROW would not be a mitigation measure for aesthetic or biological impacts. As to a mitigation measure for impacts on local traffic impact in Palo Alto, as described in response to Comment L7-3, it is speculative to assert that pedestrian and bicycle facilities at the affected intersections or at the Caltrain Stations would actually remove traffic from the affected intersections, none of which are near Caltrain stations. The reason for the impacts to certain intersections in Palo Alto is not primarily because of additional train ridership; it is because of additional gate-down time at the Palo Alto Ave., Meadow Ave. Churchill Ave, and Charleston Ave. grade crossings. Thus pedestrian or bicycle facilities at the crossings or at the stations will not address the vehicular traffic impact.

As further discussed in the response to Comment L7-3, significant pedestrian and safety impacts are not identified in the EIR and thus pedestrian and safety mitigation is not required.

L7-20, 21

The ridership presented in Appendix I is not the blended system, it is for Caltrain ridership in 2020 and 2040 only. Ridership for HSR is described in the cumulative analysis based on the CHSRA Business Plan.

As described in the EIR, CHSRA will be responsible for the separate project-level environmental process for blended service, including any improvements for HSR stations.

Regarding HSR constraints to future Caltrain capacity, the PCEP proposes an increase to 114 trains per day and to 6 trains per peak hour per direction. Current conceptual planning for blended service is for 6 Caltrain trains and up to 4 HSR trains per peak hour per direction. Thus at this time, blended service poses no constraints to the PCEP service planning.

As to restraining Caltrain capacity beyond 6 trains per peak hour per direction, Caltrain has no proposal and no funding to increase beyond 6 trains per peak hour per direction. If the intent of this comment is to assert that Caltrain should have more trains (and consequently HSR should have fewer), that is actually a comment on potential alternatives to blended service, not an alternative to the PCEP. Any consideration of blended service alternatives needs to be considered in the blended service project-level environmental evaluation for which CHSRA would be the lead agency.

As to the assertion that there are traffic, GHG emissions, or other impacts due to a theoretical "constraint" on Caltrain capacity from HSR, again this comment is not related to the PCEP, which proposes an increase in Caltrain service compared to No Project conditions.

As to the assertion that the Final EIR must evaluate ways in which the project will lead to a future HSR system, the Draft EIR describes that the PCEP is providing electrical infrastructure compatible with high-speed rail, but no other improvements such as trackage, platforms, stations, maintenance yard for HSR, or connections to HSR tracks south of Santa Clara and thus, the PCEP alone will not make HSR service happen on the corridor without further planning, design and environmental review. The cumulative analysis discloses potential environmental impacts of the conceptual blended service.

As to updating ridership because of city-level TDM, as explained in Master Response 4 (Ridership and Capacity), the use of the approved socioeconomic forecasts in Plan Bay Area, the VTA system ridership model, and the Direct Ridership Model by Fehr & Peers represent appropriate ridership forecasting tools for evaluation of impacts in the EIR. As described in Master Response 4, the Caltrain ridership by 2040 will be approaching capacity with the PCEP. If TDM efforts and requirements result in more ridership, then the 2040 conditions may be reached sooner than 2040. However, the capacity allowed by the PCEP will not change and thus adverse environmental impacts due to ridership higher than shown in the Draft EIR by 2040 are not likely to occur. As such, since the point of an EIR is to disclose the environmental impacts of a project, there is no need to analyze a ridership scenario in the long run that will exceed the system capacity.

It is not an impact of the PCEP if transit demand exceeds the capacity of the Caltrain system, provided the PCEP is increasing the amount of available transit. Instead, any impacts associated with unmet transit demand would actually be due to population and economic growth, approved by the cities along the Caltrain corridor and throughout the Bay Area. As such, there is no need to complete additional ridership analysis as requested in this comment.

L7-22

This comment does not concern the PCEP or the environmental analysis in the PCEP EIR. The PCEP provides for a commuter service capacity higher than at present and higher than would occur without the project. It is not necessary for the EIR to evaluate other methods to increase system capacity unless those other methods would avoid significant environmental impacts of the project.

Since the comment does not link questions about platform extensions to the avoidance of any environmental impact, this comment is outside the scope of the PCEP and the PCEP EIR.

The current scope of the Peninsula Corridor Electrification Project (PCEP) is to convert Caltrain from the existing diesel-hauled trains to Electric Multiple Unit (EMU) trains between San Francisco and San Jose. This includes new electrical infrastructure to support these operations and new electrified vehicles to use this infrastructure. The PCEP does not include infrastructure improvements such as station reconstruction.

Please see the response to Comment L2-8 for more information about constraints on building platform extensions at Caltrain stations.

See also Master Responses 4 and 10.

L7-23

As described on Section 3.2, *Air Quality*, Mitigation Measures AQ-2a and AQ-2b require implementation of the BAAQMD's basic and advanced construction mitigation measures for exhaust and fugitive dust emissions.

L7-24

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L7-25

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L7-26

This comment discusses TRA-1A, but does not express a particular concern about the adequacy of the EIR. Comment is noted.

L7-27

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L7-28

See Master Response 8 (Train Noise) concerning tree removal effect on noise.

Since the PCEP will not result in significant noise impacts under project conditions, there is no project requirement for noise mitigation. Regarding cumulative noise, where the PCEP would contribute adversely to significant cumulative noise, then Caltrain will contribute its fair-share to the ultimate mitigation. Within Palo Alto, cumulative noise impacts (assuming freight and other non-Caltrain passenger service increases actually occur) in 2020 would occur at two locations (Study Location 36 near the California St. Station and Study Location 37 near the grade crossing of W. Charleston Road). The PCEP would not contribute to the impact at Study Location 36 and would only contribute to 8 percent of the impact at Study Location 37. As described in the Draft EIR, cumulative mitigation may include quiet zones, building insulation, grade separations or other measures, as feasible. Caltrain will work with other cumulative train noise contributors on mitigation implementation.

L7-29

<u>The text has been revised to mention that Greenmeadow Way is a major access point for the Greenmeadow development</u>. However, the proposed PS5, Option 1 location is on the opposite side of Alma St. from Greenmeadow. The defined historic resource of the Greenmeadow neighborhood is on the east side of Alma St., not the west side which contains the JPB ROW. The view of the historic homes in the neighborhood is not changed in any way by the project. The view of residents of the neighborhood as they drive out of the neighborhood is an aesthetic impact, not an impact on the integrity of the historic homes. The Draft EIR concludes that location PS5, Option 1 at this location would be a significant aesthetic impact (before mitigation) but not a significant cultural resource impact.

L7-30

The visual simulation of Paralleling Station 5, Option 1, Figure 3.1-17, has been revised to include several vegetation screening options that could obscure much of the paralleling station from view (as requested in Comment L7-33). This would increase the screening of the station from view for drivers on Alma and residents of the Greenmeadow Neighborhood. The revised figure is shown in Section 3.1, *Aesthetics*, in Volume I of this Final EIR. See also responses to comments L7-31 through L7-33 and Master Response 6 (Visual Aesthetics including Tree Removal). Mitigation Measure AES-2b was also modified to include multiple options for screening included a vegetated wall or fence as suggested by the City of Palo Alto.

The City's opinion about the residual impact is noted, but ICF's conclusion is that with mitigation, the aesthetic impacts would be less than significant, particularly since the paralleling station would be located in a context between an arterial roadway (Alma) and active railroad tracks.

L7-31

PS5, Option 2 would not be visible from residences near Alma/California, which is approximately 0.3 mile northwest with no clear line of sight. The Draft EIR describes that vegetation along Alma screens the PS5, Option 2 site from view from residences along Alma. A review of the tree impact areas along Alma adjacent to PS5, Option 2 indicates that the vegetation along Alma at this location outside the JPB ROW would remain intact as the ESZ is limited to the JPB ROW at this location.

PS5, Option 2 is a feasible location. However, a mixed residential/commercial project at 195 Page Mill Road ("Park Plaza") is being constructed on the property immediately to the south of the PS5, Option 2. PS5, Option 2 would be directly adjacent to residences whereas PS5, Option 1 would be across Alma Street from residences.

The commenter's preference for PS5, Option 2 is noted. All options are analyzed at an equal level of detail.

Regarding grade separations, the nearest road crossing is Oregon Expressway which is already grade separated. The next nearest road crossing is W. Meadow Drive, which is over one mile away. If PS5, Option 2 is selected, it should not preclude grade separations.

L7-32

Caltrain evaluated potential locations for PS5 at/near the San Antonio Station or under the San Antonio Road overpass.

Under the overpass, there is insufficient overhead space for a paralleling station which requires a nearly 40 foot overhead gantry system. In addition, there is inadequate space for the station equipment itself in the ROW at this location.

Caltrain also evaluated the potential to locate a paralleling station on the west side of the JPB ROW north of the San Antonio overpass within the City of Mountain View. There is insufficient space to locate a paralleling station within the JPB ROW entirely which would require property acquisition on a commercial parcel between San Antonio Circle and Del Medio Avenue. Without displacing the business entirely, a location in the loading area was identified that would technically work. However, this location is adjacent to multi-family residential homes along Del Medio Avenue and thus such an alternative would not have a lower aesthetic impact to residences. Trading aesthetic impact from the Greenmeadow residents to the residents along Del Medio Court would not meaningfully lower the impact of the project.

Furthermore, since the EIR concludes that the aesthetic impact at PS5, Option 1 can be mitigated to a less than significant level, there is no need to analyze additional alternatives relative to PS5, Option 1 other than PS5, Option 2, which was evaluated in the Draft EIR.

L7-33

Please refer to the response to comment L7-30.

L7-34

The general plan elements and ordinances were limited to the Cities of South San Francisco and San Jose because those are the only two cities in which there would be traction power substations located wholly outside of the Caltrain ROW. The Proposed Project would minimally extend outside of the Caltrain ROW in some locations for construction access, staging and storage, and to accommodate the OCS (OCS) and vegetation maintenance where the OCS outer pole alignment is near the edge of the Caltrain ROW. All other TPFs and OCS poles would be located within Caltrain's ROW where local ordinances do not apply. Palo Alto Comprehensive Plan policy L-51 has been added to Section 3.4.1.1. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR.

L7-35

The Julia Morgan building to which the comment is referring is the 1918-built YMCA Hostess House, designed by Julia Morgan. This building is located outside of the Project's area of potential effects (APE). Therefore, the potential for the building to be visually affected by the Project is minimal. The existing Palo Alto Caltrain Station is between the tracks and the Hostess House, therefore minimizing views of and from the building. Additionally, the setting has been significantly altered since the building's period of significance (1918–1945) when its use as a veterans' hall declined. The property was listed on the NRHP in 1976; review of historic aerials indicate the setting – primarily the development of a landscaped parking lot and the addition of shelters for the train station – has been altered between 1980 and 1987, both since its period of significance and its listing on the NRHP. Therefore, in an overall assessment the Project would not result in a direct or indirect impact on the Julia Morgan building.

The EIR assessed impacts to all other resources mentioned in this comment.

L7-36

The text has been revised to indicate that impacts to the Palo Alto Station would be less than significant after mitigation. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR. This was a typographical error on line 7 of page 3.4-22; the overall conclusion and mitigation measure have not changed.

L7-37

Given the landmark status of the tree, the design was altered to place the OCS within the San Francisquito Bridge superstructure and thus avoid the need for significant pruning of this tree. Where outer limbs encroach on the bridge superstructure, minor trimming will be conducted consistent with current maintenance practices for safety. Since trimming is already occurring for limbs that encroach on the bridge, this is not a project impact as measures against baseline practices.

Minor trimming will not result in a significant impact on the historic resources because the removal of a small amount of growth would not result in an alteration such that the tree's historical integrity would be diminished and would not represent a change from current practice. Therefore its significance as a historical resource would not be impaired. Text has been changed to be consistent with the El Palo Alto discussion in Section 3.3, *Biological Resources*, which states some pruning would be necessary consistent with current practices. A cross reference to Mitigation Measure BIO-5 has been added. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR.

As discussed in Section 3.2, *Air Quality*, dust abatement is already included in the project description. In proximity to El Palo Alto, there should be minimal dust generation as the only activities will be work to attach the OCS to the bridge (which should not generate dust) and pole foundation work away from the bridge (which also should not generate substantial dust). There is no proposed grading near El Palo Alto. As such, beyond the required dust abatement, needle washing should not be necessary.

As part of overall implementation of Mitigation Measure BIO-5, Caltrain will coordinate with Palo Alto, including concerning El Palo Alto. Any protections for El Palo Alto can be incorporated into the overall tree plan without need for a separate plan.

L7-38

Comment noted. At the University Avenue underpass, per the mitigation, the OCS wire would be suspended above and parallel to the existing line, rather than attaching it to the bridge, which will avoid altering the historic fabric of the bridge. The text has been revised to delete the last sentence, which was a typo. Mitigation Measure CUL-1f was modified to include reference to the Secretary of Interior Standards for the Treatment of Historic Properties.

L7-39

While paralleling station PS5, Option 1 can be seen while exiting from Greenmeadow Way which leads to the Greenmeadow historic district, it would not cause a change in the significance of the historic district itself. Thus, a cultural resource impact is not identified to the historic district. The aesthetic impact of the paralleling station PS5, Option 1 is to the views from residences along Alma Street itself and the first few houses along Greenmeadow Way, which are all outside the historic district.

The Proposed Project would not alter the district's characteristics that convey its historical significance and that justify its inclusion in the NRHP and CRHR, which is as a district of Mid-Century Modern architecture designed as a community. The nomination (2005) describes the district as having been designed with a philosophy of "centralized recreation facilities organized along looping roads that discouraged through traffic" and that Greenmeadow is exemplary of this strategy. It also states that it was laid out with an "inwardly turned street pattern". This overall plan, which is oriented away from Alma St., is an important character-defining feature of the district.

The Greenmeadow historic district does not extend to Alma Street. It starts approximately 250 feet east of Alma Street (NRHP registration form 2005) and the nearest portions of the district include houses along the southwest side of Creekside Drive that are oriented northeasterly and away from Alma Street. There are no homes in the historic district with a direct view toward Alma Street. There are also non-historic homes between the Greenmeadow District and Alma Street. From within the historic district, the closest view of the PS5, Option 1 location is a distant view from at least 250 feet away along Greenmeadow Way. The view from the small circular park at the northeastern end of Greenmeadow Way, which is approximately 750 feet from Alma Street, is of a tree-lined street and Alma Street (and the proposed PS5, Option 1), would be far in the background of any view from this location.

Therefore the Proposed Project will have no impact on the character-defining features of the historic district, and no mitigation is necessary. Review of a 1956 aerial photograph shows that only a few immature trees were in existence between the tracks and Alma Street, not sufficient to block views of the track when exiting Greenmeadow, during its period of significance of 1954-55. Additionally, a number of homes have been constructed between the Greenmeadow historic district and Alma Street subsequent to the district's period of significance and there are other structures not part of the district (including a church and a synagogue), which segregates the district from the conditions along Alma St. now and in the future.

L7-40

Comment noted. Caltrain looks forward to working with the City of Palo Alto.

3.2.17 Responses to Comment Letter L8

L8-1

Comment noted. Please see responses to comments L8-2 through L8-10.

L8-2

See Master Response 2 (Alternatives) and Master Response 6 (Visual Aesthetics including Tree Removal) concerning alternative pole designs to be considered as part of Mitigation Measure BIO-5.

L8-3

The light fixtures on the existing platform are not part of the historic station resource. As such consistency of the OCS poles with the light poles is not necessary as historic resource mitigation.

That said, Mitigation Measure AES-2b has been modified to require Caltrain to coordinate with local jurisdictions during OCS pole design relative to station aesthetics.

Adoption of location-specific options may or may not be feasible given alignment, safety, and maintenance considerations but Caltrain will consult with the City.

L8-4

As noted above, Caltrain will coordinate with the City during final pole design.

L8-5

<u>Mitigation Measure AES-4a has been revised to include notification of residences and to provide a point of contact for concerns.</u> This change is shown in Section 3.1, *Aesthetics*, in Volume I of this Final EIR.

L8-6

<u>The JPB will work with the City of San Carlos to determine whether to include the trees to be planted at the Transit Village in replacement requirements per Mitigation Measure BIO-5.</u> If the trees are not planted by the time of the PCEP construction or do not fall within the ESZ, then there would be no reason to include them in the tree count as these trees would not be removed or trimmed.

L8-7

As prescribed in Mitigation Measure BIO-5, for trees removed outside of the Caltrain ROW in the City of San Carlos, the JPB will replace protected trees using the local requirements described in Appendix F, Attachment 1. In San Carlos, the JPB will replace trees at a 1:1 ratio for protected trees and at a 1:1 ratio for non-protected trees. Protected trees will be replaced with a 24-inch box and non-protected trees will be replaced with a 15-gallon tree. Protected trees within Caltrain's ROW will be replaced at a 1:1 ratio using 15-gallon trees, where feasible. As prescribed in Mitigation Measure BIO-5, if there is not space for tree replacement within Caltrain's ROW, then tree replacement may occur on other part of the affected property. Alternatively, JPB may pay into a local urban forestry fund to support local tree planting programs. <u>Regarding maintenance, maintenance requirements have been included in revisions to Mitigation Measure BIO-5. Mitigation Measure BIO-5 was also revised to require tree replacement even when trees are in industrial areas.</u>

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L8-8

Relative to the San Carlos Transit Village, there would be no poles located outside of the Caltrain ROW and the ESZ would also be within the Caltrain ROW meaning that the PCEP should not encroach on the ability to build the San Carlos Transit Village.

There could be issues if the transit village proposes to plant trees within the Caltrain ROW. The JPB will coordinate with the City of San Carlos regarding the final design for the locations of OCS poles.

Please refer to the PCEP OCS/OCS/ESZ Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, parcel lines, and which trees or tree canopy areas fall within the ESZ.

L8-9

Comment noted.

L8-10

Comment noted. Caltrain looks forward to working with the City of San Carlos.

3.2.18 Responses to Comment Letter L9

L9-1

Comment noted. SFCTA's comments in support of the proposed project are noted. Please see responses to comments L9-2 through L9-67 for concerns raised by SFCTA.

L9-2

The PCEP is not designed to construct all the facilities necessary for blended service. The PCEP only includes the infrastructure necessary to provide Caltrain electrification. However, the 25 kV 60 Hz OCS power system is compatible with HSR trains. That is the limit of compatibility concern at this time. Platform design is not proposed to be changed in any way with the PCEP and the PCEP does not preclude future platform changes that might be proposed. That is an issue for the blended service design and the separate environmental process.

L9-3

The PCEP does not proposed 110 mph service and is limited to 79 mph because the PCEP does not include system upgrades necessary to reach higher speeds safely. The electrical infrastructure (in terms of the OCS wires) can be used for trains going up to 79 mph and up to 110 mph. Blended service improvements to accommodate speeds higher than 79 mph will need to be considered in the separate design and environmental process for blended service, as discussed in the cumulative section.

L9-4

The comment about using the Peninsula Corridor Working Group to discuss blended service issues is noted. This comment is not about the adequacy of the PCEP EIR and no further response is necessary.

L9-5

The comment about the decision to use a Design-Build approach is appreciated. The updated cost estimate for the project will be available at the time of the Final EIR and will be shared with the partners to the MOU. While the cost estimate is an important matter for public policy, it is not a critical item for the EIR as the environmental impacts of the project are related to the project description and the physical impacts of the project, not to the cost for the project.

L9-6

Comment noted. Caltrain looks forward to working with SFCTA.

L9-7

Potential future flood risk was determined by comparing coastal flooding elevation to trackbed elevations. This change is shown in the Executive Summary Section S.6, *Summary of Environmental Impacts and Mitigation*, in Volume I of this Final EIR. Mitigation for flood risk is included in the project. A specific design level for sea level rise has not yet been identified.

L9-8

Comment noted. No special clearances are required under CEQA for impacts to parks.

Regarding NEPA, The previously approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) under NEPA was determined to be valid for the Proposed Project by FTA (federal lead agency). All NEPA determinations are up to the FTA, not Caltrain. This does not concern the EIR, which is done in accordance with CEQA, not NEPA.

L9-9

Cumulative train service along the Caltrain corridor includes High-Speed Rail, ACE, Capitol Corridor, Coast Daylight, Coast Starlight, Dumbarton Rail Corridor, and freight, as discussed in Section 4.1, *Cumulative Impacts*, of the Draft EIR and summarized in Table 4-8 on page 4-34. See also Master Response 8 (Train Noise).

L9-10

The PCEP project is only proposed to operate up to 79 mph. Blended service, as conceptually understood today is envisioned as operating up to 110 mph. There is no assumption that Caltrain will never operate faster than 79 mph but operating faster than 79 mph is not part of the PCEP. Costs for system improvements necessary to accommodate higher speeds have not yet been developed because blended service has not yet been designed. That is an issue for the separate design and environmental process for blended service.

L9-11

A described in Chapter 5 of the EIR, a "factory train" is a new method being applied to OCS installation for the first time in 2014 for a project in the United Kingdom. The potential environmental impacts of this construction method are disclosed adequately at a general level in the EIR.

Regarding impact to service, as described in Footnote 9 on page 5-31 of the Draft EIR, it was presumed that the factory train would operate on one line at a time at night to minimize disruption to passenger rail service, while leaving one line open for freight or passenger use. Thus daytime passenger rail use along the 80 percent installed with the factory train would be able to continue but there would still be conventional construction disruption on the other 20 percent.

The Draft EIR estimates that OCS installation overall might be 15 to 17 months shorter than conventional installation.

As to cost, no cost estimate has been prepared at this time as this is a brand new method without any history of actual costs for completed OCS work. If the JPB (and/or the Design-Build Contractor) were to propose use of a factory train, then a detailed cost estimate would need to be prepared likely looking closely at the actual cost experience of the United Kingdom project underway in 2014. For the Draft EIR, it is considered that this method might result in notable cost savings, particularly given the reduction in OCS installation timeframe.

L9-12

As described in the Draft EIR, minor tunnel improvements (minor notching and/or track lowering) is included in the project description that will ensure that tunnel clearances will allow continued use of freight using existing height equipment on the Caltrain corridor such that project-level mitigation is not required. The comment about low-profile OCS fasteners is noted.

L9-13

CPUC rule-making 13-03-009 concerns safety standards for use of 25 kV electric line to power high-speed trains. It is unclear at this time whether it will or won't apply to the PCEP electrification system and blended service. The proposed General Order defines the "High Speed Rail Right-of-Way" as: "*A railroad right-of-way, including main tracks and all related station, siding, lead and yard tracks, dedicated solely to passenger use with no public highway-rail grade crossings, in which no freight operations occur at any time*." (General Order Section 2.22, emphasis added).

Since the order, by definition only applies to ROW with no grade crossings, then access control and grade separations are not addressed in the proposed General Order.

If CPUC rule-making 13-03-009 remains limited exclusively to grade-separated high-speed rail ROW, then there would be separate rule-making for use of 25 kV electric lines for other rail locations, such as the Caltrain corridor, which has grade crossings and which is shared with freight.

L9-14

As described in the 9-party MOU, CHSRA has identified a commitment to secure approval and release of $600 million in Proposition 1A funds for PCEP capital costs. Other sources of funding for the project as shown in Table 2-5 in the Draft EIR, include Proposition 1B, JPB contributions, Regional sources such as tolls and BAAQMD funding and the FTA. <u>As shown in revisions to Chapter 2, *Project Description*, in the Final EIR, other sources of funds necessary may include JPB Financing / TIFIA (Transportation Infrastructure Finance and Innovation Act) Loans, JPB fares, Regional Measure 2 funds, State Cap and Trade proceeds, FTA Core Capacity funding, and FTA Vehicle Replacement funding.</u>

CHSRA can only obligate Proposition 1A funds and transfer to the JPB after the completion of the PCEP environmental process and after fulfilling any Proposition 1A funding-related requirements.

As to what would be the impact on project schedule if sufficient funding is not available for construction, then construction would be delayed until sufficient funding is available. As discussed in Master Response 3 (Use of Proposition 1A Funding), if for some reason Proposition 1A funding is not available, as this is the bulk of the capital costs, then new sources of funding would need to be secured or the project could not be completed.

L9-15

The proposed mitigation (TRA-1C and TRA-CUMUL-1) at 7th Street/16th Street is to widen the northbound approach on Mississippi Street to lengthen the left turn pocket from Mississippi to 16th Street, remove parking lane along 16th Street near 7th Street to create a third lane for the eastbound approach and revise signal timing and phasing to better coordinate 7th, 16th, and Owens Street. This will reduce the project's effect on vehicle delay at this location to a less than significant level. The design of these improvements has not yet been completed, but will be coordinated with the City and County of San Francisco.

Bike facilities should not be negatively affected by the PCEP, but the demand for bike facilities will increase which Caltrain will address through ongoing bike facility upgrades per the Caltrain Bicycle Access and Parking Plan as described in the Mitigation Measure TRA-4b. The exact facilities by station have not yet been identified, but design of the improvements at San Francisco stations will be coordinated with the City of San Francisco.

The specific surface pedestrian facilities at San Francisco 4th and King have not yet been designed, but as described in Mitigation Measure TRA-3b Caltrain would commit to completing a study with the City and County of San Francisco to determine the specific need and type of potential improvements which may include widened curb waiting areas and added pedestrian bulbouts, pedestrian scramble at 4th and Townsend, signalization improvements at 4th and Townsend and 4th and King, widened crosswalks, pedestrian barriers, and improved signage. The design of these improvements has not yet been completed, but will be coordinated with the City of San Francisco.

L9-16

Regarding potential construction disruption to freight rail service, it is expected that freight rail service will be mostly accommodated during construction though there may be periodic delays (on the order of days, not months or years). Much of the OCS installation work can be focused on one track at a time, thus leaving the other line open for freight operations. Given the low level of train operations between Santa Clara and San Francisco, there are no expected substantial traffic impacts due to additional truck traffic due to freight rail service disruption. Further, in San Francisco, daily service is limited to one round trip train per day, such that freight rail service is relatively easier to accommodate through construction scheduling, and thus any minor disruptions to freight service should not result in substantial increases in truck traffic. Should any substantial disruption of freight rail service be necessary during construction and that disruption is expected to result in substantial truck generation to handle freight diversion, then as part of implementing Mitigation Measure TRA-2a, the JPB/Design-Build Contractor will be required to coordinate with local cities in terms of truck routing to minimize secondary effects on roadway traffic.

L9-17

Per Mitigation Measure TRA-1A, the Caltrain would coordinate with local jurisdictions to develop a Traffic Control Plan (TCP) to mitigate construction impacts. (See Appendix D to the Final EIR for more information.) Potential mitigation measures may include limiting the time frame of closures as much as possible and making use of alternative traffic routings.

Advance notice of all construction related street closures, durations, and detours would be provided to local jurisdictions and motorists. If necessary, a Maintenance of Traffic Plan and / or a Traffic Management Plan would be established in accordance with *Caltrans' Manual on Uniform Traffic Control Devices.* These plans would be coordinated with local agencies in advance of implementation.

L9-18

<u>A total operating and maintenance (O&M) estimate for the PCEP is in progress. The specific costs associated with operating and maintaining the rail services and infrastructure analyzed in the PCEP EIR will be influenced by organization and management structure to be further examined and refined through the design-build contractor and vehicle procurement and contract approvals targeted for late 2015.</u>

<u>Operating fuel costs have been estimated for the PCEP and the analyzed alternatives and are presented in Chapter 5, *Alternatives.*</u>

L9-19

See Master Response 1 (Segmentation and Independent Utility). High-speed rail service will require its own separate environmental review per the requirements of CEQA. This EIR discloses the potential environmental impacts of blended service in the cumulative analysis (see Chapter 4), as it is understood today. The only aspect of the PCEP that needs to be compatible at present is the electrical infrastructure which is compatible with future high-speed rail use.

L9-20

The project does not include any proposed platform or access improvements as the platforms and access, except at 4th and King, were not identified as significantly affected by the project. At 4th and King, mitigation is required for station area improvements to support increased bicycle and pedestrian access to and from the 4th and King Station.

Caltrain system-wide ridership under Existing Conditions in 2013 was 46,560 average daily boardings. In the January/February 2014 annual ridership counts, the average weekday ridership count was 53,466. Ridership under 2020 Project conditions would be 67,730 and No Project ridership would be 55,830 boardings. As a result, current ridership (as indicated in the January/February 2014 annual ridership counts) has not exceeded future ridership forecasts for 2020 Project or No Project, as suggested by the above comment. Under the 2020 and 2040 Project conditions, the system would have the capacity to handle ridership demand within the three-hour morning and evening peak periods. The 2020 Project scenario is an intermediate stage between Existing Conditions and 2040 Project during which capacity would increase to 2040 Project levels with ridership growth approaching, but not matching or exceeding that of the 2040 Project scenario. Based on these findings additional system capacity in the form of more trains per peak hour would not be needed to meet ridership demand within the peak periods under both 2020 and 2040 Project scenarios.

For more details on the capacity analysis for the future Caltrain system, please see Master Response 4 (Ridership and Capacity).

L9-21

PCEP has a proposed construction schedule to be complete by 2020.

At present, DTX does not have a construction schedule due to funding uncertainty, but it is not expected that DTX will be in construction until sometime after the PCEP is completed. The JPB is coordinating with DTX in terms of DTX design to ensure that it will work for Caltrain.

Regarding the potential idea of undergrounding Caltrain's 4th and King station, this is only an idea at the feasibility study phase and this concept has not been formally proposed, included in any approved land use or transportation plan, or subject to any environmental review. Moreover, there is no identified committed funding for undergrounding the station. Thus, for the purposes of CEQA, it would be speculative to evaluate such a proposal at this time. Furthermore, there is little to no probability that, even if such a concept is advanced, that it could possibly be in construction before 2020.

Thus, the PCEP, in all likelihood, will be completed before either DTX or any undergrounding concept (if undergrounding is actually pursued).

L9-22

A quality assurance/quality control check of the EIR has been made. Several editorial changes are shown in underline and strikeout in Volume I of this Final EIR.

L9-23

An updated cost estimate for construction and operations has been included in the Final EIR. An approximate schedule was included in the Draft EIR.

The JPB will coordinate with all MOU signatories on funding, budgeting, and construction schedule during project implementation. This is not relevant to the CEQA process.

L9-24

CEQA allows that current conditions as of the time of the Notice of Preparation are an appropriate basis for describing existing conditions. The service summary on page ES-1 (92 trains per day, five trains per peak hour per direction, etc.) is the same operational service as of August 2014.

No revisions to the EIR are necessary in relation to this comment.

L9-25

The PCEP will provide electrical infrastructure that is compatible with high-speed rail future use. Any other improvements necessary for high-speed rail to operate on the Caltrain corridor are outside the project scope

L9-26

The text was revised to describe the DTX more completely, as more than electrification infrastructure alone. This change is shown in Section S.4.5 in Volume I of this Final EIR.

L9-27

Increasing the speed of Caltrain service beyond the current 79 mph is not an objective of the project and is not necessary to meet the project objectives. Therefore it need not be discussed in Section S.3

L9-28

Rail speed limits are regulated by the FRA. Speed restrictions are based on a number of factors including curvature, signaling, track condition, the physical condition and the presence of grade crossings. The highest rated segments along the Caltrain Corridor are Class 4. This information has been added to Section S.4.5.

L9-29

The types of tunnel modifications that may be required have been summarized. This change is shown in the Executive Summary in Volume I of this Final EIR.

L9-30

The referenced statement on grade separations is accurate to Caltrain's policy. Caltrain does not have funding to adopt a comprehensive program of grade separations for the Caltrain Corridor and Caltrain does support grade separation when local jurisdictions support them and where funding can be obtained from local, state, and federal sources.

No revisions are required pursuant to this comment.

L9-31

Under CEQA, there is a Proposed Project and there are project alternatives. The Proposed Project is not called a project alternative under CEQA. No changes are necessary.

L9-32

The text has been revised to indicate that the JPB selected the alternatives for further analysis. This change is shown in the Executive Summary in Volume I of this Final EIR.

L9-33

The commenter is confusing the DMU alternative with considerations for EMUs.

Caltrain uses double-deck coaches at present and may use bi-level EMUs with the PCEP. But these pieces of equipment have vertical heights nominally 15 feet or less, which will fit in the San Francisco tunnels.

As discussed in Chapter 5, based on available double-deck DMU models employed in the U.S. at present, they are too tall to fit through the San Francisco tunnels. Also see Master Response 2 (Alternatives) for further discussion of double-deck/bi-level DMUs.

L9-34

The project tunnel modifications to accommodate existing freight trains are quite small (on the order of 0.5 to 1.5 feet) which can be easily done with minor notching and/or track lowering to allow clearance for trains up to 15.5 feet in height.

The available double-deck DMU models employed in the U.S. at present are 19 feet 8 inches to 19 feet 10 inches tall. Thus you would need a total of 4.5 to 5.5 feet of additional clearance, which would require major structural changes to the San Francisco tunnels which would not only be highly costly but would substantially modify the historic condition of the tunnels as well.

Also, please refer to Master Response 2 (Alternatives) for further discussion of double-deck DMUs.

L9-35

The comment is noted, but the use of a factory train could lower the OCS construction schedule by 15 to 18 months which would lower the duration of significant construction period impacts, which qualifies it to be considered an alternative. CEQA does not limit alternatives to only operational alternatives. The JPB is not presently proposing to use a factory train, thus this is an alternative and not part of the proposed project, in particular because this is a brand new method that is only being used for the first time in the world in 2014 for one project in the U.K.

L9-36

The commenter is correct that overall groundwater recharge in the vicinity would not be largely altered as part of the Proposed Project. However, there is potential for groundwater dewatering to occur if shallow groundwater is encountered during the installation of OCS poles and/or utility relocation/installment. Shallow groundwater may be encountered in the vicinity of San Francisco Bay in San Francisco, San Mateo, and Santa Clara Counties. Mitigation Measure HYD-1 was revised to specify that dewatering would only be implemented if necessary. This change is shown in Section 3.9, *Hydrology and Water Quality* in Volume I of this Final EIR.

L9-37

"Analyses was" was changed to "analyses were" to correct a grammatical error. This change is shown in Section 1.2 in Volume I of this Final EIR.

L9-38

One sentence was added stating that the Transbay Joint Powers Authority will build an extension of the line from 4th and King to the Transbay Transit Center. This change is shown in Section 1.3.1 in Volume I of this Final EIR.

L9-39

The text was refined to note that Proposition 1A identified not just the City of San Francisco but the Transbay Transit Center in the City of San Francisco as the northern terminus for a high-speed train from Los Angeles to the Bay Area. This change is shown in Section 1.3.5 in Volume I of this Final EIR.

L9-40

All occurrences of "Transbay Terminal" and "Transbay terminal" were replaced with "TTC," the acronym for "Transbay Transit Center." This change is shown in Section 1.3.5 in Volume I of this Final EIR.

L9-41

The word "initial" was deleted from the sentence describing MOU funding commitments. This change is shown in Section 2.2 in Volume I of this Final EIR.

L9-42

The impact of project construction on existing passenger and freight service is addressed in Section 3.14, Impact TRA-2a. As discussed therein the majority of work can be accomplished during the night-time using single-track access which would not disrupt passenger or freight service. However, where multiple tracks needs to be closed, then the Caltrain schedule may have to be temporarily changed and stations may have to be temporarily closed. Mitigation Measure TRA-2a requires limiting closure of tracks to off-peak periods and weekends where feasible, minimization of multi-track closures as much as feasible, and coordination with local and regional transit providers to provide alternative transit service around any planned closures.

L9-43

It is unclear, based on the comment, what is contradictory. Lines 23-24 on page 2-11 of the Draft EIR state, "The EMU vehicle for the Proposed Project would be a multi-level car of comparable dimensions to the existing Caltrain gallery car." The descriptions on page ES-21 of the Draft EIR are about the Diesel Multiple Unit (DMU) Alternative and the Dual-Mode Multiple Unit (Dual-Mode MU) Alternative. There is no description on the proposed EMU vehicle for the Project on page ES-21 of the Draft EIR. Page ES-9, lines 26-27, of the Draft EIR has an identical sentence to lines 23-24 on page 2-11 of the Draft EIR: "The EMU vehicle for the Proposed Project would be a multi-level car of comparable dimensions to the existing Caltrain gallery car."

L9-44

As discussed in response to Comment L9-35, the use of a factory train is not proposed by the JPB at this time. The commenter's advocacy for this construction method is noted.

L9-45

The text has been revised to note that the selection of the design-build approach is a project acceleration strategy.

L9-46

The updated cost estimate is included in the Final EIR. Caltrain will continue to coordinate with the MOU signatories.

L9-47

As noted above, the updated cost estimate for the project will be available at the time of the Final EIR and will be shared with the partners to the 9-party funding MOU. While the cost estimate is an important matter for public policy, it is not a necessary item for the EIR as the environmental impacts of the project are related to the project description and the physical impacts of the project, not to the cost for the project.

L9-48

The previously approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) under NEPA was determined to be valid for the Proposed Project by FTA (federal lead agency). All NEPA determinations are up to the FTA, not Caltrain. This does not concern the EIR, which is done in accordance with CEQA, not NEPA.

L9-49

The at-grade crossings at Mission Bay and 16th Street are not part of the aesthetic setting of the 4th and King Terminal which is what this part of the EIR is discussing.

L9-50

Comment noted. Please refer to Mitigation Measure BIO-5. JPB will work with local cities and counties, in addition to affected property owners.

L9-51

Mitigation Measure AES-2b has been revised to clarify wording describing the hollow poles. This change is shown in Section 3.1, *Aesthetics*, in Volume I of this Final EIR.

L9-52

Additional language regarding track lowering in the tunnels was added to the impact analysis, but track lowering will not affect the historic resources of the tunnel. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR.

L9-53

Comment noted. The current Programmatic Agreement (PA), which does not expire until 2018, and the stipulations provided therein, regarding implementation of the project as it pertains to the potential discovery of archaeological sites was negotiated between the JPB, SHPO, and the FTA, and will be followed during construction.

L9-54

Changes made per this comment to Section 3.9.2.3 of the Draft EIR. This change is shown in Section 3.9, *Hydrology and Water Quality*, in Volume I of this Final EIR.

L9-55

It is common that EMU train consists do not always have 100 percent powered cars. A mix of powered and non-powered cars can also deliver improvements in acceleration compared to diesel locomotives. The assumption of a mix of powered and unpowered is a reasonable one for the noise analysis.

L9-56

By their very nature, backup alarms are noticeable for safety concerns. Ambient-adjusting alarms can be used to automatically lower the sound in quiet environments; however for some people the audible tone is quite annoying. There are some alternate methods and alarms that can be approved by Cal/OSHA, however in understanding the suitability of these, it is important to understand that human factors can undermine any safety system. A variety of new broadband and recorded voice alarms have the potential for reducing community annoyance while providing the necessary safety measures; these have not yet been widely adopted in the United States.

L9-57

Section 2.3.1 Caltrain Service and Schedule description in the Final EIR now reflects a headway time range of 15 to 60 minutes. This change is shown in Chapter 3.14 in Volume I of this Final EIR.

L9-58

Text has been revised to include reference to MUNI Metro. This change is shown in Chapter 3.14 in Volume I of this Final EIR.

L9-59

Text has been revised to include reference to MUNI Metro. This change is shown in Table 3.14-14 in Chapter 3.14 in Volume I of this Final EIR.

L9-60

See Master Response 10 (Traffic Analysis).

L9-61

Project Number 1 in Table 4-3 includes the Transbay Transit Center and Downtown Extension project. The “Rebuilt Transbay terminal” as it is called out in the comment letter is the Transbay Transit Center discussed in Chapter 4. The location of this project is also shown in Figure 4-1. Table 4-3 was updated to state that the Transbay Transit Center and Downtown Extension overlaps in location with the proposed project at 4th and King Street. This change is shown in Chapter 4 in Volume I of this Final EIR.

L9-62

Text revised to state that Central Subway Project near 4th and King Station would be at surface approaching 4th and King. This change is shown in Chapter 4, Section 4.1.4.6, in Volume I of this Final EIR.

L9-63

Bulleted text was revised to clarify that the Muni T construction project is the Muni T line southern extension to the Caltrain Bayshore station. This change is shown in Section 4.1.4 in Volume I of this Final EIR.

L9-64

Grade separations typically involve more than one agency's jurisdiction. Therefore, as stated in Mitigation Measure NOI-CUML-1 in Chapter 4 of the Draft EIR, JPB will work with local, state and federal agencies the installation of grade separations as funding becomes available. Caltrain cannot solely make a commitment to a program of grade separations on its own as it does not have the funding to do so. No revisions to the Draft EIR are necessary.

L9-65

With a preliminary schedule for completion of DTX and substantial unknowns about the concepts to redevelop the 4th and King terminal and yard, electrification of only six of the twelve existing tracks at the San Francisco 4th and King station would substantially affect Caltrain service because it would limit operation to half of the tracks it currently uses.

Please also see the response to Comment L10-2.

This comment does not regard the adequacy of the Draft EIR. No revisions to the Draft EIR are necessary.

L9-66

Comment noted. This comment does not regard the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L9-67

The comment is noted, but the use of a factory train could lower the OCS construction schedule by 15 – 18 months which would lower the duration of significant construction period impacts, which qualifies it to be considered an alternative. CEQA does not limit alternatives to only operational alternatives. The JPB is not presently proposing to use a factory train, thus this is an alternative and not part of the proposed project, in particular because this is a brand new method that is only being used for the first time in the world in 2014 for one project in the U.K.

3.2.19 Responses to Comment Letter L10

L10-1

The City of San Francisco's comment in support of the proposed project is noted. Please see responses to comments L10-2 through L10-57 for concerns raised by the City of San Francisco.

L10-2

The PCEP as a whole has independent utility to provide electrified service between San Jose and San Francisco starting in 2020. It has identified funding and does not require completion of the

Downtown Extension (DTX) project or the high-speed rail project in order to provide electrified service to San Francisco and San Francisco Peninsula residents, employees and visitors. Please also see Master Response 1 (Segmentation and Independent Utility) concerning independent utility.

The schedule for the DTX project is uncertain due to funding uncertainty. Given that uncertainty, it is highly unlikely that DTX will be completed by 2020 and it is most likely that the DTX will be completed some years after 2020. High-speed rail service is proposed to arrive in San Francisco by the earliest in 2026 per the 2014 Business Plan. The exact timing of actual HSR service is subject to some uncertainty as well.

The City is presently conducting a feasibility study for potential Fourth and King Station reconfiguration/change along with the study of the potential for removal of a portion of I-280 and related concepts. The outcome of that study is unknown at this time. Furthermore, there is no adopted land use or transportation plan and no identified funding to redevelop the site or underground the surface 4th and King Station at present. While redevelopment and reconfiguration of the station and yard may prove to be feasible and funding may be identified at some point in the future, at present, the concept is not fully developed and fully proven as feasible. Thus, no reasonable assumptions can be made about what is or is not reasonably foreseeable at the 4th and King Station and yard. Under CEQA, such preliminary concepts are considered be speculative and CEQA does not require their consideration in a cumulative analysis.

The PCEP can start to provide tangible transportation, air quality, and GHG emission reduction benefits starting in 2020 in advance of DTX, HSR, and any potential long-term development of the 4th and King. Given the uncertainties in timing of DTX, HSR, and potential redevelopment, there is demonstrable independent utility in electrifying the San Francisco 4th and King station as it is configured today. Needless delay in completing the PCEP would mean delaying the transportation, air quality, and GHG emissions benefits in favor of an uncertain completion timing of these other efforts.

There is no need for revision of their pursuant to this comment.

L10-3

The comment asserts that there are conflicts with the DTX project. As discussed in the Draft EIR, page 4-118, Caltrain has coordinated with TJPA and has not identified any conflicts that would hinder DTX completion as proposed.

The PCEP Draft EIR describes that PCEP will in all likelihood be completed before DTX.

TJPA, in their comments on the PCEP Draft EIR and in subsequent coordination with Caltrain has clarified that reconfiguration of the 4th and King surface station is not part of the DTX project. As such, the electrification of the 12-tracks leading to the existing 6 platforms at the station would not be a conflict with the DTX project.

Caltrain has coordinated with DTX and identified that DTX construction will require temporary disturbance on the north side of the Fourth and King Station and temporary relocation of OCS poles and wires in certain portions of the yard during construction but will not require platform modification. While an additional cost, the temporary relocation of OCS poles and wires in a portion of the yard would be a minor increase in DTX construction effort overall compared to other DTX construction effort (see response below to L10-9, 10, 11 on costs).

The DTX project also presumes realignment of several of the approach tracks south of the 4th and King station east of the 7th Street overcrossing. TJPA assumes these tracks will be relocated as part of a separate platform reconfiguration project by others. At present, Caltrain has no funding to implement platform reconfiguration at 4th and King or associated approach track reconfiguration. If funding is located and platform reconfiguration and associated approach track relocation is conducted before DTX, then no track relocation would be required as part of the DTX project. If platform reconfiguration and associated approach track relocation is not conducted before DTX, then DTX will need to complete the track relocation and ensure access to the current configuration of the 4th and King Station platforms. This would require permanent relocation of the OCS poles and wires along with the tracks to be relocated. Permanent relocation of OCS poles and wires associated with relocation of approach tracks (if not completed by Caltrain prior to DTX), would also be a minor increase in DTX cost.

As discussed on Page 4-119, Caltrain will continue to coordinate with TJPA to examine opportunities to coordinate construction of the Proposed Project and potential station reconfiguration to minimize the need for additional work.

Chapter 4 of the EIR has been revised to explain the interaction of the Proposed Project and the DTX project in light of the discussion above.

L10-4

Please refer to Master Response 4 (Ridership and Capacity) which discussed system capacity in greater detail. The PCEP is proposed to help address increased transit demand, but may not accommodate all potential future demand without further improvements to the corridor. While that may be desirable, that is not an adverse impact of the PCEP, since the PCEP will improve transit conditions compared to not doing the project.

L10-5

This comment is descriptive in nature and does not comment on the EIR adequacy and thus no response is required.

It should be noted that the Draft EIR does not state that the Draft EIR is environmentally clearing the advanced signal system (CBOSS PTC) or Blended Service. CBOSS PTC is already environmentally cleared and is in construction. Blended Service is a separate project and is only discussed in the cumulative section.

L10-6

The PCEP can proceed independently from other Core Capacity projects described in the 9-party MOU, which are described as "*needed upgrades to stations, tunnels, bridges, potential passing tracks and other track modifications and rail crossing improvements including improvements and selected grade separations required to accommodate the mixed traffic capacity requirements of high-speed rail service and commuter services"* because the PCEP is not designed to provide Blended Service. The PCEP does not preclude Blended Service, but that is very different from enabling Blended Service. See Master Response 1 (Segmentation and Independent Utility) concerning the independent utility of the PCEP.

The PCEP EIR does not describe the DTX project as conceptual as the comment asserts. The PCEP EIR describes the accurate status of the DTX project as having environmental clearance but lacking in sufficient identified funding and thus lacking in an adopted construction schedule.

The comment asserts that "San Francisco projects at 4th and King" are Core Capacity projects. It is unclear what "projects" the comment is referring to. If the reference is to reconfiguration of the 4th and King Station originally described in the 2004 TJPA EIS/EIR, TJPA, in their comment letter on the PCEP Draft EIR, stated that the DTX project "will include only limited modifications to the Fourth and King Station platforms and yard necessary to construct the Fourth and Townsend Underground station, cut and cover tunnel and U-Wall" and that "Further improvements to the Fourth and King Station surface facilities would be carried out by others as a separate project." If the reference is to the City's exploration of potential redevelopment of the Fourth and King Yard, such redevelopment is not necessary to provide blended service and thus would not qualify as a Core Capacity project. If the reference is to the DTX project, that project is a previously approved separate project from blended service, previously approved, and is not part of the Core Capacity projects.

L10-7

The comment asserts that one of the purposes of the original station reconfiguration at Fourth and King in the 2004 DTX EIS/EIR is to "allow for other program and development opportunities at the 4th and King site". A review of the 2004 DTX EIS/EIR could not identify any such specified "development opportunities" purpose for the Fourth and King station reconfiguration described in the 2004 DTX EIS/EIR.

The PCEP Draft EIR correctly describes that electrification of the Fourth and King Station in its present configuration does not dictate future outcomes of the site whether they are reconfiguration of platforms, redevelopment, or both. OCS poles and wires can be readily relocated to new locations and do not create an immovable impediment in the same way that tunnels, new track alignments, or large concrete structures would.

The design of the future platform configuration at the Fourth and King Station is not known as there is no agency currently proposing such reconfiguration or advancing such reconfiguration through the environmental review process or with identified funding. As noted in prior responses, Caltrain does not have sufficient funding for platform reconfiguration. In addition, the CHSRA, in their comment letter on the PCEP Draft EIR described the potential that CHSRA may consider an interim terminal at the Fourth and King surface station in the event that DTX is delayed beyond the expected timing of HSR service on the Caltrain Corridor (currently planned for as early as 2026).

The PCEP does not need DTX or HSR to be completed to function and there is uncertainty as to the exact future plans for the Fourth and King Station and the timing of any changes. Thus, the most reasonably foreseeable situation is that the PCEP will be the first project to reach the Fourth and King Station, as it is the only one of the separate projects affecting the station that has a current schedule and has funding necessary for construction.

L10-8

This comment asserts that the Draft EIR assumption of two trains per peak hour to TTC "drives the layout at Fourth and King".

The 2020 in-service date for PCEP, before DTX, before HSR, and before any potential redevelopment that might be realized by the City of San Francisco in the future dictates the OCS pole and wire design at Fourth and King, not the number of Caltrain trains that ultimately service TTC. As noted in prior response, electrifying the current platforms does not preclude platform reconfiguration as OCS poles and wires can be relocated.

L10-9, 10, 11

As described in response to prior comments, placement of OCS poles and wires does not create a profound impediment to future station platform reconfiguration. While redevelopment of the site is speculative at this time, OCS poles and wires can be removed and relocated if redevelopment comes to fruition as well.

The JPB shares San Francisco's concerns about public funds. As described on page 4-119 in the Draft EIR, Caltrain would prefer to electrify the 4th and King Station after platform reconfiguration to help avoid additional cost as well as disruption to its riders, but at this time due to funding limitations that does not appear likely. PCEP funding and available JPB funding is not sufficient to complete station reconfiguration as part of the PCEP. TJPA has clarified that DTX project does not include Fourth and King platform reconfiguration and that platform reconfiguration has always been described as a separate project by others. San Francisco is engaged in a multi-phase multi-year evaluation of the potential for redevelopment and reconfiguration of the Fourth and King station and yards but the outcome of this process if unknown. Thus, the likelihood and timing of platform reconfiguration or redevelopment is unknown as well.

Relocation of OCS poles and wires would not be a major impediment to future station platform reconfiguration. The estimated cost to electrify the entire 4th and King Station and yard is $13.5 million. This cost would fall on the Proposed Project. If and when the 4th and King Station platforms are reconfigured, assuming the TJPA 2004 EIS/EIR reconfiguration design, the cost to electrify the reconfigured tracks and platforms would be $7 million. This $ 7 million additional cost is not considered an insurmountable financial hurdle to platform reconfiguration, regardless of who ultimately implements the reconfiguration.

As to redevelopment of the entire Fourth and King Station and/or possible undergrounding or relocation of the surface station, these are far more ambitious and far more costly endeavors. Removal and relocation of OCS from the entire station and yard (beyond that noted above for platform reconfiguration) would be more costly. As the redevelopment proposals are preliminary at this time and uncertain as to feasibility, funding, and timing, redevelopment is considered speculative under CEQA. With no adopted plan and no demonstration of feasibility, it is not necessary under CEQA for the PCEP EIR to evaluate the potential impact of its design on a speculative future potential redevelopment.

The comment asserts that these issues have not been addressed in the Draft EIR, which is incorrect. The potential conflict with the originally proposed platform reconfiguration is discussed in the cumulative analysis in the EIR and the conclusion that OCS relocation is not a major conflict with potential station reconfiguration is supported by the fact that poles and wires can be readily removed and relocated and the rough cost estimates presented above are not so large that it is financially insurmountable.

As to San Francisco's request that the PCEP change its design for the Fourth and King Station to take into account station reconfiguration and/or redevelopment, there is simply no feasible way to complete such a change in design at this time without substantially delaying the PCEP. As noted above, there is no resolution between San Francisco, Caltrain and CHSRA on the ultimate configuration for the Fourth and King surface station. Also as noted above, San Francisco has not yet advanced feasible plans for redevelopment of part or more of the Fourth and King Station. The City is asking Caltrain to change its design based on a concept that has not been thoroughly studied, demonstrated to be feasible, or included in any adopted land use or transportation plan. CEQA admonishes lead agencies to not engage in speculation, which would be the only way for Caltrain at this time to change its PCEP design to account for an uncertain redevelopment concept.

The comment appears to confuse independent utility and impact analysis under CEQA. A project's environmental impacts when considering other adopted or proposed projects is a matter for impact analysis. Independent utility has to do whether a project can fulfill its objectives without the completion of another project. As noted above, the PCEP has independent utility that does not require prior completion of the DTX project, the HSR project, or redevelopment proposals. As described above, the EIR has analyzed its impact on DTX, an adopted project. As described above, San Francisco's redevelopment concepts are preliminary and thus CEQA does not require analysis of speculative impacts on these concepts.

Caltrain will continue to work with San Francisco, TJPA, and CHSRA in planning for the Fourth and King Station. Where opportunities arise to avoid future environmental impacts and expense of public funds, Caltrain intends to work with all parties, provided doing so does not come at the expense of providing the transportation, financial, and environmental benefits of the PCEP as soon as possible.

Regarding responses to prior City of San Francisco NOP comments on the Fourth and King station/yard issues, these are responded to as Comments L10-25a through L10-25g. Responses to other NOP comments are not provided as the City's comment letter on the Draft EIR does not reference those other NOP comments and thus no response is necessary.

<u>The EIR has been revised to include the additional cost estimates noted above for OCS pole and wire installation at the Fourth and King Station</u>. No further revisions are necessary pursuant to this comment.

L10-12

This comment is merely descriptive and makes no comment on the adequacy of the analysis in the EIR and thus requires no response.

L10-13, 14, 15, 16

Please refer to Master Response 4 (Ridership and Capacity) which provides responses concerning system capacity. As explained therein, the PCEP is expected to accommodate currently forecasted demand based on the ridership study and capacity analysis completed for the EIR.

This comment request analysis of the potential environmental impacts of unmet transit demand if the PCEP cannot accommodate all transit demand. While such an analysis might be of interest to transportation planners, this is not required under CEQA because it is not related to an impact of the PCEP over baseline. CEQA only requires that an EIR examine the impacts of a project compared to the identified baseline, which the PCEP EIR has provided for the traffic analysis compared to both 2020 and 2040 No Project conditions, which were used as the traffic impact analysis baseline.

Although the capacity analysis indicates that the PCEP should be able to handle forecasted demand, even if the PCEP could not handle all forecasted demand, this would not be a project impact, because the unmet demand is not caused by the project. The project need only provide an improvement related to the baseline conditions in order to be found to have a less than significant impact on regional traffic and VMT. The PCEP EIR clearly shows the regional traffic benefits of increased Caltrain service.

Since the project would not result in an adverse effect on regional traffic, there is no requirement under CEQA to consider an alternative that would provide a higher service level to address project significant impacts over baseline.

L10-17

Plan Bay Area includes RTP Project 21627 which is defined at Caltrain service frequency to 6 trains per peak hour per direction, electrification and CBOSS PTC. The PCEP is consistent with Plan Bay Area.

L10-18

Both boardings and alightings were taken into account in the analysis of pedestrian access and platform adequacy in the impact analysis in the EIR. <u>A footnote has been added to discrete parts of the EIR to note that this was done.</u>

L10-19

The impact analysis has been expanded and clarified to explain more clearly the existing and future constraints and issues with pedestrian access to Fourth and King. The identification of a potential significant impact at this location is based on a qualitative judgment that pedestrian access is already at or near capacity at peak periods given pedestrian behavior of standing in the streets waiting to cross and of a notable number of pedestrian crossings against traffic signal lights during peak periods. Additional pedestrian traffic can only make these existing conditions more challenging and further limit the ability of pedestrians to comfortably use existing sidewalk facilities. <u>The exact pedestrian access improvements are not known at this time, and thus a performance standard has been added to Mitigation Measure TRA-3b to guide the selection of the specific mitigation.</u> The impacts at this location in 2020 will be a function of several factors that contribute to the cumulative increase in pedestrian volumes. These factors include the construction of several new transit facilities that would generate new walking trips. In addition to the expected growth in pedestrian demand due to the PCEP, other City of San Francisco-led projects like the Central Subway and expansion of MUNI and MUNI Metro service to Fourth and King will result in increased pedestrian activity levels on area sidewalks. Additionally, new land use development projects in the vicinity will contribute to the number of pedestrians walking on sidewalks around the Fourth and King station during peak hours. As a result, the proposed funding split is that Caltrain would be responsible for improvements on the Caltrain property and the terminal and the City would be responsible for improvements on City land and roads.

<u>The performance standard is as follows:</u>

- <u>Pedestrian delay and illegal crossing activity shall be equivalent to or better than No Project conditions, and peak hour pedestrian sidewalk densities on primary access routes to the Fourth and King Station shall be less than or equal to projected No Project densities.</u>

L10-20

The Draft EIR analyzes Caltrain ridership along with expected future mode of access (MOA) and mode of egress (MOE) to Caltrain stations. Ridership forecasts are based on assumed regional population, housing and employment growth, among other factors. Land use assumptions for the 2020 and 2040 analysis scenarios were derived from the Santa Clara Valley Transportation Authority (VTA) Travel Demand Forecasting Model. The VTA travel demand model was validated to Existing Conditions and used Association of Bay Area Governments (ABAG) socioeconomic forecasts based on the recently-adopted Sustainable Communities Strategy (SCS) and Plan Bay Area Regional Transportation Plan (RTP). To date, ABAG and MTC have not produced any new updates to socioeconomic forecasts, although they will likely develop them in the future for the 2016 RTP/SCS. Thus, the socioeconomic forecasts used for the PCEP Draft EIR represent the best available data for comprehensive regional ridership forecasts and are a reasonable analytical basis not only for ridership forecasting but also for other EIR analysis including traffic analysis. See Master Response 4 (Ridership and Capacity) and Section 3.1 of Appendix D to the Draft EIR for more information.

As part of the ridership forecasting process, the VTA travel demand model roadway and transit networks were also updated from the original base year for both transit and highway network changes, including a comprehensive update of both public and private transit and shuttles serving the Caltrain corridor as well as other regional transportation improvements as defined in the Plan Bay Area Regional Transportation Plan. See Section 3.3 of Appendix D to the Draft EIR for more information.

Citywide growth within the City of San Francisco included in the VTA travel demand model matches the ABAG growth forecasts as included in the Plan Bay Area. For modeling purposes, the VTA model assumes population and employment growth within a Priority Development Area (PDA) is dispersed throughout it. In the case of the Candlestick / Hunters Point Shipyard / Bayview PDA, growth is included and, when taken as a whole, is generally consistent with the land uses contained within the Candlestick Point – Hunters Point Shipyard Development Plan (CP-HPS). However, these assumed land use changes are not focused in the immediate vicinity of the Bayshore Station. The Candlestick Point – Hunters Point Shipyard Development Plan (CP-HPS Plan) were referenced for perspective on the surrounding land use context and growth for the Bayshore Station.

Phase II of the CP-HPS Plan includes a land use program that describes the number of new residential units and gross square footage of various commercial, office and retail uses. The program includes enough housing for 10,500 households and hundreds of thousands of new employees. While the combined Hunters Point Shipyard and Candlestick Park subareas in the VTA model currently do not show enough incremental population and employment change in the VTA model to accommodate this type of growth, the Candlestick / Hunters Point Shipyard / Bayview PDA as a whole does accommodates this growth for households, though not for new jobs. However, additional job growth is present in surrounding areas immediately adjacent to the Candlestick / Hunters Point Shipyard / Bayview PDA, therefore suggesting that the area as a whole adequately includes high enough growth projections to account for the planned Candlestick Point – Hunters Point Shipyard Development Plan.

Therefore, no changes to ridership forecasts have been made in the Final EIR.

L10-21

The traffic analysis does take into account the changes in gate-down time associated with the increase in Caltrain service. See discussion in Appendix D. Also See Master Response 10 (Traffic Analysis) concerning grade separations.

L10-22

Based on preliminary engineering, at the crown of the portals for Tunnels 1 and 3, between 1 and 3 inches of the historic fabric of the portal façade would be removed. The removal would be done in a manner that would gradually "feather" the removal of the historic fabric out from the notch to minimize the visual impact of the alteration for these portals in order to maintain the curve of the arch. Therefore the removal of this historic material in this manner would result in a less than significant impact; such an alteration would not diminish these resources' to the extent that the significance of these resources would be impaired.

Also based on the preliminary engineering, which is the current information available, it is possible that at the crown of Tunnel 4 portals, 6 to 21 inches of the historic material could be removed. The greater the amount of historic material that is removed, resulting in alteration of the curve of the arch, as well altering the size and proportion of the voussoirs and keystone, the greater the impact to the resource. Consequently, until final design is available, it is assumed that this impact will be significant and unavoidable.

L10-23

San Francisco General Plan policies 11.7, 11.9, 3.11, 6.8, 2.4, 2.5, 2.6, and 2.7 have been added to the cultural resources regulatory setting. This change is shown in Section 3.4, *Cultural Resources*, in Volume I of this Final EIR. The general plan elements and ordinances were limited to the Cities of South San Francisco and San Jose because those are the only two cities in which there would be traction power substations located wholly outside of the Caltrain ROW. The Proposed Project would minimally extend outside of the Caltrain ROW in some locations for construction access, staging and storage, and to accommodate the OCS (OCS) and vegetation maintenance where the OCS outer pole alignment is near the edge of the Caltrain ROW. All other TPFs and OCS poles would be located within Caltrain's ROW where local ordinances do not apply.

L10-24

The San Francisco Planning Department's comment supporting the electrification of Caltrain is noted.

L10-25a

[NOTE TO READER: The City and County of San Francisco included their 2013 Scoping Letter as an attachment to their 2014 comment letter on the Draft EIR. They only referenced certain specific comments from the scoping letter in their 2014 Draft EIR comment letter; only those referenced comments (L10-25a through L10-25g) are responded to below. While all scoping comments were considered during preparation of the Draft EIR, CEQA does not require response to scoping comments in writing].

This comment asserts that the existing San Francisco surface Fourth and King Station is "incompatible" with the City's "adopted land use and transportation plans, the General Plan and Phase II of the environmentally cleared Transbay Terminal/Caltrain Downtown Extension/Redevelopment Project".

This is not correct. There are no adopted "land use and transportation plans" that call for elimination of the surface station and this is not called for in the General Plan or in the DTX EIS/EIR.

The City of San Francisco is currently engaging in a multi-year multi-phase evaluation of the potential for redevelopment and/or reconfiguration of the 4th and King Station, but evaluations of this concept are only at the preliminary feasibility phase and do not represent adopted plans. Further, there is no identified funding or plan as to how to feasibly replace the surface station with an underground station or an off-site station location. As described in prior responses to this issue, the PCEP EIR evaluated its consistency with the platform reconfiguration described in the 2004 DTX EIS/EIR and found that the PCEP would not be a major impediment to station reconfiguration, if and when funding is identified to pursue such reconfiguration.

The Fourth and King surface station is an existing condition and its configuration will not be changed by the PCEP EIR.

L10-25b

The PCEP EIR analyzed impacts of the project on transit, pedestrian and bicycle access and vehicular traffic in San Francisco. The PCEP EIR does not propose any changes to the street system as part of the project, but traffic mitigation includes several changes at intersections with significant impacts due to the project that are described in the EIR.

As noted, above, currently adopted City plans do not call for redevelopment of the Fourth and King yard and the City's concepts are preliminary. CEQA does not require analysis of speculative impacts. As discussed in prior responses, the PCEP does not preclude potential station reconfiguration, potential grade separations at Mission Bay Drive or 16th Street or potential redevelopment in the long run. Grade separations are not considered feasible impacts to address PCEP impacts on local intersections due to the lack of adequate funding to undertake a major grade separation project like what would be required at 16th Street.

L10-25c

Ridership forecasts are based on assumed regional population, housing and employment growth, among other factors. Land use assumptions for the 2020 and 2040 analysis scenarios were derived from the Santa Clara Valley Transportation Authority (VTA) Travel Demand Forecasting Model. The VTA travel demand model was validated to Existing Conditions and used Association of Bay Area Governments (ABAG) socioeconomic forecasts based on the recently-adopted Plan Bay Area Regional Transportation Plan. See Master Response 4 (Ridership and Capacity) and Section 3.1 of Appendix D to the Draft EIR for more information.

At the time of the project start, the available Draft ABAG Sustainable Community Strategies regional demographic forecasts were used to develop ridership forecasts, and for the population and housing analysis in Section 3.12, *Population and Housing* and for the traffic analysis in Section 3.14, *Transportation and Traffic.* These projections were released by ABAG in September 2012. In late 2013, ABAG and MTC released updated final versions of the regional projections. These have been reviewed and while there are minor differences in the forecasts, primarily due to a correction of missing jobs at SFO and corrections to areas showing decreases in jobs in the ABAG September 2012 version, overall system ridership and projections are not expected to be significantly different. This is discussed in Appendix I in the EIR.

Regarding Fourth and King, as described elsewhere, redevelopment of the Fourth and King Station and yard is not included in any approved land use or transportation plan.

L10-25d

Please refer to prior responses on the consistency of the PCEP with the DTX project. As noted therein, the PCEP does not hinder the completion of the DTX project or platform reconfiguration.

The City's suggestion to delay the PCEP project waiting for resolution about the "final" station configuration considering the DTX project, HSR project, and/or City redevelopment concepts is noted, but the JPB at this time does not want to delay the completion of the PCEP which would delay its transportation and environmental benefits, especially since the PCEP project does not preclude any of these other potential projects.

L10-25e

A preliminary assessment of potential Sea Level Rise impacts at the 4th and King Street Station is described in Section 3.9, *Hydrology and Water Quality,* of the Draft EIR. The 4th and King Railyard is located at milepost (MP) 0.6, and is included in the analysis of the station. A potential flood risk was identified at the 2050 (MP 0.2 -0.9) and 2100 (MP 0.2 -1.4) project upper bound sea level rise levels (see Table 3.9-7 on page 3.9-18 of the Draft EIR) during a 100-year tide event, and therefore the 4th and King Railyard would also be prone to this flood risk. Section 3.9, *Hydrology and Water Quality,* includes a description of the potential for damage to existing facilities and potential adaptation solutions (e.g., flood levees, seawalls, elevated tracks, and/or minor track realignment) to prevent damage-related to sea level rise from occurring. Given that sea level rise flooding could affect Caltrain system safety and operations, a more extensive sea level rise vulnerability analysis (outlined in Mitigation Measure HYD-7) is recommended for all locations subject to coastal flooding now and in the future.

The flooding risks that the Fourth and King Railyard will be susceptible to would also affect adjacent parts of San Francisco, including the DTX project facilities. Any redevelopment on the site would similarly be subject to such coastal flooding risks. Thus, as discussed in the Draft EIR, long-term approaches to addressing sea level rise need to be done in partnership with all affected parties in order to identify solutions that can protect entire areas at risk, not just one facility. Regarding mitigation for such risks, the risk to the Fourth and King site comes from Mission Creek. The Port of San Francisco is part of a public/private partnership currently conducting sea level rise studies of Mission Creek as part of the Mission Creek project. The solutions for areas surrounding Mission Creek would in all likelihood also help to protect the Fourth and King Terminal and railyard.

The question about is this the best location for train storage is speculative. Train storage near an end terminal is an optimal solution for maintenance, staging, and turnaround of trains because it minimizes the amount of dead-head moves and provides unified access for maintenance of equipment.

No revisions to the Draft EIR are necessary.

L10-25f

Please see prior responses on the future potential reconfiguration of the Fourth and King station.

The City is asserting the project will have impacts on potential redevelopment of the station which is not part of any adopted land use or transportation plan, has not been proven to be feasible, and has not been environmentally cleared. Any analysis at this time would be preliminary and speculative.

L10-25g

As noted above, the City's concept of undergrounding the Fourth and King Station is not part of any adopted land use or transportation plan, is unproven as to feasibility, and is unfunded. While the city is engaged in a multi-phase, multi-year evaluation of potential redevelopment and/or reconfiguration of the Fourth and King Station, the outcome of this process is unknown at this time.

DTX would not obviate the need for a surface station at Fourth and King as the Fourth and Townsend Station would only include one platform, there are passenger needs met by service to the Fourth and King station that necessitate additional platforms, and Caltrain also needs the station for storage, staging and maintenance of trains as there is no room at TTC for storage, staging or maintenance and no such facility is located anywhere within the Caltrain system in San Francisco at present.

The PCEP project would bring substantial health benefits to the area around the Fourth and King Station by reducing diesel emissions by 2020 and setting the state to eliminate them entirely in the long run in addition to the improved and increased commuter train service to the area around the station. The EMUs will also be quieter than existing diesels.

L10-26

The SFMTA's comment supporting the Project is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L10-27

<u>The specific concerns raised by this comment have been added to Mitigation Measure TRA-CUMUL-2.</u> As feasible solutions are successfully and safely used for rail systems today, technical and safety concerns can be addressed in the design process.

L10-28

<u>Figure 4-1 project callout no. 14 was relocated to show the 16th Street leg of the 22-Fillmore line.</u> This change is shown in Chapter 4, Figure 4-1, in Volume I of this Final EIR.

L10-29

The addition of a northbound left turn lane would have positive impacts on all northbound traffic the intersection of 16th Street and 7th Street. The northbound queue length at this intersection would be decreased by the lengthening of the left turn lane. Left turning vehicles would have more space to wait for the left turn, which permits through vehicles and right-turning vehicles to go around left-turning vehicles rather than being stuck in the queue in the same lane behind these left-turning vehicles.

The northbound left turn volumes and delays for the intersection before and after mitigation in the 2020 Project and 2040 Project scenarios are summarized in Table 3-7.

Table 3-7. 16th Street / 7th Street Intersection, Northbound Left Turn Analysis Results

Scenario		Traffic Volume[1]	Unmitigated Delay	Mitigated Delay	Change in Delay
2020 Project	AM	170	>120.0	>120.0	+11.8 sec
	PM	230		Not impacted	
2040 Project	AM	390	>120.0	>120.0	-21.6 sec
	PM	140	>120.0	109.3	-111.8 sec

Notes:
1 Traffic volume given in vehicles per hour for the AM and PM peak hour for the intersection.
Source: Fehr & Peers 2014.

L10-30

The third lane for the eastbound approach at the intersection of 16th and 7th Street in the 2020 and 2040 Project scenarios would be to provide an eastbound left turn lane and would not provide three through lanes. The proposed left turn lane is on the far side of the intersection and therefore would not cross the tracks. Adding a left turn lane would reduce queues at this intersection, and also reduce delay by allowing left-turning vehicles to have their own lane separate from through and right-turning vehicles.

The eastbound left turn volumes and delays for the intersection before and after mitigation in the 2020 Project and 2040 Project scenarios are summarized in Table 3-8.

Table 3-8. 16th Street / 7th Street Intersection, Eastbound Left Turn Analysis Results

Scenario		Traffic Volume[1]	Unmitigated Delay	Mitigated Delay	Change in Delay
2020 Project	AM	40	153	108.8	-44.2 sec
	PM	50		Not impacted	
2040 Project	AM	40	229.5	162.9	-66.6 sec
	PM	80	193.2	158.1	-35.1 sec

Notes:
1 Traffic volume given in vehicles per hour for the AM and PM peak hour for the intersection.
Source: Fehr & Peers 2014

L10-31

Signal timing revisions are proposed as one of the potential mitigations for the intersection of 16th Street and 7th Street in both the 2020 and 2040 scenarios. The 2020 Project scenario also includes a proposed mitigation to revise signal timing and phasing to better coordinate with the 16th Street / Owens Street intersection, which is the next signalized intersection to the west of the study intersection. The 2040 Project scenario provides the same mitigation measures.

More detail on 2020 Project scenario mitigations can be found in Section 3.6.6.1 in Appendix D to the Final EIR. More detail on 2040 Project scenario mitigations can be found in Section 3.6.6.2 in Appendix D to the Final EIR.

L10-32

Caltrain is open to discussing this mitigation option with the City of San Francisco during the final design phase of the PCEP. This strategy would require further study to determine the best final configuration, as it would be difficult to divert significant amounts of traffic in a circulatory route to avoid the study intersection. For now the feasible mitigation in the EIR remains.

L10-33

See Master Response 10 (Traffic Analysis).

L10-34

See Master Response 4 (Ridership and Capacity).

L10-35

Ridership forecasts are based on assumed regional population, housing and employment growth, among other factors. Land use assumptions for the 2020 and 2040 analysis scenarios were derived from the Santa Clara Valley Transportation Authority (VTA) Travel Demand Forecasting Model. The VTA travel demand model was validated to Existing Conditions and used Association of Bay Area Governments (ABAG) socioeconomic forecasts based on the recently-adopted Plan Bay Area Regional Transportation Plan. See Master Response 4 (Ridership and Capacity) and Section 3.1 of Appendix D to the Draft EIR for more information.

Based on the 2013 Passenger Intercept Survey conducted as part of this study, walk mode shares at under Existing Conditions the Bayshore Station are as follows: 20 percent of passengers walk to the station (mode of access) during the AM peak period, and 16 percent walk from the station (mode of egress) during the AM peak period. The mode of egress is the mode a passenger makes use of at their destination station to reach their final destination point.

In order to forecast expected future walking access mode shares, Fehr & Peers developed Mode of Access (MOA) and Mode of Egress (MOE) models using a direct ridership modeling (DRM) process. These models are based on ridership forecasts developed from the VTA model, but they are adjusted to take into account local land use and built environment characteristics that contribute to access mode choice. The DRM process estimates the proportions of total ridership arriving at a station by individual access modes. Compared to the VTA model, the DRM takes into consideration a greater number of factors and includes more detailed measurements of local accessibility and street connectivity around each station, and it differentiates the access choices among a greater number of available modes, considering bicycling as a key travel mode.

Model development and outputs are described in more detail in Appendix D, Attachment C, Section 3.0. The results of this model show a peak period walk MOA to Bayshore station under 2020 Project conditions of 16 percent, and a peak period walk MOA to Bayshore station under 2040 Project conditions of 41 percent. The increased walking mode share is primarily due to new street connections and new land use development expected in the vicinity of the station area.

Additionally, the bike MOA to the Bayshore Station is forecast to be seven percent under 2020 Project conditions and eight percent under 2040 Project conditions. While this proportion is slightly lower than the current peak period bike MOA of 13 percent, the actual number of bicycles accessing the station during the AM peak period would only increase from 12 under existing conditions to 30 and 56 under 2020 and 2040 Project conditions, respectively, which is not a substantial change in conditions.

L10-36

Please refer to Master Response 11 (Freight), that many of the concerns raised in this comment.

Regarding consideration of Port freight rail increase, the PCEP EIR mentions includes consideration of potential future freight rail increased in the cumulative analysis.

Regarding storage track on the Peninsula, the PCEP will not eliminate any existing storage tracks.

L10-37

As described in the Draft EIR, where unconstrained, the nominal OCS height will meet the CPUC general Order 95 specified for overhead wires of 22.5 feet. However, where existing conditions are constrained, such as at tunnels, bridges, and underpasses, the clearance will be less. The Draft EIR analyzed the existing freight equipment used on the corridor and determined that all existing freight equipment used to access the Port of San Francisco and other locations on the Peninsula from the Caltrain corridor will be able to be used with the PCEP with some minor notching and track lowering at the San Francisco tunnels and track lowering at some other locations on the Peninsula.

The San Francisco tunnels today do not permit the use of autoracks, automax or double-stack container because Tunnels 3 and 4 have a maximum clearance of approximately 17’. Tunnels 2 and 3 have even lower clearance but they are north of the Quint Street Lead. Thus, the CEQA baseline is defined by these existing physical constraints to the use of tall equipment. The project impact analysis determines that the PCEP will not have a significant impact on freight use due to vertical clearance because all the equipment in use today can be used with the PCEP including freight up to 17’ high through San Francisco Tunnels 3 and 4 leading to the Quint Street Lead.

The cumulative analysis of freight identifies that there are some locations where the PCEP will lower existing effective vertical clearances where it may constrain the use of higher equipment along portions of the Caltrain Corridor. The revisions in the Final EIR identify that due to the constraint on the San Francisquito Bridge and the infeasibility to replace that bridge as part of the PCEP due to cost and cultural resource concerns, the height limit north of that bridge will be approximately 19’. Separate from the bridge, the EIR includes mitigation to address cumulative impacts at one other location.

Although this is a constraint on future freight equipment heights, this won’t have any effect on the use of existing equipment and won’t result in any net effect to equipment heights to the Port of San Francisco, as the San Francisco Tunnels 3 and 4 with the PCEP OCS will constrain the maximum height to 17 feet (which is the same as today’s constraint). Thus, the project is not expected to change the maximum freight heights that can use the Port of San Francisco today under either project or cumulative conditions.

As to the request to increase freight height clearances beyond what exists today, that is not an impact of the project, and thus requires no mitigation under CEQA. Outside of the PCEP, Caltrain will continue to work with Union Pacific and freight interests in maintaining freight use along the Caltrain Corridor. If Union Pacific and freight interests wish to pursue expanded height clearances beyond those possible today, that would have to be mutually agreed upon by all parties and funding would have to be identified independent of the PCEP.

L10-38

Please refer to Master Response 11 (Freight). As explained therein, the project description no longer presumes temporal separation and thus substantial change in freight windows is not expected to occur due to the PCEP.

L10-39

Eliminating the hold out rule at the South San Francisco Station is not part of the PCEP. This is a separate project from the PCEP and elimination of the hold-out rule is not necessary in order to implement PCEP.

The comment concerns about freight yard storage track are notes, but these concerns have to be addressed separately from the PCEP.

L10-40

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L10-41

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L10-42

Text was added to Mitigation Measure HYD-1 and to Table 2-6, *Permits, Funding, and Other Approvals Anticipated to be Required*, regarding CCSF Industrial Waste Ordinance 199-77 and notification of projects that require dewatering to the SFPUC Collection System Division. These changes are shown in Section 3.9, *Hydrology and Water Quality*, and Chapter 2, *Project Description,* respectively, in Volume I of this Final EIR.

L10-43

Text was added to Mitigation Measure HYD-1 and to Table 2-6, *Permits, Funding, and Other Approvals Anticipated to be Required*, regarding CCSF Soil Boring and Well Regulation Ordinance, adopted as Article 12B of the San Francisco Health Code. These changes are shown in Section 3.9, *Hydrology and Water Quality*, and Chapter 2, *Project Description,* respectively, in Volume I of this Final EIR.

L10-44

The Project would not require any new connections to potable water supplies. The JPB will coordinate with the San Francisco Public Utilities Commission (SFPUC) prior to construction activities in the City of San Francisco and will design any applicable water facilities to conform to the current SFPUC City Distribution Division and San Francisco Fire Department Standards.

L10-45

The project will have minimal additional water demands (limited to minor increases at the Fourth and King Terminal with increased ridership) and minimal servicing of trains. The JPB will coordinate the final design of PCEP with the SFPUC. If necessary, the JPB will prepare a hydraulic analysis to confirm the adequacy of the water distribution system and comply with any SFPUC requirements.

L10-46

Comment noted. The JPB will comply with the San Francisco Recycled Water Ordinance, as applicable.

L10-47

Comment noted. The JPB will coordinate with the SFPUC prior to accessing any SFPUC-owned properties adjacent to the Caltrain ROW.

L10-48

Comment noted. As discussed on pages 3.11-47 and 3.11-48 of the Draft EIR, a construction vibration control plan will be implemented to avoid or minimize the potential for building/structure damage from construction vibration.

L10-49

The JPB will comply with CCSF Ordinance 175-91 which prohibits the use of potable water for soil compaction and dust control activities undertaken in construction with construction or demolition projects within San Francisco, unless prior permission is obtained.

L10-50

Table 3.13-2 was revised to show that the SFPUC provides wholesale water service to 26 water agencies in Alameda, Santa Clara, and San Mateo counties. This change is shown in Section 3.13, *Public Services and Utilities*, in Volume I of this Final EIR.

L10-51

The description of the SFPUC role in water supply has been revised per the commenter's request. This change is shown in Section 3.13, *Public Services and Utilities*, in Volume I of this Final EIR.

L10-52

The reference to Table 2-8 was corrected to Table 2-3. The cross-reference to Table 2-3 was moved within the sentence to clarify that the table cross-reference refers to estimates of increased ridership. This change is shown in Section 3.13.2.3 in Volume I of this Final EIR.

L10-53

Minimal increases in water demand would occur at stations (more ridership = more use of water fountains and bathrooms), maintenance areas like CEMOF (train washing and train toilet servicing).

L10-54

Comment is noted. During design of any pedestrian improvements at the San Francisco Fourth and King Station, stormwater flow capacity and design will be assessed. However, given that the existing pedestrian environment is nearly entire impervious surfaces, new pedestrian improvements are highly unlikely to change stormwater flows along City streets.

L10-55

As discussed in the EIR, the JPB will coordinate with local utility providers, including the SFPUC concerning the CBISP, during the PCEP and CBISP design phases to identify and address any potential utility conflicts. As this project is only in the feasibility study phase and has not commenced with its environmental phase, it would be premature to speculate to assess potential cumulative impacts at this time.

L10-56

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

L10-57

Regarding the potential ROW effects on the subject SFPUC parcels, as explained in the letter provided to SFPUC dated March 4, 2014, PCEP planning to date has identified a potential need to acquire an ESZ (ESZ) easement over a portion of theses parcels which are directly adjacent to the JPB ROW. The ESZ would preclude vegetation within 10 feet of energized elements of the OCS and structures within 6 feet of energized elements. The energized elements on the OCS would be at approximately 16 to 23 feet above ground. The ESZ would not preclude belowground pipelines used by the SFPUC for water conveyance or low surface structures, roadways or fences provided they do not encroach within 6 feet of energized elements of the OCS. No OCS poles or wires are currently expected to be installed on or over SFPUC property. Thus, the project is not likely to preclude the use of SFPUC property for water conveyance purposes. The JPB will coordinate with SFPUC during the ROW acquisition and design phase to ensure that significant effects to use of the property for water conveyance purposes not in conflict with the PCEP can be maintained.

3.2.20 Responses to Comment Letter L11

L11-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please refer to responses to comments L11-2 through L11-9 for responses to specific issues raised.

L11-2

Caltrain intends to work with SCVTA's existing Diridon Joint Policy Board in considering issues surrounding the San Jose Diridon Station including construction coordination during PCEP construction as well as issues surrounding parking.

This comment does not concern the adequacy of the EIR and thus no further response is required.

L12-3

The PCEP EIR provides a sufficient analysis of the potential transportation impacts along the project corridor. This comment does not provide any specific comments about the EIR analysis and thus no further response is required.

L11-4

As discussed in the Draft EIR, Mitigation Measure TRA-1 requires coordination with local jurisdictions to develop the Traffic Control Plan for construction. This mitigation measure has been revised to require coordination for the development of the Traffic Control Plan for the portion of San Jose near the SAP Arena with the San Jose Arena Authority, San Jose Arena Management, and the City of San Jose.

L11-5

Mitigation Measure TRA-1 has been revised to require coordination concerning potential temporary disruption of parking availability during construction for the portion of San Jose near the SAP Arena with the San Jose Arena Authority, San Jose Arena Management, and the City of San Jose in order to minimize parking disruption.

Regarding the comment concerning operational parking concerns, the Draft EIR does not identify a significant physical impact on the environmental due to project-related parking deficits at the San Jose Diridon Station and thus mitigation is not mandated in the EIR under CEQA.

The comment about a cooperative effort for managing parking inventories around the SAP Center is noted and will be considered by the JPB separate from the EIR. As the Arena Authority is aware, the JPB currently provides the opportunity for SAP Center parking in the Caltrain parking lot at Diridon and is willing to continue considering voluntary cooperative efforts at managing parking availability where it does not conflict with Caltrain needs.

L11-6

The comment about coordination with residential and commercial neighborhoods is noted. The JPB and the Design-Build Contractor will be conducting extensive public outreach and coordination as construction approaches and throughout construction.

L11-7

Comment noted. The JPB will continue to engage with local stakeholders throughout Project operation.

L11-8

It is part of the JPB's mission to monitor the effectiveness of its commuter rail service. Regarding operational impacts, where mitigation is adopted pursuant to the project EIR requires monitoring or further implementation during operations, the JPB will take those actions indicated in the Mitigation Monitoring and Reporting Program adopted for the project.

L11-9

This comment is noted. The JPB already coordinates with special even providers at many locations along the Caltrain Corridor, including the SAP Center and will continue to do so. With the PCEP, the JPB will have an increased ability and capacity to service special events.

3.2.21 Responses to Comment Letter L12

L12-1

Comment noted. Please refer to responses to comment L12-1 through L12-6.

L12-2

The project facilities that are the closest to the San Jose International Airport are the sites for TPS2 and the OCS near the airport. The TPS2 options are 1,700 feet, 2,000 feet, and 5,300 feet from the nearest point on the airport runways. The closest the JPB operating ROW gets to the Airport is near I-880 at which point the ROW is approximately 2,200 feet from the nearest runway. The OCS poles at this location will be no more than 40 feet high. Equipment at the substation location would be mostly less than 20 to 25 feet high but the utility takeoff tower could be up to 80 feet high. The CEMOF is approximately 4,000 feet from the nearest runway and the Diridon Station is approximately 8,100 feet from the nearest runway and each of these locations would have headspan poles which could reach up to 50 feet high.

These facilities would be within the 100:1 slope from the nearest runway. The JPB will submit a Notice of Proposed Construction or Alteration in accordance with FAA guidelines and will obtain a Determination of No Hazard during project design. <u>This has been clarified in Table 2-6 in the EIR and Section 3.8.</u>

<u>As explained in response to Comment L12-5 below, all of the proposed facilities would be at elevations less than the maximum elevations in the ALUC height limit guidelines.</u>

L12-3

<u>Additional text describing Federal Aviation Regulations (FAR), Part 77 was added to Section 3.8, *Hazards and Hazardous Materials*. The description of facilities located within the Airport Influence Area was revised to include mention of the proposed OCS poles</u>. These changes are shown in Section 3.8, *Hazards and Hazardous Materials,* in Volume I of this Final EIR.

L12-4

Comment stating that ALUC height limits are guidelines to comply with FAA Part 77 is noted. It is also noted that ALUC recommendations do not supersede federal requirements. <u>Suggested revisions have been made to the Regulatory Setting and in the impact analysis of the Hazards and Hazardous Materials section and the project would comply with all necessary conditions set forth by FAR Part 77, including notification and review requirements.</u> This additional text provides clarification that the project will comply with FAA Part 77 Guidelines. This additional clarifying text does not change any conclusions regarding aviation safety as a result of the project nor does it result in any new significant impacts.

L12-5

The analysis has been updated to reference both the height of facility structures above ground and the top elevations of project features in order to more readily compare them to the maximum structure height elevation guidelines in the ALUC plan.

L12-6

All OCS structures between Hedding and Taylor streets in San Jose will be less than 40 feet which would meet the request in the comment.

3.2.22 Responses to Comment Letter L13

L13-1

The JPB shares an interest in trying to avoid costs associated with relocation of OCS facilities where feasible. While Caltrain, SMCTA and San Mateo are working together to finalize the engineering and prepare a funding plan the 25th Avenue Grade Separation and Rail Realignment Project, the project is not yet fully funded and thus a firm project schedule has been established. The JPB on its own cannot guarantee that the grade separation project can be completed prior to completion of the PCEP.

Caltrain can put a provision in the PCEP Design-Build contract to allow for a later decision on which project will go forward first at the subject locations. If the grade separation is going forward first, then it must have the grade separation completed by January 1, 2018 after which the PCEP Design-Build contractor would install the poles on foundations installed by the grade separation contractor. If the grade separation project is unduly delayed then the PCEP OCS poles may need to be installed first and then relocated when the grade separation is completed.

L13-2

The JPB shares an interest in reduction construction impacts to neighborhoods along the ROW. The removal of trees for the bridges project has actually helped to reduce subsequent tree removal activity for the PCEP. The Draft EIR described that one of the cumulative effects would be the potential for a longer duration of construction-related activity where the PCEP and other projects are both active in the same area, even if not at the same time.

Unfortunately, PCEP construction cannot proceed until after CEQA is completed, design is completed, and project funding is secured and thus is not likely to commence until 2016 by which time bridge construction may be mostly completed. However, the JPB takes note of this comment and will evaluate if there are ways in 2016 to combine construction activities for the two projects.

L13-3

Please refer to the PCEP OCS/OCS/ESZ Maps in Appendix J for the current expected locations where the ESZ is outside of the ROW. The draft EIR assumes side poles in two-track areas because it presents an analysis for the worst-case scenario (and portals in multi-track areas). In areas where operational and safety requirements permit, the JPB would use alternative pole designs to limit the ESZ. See also Master Response 6 (Visual Aesthetics including Tree Removal).

L13-4

The EIR has been revised to describe the potential impacts of the PS4, Options 1 and 2 on the proposed development in the Hillsdale Station Area Plan (HSAP). The current land use designation of the Option 1 and 2 area, both of which are on JPB owned land is for "Transportation Corridor" uses and the use of the land for supporting infrastructure to commuter rail operations is consistent with the current land use designation. The HSAP urges Caltrain to request a change in designation of their property, which has not happened yet. Thus, there is no conflict with the current land use designation.

In a future situation in which Caltrain requests redesignation of their property for other uses and/or sells the land to someone desiring to build different uses, the paralleling station options would have some inconsistencies with current vision for the area, However, as described in the revised text in the Final EIR, with minor reconfiguration, the plan purposes can still be achieved, as a paralleling station would only require 3,200 SF (< 0.1 acre) and would not displace land uses to outside the HSAP. While the City's desire to not have either Option 1 or Option is noted and it may be preferable for the current plan to not have the paralleling station at one of these locations, this not considered a significant physical impact to the environmental under CEQA.

In response to this comment, the JPB has added a third option, PS4, Option 3 in the existing Caltrain parking lot south of Hillsdale Blvd as requested by the City. The JPB has evaluated this site and while not as favorable for Caltrain purposes as the other two options, this third option is a feasible site for a paralleling station and would avoid potential impacts in the Hillsdale Station Area Plan area. This option will be environmentally cleared through the PCEP EIR and will be an option available to the JPB for inclusion in the PCEP.

L13-5

Based on the current design, the OCS system and the electrical safety zone (ESZ) for the OCS will be entirely within the JPB ROW east of the parking areas for the park and thus any vegetation removal would occur east of the parking area and will not be within the park.

L13-6

No track relocations are included in the project.

L13-7

Parking is allowed under the OCS lines, but as noted above, the OCS lines adjacent to Trinta Park will be within the JPB ROW east of the parking area for the park, so parking should not be affected.

L13-8

The alternative pole arrangement between 1st and 3rd avenues in San Mateo would likely be either a center pole or a two-track cantilever from the east side of the tracks. The use of a center pole or a two-track cantilever does not present any additional environmental impacts that are not previously analyzed in the Draft EIR. No buildings in San Mateo would need to be removed.

L13-9

Section 3.1, *Aesthetics*, describes clearly that visual aesthetics will be significantly affected in areas with substantial tree removal where tree replacement cannot occur in the immediately adjacent area to replace lost screening of the JPB ROW. This is an aesthetic impact and need not be discussed in Section 3.3, which concerns biological resources. Please also refer to Master Response 6 (Visual Aesthetics including Tree Removal).

L13-10

Regarding using the Landscape Unit value as described in San Mateo's Landscape Ordinance (Municipal code Ch. 27.71), the ordinance states that it is applicable to planning applications pursuant to 27.08.010. Any development project not subject to planning application is subject to:

> Title 13 Parks and Recreation, Ch. 13.52 Heritage Trees, which specifies one 24"-box size replacement for a heritage tree removal.

The PCEP is not a planning application. As discussed in the Draft EIR, the PCEP tree mitigation was developed using specifics from local tree ordinances, not development code requirements and thus the mitigation in the EIR references the City's Heritage Tree Ordinance, rather than the Landscape Ordinance. As noted in the EIR, the JPB is not subject to local land use regulation.

No change to the Draft EIR is required.

L13-11

See response to comment L13-10.

L13-12

Based on preliminary engineering, from HortScience's field observation in the area depicted in Exhibit SM-2 in Appendix F, it was estimated that two oaks having trunks within the ESZ would be removed. Pruning of nearby oaks would be necessary, but did not appear to require removal of all the trees. It should be noted that a full tree survey was not done in this area and this is based on preliminary engineering and thus actual effects may vary, but the information above is based on what is known at this time. A full tree survey will be conducted as part of implementing Mitigation Measure BIO-5.

L13-13

See Master Response 8 (Train Noise).

L13-14

See Master Response 8 (Train Noise).

L13-15

Construction noise impacts were determined over an 8-hour day. While the short-term noise levels from impact pile driving could be higher, the noise impact from limited use of driven piles for pole foundations would not be significant.

L13-16

Temporary sound walls require the same kind of support structures as permanent sound walls to withstand wind loading and other structural concerns. For pile driving work, the noise source height can be quite high, on the order of 20 to 30 ft above the ground. The height of the sound wall to block the noise in this case requires either a very tall barrier which cannot be supported by a temporary base, or some kind of hanging sound barrier shroud. Sound barrier shrouds have had limited success; the key limitations being safety for the workers and durability during construction. It is essential that the crane operator and pile driving workers can see and access the pile driver; thus the shroud needs to have at least one open viewable side. Regular maintenance access is also required, which further limits the kind of shroud that can be used. Lightweight sound barrier curtains tend to move easily in the wind, creating a safety problem, and they also are not durable in a construction environment. Thus, all of these factors may contribute to make a temporary sound wall infeasible.

A further consideration is that each individual OCS foundation location only requires a short duration of activity and then the crew moves on to the next foundation and thus building a temporary sound wall for a very short period of effect is also not feasible.

L13-17

The detailed results from the traffic analysis for the intersection of El Camino Real and East Hillsdale Boulevard can be found in Attachment G to Appendix D of the Final EIR. In the 2020 Project scenario, proposed mitigations would include signal timing adjustments to optimize signal coordination and phasing in order to reduce delay to drivers. The 2040 Project scenario includes the same mitigations from the 2020 Project scenario, with the addition of restriping the westbound approach to the intersection to have two through lanes and one shared through / right-turn lane. The peak hour LOS and delay of the intersection before and after mitigation in the 2020 Project and 2040 Project scenarios are summarized in Table 3-9.

Table 3-9. El Camino Real / East Hillsdale Boulevard Intersection Analysis Results

		Before Mitigation		After Mitigation		
Scenario		LOS	Delay	LOS	Delay	Change in Delay
2020 Project	AM	86.6	F	55.7	E	-30.9 sec
	PM			Not impacted		
2040 Project	AM			Not impacted		
	PM	>120	F	77.4	E	-116.6 sec

Source: Fehr & Peers 2014.

L13-18

The 25th Avenue Grade Separation project is not part of the PCEP. When built, the grade separation project will help improve traffic circulation in the area, but this project is not proposed as mitigation for the PCEP.

L13-19

The PCEP does not determine the location of passing tracks one way or another. The design of blended service has not been completed and a separate environmental review of blended service, including the impacts of potential passing tracks will be completed by CHSRA. As described in the cumulative analysis in the PCEP EIR, depending on location, portions of the PCEP OCS may need to be relocated or reconfigured to accommodate passing tracks, but this will depend on whether there are already multiple tracks, the alignment of any new tracks, and the configuration of the PCEP OCS at passing track locations.

L13-20

A 100 percent Center Pole Alternative was considered in the Draft EIR. As shown in Table 5-7 in Chapter 5, *Alternatives*, of the Draft EIR, this alternative was found to be logistically infeasible because there is insufficient track separation in many areas. Because this alternative is considered infeasible, it was not analyzed in the EIR.

Also see Master Response 6 (Visual Aesthetics including Tree Removal) which described how alternative pole configurations for different segments of track will be considered as part of Mitigation Measure BIO-5.

L13-21

There is potential for rodents and other animals to be disturbed by construction activities near the Caltrain ROW and temporarily relocate to surrounding areas. Due to the large length of the Project area, it is not possible to determine all potential areas to which animals may or may not relocate. Rodent populations are already present along the ROW and project construction would not result in an increase in these populations.

However, the overall scale of potential disturbance would be very limited because the Proposed Project construction within the Caltrain ROW would primarily consist of installing OCS poles with a limited permanent footprint for pole foundations (the OCS poles would be 1 to 2 feet in diameter) and associated construction vehicle access (refer to page 3.3-31 of the Draft EIR). Therefore, the potential for rodents and other animals to relocate to surrounding areas exists, but the magnitude of the effect is expected to be similar to the pest disturbance caused by existing operations and maintenance activities already occurring in the ROW. No revisions to the Draft EIR are necessary.

L13-22

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.23 Responses to Comment Letter L14

L14-1

Comment noted. See Master Response 6 (Visual Aesthetics including Tree Removal).

L14-2

Comment noted. Construction impacts related to aesthetics, noise, parking and circulation are described in the Draft EIR. Refer to Section 3.1, *Aesthetics,* Impacts AES-1a, AES-2a, AES-3, and AES-4a for a description of construction-related aesthetic impacts. Refer to Section 3.11, *Noise and Vibration,* Impacts NOI-1a, NOI-2a, for a description of construction-related noise impacts. Refer to Section 3.14, *Transportation and Traffic*, Impact TRA-1a construction-related circulation impacts and Impact TRA-6a for a description of construction-related parking impacts.

L14-3

The comment is not specific about the issue with the switching station. The potential staging area would be located at mile post 26.5, on the east side of the Redwood Sidings (see page 2-17, line 7, of the Draft EIR). This is an existing industrial/commercial site and thus compared to existing conditions, the proposed construction and operation of a switching station at the site would not be an incompatible use.

It is important to note that under CEQA, the definition of a project impact is an impact compared to baseline conditions. In the PCEP EIR, the baseline for aesthetic and noise conditions is the existing conditions. The concerns that the County is referring to in most of this comment letter is actually relative to cumulative conditions in which the current land uses are changed from the current commercial/industrial uses in “Redwood Triangle” (the area between the railroad tracks) to the mixed uses called for in the North Fair Oaks Community Plan.

L14-4, 5

Chapter 3.1, *Aesthetics*, of the Draft EIR, analyzes the potential impacts of the Proposed Project compared to current conditions. Chapter 4, *Other CEQA-Required Analysis*, discusses the Proposed Project’s and known foreseeable projects adjacent, within and in the vicinity of the Caltrain ROW potential impacts on aesthetics and noise.

The commenter suggests the consideration of the new Fair Oaks Health Center at 2710 Middlefield Road, Middlefield Road Improvements and future redevelopment of adjacent properties.

Regarding the new health clinic, the facility is located along Middlefield Road and is approximately 400 feet from the proposed switching station location at the nearest point. At present, the line of sight from the clinic is blocked by an existing development and the views from the clinic are of industrial/commercial buildings and thus no significant aesthetic impact is identified relative to the new health clinic. If Redwood Triangle is redeveloped per the North Fair Oaks Community Plan, future development would also likely obscure a direct view from the clinic to the switching station.

Regarding the Middlefield Road improvements, the proposed switching station would not be visible from Middlefield Road, as it would be more than 550 feet from the facility and there are existing buildings that block the line of sight. If Redwood Triangle is redeveloped per the North Fair Oaks Community Plan, future development would also likely obscure a direct view from the roadway to the switching station.

Regarding future potential development of Redwood Triangle per the North Fair Oaks Community Plan, the community plan designates the area north of the proposed switching station location for “commercial mixed use” which is described as a mix of medium-high density commercial, residential, public, institutional, and even light industrial use with approval. With this broad of a designation, it is somewhat speculative to assert that the area next to the proposed switching station would necessarily be incompatible with the switching station, particularly if the site is highly developed with commercial and possibly light industrial use. Further, since the adjacent area is presently commercial/light industrial, this is not a project impact over existing conditions, this is a potential cumulative impact of redevelopment of the adjacent area, in which impacts would actually be the cumulative result of the County approving new sensitive uses and the JPB approving a switching station at the proposed location.

Regarding noise, the switching station would not be a substantial source of noise. As indicated in the Draft EIR, Table 3.11-6, the resultant project noise levels at existing residential areas along Westmoreland, about 180 feet from the site would actually be less than existing conditions at this location due to the lower noise of the EMUs compared to today's diesels. This would be the same effect on any future development north of the Caltrain mainline. Thus, regardless of what development ultimately ends up north of the switching station, noise levels would be better with the project than under existing conditions and better than No Project conditions as well.

Regarding potential aesthetic impacts to mixed-use development in Redwood Triangle, given the mixed-use designation, it is important to note that the area north of the active tracks is used and will likely continue to be used for laydown of equipment and supplies; a use that will continue whether or not the PCEP switching station is placed at the proposed location. If commercial or light industrial development occurs along the southern perimeter of Redwood Triangle, the switching station would be obscured from view from other areas within Redwood Triangle, similar to current conditions. The County has not identified any current residential project within Redwood Triangle. It is possible, but by no means certain, that residential development could be proposed within Redwood Triangle, in which case the switching station could be adjacent to the new residences.

Given the level of speculation about the specific character of future development, it is also speculative to conclude that there will be a future aesthetic impact due to locating the switching station next to a mixed-use area that might include residential development at some point in the future but which also allows commercial and light industrial uses that are not sensitive to aesthetic concerns to the same degree.

Nevertheless, if in the future, the switching station is constructed at the proposed location and there is a viable proposed residential development on the site that would have an unobstructed view of the switching station with no intervening development, then Caltrain is willing to apply Mitigation Measure AES-2b to the switching station location and provide vegetative screening, as feasible on the north side of the switching station in order to ensure that aesthetic impacts would be less than significant in that situation. This mitigation will only be required if adjacent areas are actually proposed to be developed for residential use and will not be required until that is a reality.

Furthermore, in response to this comment, the JPB has identified a second option, SWS1, Option 2, located north of the JPB tracks adjacent to the Orchard Supply Hardware and Costco in Redwood City just to the west of Redwood Junction and included it in the EIR. This second option would not be adjacent to the North Fair Oaks Community Plan, is adjacent to existing commercial or industrial areas, and would not be adjacent to any existing or planned residential areas. This second option has been included in the EIR, will be environmentally cleared by the EIR, and will be an option for JPB consideration for inclusion in the PCEP.

L14-6

The locations of the potential staging areas are listed in Section 2.3.8.2, *Potential Construction Staging and Access Area* of the Draft EIR. Potential staging areas are dispersed relatively evenly along the Project corridor. The closest potential staging area to Redwood Junction would be located at mile post 26.5, on the east side of Redwood Sidings and includes an area of approximately 2 acres, all on JPB or Samtrans property. The staging areas are distributed along the Caltrain corridor and thus would not be concentrated in only a few areas. The final location and size of the construction staging areas have not been determined. Staging areas can vary in size based on available space, specific types of staging activity (materials, equipment etc.). The potential staging areas are included in the Project Description.

The analysis in the Draft EIR covers the construction staging areas. Mitigation is included in the EIR to address construction aesthetics, traffic, noise, and air quality.

L14-7

See response to comment L14-2. Furthermore, Mitigation Measure NOI-1a requires the implementation of a construction noise control plan. This plan will incorporate best practices into the construction scope of work and specifications to reduce temporary construction-related noise impacts on nearby noise sensitive receptors. The best practices include, but are not limited to, establishing an active community liaison program to keep residents informed about construction plans and minimizing any evening, nighttime, weekend, and holiday construction.

Refer to page 3.11-40 of the Draft EIR for the full text of Mitigation Measure NOI-1a. The measure has been revised to prioritize deliveries for daytime hours wherever feasible and to require provision of a construction contact in advance notice to potentially affected nearby residents and businesses.

3.2.24 Responses to Comment Letter L15

L15-1

The Final EIR has been revised to correctly state the jurisdiction for intersections 70, 71, 77, and 78 as Santa Clara County. These changes are shown in Section 3.14 in Volume I of this Final EIR.

L15-2

The footnote for Intersection 77 in Table 3.14-16 has been deleted in revisions to the EIR. This change is shown in Section 3.14 in Volume I of this Final EIR.

L15-3

The lane geometry and signal operations have been revised in Appendix D to the Final EIR and have been incorporated into the analyses for existing and future conditions in Section 2.6.

L15-4

Several possible mitigations were tested for the Central Expressway / Rengstorff Avenue and Central Expressway / Moffett Boulevard / Castro Street intersections as part of the PCEP EIR transportation impact analysis. The intersection analysis for these locations was also updated in order to incorporate new signal timing and phasing operations as a result of the Caltrain Signal Preemption Improvement Project. The results of the updated analysis can be found in Appendix D to the Final EIR. For the existing intersection analysis, the results are located in Section 2.6.4 of Appendix D to the Final EIR. For the 2020 No Project and Project scenarios, the results are located in Section 3.6.5.1.2 of Appendix D to the Final EIR. For the 2040 No Project and Project scenarios, the results are located in Section 3.6.5.2.2 of Appendix D to the Final EIR. The determination that there were no feasible mitigations was made based on the geometric restrictions due to right-of-way constraints.

Providing a dedicated right-turn lane on eastbound Central Expressway at Rengstorff Avenue as suggested in this comment would result in a secondary negative impact to bicycles, as it would eliminate the existing shoulder, which is used as a de-facto bike lane along Central Expressway.

An advanced signal system, known as Communications Based Overlay Signal System and Positive Train Control (CBOSS PTC), is currently under construction along the Caltrain corridor and is expected to be completed by 2015. This signal system would increase the operating performance of the current signal system and improve the efficiency of grade crossing warning functions. CBOSS would eliminate the double preemption events, known as gate restarts, when installed in Mountain View.

Regarding coordinating train crossing schedules at major intersections, Caltrain cannot commit to this as a traffic mitigation. Trains are scheduled to meet passenger convenience and needs, which maximizes ridership, which provides substantial traffic reduction benefits within every city along the corridor and the region as a whole. In addition, even in high performing systems, there is a variation in the exact times of train arrival and departure and attempting to make sure that trains cross a grade-crossing at exactly the same time would be an undue burden on operating the system that could detract from the primary purpose of maximizing passenger service. Thus, while coordinating crossing times might in theory result in lowered gate-down time, in practice this will be hard to impossible to actually achieve and even if feasible could actually be counterproductive in terms of inferior passenger service, which would then have ramifications for ridership and the regional traffic reduction purpose of the project.

3.2.25 Responses to Comment Letter L16

L16-1

The EIR analyzes a worst-case scenario with respect to OCS pole placement. The final design will take into account many factors, one of which is minimizing intrusion onto adjacent property, while still maintaining operational and safety requirements.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) which includes a feasibility assessment for alternative pole designs per Mitigation Measure BIO-5 within a portion of the City of Sunnyvale showing that the mitigation can help to reduce potential ROW encroachments.

L16-2

The JPB will coordinate with all affected private and public owners during the property acquisition phase prior to construction including on any vegetation removal, fence modifications, and all easement or fee take concerns.

L16-3

See Master Response 8 (Train Noise). Wire noise would be insubstantial for this system.

L16-4

Please refer to Master Response 6 (Visual Aesthetics including Tree Removal). A new figure showing potential materials that could be used for the overbridge protection barriers is included as Figure X in Volume I of this Final EIR. Per revisions to Mitigation Measure AES-2b, Caltrain will coordinate with local jurisdictions during design of the overbridge protection.

L16-5

Please see Master Response 6 (Visual Aesthetics including Tree Removal).

L16-6

As prescribed in Mitigation Measure BIO-5, for trees removed outside of the Caltrain ROW in the City of Santa Clara, the JPB will replace protected trees using the local requirements described in Appendix F, Attachment 1. In Santa Clara, the JPB will replace trees at a 2:1 ratio for protected trees and at a 1:1 ratio for non-protected trees. Mitigation Measure BIO-5 states that the Tree Avoidance, Minimization, and Replacement Plan will be developed in consultation with a certified arborist and in consultation with cities, counties, and affected property owners along the project route, and specifies particular replacement requirements for trees that are removed.

Caltrain will retain approval authority over the Tree Avoidance, Minimization and Replacement Plan

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

L16-7

Mitigation Measure BIO-5 requires the JPB to develop the tree avoidance, minimization and replacement plan in consultation with cities, counties and affected property owners along the route. This will occur prior to construction and tree removal.

L16-8

Comment noted. The locations of the potential staging areas are listed in Section 2.3.8.2, *Potential Construction Staging and Access Area* of the Draft EIR. There is one known potential construction staging area located in the city of Santa Clara in the Santa Clara Station parking lot at mile post 45.0. There may be other staging areas.

L16-9

As described in the Draft EIR, management of existing passenger and freight rail service during construction will likely mean that much of the construction will be at night. The City's code does not allow construction after 6 p.m. or before 7:00 am on weekdays (and before 9:00 am on Saturdays). To completely restrict construction to daytime only would require taking at least one track out of commission during commute hours and would thus result in substantial decline in passenger rail service and may also disrupt some freight service, resulting substantial traffic impacts in Santa Clara and other locations along the ROW. This would also extend the construction duration substantially to restrict hours as requested by the City.

As noted in the Draft EIR, Caltrain is not subject to the land use regulation of local jurisdictions and is thus not legally required to comply with City Code restrictions but within the constraints of avoiding substantial disruption of passenger rail and freight rail service and in expediting completion of construction overall to meet the project schedule will seek to reduce impacts on adjacent sensitive areas, including residences. To that end, the EIR includes Mitigation Measure NOI-1a which requires implementation of a construction noise control plan to minimize night-time noise within residential areas where feasible, and to control construction noise levels near residential areas overall, Mitigation Measure NOI-2a, which requires control of vibration during construction, and Mitigation Measure AES-2a which requires minimization of night-time lighting effects in residential areas. Other mitigation is proposed to address construction impacts, such as control of construction air quality, but those are not specific to night-time construction.

L16-10

<u>Mitigation Measure NOI-1a has been revised to include this dissemination of construction contact information to local residents and posting of contact information on construction sites adjacent to residential areas.</u>

L16-11

<u>Mitigation Measure NOI-1a has been revised to include 10-day advance notification to residents of upcoming construction in adjacent areas.</u>

L16-12

Approval of the construction staging plan will be up to the JPB. However, the JPB will require the Design-Build Contractor to consult with local jurisdictions and solicit their input during development of the construction staging plan. <u>This has been added to the Project Description in the EIR.</u>

3.2.26 Responses to Comment Letter L17

L17-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please see responses to comments L17-2 through L17-8.

L17-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. See responses to comments L17-3 through L17-7.

L17-3

As stated by the commenter, the proposed location for the Traction Power Substation 1 (TPS1), Option 1 would be located adjacent to the existing PG&E substation in a current surface parking lot. It is not anticipated that the location of this substation would obstruct the installation of necessary circulation improvements that will be included in the proposed South San Francisco Downtown Station Area Specific Plan. However, this specific plan is currently being prepared and is not yet adopted; therefore, it is not included in the Draft EIR discussion regarding adopted policy documents in the City. The proposed TPS1, Option 1, is currently located within the *East of 101 Area Plan,* as summarized on pages 3.10-17 through 3.10-18 of the Draft EIR and in Table H-4 in Appendix H of the Draft EIR.

The commenter expresses support for the locations of TPS1, Option 1, as long as it does not conflict with the proposed Specific Plan. This comment is related to the public discourse on the merits of the Proposed Project and whether it is viewed as an asset to the City. This comment does not address the adequacy of the Draft EIR analysis or the Proposed Project's compliance with CEQA. No revisions to the Draft EIR are necessary.

L17-4

Based on the commenter's edits, Lines 35 through 38 on page 3.10-17 of the Draft EIR has been revised. This change is shown in Section 3.10, *Land Use and Recreation*, in Volume I of this Final EIR.

L17-5

Based on the commenter's edits, Lines 4 through 8 on page 3.10-18 of the Draft EIR have been revised. This change is shown in Section 3.10, *Land Use and Recreation*, in Volume I of this Final EIR.

L17-6

The EIR has been revised to note the application for a hotel on the TPS1, Option 3 site and the status of environmental review (EIR expected in 2015).

A new option, TPS1, Option 4 has been added to the EIR at the location suggested by the City. This location will be environmentally cleared through the EIR and would be available as an option for the JPB to include in the PCEP.

L17-7

This comment is noted, but a buried power conduit would not preclude the General Plan proposal to use the abandoned railroad corridor as a transportation corridor. The JPB will coordinate with the City during final design regarding final proposed location of a duct bank if placed at this location.

Regarding the new option, TPS1, Option 4, not requiring a duct bank, while it would not require a duct bank along the abandoned railroad corridor, it would require either an overhead transmission line or an underground duct bank from the Grand Avenue PG&E substation instead.

L17-8

The requested revisions have been made as they are consistent with the municipal code. These changes are shown in Attachment 1 in Appendix F in Volume III of this Final EIR.

3.2.27 Responses to Comment Letter L18

L18-1

Comment noted. Please see responses to comments L18-2 through L18-12 for responses to specific comments.

L18-2

The gate-down times at the Sunnyvale Avenue at-grade crossing were calculated using the prototypical schedules developed for the PCEP Final EIR (Appendix I). Compared to the 2020 No Project scenario, the aggregate gate down time at Sunnyvale Avenue would decrease under the 2020 Project scenario for both AM and PM peak hours. Similarly, compared to the 2040 No Project scenario, the aggregate gate down time would decrease under the 2040 Project scenario for both the AM and PM peak hours. Because the aggregate gate down times at this grade crossing are not expected to increase due to the Proposed Project, the Sunnyvale Avenue / W Evelyn Avenue and Sunnyvale Avenue / W Hendy Avenue intersections were not included in the list of study intersections.

L18-3

The City of Sunnyvale's concern regarding evaluation of additional mitigation measures at the South Mary Avenue / West Evelyn Avenue intersection are noted.

During the PM peak hour at the South Mary Avenue and West Evelyn Avenue intersection, the total intersection volume for 2020 Project conditions is lower than the volume for 2020 No Project conditions. However, the intersection delay increases with the Proposed Project. This occurs because the aggregate gate down time during the PM peak hour at the Mary Avenue crossing increases by nearly 1.5 minutes with the Proposed Project. (See Appendix D to the Final EIR for more information.) This increase in gate down time introduces more delay to movements that are preempted during a train crossing, particularly all westbound movements and the southbound left-turn movement.

Adding lanes on the westbound approach was evaluated in response to comment. Adding lanes would not help reduce intersection delay due to the project because the delay that westbound vehicles incur due to the project is not a direct result of capacity constraints. Rather the increase in aggregate gate down time preempts the westbound movements for a longer period of time, and the westbound movements are not served at the optimal times during the signal cycle. While the addition of lanes can help increase capacity and throughput, the primary issue is that the movement is preempted. A grade separation, which would no longer preempt the westbound movements, would be a beneficial solution but is subject to major fiscal constraints. While a grade separation is a technically feasible way to eliminate the traffic impact at this location, it is a highly expensive mitigation strategy that Caltrain cannot commit to at this time.

Similar to the westbound movements, the southbound left-turn movement is also preempted when a train crosses the at-grade crossing. Since the aggregate gate down time increases by 1.5 minutes with the Proposed Project, these left-turning vehicles must also wait in queue for a longer amount of time during the peak hour. The increased in aggregate gate down time causes the southbound left-turn vehicles to queue out of pocket into one of the southbound through lanes, which reduces throughput and increases southbound through delay. Extending the left turn pocket or adding an additional left turn lane are methods of increasing the storage capacity for the left-turning vehicles. However, this would be subject to right-of-way constraints and would not be sufficient in mitigating the impact to a less-than-significant level. These lane changes can lower delays for the southbound through movement because left-turning vehicles would no longer queue out of pocket, but the southbound-left turn movement would see nearly the same amount of delay as the aggregate gate down time would remain unchanged. As mentioned previously, a grade separation would be a beneficial solution but is subject to major fiscal constraints.

L18-4

The intersection of West Evelyn Avenue and South Mary Avenue is considered an impact in both the AM and PM peak hours. In the AM peak hour, there is a heavy southbound left turn demand from West Evelyn Avenue onto South Mary Avenue that is preempted by the high number of train crossings. The heavy northbound through demand further complicates the intersection signal timing and operations. While both the southbound left turn and northbound through movements need to be given adequate green time, they are also conflicting movements.

In the PM peak hour, there is a heavy demand on the westbound intersection approach that is preempted by the high number of train crossings. Much of the queuing and delay are a result of the high number of train crossings, and as a result the addition of westbound turn lanes or retiming of traffic signals would provide minimal benefit. A grade separation, which would no longer preempt the westbound and southbound left movements, is subject to major fiscal constraints that Caltrain cannot commit to at this time.

The intersection impact at West Evelyn Avenue and South Frances Street was unable to be mitigated with both lane restriping and signal timing optimization. Because the southbound left-turn movement along West Evelyn Avenue queues out of pocket into the only through lane, extending the pocket could provide more storage capacity. However, this improvement would be subject to right-of-way constraints and would only provide partial reduction in intersection delay. Also, the only vehicular access point for the Sunnyvale Caltrain station is at the intersection of West Evelyn and South Frances St, which forces all station-related traffic to enter and exit from this location and thus there is no alternative location for access to the station given the elevated ramp to Mathilda Ave. starts just to the west of the current access point. Since these mitigation measures are infeasible, they were not added to the EIR mitigation for this location and the intersection impact at this location is considered significant and unavoidable.

Signal timing optimization alone was not enough to mitigate the impacts at the intersections of Lawrence Expressway / Kifer Road and Lawrence Expressway / Reed. With both intersections already built out, any capacity improvements (e.g., additional lanes or turn pockets) would be subject to right-of-way constraints and therefore the impacts at these intersections are considered significant and unavoidable. However, the County of Santa Clara is currently working on a Lawrence Expressway Grade Separation Project that includes both of these intersections in their study. The proposed final plan is currently expected to be completed by March 2015.

L18-5

The City of Sunnyvale's concern regarding mitigation measures for study intersections in Sunnyvale are noted. As part of the PCEP EIR transportation impact analysis, a number of potential mitigation measures were tested for all intersections with significant impacts under 2020 and 2040 Project conditions. The table below provides mitigation measures that were considered for some of the impacted intersections in Sunnyvale and Santa Clara.

Table 3-10. Mitigation Measures Considered at Intersections in Sunnyvale and Santa Clara

Intersection	Mitigation Measures Considered
West Evelyn Avenue and South Mary Street	The addition of lanes, an extension of a left-turn pocket, and a grade separated crossing were mitigation measures considered for this intersection. More information about why these measures could not mitigate traffic impacts can be found in Response to Comment L18-3.
West Evelyn Avenue and Frances Street	An extension of a left-turn pocket and additional station access points were mitigation measures considered for this intersection. More information about why these measures could not mitigate traffic impacts can be found in Response to Comment L18-4.
Kifer Road and Lawrence Expressway	The County of Santa Clara is currently working on a Lawrence Expressway Grade Separation Project that includes this intersection in their study. The proposed final plan is currently expected to be completed by March 2015.
Reed Avenue and Lawrence Expressway	The County of Santa Clara is currently working on a Lawrence Expressway Grade Separation Project that includes this intersection in their study. The proposed final plan is currently expected to be completed by March 2015.
Source Fehr & Peers.	

More detail on the mitigation measures can be found in Section 3.6.6 and Section 3.6.7 of Appendix D to the Final EIR. More detail on the methodology for the traffic analysis can be found in Attachment F to Appendix D.

Caltrain is responsible for analyzing potentially feasible mitigations to address the Proposed Project's considerable contribution to identified significant cumulative impacts only. Thus, the obligation to assess mitigation is limited to the "fair share" portion of a significant cumulative impact that is due to the Proposed Project's considerable contribution.

More detail on the specific design of the mitigation measures and specific fair share contributions involved would be determined during the final design phase of the Project. During this time, Caltrain would work cooperatively with the City of Sunnyvale and other involved agencies to come to an agreement on mitigations and fair share contributions through the Mitigation Monitoring and Reporting Program (MMRP).

L18-6

If the Project is approved, Caltrain would work collaboratively with the City of Sunnyvale to identify strategies that would help reduce parking demand. Since some of the parking deficits identified are at stations where providing automobile access is not a priority, provision of additional parking facilities at these stations would conflict with Caltrain's Comprehensive Access Program Policy Statement (2010).[38] Where parking deficits are at auto-oriented stations, provision of additional auto parking would be a priority, subject to feasibility and available funding. The Comprehensive

[38] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. http://www.caltrain.com/Assets Public+Affairs/pdf/Comprehensive+Access+Policy.pdf

Access Program Policy Statement is used by Caltrain in cooperation with local jurisdictions as part of Caltrain's long-term planning and Capital Improvement Program; however, access improvements are implemented as funding is available. Caltrain also works with local jurisdictions, other transit agencies, and local, state and federal funding partners to fund improvements to access to Caltrain stations via alternatives to automobiles including transit connections, bicycle and walking. Where future investments in these access modes are realized, they would help to reduce some of the excess parking demand. Caltrain is also working with many local jurisdictions concerning transit-oriented developments including exploring shared parking opportunities where appropriate.

A future parking deficit, or the need to find a parking space off-site not at Caltrain station parking lot, while inconvenient, is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circle to find an available space, but it can be expected that most Caltrain passengers would modify their behavior to take into account parking deficits, therefore taking alternative actions. These alternative actions may include parking at a public or private off-site parking lot in proximity to the station or changing their access or egress mode.

L18-7

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines.

All potentially affected property owners with land that would fall within the worst-case ESZ (as of the Draft EIR) were notified with letters mailed between March 5, 2014 and March 10, 2014. An example letter to property owners is included in Appendix J.

L18-8

As stated on page 3.10-15 in Table 3.10-3 in Section 3.10, *Land Use and Recreation*, Paralleling Station 6 (PS6) Option 2 would be within the Caltrain station parking lot and consistent with the existing Caltrain operations and the immediately surrounding land uses (e.g., railroad, parking lot, and roadways, which are the immediately adjacent land uses). In 2013, the *Sunnyvale Downtown Specific Plan* was amended to include the Caltrain parking lot within its boundaries. PS6 Option 2 would be located on Block 21 of the *Sunnyvale Downtown Specific Plan*. Block 21 is within Caltrain's ROW. Therefore, PS6 Option 2 would not be subject to the Specific Plan because as described in Section 2.5, *Required Permits and Approvals*, of the Draft EIR, pursuant to SamTrans' enabling legislation (Public Utilities Code Section 103200 et seq.) and the 1991 Interstate Commerce Commission's approval of the JPB acquisition of the Caltrain line, JPB activities within the Caltrain ROW are exempt from local building and zoning codes and other land use ordinance.

<u>Appendix H, *Land Use Information*, has been edited to specify location of PS6, Option 2, in relation to the Plan. Revision were made in Table H-2, *Adopted Specific, Precise, and Area Plans Adjacent to the Caltrain Corridor*, on page H-14 and Table H-4, *Project Consistency with Applicable Plans and Policies*, on page H-28.</u> These changes are shown in Volume III of this Final EIR.

Despite land use regulation not applying on the Caltrain ROW, under Mitigation Measure AES-2b, Caltrain will work with the City of Sunnyvale concerning aesthetic mitigation for PS5, Option 1 or PS6, Option 2.

L18-9

Mitigation Measure AES-2b has been revised to note specifically that it would apply to both PS6, Option 1 and PS6 Option 2. Mitigation Measure AES-2b has also been revised to require the JPB to work with the applicable local jurisdiction when developing the aesthetic screening for any traction power facilities near sensitive locations. The EIR has also been revised to note that both locations are visually sensitive.

PS6, Option 1 is considered to be in a sensitive visual location as it is adjacent to and directly visible from residential areas, although the present view from the residential area (as shown in Figure 3.1-12) is of local roadways, parked cars, overhead utility lines, and the railroad, with a multi-story building and parking structure in the background which compromise some of the aesthetic attractiveness under existing conditions. A new simulation has been added to the EIR in Figure 3.12 to show potential vegetation screening using a combination vegetated wall/fence to obscure the paralleling station from view from residential areas. While what is shown in the simulation may not be exactly what the mitigation ends up being it shows the potential to screen the new paralleling station from view from neighboring residential areas. Caltrain will work with the City of Sunnyvale to determine to select the best options for vegetative screening if Option 1 is selected.

As shown in the Figure 3.1-2, PS6, Option 2 is located within the Caltrain parking lot between the Caltrain tracks and an elevated ramp leading to Mathilda Avenue. A new photo from Plaza del Sol toward the PS6, Option 2 location has been added to Figure 3.1-2. As shown in the new existing setting photo, Plaza del Sol is separated from the PS6, Option 2 location by W. Evelyn Avenue and the elevated ramp to Mathilda, the view is partially screened from view by existing trees along the Plaza and some low structures within the northeast corner of the plaza, and there are existing light poles as part of the existing visual setting. The plaza itself provides an attractive visual public setting with artistic features, open areas, and landscaping and is considered visually sensitive However, the intervening features of the elevated roadway and roadway and partial screening by existing vegetation, help to reduce the potential visual impact of PS6, Option 2 because the new facility would not be directly adjacent to the plaza and the intervening features, especially the elevated ramp to Mathilda would help to make the facility less obvious in the general area surrounding the plaza. The views within the parking lot or from the ramp or W. Evelyn are not considered sensitive views as they are within a transportation setting, fleeting, and not aesthetically attractive. The views from the plaza are considered sensitive. Since the plaza is the sensitive view location, the best option for mitigation would likely consist of increased tree planting along the south side of W. Evelyn Road or increased tree planting on the Evelyn side of the Plaza itself. If Option 2 is selected, the JPB will work with the City of Sunnyvale to identify the best options for vegetated screening to be installed.

L18-10

Table 3.11-16 of the Draft EIR shows that the noise for proposed Paralleling Station 6 (PS6) would increase, but the increase for the two options would be less than 1.0 dBA, and not a sufficient amount to trigger a noise impact, per Project significance criteria. Figure 6-6 of 2011 Sunnyvale General Plan defines the significant noise impacts from new developments on existing land uses. The existing ambient noise levels around the proposed PS6 range between 71 and 75 dBA, which fall within the conditionally acceptable noise category for residential land uses. Based on Figure 6-6 of 2011 Sunnyvale General Plan, a noise increase of 3 dBA or less from a new development is not considered significant noise impacts on existing land uses. Therefore, the noise increase would not change existing land use compatibility, and thus is consistent with local planning guidance.

L18-11

One of the reasons that Sunnyvale has the highest number of potentially affected trees is because the area within and in areas of project ROW encroachment contain numerous relatively small diameters. In particular, the tree survey identified numerous bottlebrush trees (245 removals out of 349 in the tree survey section in Sunnyvale). These trees have the appearance of hedges, but the City of Sunnyvale, unlike some other jurisdictions in the Corridor, considers bottlebrush to meet the definition of a "tree" but they are not protected by the City's tree ordinance.

Map of tree effects are presented in Appendix J of the Final EIR.

The text that indicated that non-protected trees in industrial areas will not be replaced has been eliminated. Non-protected trees within the Caltrain ROW in industrial areas will be replaced at a 1:1 ratio using 15-gallon trees, where feasible. This change is shown in Section 3.3 in Volume I of this Final EIR.

The tree replacement criteria are listed in Appendix F, Attachment 1 in Volume III of this Final EIR. As shown in Appendix F, Attachment 1, protected and non-protected trees outside of Caltrain's ROW in Sunnyvale would be replaced at a 1:1 ratio.

L18-12

Please see Master Response 6 (Visual Aesthetics including Tree Removal).

The JPB has committed to replacing both protected and non-protected trees both inside and outside of the Caltrain ROW. As prescribed in Mitigation Measure BIO-5, if on-site tree replacement cannot occur on the Caltrain ROW (where trees are removed from the ROW) or on adjacent property (where trees are removed outside of the ROW), then tree replacement will occur on other parts of the affected property (with concurrence of the land owner) or other parts of the local area (with concurrence of the local municipality). Alternatively, JPB will pay into a local urban forestry fund to support local tree planting programs, provided JPB and local municipalities can agree on the appropriate fund and amount.

3.2.28 Responses to Comment Letter O1

O1-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O1-2

See Master Response 6 (Visual Aesthetics including Tree Removal). JPB recognizes the importance of coordinating with other agencies on project design and to ensure that the Proposed Project stays on schedule. The Project does not include a plan to relocate the tracks horizontally in order to provide space for center pole placement. Track relocation would involve greater construction impacts and could involve greater impacts on land that is currently privately held

O1-3

Comment noted. See also Master Response 2 (Alternatives).

O1-4

This comment is noted. The Draft EIR, Chapter 5 describes the potential for a factory train method to shorten OCS construction time.

O1-5

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O1-6

Comment noted. As described in Chapter 2, *Project Description*, after 2020, diesel locomotives used for San Francisco to San Jose service would be replaced with EMUs over time as they reach the end of their service life. The Project only includes funding for EMUs representing approximately 75 percent of the operational fleet between San Jose and San Francisco. Funding for replacement of the remainder of the diesel fleet between San Jose and San Francisco would have to come from future funding sources.

O1-7

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.29 Responses to Comment Letter O2

O2-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O2-2

The commenter's preference for TPS2, Option 3 is noted.

It should be noted that none of the substation options for TPS2 are directly adjacent to residential areas and all are in industrial/commercial areas. TPS2, Option 1 is next to an existing substation and a warehouse. There are residences northeast of Option 1 (but down the street) and southwest approximately 500 feet to the west on the opposite side of the rail ROW. TPS2, Option 2 is in an industrial/warehousing area next to I-880 and is not near any residences.

O2-3

As explained in Section 3.5 of the Draft EIR, the EMF levels onboard the EMUs, along the ROW and outside of the traction power facilities are below professional public health thresholds. As such, the EIR does not identify a significant impact to public health from EMF levels and no mitigation is warranted.

Regarding aesthetics, the three TPS2 Options are all located in industrial areas and would not change the visual character of these areas.

Regarding noise, no significant impacts due to noise of the TPS2 were identified based on the noise study. Regarding noise along the ROW, this was also evaluated in the noise study and found to be less than significant. The dominant effect of the PCEP is to lower noise due to trains as EMUs are quieter than current diesel equipment. The nearest modelled noise location to the College Park Neighborhood (R45) showed a reduction of noise levels by 0.4 dBA. Cumulative noise along the ROW was found to be significant and mitigation was identified to which Caltrain will be required to contribute on a fair-share basis where the PCEP contributes to adverse effects.

The comment about establishing an outreach forum is noted.

3.2.30 Responses to Comment Letter O3

O3-1

See Master Response 9 (Bikes on Board).

3.2.31 Responses to Comment Letter O4

O4-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O4-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O4-3

Comment noted. For a property to be considered a historic resource for the purposes of CEQA (15064.5(a)), it must be listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, included in a local register of historical resources as defined in PRC section 5020.1(g), or determined by a lead agency to meet the CRHR criteria. The Broadway Station does not meet the criteria to be considered a historic resource under CEQA.

O4-4, 5

Comment noted. Mitigation Measure AES-2b includes design of the project features in a manner that allows these features to blend with the surrounding built and natural environments and to paint new features to recede into the landscape. <u>In addition, the mitigation has been revised to include coordination with cities concerning traction power facilities and overbridge protection barriers</u>. This change is shown in Section 3.1.2.3 in Volume I of this Final EIR.

O4-6

For information about specific tree removals, please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J. As shown on these maps, there is some tree canopy within the ESZ that is located north of Broadway (between mileposts 14.2 and 15.0). The EIR acknowledges that the loss of trees would substantially degrade the existing visual character or quality of the site and its surrounding during Proposed Project operation. Under CEQA, this impact would be significant and unavoidable even after mitigation for tree replacement (Mitigation measure BIO-5). Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

As explained in Master Response 8 (Train Noise), the loss of tree canopy would not have a substantial effect on increasing train noise.

O4-7, 8

The limitation on replanting invasive species in Mitigation Measure BIO-5 is within the JPB ROW only. The source for identifying a species as invasive is the California Invasive Plant Inventory Database (http://www.cal-ipc.org/paf/), which maintains a list and invasive ratings of plant species in California. This list includes one eucalyptus species (*Eucalpytus* *camaldulensis*, red gum or river red gum) as an identified invasive species.

Within the tree survey area in Burlingame, all but one of the eucalyptus trees are blue gums (*Eucalpytus globulus*), with one silver dollar gum (*Eucalyptus polyanthemos*), neither of which are on the invasive list.

Mitigation Measure BIO-5 provides a mechanism for JPB to plant alternative replacement, non-native tree species to match surrounding vegetation, with concurrence by landowners and local municipalities. If a tree that is protected by the City of Burlingame is removed, it would be subject to replacement, regardless of invasive status with Cal-IPC.

<u>Within the Francard Grove, which is nearly entirely blue gum, Mitigation Measure BIO-5 has been revised to require any replanting to be blue gum trees to be consistent with the historic plantings. Mitigation Measure BIO-5 has been revised to allow for replanting anywhere inside or outside of the ROW with replacement eucalyptus species, with the exceptions being red river gum, which will not be replanted by Caltrain within the JPB ROW due to its invasiveness.</u>

O4-9

<u>Mitigation Measure BIO-5 has been revised to include a required maintenance period, monitoring and replacement if plantings are not successful.</u>

O4-10

Comment noted. For a resource to be considered historic for the purposes of CEQA (15064.5(a)), it must be listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, included in a local register of historical resources as defined in PRC section 5020.1(g), or determined by a lead agency to meet the CRHR criteria. The pole noted in the comment does not meet the criteria to be considered a historic resource under CEQA because it does not appear to have sufficient integrity of setting, association, feeling, or design. While it retains its original location, material and possibly workmanship, resources such as individual poles are seldom historic properties for the purposes of CEQA. Their historic significance and integrity is dependent on an intact series of resources, such as electric poles; the system as a whole could have been a historic property, having supported the No. 40 Interurban line streetcar. A single pole lacks integrity to convey a system's historical significance.

Regardless, per the provided photograph, the pole is outside the Caltrain ROW and is outside the area that would be affected by the PCEP.

3.2.32 Responses to Comment Letter O5

O5-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O5-2

See Master Response 1 (Segmentation and Independent Utility).

O5-3

See Master Response 1 (Segmentation and Independent Utility).

O5-4

See Master Response 1 (Segmentation and Independent Utility).

O5-5

See Master Responses 1 (Segmentation and Independent Utility) and 3 (Use of Proposition 1A Funding).

O5-6

See Master Response 1 (Segmentation and Independent Utility).

O5-7

See Master Response 1 (Segmentation and Independent Utility).

O5-8

See Master Responses 1 and 3.

O5-9

See Master Response 2 (Alternatives).

O5-10

See Master Response 1 (Segmentation and Independent Utility) and 2 (Alternatives).

O5-11

See Master Response 1 (Segmentation and Independent Utility).

O5-12

Comment noted. Please also see Master Response 1 (Segmentation and Independent Utility).

O5-13

As described on page ES-1 (lines 8-9) of the Draft EIR, as of mid-2013, Caltrain operated 46 northbound and 46 southbound (for a total of 92) trains per day between San Jose and San Francisco during the week.

As described on page ES-3 (lines 2-4 and 7-8), the Project would provide for operation of up to 6 Caltrain trains per peak hour per direction (an increase from 5 trains per peak hour per direction at present). The Proposed Project includes 114 trains per day between San Jose and San Francisco and six trains per day between Gilroy and San Jose (a prototypical schedule for the PCEP is included in Appendix I).

As described on page ES-3 (lines 11-13), the current concept for blended service is for use of up to six Caltrain trains per peak hour per direction and up to four HSR trains per peak hour per direction. Footnote #3 on page ES-3 describes that the CHSRA 2012 Revised Business Plan *Ridership and Revenue Forecasting* (CHSRA 2012b) and the 2014 Business Plan (CHSRA 2014) both presume Phase 1 Blended Service would have up to four trains per peak hour and up to four trains per off-peak hour.

As explained in Chapter 4, Section 4.1 *Cumulative Impacts,* the Draft EIR presumed up to 40 daily round-trip high-speed trains in 2040 based on the CHSRA 2012 Business Plan, *Estimating High-Speed Train Operating and Maintenance Cost for the CHSRA 2012 Business Plan* (CHSRA 2012c). The 2014 Business Plan (which was draft at the time of the Draft EIR but is now final) describes in the Ridership and Revenue Technical Memorandum up to 4 HSR trains per peak hour from San Francisco to Los Angeles and the same for off-peak hour. There is no explicit statement in the 2014 Business Plan of the daily number of HSR trains for the San Francisco to San Jose segment. However, as noted in the Draft EIR, Table 4-4 note "a", the service planning methodology document for the Draft 2014 Business Plan includes an assumption of 53 daily round trip HSR trains starting in 2029. This assumption is included in the final service planning methodology document for the Final 2014 Business Plan.

While the service planning methodology document for the 2014 Business Plan describes 53 daily round trip HSR trains, Caltrain's operational modelling has been focused on determining that it is feasible to operate blended service of up to 6 Caltrain trains per peak hour per direction and up to 4 HSR trains per peak hour per direction. It may be feasible to handle 53 daily round-trip trains but operational studies would need to be concluded to verify this when blended service design is advanced and when more definitive assumptions for daily service and a service schedule can be developed.

For the Final EIR, the conceptual description of potential daily HSR round-trip trains was updated to be 40 to 53 round-trip HSR trains. Noise and vibration analysis was updated accordingly for blended service.

For the PCEP EIR, it describes the ridership estimates by CHSRA from the 2014 Business Plan for 2029 for the Phase 1 Blended scenario. The ridership estimates by CHSRA from the final 2014 Business Plan for 2040 for the Phase 1 for 2040 have been added to the Final EIR.

The PCEP EIR is not "advancing" any particular daily number for HSR service (because the PCEP is a separate project from the HSR project). The JPB has evaluated up to 4 trains per peak hour per direction because operational studies have shown it to be viable. For the disclosure of cumulative impacts, the PCEP Draft EIR disclosed the ridership estimates from the final 2012 Business Plan and the PCEP Final EIR discloses the ridership estimates from the Final 2014 Business Plan (which became available after release of the PCEP Draft EIR; only the Draft 2014 Business Plan was available at the time of completion of the Draft EIR). Thus, the EIR has properly disclosed what is known at a conceptual level about blended service at this time based on studies completed and the conceptual understanding.

The subsequent CHSRA project-level environmental evaluation will address proposed high-speed train service levels along the San Francisco Peninsula. See also Master Response 1 (Segmentation and Independent Utility).

O5-14

See response to comment O5-13.

O5-15

The project length is approximately 51 miles long from 2 miles south of Tamien Station to San Francisco's 4th and King Station. However, in order to provide electrified service, there are multiple tracks that must be electrified, including multiple tracks along the mainline in some areas, in maintenance areas and storage areas at the CEMOF, and at terminals like San Jose Diridon and San Francisco 4th and King. Each electrified track will require a contact wire overhead in order to run EMUs. The 130 to 140 single-track miles of OCS reflects the approximate amount of trackage proposed to be electrified between San Jose and San Francisco.

O5-16

The traction power facilities are described in Chapter 2, *Project Description*. As explained in Section 2.3.3, the autotransformer (or ATF) power feed arrangement provides parallel aerial feeders, one on each of the alignment carrying power in opposite directions. <u>The ATF is the overall power feed system and includes the traction power substations, switching station, paralleling stations and the OCS. This has been clarified in the EIR.</u>

As explained in Section 3.5, *Exponent* (2001) studied the EMF associated with a direct center feed (DCF) configuration and the ATF configuration. As described in this study, the ATF system generally reduces magnetic fields compared to a DCF configuration by (1) minimizing current flow necessary to operate the Caltrain commuter system and (2) optimal phasing of the catenary and feeder circuits results in partial magnetic field cancellation relative to direct center feed power delivery systems. Exponent modelled DCF and ATF EMF fields and determined that EMF levels along the ROW were lower with the ATF configuration. <u>This description has been updated in Section 2.3.2 to more clearly explain why the ATF has relatively lower EMF levels than alternative arrangements.</u>

As explained in Section 2.3.3, the traction power substations would be located near PG&E substations and step-down the voltage from 115 kV to 25 kV for use by the OCS.

As explained in Section 2.3.3, the switching station would be located at approximately the mid-point between the two traction power substations and would provide a phase break to isolate power on the northern side of the OCS system (from Redwood City north) from the southern side of the system (from Redwood City south).

As explained in Section 2.3.3, the paralleling stations would be located at approximately 5 mile intervals between the substations and the switching station and their equipment maintains the ATF system and the system operating voltages.

Thus, the description of the traction power facilities is adequately explained in the Draft EIR with the minor revisions noted above.

O5-17

Section 3.1, *Aesthetics*, describes General Order 95 which regards electric clearances related to overhead power lines. As stated in Section 3.1 and in the commenter's referenced blog, GO 95 does not provide guidance for 25 kVA systems proposed for use by the Proposed Project. As discussed in Section 3.1, the CPUC is currently engaging in rule-making concerning 25 kVA OCS for high-speed rail systems, that may apply to the PCEP or the CPUC will need separate rule-making concerning the PCEP OCS. Thus at present, there isn't a specific regulatory requirement concerning vegetation clearances for the 25 kVA OCS for the Proposed Project. The analysis in the EIR of an electrical safety zone for vegetation clearance is generally consistent with the requirements in General Order 95 and the draft requirements in the CPUC draft rule-making.

Chapter 2, *Project Description*, of the Draft EIR, states that the particular type of OCS on a given segment along the Caltrain ROW is dependent upon the track segment's exact configuration and other site-specific requirements and constraints. Chapter 2, Figures 2-3 through Figure 2-7 show the different types of OCS considered in the Proposed Project. All OCS types would be subject to the 10 feet OCS clearance for safe train operation.

Chapter 5 of the Draft EIR discussed project alternatives. The environmental impact screening (tier 2) in Chapter 5, *Alternatives*, considers aesthetic impacts due to OCS appearance or tree removal. The alternative screening process also considered technical feasibility, financial feasibility, project purpose and need. Chapter 5, *Alternatives*, of the Draft EIR, discussed the Project alternatives that passed the screening alternative analysis. Alternatives that did not meet the Project purpose were not carried forward in the alternative analysis.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal), which describes how Mitigation Measure BIO-5 will be implemented to consider alternative pole designs to lower tree removal impacts along the corridor and which describes a feasibility assessment conducted for five test cases showing how the potential alternative pole designs included in Mitigation Measure BIO-5 can specifically lower tree removal impacts.

O5-18

Electrified 25 kVA systems using OCSs are one of the most common platforms for electrified service in the world and a proven technology. 25kV OCSs to power electric trains are in use throughout Europe and Asia, and already exist in several U.S. rail corridors. In the year 2000, Amtrak commissioned a 25 kV extension to the Northeast Corridor's electrified network on the 160 miles of track between New Haven, Connecticut and Boston, Massachusetts. The ability of 25kV electrification to be used for joint high-speed and commuter rail operations has led to the conversion of New Jersey Transit's North Jersey Coast Line from lower voltage to 25kV in 2002. A third 25kV electrification system is presently under construction in the United States by the Regional Transportation District in Denver, Colorado.

As to the comment about what "issues", if any, have arisen with such system, the comment is overly broad and non-specific. The environmental issues specific to an OCS tend to revolve around the aesthetic impact of overhead poles and wires, including any removal of trees or relocation of existing overhead utilities, or addressing confined spaces like tunnels and underpasses, all of which are independent of the specific voltage used and have to do with the overhead nature of an OCS. Since the comment does not express any particular concern with a 25kV system, no further response is necessary.

As to alternative power configurations, there are a variety of different voltages in use for electrified light rail, commuter, regional, and high-speed rail operations include variations for AC systems (commonly 12.5 kV, 15 kV, and 25 kV but also at other voltages) as well as DC systems (anywhere from 600 to 3,000 volts). Many of the older commuter and intercity rail routes that previously used overhead DC systems are being converted to overhead AC systems while DC system are still commonly used for subway, trams, and trolleybuses.

As discussed in Chapter 5, *Alternatives*, the EIR did consider several alternative electrical infrastructure alternatives, including a third-rail system (which are all DC powered), but these alternatives were determined to be infeasible, primarily due to cost. Use of a DC OCS or an AC system of a different voltage would not substantially change the impacts of the project, particularly as they would not avoid or reduce the aesthetic or tree removal impacts of the PCEP.

O5-19

The auto-transformer feed system can work on all the potential types of pole systems mentioned in the project description including center poles, side poles, two-track cantilevers, portals, and headspans. The ATF system does not preclude the use of center poles.

The primary constraint on center poles is the track separation. There is a need for a minimum of 18 feet between tracks in order to install center poles. Other concerns include construction, maintenance, operations and safety. As discussed in Master Response 6 (Visual Aesthetics including Tree Removal), Mitigation Measure BIO-5 requires the JPB to evaluate and employ alternative pole alignment options to lower tree removal impacts where feasible and where consistent with construction, maintenance, operations and safety requirements. As discussed in response to Comment O5-16, the ATF system helps to reduce EMF/EMI levels, but this benefit would occur for all types of poles.

Since the use of the ATF system does not preclude the use of center poles, no further response to this comment and no revisions to the EIR are necessary pursuant to this comment.

O5-20

The language about current models of EMUs like those for the project being available in the U.S. does not mean that such EMUs are not currently available in Europe.

The EIR considers two non-electrification operational alternatives to the project, the DMU Alternative and the Dual-Mode Alternative, both of which would avoid the impacts of the PCEP OCS on aesthetics and trees. These are feasible alternatives for which in operation systems exist in the U.S. and/or Europe. A third non-electrification operational alternative, the Tier 4 Diesel Locomotive

Alternative has been added to the Final EIR. CEQA does not require that project alternative be evaluated at the same level of detail as the Proposed Project and thus these operational alternatives are analyzed in Chapter 5, *Alternatives*, at a more general level of detail, although specific quantitative analysis of air quality, greenhouse gas, and noise impacts are provided in Chapter 5 as these are key areas of comparison for the alternatives.

Since the EIR already analyzes non-electrification alternatives, no further revisions to the EIR are necessary pursuant to this comment.

O5-21

The project description is clear that there are 92 trains per day between San Jose and San Francisco and with the PCEP there would be 114 trains per day between San Jose and San Francisco, an increase of 22 trains per day over the project area. The numbers for current trains (92) and future trains (114) are discussed throughout of the Final EIR. These numbers are discussed in Section S.1, S.4.3.2, 2.2, 2.3.7.1, and 3.3.2.3 of Appendix D to the Final EIR. Train frequency is derived from the prototypical schedules that developed for analytical purposes only. These schedules can be found in Appendix I to the Final EIR. Potential variations in the total number of trains per day vary by scenario. For a comparison of number of trains per day for 2020 No Project and 2020 Project, see Table 3-8 in Section 3.2.2.1.1 of Appendix D. For a comparison of number of trains per day for 2040 No Project and 2040 Project, see Table 3-13 in Section 3.4.2.1.1 of Appendix D. See also response to comment O5-13.

The number of Caltrain trains would not change with blended service. Table 4-8 in Chapter 4 provides a summary of the number of Caltrain trains under existing, 2020 and 2040 conditions in addition to presumed levels of other freight and passenger services. The impact analysis in the EIR uses these numbers when assessing existing conditions, project impacts, and cumulative impacts.

O5-22

Noise from the contact between the pantograph and the catenary is not a significant source of noise. See Master Response 8 (Train Noise).

O5-23

<u>Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions) which discusses potential particulates from wear of the pantograph collector strips. Master Response 7 (Air Quality and Greenhouse Gas Emissions) also discusses the potential effect of tree removal on particulates as well.</u>

O5-24

The PCEP project is only proposed to provide electrified service between San Jose and San Francisco up to 79 mph. The PCEP does not include any system improvements; it only includes electrical infrastructure. The EMU trains will be able to run faster than 79 mph and the installed electrical infrastructure would allow running EMUs faster than 79 mph if the tracks were rated for 79 mph. However, the Caltrain tracks themselves are only rated for 79 mph and thus the PCEP will not allow for operating speed in excess of 79 mph.

Blended service is proposed for speeds up to 110 mph. As described in the EIR, system improvements would be necessary in order to allow trains (of any kind) to operate at speeds in excess of 79 mph. Those system improvements would be part of the blended service project description and subject to the separate environmental review by CHSRA.

The comment addresses legal compliance with Proposition 1A, the Safe, Reliable High-Speed Passenger Tran Bond Act for the 21st Century. Because this comment does not address "significant environmental issues" it requires no response. Nonetheless, Caltrain understands that a "blended system," as generally described in Section 4.1 of the EIR, is anticipated to be capable of meeting Proposition 1A for San Francisco-San Jose travel time based on a 02/11/13 Memorandum from Frank Vacca to Jess Morales re: Phase 1 Blended Travel Time, and on other factors. The blended system has not at this time been designed, but will be part of future work by the CHSRA.

O5-25

Please see Master Response 8 (Train Noise). As described in the EIR, the project would not result in significant noise impacts relevant to FTA thresholds including consideration of train noise and horn noise. As such, mitigation is not required for noise along the Caltrain ROW.

Cumulative noise impacts were identified and cumulative noise mitigation is included in the EIR. The PCEP will only make limited contributions to cumulative noise levels and thus Caltrain's responsibility is limited to a fair-share contribution to the cumulative mitigation. Once Caltrain operates 100 percent EMUs between San Jose and San Francisco, it would make no contribution to increases in cumulative noise and thus would not need to contribute funding to cumulative noise mitigation.

O5-26

Implementation of the Project will not change the potential for accidents or suicide along the Caltrain corridor.

As described in Chapter 2, *Project Description*, as part of the Caltrain Modernization Program, the JPB is installing Communications Based Overlay Signal System and Positive Train Control (CBOSS PTC). In addition to helping to eliminate train to train collisions, CBOSS PTC will also improve the efficiency of at-grade crossing warning functions parameters which can help to lower the potential for accidents at at-grade crossings. CBOSS PTC is scheduled to be operational by 2015.

Most of the deaths along the corridor are due to suicide, which involve individuals purposefully walking in the path of an oncoming train. The ability to attempt suicide at train stations and grade crossings will not be changed with or without electrification.

However, since the EMU equipment is lighter than today's diesel locomotives, it can brake much faster. Faster deceleration may help to avoid some accidents and possibly some suicides. However, as long as an individual attempting suicide enters the rail tracks immediately before passage of an oncoming train at speed, the potential for suicide cannot be avoided.

Caltrain has an ongoing commitment with the local communities to support efforts to prevent suicides along the Caltrain ROW. Caltrain has installed suicide prevention signs along the ROW with a hotline number to a local crisis intervention agency. Caltrain recently launched a special page on its website dedicated to suicide prevention information and outreach. The page, under the rail safety menu, includes a crisis hotline number and links to local, regional and national suicide prevention resources. A list of guidelines developed by mental health professionals that outline the most effective way media to cover suicide also will be available on the website. Caltrain transit police are trained in crisis intervention and provide referrals to treatment with people in danger of harming themselves on Caltrain's ROW. Caltrain will continue to work at providing information and partnering with the community to continue these efforts.

The PCEP does not propose to increase maximum speeds over existing conditions (79 mph) and thus no increase in accident potential related to top speeds is expected.

O5-27

Regarding the money commitment question, Caltrain has not yet formally approved the PCEP project nor committed to building and operating that project nor selected a Design-Build contractor nor released any funds for construction. That will not occur until after the CEQA process is completed.

The comment suggests Caltrain and the CHSRA have decided to carry out a high-speed rail project without the requisite environmental analysis. This is not the case. As explained in the EIR, the current EIR is addressing Caltrain electrification and decisions about Caltrain electrification will follow EIR certification as required by CEQA. A separate subsequent environmental process would be followed for the yet-to-be-designed blended system for high-speed rail. The current EIR discloses what can be known at this time about the cumulative impacts of the concepts for future HSR and blended service, which is not being environmentally cleared through this EIR.

Please see Master Response 1 (Segmentation and Independent Utility) for overall discussion of the relationship between the PCEP and the HSR project and the issues of separate environmental review.

O5-28

As described in Chapter 4, the cumulative understanding of blended service is conceptual only because there is no design for the blended service. As such, the disclosure of potential environmental impacts of blended service must be general and conceptual in nature. The PCEP EIR discloses that passing tracks will have aesthetic and other environmental impacts. The focus of the summary in the Executive Summary is to disclose the PCEP's contribution to potential cumulative impacts, not to summarize all cumulative impacts from blended service. The commenter is referred to the discussion of cumulative impacts due to blended service in Chapter 4, which indeed describes many more impact areas than just visual aesthetics.

O5-29

Please refer to Master Response 11 (Freight) which responds to the concerns raised in this comment.

O5-30

Please refer to Master Response 11 (Freight) which responds to the concerns raised in this comment

O5-31

There is a substantive difference between the purpose of providing electrical infrastructure compatible with high-speed rail and providing for high-speed rail service. As described in Master Response 1, the PCEP will not provide high-speed rail service and the PCEP EIR is not environmentally clearing high-speed rail service. The PCEP is a separate project from HSR with independent utility.

The project objective of providing electrical infrastructure compatible with HSR was not used to preclude the analysis of three non-electrification alternatives (the DMU Alternative, the Dual-Mode MU Alternative, and the Tier 4 Diesel Locomotive Alternative added to the Final EIR). Thus, even though these alternatives do not meet this project objective, they were analyzed in the EIR.

Cumulative impacts of high speed rail service are analyzed in Chapter 4 of the Draft EIR.

No revisions to the EIR are necessary pursuant to this comment.

O5-32

Please see Master Response 2 (Alternatives) concerning double-deck DMUs.

O5-33

The Draft EIR does not "disqualify" the DMU or the Dual-Mode MU Alternative. The discussion in the EIR does not say that providing electrical infrastructure compatible with high-speed rail is the only fundamental purpose of the project, it says it is one of the fundamental purposes. In the Draft EIR, page ES-21, line 2 -3, the DMU alternative is described as not meeting the project's fundamental purposes, which are described in the text above this statement as including lowering fuel consumption (and related operating costs) as well as the provision of electrical infrastructure. In the Draft EIR, page ES-21, line 33 -34, the Dual-Mode MU alternative is described as not meeting the project's fundamental purposes, which are described in the text above this statement as including lowering fuel consumption (and related operating costs) as well as the provision of electrical infrastructure.

The most clear demonstration that these alternatives (and the added Tier 4 Diesel Locomotive Alternative) have not been "disqualified" in the EIR is the fact that they are analyzed in the EIR. The analysis is not at the same level of detail as the Proposed Project (except for operational air quality, GHG emissions and noise), which is allowed by CEQA.

The EIR has been revised to make it clear that although these three alternatives do not meet multiple project objectives, they have still been considered in the EIR analysis. The EIR has also been clarified to make sure that the provision of electrical infrastructure compatible with HSR is one of the purposes of the project, not the sole purpose or the fundamental purpose of the project.

O5-34

The EIR includes alternatives to electrification and the Final EIR includes an updated cost estimate for the No Project conditions and the PCEP. No cost estimates were made for the alternatives evaluated in Chapter 5 of the EIR as action alternatives to the project, including the DMU Alternative, the Dual-Mode Alternative, and the Tier 4 Diesel Locomotive Alternative. CEQA does not require preparation of cost estimates for alternatives; it only requires a determination of feasibility. These non-electrification alternatives are feasible; they would avoid the capital costs of electrification, would likely have similar range of rolling stock costs, but would have higher operating fuel costs due to higher use of diesel fuel. Also, as discussed in Chapter 5 in the EIR, these alternatives would have higher air quality emissions, greenhouse gas emissions, noise levels and would have lower ridership in the long run, but they would avoid impacts on aesthetics and tree removal associated with the OCS.

As explained in Chapter 5, some alternatives were dismissed because of cost, such as third-rail alternatives, but for any alternative dismissed because of cost, a rough cost estimate was provided in the Draft EIR. As the DMU Alternative, the Dual-Mode Alternative, and the Tier 4 Diesel Locomotive Alternative are not dismissed because of cost (or any other reason), then no cost estimate is required under CEQA.

The alternatives are "real" alternatives if electrification does not go forward for some reason, including available funding as the action alternatives analyzed in Chapter 5 of the EIR would all avoid the capital costs of infrastructure, which is presently being mostly funded by Prop 1A funds.

The "real" project being pursued with the PCEP is electrification of the corridor and operation of an electrified Caltrain service.

O5-35

As noted in Master Response 2 (Alternatives), the EIR does consider a reasonable range of alternatives with different costs and benefits. The non-electrification alternatives would avoid the aesthetic and tree removal impacts associated with an OCS but would notably have higher air emissions, GHG emissions, and direct energy use in the short and long run. Comparison of impacts between the project and the alternatives is provided in Chapter 5, *Alternatives*.

The PCEP EIR is not clearing HSR service on the Caltrain Corridor. Proposition 1A committed the state as a whole to implementing HSR service. The Program EIR for the HSR establishes the Caltrain Corridor as the location of HSR route on the SF Peninsula. No final decision has been made in terms of the specific design of the HSR facilities on the SF Peninsula. The current CHSRA Business Plan (2014) proposes a blended service. No final commitment to specific HSR facilities on the SF Peninsula is being made in the PCEP EIR or in potential approval of the PCEP following CEQA process completion by the JPB. No final commitment to specific HSR facilities on the SF Peninsula will be made by CHSRA until separate design and environmental process completion for blended service.

The impacts of high-speed rail are conceptually analyzed in the cumulative section of the PCEP EIR, as appropriate under CEQA, based on the conceptual understanding of blended service.

O5-36

The JPB and the PCEP EIR do not mislead the EIR reader in any way asserted by this comment.

The project description accurately describes the electrification project. The PCEP is not HSR and can be analyzed in a separate environmental document under CEQA as described in more detail in Master Response 1 (Segmentation and Independent Utility).

O5-37

As explained in Master Response 1 (Segmentation and Independent Utility), the proposed project is not blended service, it is electrification of the corridor and Caltrain electrified train operations and the two projects can be analyzed in separate environmental processes.

O5-38

Please refer to the response to Comment O5-18 which responds to the same concerns about the proposal to use a 25 kV AC OCS.

O5-39

Absent an impact nexus above baseline, there is no requirement under CEQA for a project to be modified.

Regarding changes in the warning devices for at-grade crossings, this involves installing track circuits (also called automatic frequency overlays). These replacements are quite minor in terms of construction effort and disturbance in comparison with the improvements necessary to emplace the physical improvements to support a quiet zone or grade separation which is much more involved and costly. The project funding is insufficient to provide for quiet zones or grade separations along the entire route

Regarding elimination of horn noise, as described in the EIR, the project would not result in significant noise impacts above the FTA threshold criteria and thus project-level noise mitigation is not required. Cumulative impacts are identified in the EIR and cumulative mitigation including potential quiet zones or grade separations could eliminate the routine sounding of horn noise at grade crossings. Furthermore, at the point that all of Caltrain's trains between San Jose and San Francisco are EMUs, Caltrain will not contribute to any cumulative adverse noise effect and would not be required to contribute to cumulative noise mitigation.

Please also see Master Response 8 (Train Noise).

O5-40

As shown in Figure 3.1-4 in the Draft EIR, chain link fencing currently lines Tunnel Avenue and, while not readily apparent in the photo, chain link fencing with black screening fabric also currently lines the western edge of the Caltrain ROW. This fencing controls access to the ROW from the tunnel to the nearby Bayshore Station. In addition, as indicated in the simulation, chain link fencing would be installed around PS2 to prevent access. PS2 would be located directly adjacent to the Caltrain tracks and a tunnel, within the Caltrain ROW. The Caltrain tracks and tunnel already pose a safety hazard that could potentially (especially the tunnel) attract children in an area where there should be no unauthorized access. PS2 would not pose an increase in attraction for children above and beyond existing conditions. Additionally, all TPFs would have "Danger" signs indicating that there is high voltage similar to the sign shown in Figure 2-19.

O5-41

Simulations are prepared using the most recent and up-to-date project data available during the preparation of the EIR. The intent of the simulations is to present the most accurate visual representation of this data as an image presenting future conditions. This is the condition presented in Figure 3.1-5. Simulations are also representative in that they paint a picture of impacts that would not only occur at the simulated locations but elsewhere in the affected project area. They are intended to be used as a tool for analyzing visual impacts by the EIR resource section author and as a means to present visual changes resulting from the proposed project to the public. The intent of simulations is not to present a visual image that is to be used as a means to place or dictate conditions upon the JPB. For example, circumstances out of JPB's control could occur, such as a tree or several trees naturally die, or tree health and vigor naturally declines as trees age. Holding JPB to maintain a condition, for years to come, which is presented in a simulation prepared in 2013, is not practical or realistic.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal). This contains JPB's commitments in regards to minimizing impacts to trees, and in turn the visual environment, including the effects of trimming. The conditions JPB must meet are specified in their environmental commitments and mitigation measures.

Any need for a substantial change in vegetation clearance beyond the assumptions included in this EIR would require the JPB to evaluate that change in the project in accordance with CEQA requirements, which may include supplemental CEQA documentation.

O5-42

See response to comment O5-41.

O5-43

See response to comment O5-41.

O5-44

As shown in Figure 3.1-12, chain link fencing currently lines West Hendy Avenue and fencing at the end of the passenger platform is also present, preventing direct access to this portion of the Caltrain ROW. As indicated in the simulation, chain link fencing would be installed around PS6 Option 1 to prevent access. The Caltrain tracks already pose a safety hazard that could potentially attract children in an area where there should be no unauthorized access. PS6 Option 1 does not pose an increase in attraction for children above and beyond current conditions. Additionally, all TPFs would have "Danger" signs indicating that there is high voltage similar to the sign shown in Figure 2-19.

O5-45

See response to comment O5-41 regarding the accuracy and use of the visual simulations. Please note the simulations show the landscape buffer but do not show color applications required by Mitigation Measure AES-2b that would reduce visibility. As noted in prior response, any substantial change in mitigation after certification of this EIR that results in new impacts or substantially more severe impacts than disclosed in this EIR would require the JPB to conduct additional review under CEQA.

O5-46

While hard to distinguish in the simulation, chain link fencing would be installed around PS5 Option 1 to prevent access.

A revised simulation has been prepared to show a more ambitious vegetative screening approach using a vegetated wall/fence at this location.

As noted in prior response, any substantial change in mitigation after certification of this EIR that results in new impacts or substantially more severe impacts than disclosed in this EIR would require the JPB to conduct additional review under CEQA.

O5-47

Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions).

O5-48

The Draft EIR evaluates potential impacts to birds and bats from proposed tree removal and trimming associated with the project in Table 3.3-2 (page 3.3-8), Impact BIO-1a (page 3.3-35), and Impact BIO-1b (page 3.3-40). Potential project-related impacts, including tree trimming during both project construction and operation/maintenance, to birds would be avoided through the implementation of Mitigation Measures BIO-1a (page 3.3-36), BIO-1e (page 3.3-35), BIO-1f (page 3.3-38), BIO-1g (page 3.3-39), and BIO-1j (page 3.3-41). Potential project-related impacts, during both project construction and operation/maintenance, to bats would be avoided through the implementation of Mitigation Measures BIO-1a (page 3.3-36), BIO-1e (page 3.3-38), and BIO-1j (page 3.3-41). These mitigation measures apply to species of birds and bats that are endangered and threatened, as well as species that are not formally listed as endangered and threatened. The analysis' thresholds of significance are included on page 3.3-33 of the Draft EIR.

No revisions to the Draft EIR are necessary.

O5-49

As described in Chapter 2, *Project Description* (see page 2-6, line 42), the Project would avoid using side poles near the landmark tree El Palo Alto. As described in Section 3.3, *Biological Resources*, (see page 3.3-28, lines 5-9) the tree trunk of El Palo Alto is located approximately 26 feet from the Caltrain ROW, outside of the ESZ, with tree branches and foliage located within 5 feet of the ROW. Because some of the tree branches are within the ESZ, minor pruning would be necessary to keep tree branches out of the San Francisquito bridge truss and to avoid vegetation contact with the OCS, but the pruning is not expected to compromise the health of the tree. The amount of minor pruning will be similar to that already occurring to remove branches that encroach on the superstructure of the bridge at present. This is not a substantial change over baseline conditions.

Further details on impacts on "El Palo Alto" are provided in Appendix F of the Draft EIR.

O5-50

The Draft EIR evaluates both criteria pollutant and GHG emissions associated with increased electricity required to power the electric locomotives. As shown in Table 3.7-3 in Chapter 3.7, *Greenhouse Gas Emissions and Climate Change*, in the Draft EIR, electricity-related GHG emissions would increase under 2020 and 2040 conditions with implementation of the Project, relative to existing and no build conditions. Similarly, as shown in Table 3.2-7 in Chapter 3.2, *Air Quality*, in the Draft EIR criteria pollutant emissions from Caltrain electricity consumption would increase with implementation of the Project. While electricity-related GHG and criteria pollutant emissions would increase with the Project, total emissions associated with all Project components (diesel and electricity usage) would decrease compared to existing and no build conditions. Estimates of diesel and electricity usage under all project conditions are provided in Appendix B, *Air Quality and Greenhouse Gas Analysis Technical Data*.

O5-51

Table 4-20 in the Draft EIR documented the annual direct energy consumption associated with the Proposed Project and compared the direct energy use to the existing Caltrain system. Section 3.13, Public Services and Utilities, in the Draft EIR also described the physical environmental impacts associated with the energy infrastructure system. The analysis states that the Proposed Project's increase in electricity demand would be supported by the PG&E existing transmission and generation system and that no remedial measures would be required.

Caltrain conducted a prior assessment of the potential impact on the PG&E electrical supply system in 2008 (LTK 2008). The results of the study show that the PG&E transmission and generation system stands up well to the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. It was concluded, that, the PG&E system would accommodate the planned traction power system loads.

This study will be updated to current conditions as part of final design, but as shown in Table 3.13-4, electricity demand in 2012 in Santa Clara/San Mateo counties is actually 5 percent less than in 2008 and thus there is no reason to think that the 2008 report conclusions on reliability will change with the updated study.

To make the energy consumption impacts more clear to the reader, Section 4.5, Energy, has been added to the Final EIR. The information provided in EIR (Section 3.13, concerning impacts on the energy infrastructure, Section 3.14 on changes in VMT, Section 4.5 concerning overall energy consumption, and Appendix B, which includes the energy calculations) meets the requirements of CEQA Guidelines, Appendix F (Energy Conservation). Appendix F requires that "potentially significant energy implications of a project shall be considered in an EIR *to the extent relevant and applicable to the project*" (emphasis added).

O5-52

Please see Master Response 8 (Train Noise). The noise analysis follows standard methodological guidelines established by the Federal Transit Administration. The analysis is not "abstract" in any way, but a quantitative modelling of noise based on agency guidance using current noise modelling techniques.

Noise complaints necessarily reflect a certain amount of subjectivity based on the complainant's personal sensitivity to noise, unless accompanied by noise measurements done at the exact same time as the complaint incidence. In addition, there is need for uniform thresholds by which to estimate impacts to people throughout the Caltrain corridor in order to be consistent. Thus noise measurements and modelling using recognized noise thresholds is a more objective approach to estimating project impacts.

Since the project analysis concludes that the project would lower noise levels at most study locations and the noise increases at a few locations would be less than the FTA's threshold criteria, there is no evidence of a significant project-level noise impact.

O5-53

Table 3.11-6 and Table 3.11-15 have been revised to note the city and cross street of each receptor location. This change is shown in Section 3.11, *Noise and Vibration*, in Volume I of this Final EIR. All of the receptor locations are also shown in Appendix C.

O5-54

The Draft EIR does analyze impacts on public facilities. Section 3.13, Impact PSU-1 analyzes whether the project would physically displace or affect public facilities or increase demand for public services such that additional physical facilities would be necessary. As discussed under Impact PSU-1, the PCEP would not displace any public facilities during construction. During operations, the PCEP would not result in any substantial changes in local populations that would result in an increased demand for public facilities including schools or other public facilities, such as libraries or city facilities. The effects of the ESZ is also analyzed in Impact PSU-1 and concluded to be less than significant due to the limited area of effect and thus allowable use for non-structural uses. Potential safety concerns related to the OCS on public facilities is also discussed. Specific impacts on public parks are discussed in Section 3.10, *Land Use and Recreation*.

The EIR's analysis of other impacts, such as air quality and noise subsumes effects to users of public facilities in the analysis of overall impacts. For example, since project operational air quality and noise effects are determined to be less than significant, this conclusion applies to users of public facilities as well. Similarly, construction period effects related to dust or air quality or traffic would equally apply to public facilities as well.

The comment does not substantiate any specific impact details to public facilities not addressed in the EIR and thus further response cannot be provided.

O5-55

Due to the improved performance of the EMUs (in terms of acceleration), the trains can make more stops and/or have shorter end to end travel times. Please refer to the prototypical schedules in Appendix I which shows the increased number of stops per station compared to the existing schedule. This is what will allow the addition of weekday service to the Atherton and Broadway stations while maintaining overall travel times. The project description in the EIR includes the JPB proposal to provide this service. If this project is approved, the JPB will be committed to implement the project described in the EIR.

O5-56

As explained in Master Response 1, the PCEP is not the HSR and would not provide HSR service. Caltrain service does not need to comply with Proposition 1A travel times for HSR.

The comment addresses legal compliance with Proposition 1A. Because this comment does not address "significant environmental issues" it requires no response. Nonetheless, Caltrain understands that a "blended system," as generally described in Section 4.1 of the EIR, is anticipated to be capable of meeting Proposition 1A for San Francisco-San Jose travel time based on a 02/11/13 Memorandum from Frank Vacca to Jeff Morales re: Phase 1 Blended Travel Time and on other factors. The blended system has not at this time been designed, but will be part of future work by the CHSRA.

O5-57

A projected deficit in parking supply, or the need to find a parking space off-site not at the Caltrain station parking lot, while inconvenient is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circulate around a station to find an available space, but most Caltrain passengers would modify their behavior to take into account the parking deficits and take alternative actions. These alternative actions include parking at a public or private off-site parking lot near the station or changing their access or egress mode. This change, over time would not substantially affect traffic conditions in the vicinity of stations, as the number of circulating vehicles would be expected to be small in comparison to the total number of vehicles accessing stations during peak hours.

Caltrain is committed to working collaboratively with local jurisdictions to identify strategies that would help reduce parking demand. Since some of the parking deficits identified are at stations where providing automobile access is not a priority, provision of substantial additional parking facilities at these stations may conflict with Caltrain's Comprehensive Access Program Policy Statement (2010).[39] Where parking deficits are at auto-oriented stations, provision of additional auto parking would be considered a priority, where feasible and where funding is available. The Comprehensive Access Program Policy Statement is implemented by Caltrain in cooperation with local jurisdictions as part of Caltrain's long-term planning and Capital Improvement Program; however, access improvements are implemented only as funding is available.

Caltrain also works with local jurisdictions, other transit agencies, and local, state and federal funding partners to fund improvements to access to Caltrain stations via alternatives to automobiles including transit connections, bicycle and walking. Where future investments in these access modes are realized, they would help to reduce some of the excess parking demand that is projected to occur. Caltrain is also working with many local jurisdictions concerning transit-oriented developments including exploring shared parking opportunities where appropriate.

O5-58

Please refer to Master Response 11 (Freight), which responds to the concerns raised in this comment.

O5-59

The Draft EIR analyzes potential impacts to freight in terms of vertical clearances and operational windows.

[39] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http://www.caltrain.com/Assets/_Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

Master Response 11 (Freight) discusses updates to the discussion of impacts to freight and notes that the impacts related to operational windows would be less than identified in the Draft EIR because the JPB has decided that temporal separation will not likely be required for EMU operations and thus the freight operational windows can be roughly maintained as at present. As explained in Master Response 11 (Freight), the JPB determination regarding temporal separation is based on progress with the FRA rule-making concerning alternative compliant equipment, discussions with alternative compliance vehicle manufacturers, input from industry experts, and precedent of other alternative compliant equipment sharing trackage with freight equipment without temporal separation.

Master Response 1 (Segmentation and Independent Utility) discusses the Trackage Rights Agreement issues relative to the PCEP as well as in relation to Blended Service.

This comment expresses concern about direct freight impacts (and potential secondary environmental effects) but does not provide any specific evidence as to any alleged inadequacies in the EIR analysis. Thus, no revisions to the EIR are necessary in response to this comment.

O5-60

Regional and city vehicle miles traveled (VMT) were calculated using the "boundary method" on the regional Valley Transportation Authority (VTA) travel demand model. This methodology is explained in more detail in Section 3.5.2 of Appendix D to the Final EIR. The results in Table 3.14-14 and Table 3.14-15 in the Final EIR show that the project is expected to reduce regional VMT by 235,000 miles/day would reduce city by city VMT along the corridor as well.

According to Fehr & Peers, who conducted the traffic analysis for this project, it is reasonable to assume that most drivers would not modify their routes in response to the change in gate down times from the Proposed Project. The additional time required to divert to an adjacent crossing would typically be greater than the additional intersection delay that a driver would experience at their desired crossing. For instance, the average increase in intersection delay from the 2020 No Project to the 2020 Project scenarios is less than 30 seconds and consequently, this small increase in delay is unlikely to alter route choice. Therefore, it can be expected that most drivers would use their typical travel routes even with change in the gate down time and VMT would not substantially change due to the delays experienced at at-grade crossings.

Regarding air quality, the project would lower regional VMT by 235,000 miles/day. The project would increase delay at discrete locations along the corridor due to increased gate down time and/or increased vehicle traffic at Caltrain stations but these effects are highly localized. The increase in local delay at discrete locations will be more than offset by the decrease in delay due to reducing 235,000 miles/day of travel along major arterials and freeways. The VTA model provided results provides VMT by speed bin and thus any overall changes in speeds due to the project is also accounted for by the speed bin data.

It is also important to note that gate-down times in 2020 will actually be reduced in numerous locations (23 locations would have less gate-down time vs. 34 locations with increase gate-down time) compared to No Project conditions). The traffic analysis focused on where gate-down times would be increased with the project, but the project will also result in benefits in reduced delays at many locations as well.

Thus, the delays due to changes in gate-down time are appropriately considered in the EIR in regards to VMT and air quality analysis. The comment does not substantiate or provide any evidence that the EIR has not appropriately analyzed VMT or air quality.

O5-61

The Draft EIR considers projected population, housing and employment growth and includes an analysis of mode of access and egress to Caltrain stations based on those growth assumptions. Land use assumptions for 2020 were derived from the VTA Travel Demand Forecasting Model. The VTA travel demand model used Association of Bay Area Governments (ABAG) population and employment data forecasts based on the recently adopted Plan Bay Area Regional Transportation Plan. See Section 3.1 of Appendix to the Final EIR for more information.

The VTA travel demand model roadway networks were updated for both transit and highway network changes, including a comprehensive update of both public and private shuttles serving the Caltrain corridor and updated background transportation improvements as defined in Plan Bay Area. See Section 3.3 of Appendix D to the Final EIR for more information.

Attachment C to Appendix D of the Final EIR contains detailed information on the development of the Direct Ridership Model (DRM) and the Mode of Access and Egress Models (MOA / MOE). These models together developed refined estimates of station level ridership, as well as expected number of trips accessing and departing stations by individual travel mode – including walking, bicycling, and transit access. Development of the MOE model is covered in Section 4.1 of Attachment C to Appendix D of the Final EIR. The DRM takes into consideration a number of factors and includes a detailed measurement of land use proximity and the availability of local services and network connections. One of the key inputs into the DRM and traffic microsimulation models was the incorporation of new street connections and bicycle facilities within one-half mile of the 23 Caltrain stations within the Study Area into the future roadway network. These new connections and facilities were derived from approved developments, Station Area Plans, or other approved projects that would be in place by 2020 or 2040. In addition, the MOA / MOE models were used to directly link the estimates of the modes of access and egress from the Caltrain station with the modes used by boarding and alighting passengers as observed through passenger intercept surveys conducted in June 2013 (see Attachment A to the Final EIR for more details on this survey).

O5-62

Comment is noted. Per Caltrain's Comprehensive Access Program Policy Statement (2010), providing automobile access is not considered the highest priority at stations which are transit centers, provide strong intermodal connectivity, or are neighborhood circulators.[40]

Although not formally part of the Caltrain policy, staff characterizations of the stations is summarized below and was done to support the policy in 2010. Transit center stations include San Francisco 4th and King, Palo Alto, Mountain View, and San Jose Diridon. Intermodal connectivity stations include Redwood City, Millbrae, Hillsdale, Sunnyvale, San Mateo, and Menlo Park. Neighborhood circulator stations include San Carlos, California Avenue, Burlingame, San Antonio, San Bruno and Belmont. Although vehicle access is not a priority at these stations, vehicles are still a

[40] "Caltrain Comprehensive Access Program Policy Statement." Caltrain. 2010. <http://www.caltrain.com/Assets/_Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

mode of access considered by Caltrain, but at a lower priority than other modes. This information has been added to the EIR under Impact TRA-6b.

Following adoption of this policy, Caltrain has continued to work with many local jurisdictions to improve station access for all users.

O5-63

See Master Response 1 (Segmentation and Independent Utility).

O5-64

See Master Response 1 (Segmentation and Independent Utility).

O5-65

Please refer to Master Response 1 which addresses this comment. As described therein, the impacts of the PCEP and the impacts of blended service can be addressed at a project level in separate documents and comply with CEQA. Also, as described therein, electrification of the Caltrain Corridor alone will not result in blended service.

O5-66, 67

As described in Chapter 4 and CEQA Guidelines Section 15355, cumulative impacts “refers to two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts”. Section 15355 further states that the cumulative impact from several projects is the change in the environment which result from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects.

The details of construction and design for high-speed rail within the Caltrain ROW are not available at this time. There is no specific design for the blended service. Based on the 2014 CHSRA Business Plan, the earliest HSR service would occur on the San Francisco Peninsula is 2026, which construction some period before that which is currently undefined. Thus, blended service is clearly a future project in that it will not be in construction on the San Francisco Peninsula at the same time as the PCEP (in which case it would be a current project). The PCEP EIR appropriately addresses blended service as a cumulative project because the PCEP does not make blended service occur and there are other physical improvements necessary to make blended service occur as described in Master Response 1 (Segmentation and Independent Utility).

Regarding the “fundamental” objectives of the project, please see the response to Comment O5-33.

O5-68

The Appellate Court, Third Appellate District ruled on July 24, 2014 that the Program EIR for the Bay Area to Central Valley segment of the high-speed rail project was adequate in relation to all of the remaining issues on appeal in the town of *Atherton et al. vs. CHSRA* case. This ruling is now final.

There is no need for revision of the PCEP EIR in response to this comment.

O5-69

The comment is incorrect in reference to 100 mph.

Caltrain has simulated blended system operations up to 110 mph and the simulation has shown that blended service is viable, meaning that both services can operate on the Caltrain corridor up to the service levels studied (up to 6 Caltrain trains per peak hour per direction and up to 4 HSR trains per peak hour per direction). That is what is meant by “viable”.

Concerning Proposition 1A requirements for travel times, as described in Chapter 4 of the PCEP EIR, CHSRA (CHSRA 2013) has indicated that under blended service scenarios, the HSR can meet the Proposition 1A requirement for travel times.

O5-70

Table 4-4, note “a” is referencing the 2014 Business Plan ridership technical memorandum which does reference up to 4 HSR trains per peak hour and per off-peak hour. This is a description of the maximum trains in any time period per direction, but that does mean that CHSRA is proposing to run 4 trains per peak hour per direction for the entire operational window of 5 am to 12:30 am. Instead Table 4-4 note “a” in the Draft EIR discussed the 40 daily HSR round-trip trains/day (= 80 one-way HSR trains/day) proposed in the CHSRA 2012 Business Plan.

The 2014 Business Plan (which was draft at the time of the Draft EIR but is now final) describes in the Ridership and Revenue Technical Memorandum up to 4 HSR trains per peak hour from San Francisco to Los Angeles and the same for off-peak hour. There is no explicit statement in the 2014 Business Plan of the daily number of HSR trains for the San Francisco to San Jose segment. However, as noted in the Draft EIR, Table 4-4 note “a”, the service planning methodology document for the Draft 2014 Business Plan includes an assumption of 53 daily round trip HSR trains starting in 2029. This assumption is included in the final service planning methodology document for the Final 2014 Business Plan. There is no all-day service plan for HSR on the Corridor at present.

Caltrain’s operational modelling has been focused on determining that it is feasible to operate peak hour blended service of up to 6 Caltrain trains per peak hour per direction and up to 4 HSR trains per peak hour per direction.

The Final EIR discloses that daily round-trip HSR trains may be up to 40 to 53 per day and the noise analysis and vibration updated accordingly.

For the PCEP EIR, it describes the ridership estimates by CHSRA from the 2014 Business Plan for 2029 for the Phase 1 Blended scenario. The ridership estimates by CHSRA from the final 2014 Business Plan for 2040 for the Phase 1 for 2040 have been added to the Final EIR.

The PCEP EIR is not “advancing” any particular daily number for HSR service (because the PCEP is a separate project from the HSR project). The JPB has evaluated up to 4 trains per peak hour per direction because operational studies have shown it to be viable. For the disclosure of cumulative impacts, the PCEP Draft EIR disclosed the ridership estimates from the final 2012 Business Plan and the PCEP Final EIR discloses the ridership estimates from the final 2014 Business Plan (which became available after release of the PCEP Draft EIR). Thus, the EIR has properly disclosed what is known at a conceptual level about blended service at this time based on studies completed and the conceptual understanding.

The actual details about blended service will need to be determined during further specific HSR design for the San Francisco Peninsula segment and environmental impacts will need to be addressed in the separate environmental process for blended service.

O5-71

As noted in numerous prior responses and Master Response 1 (Segmentation and Independent Utility), the PCEP is a separate project from the HSR project and the project-level impacts of the HSR will be analyzed in a separate environmental document. The passing tracks shown in Figure 4-2 are only those that have been evaluated to date, but they are not "proposed" by the PCEP, and as described in the Draft EIR, other passing track locations may be considered in subsequent blended service design. The PCEP EIR discloses potential cumulative impacts at a conceptual level for passing tracks, which is adequate under CEQA.

O5-72, 73

These comments repeat prior comments in the letter. Regarding the comment about "fundamental" objectives, please refer to the response to Comment O5-33. Regarding alternatives, please refer to Master Response 2 (Alternatives) and prior responses to comments in this letter on alternatives. Regarding the relationship of the PCEP and the HSR project, please refer to Master Response 1 (Segmentation and Independent Utility)

O5-74

Regarding double-deck DMUs, please see Master Response 2 (Alternatives). Regarding ridership for alternatives, please see the response to comment O16-60 which raised similar concerns.

O5-75

See the response to comment O5-48. Chapter 5 of the Draft EIR is the alternatives analysis, while Section 3.3 is the Biological Resources section that discusses project impacts and mitigation associated with birds and bats in much greater detail than Chapter 5. No revisions to the Draft EIR are necessary.

3.2.33 Responses to Comment Letter O6

O6-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O6-2

Comment noted. See Master Response 5 (Environmental Benefits).

O6-3

A 100 percent Electrified Service by 2020 alternatives (T9) was considered in the three-part alternatives screening in Chapter 5, *Alternatives*, of the Draft EIR. <u>As described in revisions to Chapter 2, *Project Description* in the Final EIR, the estimated cost of rolling stock for the Proposed</u>

Project is $524 to $573 million, which will provide 75 percent electrified service from SF to Tamien. Based on the unit costs and the EMU fleet requirements for full electrified service, electrifying 100 percent of the service could cost approximately $786 to $860 million, or an additional $262 to $287 million, which has not been secured by Caltrain. Such an alternative is not considered financially feasible at this time.

O6-4

See Master Response 4 (Ridership and Capacity).

O6-5

Please see Master Response 5 (Environmental Benefits) which summarizes environmental benefits of the project. The rest of this comment is descriptive and requires no further response.

O6-6

Comment noted. Analyze cumulative scenario options that would improve environmental benefits, is not required under CEQA.

O6-7

See Master Response 2 (Alternatives).

O6-8

The PCEP does not require longer platforms to operate. The PCEP does not preclude longer platforms, however. Longer platforms are not an alternative to the PCEP, they are a potential augmentation to the PCEP.

While longer platforms might be desirable and may be considered by the JPB separately from the PCEP, adding longer platforms would not avoid or substantially reduce any significant impact of the PCEP and thus such an alternative is not required to be analyzed under CEQA.

O6-9

The purpose of the vehicle miles traveled (VMT) analysis is to determine the total VMT with and without Project implementation (2020 Project scenario v. 2020 No Project scenario and 2040 Project scenario v. 2040 No Project scenario). Table 3.14-15 shows the 2020 VMT projections in each city using the “boundary method” calculation on the regional Valley Transportation Authority (VTA) travel demand model (this methodology is explained in more detail in Section 3.5.2 of Appendix D). Using this method, any vehicle traveling within a city’s boundaries would contribute to that city’s aggregate VMT.

While there are some vehicle trips that are not directly related to the Caltrain corridor, such as those along the Golden Gate Bridge or State Route 92, segments of these trips could be within a city’s boundaries and would contribute to that city’s VMT under No Project and Project conditions. The results in Table 3.14-15 show that the daily VMT in each city would decrease under the 2020 Project conditions, with a total daily reduction of 0.9 percent. This indicates the Project would have a positive benefit on both local and regional VMT.

Regarding comparison to vehicle trips on US 101, no readily available data on the amount of VMT between San Jose and San Francisco on US 101 was located. Thus a comparison can be made between the increase in 2020 ridership with the project over No Project conditions (~12,000) with the daily traffic volumes on US 101 which range from 200,000 to 220,000 between San Jose (101/87) and San Francisco (101/80) with a peak volume in San Mateo of 267,000. Using this, the Proposed Project reduction in commute trips would be equivalent to 4 to 6% of US 101 average daily volumes. However, this is only an illustrative comparison, as the equivalent car commutes for Caltrain riders do not all occur on US 101, but also I-280, I-380, El Camino Real, and other arterial roadways throughout the project area. As a result, this information is provided in response, but is not added to the EIR as it does not change the impact analysis.

O6-10

The EIR analyzed a factory-train construction alternative. Commenter's support is noted.

O6-11

See Master Response 10 (Traffic Analysis).

O6-12

As summarized in the comment, the EIR does not consider the parking deficit with the PCEP at the Tamien Station to be a significant physical impact on the environment. A parking deficit in and of itself, or the need to find a parking space off-site, while inconvenient is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circle but experienced station users will modify their behavior to take into account the parking deficits and take alternative actions. Those actions may include arriving earlier, using other nearby stations with available parking, using the kiss and ride, using parking areas further from the station, or accessing the station via other modes such as transit, biking or walking. As noted in the EIR, some riders may decide not to use Caltrain because of parking deficits at some stations, but even if that were to occur, the Proposed Project would still be expected to result in a substantial increase in ridership compared to the No Project conditions.

Separate from the PCEP, the comments about working with the City of San Jose and VTA and considering service to stations south of Tamien are noted.

O6-13

Regarding bikes on board, please see Master Response 9 (Bikes on Board).

The commenter asks that Caltrain consider bikes on board, use of bike share stations at common last mile destinations, and shuttles to meet the needs of passengers who use a bicycle for the last mile. These suggestions have been noted.

Caltrain is committed to the bikes on board program and wayside improvements (including bike parking, bike sharing). Caltrain also partners with public transit agencies and private employers concerning shuttles. All of these efforts are intended to support improvement in solutions for the 1st and last mile trips.

In addition, as described on page 3.14-22 of the Draft EIR, the BAAQMD launched a bike share pilot program, Bay Area Bicycle Share, in August 2013. The program proposes 700 bikes at 70 kiosk stations along the Peninsula corridor in San Francisco, Redwood City, Palo Alto, Mountain View, and San Jose. Bay Area Bicycle Share is expected to expand to include 1,000 bikes and 100 stations in 2014. Members are able to check out a bike close to home or work and return it to any of the kiosk stations. The San Francisco 4th & King, Redwood City, Palo Alto, San Antonio, Mountain View, and San Jose Diridon Stations have a bicycle share kiosk at or within 0.5 mile of the station to help commuters bike the "last mile" to their final destinations.

Local transit agencies like Caltrain, SF Muni, SAMTRANS, and SCVTA are responsible for assessing the need for additional last mile connection. Although providing additional bikes on board or expanding the shuttles and bike share programs is not one of the purposes of this project, JPB will continue to work collaboratively with local transit agencies to assess need for shuttles and bike share programs as ridership increases. Under CEQA, the Project is not required to address existing shortage in bike access not caused as a result of the project. Therefore, the analysis presented in the EIR is adequate.

O6-14

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O6-15

Comment noted. The support for the project is appreciated.

3.2.34 Responses to Comment Letter O7

O7-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O7-2

The Project would result in no impact to the existing Greenmeadow historic district. Please refer to the response to the City of Palo Alto comment L7-39 on this same issue.

The prior Draft EIR (2004) included a site just north of the San Antonio Ave. overpass on private land designated for commercial/industrial use with existing structures and a business located on it. The site is still occupied today. The prior Final EIR (2009) included the site within the JPB ROW near the intersection of Alma and Greenmeadow referred to in the 2014 Draft EIR as PS5, Option 1. The 2009 Final EIR disclosed that the reasons for the move included land use conflicts at the prior site. The JPB ROW has no land use conflicts since it is owned by the JPB for railroad purposes.

The 2014 Draft EIR does consider an alternative site to the PS5, Option 1 site which is PS5, Option 2.

Caltrain also evaluated potential locations for PS5 at/near the San Antonio Station or under the San Antonio Road overpass.

Under the overpass, there is insufficient overhead space for a paralleling station which requires a nearly 40 foot overhead gantry system. In addition, there is inadequate space for the station equipment itself in the ROW at this location.

Caltrain also evaluated the potential to locate a paralleling station on the west side of the JPB ROW north of the San Antonio overpass within the City of Mountain View. There is insufficient space to locate a paralleling station within the JPB ROW entirely which would require property acquisition on a commercial parcel between San Antonio Circle and Del Medio Avenue. Without displacing the business entirely (which would be a new land use impact), a location in the loading area was identified that would technically work without displacing the business. However, this location is adjacent to multi-family residential homes along Del Medio Avenue and thus such an alternative would not have a lower aesthetic impact to residences. Trading aesthetic impact from the Greenmeadow residents to the residents along Del Medio Court would not meaningfully lower the impact of the project.

Furthermore, since the EIR concludes that the aesthetic impact at PS5, Option 1 can be mitigated to a less than significant level and the impact to the Greenmeadow Historic District is less than significant, there is no need to analyze additional alternatives relative to PS5, Option 1 apart from PS5, Option 2 which is included in the EIR.

Regarding grade separations at Charleston and Alma, this intersection is 0.25 mile from the PS5, Option 1 location. Placing the paralleling station at PS5, Option 1 would not preclude grade separation at this intersection. The paralleling station should be between the railroad tracks and Alma Street. If either the tracks or the road were raised or lowered, this does not mean the paralleling station grade would have to be changed as long as electrical connections can be made to the OCS, if the OCS is relocated.

O7-3

Greenmeadow Community Association's concern with traffic operations at the intersection of Alma Street and Charleston Road is noted. The intersection of Alma Street and Charleston Road is currently operating at maximum capacity during peak hours, and due to limited right-of-way, cannot be built out to further increase its capacity. As such, signal timing changes would not substantially improve the operations of this intersection. The addition of through lanes may reduce the traffic impact at this location, but this mitigation is subject to right-of-way constraints that preclude it from being considered a realistic or feasible mitigation measure.

As part of the PCEP EIR transportation impact analysis, a number of potential mitigation measures were tested for all intersections with significant impacts under 2020 and 2040 Project conditions. More detail on the mitigation measures can be found in Section 3.6.6 and Section 3.6.7 of Appendix D to the Final EIR. More detail on the methodology for the traffic analysis can be found in Attachment F to Appendix D.

O7-4

The project will only include two substations, one in San Jose and one in South San Francisco. The potential locations for the substations are all adjacent to, but not in the operational railroad ROW, and as such do not preclude future raising or depressing of the existing mainline tracks. The same is also true of the paralleling stations and the switching station options.

As noted above, there is no requirement for the traction power facilities to be on the same level as the tracks. There needs to be power connections between the traction power facilities and the OCS along the tracks, but that can usually be facilitated through appropriate overhead line connections.

O7-5

The 2020 and 2040 traffic analyses were based on prototypical schedules that were developed for analytical purposes only. These schedules can be found in Appendix I to the Final EIR. Based on these schedules, 46 daily trains would serve the San Antonio station under both 2020 and 2040 No Project conditions, and 66 daily trains would serve the station under 2020 and 2040 Project conditions (Table 3-8 and Table 3-13 in Appendix D to the Final EIR). While this is only a prototypical schedule, the potential for 20 additional daily trains shows that the San Antonio is expected to have much higher levels of service. As with all changes to schedule, Caltrain would initiate a community outreach process to gather feedback from jurisdictions and passengers, working with the public to determine the schedule that meets the needs of its users by balancing more frequent trains and faster trip times.[41]

O7-6

Freight trains will no longer be required to maintain temporal separation from passenger trains; the freight operation window will be the same as existing condition. See Consideration of Mitigation in Master Response 8 (Train Noise) for response to train horn noise and mitigation.

O7-7

See Master Response 8 (Train Noise).

O7-8

The final OCS design will minimize tree impacts to the greatest extent possible, while still maintaining operational and safety requirements. There are no plans to move the horizontal location of the tracks. In addition to an increase in construction-related impacts (i.e., ground-disturbance, construction-related noise and traffic), shifting tracks horizontally would move tracks closer to existing sensitive receptors including residences and parks. This would result in an increase in noise impacts. Therefore, relocated tracks is not included in the EIR mitigation for tree impacts.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

O7-9

As described in Section 3.13, *Public Services and Utilities*, of the Draft EIR, some existing overhead utility crossings may have to be relocated underground. As prescribed by Mitigation Measure PSU-8a, the JPB will initiate coordination with all utility providers and local jurisdiction during engineering design and will continue coordination with these entities through final design and construction to ensure that all potential utility location conflicts are identified. The JPB will work with the utility providers and local jurisdictions to determine the most appropriate method for relocating existing utilities that could interfere with implementation of the Project.

[41] "Peninsula Corridor Electrification Frequently Asked Questions." Peninsula Corridor Caltrain. 2014. <http://www.caltrain.com/Assets/Caltrain+Modernization+Program/Documents/PCEP+FAQ.pdf>

3.2.35 Responses to Comment Letter O8

O8-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O8-2

Comment noted. Please see response to comments O8-7 through O8-29.

O8-3

As described in Attachment 1 in Appendix F, *Tree Inventory and Canopy Assessment*, it is recommended that protected trees located outside of the Caltrain ROW are replaced at a 2:1 ratio with 15-gallon trees. The final OCS design will minimize tree impacts to the greatest extent possible, while still maintaining operational and safety requirements. See also Master Response 6 (Visual Aesthetics including Tree Removal).

O8-4

As noted by the comment, the JPB owns a portion of Fuller Park between the railroad berm and the road of trees and this area is leased for park use. The OCS will need to be 9 – 11 feet from the centerline of the nearest track which is approximately located near the fenceline of the berm. There will need to be a 10-foot electrical safety zone from the OCS (total of up to 21 feet from the centerline of the nearest track). There may need to be trimming of branches that encroach within the ESZ, but no tree removal in the park is expected.

Construction of the OCS will require temporary use of the area between the berm and the row of trees, but no staging will be done in this area, so the encroachment will be limited in duration.

The PCEP OCS/ESZ/Tree Impact Maps in Appendix J show the location of Caltrain's ROW and the ESZ in relation to Fuller Park as well as the impacts to tree canopy.

O8-5

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O8-6

Comment noted. The neighborhood is outside of the area of potential effects (APE). The APE was prepared in consultation with the SHPO and, because this has historically been a railroad area, it was determined that the APE would be the railroad right-of-way. For a property to be considered a historic resource for the purposes of CEQA (15064.5(a)), it must be listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, included in a local register of historical resources as defined in PRC section 5020.1(g), or determined by a lead agency to meet the CRHR criteria. To confirm that the properties within the North Willow Glen area had not been locally designated subsequent to this study, the Historic Preservation Officer, City of San Jose, was contacted (personal communication with Rich

Buikema, 6/23/2014). Mr. Buikema confirmed that there are presently no resources within the North Willow Glen area that are locally designated or included as part of a City Conservation Area.

O8-7

The PCEP does not include any system improvements. Current maximum allowable speeds will be the same as under existing conditions (up to 79 mph).

As noted in the cumulative section, there may be system improvements for blended service to allow for increased speeds up to 110 mph, but blended service is not proposed between Diridon and Tamien Station as HSR is presumed to be on its own dedicated trackage. Improvements for HSR south of Diridon Station will be evaluated in separate environmental clearance documents by CHSRA. HSR service will be environmentally cleared under a separate process

O8-8

The PCEP does not include any grade separations.

As described in Chapter 4 of the Draft EIR, cumulative mitigation for noise impacts could include grade separations where cumulative impacts of blended service and other rail increases exceed significance criteria. But blended service is not proposed south of Diridon and cumulative noise level increases at the modelled noise section in the North Willow Glen neighborhood (R49 - along Jerome Street) were found in the Draft EIR to be less than FTA threshold criteria.

O8-9

The PCEP does not include any proposed changes to the berm along Fuller Avenue supporting JPB tracks except installation of the OCS poles and wires.

O8-10

As discussed in Section 3.3, for safety reasons, trees located along and within 10 feet of the OCS alignment would need to be removed or pruned. JPB must comply with the California Public Utility Commission requirements by pruning trees and other mature vegetation that lean into or hang over the Caltrain ROW and pose a potential hazard to safe train operations. Therefore, any trees between Diridon Station and Tamien Station, in Fuller Park, backyards of private residences and in the San Jose Word of Faith Christian Center along or within 10 feet of the OCS alignment that pose a potential hazard to safe train operations would require removal or trimming. However, as described in Mitigation Measures BIO-5, *Implement Tree Avoidance, Minimization, and Replacement Plan* in Section 3.3, *Biological Resources*, JPB will replace trees removed in and outside the Caltrain ROW. Protected and non-protected trees would be replaced at least a 1:1 ratio. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

This comment does not regard the adequacy of this Draft EIR. No revisions to the Draft EIR are necessary.

O8-11

No trees from the Fuller Park are expected to be removed as part of the project, but there may be a need for trimming of branches within 10 feet of the OCS. Staging will not be done within the park. The existing tree trunks and their root system should not be affected by construction activities.

Construction in the vicinity of Fuller Park would be limited to installation of OCS poles and catenary system within the ROW.

Please also see the PCEP OCS/ESZ/Tree Impact Maps included as Appendix J.

O8-12

Potential access and staging locations within the JPB ROW are described in the Draft EIR in Section 2.3.8.2. As described therein, the nearest known staging area to the North Willow Glen Neighborhood is within the JPB ROW north of W. Virginia Street immediately adjacent to I-280. There is no current proposal to stage within Fuller Park, but construction will occur adjacent to Fuller Park for installation of the OCS. There may be additional staging areas within or outside of the JPB ROW identified by the Design-Build Contractor, as noted in the Draft EIR as well.

As to the laydown areas, these will be within staging areas although materials may be stored temporarily at construction sites within the ROW as necessary to expedite construction.

One needs to be precise when discussing the park to be clear as to what physical areas are being referred. As, the comment notes, the JPB has leased the land between the railroad berm and the row of trees for use as a park. The project should not require restriction of use of the portion of the park along Fuller Avenue that is south of the line of large trees. Construction will likely require temporary use of the area to the north of the tree line along the existing fence.

The Association's opposition to staging in or near the neighborhood or use of Fuller Park is noted.

Construction contractors will be required to manage staging and construction areas in order to minimize their temporary, traffic, dust and noise effects on neighboring uses per mitigation identified in the Draft EIR.

The JPB will also require the Design-Build Contractor to consult with local jurisdictions and solicit their input during development of the construction staging plan. <u>This has been added to the Project Description in the EIR.</u>

O8-13

Comment noted.

Construction in the vicinity of Fuller Park would be limited to installation of OCS poles and catenary system within the ROW. No permanent or temporary easements would be required from the park. All construction staging areas would be outside the park. No trees within the park would be removed although some trimming may be required. There would be no changes to existing level of access to and circulation within the park except that new vegetation would not be allowed within 10 feet of the energized elements of the OCS and new structures would not be allowed within 6 feet of the energized elements of the OCS. Existing maintenance activities at the Fuller Park would remain unaffected by the Proposed Project. Therefore, the existing usability of the park would remain unchanged.

O8-14

Comment noted. Please see response to comment 08-13.

O8-15

There would be no TPSs, SWSs, or PSs located in the ROW between Diridon and Tamien stations. TPS2 Option 1 would be located off of Newhall Street, TPS2 Option 2 would be located off Stockton Street and TPS2 Option 3 would be located at CEMOF, all north of the Diridon Station in San Jose. PS7 would be located at the end of Communication Hill Boulevard in San Jose, south of Tamien Station.

O8-16

In regards to human health, the Draft EIR included Section 3.5, *Electromagnetic Fields and Electromagnetic Interference* that disclosed the potential electrical and magnetic field strength expected along the Caltrain corridor with the OCS and electrified train operations. As disclosed therein, the EMF levels are well below recognized health thresholds.

In regards to electrical hazards, as explained in Chapter 2, *Project Description* of the EIR, the OCS wires are elevated a minimum of 16 feet above ground (and usually 23 feet) and an ESZ (ESZ) of 10 feet from vegetation and 6 feet from structures will be implemented to prevent risks of contact with vegetation, structures, or people working around structures. The ROW will have signage warning of high voltage wires as well to further promote safety. Thus electrical hazards will be appropriately controlled.

In regards to the effects of EMF levels on pets, there are no published thresholds for potential effects and there is only limited research on such effects. According to the World Health organization (WHO): "The limited number of published studies addressing the risk of EMF to terrestrial and aquatic ecosystems show little or no evidence of a significant environmental impact, except for some effects near very strong sources. From current information the exposure limits in the ICNIRP guidelines for protection of human health are also protective of the environment." The ICNIRP guidelines, as shown on Table 3.5-4 on Page 3.5-8 in the Draft EIR, were used in the EIR as the significance threshold for impacts to the general public; as WHO describes in the quote above, these thresholds should also be protective of impacts to the environmental including both pets as well as urban wildlife. Thus, no special measures are necessary to further control health effects from EMFs.

O8-17

Electrified rail power systems are at a much lower frequency (60 Hz commonly and as proposed for the PCEP) than most consumer electronics. Radio and other communications operate at much higher frequencies, often in the range of 500,000 Hz (500 kilohertz [kHz]) to 3 billion Hz (3 gigahertz [GHz]). Typical radio frequency (RF, which is a much higher frequency that used for the PCEP) sources of EMF include cellular telephone towers; broadcast towers for radio and television; airport radar, navigation, and communication systems; high frequency and very high frequency communication systems used by police, fire, emergency medical technicians, utilities, and governments; and local wireless systems such as WiFi or cordless telephone. In contrast, the power source for the PCEP is a 25 kVA 60 Hz source which is in the ultra-low frequency range. Furthermore, cell phones, personal computers, and portable DVD players work on board electrified trains (such as BART, VTA, the Acela, etc.) indicating general compatibility with consumer electronics.

The EMF levels for the OCS on board or along the ROW will be well below recognized threshold levels for individuals with pacemakers and below interference thresholds for implanted defibrillators determined in a recent study (Napp et al. 2014). Information has been added to the EIR to clarify the EMF levels relative to threshold levels for pacemakers and implanted defibrillators.

O8-18

Noise impacts and mitigation during construction are discussed on pages 3.11-38 to 40. Mitigation Measure NOI-1a, site specific construction noise plans will be required, and construction activities within residential areas will be minimized during evening, nighttime, weekend, and holiday periods to the extent feasible. Vibration impacts and mitigation during constriction are discussed on pages 3.11-46 to 48. Mitigation Measure NOI-2a, a construction vibration plan will be implemented to avoid or minimized the potential for building/structure damage and the potential for annoyance from construction vibration.

O8-19

Vibration impacts related to Project construction are analyzed under Impact NOI-2a in Section 3.11, *Noise and Vibration*. The threshold analyzes exposure of sensitive receptors to substantial increase in ground-borne vibration levels during construction. A Construction Vibration Control Plan has been proposed to mitigate the potential for building damage from construction vibration. The Construction Vibration Control Plan would include, at a minimum, the following procedures:

- Where feasible, avoid placing OCS poles within 25 feet of structures or use alternative construction methods for pile driving (such as augurs) to minimize potential vibration damage.
- Where vibratory compacting/rolling is proposed within 15 feet of structures, utilize alternative equipment (such as non-vibratory rollers) to minimize potential vibration damage.
- Where pile driving is proposed within 50 feet of structures or vibratory compacting/rolling within 25 feet, preconstruction surveys shall be conducted to document the existing condition of buildings in case damage is reported during or after construction.
- Damaged buildings due to project construction shall be repaired or compensation paid.

O8-20

Specific construction scheduling has not been conducted but will develop as the project moves through design and construction. Construction should not result in the loss of full use of any residences, church or Fuller Park in the North Willow Glen neighborhood, but there may be some inconveniences such as construction traffic, aesthetics, and noise. All of these impacts are analyzed in the Draft EIR. Mitigation measures in the Draft EIR describe the mitigation adopted to address construction period impacts including the following: MM-AES-2a which specifically calls for minimizing construction on residential and park areas; MM-AQ-2a which reduces construction-related dust; MM-AQ-2b and 2c which reduce construction exhaust emissions; MM-NOI-1a and 2a which would control construction noise and vibration; and MM-TRA-1a, which would control construction road traffic.

O8-21

The opposition to night work is noted.

As described in the Draft EIR, management of existing passenger and freight rail service during construction will likely mean that much of the construction will be at night. To completely restrict construction to daytime only would require taking at least one track out of commission during commute hours and would thus result in substantial decline in passenger rail service and may also disrupt some freight service, resulting substantial traffic impacts in San Jose and other locations along the ROW.

As noted in the Draft EIR, within the constraints of avoiding substantial disruption of passenger rail and freight rail service and in expediting completion of construction overall to meet the project schedule will seek to reduce impacts on adjacent sensitive areas, including residences. To that end, the EIR includes Mitigation Measure NOI-1a which requires implementation of a construction noise control plan to minimize night-time noise within residential areas where feasible, and to control construction noise levels near residential areas overall, Mitigation Measure NOI-2a, which requires control of vibration during construction, and Mitigation Measure AES-2a which requires minimization of night-time lighting effects in residential areas. Other mitigation is proposed to address construction impacts, such as control of construction air quality, but those are not specific to night-time construction.

In regards to use of a train-bus bridge from Tamien to Diridon during construction in the North Willow Glen area to exclude all night work, this would be highly disruptive to Caltrain passenger rail service and would likely result in passengers who use the Gilroy to Tamien station to not use the train during the construction period when no trains would operate in this interval. That would result in additional traffic within San Jose and elsewhere. This is thus not considered a practical mitigation to avoid the potential for night work.

The Draft EIR discloses that due to night-work necessity, that even with mitigation, night-time noise impacts of construction may be significant and unavoidable.

O8-22

There is no expectation that Project noise in wheel curves will be worse than existing conditions. See Master Response 8 (Train Noise).

O8-23

Based on the current design, there is no need to obtain new ROW on park land in San Jose or on private land for placement of the OCS between Diridon and Tamien. The JPB owns the land between the track berm and the row of trees in Fuller Park, which is leased for park purposes. Maps of ROW encroachments have been added to the Final EIR (See Appendix J).

Based on the current design, there may be a need to obtain an ESZ (ESZ) easement on a small portion of several commercial properties between the Diridon Station and I-280 and on a small portion of two residential properties along Jerome Street. The area of ESZ easements on the two residential properties is on the order of 1 to 3 feet based on the current design. The owners of all private property potentially affected by ROW encroachment for the project we notified in March 2014 of the potential for ROW take on their properties. ROW encroachment may also be reduced through implementation of Mitigation Measure BIO-5, which requires analysis of alternative pole designs/alignments to reduce impacts on tree removal.

Maps of potential tree effects have been added to the Final EIR (See Appendix J).The commenter’s objection to ROW acquisition is noted, but this comment does not concern the adequacy of the EIR. No further response is necessary.

O8-24

As discussed on pages 3.11-41 to 43, operational train noise impacts would include both a decrease in train noise, because EMUs are quieter than corresponding diesel locomotives, and an increase in train noise, primarily during peak hours due to the Proposed Project's increase in Caltrain service. In the area between Diridon Station and Tamien Station, represented by receptor 49, the positive effect of quieter EMUs would outweigh the influence of increased horn noise based on comparing No Project with Proposed Project conditions.

To enforce safety near grade crossings, the existing and proposed operations are required to sound the horns per FRA rules. The impact analysis accounts for the noise levels generated by train horns as required per FRA rules. There may be some variations amongst engineers, however it is more likely that strict adherence to the FRA rules would not lessen the impacts of horn noise.

See *Consideration of Mitigation* in Master Response 8 (Train Noise) for response to train horn noise and potential mitigation.

Residents with complaints can always contact Caltrain with concerns about Caltrain service and operations.

O8-25

The PCEP does not propose to construct additional train storage areas.

O8-26

See Master Response 6 (Visual Aesthetics including Tree Removal).

Mitigation Measure AES-2b prescribes that new infrastructure be designed in a manner that allows these features to blend with the surrounding built and natural environments as much as feasible so that the new features complement the visual landscape. Measures will include, but are not limited to, low sheen, non-reflective surfaces; surfaces that are two or three shades darker than the general surrounding area. These treatments will ensure that new project features will blend into the viewscape as much as feasible.

O8-27

Comment noted.

As the North Willow Glen Neighborhood Association letter noted in Comment 08-6, the Delmas Avenue and Prevost Avenue bridges were determined ineligible for the CRHR and NRHP. SHPO concurred with this finding in a letter dated December 9, 2002. While 12 years have passed since SHPO concurred with this finding, a review of their original evaluation by qualified architectural historians has not resulted in a change to the determination; the passage of time has not resulted in changing perceptions of their significance. Therefore they are not historic resources for the purposes of CEQA.

O8-28

Existing freight and passenger railroad use of the Caltrain Corridor between Diridon Station and Tamien Station will not be changed by the PCEP. The diesel freight and passenger trains can continue to operate under the wires. No new trackage is proposed as part of the PCEP.

O8-29

The only new lighting associated with the Proposed Project would be security lighting located at the TPFs. There are no proposed TPFs located between Diridon and Tamien Stations; therefore there would be no new nighttime lighting intrusion to residents along this segment or along Fuller Park. While there could be signal modifications, all modifications would be at existing signal locations. Therefore, with the exceptions of security lighting at TPFs, nighttime lighting after Project implementation would be the same as existing conditions. No revisions to the Draft EIR are necessary.

3.2.36 Responses to Comment Letter O9

O9-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O9-2

This comment is descriptive and requires no response. As described in Master Response 11 (Freight), existing freight operations will be accommodated by the PCEP.

O9-3

This comment is descriptive and requires no response.

O9-4

<u>The EIR has been updated to include the information provided in Comment O9-3 in the existing setting section. The JPB agrees that long-term averages are more representative of the freight baseline than any one year.</u>

O9-5

The EIR analysis of freight is based on the number of freight moves, whether the trains are carrying full or empty rail cars.

O9-6

Please see response to Comment O9-4.

O9-7

The EIR included freight growth over time and specifically mentioned the potential increase in freight noted by representatives of PFRUG in meetings with PFRUG during preparation of the EIR.

This comment provides no additional information for consideration in characterizing future freight rail growth and thus the EIR's presentation of growth potential is considered adequate.

O9-8, 9

CEQA is focused on the disclosure of adverse environmental impacts. There is no requirement in CEQA to maximize or optimize benefits. If the net benefits of the project are positive, then the project does not have an adverse effect. No diversion of freight is expected in the project scenario, so the question of valuing net benefits is moot for the project analysis.

For the cumulative scenario, where potential diversion of freight is possible due to increasing passenger rail use of the corridor, the EIR properly considers not only the magnitude but also the location of the secondary physical impacts in making its conclusions such that a benefit in one location does not necessarily offset an impact in another location. However, where the benefit is broad (such as regional air quality, regional traffic, or global GHG emissions) as well as the impact, then a netting approach is correct.

O9-10

With elimination of temporal separation (see discussion in Master Response 11), the project would not substantially affect operational windows for project or cumulative conditions.

CEQA only requires consideration of alternatives that lower significant environmental impacts of the project. Since the project does not result in any significant environmental impacts related to freight operations, there is no requirement for consideration of project alternatives.

Cumulative impacts are identified related to vertical clearances, but the EIR conclusion is that even with mitigation for vertical clearances, there will be remain potential for diversion of small amounts of from freight rail to trucks if the reduced vertical clearances from the San Francisquito Bridge northward impedes freight rail supply that must have higher vertical clearances than allowed by the project with the cumulative mitigation.

It should be noted that the likelihood of actually diverting freight from rail to truck modes in the future only because of a different between current freight equipment height and existing potential height is remote and the EIR errs on the side of caution in identifying potentially significant secondary impacts.

Restoring all vertical clearances to existing heights with electrification is not considered feasible due to the cost, rail service disruption, and environmental impact of replacing or substantially rebuilding the San Francisquito Bridge or the San Francisco Tunnels. The only way to completely avoid any future potential would be to provide the same effective vertical clearances as today which would require an alternative of replacing the bridge and a major reconstruction of the tunnels. Such an alternative would be prohibitively expensive and would result in unavoidable impacts to the cultural resources of the bridge and the tunnel. Thus, such an alternative is not considered feasible and is also rejected due to the substantial disruption to passenger and freight service during construction and the unavoidable impact to cultural resources.

It should be noted that the Draft EIR did evaluate several non-electrification alternatives (the DMU Alternative and the Dual-Mode MU Alternative) that would avoid any impact to vertical clearances (see Chapter 5 of the Draft EIR).

The Draft EIR also evaluates an alternative of providing 23 feet of vertical clearance at all locations along the Caltrain Corridor. See response to Comment O9-24 below.

It should also be noted that CEQA does not require improvement over existing conditions. Thus, improvement of freight capacity above baseline conditions is not required as mitigation for project significant impacts.

O9-11

Table 3.2-7 in Section 3.2, *Air Quality* identifies the reductions in criteria pollutant emissions from VMT reductions in 2020 and 2040 which is the information requested by this comment.

O9-12

Comment noted. The term 'significant' is used in the document as described in the CEQA Guidelines. The CEQA Guidelines Section 15382 sets forth the following definition for significant effect as:

> "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

All required resource areas and topics are addressed in the EIR as required by CEQA.

O9-13 through O9-23

As described in Master Response 11, Freight, temporal separation is no longer presumed in the project description and thus the project is not expected to substantially change freight operational windows.

O9-24

The Draft EIR did evaluate an alternative of providing 23 feet of vertical clearance at all locations along the Caltrain Corridor. See Draft EIR Table 5-7 and 5-10 re: Alternative F1: 23-foot overhead clearance everywhere. The current tunnels only allow trains between 15. 5 and 17 feet in height today, so expanding to 23 feet would represent a very large undertaking. Given the age of the tunnels, it may be necessary to replace the entire tunnel. In addition, this would require replacement of the San Francisquito Bridge as well. As explained in the Draft EIR, this alternative would be prohibitively expensive and was rejected on financial feasibility grounds. Further, this alternative would have far greater impacts on historic resources than the Proposed Project.

There is nothing under CEQA that requires a project to remedy an existing situation. The San Francisco tunnels restrict freight heights to the Port of San Francisco today. This alternative would seek to remedy that existing situation and thus goes far beyond any impact caused by the PCEP or under the cumulative condition.

O9-25

As noted above, temporal separation is no longer part of the PCEP and the PCEP would not eliminate any freight storage tracks. The proposal to eliminate the hold-out rule at South San Francisco is not part of the PCEP. Thus comments are noted relative to the separate South San Francisco project, but the PCEP should not have an effect on freight storage capacity.

O9-26

Mitigation Measure TRA-1b requires minimization of disruption to existing passenger and freight service by maintaining operating track as much as possible during construction. Caltrain will work with freight operators to minimize potential disruptions to freight service during construction.

O9-27

With the change in the project in relation to temporal separation, substantial changes in operational hours is no longer an issue. The remaining issue is the vertical clearances which should not substantially change existing operations and are likely, in the end, to have only limited effect on future freight operations.

The JPB appreciates the involvement of PFRUG in considering issues around freight service on the Caltrain Corridor and looks forward to working with PFRUG in best managing the temporary impacts on freight during construction and implementing the proposed mitigation concerning vertical clearances.

3.2.37 Responses to Comment Letter O10

O10-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. The Chamber's support is appreciated.

O10-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O10-3

Comment noted. As described in the Draft EIR (see page ES-3, lines 14-17), the potential addition of HSR service to the Caltrain corridor will be the subject of a separate environmental review process that will be undertaken by CHSRA as the lead agency subsequent to the environmental process for the PCEP.

O10-4

Comment noted. Passing tracks are not included as part of the Project. Passing tracks will be analyzed by the CHSRA as part of the environmental review process for High Speed Rail.

O10-5

The EIR analyzed impacts to freight during construction and operations under both project and cumulative conditions and discloses potentially significant impacts. Feasible mitigation is identified for the significant impacts identified in the EIR, where available. The Draft EIR considers several non-electrification alternatives that would avoid any impact related to vertical clearances for freight; however the EIR concludes that potential changes in vertical clearances would not result in any significant physical impacts to the environment related to freight operations and thus there is no requirement to consider alternatives in regards to this issue.

O10-6

Please see Master Response 5 (Environmental Benefits) for environmental benefits of the project. The project would result in improved train performance, increased ridership and service. The increase in ridership (due to one extra train in the peak hour) would result in increased revenue and switching from diesel to electricity would result in reduced fuel costs. Therefore, the project would result in both environmental and economic benefits. In June 2012, the Bay Area Council Economic Institute prepared a white paper called, *The Economic Impact of Caltrain Modernization*. This white paper concluded that there would be considerable short-term and long-term economic benefits for the state and the region related to Caltrain electrification. There would be new construction jobs, California's gross state project would increase, state and local tax collections would increase, and property values near Caltrain could increase by $1 billion. The City of Palo Alto also retained Economic & Planning Systems, Inc. (EPS) in June 2011 to evaluate the economic and property value impacts of Caltrain Electrification. This study found that there would be a positive economic impact associated increased property values. Economic benefits are not a CEQA concern, but the comment has been considered by the JPB.

3.2.38 Responses to Comment Letter O11

O11-1 through O11-4

Please see Master Response 9 (Bikes on Board).

Caltrain intends to work with bicycle advocates and bicycle riders as an important stakeholder group during the EMU design process and welcomes their participation. Caltrain recognizes the many benefits of the bikes on board program, but needs to ensure that it does not prematurely make commitments for the benefit of one portion of its ridership without engaging in a detailed review of whether there are substantial tradeoffs in EMU design between providing more on-board bike capacity and providing for overall passenger needs and amenities.

As explained in Master Response 9 (Bikes on Board), an EIR is required to assess the <u>adverse</u> effects of a project on the environment, which the EIR has done. When a significant adverse impact on the environment is identified compared to the baseline conditions, then CEQA requires analysis of feasible mitigation. If the adverse impact over baseline is not mitigable, CEQA requires consideration of feasible alternatives that can avoid or substantially reduce the significant unavoidable impact.

The argument in this letter is that Caltrain should commit now to a specific increase in on-board bike capacity and that there are notable environmental benefits from doing so. If an increase in bike capacity would result in similar or greater ridership than not increasing the amount of bike capacity, then there would be environmental benefits. However, if increasing bike capacity comes at the expense of limiting seats and lowering the number of seats, suppressing ridership for non-bike riders, there could be offsetting effects in terms of overall ridership.

CEQA does not require a project to provide the maximum environmental benefits possible. While that may be desirable, that is a matter for policy makers to determine outside the CEQA process. CEQA only requires that the adverse impacts of a project be disclosed, determined if they are or are not significant, and then to identify feasible mitigation if significant. The baseline for analysis of transportation conditions is the No Project conditions, under which bike capacity would nominally remain similar to existing conditions with no increase in Caltrain service.

This comment letter presents no evidence that the PCEP would result in a significant adverse impact relative to No Project conditions by not committing to providing a specific amount of on-board bike capacity. Instead, the comment letter points out that there may be unrealized environmental benefits in terms of air quality, traffic congestion, and parking. While these are benefits of the current bikes on board program, the proposed project as presently defined without an assumed substantial increase in bike capacity would not have a significant impact on air quality (the project would improve air quality substantially), regional traffic congestion (the project will reduce regional VMT and congestion overall), or parking (as explained in the EIR, parking deficits, while inconvenient are not expected to result in a significant physical impact on the environment and the project does not include construction of any new parking facilities).

The reference to the SFBC's projection of bicycle capacity needed in the future in the SFBC's 2008 *Plan for Bicycle Carriage on Caltrain* is based on a presumed causative relationship between SFBC membership and Caltrain on-board bike demand. This same document also asserts that the rate of cycling in San Francisco increases at the same rate as SFBC membership which indicates that SFBC membership is certainly not solely correlated to demand for bike capacity onboard Caltrain trains. The forecast of Caltrain on-board bike demand in the SFBC document is based on only 4 years of SFBC data (2004 to 2007) and then projected out to 2025. There are numerous uncertainties in this methodology: 1) correlation is not causation; 2) use of 4 years of data to project trends out 13 to 18 years is speculative; and 3) membership in the SFBC can be influenced by many different factors, only one of which may be Caltrain riders who bring their bike on board, and many of which may have nothing to do with Caltrain. Thus, the citation of projections in the SFBC's 2008 plan noted in this comment is not substantial evidence that can reasonably form the basis of ridership demand forecasts.

The actual data on increased ridership from those bringing bikes on board does support that there has been an increasing demand for bikes on board in recent years and there may be a continuing growth in demand. However, since CEQA is focused on the disclosure of adverse effects, a potentially optimistic assumption about bicycle on board bike capacity utilization substantially higher than at present would not represent the worst-case analysis for the EIR's analysis of localized traffic conditions. Caltrain cannot guarantee a specific bike capacity utilization. Consequently, the EIR avoids presuming that localized traffic may be lower as a result of an optimistic assumption of a specific level of bike capacity utilization that can't be guaranteed. This is an appropriate approach of disclosing potential worst-case conditions under CEQA.

Regarding SFBC's 2008 document assessment of the potential economic benefits of prioritizing bikes on board over passenger seats, the analysis in Section 5.2 of the 2008 SFBC document compares the costs of providing a bicycle car (capacity 32 bike riders) vs a passenger car (capacity 64 riders), focusing on subsidy costs only in terms of Caltrain ticket revenue for both types of passengers and the costs of providing shuttles, transit and parking for non-bicycling passengers. As the analysis was done in 2008, some of the parameters used, such as parking revenue costs and Caltrain fares, have changed. Critically, the largest cost identified for non-biking passengers is station parking. The analysis includes a presumption that parking spaces displace alternative land uses and thus there is substantial unrealized lost land rent by providing parking instead of some alternative use. That assumption may be true in some areas, but may not be true in all locations at all stations as areas next to the rail ROW are not always the most desirable locations for all development. Furthermore, where Caltrain already owns the parking lot, there is no operating loss related to not leasing out the parking lot for an alternative use. While there may be more lucrative land uses for some parking lots, that should not be included in an analysis of operating subsidy cost. When excluding the lost land rent from SFBC's analysis, the asserted losses due to accommodating non-biking passengers drops substantially.

While the SFBC analysis is focused only on public subsidy costs, a further critical item missing from the SFBC analysis is any analysis of the costs of higher vehicle commute costs if accommodating more bikes on board results in lower ridership and the displaced non-biking passengers drive instead of using Caltrain. If net ridership is lower, then there is also an economic cost of increased vehicle commuting. Those costs include not only vehicle fuel consumption and depreciation but also the costs of personal delay due to traffic congestion as well as the criteria pollutant and GHG emissions from the additional vehicle commute travel. Using the SFBC's most favorable scenario, assuming a 64-passenger car vs. 32 bikes and 68 percent capacity, there could be displacement of 22 non-bike passengers. Assuming average Caltrain rider commute distance is 21 miles one-way, and using federal mileage reimbursement rate of $0.565/mile, the cost of the additional vehicle commute would be approximately $522/day. In this scenario, if the lost land rent is excluded from the SFBC's analysis and the vehicle commute costs were included, then there would be higher net costs due to accommodating additional bikes on board.[42]

Thus, if the tradeoff between bicycle space and passenger seats results in a tradeoff on ridership, there are different offsetting costs. In a scenario with more bikes on board, there would be less costs for last mile transit/shuttle service and for station parking and less air pollutant and GHG emissions for the last mile travel as SFBC notes, but if ridership is lower, then there would be lower Caltrain revenues and also increased costs and more air pollutant and GHG emissions for vehicle commute for the displaced non-bike passengers.

While the SFBC analysis does illustrate that there are costs to providing last-mile transit/shuttle connections and parking, because the analysis does not address the issues above, in particular the potential for differing ridership levels, it remains an incomplete basis by which to assert that increasing bikes on board will always result in purported economic and environmental benefits. If increasing bikes on board would not result in any displacement of non-bike passengers, then the purported benefits would be realized, but this assumption cannot be guaranteed.

As noted above, bicycle riders are an important stakeholder group for Caltrain and an important part of Caltrain ridership and Caltrain intends to work with riders during the EMU process to fairly consider all riders' input.

[42] The 2008 SFBC most favorable case for a single 64-seat carriage vs. a 32-seat bike carriage finds a gain of $541 due to bike ticket revenue combined with an avoided shuttle, bus, and parking loss due to non-bikers of $557 for a net gain for the bike carriage case of $1,098. When excluding the lost land rent ($1,112 pro-rated at 68% capacity to $756/day) from the passenger carriage case and adding in the additional vehicle commute costs ($522/day), then there would be a net loss for the bike carriage case of $215. This analysis presumes a net lower ridership of 22 persons, which is 32 less seats times a presumed 68% capacity, which SFBC used for the realistic non=biker ridership case.

3.2.39 Responses to Comment Letter O12

O12-1

Comment noted. Caltrain appreciates the support of SAMCEDA.

3.2.40 Responses to Comment Letter O13

O13-1

Stacy Cocke from the Caltrain Modernization Program provided Figure 2-8 to Ms. Pagani via e-mail on March 10, 2014. Figure 2-8 is also included in the Draft EIR following page 2-7 in Chapter 2, *Project Description.*

O13-2

The Draft EIR included several representative diagrams and visual simulations of the OCS poles and catenary structures along the corridor (please refer to Figures 3.1-1 through 3.1-18 of the Draft EIR).

As described in the EIR, there will be a 10-foot safety zone, known as the ESZ, outside the OCS poles. Within the ESZ, no trees are allowed and structures are excluded within 6 feet of the energized elements of the OCS. Based on current design, no major structures (e.g., buildings) will require removal. Small structures (e.g., sheds, etc.) may be removed only if they violate the clearance requirements.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J. The maps show the proposed location of the OCS poles (in a worst-case arrangement), the ESZ, the Caltrain ROW, parcel lines, and tree/tree canopy effects.

O13-3

As explained in the letter sent to the Association, preliminary engineering has indicated that an ESZ (ESZ) may be required on a portion of the subject property. At this location, the overhead contact poles and wires will be located within the JPB ROW over the station platform. The ESZ restrictions include that no vegetation (other than grass/groundcover) will be allowed within 10 feet of the energized elements of the OCS and that structures will not be allowed within 6 feet of the energized elements of the OCS. Using existing design, the ESZ on the subject property appears to be approximately 4 feet. If this is the final width of the ESZ, then there should be no restrictions on structures on the property, but the vegetation restrictions would apply.

During final design, the need for ESZ areas will be finalized. If ROW acquisition of easements are necessary, then the JPB (or its agents) will contact property owners to initiate the easement acquisition process.

3.2.41 Responses to Comment Letter O14

O14-1

Please see Master Response 9 (Bikes on Board) concerning the issues raised in this comment.

Caltrain appreciates the participation of all stakeholders in planning for the future of Caltrain and invites the SFBC to be involved in the public process concerning the design of new EMUs.

3.2.42 Responses to Comment Letter O15

O15-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

O15-2

The PCEP EIR only environmentally clears electrification of the Caltrain Corridor and the proposed increase in Caltrain service. There will need to be separate project-level environmental evaluation of blended service/HSR service. After consideration and certification of the PCEP EIR, the JPB can consider whether to move forward with design and construction of the PCEP.

O15-3

Stanford's advocacy in favor of increased Caltrain service during peak periods is noted.

The PCEP is proposing up to 6 trains per peak hour per direction. The rolling stock included in the project funding is sufficient to support this level of service but not a higher level of service. Thus, the EIR appropriately studies this level of service.

Under CEQA, there is no obligation to maximize Caltrain service levels or to maximize potential environmental benefits. A project proponent (in this case, the JPB) can choose what actions to propose. Under CEQA, there is no requirement to analyze alternative unless they would avoid or substantially reduce significant adverse effects of the Proposed Project. In Chapter 5, *Alternatives*, of the Draft EIR, Alternative S3 – 8 trains per peak hour per direction was considered. While feasible, such an alternative would not avoid any significant project-level impacts (such as tree removal or localized traffic effects) and thus was not carried forth for further analysis.

3.2.43 Responses to Comment Letter O16

O16-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please see the responses to the substantive comments in this letter on the PCEP EIR below.

O16-2

Regarding Prop 1A funds, see Master Response 3 (Use of Proposition 1A Funding).

Regarding cap and trade program funding for the high-speed rail project and GHG emission reductions, the commenter is party to a lawsuit against the California Air Resources Board on this very issue. The funding for PCEP related to High Speed Rail is coming from Prop 1A funds, not cap and trade funds. Moreover, the source of funding for the Proposed Project is not related to an environmental impact and therefore not a relevant topic under CEQA. Thus, the question of whether cap and trade funding for the high-speed rail project is or is not appropriate is a matter for CHSRA, not the JPB, and is immaterial to the PCEP EIR.

O16-3

High-Speed Rail, Caltrain EMUs, Caltrain diesel locomotives, and freight rail can all run on the same tracks. The Caltrain corridor uses standard gauge rail which is the same gauge rail proposed for use by the PCEP EMUs and HSR. The area proposed for blended service is from Santa Clara to San Francisco (south of Santa Clara, HSR is proposed to be on separate tracks). In this area, the current amount of freight is quite low, limited to an average of 6 trains per day. All tracks have to be maintained in light of the train traffic that occurs on them. Although the PCEP and HSR would increase the amount of train traffic on the corridor, PCEP and HSR EMUs would likely be lighter than current passenger diesel locomotives, which may offset the effect of additional trains on rail wear. At any rate, the amount of maintenance of the tracks would not preclude blended service operations.

This comment does not concern the adequacy of the PCEP EIR and no revisions are necessary.

O16-4

Union Pacific currently holds the intercity passenger rights on the Caltrain corridor. In order to operate new intercity passenger service on the Corridor, CHSRA would need to obtain the permission of Union Pacific and/or acquire the intercity passenger rights.

This comment does not concern the adequacy of the PCEP EIR and no revisions are necessary.

O16-5

The JPB has completed operational studies indicating that a combined 10 trains per peak hour per direction of blended service can be operated along the corridor. The PCEP proposes 6 trains per peak hour per direction, which the ridership capacity analysis indicates can sufficiently address Caltrain ridership demand out to 2040. The JPB has not completed any long-term forecast of Caltrain ridership demand beyond 2040 and it would be speculative to assess any impacts beyond 2040.

This comment does not concern the adequacy of the PCEP EIR and no revisions are necessary.

O16-6

The PCEP EIR is not environmentally clearing blended service and the Proposed Project does not include modifying platform heights. Thus, questions about platform height or design are outside the scope of the PCEP EIR. This Project would not change any existing platform heights. The proposed EMUs could be used with Caltrain's existing platforms. If Caltrain proposes platform changes in terms of height or lengths separate from this project, then those changes may need to be reviewed at that time in accordance with CEQA requirements. Any potential platform changes related to blended HSR service, if proposed, will need to be analyzed by the CHSRA in its own environmental review.

If Caltrain and CHSRA have different platform heights, then there would need to be separate platforms or Caltrain and CHSRA equipment would need to be adjustable to different platforms heights (through deployable stairs). If adjustable equipment were not selected, then different platforms would be necessary.

Based on current conceptual blended service planning, there would be separate platforms/stations for HSR from Caltrain at the San Jose Diridon and Millbrae stations (and at Redwood City if proposed) and at the TTC and thus a lack of common platform heights does not preclude blended service operations.

If a common platform height is selected and Caltrain and CHSRA intend to share station platforms, and adjustable equipment were not selected, then there would likely need to be modifications of the Caltrain stations to the common height.

There is nothing in the PCEP project description that precludes the potential for a common platform height and shared platform stations or separate platforms, should either be pursued in the future by Caltrain and CHSRA.

This comment does not concern the adequacy of the PCEP EIR and no revisions are necessary.

O16-7

There is nothing in Proposition 1A that mandates bypass tracks around stations. The only reference to bypass in Proposition 1A is Section 2704.09 (e) which states: "Trains shall have the capability to transition intermediate stations, or to bypass those stations, at mainline operating speed." Thus, blended service operations on the Caltrain Corridor only need to be able to transition stations at the mainline operating speed for that mainline. At present, the proposed speed of blended service is up to 110 mph and thus on this section the mainline operating speed would be up to 110 mph.

As to the effect of trains transitioning stations at up to 110 mph, there is precedent in the U.S. and Europe for trains transitioning through stations at these speeds and higher. In Germany, between Berlin and Hamburg trains pass stations platforms at over 140 mph, but these locations include warning announcements, signage, visual marking and partial fencing. CHSRA's HST Station Platform Geometric Design Manual specifies a maximum speed through stations of 125 mph (as noted above, conceptually, blended service is presently only proposed up to 110 mph) and physical access control, and/or audible and visual warnings are to be provided for approaching trains (CHSRA 2010). Platform marking for people waiting for trains are required at a 5 –foot minimum from the platform edge (CHSRA 2010).

Thus, there may be a need for platform markings or other improvements in order to safely operate through trains up to 110 mph. This will need to be determined during the blended service design phase and the subsequent environmental process for any specific blended service proposal. However, as described in the HST design manual, through trains can safely operate along station platforms at the conceptual blended service maximum speed without the inherent need for bypass tracks around stations. Thus, the PCEP EIR cumulative analysis is not deficient in not providing any analysis of such bypass tracks.

As described in the PCEP EIR, blended service has only been proposed in concept at this time, has not been specifically designed, and thus it is not possible to anticipate all improvements and their impacts. That is a task for the separate environmental review of blended service, if and when it is proposed.

O16-8

The comment does not identify the source of the purported CHSRA assumption. It does not come from the PCEP EIR, the 2013 Agreement between Caltrain and CHSRA, the 9-party MOU among the funding partners, or the 2014 CHSRA Business Plan.

Caltrain has completed blended operations analysis of 6 Caltrain trains per peak hour per direction and up to 4 HSR trains per peak hour per direction operated up to 110 mph in a blended scenario with one section of passing tracks. This simulation shows that it is feasible to operate both systems and allow for the 6 trains per peak hour per day included in the PCEP. Thus, based on the available data, there is no evidence that Caltrain service would be reduced to less than 6 trains per peak hour per direction under a blended scenario.

The comment provides no evidence to question the 6 trains per peak hour per direction service level for Caltrain and thus no further response is required.

O16-9

As explained in the Draft EIR, EMUs have superior acceleration compared to today's diesel locomotives in use for Caltrain service. Thus, on a corridor like the Caltrain corridor, they can reach top speeds faster meaning the service plan can either provide shorter transit times and/or can make more frequent stops or a combination of the two.

In the 2020 prototypical schedule in Draft EIR Appendix I, Caltrain shows a mix of Baby Bullets, limited and locals with the mixed fleet. The 2040 prototypical schedule is compatible with blended service of 6 Caltrain trains per peak hour per direction and up to 4 HSR trains per peak hour per direction. The 2040 prototypical schedule shows a mix of limited (skip stop) and local trains. During the peak hours, the 2040 prototypical schedule shows only limited (skip stop) trains. While the transit times in the 2040 prototypical schedule for the limited trains during the peak hours may be slightly more (a few minutes) than today's Baby Bullets, the offsetting factor is that there will be more trains stopping at more locations throughout the schedule, increasing convenience for riders on their overall transit time.

A schedule example can demonstrate this point. Today's Train #319, a Baby Bullet, leaves San Jose Diridon station at 7:03 a.m. and arrives at San Francisco 4th and King Station at 8:04 a.m. with 5 stops in between and a transit time of 61 minutes. The prototypical 2040 schedule in Appendix I of the Draft EIR shows PCEP Train #416 leaving San Jose Diridon station at 7:00 a.m. and arriving at San Francisco 4th and King Station at 8:04 a.m. with 11 stops in between and a transit time of 64 minutes.

The EIR based its analysis on the prototypical schedule in Appendix I and the ridership evaluation shows a substantial increase in ridership in both 2020 and 2040 compared to No Project conditions. Ridership is a key factor influencing Caltrain's financial position.

In the operational studies done of blended service (Calmod Program Team, Caltrain/HSR Blended Service Plan Operations Considerations Analysis, June 2013 Available: http://www.caltrain.com/projectsplans/CaltrainModernization/Documents.html), a blended service Caltrain schedule including a mix of Baby Bullets and skip stop service was evaluated and was shown to be feasible as well, although there are some tradeoffs in terms of some schedule gaps and service frequency reduction at non-Baby Bullet stations.

The prototypical schedule in the EIR is not the actual proposed schedule, but it demonstrates that it is feasible to provide a schedule with increased service and stops while maintaining transit times with substantial increases in ridership. Decisions about the actual schedule will be made later in the implementation process.

The commenter provides no evidence as to why a potential change in schedule such as shown in the prototypical schedule would result in an adverse effect on Caltrain's financial position if no Baby Bullets were included. The referenced attachment to the comment (Attachment C) reviews a prototypical schedule without Baby Bullets, but provides no evidence of an adverse effect on ridership or Caltrain's financial positions. In contrast, the EIR presents ridership evaluation of such a service plan that shows substantial ridership increases. And as noted above, it is also feasible to include Baby Bullets in a blended service scenario.

This comment does not identify any need for revisions to the EIR.

O16-10

Comment noted. See Master Response 1 (Segmentation and Independent Utility).

O16-11

While the percent reduction in vehicle miles traveled (VMT) on both a regional and city level may appear small, this reduction shows a trend in favor of the Project scenarios. At the city-level (see Table 3.14-15 of the Final EIR), the total daily VMT savings across all cities along the Caltrain corridor would be 377,000 miles (or 0.9 percent) between the 2020 No Project and 2020 Project scenarios. The magnitude of the VMT reduction shows that while some driving trips are converted to transit trips, there would continue to be a large number of automobile trips in all cities that would occur both with and without the Proposed Project.

O16-12

<u>Local, regional, and statewide GHG estimates have been added to Section 3.7.1 to help contextualize the magnitude of potential Project-related emissions and benefits.</u> This change is shown in Section 3.7 in Volume I of this Final EIR. The commenter's further questions about the value of the benefits of the GHG reductions compared to the cost is not a CEQA issue, but rather, a policy determination for the JPB's decision-makers.

O16-13

The final CHSRA memo from February 2013 represents the CHSRA's latest estimate of achievable travel times of the HSR system between San Francisco and San Jose. Assertions about the evidence contained in the memo are the subject of current court proceedings concerning use of Proposition 1A funds.

Given that CHSRA maintains that it can meet Prop 1A requirements in relation to travel times in the corridor operating up to 110 mph, the PCEP EIR appropriately describes the current concept for blended service operations as up to 110 mph. If in the future, CHSRA and Caltrain determine that a higher maximum speed is proposed for HSR service, that change would need to be studied in the environmental process for blended service, but would not change the impacts of the PCEP by itself.

O16-14

See Master Response 7 (Air Quality and Greenhouse Gas Emissions). As explained therein, the Draft EIR analysis did presume fleet turnover over time when calculating emissions for the No Project conditions. For the Final EIR, the emission analysis was revised to use more specific equipment assumptions for the project and the No Project conditions, as well as non-electrification alternatives as requested by the commenter. The revised air quality analysis is presented in Section 3.2, Air Quality and Section 3.7, Greenhouse Gas Emissions and Climate Change, with supporting technical data in Appendix B.

O16-15

The "Jacobs (2008)" reference on page B-47 is the same document as "EOT 2008", referring to the Massachusetts Executive Office of Transportation 2008 study of the Fairmont Line service improvements in 2008, which is included in the references for both Chapter 5 and for Appendix B. The referencing has been updated to "Mass. EOT 2008" in all locations for ease of reference.

As described in Chapter 5 (footnote 1 on page 5-8), in general, DMUs are more fuel efficient than diesel locomotives for consists of five cars or fewer but less fuel efficient for consists longer than five cars. In order for the DMU alternative, which consists of single-level DMUs, to provide a similar capacity as the EMUs, an 8-car consist is needed, which hurts the fuel efficiency of the DMU alternative.

The comparison to SMART DMU fuel consumption is not appropriate because the example provided in the comment attachment from Sumitomo is only using a 2-car consist. It is not appropriate to use the fuel efficiency of a 2-car consist and extrapolate to an 8-car consist. By contrast, the Mass. EOT 2008 reference describes that "using a consist mix of at least 50 percent DMUs, fuel utilization rates would range from 2.0 gallons per mile for a four car DMU train set to 3.9 gallons per mile for an eight car DMU train set", thus showing the influence of train length on fuel efficiency.

<u>The EIR analysis of alternatives uses the same amount of service and miles for analysis of the DMU Alternative and the added Tier 4 Diesel Locomotive alternative as the Proposed Project. Appendix B has been revised to make this point more clear.</u>

O16-16

See Master Response 7 (Air Quality and Greenhouse Gas Emissions).

O16-17

See Master Response 7 (Air Quality and Greenhouse Gas Emissions).

O16-18

The document is publically available at the following link: http://www.theclimateregistry.org/downloads/2013/04/2013-Climate-Registry-Default-Emissions-Factors.pdf. This reference has been added to Appendix B.

O16-19

See Master Response 7 (Air Quality and Greenhouse Gas Emissions).

O16-20

The Draft EIR analysis did presume fleet turnover over time, including replacement of aging equipment with Tier 4 equipment. As explained in Master Response 7 (Air Quality and Greenhouse Gas Emissions), the emissions analysis was updated using more specific equipment replacement assumptions. The EIR analysis of DPM has been clarified to note the differences between the health risks of today's equipment vs. No Project conditions vs. project conditions. The revised air quality analysis is presented in Section 3.2, Air Quality, with supporting technical data in Appendix B.

O16-21

The description of pole placement in Chapter 2, *Project Description*, has been revised to clarify the location of the poles in relation to the centerline of the tracks. This change is shown in Chapter 2, *Project Description*, of Volume I of this Final EIR.

O16-22

The range in contact wire heights includes both unconstrained areas (in which nominal heights would be up to 23') and constrained areas (such as tunnels and overpasses) where vertical clearance may be as low as 16'. As described in the EIR, freight heights are not unconstrained today as existing tunnels, bridges, and overpasses constrain the height of equipment that can use different parts of the Caltrain corridor. The EIR analyzes the direct impact of OCS wire heights and concludes that existing freight equipment will not be constrained from using the Caltrain corridor with electrification due to vertical clearances.

O16-23

The Draft EIR describes the legal authorities applicable to the project for the purposes of context. The Draft EIR analyzes all aesthetic impacts of the project regardless of the legal applicability of local land use regulations.

O16-24

Comment noted. Each roadway corridor, residence, business, park, public space, etc., offers potential views of the Project corridor. These views vary substantially along the length of the Project corridor from the corridor being barely visible in some locations to more prominent in other. In addition, terrain and the presence or absence of intervening vegetation, structures, and infrastructure play a major role in Project visibility and these features often obscure views of the Project corridor, as discussed in the analysis in Section 3.1, *Aesthetics*, in the Draft EIR. The visual analysis addresses this range of impacts. The Final EIR includes maps showing OCS pole alignment, the ESZ locations, and tree impacts that will further help the reader to contextualize the analysis in the Draft EIR (see Appendix J).

O16-25

Comment noted. Section 3.1, *Aesthetics*, in the Draft EIR describes affected viewers, including rail passengers at the platforms. The text has been revised to more clearly describe affected viewers and to identify the context of viewer sensitivity for passengers. Train passengers are expecting views of an operating train system and a railway right of way, and the addition of an OCS to train stations will not change that visual expectation for station arrival or when riding the train. This expectation is in contrast to residential viewers who may be screened from views of the railroad ROW by existing trees that might be removed by the project, which the EIR identifies as a potentially significant and unavoidable impact where trees cannot be replaced on-site.

The EIR does treat potential aesthetic impacts to historic stations, which are primarily viewed by passengers, as a significant impact, and mitigation is provided in the cultural resource section to preserve the historic station visual context. Thus, passengers are only considered sensitive viewers in relation to the historic stations and not in relation to their commute on the train or at non-historic stations. The EIR has been clarified in this regard.

O16-26

The photographs included in Figure 3.1-2 are intended to represent the existing conditions along the Project corridor. Simulations of post-Project conditions have not been developed for all of the locations shown in the representative photographs. Figures 3.1-3 through 3.1-7, 3.1-9, 3.1-12, 3.1-13, 3.1-15 through 3.1-17 in Section 3.1, *Aesthetics*, show photographs of existing conditions with corresponding simulations of post-Project conditions on the same page. No revisions to the Draft EIR are necessary.

O16-27

The visual simulations shown in Figures 3.1-5, 3.1-7, and 3.1-9 depict tree trimming and illustrate how tree trimming would result in subtle visual changes. These dimensions are also shown, graphically, on Figure 2-8 in Chapter 2, *Project Description*.

O16-28

A visual simulation of the proposed switching station is not included in the Draft EIR. The proposed location for the switching station is on the east side of the Caltrain tracks, within the Caltrain ROW in the North Fair Oaks portion of San Mateo County adjacent to Redwood City. This location is shown in Photo 7 in Figure 3.1-2 in the Draft EIR. This location is an existing commercial/industrial area and not an area of existing significant aesthetic interest. Therefore, mitigation is not required.

The commenter mentions Figures 3.1-4, 3.1-12, 3.1-13, 3.1-15, and 3.1-16. These are each visual simulations of paralleling stations, not switching stations. The EIR identifies that paralleling stations next to residential areas may result in significant aesthetic impacts. Mitigation Measure AES-2b includes vegetative screening and aesthetic treatments that will minimize the potential aesthetic impact of the TPFs near residential areas.

Regarding pad-mounting transformers, the preliminary design already presumed that the transformers and other equipment would be pad-mounted, and thus the comment is unclear. The overhead equipment, like the gantry, cannot be placed in an underground configuration due to electrical safety requirements.

O16-29

The EIR has been clarified to indicate that passengers are only sensitive viewers in relation to the views of historic stations. This change is shown in Section 3.1.2.1 in Volume I of this Final EIR.

O16-30

Existing landscaping and vegetation more than 10 feet from the OCS alignment would not be removed or pruned. Existing landscaping and vegetation provides screening for sensitive receptors of Caltrain tracks and service. However, vegetation within 10 feet of the OCS alignment would be removed or pruned for train safety operations. Mitigation Measure BIO-5 would require the preparation of a Tree Avoidance, Minimization, and Replacement Plan that would involve JPB working with local cities, counties and private property owners to replace trees using local tree ordinance replacement ratios. See Master Response 6 (Visual Aesthetics (Including Tree Removal)) for further discussion.

O16-31

Appendix F, *Tree Inventory and Canopy Assessment*, Attachment 1, Tree Protection Requirements by Jurisdiction, lists the tree replacement requirement for each jurisdiction. For jurisdictions that do not have a replacement tree requirement, a 15-gallon tree would be used as the replacement tree. Mitigation Measure Bio-5 lists the ratios for protected and non-protected trees removed inside and outside the Caltrain ROW. Protected and non-protected trees removed inside the Caltrain ROW would be replaced at 1:1 ratio. Protected trees removed outside the Caltrain ROW would be removed at a 2:1 ratio and non-protected trees would be removed at a 1:1 ratio.

O16-32

Please see Master Response 6 (Visual Aesthetics including Tree Removal) regarding considerations of pole design options as part of Mitigation Measure BIO-5. This mitigation included in the Draft EIR stated that Caltrain will be considering different pole designs where feasible. The feasibility assessment for select test cases demonstrates how this can be done.

Mitigation Measure AES-2b was revised in response to public comment. The revised Mitigation Measure AES-2b now includes best management practices to provide vegetative screening for TPFs near sensitive aesthetic receptors and to include consultation with local jurisdictions in developing vegetative screening and aesthetic treatments for the TPFs.

Mitigation Measure BIO-5 was also revised per public comment to include priority of replanting where it can provide aesthetic screening along the Caltrain ROW, where feasible.

As stated in Chapter 2, *Project Description*, of the Draft EIR, the particular type of OCS on a given segment along the Caltrain ROW is dependent upon the track segment's exact configuration and other site-specific requirements and constraints.

Regarding carbon sequestration, as required by Mitigation Measure BIO-5, Caltrain will avoid tree removal to the extent feasible. The replanting of trees removed as the project will, in time recover all of the GHG lost due to tree removal. As shown in Section 3.7 in the EIR, the carbon emissions due to tree removal are very small in comparison to the GHG emission reductions due to the project in comparison to No Project conditions and in comparison to all the non-electrification alternatives.

O16-33

Mitigation Measure BIO-5 does not include the consideration of relocating tracks to enable use of center poles. As the commenter correctly asserts, relocating tracks horizontally would move tracks closer to existing sensitive receptors (e.g., residences and parks), thereby increasing noise and vibration impacts. No revisions to the Draft EIR are necessary.

O16-34

As explained in the Draft EIR, the power for the PCEP is 25 kVA 60 Hz, which is far below the cited range in the footnote on Page 3.5-3. The reference to the frequency range in the Draft EIR on page 3.5-3 is simply to illustrate that the normal frequency of the PCEP is 60 Hz.

The OCS (OCS) is designed to minimize any arcing or sparking. Along the route the normal interaction of the pantograph to the contact wire does not cause arcs. The pantograph is designed to provide a constant contact with the contact wire, and the contact wire is designed to provide a level, to nearly level (gradient is based on speed-in accordance with AREMA Chapter 33) path for the pantograph to follow. In addition, the OCS design is a constant tension system, which maintains the wire taut in varying ambient temperatures and taut/level when the train's pantograph is "pushing" on it while traveling to mitigate arcing when traveling at higher rates of speed.

Voltage transients are caused when current is repeatedly interrupted. In the traction electrification system, these would fall under a bouncing train pantograph while drawing power, the on-board train power converter equipment, and external events such as electrical faults or lightning. In the case of a bouncing pantograph, these frequencies are low frequency events and extremely random with the adopted constant tension design and extremely short in duration (milliseconds). High frequency voltage transients are also created by the trains on-board power converter equipment, but are filtered to an acceptable limit before emitting/propagating along the OCS and return rails distribution system. This is monitored through equipment vehicle testing and final on-site commissioning. External faults such as catenary faults are rare, but have detection/protection systems to remove the faulted power zone within 10 cycles (or 0.167 seconds). Lightning is an external disturbance that causes transients. These are also random events that are extremely short in duration, and safeguards to dissipate this disturbance are being incorporated into the electrification system design.

Arcing, when it happens is of a short duration, and normally at the following locations:

- Insulated OCS overlaps - The overlaps are a transition from one OCS tension length to another. For the insulated overlaps the catenary is electrically isolated, and a disconnect switch, which is normally closed, bridges the tension lengths. With the disconnect switch closed no arcing will occur, with the disconnect switch open there is a chance when the overlap is not adjusted properly that some minor arcing can occur.
- Section Insulators - On crossovers a section insulator (in span insulator that the pantograph runs on) is installed that isolates electrically one side of the catenary from the other. Arcing can occur part way across the section insulator if the train is accelerating thru the crossover, but this is a rare occurrence.
- Phase breaks – At the phase breaks the trains coast thru the breaks, and do not draw power from the catenary, so no arcing occurs.

Regarding the assertion that electrification in rural areas is in some way associated with 20th century "diseases of civilization", correlation does not mean causation. In the 20th century, lifestyles in rural areas were substantially changed in terms of diet, technology, physical habits, demographics, economic change and a myriad of other substantial changes, all of which can influence the prevalence of such diseases as cancer, heart disease and diabetes. The referenced article by Milham (2010) is a broad statistical analysis that does not identify a specific causative relation between these diseases and electrification, only a correlation. Other researchers, such as de Vocht and Burstyn have sharply criticized Milham's 2010 article noting that "his interpretation regarding causality of electrification as the main risk factor for increased population rates of cancers, diabetes, heart disease, suicide, and motor vehicle accidents is fraught with problems." (De Vocht and Burstyn 2010). Critically, the 2010 Milham study evaluates no other possible causative agents other than electrification for these diseases in rural areas. To assert that cancer, diabetes and coronary diseases were somehow "caused" by high-frequency voltage transients in rural electrification is speculative, and the comment does not in any way substantiate a cause and effect relationship between rural electrification and these diseases. Finally, nothing in this comment substantiates potential health risks associated with electrified rail systems. The PCEP is not a rural electrification project and is being installed into the existing completely electrified urban and suburban environment of the San Francisco Peninsula and thus the comment is not on topic.

As support for the assertion in the 2010 Milham study that high-frequency voltage transients has measurable adverse health effect, Milham cites his prior studies (Milham and Morgan 2008). The Milham and Morgan article does not assert any health effects related to 60 Hz power frequency EMFs, which is the frequency of the PCEP OCS, but rather, only related to transients. Review of the 2008 Milham and Morgan study of an alleged single cancer cluster in a middle school in California indicates that it was also a statistical correlation study with no evaluation of any alternative potential causes for the cancer cluster. This study has been criticized by a number of reviewers including De Vocht (2010) and a state epidemiologist for the California Cancer Registry (CCR), Dr. John Morgan. Dr. John Morgan (2009) concluded that "the findings and conclusions of the report are not supported by CCR" and found the following deficiencies in the study: 1) the number of cancers and types of cancers were not confirmed by the California Cancer Registry; 2) the data presented in the study was deficient and ambiguous; 3) the date of cancer onset sometimes pre-dated employment at the school district and 4) the number of cancers, types of cancers, and date of cancer onset were incorrect.

Regarding high-frequency voltage transients and their health effects overall, a literature search in 2010 did not find substantiated evidence to support the hypothesis in the seven studies reviewed, including the Milham and Morgan 2008 study described above (De Vocht 2010). The review found that "all these published studies were subject to significant methodological flaws in the design of the studies, the assessment of exposure, and the statistical analysis, which prevented valid assessment of a causal link between this exposure metric and adverse effects" and that "methodological problems in published studies prohibit the valid assessment of its biological activity." (De Vocht 2010).

Regarding the statement that EMF health effects are not being researched in the U.S. due to the alleged influence of the telecommunications industry, this comment is irrelevant to the Draft EIR and makes no specific comment on the adequacy of the EIR. The Draft EIR is based on references from credible agencies and organizations like NIEHS, ICNIPR, IARC, and ACGIH (see list in Section 7.7 *References* for Section 3.5). More to the point, the Draft EIR used widely referenced thresholds from competent professional organizations like ICNIRP and IEEE for assessment of health effects and the comment provides no evidence why the use of these thresholds is inappropriate.

Since the evidence cited by this comment is questionable in establishing a clear link between high-frequency voltage transients and adverse human health effects and the reviewed evidence described above did not indicate conclusive, or even plausible, evidence of such a link, the EIR is not deficient in its presentation of EMF by focusing on the EMF levels associated with 60 Hz and not delving into speculative effects of high-frequency voltage transients.

No revisions to the EIR are necessary in response to this comment.

O16-35

The autotransformer feeding system that is proposed for Caltrain electrification is a single phase feeding scheme. This is illustrated in Figure 3-5 and Figure 3-6 below.

The incoming utility voltage is stepped down by a single phase traction power transformer to 50 kV. The midpoint of the transformer's secondary winding is grounded, creating a +25kV output voltage and a -25kV output voltage. The +25kV phase is connected to the overhead contact system (OCS), while the -25kV phase is connected to the Autotransformer (ATF) Feeder wires. Both wires run along the track and are connected to ATF stations that are located on the track side at regular intervals.

When a train draws power from (or feed power back to) the OCS in Feeding Section 3, as shown in Figure 3-5, the two adjacent ATF stations (ATF Station 2 and ATF Station 3) pick up the return current from the running rails and transform it to current in the ATF Feeders. In Feeding Section 2 and Feeding Section 1, the OCS current is virtually equal to the ATF Feeder current, leaving virtually no current flowing in the running rails. Due to the 180 degree phase displacement between OCS voltage and ATF Feeder voltage, the OCS current and the ATF Feeder current are displaced by 180 degrees as well. As a result, the EMI effect in the surrounding environment is significantly reduced where the lateral distance from the rail line is sufficiently long.

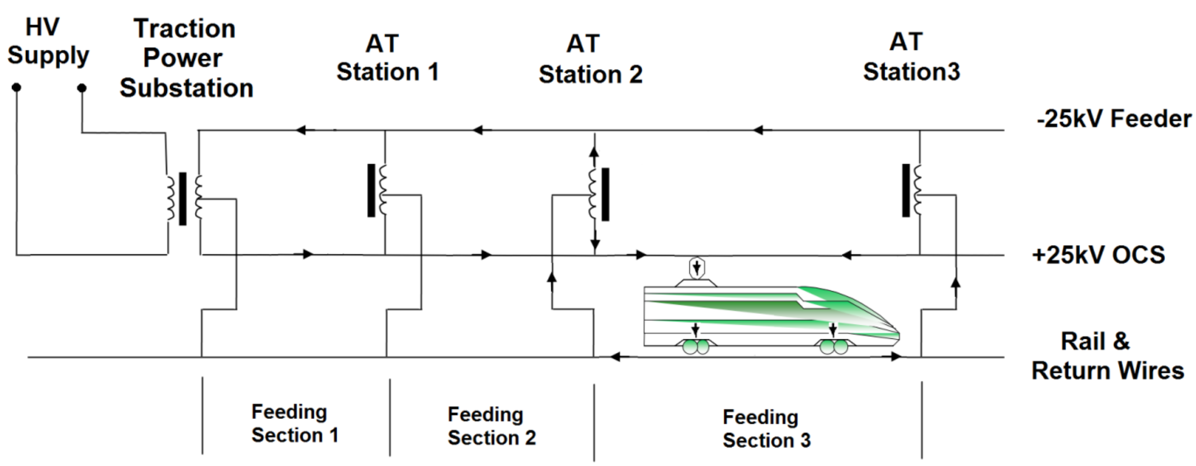

Figure 3-5. Schematic diagram showing current flow in an autotransformer feeding system

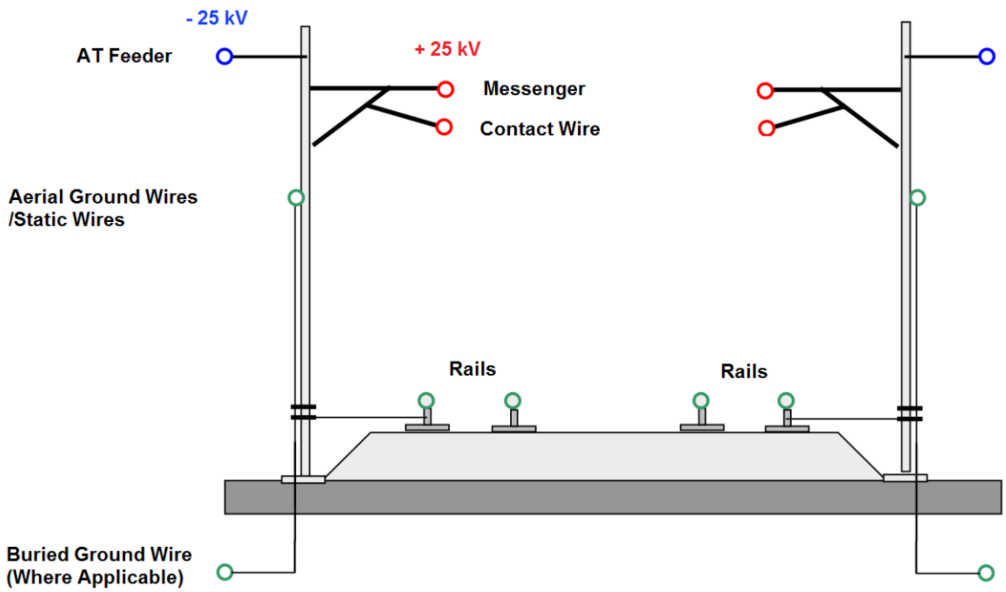

Figure 3-6. Typical conductor arrangements in an autotransformer feeding system

Exponent (2001) studied the EMF associated with a direct center feed (DCF) configuration and the ATF configuration. As described in this study, the ATF system generally reduces magnetic fields compared to a DCF configuration by (1) minimizing current flow necessary to operate the Caltrain commuter system and (2) optimal phasing of the catenary and feeder circuits results in partial magnetic field cancellation relative to direct center feed power delivery systems. Exponent modelled DCF and ATF EMF fields and determined that EMF levels along the ROW were lower with the ATF configuration. Circuit diagrams for an ATF arrangement and a DCF arrangement are included in the Exponent study, which was referenced in the Draft EIR.

The Draft EIR project description page 2-7 describes clearly that the auto-transformer feed arrangement for implementation along the Caltrain corridor includes two parallel aerial feeders, one on each side of the alignment and that the currents in the parallel feeders flow in the opposite direction to that in the main catenary conductors, reducing the EMF/EMI effects created by current flow in the OCS.

No revisions to the EIR are necessary in response to this comment.

O16-36

It is presumed that this comment refers to the cumulative analysis of EMF effects under CUMUL-5-EMF and asserts that the issues raised in prior comments O16-34 and O16-34 need to be addressed in the cumulative impact analysis.

As provided above, there is no evidence or argument presented in the two prior comments that warrants revision of the project EMF analysis. Similarly, there is nothing that warrants revisions of the cumulative EMF analysis.

O16-37

The comment asserts that quiet zones should be included to mitigate noise emanating from trains because one of the project purposes is reducing noise from trains. The project proposes to lower noise from trains through the replacement of diesel locomotives with EMUs which are quieter than diesel locomotives.

Under CEQA, a lead agency must only identify feasible mitigation for project impacts over baseline that are significant. Since the noise analysis in the Draft EIR determined that no project impacts over baseline were significant, the EIR does not propose quiet zones as mitigation for project impacts. The noise analysis in the Draft EIR does identify potentially significant cumulative noise impacts and quiet zones are included as one potential mitigation measure to address the identified cumulative impacts.

As for the comment that quiet zones should be studied for their effect on cumulative conditions, as described in the Draft EIR, only local jurisdictions can propose quiet zones, not the JPB. As such, it is unknown at this time where quiet zones might be proposed by individual jurisdictions. The requirements of quiet zones and train horns are explained further in Appendix B of the Caltrain/HSR Blended Grade Crossing & Traffic Study (Caltrain 2013).

The cumulative mitigation requires the JPB to work with other rail operators, local jurisdictions, transportation funding agencies, and state and federal agencies to support incremental noise reduction measures (which may include quiet zones) as funding becomes available. Thus, the specific evaluation of quiet zones and other noise reduction methods will be conducted over time. CEQA allows the specific formulation of mitigation to occur after completion of the CEQA process provided the mitigation establishes the process by which the specific methods will be selected and the performance standards such measures will be held to. In this case, the methods are the FTA noise modeling protocols and the performance standards are the FTA impact thresholds which are specifically referenced in the mitigation measure.

Acquiring funding for cumulative noise mitigation will be challenging, as acknowledged in the Draft EIR. The Draft EIR explains that the PCEP is only responsible for a portion of the cumulative impacts and thus cannot be liable to implement the entirety of the mitigation. Other parties will need to contribute to the mitigation in order for it to be achieved.

As to financial feasibility, the comment asserts that the lack of funding is legally unacceptable. This is incorrect. Feasibility under CEQA is determined by considerations of technical feasibility, logistical feasibility, as well as financial feasibility. As identified in the Draft EIR, the available PCEP funding does not include sufficient funding for the JPB to provide grade separations throughout the Caltrain corridor.

<u>Regarding cost-allocation, Mitigation Measure NOI-CUMUL-1 has been revised for the fair-share to be based on the contribution of all cumulative sources for the cumulative noise increase over existing conditions</u>. As to order-of magnitude cost estimates for quiet zones, the Draft EIR disclosed the potential cost per crossing at $1 million to $2 million (See page 5-54); if applied at all 42 grade crossings, the cost could be $42 million to $84 million, which is not within the PCEP funding, but may be obtainable through the contributions of other cumulative noise contributors (like freight, HSR, ACE, Capitol Corridor, and Amtrak) or other local state and federal funds. <u>This information has been added to the description for Mitigation Measure NOI-CUMUL-1.</u>

O16-38

The noise levels of the 8-car DMU Alternative were modelled and compared to existing conditions in the Draft EIR. Table 10-1 in Appendix C shows that the noise levels with the DMU are within 1 dB of existing conditions except in area of completed grade separations (like in San Bruno).

O16-39

The assumptions behind the scenarios are given in Appendix D to the Final EIR. 2020 No Project assumptions are in Section 3.2.1, and 2040 No Project Assumptions are in Section 3.4.1.

The commenter is correct that newer diesel locomotives can accelerate faster than older diesel locomotives. It is estimated that the initial acceleration with Tier 4 single locomotives hauling 6 passenger cars would be 1.1 mph per second compared to existing diesels at 0.5 mph (LTK 2014). <u>The EIR has been updated to note this for No Project Alternative for those trains hauled with new locomotives in Chapter 5 of the EIR.</u>

The No Project conditions by definition do not include changes to current operations and only includes replacement of existing aging equipment and do not include any change in service or frequency is presumed. The purpose of defining No Project conditions is to contrast the Proposed Project conditions with taking no action. By definition, changing service schedules or increasing frequency of service is taking action.

<u>A Tier 4 Diesel Locomotive has been added to Chapter 5 of the EIR, which describes replacement of aging equipment with new Tier 4 diesel locomotives AND increasing service levels and frequency of stops. This provides the reader with a fair comparison of the use of diesel locomotive technology plus increased service.</u>

Regarding deceleration, any multiple unit train (EMU, DMU, Dual-Mode) is going to have better performance than a diesel-hauled train.

Regarding the quoted text from Page 3.14-32, the commenter has actually misquoted the text "more frequent and dependable passenger service" by attributing it solely to CBOSS when the actual text refers to the EMU fleet combined with CBOSS as resulting in more frequent and dependable passenger service. The CBOSS enables the ability to handle improved headways and safely travel closer together but does not include an increase in service, which is provided by the PCEP.

As described in Master Response 2 (Alternatives), an additional Tier 4 Diesel Locomotive Alternative has been added to analyze a scenario with improved service. That alternative is shown to be able to match the PCEP schedule with the use of two locomotives for peak and other critical trains.

O16-40

See Master Response 4 (Ridership and Capacity). As explained therein, the ridership analysis for the PCEP EIR is based on the ABAG projections used to develop Plan Bay Area.

O16-41

The commenter's advocacy for greater ridership and higher speeds is noted but this comment does not concern the adequacy of the environmental impact analysis in the EIR.

System-wide ridership forecasts were developed using the Valley Transportation Authority (VTA) model and refined through development of a Caltrain-specific Direct Ridership Model (DRM). The VTA model accounts for land use changes and transportation improvements within the study area. Compared to the VTA model, the DRM takes into consideration a greater number of factors and it includes more detailed measurements of local accessibility around each station, and it differentiates the access choices among a greater number of available modes, considering bicycling as a key travel mode. Appendix D to the Final EIR presents additional information about the methodology behind forecasting ridership data. Furthermore, a 2040 system capacity analysis was conducted and revealed that Caltrain ridership would approach the system's capacity during the peak periods. Additional information used in the analysis, including the main assumptions and methodological approach, can be found in Section 3.7.1.3 of Appendix D to the Final EIR. For more information on the capacity analysis see Master Response 4 (Ridership and Capacity).

At present the Caltrain corridor is currently only rated for speeds up to 79 mph, as per Federal Railroad Administration regulations. Speeds greater than 79 mph and up to 110 mph would require additional system improvements that could include upgrade of tracks, track beds, ties, interlocking as well as possible curve realignments and other improvements. These improvements are not included as part of the Proposed Project.

As described in Chapter 4 of the EIR, such improvements are currently conceived as part of future blended service.

O16-42

The comment's suggestion about addressing the 2020 parking deficit by raising parking fees is noted. Since the Draft EIR did not identify a significant environmental effect associated with the parking deficit, the EIR need not identify or impose mitigation to address the deficit.

O16-43

The comment describes that in 2011 the FRA released technical criteria and procedures for alternatively designed passenger rail equipment. As described in the Master Response on Freight, the JPB is well aware of the 2011 FRA study as well as the rule-making, and through review of JPB assessments of EMU technology, the 2011 FRA study, the discussion-draft of the rulemaking, and the example of other alternative compliant vehicles being approved by FRA without requiring temporal separation, the JPB is now of the opinion that the new EMUs will meet the alternative compliant vehicle standards and that temporal separation will not ultimately be required. Revisions have been made to the EIR accordingly in regards to temporal separation.

O16-44

The Proposed Project does not include improvements to support speeds greater than 79 miles per hour (mph) or high speed rail operations on the Caltrain corridor greater than 110 mph.

Therefore, at present, the design speed for the blended service concept is 110 mph. However, the OCS could also be used for higher speeds up to 125 mph. As described in the EIR, the Caltrain tracks are only rated for up to 79 mph, thus, in order to achieve speeds greater than 79 mph there would be need for system improvements, which are not included in the PCEP.

This comment does not regard the adequacy of the Draft EIR. No revisions to the Draft EIR are necessary.

O16-45

As described in the Draft EIR, operational blended service studies to date have evaluated the operation of up to 6 Caltrain trains per peak hour and up to 4 high-speed rail trains per peak hour. The PCEP is proposing up to 6 Caltrain trains per peak hour.

The comment concerns hypothetical scenarios for higher numbers of Caltrain trains which are not proposed in the EIR, and which would be a policy matter for the JPB. This comment is noted but does not concern the adequacy of the environmental analysis in the EIR.

O16-46

As to specific modelling of potential vibration levels, as discussed in the Draft EIR on page 4-94, unlike noise, which is measured on a 24-hour day-night basis in which noise levels can increase cumulatively, vibration levels do not accumulate, so there is no modelling of cumulative vibration levels due to the combination of cumulative trains. Instead, the cumulative analysis presents the vibration levels associated with different train types along the corridor: existing Caltrain diesel (72 to 80 Vdb), which is described as representing continued Caltrain diesel operations as well as other diesel passenger rail operations; freight (72 to 91 Vdb); Caltrain EMUs and HSR trains up to 79 mph (77 Vdb); Caltrain EMUs and HSR trains up to 110 mph (80 Vdb). These levels are above the FTA annoyance levels but well below structural damage thresholds, but are also within the range of existing vibration levels. Also, the estimates for future HSR trains and Caltrain EMUs are noted as being conservative and not taking into account specific EMU design or potential reductions with new system improvements that may be needed to support speeds up to 110 mph and thus may overstate vibration levels along the ROW. In any case, since vibration levels do not accumulate over the day, there is no need to provide a table of cumulative vibration levels as the text already provides that clearly.

As described on page 4-95 of the Draft EIR, according to the FTA Noise and Vibration Manual (FTA 2006), in heavily used corridors, if the existing train vibration exceeds the FTA annoyance impact criteria (as noted above), the project will cause additional impact if the project significantly increases the number of vibration events defined as approximately doubling the number of events. Thus, the analysis then examined whether the increase in the number of cumulative vibration events is or is not significant. Table 4-8 shows the cumulative train events and is referenced in the cumulative vibration analysis, so the reader can readily see the more than doubling of train events will occur in the segments between Santa Clara and San Francisco. South of Santa Clara a doubling of train events is not forecast.

No revisions to the Draft EIR are necessary in response to this comment.

O16-47

There are no federal or state regulations on vibrations. The vibration analysis uses the FTA and FRA vibration reference levels as guidance.

As shown in Table 3.11-4 of the Draft EIR, the existing vibration levels for Caltrain's diesel service at 50 feet from the outermost track vary from 72 to 80 vibration decibel level (VdB), depending on local site conditions and speed. The existing vibration levels for freight at 100 feet from the outermost track vary from 73 to 81 VdB. Using FTA vibration reference levels (FTA 2006) for rapid transit trains (which FTA guidance recommends for electric commuter trains), vibration levels with Caltrain EMUs could be 73 VdB at 50 feet from the outermost track at 50 mph. Adjusting to the 79 mph speed, the vibration levels for the new Caltrain EMUs could be 77 VdB. This level is within the range of existing vibration levels along the Caltrain corridor noted above.

Using FRA reference level of 83 VdB for 150 mph high-speed rail trains at 50 feet from track centerlines (FRA 2012) and adjusting for 110 mph speeds, potential vibration levels for HSR trains are generically estimated as 80 VdB. Based on the FTA Reference levels for rapid transit trains at 50 mph (FRA 2006) and adjusting for 110 mph speeds, HSR vehicles could have vibration levels of 80 VdB at 50 feet from the outer track centerline which would be the same as the generic estimate for HSR trains described above and would be similarly at the top of the range of existing vibration levels along the corridor.

According to the FTA Noise and Vibration Manual (FTA 2006), in heavily used corridors, if the existing train vibration exceeds the FTA annoyance impact criteria (which it does), the project will cause additional impact if the project significantly increases the number of vibration events defined as approximately doubling the number of events. Thus, the analysis then examined whether the increase in the number of cumulative vibration events is or is not significant based on the doubling of events criteria. Therefore, the statement regarding when a significant cumulative impact would occur in MM NOI-CUML-2 is correct. The evidentiary support for the cumulative vibration analysis conclusions is the FTA Noise and Vibration Manual and no revisions to the Draft EIR are necessary in response to this comment.

O16-48

The referenced sentence was revised to assert that Mitigation Measure NOI-CUMUL-2 would reduce the Proposed Project's contribution to a less-than-significant level. Regarding enforceable commitment, the analysis is clear that the cumulative impact would not occur due to the PCEP, but rather to the addition of cumulative trains overall, which is dominated by CHSRA. Thus, the implementation of this mitigation will need to come through the blended service project. As noted in the analysis, it is expected that track designs for high speed rail can address this impact. Caltrain's commitment is to contribute its fair-share for the vibration analysis and improvements and this commitment will be memorialized in the MMRP. If for some reason the high-speed rail does not come to the Peninsula, then there would be no doubling of vibration events and the cumulative impact would be less than significant.

This change is shown in Chapter 4, Section 4.1.4, *Cumulative Impact Analysis*, in Volume I of this Final EIR.

O16-49

Certification of an EIR and adoption of a MMRP legally binds the lead agency to implement the mitigation measures identified in the document. In this case, the JPB Board of Directors would consider the proposed project for approval, and in certifying the EIR, adopting the MMRP and approving the Project, Caltrain would be legally bound to implement the measures. Therefore, the mitigation measures are legally binding.

The impact to localized 2040 traffic is identified based on a comparison of 2040 No Project Conditions to 2040 Project Conditions and thus Caltrain is responsible for the impacts identified and will be responsible for funding and implementing all of the identification signalization and minor roadway mitigation in Mitigation Measure TRA-CUMUL-1 but cannot commit to grade separations as mitigation due to financial limitations. Caltrain is committed to working with local jurisdictions to support grade separations over time, but this will take many decades to find the funding and to implement. The performance standards are the significance criteria in the EIR such as the amount of delay. The mitigation measure has been revised to make these standards more clear.

Therefore, the proposed Mitigation Measure TRA-CUMUL-1 is adequate.

O16-50

The commenter suggests a de-energized crossing of trolley and train OCS systems at 16th Street with wires crossing each other. As described in Mitigation Measure TRA-CUMUL-2, potential solutions included in the mitigation already contemplate a possible de-energized section as shown by the reference to the short gap for the train OCS and the "non-energized portion of the contact wire" for the trolley OCS. In this option, the trolley would keep its pantograph on the trolley OCS through the crossing. In this option, there would remain a need for equipment to shut down the power draw from the pantograph to the EMU while it crosses the unpowered "gap" to avoid a temporary circuit interruption.

While trolley systems have different wires in contact with each other, the OCS catenary and the trolley wires operate on different power systems (the trolley wires are DC and the OCS would be AC) and a OCS "gap" would avoid any potential tangling of the trolley and OCS wires and any tangling of the trolley pantograph in the OCS wires which could be a safety issue.

Mitigation Measure TRA-CUMUL-2 includes several feasible options to handle the intersection of the 22-Fillmore trolley wires and the PCEP OCS wires. These potential solutions for the interface between the trolley system and the OCS at the 16th street crossing will be furthered evaluated in design and detail as a part of the Design Build Contract. The Design-Build contractor will be responsible for a final design that allows for the safe interface of the systems at the 16th street crossing.

No revisions to the Draft EIR are necessary in response to this comment.

O16-51

Mitigation Measure TRA-CUMUL-3 does not mention the 23 feet clearance for freight because providing 23 feet of clearance in the entire route would mean increasing clearance to greater than the existing clearance at numerous tunnels and bridges along the route today. For example, the nominal clearance in two of the San Francisco tunnels is about 15 to 16 feet which already limit the height of freight cars that may pass through those tunnels today.

As discussed in the Draft EIR, the Proposed Project would be designed to allow for existing freight equipment to continue to operate on the corridor. Normal design clearances up to 23 feet would be provided in all open, unconstrained areas. Mitigation Measure TRA-CUMUL-3 would mitigate potential vertical height limits impacts that would occur if freight operators, in the future, decide to replace their existing train cars with ones that require a higher vertical clearance. Although there would be some limitations on heights north of the San Francisquito Bridge in Palo Alto (see revised analysis in the Final EIR), this would not result in any significant secondary physical impacts on the environment.

Therefore, this comment is noted and no revisions to the Draft EIR are necessary.

O16-52

Caltrain is the lead agency for environmental review of the PCEP. This EIR neither studies in detail nor environmentally clears the approval or operation of high-speed rail service in the Peninsula corridor, and consequently does not include a detailed ridership or traffic impact analysis associated with blended service. The California High-Speed Rail Authority (CHSRA) would be the lead agency for a separate environmental review at a future time to analyze the project-level environmental impacts of constructing and operating high-speed rail service in the Peninsula corridor. The cumulative impact analysis in this document provides a qualitative discussion of the potential cumulative impacts of the blended service concept (see Chapter 4, Section 4.1 of the Final EIR), given that HSR design for blended service is not yet complete.

As the commenter notes, there are no Baby Bullets shown included in the prototypical schedule in Appendix I. This does not mean that there can't be any Baby Bullets operated in 2040, but the ridership analysis presumed a mix of skip stop and local operations between San Jose and San Francisco in the "all-EMU" 2040 scenario. The text in Appendix D has been revised to describe the prototypical schedule more clearly.

O16-53

Available information of the proposed Blended Service was considered in the cumulative analysis. Prior Caltrain studies of blended operations (referenced in the Draft EIR and available on the Caltrain website) evaluated prototypical schedules including 6 Caltrain trains and up to 4 HSR trains per peak hour per direction and concluded that blended service is feasible based on peak hour train service levels.

While a prototypical schedule for Caltrain and HSR was evaluated for the purposes of determining the feasibility of blended service involving 6 Caltrain trains and 4 HSR trains per peak hour per direction, there is no current all day service plan for HSR. The 2014 Business Plan service planning methodology document identify up to 53 round-trip daily trains to San Francisco, but there is no all-day schedule included in the Business Plan and the Business Plan itself does not clearly identify the service level. Further planning work by CHSRA (in consultation with Caltrain) is necessary to develop a proposed service plan for HSR service on the Caltrain Corridor that can be used as the basis for project-level environmental review of HSR service.

It is premature to analyze the environmental impacts of blended service at a project level until further design is completed to identify physical improvements needed and to develop the service level planning further to provide an all-day schedule for the purposes of detailed analysis. Chapter 4 considers blended service in the construction and operation cumulative analysis based on the conceptual understanding of blended service available at this time.

This comment is noted and no revisions to the Draft EIR are necessary.

O16-54

The energy calculations have been updated to include the estimated average PG&E system transmission and distribution loss in the estimated electricity demand of the project. Air quality and greenhouse gas analyses were also updated accordingly. No new significant or substantially more severe impacts were identified in relation to this comment.

O16-55

It is noted that the Alstom Regiolis is the newest dual-mode diesel/electric multiple unit that is being offered on the rail market but information was not located as to its performance. The planned <u>United Kingdom Intercity Express Class 800 will include dual-mode units with expected initial acceleration rates of 1.7 mph/sec (Agility 2009), but these new units are not yet in operation. The EIR has been revised to use this updated acceleration rate.</u> Since a dual-mode multiple unit carries all equipment necessary to run in both diesel and electric modes (including a diesel engine and a high-voltage transformer), the weight of a dual-mode multiple unit is higher than an EMU or DMU. Thus, the performance in either electric mode or diesel mode will be degraded when compared to the performance of an EMU or DMU, respectively.

Regarding the DMU example used in the Draft EIR, the Final EIR has been updated to use information from the Denton County Transportation Authority (DCTA) DMU in regards to acceleration. The DCTA DMU is able to achieve an initial acceleration of 1.8 mphps, which is higher than the Draft EIR example. In addition Bombardier British Class 222s have an initial acceleration of approximately 1.8 mphps as well. However, it must be noted that this value is only the initial acceleration for each vehicle, and that the acceleration over the course of time begins to vary more widely between the EMU and DMU. A DMU's acceleration rate will decrease over time, while an EMU will maintain a much more stable acceleration over time. Thus, the time it takes an EMU to reach maximum operating speed is much shorter when compared to a DMU, even if their initial acceleration rates are comparable.

<u>The EIR has been revised to utilized updated estimates of accelerations rates in Chapter 5, Alternatives. Chapter 5 has also been updated to show a graph of different alternative times to accelerate to 79 mph.</u>

O16-56

<u>A complete reference for EOT 2008 in Table 5-1, *Estimated Initial Acceleration Rates of Different Alternatives and the Proposed Project*, was added to the References Chapter.</u> This change is shown in Chapter 7 of Volume I of this Final EIR.

O16-57

As described in Master Response 2 (Alternatives), the Caltrain corridor has specific vertical clearance constraints, the most prominent of which are the San Francisco tunnels. Current double-deck DMU designs would not fit within these tunnels. There is no established current domestic or international double-deck or bi-level DMU market in which proven platforms are readily available for sale by multiple suppliers, which would entail schedule and budget risks to pursue such an option. As discussed in Master Response 2, there are also other performance (acceleration) and service (number of seats) concerns.

Even if a double-deck or bi-level DMU were built that could fit within the San Francisco tunnels, this would not substantially change the EIR analysis. An analysis of criteria pollutant emissions, GHG emissions, and energy consumption for a double-deck DMU alternative was conducted and the Proposed Project would still have notably lower criteria pollutant, GHG emissions, and energy consumption than a double-deck DMU alternative.

Further details of consideration of a double-deck DMU alternative are provided in Master Response 2 (Alternatives).

O16-58

All DMUs derive their power from a diesel engine which then transmits motive power to the wheels either mechanically via gearbox, through a hydraulic torque converter, or to an electrical generator which then drives electric traction motors which drives the wheels.

<u>The text on the top of page 5-9 has been revised for clarity. The revisions do not change the substance of the analysis.</u>

O16-59

The discussion on doors and dwell time on page 5-9 was only to illustrate some of the ways in which the DMUs can be designed to support passenger convenience and efficiency. The analysis of the DMU alternative did not assume that it would be load slower or faster than the EMUs, and thus the comparison is unaffected by any discussion of doors.

<u>No revisions to the EIR are necessary in response to this comment.</u>

O16-60

Ridership modelling of the alternatives is not necessary to comply with the requirements of CEQA. CEQA requires that a reasonable range of feasible alternatives that meet most of the project objectives and that lower one or more significant impacts of the project be analyzed in the EIR, and the EIR fulfills these requirements. CEQA allows that alternatives can be analyzed at a lesser level of detail than the Proposed Project. In this case, ridership modelling was done for the No Project Alternative but not for the DMU Alternative, the Dual-Mode Multiple Unit Alternative, or the Tier 4 Diesel Locomotive Alternative.

<u>As explained in the revised Chapter 5, *Alternatives*, in order to ensure that the alternatives are not overly penalized for having inferior performance to the Proposed Project EMUs, the assumptions about ridership have been revised</u>. Although the DMU Alternative acceleration to 79 mph (see revisions to Chapter 5) is notably less than the Proposed Project, for the Final EIR, it is assumed that the DMU Alternative would result in the same ridership as the Proposed Project in 2020; for 2040 it was assumed that the DMU alternative would result in 80 percent of the ridership increase of the Proposed Project over 2040 No Project conditions due to the inability of the DMU Alternative to

service TTC[43]. The Dual-Mode MU Alternative is also assumed to have the same ridership as the Proposed Project in 2020 and 2040 (even though the acceleration to 79 mph is much slower than the Proposed Project. The Tier 4 Diesel Locomotive (Double-Head scenario) is the closest to the Proposed Project in terms of acceleration to 79 mph and for the EIR it is assumed to have the same ridership as the Proposed Project in 2020 and 80 percent of the ridership increase of the Proposed Project over the No Project 2040 conditions due to the inability to service TTC. These changes in assumptions do not change the overall conclusions of the alternative analysis that the Proposed Project will have lower fuel consumption, lower criteria pollutant emissions, lower GHG emissions and lower direct energy use (measured in BTU) than all of the alternatives considered.

Even if it were assumed that these operational alternatives had exactly the same ridership as the proposed project, all of the conclusions about relative fuel consumption, criteria pollutants, GHG emissions, and direct energy use would be the same as the conclusions using the assumptions noted above, although the differences on particulate emissions would be minimal. A “100 percent ridership” scenario has been added to Chapter 5, *Alternatives*, to present this information. However, using the same ridership would not fairly represent the performance of the alternatives which either have notably slower acceleration than the Proposed Project (DMU Alternative, Dual-Mode MU Alternative, and the Tier 4 Diesel Locomotive Alternative – single-head scenario only) and/or cannot reach TTC (DMU Alternative, Tier 4 Diesel Locomotive Alternative – all scenarios).

Thus, the methodological approach in the EIR presents a reasonable estimate of impacts of the alternatives.

O16-61

The comment is requesting a cost-benefit analysis for the Proposed Project and the alternatives. CEQA requires disclosure of environmental impacts for the project and a lesser level of detail in discussion of environmental impacts for the alternatives which is provided in the EIR. There is no requirement in CEQA to provide a detailed cost-benefit analysis for the project or the alternatives.

Please see Master Response 5 (Environmental Benefits) for environmental benefits of the project. The project would result in improved train performance, increased ridership and service. The increase in ridership (due to one extra train in the peak hour) would result in increased revenue and switching from diesel to electricity would result in reduced fuel costs. Therefore, the project would result in both environmental and economic benefits. In June 2012, the Bay Area Council Economic Institute prepared a white paper called, *The Economic Impact of Caltrain Modernization*. This white paper concluded that there would be considerable short-term and long-term economic benefits for the state and the region related to Caltrain electrification. There would be new construction jobs,

[43] The estimate of 80% ridership increase was derived by assuming that the difference in San Francisco ridership between No Project and Project conditions in 2040 would be the same percentage as in 2020 and that TTC would be responsible for the remainder of San Francisco ridership. In 2020, the Project would have San Francisco ridership (Fourth and King only) 11% greater than No Project conditions. San Francisco 2040 ridership (Fourth and King plus TTC) with the Project is 7,165. Assuming that the service improvement would result in an 11% increase in Fourth and King ridership over 2040 No Project conditions without TTC (= +1,731 boardings), then the remainder (5,434 boardings) was assumed to be because of TTC. Overall, the Project would result in 2040 boardings that are 27,612 more than No Project conditions and the estimated increase due to TTC separate from the service improvement is estimated as approximately 20% of the overall increase (5,434/27,612). It should be noted that this analysis is based on the VTA system ridership modelling assumption of 2 trains per peak hour to TTC; if Caltrain service to TTC is higher, then the negative effect on ridership for alternatives that cannot access TTC would be higher.

California's gross state project would increase, state and local tax collections would increase, and property values near Caltrain could increase by $1 billion. The City of Palo Alto also retained Economic & Planning Systems, Inc. (EPS) in June 2011 to evaluate the economic and property value impacts of Caltrain Electrification. This study found that there would be a positive economic impact associated with increased property values. Economic benefits are not a CEQA concern, but the comment has been considered by the JPB.

Comparisons to regional GHG emissions for context have been provided in response to Comment 16-12 above. The context of the VMT reductions in relation to regional VMT and city VMT along the Caltrain Corridor are provided in response to Comment O16-1. Criteria pollutant reductions can be contextualize by comparison to the BAAQMD thresholds which are shown in Section 3.2. As shown therein, the project's 2020 reductions relative to the 2020 No Project conditions are 3 times the daily ROG threshold, 10 times the NO_X threshold, 2 times the PM10 threshold and, slightly less than the PM2.5 threshold. The project's 2040 reductions (with full electrification) relative to the 2040 No Project conditions are 9 times the daily ROG threshold, 26 times the NO_X threshold, 6 times the PM10 threshold and 3 times the PM2.5 threshold. In addition, the BAAQMD has a GHG emissions threshold of 1,100 metric tons; the project provides GHG emissions 72 times the threshold in 2020 and 172 times the threshold in 2040.

Ultimately reducing air pollution, GHG emissions, regional traffic congestion, and energy use is a cumulative effort in which no single project alone can remedy the cumulative situation. However, the evidence is clear that the Proposed Project will contribute considerably, using standard CEQA measures of significance to helping to improve these cumulative conditions.

Updated cost analysis for the No Project and the Proposed Project are provided in the Final EIR. While cost estimates were not prepared for the action alternatives, Chapter 5 of the Final EIR was updated to indicate that all of the action alternatives would avoid the capital costs for electrification and would likely have similar costs for rolling stock as the Proposed Project. The EIR finds the three action alternatives (DMU Alternative, Dual-Mode Alternative, and the Tier 4 Diesel Locomotive Alternative) to be feasible, although they will have different ridership in the long run and while avoiding the aesthetic and tree removal impacts of the OCS, they would have higher air quality emissions, GHG emissions, and noise levels.

Thus, the EIR provides sufficient information by which the public and decision-makers can consider the projects costs, benefits, and environmental impacts.

O16-62

Table 5-5 only showed the noise levels for the proposed project and for the DMU Alternative rounded to the nearest dBA. If one compares the amount of increase of the DMU Alternative over existing to the amount of increase of the Proposed Project over existing, then one can see that the DMU Alternative will result in slightly higher noise levels at most study locations. Due to a few typos in transposing the noise technical study into the EIR tables, some of the noise levels for the Proposed Project were slightly off. Once revised to make the EIR tables consistent with the noise technical study, the DMU Alternative would have higher noise increases than the Proposed Project at 45 out of 49 locations. As noted in Chapter 5, the DMU Alternative would have higher noise than existing levels at 38 study locations, lower noise at 9 locations, and the same noise levels at 2 locations. With the updated results from the noise technical study, the Proposed Project would have higher noise than existing levels at only 5 locations, lower noise levels at 37 locations, and the same noise levels at 7 locations.

The noise tables in the EIR in Section 3. 11, *Noise and Vibration* and in Chapter 5, *Alternatives*, were updated to be consistent with the noise technical study and to show a more clear comparison between the Proposed Project and the DMU Alternative.

O16-63

As described on page 5-23 in the Draft EIR, dual-mode MUs are a relatively recent technology and thus do not have a long track record by which to evaluate reliability and maintenance requirements. The Draft EIR noted, factually, that some of the dual-mode locomotives used by the Long Island Railroad (LIRR) have had some reliability concerns (the LIRR locomotives are diesel/DC third-rail locomotives). The factual statements about reliability did not influence the environmental analysis of this alternative in any way. The statements about reliability were merely for context to note that this is a relatively new technology and some applications in the U.S. have experienced some issues. In fact, the Dual-Mode MU alternative was identified as the environmentally superior alternative over the DMU Alternative, for which the Draft EIR did not identify any reliability concerns.

The Draft EIR did not state anything about reliability for European Dual-Mode MUs because information on the relatively newly deployed dual-mode MUs was not readily available. The commenter provides no evidence or references to dispute the EIR description of specific reliability concerns.

Often new technology runs into reliability concerns in its initial years of deployment. Dual-Mode MUs are more complicated than DMUs, diesel locomotives, or EMUs as they have two independent power systems, so simply put, there is more than can go wrong. That said, the EIR did not dismiss this alternative out of reliability concerns, it just noted that it will likely take several years of operational experience with the new equipment to understand how it performs in the field.

In response to this comment, the text describing reliability concerns with Seattle's dual-mode bus fleet was deleted as this text did not refer to dual-mode train technology.

O16-64

As described on page 5-24, footnote 7, the Dual Mode MU Alternative was based on the Alstom Coradia Polyvalent platform being manufactured in Europe, which is relatively new and thus current dual-mode train technology. Footnote 7 notes that the information on the Alstom Coradia Polyvalent passenger capacity is from current (Alstom 2013a and 2013b) references. Thus, the passenger assumptions for this alternative are reasonable, based on current technology, and the assumption about the train consist length do not need to be revised in response to this comment.

O16-65

It is acknowledged that, in general, any multiple unit train (EMU, DMU, or dual-mode multiple unit) can achieve a deceleration rate in the same range. A comparable deceleration rate among these alternatives is due to the expected equivalent quantity of traction motors distributed throughout the train. Therefore, deceleration rate is not necessarily a deciding factor between EMUs, DMUs, and dual-mode multiple units, and the EIR has been revised to properly describe this performance. However, it is clear that any type of multiple unit train has a distinct advantage over locomotive-hauled equipment (the No Project scenario and the Tier 4 Diesel Locomotive Alternative) in terms of deceleration rate. It is also important to note that the type of braking equipment used in addition to dynamic braking (such as tread brakes, disc brakes, or track brakes) can affect the brake rate substantially on any of these vehicle types.

It should be clarified that the use of onboard energy storage is not relevant to deceleration rates. To ensure a high level of dynamic braking even in diesel mode, any energy generated by dynamic braking can be dissipated through brake resistors on the car (referred to as rheostatic braking) or to an onboard energy storage system (referred to as regenerative braking). The use of regenerative braking vs. rheostatic braking is immaterial to the deceleration rate of the vehicle.

O16-66

The commenter suggest a discontinuous OCS system in targeted areas where a Dual-Mode MU could utilize electric power for acceleration and then diesel power between stations to reduce the amount of OCS impact on aesthetics and trees.

To the JPB's knowledge, Dual-Mode MUs have never been used in this "start-stop" fashion anywhere in the world. Instead, Dual-Mode MUs are used to cover routes that have contiguous areas of electrified and non-electrified territory. For example, dual-mode locomotives are used to access several train stations in New York City using electrical power and then operate in diesel mode for areas outside the stations tunnels. In the PCEP Draft EIR, the proposed Dual-Mode MU Alternative is designed to avoid all impacts of the OCS from San Jose to just south of the San Francisco 4th and King Station, at which point, once the Downtown Extension is installed, the trains could operate in electrical mode to the Transbay Transit Center.

In concept, if one wanted to provide electric power for acceleration out of every station on the entire route, this could require 26 separate OCS segments on either side of each station between the Tamien Station and the San Francisco 4th and King Station (not counting the Stanford Station which is only used infrequently). Alternatively, one could pick a segment that had a particularly large area of tree impact and ROW encroachment (such as between Atherton and Santa Clara) and then just provide OCS near those stations.

There are a number of critical issues with the design of such an alternative:

- Length of the OCS segments is not likely to be short. Many Caltrain stations are relatively close together. From South San Francisco to Tamien, none of the stations are more than 3 miles apart and many are much closer, such as the Menlo Park and Atherton stations which are only 1.1 miles apart. Even under electric power, trains do not reach their top speed immediately. Based on the EMU acceleration performance, it will likely take 60 to 70 seconds to reach 79 mph (see revisions to Chapter 5), during which time the EMU could cover perhaps 0.3 miles. In order to preserve the ability to operate service on either line (if one is out for maintenance or due to a train issue), each station would need a minimum of 0.6 miles of OCS on both tracks (perhaps 0.3 miles in each direction). Thus, between Menlo Park and Atherton, for example, the OCS associated with both stations would take up 0.6 miles between the two, leaving perhaps 0.5 miles without an OCS.
- While an electric motor can be ramped up to power nearly instantaneously, a large diesel engine cannot. Thus, in order to provide seamless power after the initial acceleration, the diesel would

need to be running in a standby mode before it is called on to take the load.[44] Further, by running both electricity and standby diesel, the efficiency is worsened. This would increase fuel consumption, air pollutant emissions and GHG emissions compared to EMU operations.

- Discontinuous OCS segments would either require substations for each short electrified segment with separate power drops from PG&E (requiring more transmission lines through adjacent communities or would require undergrounding of the live wires between the OCS segments in buried power conduit along the ROW with the current configuration of TPFs.

For the reasons above, the "start-stop" configuration with short distances of electric mode and short distances of diesel mode would be highly inefficient and would not be cost effective as one would still need a "full" OCS if the electrified segments were distributed from San Jose to San Francisco.

Instead, a variation on this thinking would be electrify a large contiguous segment of the Caltrain Corridor and not electrify the remaining segment. Given that the heaviest impacts of tree removal start at Atherton and head south (there are impacts in cities like Burlingame and other north of Atherton), one conceptual arrangement could have electrified territory from Redwood City to San Francisco (~27 miles) and non-electrified territory from Tamien to Redwood City (~25 miles) if one were focused on tree impacts. With this configuration, there would only be one changeover of power modes in the middle of the route and there could be a contiguous OCS system from Redwood City north. There would likely be a need for a full substation in Redwood City, but the rest of the configuration northward would be similar to the proposed project.

While there are a myriad of permutations of this alternative, using the conceptual alternative defined above with about half of the route electrified, this alternative would have impacts that would be somewhere in between that of the Proposed Project and the Dual-Mode Multiple Unit Alternative described in the Draft EIR.

Compared to the Dual-Mode Multiple Unit Alternative in the Draft EIR, this alternative would have higher aesthetic and tree removal impacts (due to an OCS system from Redwood City to San Francisco), lower criteria pollutant and GHG emission impacts (due to more use of electricity and less of diesel), possibly higher ridership (due to better acceleration from Redwood City to San Francisco), and lower noise impacts (due to electric operations from Redwood City to San Francisco.

Compared to the Proposed Project, this alternative would have lower aesthetic and tree removal impacts (due to no OCS system from San Jose to Redwood City, higher criteria pollutant and GHG emission impacts (due to less use of electricity and more use of diesel) and higher local pollution impacts from San Jose to Redwood City (due to diesel use instead of electric power use), lower performance and ridership (due to lower acceleration in both diesel and electrical modes compared to EMUs), and higher noise impacts (due to diesel operations from Redwood City to San Francisco).

As a result, this alternative is not an independent alternative, but an intermediary alternative between the Dual-Mode Multiple Unit Alternative and the Proposed Project, with environmental impacts at somewhat of a mid-point between the two. As such, this alternative does not actually

[44] For the ALP-45 dual-mode locomotives used by NJ Transit, the change from one mode to the other takes approximately 100 seconds in either direction (http://www.nxtbook.com/nxtbooks/sb/ra0611/#/46) and it is not done on the fly due to early operational issue. Bombardier claims that is dual-mode MITRAC can do "instant" power changeover on the fly or at stations but no information was located on whether they must run the diesels for some time before they can change from electricity to diesel. No information on the changeover time on the French Regiolis dual-mode trains could be located.

widen the range of alternatives in the Draft EIR, because the reader can already see clearly the differences between the "full" Dual-Mode Multiple Unit Alternative and the Proposed Project which shows the range and types of impacts that occur when switching from diesel to electric modes. As such, this alternative does not need to be analyzed in any further detail.

Chapter 5 of the EIR has been revised to add the discussion above to the alternatives analysis, but the alternative is not analyzed in any further detail since it does not meaningfully expand the discussion of alternatives in the EIR as it is only a variation on the theme of the current Dual-Mode Multiple Unit Alternative and would have impacts that are intermediate between the Dual-Mode Multiple Unit Alternative and the Proposed Project.

O16-67

As noted above in response to Comment O16-62, the Draft EIR's conclusion that the DMU Alternative would have higher noise levels is accurate and thus the comment is wrong on this point.

The comment is also wrong that the project benefits on regional traffic are insignificant. The PCEP EIR does not conclude that the project on its own will remedy San Francisco Peninsula traffic congestion but the removal of 12,000 vehicles per day from regional roadways (and 235,000 vehicle miles travelled) in 2020 and the removal of 27,000 vehicles per day (and 670,000 vehicle miles travelled) in 2040 is still a substantial reduction.

The comment is also wrong that the PCEP benefits on air quality and greenhouse gas are insignificant. The project would remove substantial amounts of criteria pollutants and greenhouse gas emissions compared to No Project conditions. One way to think about this issue would be to reverse the framework. Assume that the PCEP is the existing condition and the proposed project would be to institute diesel locomotive operations and cut service by 20 percent during peak hours and daily. The resultant increases in regional traffic, criteria pollutant emissions, and GHG emissions would be found to be significant using the same BAAQMD significance thresholds used in the PCEP Draft EIR. That result alone is substantial evidence that the project benefits, which the comment author dismissed as "insignificant", are in fact substantial.

As to the comment "and how much is that worth?", the EIR provides an updated capital cost estimate for the No Project Alternative and the PCEP. While no cost estimates were prepared for the analyzed alternatives (DMU Alternative, Dual-Mode Alternative, and the Tier 4 Alternative), Chapter 5 has been revised to make it clear that these alternatives would avoid the capital costs for electrification and would likely have similar costs for rolling stock. Assuming rolling stock costs are similar for the Proposed Project and the analyzed alternatives, then the environmental, service and ridership benefits of the Proposed Project compared to the analyzed alternatives can be weighed in comparison to the avoided capital costs.

Determining whether the project is worth the cost, taking into account both the environmental benefits and impacts is a matter of public policy for the JPB Board to consider and is not an issue under CEQA. Similarly, examining the costs of the project compared to the alternatives is also a public policy matter and not an issue for the EIR to resolve. The EIR is limited to disclosing the environmental impacts of the Proposed Project and the analyzed alternatives but as the discussion above shows, the decision-makers can easily understand the cost differences.

O16-68

The significance of all impacts of the project are identified in the EIR.

The commenter's prior request for contextualization of traffic, air quality, and greenhouse gas benefits has been provided in response to other comments above.

The Draft EIR clearly states that there are tradeoffs in terms of benefits and impacts for the Proposed Project as there are for any of the alternatives. As described in the Draft EIR, Chapter 5, there is no definitive objective method by which to "weigh" the different value of an aesthetic impact vs. a human health impact vs. a regional traffic impact vs. a greenhouse gas impact. While there are methods by which some of these impacts could be monetized, there are numerous methodological challenges when it comes to putting a price on human health for example vs. traffic delay vs. "visual character". CEQA does not require any kind of "summing up" to quantify disparate impacts into a single quantitative metric.

Instead the Draft EIR on Page 5-42 acknowledges that "Comparison of different impact subjects requires one to make value judgments; on balance, the JPB places a greater value on overall public health and safety in making this judgment." The EIR identifies the significant environmental impacts of the project and compares them to those of the different alternatives and the JPB made a determination in light of the evidence on the record. That is all that CEQA requires.

While the commenter may make a different policy judgment than the JPB in identifying what impacts are more important than others and may be of the opinion that a particular alternative is environmentally superior to the PCEP, such a judgment cannot be made without making certain value judgments as well. CEQA, in the end, fundamentally mandates a disclosure process and the PCEP EIR has fully disclosed the reasoning and evidence behind the judgments that the JPB is making in evaluating project and alternative impacts.

No revisions are necessary to the Draft EIR in response to this question.

O16-69

The commenter's opinion that the Dual-Mode Multiple Unit Alternative is the Environmentally Superior Alternative for a scenario without HSR is noted. It is presumed that the commenter is asserting their opinion that this alternative is superior to the Proposed Project, if HSR does not run on the Caltrain Corridor.

While noting this opinion, the JPB does not agree that the Dual-Mode Multiple Unit Alternative is environmentally superior overall to the Proposed Project for the reasons summarized in revised Chapter 5, *Alternatives*.

The Draft EIR concluded that the Dual-Mode MU Alternative is the Environmentally Superior Alternative among the alternatives to the project.

O16-70

All suggested edits made by the commenter were made. <u>These changes are shown in the appropriate sections in Volume I of this Final EIR.</u>

O16-71

This comment's assertions about operations and maintenance costs, air quality and GHG emissions calculations, OCS pole configurations, and a proposed service schedule for blended service are responded to in Master Response 12 (Recirculation).

Regarding revised impact conclusions requiring recirculation in response to TRANSDEF comments, as discussed above and in Master Response 12 (Recirculation), no changes to the EIR since the Draft EIR indicate new significant impacts nor substantially more severe impacts, nor fundamental changes to the alternative comparisons such that recirculation is required under CEQA.

Regarding cumulative mitigation language, please see prior responses to comments in this letter on cumulative mitigation. None of the revisions to the cumulative mitigation would result in new significant impacts or substantially more severe significant impacts than discussed in the Draft EIR and thus recirculation is not required under CEQA.

Regarding performance data for the DMU Alternative and the Dual-Mode MU Alternative, performance data was updated where data was reasonably available but this did not fundamentally change the comparison of environmental impacts between the Proposed Project and the alternatives.

Regarding ridership modelling of alternatives, see response to Comment O16-60 above. As described therein, the assumptions about ridership used for the EIR are appropriate in that CEQA allows a lesser level of detail for alternative analysis and in light of the fact that even if ridership for the operational alternatives were assumed to be the same as the Proposed Project, the impact conclusions and comparisons would not be fundamentally changed.

Thus, per all of the assertions in this comment, recirculation is not required under CEQA.

3.2.44 Responses to Comment Letter O17

O17-1

See Master Response 2 (Alternatives) and Master Response 6 (Visual Aesthetics including Tree Removal).

3.2.45 Responses to Comment Letter P1

P1-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

P1-2

Comment noted. Please see responses to comments P1-3 through P1-5.

P1-3

Section 3 of Appendix I to the Final EIR discusses Model Inputs to the VTA Model. The list of assumed background highway and transit projects by year of operation is shown in Table 3 of Appendix I.

The project list from Plan Bay Area was used to code in improvements for the forecast year 2020 and 2040. Year of opening for projects identified in *Plan Bay Area* were provided by Metropolitan Transportation Commission for each project. The year of opening was evaluated by the project team for major transit capital projects within the PCEP corridor to refine year 2020 and 2040 background transit network assumptions.

The first phase of the Central Subway project from the 4th and King Caltrain station to Chinatown (currently under construction) is included as a background project in the 2020 and 2040 Project and No Project scenarios and is listed in Table 3 as Item 19. The second phase of the Central Subway Project to North Beach is included in the 2040 Project and No Project scenarios (as item 24), as it would be built after 2020, per *Plan Bay Area.*

Regarding 2014 ridership approaching 2020 No Project conditions, this does not change the EIR analysis. The 2013 ridership was presented in the Draft EIR as a profile of existing conditions and CEQA allows the profile of existing conditions to be at the time of preparation of the NOP which was in early 2013. The EIR analysis of transportation was actually based on a comparison of 2020 No Project and Project conditions and forecasts of ridership, as explained in Appendix I are based on Plan Bay Area forecasts which are the approved land use forecasts for the region. Ridership can fluctuate over time and it is possible that ridership demand in 2020 may be higher or lower than forecast. The 2040 forecast shows a much more robust ridership for disclosure of a greater potential ridership scenario and the analysis of traffic and air quality appropriately take into account the potential changes with more robust ridership. No model can be perfectly predictive, but by taking into account both 2020 and 2040 conditions with and without the project, the EIR provides reasonable disclosure of potential project effects.

P1-4

Regarding the cumulative study scenario including service to the TTC, please See Master Response 4 (Ridership and Capacity).

Regarding ridership numbers, it is important to note that EIR only reports boarding numbers. Some other agencies, such as TJPA will report both boardings and alightings by station, which give an idea of the number of people boarding or getting off the train at the station. Nominally, boardings plus alightings is double the amount of boardings alone. Thus, the 2040 modelled ridership in the EIR includes approximately 17,000 boardings and alightings at TTC and 29,000 boardings and alightings at Fourth and King for a total of 46,000. A further important note is that while more service to TTC will result in more boardings and alightings at TTC, some of those boardings and alightings at TTC will be transferred from Fourth and King to the TTC and some will be new boardings and alightings to the system. Under current practice, large numbers of Caltrain riders use transit, bikes, cabs, or walk to work in downtown San Francisco in addition to those who work around Fourth and King.

A table showing total boardings and alightings by station is provided in Master Response 4 (Ridership and Capacity).

The EIR ridership analysis is an adequate basis by which to look at the environmental effects of ridership to San Francisco overall and the system overall. The precise distribution of San Francisco ridership between Fourth and King and TTC would not change the profile of environmental impacts overall at the Fourth and King Station. If more service were provided to TTC than assumed in the EIR, then impacts associated with boardings and alightings at Fourth and King Station would be less, and thus the EIR approach is conservative for analyzing impacts up to Fourth and King. The TJPA EIS/EIR has already studied the environmental impact of a much higher level of Caltrain service to TTC and that document is the one responsible to assess the project-level environmental impacts of TTC.

P1-5

This comment concerns system planning and not the environmental analysis in the EIR. CEQA does not require a project to maximize ridership or maximize environmental benefits.

The PCEP would provide 6 trains per peak hour with 6 EMU consists which is consistent with the comment. For 2040, as explained in Master Response 4 (Ridership and Capacity), the ridership will be higher and the system will be approaching capacity, but the PCEP would still be able to handle the overall ridership with 6 trains per peak hour per direction.

The comment does not clarity why street closures or grade separations or closure of stations at Menlo Park or Burlingame might be necessary for 2040 service and thus no response can be provided, especially since Master Response 4 (Ridership and Capacity) provides evidence as to why the proposed project can provide the 2040 ridership.

3.2.46 Responses to Comment Letter P2

P2-1

As explained in Master Response 11, the Final EIR has been revised to no longer assume temporal separation. Thus, for the project analysis, freight operations should be able to continue to operate more or less similar to present operations.

Regarding potential changes in vertical clearances, as explained in Master Response 11, the project would allow for continued use of existing freight equipment along the corridor and thus the project would not result in substantial changes in freight operations.

P2-2

See response to comment P2-1 above. Also see Master Response 11.

P2-3

See response to comment P2-1 above. Also see Master Response 11.

P2-4

The request to only do multi-track closures at weekend at night is noted. Some multi-track closures could prohibit movement of a train from San Francisco to San Jose, but where there are multiple tracks already, some multi-track closures may be able to leave one or more other tracks available for freight or passenger services.

As noted in the Draft EIR, per Mitigation Measure TRA-2a, multi-track closures will be limited to one location at a time as much as feasible. Since freight moves on the corridor are not all the way from San Jose to San Francisco, certain potential closures may not disrupt all freight activity. For example, freight service to customers in South San Francisco and Redwood City would not be affected by a multi-track closure north of the South San Francisco yard.

The JPB expects to work closely with freight operations in developing and implementing the construction railway disruption control plan.

P2-5

At present, the project does not include elimination of any trackage or relocation of any trackage due to OCS pole placement. Where insufficient spacing between tracks prevents placement of poles directly adjacent to electrified tracks, then alternative pole designs, such as multi-track portals or combinations of two-track cantilevers and other pole designs will be employed.

P2-6

Comment noted. Please see discussion of vertical clearances in Master Response 11.

3.2.47 Responses to Comment Letter P3

P3-1

This comment describes PG&E's electric facilities and is descriptive only and requires no response.

P3-2

It is noted that placement of the PCEP TPS at the Option 1 location could reduce PG&E's ability to expand in the future. Regarding transmission lines, depending on the exact position of the TPS equipment at the Option 1 location, it is acknowledged that relocation or realignment of overhead transmission lines may be necessary.

P3-3

No grade change is proposed for the TPS at the Option 1 location. No vegetation is proposed to be planted at this location, if selected. Any new structures would be design/positioned so as to avoid hazards associated with the overhead transmission lines and/or transmission lines would be realigned to avoid any associated hazards.

Regarding the licenses for cellular sites on PG&E towers, use of a portion of the site for Option 1 would not include any removal of PG&E towers so those licenses should not be affected. Regarding the lease for parking, this information has been added to the land use setting for this location. If this option were selected, the current use of the easement property would be a consideration for the acquisition process.

P3-4, 5

All of this comment is noted.

Caltrain has coordinated on this project in the past and will continue to coordinate throughout the design phase regarding any potential relocation or changes to PG&E facilities. Design will also need to provide for utility access and avoid impacts related to safety and reliable maintenance and operation of PG&E's facilities.

P3-6

Caltrain will coordinate early with PG&E and establish a Utility Agreement in regards to any necessary relocation of existing PG&E facilities. <u>A Utility Agreement has been added to Table 2-5 in the Project Description.</u>

P3-7

The EIR has disclosed potential utility impacts, including potential new overhead transmission connections from PG&E substations to the new PCEP substations. Impact PSU-8 addresses potential disruption of utilities and required coordination with utility providers to avoid/minimize disruption. Impact PSU-9 addresses the secondary environmental impact of utility relocations and new transmission lines, including those by PG&E. Impact PSU-9 specifically describes potential transmission lines (whether overhead or underground) and addresses potential environmental impacts of the associated transmission work. Thus, based on the current understanding of potential PG&E facility work, the PCEP EIR should be able to be used to address environmental clearance for PG&E's related project work. As the design proceeds, the JPB will monitor the design of transmission or any other PG&E facility changes to examine if the new facilities are or are not within the analysis covered in the PCEP EIR. If not, then the JPB will conduct additional CEQA review as necessary.

Regarding agency permits and authorizations, the JPB will coordinate with PG&E to examine the best route to obtaining regulatory agency authorization, whether that it is to include the PG&E facilities in the same permitting process or separately.

P3-8

The comments about the timing for Section 851 application is noted. The EIR has included all potential PG&E property that may need to be acquired in the EIR analysis and thus additional CEQA review should not be necessary relative to property acquisition.

P3-9

Cumulative impacts on utility service is described in Chapter 4, *Other CEQA-Required Analysis*, in the Draft EIR (see page 4-101). The analysis found that the cumulative demands for electrical utility service could result in the need for additional utility infrastructure, including transmission lines and generation plants. In addition, it states that the need for new infrastructure could result in secondary environmental impacts during construction (see page 4-101 in the Draft EIR).

The direct need for transmission facilities is disclosed in Section 3.13 of the Draft EIR.

The Proposed Project's contribution to cumulative impacts related to population or economic growth is less than considerable because it would have little to no effect on the overall growth pressures in the project corridor.

The comment does not indicate any concerns about adequacy of the EIR analysis. No revisions are necessary in response to this comment.

P3-10

It is acknowledged that the cost of any relocation and/or rearrangement of PG&E facilities at the East Grand Substation due to the project would be at the JPB's expense.

P3-11

The JPB coordinated with PG&E during the prior environmental analysis for this project and will continue to coordinate with PG&E regarding transmission facilities and any potential other system changes or upgrades to PG&E's facilities.

3.2.48 Responses to Comment Letter P4

NOTE TO READER: The first page of this comment letter is not numbered because all of the letter's comments are articulated in detail on the following pages and are responded to below.

P4-1

The PCEP does not propose to eliminate any parking.

The Diridon Station Area Plan (DSAP) provides for parking, including that lost by the development of the current Caltrain Station lot, using two strategies: 1) shared use of the portion of the surplus development based parking supply which falls within a half mile radius of the station; and 2) shared use of a new parking structure with at least 900 spaces located immediately to the north of the San Jose Arena. The total amount of parking that would be provided using these strategies would exceed the projected demand for parking in the station area. See Section 4.2 of the Final DSAP for more information (City of San Jose 2014a).

The DSAP horizon year is 2035 and it is unknown when the existing Caltrain lot would be redeveloped with commercial and hotel uses. The lot may not be in the position for redevelopment until after 2020, after which point parking demand is forecasted to decline based on increased transit connectivity (BART Extension to Silicon Valley added Diridon Station) and the intensified presence of transit oriented development (see Appendix I, Table 3 of the Final EIR). This list includes the BART Extension to Silicon Valley, planned to be in operation at Diridon Station by 2040.

As discussed in the Draft EIR, a parking deficit, or the need to find a parking space off-site not at the Caltrain station parking lot, while inconvenient, is not inherently a significant physical impact on the environment. Some station users unaware of the parking deficits may circle to find an available space, but regular Caltrain passengers would in time modify their behavior to take into account the parking deficits and take alternative actions. These alternative actions include parking at a public or private off-site parking lot in proximity to the station or changing their access mode. The other way in which a parking deficit can become a significant physical impact on the environment is if new parking facilities are constructed which may have their own secondary physical impacts. Since the

PCEP does not propose to build any parking facilities as part of the project or as mitigation, there would be no secondary physical impacts associated with the PCEP.

P4-2

Fehr & Peers developed models to forecast modes of access and egress at Caltrain stations, using 2013 passenger intercept surveys of the actual proportions of riders accessing and egressing by auto (park-ride, kiss-ride), transit, walking and bicycling. For more information on the survey, see Attachment A of Appendix D to the Final EIR. The analysis found the following factors to be directly associated with actual access and egress mode shares: parking supply and price, frequency of feeder bus, rail, and private shuttle service to station, intersection density, length of bike facilities in the station area, local population and employment density, and Caltrain service frequencies. Attachment C to Appendix D contains detailed information on the development of the Direct Ridership Model (DRM) and the Mode of Access and Egress Models (MOA/MOE). The information used to develop the modelling and the methods utilized (such as the validated VTA model and the ABAG socioeconomic forecasts) are a solid base of information for the mode evaluation and adequate under CEQA.

Independent of the Peninsula Corridor Electrification Project (PCEP), modes used to travel to and from Caltrain stations in the AM peak period are projected to shift due to the region's focus on planned growth at transit oriented development (TOD) areas. In addition to TOD development, increased transit connectivity would contribute to substantially augment transit access at the Diridon and Millbrae stations. The list of assumed background highway and transit projects by year of operation is shown in Appendix I (Table 3) of the Final EIR. This list includes the BART Extension to Silicon Valley, planned to be in operation at Diridon Station by 2040. Development of the MOA and MOE models is discussed in Sections 3 and 4 of Attachment C to Appendix D. The resulting projections for access and egress are discussed in more detail in Section 3 of Attachment D.

P4-3

The purpose of the Peninsula Corridor Electrification Project (PCEP) EIR is to review the environmental impacts of the electrification of the Caltrain corridor between San Francisco and San Jose (Tamien Station). Any potential development of Caltrain lots is not included as part of the PCEP and has been analyzed through the separate environmental review process for the DSAP. As discussed in the response to Comment P4-1, the total amount of parking that would be provided under the DSAP would exceed the projected demand for parking in the station area.

P4-4

The Draft EIR analysis took into account preliminary mapping of potential ROW encroachment areas in order to characterize the potential environmental impacts of the OCS and the ESZ. Maps of potential ROW encroachment for the OCS or the electrical safety have been added to the Final EIR (See Appendix J). This information amplifies and clarifies information in the Draft EIR.

All public and private owners of property were notified in March 2013 at the time of release of the Draft EIR as to specific potential ROW encroachments on property outside the JPB ROW. At that time, a letter dated on or about March 4, 2014 was sent to the City of San Jose City Manager informing the City, who is the owner of the SAP Center, that based on current project design, there may be a need for ROW encroachment for the ESZ on a portion of the parking lot adjacent to the JPB ROW. However, as described in the Draft EIR (see page 3.10-19), parking will be an acceptable use within the ESZ, and thus the project was described in the Draft EIR as not being expected to change any parking use at the SAP Center.

However, based on updated mapping of the OCS and ESZ (see Appendix J), the revised design actually shows that neither the OCS nor the ESZ are expected to encroach on the parking areas of the SAP Center because the expected offset of the OCS from the outer track centerline was reduced from 24 feet to 21 feet between the Draft EIR and the Final EIR.

P4-5

The cumulative parking demand discussion in Chapter 4 of the Draft EIR does not take into account parking demand from high-speed rail because parking demand is highly tied to timing, mode of access and schedule for high-speed rail service; all of which are not known in sufficient detail at the time the analysis was completed.

The BART Silicon Valley Extension Project would overlap with the proposed project at the following two stations: Santa Clara and San Jose Diridon. As stated in Chapter 4 of the Draft EIR, the parking demand decreases from 2020 to 2040 at these stations because planned cumulative future transit-oriented development would contribute to more riders would access the station via walking, bicycling and public transit.

This comment is noted, and no revisions to the Draft EIR are necessary.

P4-6

The cumulative analysis of parking for the Diridon Station Area has been recently assessed in the certified 2014 Final EIR for the DSAP, which includes transit demand. In the Final EIR for the DSAP, the City of San Jose specifically noted in response to comments from Arena Management that the DSAP EIR analysis of full buildout included BART and rail electrification(City of San Jose 2014b).

The DSAP proposes to meet demand generated by existing and future development by requiring that new development provide off-street parking, primarily through structured or underground garages. The DSAP projects future off-street parking ratios that would ultimately be achieved with build-out of the DSAP and completion of the planned transit facilities, including BART and High Speed Rail. Already a major transit hub, Diridon Station is anticipated to become one of the busiest multi-modal stations both in California and the western United States with the BART extension to Silicon Valley and the High Speed Rail to San Francisco and Los Angeles (City of San Jose 2014b).

In addition to these major investments, the DSAP also plans for a dense network of bicycle and pedestrian facilities that will further improve access to the Plan area from the surrounding communities. Given the planned high level of transit, bicycle, and pedestrian accessibility, it is anticipated that more people will travel to the Diridon area using an alternative mode of transportation than by driving alone, thereby necessitating the need for less parking than is currently required in Downtown for office/R&D and hotel uses (City of San Jose 2014b).

The parking demand for transit services accounted for by the DSAP under build-out conditions is projected to range from 1,350 to 2,200. The DSAP does not propose to supply new parking facilities specifically for transit users. Rather, the parking demand would be met through surplus spaces to be provided in the new structures associated with future development (City of San Jose 2014b).

To continue to meet parking demand generated by the Arena, the existing 1,400-space (approximately) surface lot would remain under build-out conditions. In addition, the DSAP includes a 900-space, 2-3 level parking structure to provide additional shared parking for the general public. The garage would be located at the northeast corner of St. John Street and Montgomery Street, north of the Arena (City of San Jose 2014b).

Based on the projected parking ratios, maximum development levels, and projected transit parking demand, the total recommended parking supply would be approximately 11,950 spaces. As described above, parking would be supplied by future development in the form of structured or underground facilities and would provide a modest surplus of just over 600 spaces when full-build out is achieved over the 30-year life of the DSAP (City of San Jose 2014b).

Thus, while the PCEP does not propose to add any additional parking facilities as part of the project or as mitigation, the DSAP has already considered and addressed cumulative parking taking into account planned development and planned transit (including increased Caltrain ridership) and has provided for meeting that demand.

The DSAP EIR's analysis of cumulative parking demand is incorporated by reference for the PCEP EIR. <u>The PCEP EIR has summarized the above information in the cumulative analysis of parking.</u>

P4-7, 8

The EIR includes a criteria used to evaluate construction traffic impacts which is whether the "*project creates a temporary but prolonged impact due to lane closures, need for temporary signals, emergency vehicle access, traffic hazards to bikes/pedestrians, damage to roadbed, or truck traffic on roadways not designated as truck routes*." Thus during construction, the primary concern about temporary elimination of parking is only related to whether it would create any traffic hazard. In addition, separately from traffic impact concerns, Caltrain desires to manage construction disruption to minimize impacts to residences and businesses.

The EIR also includes a criteria used to evaluate potential impacts on parking which is "*the project would result in the construction of off-site parking facilities that would have secondary physical impacts on the environment*." The temporary disruption of parking would not result in the construction of off-site facilities and Mitigation Measure TRA-1a would minimize the amount of disruption as well. Thus, no specific significance threshold is necessary in order to evaluate temporary parking impacts during construction.

Per Mitigation Measure TRA-1a, Caltrain would coordinate with local jurisdictions to develop a Traffic Control Plan (TCP) to mitigate construction impacts including providing designated areas for construction worker parking wherever feasible to minimize use of parking in residential or business areas. <u>Mitigation Measure TRA-1a has been modified to specifically note the need for coordination related to any effects on parking with the City of San Jose and SAP Center representatives.</u>

P4-9

No permanent facilities are proposed on the SAP Center property as part of the PCEP, but there could be the acquisition of an easement for the electrical safety zone. The acquisition of the safety zone should not displace any parking during or after construction. However, there may be a need for removal of several trees on the west side of the parking lot in which case there may be temporary access during tree removal. This would be coordinated with the City of San Jose and SAP Center representatives per Mitigation Measure TRA-1a.

The PCEP does not include any new facilities in the Diridon Station parking lot. However, as disclosed in Chapter 2, there may be a staging area on JPB property just north of the Diridon Station at Alameda. This potential staging area is not used for parking. There may be need for temporary use of the Diridon Station parking area during construction. If any such use would affect special event parking use of the Diridon Station parking area, this would be coordinated with the City of San Jose, SAP Center representatives per Mitigation Measure TRA-1A.

3.2.49 Responses to Comment Letter P5

P5-1

Responses to Union Pacific Railroad's comments on the Notice of Preparation as responded to in responses to comments P5-43 through P5-49.

P5-2

This comment provides an overview of vertical clearance and operating window issues addressed in more specific other comments. Please see responses below.

P5-3

This comment is descriptive only and requires no response.

P5-4

As described in the Draft EIR, CEQA is focused on impacts to the physical environment. The Draft EIR addresses potential impacts to the physical environment related to freight operations such as the potential secondary effects related to diverting freight to truck modes and potential air quality, GHG emissions, noise, and traffic secondary impacts.

The comment seems to be asserting that there are potential significant environmental impacts to freight under CEQA that are unrelated to the secondary environmental impacts noted above, all of which are only caused if actual diversion of freight to other modes is caused by the PCEP. The comment seems to be asserting that the EIR should identify a significant environmental impact to the freight transportation system independent of any other environmental impact such as the potential impacts associated with changed vertical clearance or operational hours. There is no support in the law for this assertion.

The cited CHSRA language on freight operational impact does not constitute a mandatory CEQA standard. CEQA "standards" are established in the CEQA statute (which does not mention freight rail), in the CEQA guidelines (there is no mention of freight rail in the guidelines, including in Appendix G), and in legal court rulings. The CHSRA project-level EIR/EIS for the Merced-Fresno segment does not actually state that impacts to freight rail operations are direct environmental impacts under CEQA on page 3.2-365, 73, or 110 as asserted by the commenter. Instead, the CHSRA EIR/EIS concludes that since the project would have no conflicts with freight operations, there would be less than significant impacts under CEQA related to freight operations. The CHSRA EIR/EIS does not include any significance criteria that mention freight or the "transportation system". All the CHSRA EIR/EIS did was conclude that the CHSRA project would not affect freight operations; since it would not CHSRA was not under any further burden to analyze if there would be significant secondary environmental impacts, and could conclude that no significant impacts would occur in relation to potential changes in freight operations.

Thus, the assertion that the CHSRA EIR/EIS somehow establishes a CEQA precedent or standard that impacts to freight operations, separate from any other physical impacts to the environment, must be considered physical impacts on their own under CEQA is not supported. Moreover, under CEQA, the lead agency has the discretion to select its own significance criteria, provided the impact analysis is consistent with the CEQA statute and guidelines.

The commenter appears to want the JPB to identify two separate categories of impacts for every impact to freight: (1) a potential impact to freight operations; and (2) potential secondary impacts to the environment from potential impacts to freight operations. The first category, in isolation from the second, is an economic impact only. It may be inconvenient, or more costly to operate freight with project changes, but unless it results in a significant secondary impact such as air quality, GHG emissions, or noise resultant from the change in operations, this is only an economic impact to Union Pacific, freight handlers and their customers and is not also considered a potentially significant physical impact on the environment under CEQA.

The real-world impacts that the commenter is concerned about, as indicated in its comment letters are the impacts to vertical clearances, operational windows, and the use of MT-1. All of these impacts are discussed in Master Response 11 (Freight). As discussed therein, the project impacts to vertical clearances are less than significant (and the cumulative impacts can be mitigated to a less than significant level). The impacts to operational windows would also be less than significant due to the fact that there is no longer a need for temporal separation, and the JPB has decided to not electrify MT-1.

P5-5

The concern in this comment is now moot as the project description has been changed to no longer include temporal separation for the PCEP. Thus there should be no substantial project effect on freight operational windows and there is no need to consider potential secondary environmental effects or mitigation measures for this effect.

Regarding the blended service concept, as discussed in the Final EIR, it is not expected that temporal separation will be necessary, since HSR EMUs will need to meet FRA crashworthiness standards for much higher rates of speed. However, since blended service has yet to be specifically designed and there is no proposed schedule for blended service, the potential effects of blended service on freight operational windows will need to be addressed in the project-level analysis of any future specific blended service proposal.

P5-6

The vertical clearances were analyzed as part of the preparation of the Draft EIR and the specific existing vertical clearances and clearances with the project by constrained location have been added to the Final EIR in order to clarify and amplify the information in the Draft EIR. The project impact conclusion is still that existing freight equipment can continue to be used on the Caltrain Corridor. The cumulative impact conclusion is that south of the San Francisquito Bridge, freight equipment that could operate on the Caltrain corridor today (but has not recently) could operate with the proposed mitigation in the EIR. North of the San Francisquito Bridge, freight heights would be limited to approximately 19 feet in height from the bridge to Bay shore which would be approximately 1 foot less than possible today. Current freight equipment is less than 19 feet and the 1-foot limitation is not expected to result in diversion of freight to other modes nor result in any significant secondary environmental effects.

The addition of this data does not result in the identification of a new significant impact nor a substantially more severe significant impact.

P5-7 through P5-9

The CPUC does not currently have regulations for 25 kV OCSs for train operations. The current rule-making may be limited to exclusive HSR ROW only. If the rule-making is not expanded to consider non-exclusive ROW, then CPUC will have a separate rule-making for 25 kV OCS that would apply to the PCEP. The JPB will comply with the requirements of any applicable CPUC regulation. At this time, the JPB believes that the project clearances will receive ultimate CPUC approval. If that is not the case, the JPB will modify the project and complete any additional CEQA compliance, as and if necessary. The same would apply concerning any electromagnetic compatibility aspects that may be addressed through subsequent CPUC rule-making for 25 kV OCSs for train operations applicable to the PCEP.

P5-10 through P5-14

Please see Master Response 11 (Freight), and the prior response to Comment P5-6.

If the project design changes after certification of the EIR, such that the impact assumptions in the EIR are changed, then the JPB will conduct additional CEQA review, as appropriate.

P5-15

Please see Master Response 11 (Freight), and the prior response to Comment P5-6. Since the additional information provided in the Final EIR clarifies and confirms the Draft EIR conclusion of no project effect on existing freight equipment use of the Caltrain corridor, there is no need for additional mitigation.

P5-16

The JPB will work with Union Pacific and all other public and private landowners wherein OCS or ESZ encroachments are necessary based on final design. Maps of potential OCS and ESZ encroachments have been added to the Final EIR (see Appendix J) in addition to examples of the letters sent to public and private landowners to clarify potential locations of ROW encroachment. The ROW encroachment areas have also been revised due to a refined understanding of the OCS alignment and ESZ. The JPB also has overhead signals that it needs to maintain in the Caltrain Corridor like Union Pacific and expects to work with Union Pacific to ensure any necessary signaling can be maintained with the PCEP. The JPB will also work with Union Pacific and other public and private landowners during the easement acquisition process to ensure that vegetation management and maintenance access is conducted safely

P5-17

The PCEP modifications to the stations are limited to the installation of OCS poles and wires which will not change access to the stations or the platforms. As such, platform modification is not included in the PCEP and the project would not have an effect on freight operations due to platform modification.

The reference to ADA requirements is in Section 2.3.8, *Construction* and is clearly referring to the application of ADA requirements during construction. Since the project description in the EIR does not include any station or platform modifications except for OCS, there is no need to revise the EIR in response to this comment.

If the project is substantially revised, additional review under CEQA would be required, as appropriate. There is no need to add such a statement to the EIR as it is part of the CEQA statute.

The JPB may separately propose platform modifications that could trigger requirements of the ADA. If such a proposal is made, the JPB will comply with any CEQA requirements for separate platform or station improvements.

P5-18

Section 3.5 has been revised to delete reference to discussion of "higher" magnetic fields with direct currents and to clarify how EMF fields attenuate with distance for line fields. The statement that magnetic fields attenuate rapidly with distance is a factual statement. The fact that point sources attenuate even more rapidly than a line source does not mean that fields associated with a line source do not also attenuate rapidly with distance. For example, compared to the field strength at 10 feet from the OCS line, the field strength at 20 feet from the OCS line would be 50 percent of the 10-foot field strength and the field strength at 40 feet would be 25 percent of the 10-foot field strength.

The purpose of Table 3.5-1 is to give the general reader a general understanding of the different level of magnetic fields. The comment provides no evidence of any inaccuracy in the data shown in Table 3.5-1 and thus the table is unchanged.

P5-19

The original text was trying to relay to the reader the variables in EMF levels measured near a receptor which are a function of the current(magnetic) or voltage (electric) and the separation distance between the source line and the receptor (height and distance). Section 3.5 has been revised to more clearly describe the variables affecting magnetic and electric field strength sources per this comment.

P5-20

Section 3.5 has been revised to delete all reference to the TGV system and only use the NEC data as an operating real-world representative of potential EMF levels for the PCEP system.

Regarding the comment about the NEC using different catenary systems, this is correct. As explained in Master Response 11 (Freight), the NEC from Boston to New Haven uses a 25 kVA 60 Hz system which is the same power system proposed for the PCEP OCS. The NEC uses different power systems south of New Haven. The measurements in Table 3.5-6 are noted as being from the Boston to New Haven segment of the NEC. A note has been added to Table 3.5-6 to describe that this NEC segment utilizes a 25 kVA 60 Hz OCS like that proposed for the PCEP.

For all tracks that are to be electrified, all existing Coded DC track Circuits (Electrocode 4) will be converted to Electrified Electrocode (or equal) to be compatible with the 25 kV 60 Hz electrification.

In addition all steady energy DC circuits will be converted to steady energy AC circuits. This is the same type of equipment in use on the 25 kV 60 Hz portion of AMTRAK on the Northeast Corridor. Tracks that parallel in close proximity the electrified portion of the corridor but which are not electrified will receive the same treatment in order to mitigate any EMI related issues associated with induction from the electrification. These areas will also receive similar bonding and grounding treatments to protect the signal equipment.

P5-21, 22

The statement that there are no established federal or California regulatory standards for EMF/EMI is a true statement. As described in Master Response 11 (Freight), the PCEP will follow AREMA, IEEE and standards used by AMTRAK on the NEC for 25 kV 60 Hz electrification, and the EIR has been revised to note these.

Master Response 11 (Freight) provides evidence from the NEC experience that electrified rail and freight systems can share the same corridor without disruption of freight signaling system provided that the right controls are included in design, which is what Mitigation Measure EMF-2, as revised requires.

The EPRI 2006 reference is an informational compendium of information developed through joint projects over many years between EPRI, AAR, and AREMA. The PCEP design will be employing solutions that are presently in service on 25 kV 60 Hz railroads in the United States to address issues with the signal systems on Caltrain and UPRR tracks. These state of the art solutions are in service and operating with electric passenger trains sharing those same tracks with freight railroads and will form the basis of the design for the PCEP.

P5-23, 24

Please see Master Response 11 (Freight).

P5-25

As described in Master Response 11 (Freight), Caltrain has decided to exclude MT-1 from electrification in response to Union Pacific's request.

Regarding other potential impacts to signal equipment, please see Master Response 11 (Freight).

P5-26 through P5-31

Please see Master Response 11 (Freight).

P5-32

Mitigation Measure TRA-2 has been modified as requested by the commenter to require coordination with Union Pacific, require that Union Pacific's emergency access be maintained throughout construction, and specify performance standards for the railway disruption control plan in a similar level of detail as Mitigation Measure TRA-1, to provide assurance of less than significant impacts.

P5-33

As explained in Master Response 11 (Freight), the PCEP project description no longer presumes temporal separation will be required. As such, the project would not result in a substantial change in freight operational windows.

Regarding the issue of impacts to freight service being an impact under CEQA without any connection to secondary physical impact on the environment, please see the response to Comment P5-4.

P5-34

Regarding the issue of impacts to freight service being an impact under CEQA without any connection to secondary physical impact on the environment, please see the response to Comment P5-4.

As discussed in Master Response 11 (Freight), temporal separation is no longer part of the PCEP project description.

Regarding blended service, as discussed in the Final EIR, it is not expected that temporal separation will be necessary, since HSR EMUs will need to meet FRA crash worthiness standards for much higher rates of speed. However, since blended service has yet to be designed and there is no proposed schedule for blended service, the potential effects of blended service on freight operational windows will need to be addressed in any future project-level analysis of a specific blended service proposal.[45]

P5-35, 36

Since temporal separation is no longer presumed for either the PCEP or blended service, freight would not be limited to the midnight to 5 am period (or the 12:30 to 5 am period in the cumulative scenario). As such, it will be feasible to conduct track maintenance at night (as at present) while keeping one rail open for freight service (as at present).

P5-37

Please see Master Response 11 (Freight), which responds to the concerns in this comment.

P5-38

Please see Master Response 11 (Freight), which describes that the JPB has modified the project to exclude electrification of MT-1 as requested by Union Pacific.

P5-39

Please see Master Response 11 (Freight), which responds to the concerns in this comment.

[45] Prototypical Caltrain and HSR schedules were evaluated in the Caltrain Blended Service operational studies referenced in the EIR, but the HSR schedule used was only for modeling purposes and more service planning and design for HSR service needs to be done before sufficient detail will be available to do a project level environmental review.

P5-40

Please see Master Response 11 (Freight), which responds to the concerns in this comment.

P5-41

With temporal separation not included in the project description and no longer thought to be necessary for blended service, freight operations along the Caltrain Corridor at night will be able to meet the TRA requirements.

P5-42

Please see Master Response 11 (Freight), which responds to the concerns in this comment.

P5-43

The prior comments on the 2004 Draft EIR/EA are not comments on the 2014 Draft EIR. However, responses to the issues contained therein are provided below:

As described in the 2014 Draft EIR, the PCEP will not preclude the ability of Union Pacific to continue freight operations of the route and potential increase in freight service has been included in the cumulative analysis.

1. The AREMA guidance is not a regulatory standard; nevertheless AREMA is a professional guidance manual that will be consulted during design.
2. Please see prior responses to comments on vertical clearances. The project does not have any effect on lateral clearances.
3. Please see Master Response 11 (Freight) concerning signals and crossing warning systems.
4. Any replacement of equipment will comply with relevant regulatory requirements.
5. Freight signal/crossing system improvements are included in updated infrastructure cost estimate.
6. The JPB will coordinate with Union Pacific concerning freight signals and crossing system facility modifications.
7. The JPB will coordinate with Union Pacific during subsequent design of the PCEP.

P5-44

Please see Master Response 11 (Freight), and the prior response to Comment P5-6.

P5-45

The comment references assumptions about blended service in the work being done by CHSRA and Union Pacific in its ongoing coordination process, but does not provide any specifics. Without provision of such details, there is nothing to respond to and no need to modify the EIR.

The JPB has coordinated with CHSRA on blended operational evaluations to date and on the description of blended service in the PCEP cumulative analysis. As the coordination process is between CHSRA and Union Pacific and not with the JPB, it is the responsibility of CHSRA and Union pacific to inform the JPB of any proposed changes in the blended service description since the JPB owns the Caltrain Corridor and must approve any changes that may affect its rights within the corridor. Since the comment provides no such information, no further response is necessary.

P5-46

The cumulative analysis in the Draft EIR addresses all the necessary topics in this comment.

P5-47

Comment is noted, but does not concern the adequacy of the Draft EIR.

P5-48

Please see Master Response 11 (Freight).

P5-49

Please see prior response to Comment P5-8 and P5-9.

3.2.50 Responses to Comment Letter I1

I1-1

It is unclear what the commenter is suggesting. This comment does not appear to concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.51 Responses to Comment Letter I2

I2-1

Please see Master Response 9 (Bikes on Board).

3.2.52 Responses to Comment Letter I3

I3-1

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service.

The assertions that all rail travel is unsafe unless grade separated ignores the safety experience of passenger railroads across the United States and Europe. All transportation modes have associated accidents; the citation of isolated accident incidences is not proof that a particular transportation mode is unsafe. The PCEP and any future blended service would comply with all applicable CPUC and FRA safety regulations.

This comment does not include any specific comments on the EIR. No further response is necessary.

I3-2

Comment noted. The comment is speculative about the future of HSR. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

See Master Response 3 (Use of Proposition 1A Funding) regarding project funding and Master Response 1 (Segmentation and Independent Utility) regarding the separate environmental process for blended HSR service.

I3-3

Comment noted. The comment is speculative about unknown impacts of blended service and makes no comment on the adequacy of the EIR.

I3-4

Comment noted. See response to comment I3-2.

I3-5

Comment noted. See response to comment I3-1.

I3-6

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. See Master Response 3 (Use of Proposition 1A Funding).

I3-7

Comment noted. See Master Response 3 (Use of Proposition 1A Funding).

I3-8

Comment noted.

Grade crossing safety is managed in accordance with FRA and CPUC requirements. Rail vehicle crashworthiness is regulated by the FRA and all EMUs under the PCEP and HSR equipment for the high-speed rail project would comply with applicable FRA safety regulations.

The comments concerning the commenter's preference to not extend HSR is noted, but the PCEP EIR is not clearing HSR service, only Caltrain electrification.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.53 Responses to Comment Letter I4

I4-1

Please see Master Response 9 (Bikes on Board).

3.2.54 Responses to Comment Letter I5

I5-1

Please see Master Response 9 (Bikes on Board).

3.2.55 Responses to Comment Letter I6

I6-1

Refer to Table 2-5 in Chapter 2, *Project Description*, for a list of funding sources for the Project.

I6-2

Approximately 76 percent of the capital funding for the PCEP is from Proposition 1A funding.

The PCEP is a separate project from the HSR Project. See also Master Responses 1 and 3.

I6-3

The Project has independent utility and can proceed without implementation of HSR. See also Master Response 1 (Segmentation and Independent Utility).

I6-4

Refer to Table 2-5 in Chapter 2, *Project Description*, for a list of funding sources for the Project, including federal funding. Federal funding is expected to cover the rolling stock costs of the project.

3.2.56 Responses to Comment Letter I7

I7-1

The comment provides the author's calculations regarding power distribution lines, transforms, and power line resistance for 25 KV AC systems vs a VDC third rail system. The comment does not address the adequacy of the environmental analysis in the EIR in any way and thus requires no further response.

Regarding a third-rail alternative, Chapter 5, *Alternatives*, of the EIR considered third rail options (both a Caltrain third-rail alternative and extension of BART) and dismissed both third-rail options as financially infeasible due to substantially higher cost than the proposed electrification.

3.2.57 Responses to Comment Letter I8

I8-1

Please see Master Response 9 (Bikes on Board).

3.2.58 Responses to Comment Letter I9

I9-1

Please see Master Response 9 (Bikes on Board).

3.2.59 Responses to Comment Letter I10

I10-1

Please see Master Response 9 (Bikes on Board).

3.2.60 Responses to Comment Letter I11

I11-1

Comment noted. The commenter accurately summarizes the Project's purpose.

I11-2

A fully grade separated alternative was considered in Chapter 5, *Alternatives*. This alternative was considered to be financially infeasible. There are an estimated 42 remaining at-grade crossings on the Project corridor (after the San Bruno Grade Separation project). Grade separation costs are highly site-specific and thus can vary dramatically. No feasibility study has been done of every at-grade crossing. However, using the San Bruno grade separation costs ($147 million for three at-grade crossings for an average of $49 million each), if all 42 remaining at-grade crossing were grade separated, the additional cost could be $2 billion, which would more than double the project cost.

Furthermore, grade separations on their own will not increase or improve train service, increase ridership, improve air quality, reduce GHG emissions, improve Caltrain revenues, or lower Caltrain operating fuel costs. Thus, even if it were financially feasible, a program of grade separations would not meet the project objectives.

I11-3

Grade separations alone would not allow for increased train frequency. FRA regulations allow train speeds up to 125 mph with grade crossings provided tracks are upgraded to support proposed speeds and grade crossings have appropriate safety improvements. As the PCEP does not propose speeds higher than 79 mph, grade separations are not necessary to fulfill the service improvement goals of the project.

The EIR analyzes the effect of changes in gate-down time for the PCEP on localized traffic conditions and identifies feasible mitigation that can remove some but not all of the project impacts. The cumulative analysis discloses that blended service may exacerbate those impacts. The specific project-level impacts of blended service will need to be analyzed in the separate environmental process for blended service.

I11-4

Comment noted. See response to comment I11-2 and I11-3.

I11-5

The comment isn't simply talking about grade separating the 42 grade crossings. It is referring to an entirely grade separated system. Such a system was analyzed in Chapter 5 of the EIR as part of the third-track electrification alternatives. Such an alternative could cost anywhere from $5 to $9 billion compared to the $1.474 to 1.531 ~~1.225~~ billion cost of the PCEP. Even if the surface area over a buried system could be leased for several hundred million as asserted by the comment, this would not even come close to covering the difference in costs.

A fully grade separated system would greatly reduce train horn noise. However as presented in the Draft EIR, the PCEP would not result in significant noise impacts above FTA thresholds on its own. Cumulative noise impacts would however be significant without a comprehensive cumulative mitigation program.

Regarding the potential for accidents and suicide, the PCEP will not increase the potential for suicide nor accidents. The combination of PCEP EMUs and CBOSS should improve the ability to stop trains more quickly than current diesel locomotives which may help to reduce some accidents, but would not eliminate the potential for suicide. A fully grade-separate system would avoid possible car-train accidents but would not avoid the potential for suicide as access to the tracks will still be easily accessible at stations.

Caltrain has an ongoing commitment with the local communities to support efforts to prevent suicides along the Caltrain ROW. Caltrain has installed suicide prevention signs along the ROW with a hotline number to a local crisis intervention agency. Caltrain recently launched a special page on its website dedicated to suicide prevention information and outreach. The page, under the rail safety menu, includes a crisis hotline number and links to local, regional and national suicide prevention resources. A list of guidelines developed by mental health professionals that outline the most effective way media to cover suicide also will be available on the website. Caltrain transit police are trained in crisis intervention and provide referrals to treatment with people in danger of harming themselves on Caltrain's ROW. Caltrain will continue to work at providing information and partnering with the community to continue these efforts.

As to grade separated system, an elevated system would not necessarily avoid tree removal. A sub-grade system might be able to reduce tree removals substantially, but there could still be tree impacts during construction due to effects on tree roots from sub-grade work and/or restrictions on trees over the tunnel or buried trench.

Regarding loss of carbon sequestration due to tree removal, the project analysis included the CO2 emissions from tree removals in the analysis. As shown in Section 3.7, the GHG emissions from tree removals are quite small relatively to the avoided GHG emissions from the project overall and with tree replanting, the GHG emissions of tree removal will be recovered in time.

I11-6

Comment noted. The PCEP does not propose operations up to 125 mph.

FRA safety regulations allow for grade-crossing train operations up to 125 mph with the appropriate track and crossing improvements (short of full grade separation). At present, as described in Chapter 4 of the EIR, blended service operations are conceived as up to 110 mph, not 125 mph.

This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I11-7

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.61 Responses to Comment Letter I12

I12-1

See Master Response 2 (Alternatives).

The purpose of the PCEP is not to provide high-speed rail service, it is to provide improved commuter rail service. The proposed EMUs are similar to EMUs used for commuter rail service in Europe and Japan.

The Hyperloop is not a proven technology and is thus speculative.

I12-2

Comment noted. This comment does not substantiate the feasibility, funding, and practicality for the speculative "more ambitious proposal" and thus no further response can be provided.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.62 Responses to Comment Letter I13

I13-1

The Draft EIR disclosed potential ROW acquisition and easements for the project. The commenters concern about ROW encroachments is noted. All potentially affected properties owners were notified in early March during the Draft EIR review period. Maps of potential ROW encroachment are included in Appendix J in the Final EIR.

I13-2

Comment noted. The EIR acknowledges that the loss of trees would substantially affect the existing visual character or quality of the site and its surrounding during Proposed Project operation. Under CEQA, this impact would be significant and unavoidable even after mitigation for tree replacement (Mitigation Measure BIO-5).

See Master Response 6 (Visual Aesthetics including Tree Removal) and Master Response 8 (Train Noise).

The loss of tree canopy would not have a substantial effect on increasing train noise as explained in Master Response 8 (Train Noise). Electrification of the trains would not result in more dust during operation as noted in the comment in particular because electrification would result in substantially reduced diesel emissions as explained in Master Response 7 (Air Quality and Greenhouse Gas Emissions).

I13-3

See responses to comments I13-1 and I13-2 and Master Response 6 (Visual Aesthetics including Tree Removal).

I13-4

The reference to "self-propelled trains" is unclear what the commenter is referring to, but the EIR analyzed several non-electrification alternatives including diesel multiple units and dual-mode multiple units.

Also please see Master Response 2 (Alternatives).

3.2.63 Responses to Comment Letter I14

I14-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please also see Master Response 9 (Bikes on Board). The Caltrain Bicycle Access and Parking Plan includes recommendation to increase overall bicycle parking supply as funding becomes available.

3.2.64 Responses to Comment Letter I15

I15-1

Comment noted. Please refer to responses to comments I15-2 through I15-19.

I15-2

See Master Responses 1 (Segmentation and Independent Utility) and 3 (use of Proposition 1A Funding).

I15-3

Comment noted. See responses to UPRR letter (comment letter P5) and Master Response 11 (Freight).

I15-4

Comment noted. See responses to UPRR letter (comment letter P5). The PCEP is not proposing HSR service or HSR use. The PCEP is proposing Caltrain electrified service.

Regarding the comment about EIR certification, there is no requirement under CEQA that a project have all approvals in hand prior to certification. In fact, many approvals, such as California environmental permits, cannot be obtained until after an EIR is certified. In any case, this comment is about HSR, not about the PCEP, and thus no further response is necessary.

I15-5 through I15-7

See discussion of the Trackage Rights Agreement issues in Master Response 11 (Freight) and also see responses to UPRR letter (comment letter P5).

I15-8

See Master Responses 3 (Use of Proposition 1A Funding) and 11 (Freight).

I15-9

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. See also Master Response 11 (Freight).

I15-10

The comment addresses legal compliance with Proposition 1A. Because this comment does not address “significant environmental issues” it requires no response.

Nevertheless, the commenter is incorrect about headways. For purposes of Caltrain’s process, headway is defined on page 3.14-6 of the Draft EIR as the time between arrivals of trains moving in the same direction at a station. Based on simulations performed by LTK (LTK 2012, Caltrain/California HSR Blended Operations Analysis) with the Caltrain advanced signal system (CBOSS PTC or CBOSS) it was determined that the minimum supportable headway would decrease from approximately six minutes (realized under the current wayside signal system) to just over three minutes.

I15-11

The comment addresses legal compliance with Proposition 1A. Because this comment does not address “significant environmental issues” it requires no response. Nonetheless, Caltrain understands that a “blended system,” as generally described in Section 4.1 of the EIR, is anticipated to be capable of meeting Proposition 1A for San Francisco-San Jose travel time based on a 02/11/13 Memorandum from Frank Vacca to Jeff Morales re: Phase 1 Blended Travel Time and on other factors. The blended system has not at this time been designed, but will be part of future work by the CHSRA.

I15-12

See Master Response 11 (Freight) and also see responses to UPRR comment letter (comment letter P5).

I15-13

Please refer to Master Response 11 (Freight) which responds to the signaling issues raised in this comment.

I15-14

The PCEP project description explains that this project is intended to provide Caltrain electrified service from San Jose to San Francisco 4th and King Station. Proposition 1A has no requirements for Caltrain service; it only concerns high-speed rail service. The separate Downtown Extension (DTX) Project is intended to extend Caltrain service to the Transbay Transit Center as well as high-speed rail. Based on current funding constraints, the DTX will be completed sometime after 2020.

I15-15

See Master Response 2 (Alternatives).

I15-16

See Master Response 3 (Use of Proposition 1A Funding).

I15-17

See Master Response 3 (Use of Proposition 1A Funding).

I15-18

The comment addresses legal compliance with SB 1029, the Budget Act of 2012, and Proposition 1A, the Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century. Because this comment does not address "significant environmental issues" it does not require any response under CEQA.

It should be noted that SB 1029 funds have not yet been encumbered for the electrification project. CHSRA will comply with all requirements of SB 1029 for any funds encumbered to support the electrification project as applicable.

Regarding Prop 1A funds potentially not being available for the PCEP, please see Master Response 3 (Use of Proposition 1A Funding).

I15-19

As prescribed in Mitigation Measure BIO-5, if on-site tree replacement cannot occur on the Caltrain ROW or on adjacent property, then tree replacement may occur on other parts of the affected property or other parts of the local area, with concurrence of the local municipality.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal), concerning visual aesthetics of the OCS, Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning the air quality effect of tree removal, and Master Response 8 (Train Noise) concerning the noise effects of tree removal.

3.2.65 Responses to Comment Letter I16

I16-1

Please see Master Response 9 (Bikes on Board).

3.2.66 Responses to Comment Letter I17

I17-1

Please see Master Response 9 (Bikes on Board).

3.2.67 Responses to Comment Letter I18

I18-1

Please see Master Response 9 (Bikes on Board).

3.2.68 Responses to Comment Letter I19

I19-1

Section 3.6 of the EIR discusses potential risk related to earthquakes and ground shaking including liquefaction. Mitigation Measure GEO-1 requires geotechnical study and implementation of geotechnical recommendations as necessary to address these potential risks.

In the event of downed wires, the system is designed to protect employees and the public from voltages caused by faults (i.e., energized wires coming into contact with earth/ground) and to remove power in the affected area. When energized wires come into contact with the earth there is arcing and the earth potential is raised. In the unlikely probability the protection devices fail to detect abnormalities, there is potential for fire and other damage. This probability is very small and consistent with what one would expect from overhead electrical distribution lines already in service in the area. This information has been added to Section 3.14, under Impact TRA-2c.

I19-2

The system would be resilient in facing rain or hail and will be designed withstand predicted winds in the area. Regarding lightning, lightening can cause a fault in the OCS or the TPFs similar to how it can affect power lines or power substations already along the system. As noted in the prior response, the system is designed to address potential faults and system protection devices exist to shut down the power in the event of those faults. This information has been added to Section 3.14, under Impact TRA-2c.

I19-3

The wires need to be overhead in order for the train to pull power from them. Underground wires cannot supply power to EMUs.

3.2.69 Responses to Comment Letter I20

I20-1

Please see Master Response 9 (Bikes on Board).

3.2.70 Responses to Comment Letter I21

I21-1

The comment advocates a regional modernization plan instead of a Caltrain modernization plan and is noted

This comment is non-specific and makes no specific comment on the adequacy of the PCEP EIR.

As explained in the Draft EIR and other Caltrain system planning documents, electrification of the Caltrain Corridor has been in planning for nearly two decades and has been integrating into the Regional Transportation Plans adopted by MTC. The RTPs are the region's effort at integrated regional transportation planning. The latest RTP, Plan Bay Area, specifically calls for the PCEP in terms of electrification and increased Caltrain service. Thus, the PCEP is consistent with regional transportation planning.

The commenter is unclear about exactly what the commenter would proposed as a "regional modernization plan" instead of the PCEP, HSR, DTX and other regional transportation plans. Since this comment is non-specific, no further response can be provided.

I21-2

This comment is also non-specific in not describing what technology advances the commenter would propose instead of electrification or HSR. The comment's assertion about electrifying the entire regional system is highly speculative. There are already extensive electrified rail systems, including BART and the SF Muni Metro and VTA light-rail systems but there is no current proposals to electrify SMART, Capitol Corridor, Amtrak or ACE systems at present. It is not a project objective to complete a regional electrification project and thus this comment is beyond the scope of the PCEP and is better suited to a comment on the next RTP.

Regarding alternatives to the PCEP, please see Master Response 2 (Alternatives).

I21-3

Since there is no proposal to electrify the entire Bay Area rail system, the assertion that electricity demand would overwhelm the generation system is a straw-man argument not relevant to the RTP or the PCEP. The PCEP Draft EIR concludes that there is adequate electricity supply for the project in consultation with PG&E which is the relevant determination for the project at hand.

As to vulnerability concerns, if power is interrupted, electrified systems will shut down. However, electrified rail systems have operated in the Bay Area safely for decades, including during major regional disasters, such as the 1989 Loma Prieta earthquake, but services were restored following power restoration. Moreover, the specific design of the PCEP includes a switching station at the mid-point so that if power is shut down to one part of the system, the other part of the system can continue to operate.

I21-4

Please see Master Response 1 which addresses the issues raised in this comment.

I21-5

Please see Master Response1 which addresses the issues raised in this comment.

I21-6

Please see Master Response1 which addresses the issues raised in this comment concerning CEQA segmentation.

Please see Master Response 2 (Alternatives). As explained therein, two non-electrification alternatives (the DMU Alternative and the Dual-Mode MU Alternative) were analyzed in the Draft EIR. A third similar diesel-based non-electrification alternative (the Tier 4 Diesel Locomotive Alternative) was added to the Final EIR per commenter request.

I21-7

Please see Master Response1 which addresses the issues raised in this comment concerning CEQA segmentation.

I21-8

Blended service is proposed by CHSRA in its 2014 Business Plan. Thus CEQA mandates that it be considered in the cumulative analysis for the PCEP EIR.

The PCEP EIR has analyzed a reasonable range of alternatives including non-electrification alternatives. This comment is non-specific about what "new technological solutions" it is referring to and thus no further response can be provided. Regarding alternatives, please see Master Response 2 (Alternatives).

I21-9

Union Pacific holds the intercity passenger rights. The JPB owns the rights to commuter passenger rail service. Regarding the Trackage Rights Agreement, please refer to Master Response 11 (Freight) which addresses this issue. As described therein, the TRA is not considered an impediment to implementation of the PCEP. The comment is speculative about what impacts might occur for an agreement that has not been completed. CEQA does not require analysis based on speculation.

I21-10

Please see Master Response 11 (Freight). As explained in the Draft EIR and the Master Response, the PCEP is not expected to affect existing freight operations and is expected to allow for future expansion of freight operations. As explained in Master Response 11 (Freight), the JPB has rights under the TRA that will allow the PCEP to be implemented.

I21-11 through I21-14

Please see Master Response 11 (Freight) that addresses EMI issues and freight.

I21-15

The project does not include HSR service. The project only provides for Caltrain service.

The Draft EIR does analyze other alternatives to electrification in Chapter 4 of the EIR. While ridership analysis has not been done for the alternatives, the Draft EIR's assessment that alternatives with slower acceleration times or that cannot reach the TTC in downtown San Francisco would result in somewhat less ridership is a fair assumption.

The Air Quality and GHG analysis of the alternatives has been revised to include a sensitivity analysis that assumes that the non-electrification alternatives (other than the No Project Alternative) would result in the same ridership and the same VMT reduction as the PCEP and the results are that the PCEP would still have notably lower Air Quality and GHG emissions than the non-electrification alternatives. This is the only analysis in Chapter 5, *Alternatives* that used a lower ridership assumption in a quantitative way.

As to trees, the comment is incorrect that the Draft EIR does not analyze how many trees would be saved by not electrifying. The Draft EIR concludes that no trees would be removed by the non-electrification alternatives and no clear space would be required, and this is clearly disclosed.

As to maintenance, the non-electrification alternatives would include the same number of daily trains as the Proposed Project, but would utilize somewhat heavier rail equipment than the EMUs and thus the alternatives would not reduce track maintenance, but may increase track maintenance compared to the PCEP.

As to aesthetics, Chapter 5 is clear that the non-electrification alternatives would avoid any tree removal and any new overhead poles and wires or TPF facilities, so they would have virtually no aesthetic impact. The DMU Alternative may require some platform extensions (in a single-level DMU scenario) but the Draft EIR does not identify this as a significant aesthetic impact.

As discussed in Chapter 5, none of the alternatives would result in improved air quality compared to the Proposed Project when including all project and alternative sources of emissions, especially in the long run. Also see Master Response 7 (Air Quality and Greenhouse Gas Emissions).

I21-16

See Master Response 1 (Segmentation and Independent Utility)

I21-17

See Master Response 2 (Alternatives) and responses to prior comments above.

I21-18

See responses to comments I21-9 through I21-14.

I21-19

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please also see Master Response 1 (Segmentation and Independent Utility).

3.2.71 Responses to Comment Letter I22

I22-1

As describe in Chapter 2 of the Draft EIR (See Figure 2-26), the final design of the system, advance utility relocations, right of way acquisition will take 1 – 2 years (2015 – 2016), construction will take 4 years (2016 – 2019) and testing and commissioning take approximately 1-2 years months (2019 - 2020).

I22-2

The original $1.5 billion project cost was for the entire Caltrain Modernization Program which includes the advance signal CBOSS PTC project, Caltrain Electrification and EMU procurement. Caltrain just recently completed capital cost estimate update for the program and the total updated cost for Electrification component described in the Draft EIR is $950 to $958 million, and the EMU procurement component is $524 to $573 million.

The updated bottom-up cost estimate for the electrification component was performed by reviewing design documentation, performing site visits and obtaining cost data from similar projects in the US. The updated cost estimate direct cost is built upon:

- direct manufacturer quotes and/or previous contractor quotations for similar material and services;
- labor unit productivity from similar electrification projects with Amtrak, New Jersey Transit and Metro-North RR;
- similar lost time factor given the nature of the work to Northeast Corridor electrification project which is 25kV electrification system on an existing operating railroad; and
- 2014 Caltrain prevailing wage rates and local labor crew rate for the public works.

The update electrification element cost estimate also includes Caltrain operator support, environmental mitigation measures, additional ROW takes, public utility relocations, contingency and labor material escalation.

The vehicle component of the cost estimate is based on 96 EMUs (operating in 6-car consists) with first train set to be delivered in fall of 2018. The EMU cost estimate is developed by performing examination of recent European EMU procurements, direct comparison of manufacturing cost for next compatible EMUs, current exchange rates, supplier and car builder production capabilities. The cost estimate includes the consideration for the Buy America and FRA compliance impacts.

The vehicle component of the cost estimate also includes a mock-up, on-board CBOSS PTC equipment, spare parts and special tools, contingency, and labor and material escalation.

I22-3

The Project is the electrification of the existing Caltrain corridor. The Project does not include the construction or installation of any additional tracks, nor does it preclude these elements. If HSR requires passing tracks, these will be evaluated under a separate environmental review. See also Master Response 1 (Segmentation and Independent Utility).

I22-4

The PCEP is proposing up to 6 trains per peak hour per direction. The rolling stock included in the project funding is sufficient to support this level of service but not a higher level of service. Thus, the EIR appropriately studies this level of service for 2020.

Under CEQA, there is no obligation to maximize Caltrain service levels or to maximize potential environmental benefits. A project proponent (in this case, the JPB) can choose what actions to propose. Under CEQA, there is no requirement to analyze alternative unless they would avoid or substantially reduce significant adverse effects of the Proposed Project. In Chapter 5, *Alternatives*, of the Draft EIR, Alternative S3 – 8 trains per peak hour per direction was considered. While feasible, such an alternative would not avoid any significant project-level impacts (such as tree removal or localized traffic effects) and thus was not carried forth for further analysis.

I22-5

The comment regarding not adding stops to the Baby Bullets is noted.

The service schedule included in the Draft EIR is only a prototypical schedule. Actual scheduling will be done closer to 2020 at which point the performance characteristics of the selected EMUs will be known more precisely and the passenger characteristics for 2020 can be more precisely considered.

While the transit times in the prototypical schedule for the limited trains may be slightly more (a few minutes) than today's Baby Bullets, the offsetting factor is that there will be more trains stopping at more locations throughout the schedule (including an increase in peak and off-peak service at the current Baby Bullet stations), increasing convenience for riders on their overall transit time.

A schedule example can demonstrate this point. Today's Train #319, a Baby Bullet, leaves San Jose Diridon station at 7:03 a.m. and arrives at San Francisco 4th and King Station at 8:02 a.m. with 5 stops in between and a transit time of 59 minutes. The prototypical 2040 schedule in Appendix I of the Draft EIR, shows PCEP Train #416 leaving San Jose Diridon station at 7:00 a.m. and arriving at San Francisco 4th and King Station at 8:04 a.m. with 11 stops in between and a transit time of 64 minutes.

Although no Baby Bullets are shown included in the prototypical schedule in Appendix I, this does not mean that there can't be any Baby Bullets operated in 2040, but the ridership analysis presumed a mix of skip stop and local operations between San Jose and San Francisco in the "all-EMU" 2040 scenario

I22-6

As noted above, the prototypical schedule is not the actual proposed schedule. The commenter's preference for more trains overall including mid-day, evening, and extended service hours is noted. However, none of these proposals would lower any adverse environmental impacts of the proposed project and thus CEQA does not require analysis of them as an alternative.

I22-7

Caltrain is not proposing excessive tree removal but planning for prudent safety clearances to avoid potential fires and/or electrocution. The CPUC has no current standards for 25 kVA systems for rail electrification but the PCEP planning to date would be consistent with the draft General Order for 25 kVA systems for high-speed rail and generally consistent with vegetation clearances provided on other electrified rail systems in the U.S., like the Northeast Corridor.

As prescribed in Mitigation Measure BIO-5, if on-site tree replacement cannot occur on the Caltrain ROW or on adjacent property, then tree replacement will occur on other parts of the affected property or other parts of the local area, with concurrence of the local municipality. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

3.2.72 Responses to Comment Letter I23

I23-1

Comment noted. All potential impacts of the Project were evaluated in their respective sections of the EIR (refer to Volume I of this Final EIR) including biological resources.

3.2.73 Responses to Comment Letter I24

I24-1 through I24-2

This comment provides no evidence or argument as to why the ridership numbers are questionable. As explained in the Draft EIR, the ridership to TTC is based on an assumption of 2 trains per peak hour to TTC which is based on completed operational studies conducted by Caltrain. For more on the TTC ridership, please see Master Response 4 (Ridership and Capacity). As explained in Master Response 5 (Ridership and Capacity), the EIR has been revised to note the potential TTC station ridership with up to 6 Caltrain trains based on prior TJPA ridership analysis.

The VTA model described in Appendix I takes many factors into account when calculating future ridership – including frequency of service, service at neighboring stations, existing and planned transit network, and transfer opportunities. The VTA travel demand model was validated to Existing Conditions and used appropriate Association of Bay Area Governments (ABAG) socioeconomic forecasts. Overall the model results show that boardings in downtown San Francisco (including both the 4th and King and Transbay Transit Center (TTC) stations) would increase by about 7,000 daily boardings between 2040 No Project and 2040 Project + TTC conditions (total of 23,056 combined boardings). Daily boardings in downtown San Jose (Diridon Station) increase by about 4,000 daily boardings (total of 10,994 boardings). Therefore, the net increase in boardings with the Project is greater in downtown San Francisco than in downtown San Jose.

Since in the 2040 Project scenario, more trains would be traveling to the 4th and King Station than the Transbay Transit Center, projected ridership at the 4th and King Station is higher than at the TTC Station (see the prototypical 2040 schedule in Appendix I which notes the total number of trains at Diridon, 4th and King and TTC). Additionally, all trains would travel to or from Diridon Station, which partially accounts for the higher projected ridership at the Diridon Station than at the TTC Station. It is important to note that the prototypical schedule was developed as part of the PCEP EIR analysis. In coming years, Caltrain would engage in a robust public outreach process to help determine the schedule that best balances the demands of more frequency with faster trip times. As acknowledged in Master Response 4 (Ridership and Capacity) if more trains ultimately serve TTC, then station ridership at TTC will be higher.

I24-3 through I24-7

The ridership analysis done for the PCEP is aware, and took into account DTX and TTC. One of the key drivers in Caltrain station ridership at TTC in the analysis done for the PCEP EIR is the number of Caltrain trains serving TTC. The commenter's numbers do not appear to be constrained by the amount of Caltrain service to TTC. The shifting of riders from Fourth and King to TTC would not change system ridership overall by itself; only new riders would do that.

See Master Response 4 (Ridership and Capacity) which explains the rationale for the analysis of ridership to the TTC with the DTX and that the Final EIR was revised to note the potential for higher ridership at the TTC with higher levels of Caltrain service.

Moreover, the PCEP project limit is the Fourth and King Station and the PCEP will not provide access to the DTX. The primary purpose of the PCEP EIR is to disclose the project-level environmental impacts of the PCEP, not the environmental impacts of the DTX or the TTC. However, the cumulative analysis in the PCEP EIR adequately discloses cumulative impacts, at a general level, including the DTX and the TTC.

The TJPA 2004 EIR/EIS (as amended and supplemented) is the project-level environmental clearance for the DTX and the TTC.

3.2.74 Responses to Comment Letter I25

I25-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.75 Responses to Comment Letter I26

I26-1

Please see Master Responses 6, 7, and 8 concerning aesthetics/trees, air quality and noise, respectively.

As described under Impact TRA-3a, there would be temporary impacts on pedestrian facilities at locations where sidewalks or paths require temporary closure to facilitate construction activities. Implementation of Mitigation Measure TRA-1a, Implement Construction Traffic Control Plan, requires the provision of safety measures for bicyclists and pedestrian to transit through construction zones safely and would limit sidewalk and pedestrian walkway closures to one location within each vicinity at a time. While they could be slightly and temporarily detoured, students would still be able to safely walk or bicycle to school during construction.

After construction, the project would have no effect on children's access to schools.

I26-2

Comment noted. The noise analysis for the EIR follows standard methodological guidelines established by the Federal Transit Administration. The noise model includes the following: train horn noise, noise from the wheel/rail interaction, locomotive engine or propulsion noise and aerodynamic effects. The latter include noise at the train noise, around the wheels and at the pantograph (catenary). The noise analysis takes into consideration several factors, including the noise from a mixed fleet of EMU and diesel locomotives, the increased number of trains, including specifically during the peak hour and the cumulative case with future high speed trains in operation and 100 percent EMU fleet for Caltrain. As listed in Table 3.11-15, the net change is a decrease in noise at most locations with the project but at some locations the increase in train horn soundings offsets the project reductions and the project would result in modest increases that are below the FTA moderate impact threshold.

Construction noise is analyzed in the Draft EIR and mitigation is identified for construction period effects.

See Master Response 8 (Train Noise) for more details.

I26-3

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service.

See also Master Response 1 (Segmentation and Independent Utility).

I26-4

Comment noted. The EIR acknowledges that the loss of trees would affect the existing visual character along the ROW and its surrounding during Proposed Project operation. Under CEQA, this impact would be significant and unavoidable even after mitigation for tree replacement (Mitigation Measure BIO-5).

As explained in Master Response 8 (Train Noise), the loss of tree canopy would not have a substantial effect on increasing train noise due to removal of trees. As explained in Master Response 7 (Air Quality and Greenhouse Gas Emissions), electrification of the trains would not result in more dust during operation as asserted in the comment.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I26-5

It not entirely clear that the commenter is referring to as a “self-propelled electric train car”

Please refer to Chapter 5, *Alternatives*, which did consider two alternatives with electric trains without overhead wires: Alternative T4 (Caltrain Third-Rail Alternative) and Alternative T5 (Extend BART from Millbrae to Santa Clara). Both alternatives were dismissed from further consideration due to costs 4 to 7 times more than the Proposed Project.

Please also see Master Response 2 (Alternatives).

If the commenter was referring to fuel cell or battery-driven trains, these are experimental technologies for commuter rail applications and are thus speculative.

Since the comment does not describe what a "self-propelled electric train car" is in greater detail, no further response can be provided.

I26-6

See Master Response 2 (Alternatives).

I26-7

Please see Master Response 10 (Traffic Analysis).

I26-8

Please see Master Response 10 (Traffic Analysis) regarding grade separations.

I26-9

Caltrain would not be electrified between San Jose (south of Tamien) and Gilroy. This track right-of-way is owned by Union Pacific, and not by Caltrain.

In the 2020 Project scenario, as stated in Section 3.2.2.1 in Appendix D to the Final EIR, diesel service would continue between Gilroy and San Francisco, but electrified service would operate between San Jose and San Francisco along with some diesel service.

In the 2040 Project scenario, as stated in Section 3.4.2 of Appendix D, diesel trains between San Jose and Gilroy would operate as a shuttle. Passengers would then need to change trains at the Tamien Station or the Diridon Station to continue northbound to San Francisco or southbound to Gilroy.

I26-10

Comment noted.

3.2.76 Responses to Comment Letter I27

I27-1

The PCEP will not increase maximum train speeds compared to today's diesel locomotive fleet. The top speed will be 79 mph, which is the same as today.

As described in the Draft EIR on page 3.14-56, the proposed EMUs can decelerate faster than current Caltrain diesel locomotives, which can help to improve safety because in the event of an emergency, the EMUs would be able to stop in a shorter distance than diesel locomotives. The CBOSS PTC project, which will be completed in 2015, will also increase safety by reducing the risk of train to train collisions as well as improving communications, and at-grade crossing warning functions. Even though the number of trains would increase by approximately 20 percent, given the increased performance and control with the new EMUs and the safety benefit of CBOSS PTC there should not be an increased risk of collision with vehicles, pedestrians, and bicycles compared with the existing conditions or compared with the 2020 No Project scenario.

I27-2, 3

See Master Response 2 (Alternatives). A BART alternative was analyzed in Chapter 5 of the Draft EIR and rejected as infeasible based on cost.

3.2.77 Responses to Comment Letter I28

I28-1

Please see Master Response 9 (Bikes on Board).

3.2.78 Responses to Comment Letter I29

I29-1

Please see Master Response 9 (Bikes on Board).

3.2.79 Responses to Comment Letter I30

I30-1

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service, including potential grade separation, will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service.

See also Master Response 1 (Segmentation and Independent Utility).

3.2.80 Responses to Comment Letter I31

I31-1

Please see Master Response 9 (Bikes on Board). The commenter asserts that bike lockers and rental bikes do not work but does not provide an explanation as to why.

I31-2

Please see Master Response 9 (Bikes on Board).

I31-3

Comment noted. This comment does not concern the adequacy of the EIR. Please also see Master Response 9 (Bikes on Board).

I31-4

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

As explained the Draft EIR explains clearly that the PCEP would increase ridership.

I31-5

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

See also Master Response 9 (Bikes on Board).

Caltrain accommodates bikes on boards, supports bike improvements at stations, offers a bicycle access program and regularly meets to discuss bike issues with the Bicycle Advisory Committee (BAC). The BAC is comprised of nine volunteer community members and Caltrain staff meets monthly to discuss the interests and perspectives of bicyclists for integration into the Caltrain planning process (San Mateo County Transit District, "Bicycle Advisory" 2013).

Additionally, Caltrain has a Bicycle Parking and Access Plan[46] that identifies a number of improvements to improve bicycle access to its stations.

I31-6

Caltrain supports transit-oriented development. Caltrain works with local communities to help facilitate TOD near Caltrain stations and ROW including, for example, the transit village in San Carlos.

3.2.81 Responses to Comment Letter I32

I32-1

Please see Master Response 9 (Bikes on Board).

3.2.82 Responses to Comment Letter I33

I33-1

Please see Master Response 9 (Bikes on Board).

I33-2

Please see Master Response 9 (Bikes on Board). Comment stating the existing deficiencies in parking and last mile access to the stations is noted.

I33-3

Please see Master Response 9 (Bikes on Board). Comment in support of more bikes on board is noted.

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[46] "Caltrain Bicycle Access and Parking Plan." Caltrain, 2008. <http://www.caltrain.com/Assets/_Planning/pdf/bike+access/Bike+Plan+Draft.pdf>

I33-4

Please see Master Response 9 (Bikes on Board).

Comment highlighting the deficiencies in existing bike facilities at stations is noted. Mitigation Measure TRA-4b requires the JPB continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available following guidance in Caltrain's Bicycle Access and Parking Plan. Specific improvements will be informed by the Caltrain's Bicycle Access and Parking Plan according to needs of the riders at various locations.

I33-5

Please see Master Response 9 (Bikes on Board). Caltrain will continue to work with bike share programs to expand them where feasible.

I33-6

Please see Master Response 9 (Bikes on Board). Comment in support of more bikes on board is noted.

3.2.83 Responses to Comment Letter I34

I34-1

The commenter incorrectly states that bikes will not be allowed on board the new trains. Caltrain will continue the bikes on board program with the PCEP.

Please see Master Response 9 (Bikes on Board).

3.2.84 Responses to Comment Letter I35

I35-1

Comment in support of the project is noted. No revisions to the Draft EIR are necessary.

I35-2

Comment in support of the project is noted. No revisions to the Draft EIR are necessary.

I35-3

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Caltrain is an existing commuter train. There are existing shuttles and bike share programs located at several of the Caltrain Stations to help passengers get to their final destinations.

I35-4

Comment regarding adding express shuttles to Caltrain and BART stations is noted. Caltrain is an existing commuter train and SFMTA, SamTrans, VTA, and local cities and employers work together to provide the last-mile connection to Caltrain passengers' final destinations. The comment does not raise an environmental concern related to the Proposed Project.

I35-5

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.85 Responses to Comment Letter I36

I36-1

Please see Master Response 9 (Bikes on Board).

3.2.86 Responses to Comment Letter I37

I37-1

Please see Master Response 9 (Bikes on Board).

3.2.87 Responses to Comment Letter I38

I38-1

The Draft EIR analyzed potential impacts along the entire 52-mile Project corridor from San Francisco to San Jose, including North Fair Oaks. Please see response to the specific comments below.

I38-2

Regarding trees, please refer to the PCEP OCS/ESZ/Tree Impact Maps (Appendix J) which detail which trees fall within the ESZ and parcel lines.

I38-3

OCS poles and catenary structures will largely be within the existing ROW.

Regarding the placement of infrastructure on private property, the PCEP OCS/ESZ/Tree Impact Maps (see Appendix J) show the proposed location of the OCS poles (in a worst-case arrangement), the ESZ, the Caltrain ROW, and parcel lines. Within the North Fair Oaks Community, there is no proposal to place any project structures on private property.

I38-4

As described in Section 3.1, *Aesthetics*, in the Draft EIR (page 3.1-11, lines 28-35), Switching Station 1 (SWS1) would be located in an industrial area of North Fair Oaks. While residential areas along Westmoreland Avenue, south of the corridor, would have views of SWS1 across the Caltrain tracks, the new switching station would not substantially change the commercial/industrial character of the existing view of an industrial site. The Project would not impact the existing fence along Westmoreland Avenue.

Regarding the statement that there would be more diesel freight trains shuttling in this area, that is not related to the Proposed Project. The project would substantially reduce the number of Caltrain diesel trains operating on the corridor including through the North Fair Oaks Community area but would not affect freight operations in the area.

I38-5

As discussed in Section 3.11, *Noise and Vibration* impacts and potential mitigation are evaluated for the entire route, including the North Fair Oaks community. Study Location 29 is in the North Fair Oaks community.

See also Master Response 8 (Train Noise).

3.2.88 Responses to Comment Letter I39

I39-1

Please see Master Response 9 (Bikes on Board).

3.2.89 Responses to Comment Letter I40

I40-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I40-2

Comment supporting the current baby bullet service is noted.

In 2020, as shown in the prototypical schedule in Draft EIR Appendix I, Caltrain could run a mix of Baby Bullets, limited and locals with the mixed fleet. There is no limitation on using Baby Bullets in 2020.

In 2040, while the transit times in the prototypical schedule for the limited trains may be slightly more (a few minutes) than today's Baby Bullets, the offsetting factor is that there will be more trains stopping at more locations throughout the schedule, increasing convenience for riders on their overall transit time.

A schedule example can demonstrate this point. Today's Train #319, a Baby Bullet, leaves San Jose Diridon station at 7:03 a.m. and arrives at San Francisco 4th and King Station at 8:02 a.m. with 5 stops in between and a transit time of 59 minutes. The prototypical 2040 schedule in Appendix I of the Draft EIR, shows PCEP Train #416 leaving San Jose Diridon station at 7:00 a.m. and arriving at San Francisco 4th and King Station at 8:04 a.m. with 11 stops in between and a transit time of 64 minutes.

The prototypical schedule is not the actual proposed schedule, but it demonstrates that it is feasible to provide a schedule with increased service and stops while maintaining transit times overall without Caltrain trains overtaking other Caltrain trains. Thus, the potential shift from today's mix of Baby Bullets, limited and locals with diesel locomotives to limited and local trains with EMUs without Baby Bullets in 2040 is expected to support the projected 2040 ridership.

Although there are no Baby Bullets shown included in the prototypical schedule in Appendix I, this does not mean that there can't be any Baby Bullets operated in 2040, but the ridership analysis presumed a mix of skip stop and local operations between San Jose and San Francisco in the "all-EMU" 2040 scenario

3.2.90 Responses to Comment Letter I41

I41-1

Please see Master Response 9 (Bikes on Board).

3.2.91 Responses to Comment Letter I42

I42-1

As explained in Section 3.11, *Noise and Vibration*, the project would not result in any significant noise impacts above the FTA threshold criteria along the JPB ROW and thus no project level noise mitigation is required for train noise.

As stated in Master Response 8 (Train Noise), Section 4.1, *Cumulative Impacts*, of the Draft EIR, states that soundwalls are not considered a feasible mitigation to address horn noise because train horns are elevated and thus soundwalls would have to be as high as or higher than the locomotives themselves to be effective at shielding train horn noise. In addition, soundwalls could require ROW and vegetation removal in some locations and have aesthetic impacts of their own. Along the Caltrain corridor, such high walls may not likely be acceptable to local communities. Soundwalls cannot be placed at the at-grade crossing which also reduces their effectiveness for horn noise reduction. While lower soundwalls would help to reduce engine and wheel noise for adjacent receptors, lower soundwalls are not considered cost-effective given that they would only be partially effective at addressing train noise and would not address train horn noise which is the dominant concern.

3.2.92 Responses to Comment Letter I43

I43-1

Please see Master Response 9 (Bikes on Board).

3.2.93 Responses to Comment Letter I44

I44-1

The discussion of noise impacts in the EIR follows the Federal Transit Administration (FTA) guidelines in analyzing and presenting noise impacts. This is an adequate approach to disclosure of impacts.

While the commenter's interest in a noise simulation is noted, it is not necessary for an adequate disclosure of impacts under CEQA.

3.2.94 Responses to Comment Letter I45

I45-1

Please see Master Response 9 (Bikes on Board).

3.2.95 Responses to Comment Letter I46

I46-1

Comment in opposition of the Proposed Project is noted.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) and Master Response 10 (Traffic Analysis) and EIR Section 3.14 concerning traffic.

3.2.96 Responses to Comment Letter I47

I47-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.97 Responses to Comment Letter I48

I48-1

Please see Master Response 9 (Bikes on Board). Comment in support of more onboard bikes during commute hours is noted.

3.2.98 Responses to Comment Letter I49

I49-1

Caltrain staff contacted the comment directly in response to this comment.

No OCS poles are proposed to be located on the noted property. Based on current design, the ESZ does extend approximately 3 to 6 feet onto the noted property, along the border of the Caltrain ROW. Any trees that are located within the ESZ may need to be removed or trimmed. No structures would be allowed within 6 feet of the energized elements of the OCS which would be located approximately 4 to 7 feet from the property boundary.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J.

3.2.99 Responses to Comment Letter I50

I50-1

See Master Response 10 (Traffic Analysis).

3.2.100 Responses to Comment Letter I51

I51-1

Please see Master Response 9 (Bikes on Board). Comment in support of more onboard bikes during commute hours is noted.

3.2.101 Responses to Comment Letter I52

I52-1

As described in Chapter 5, *Alternatives*, of the Draft EIR, the JPB conducted a comprehensive alternative identification and screening process to identify which alternatives to analyze in the EIR. A total of 51 alternatives (not including the No Project Alternative) were evaluated use a three-level screening analysis. Technology alternatives, electrified train design alternatives, alignment alternatives, electrified service alternatives, platform alternatives, traction power system alternatives, fright operations alternatives, OCS alternatives, other operational alternatives, and construction alternatives were all considered. Following the three-tier screening process, three alternatives were carried forward for analysis. These alternatives were the DMU Alternative, the Dual-Mode alternative, and electrification with OCS installation by Factory Train.

The JPB Board of Directors will use the information presented in the EIR, including the alternatives analysis, to determine if the project, will get approved.

I52-2

Overall, the Draft EIR described that the Proposed Project could require the removal of an estimated 2,200 trees and pruning of an estimated 3,600 trees along the project route based on the worst-case outer pole arrangement considered in the Draft EIR. As described in Master Response 6, (Visual Aesthetics and Tree Removal), with potential ESZ areas described in the Final EIR and Mitigation Measure BIO-5, the removal of trees and prunings would be substantially reduced below the worst-case scenario.

The commenter states correctly that JPB is legally exempt from local land use regulations. However, as prescribed in Mitigation Measure BIO-5, JPB will replace trees using local tree ordinance replacement ratios for trees removed outside the JPB ROW and will replace trees removed from within the JPB ROW on a 1:1 basis, even though JPB is legally exempt from local land use regulations.

If on-site tree replacement cannot occur on the Caltrain ROW or on adjacent property, then tree replacement may occur on other parts of the affected property or other parts of the local area, with concurrence of the local municipality. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I52-3

Comment noted. Please see Master Response 5 (Environmental Benefits) and responses to comments I52-4 through I52-8.

I52-4

Overhead contact systems are the world's most common way to power electrified trains as this is the most cost-effective way to do so. Third-rail electrification, as discussed in Chapter 5 of the Draft EIR is substantially more expensive and beyond the financial ability of Caltrain to pursue. The aesthetic impacts of the overhead system is discussed in Section 3.1 of the EIR and Master Response 6 (Visual Aesthetics including Tree Removal).

I52-5

The Draft EIR evaluates potential impacts to birds from proposed tree removal and trimming associated with the project in Table 3.3-2 (page 3.3-8), Impact BIO-1a (page 3.3-35), and Impact BIO-1b (page 3.3-40). Potential project-related impacts, including tree trimming during both project construction and operation/maintenance. Disruption to bird nesting would be avoided through the implementation of Mitigation Measures BIO-1a (page 3.3-36), BIO-1e (page 3.3-35), BIO-1f (page 3.3-38), BIO-1g (page 3.3-39), and BIO-1j (page 3.3-41).

Electric power lines exist along roads and developed areas that surround much of the Caltrain ROW. The installation of electric power lines as part of the project are not expected to result in significant bird mortality. No revisions to the Draft EIR are necessary.

I52-6

Mitigation Measure BIO-5 requires that all trees removed outside the Caltrain ROW be replaced at a ratio of at least 1:1, and greater under some conditions; and trees removed inside the Caltrain ROW also be replaced at a 1:1 ratio. This means that the GHG emissions from tree removal will be replaced over time.

More importantly, the GHG emissions from tree removal are very small compared to the reduction in GHG emissions with electrification in comparison to existing conditions and in comparison to any of the non-electrification alternatives. The initial GHG emissions from tree removal are approximately 260 tons of GHGs, but the project in 2020 would lower GHG emissions compared to existing conditions by nearly 70,000 tons.

See Section 3.7 in the EIR for details.

I52-7

The removal of trees is not expected to affect flood risk. This is because the majority of areas where trees will be removed will still be pervious, and therefore not affect soil infiltration rates. In addition, as stated in Section 3.4, *Biological Resources*, removal of trees and other vegetation will be replaced at a 1:1 ratio or greater, and therefore the overall vegetated area available for water absorption during rain events will remain the same.

I52-8

As noted above, the project will replant all trees removed as part of the project and thus replace any temporarily loss photosynthetic production.

Operation of the Proposed Project would result in annual GHG reductions that far exceed the loss of carbon sequestration of trees removed. Accordingly, implementation of the Proposed Project would result in a net GHG benefit that would contribute to regional and statewide GHG reductions. Please refer to Tables 3.7-2 and 3.7-3 in Section 3.7, *Greenhouse Gas Emissions and Climate Change*, in the Draft EIR.

I52-9

Comment noted.

3.2.102 Responses to Comment Letter I53

I53-1

As shown in Appendix I, *Ridership Technical Memorandum*, Table 9, the ridership estimate for the Transbay Transit Center for 2040 is approximately 8,527.

I53-2

See Master Response 4 (Ridership and Capacity).

I53-3

Projected ridership for the Central Subway is expected to reach 42,400 weekday boardings in 2030 and is displayed in Table 3-11 below. This data was collected from the Central Subway Final Supplemental Environmental Impact Statement / Supplemental Environmental Impact Report (Final SEIS/ SEIR) (SFMTA 2008).

Table 3-11. Central Subway and Caltrain Ridership Projections

	Existing	Projected 6 Year Ridership	Projected 20 Year Ridership
Central Subway (2016 & 2030)	N / A	N / A	42,400 Weekday Boardings (2030)

Source: SFMTA for Central Subway, Appendix D for PCEP.

3.2.103 Responses to Comment Letter I54

I54-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.104 Responses to Comment Letter I55

I55-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.105 Responses to Comment Letter I56

I56-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.106 Responses to Comment Letter I57

I57-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.107 Responses to Comment Letter I58

I58-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.108 Responses to Comment Letter I59

I59-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.109 Responses to Comment Letter I60

I60-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.110 Responses to Comment Letter I61

I61-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.111 Responses to Comment Letter I62

I62-1

Comment noted. Please see responses to comments I62-2 through I62-14.

I62-2

See Master Responses 1 and 3 regarding high speed rail and Prop. 1A funding.

It should be noted that an Appellate Court in summer 2014 overruled the lower court ruling in Part 1 of the *Tos et al* case and the CHSRA bond validation action and thus at present there is no court ruling preventing bond issuance. However, the Appellate Court ruling is being appealed to the California Supreme Court and Part 2 of the *Tos et al* case has yet to be heard and thus challenges related to Proposition 1A funding are not yet fully resolved.

The Appellate Court also ruled that the CHSRA Program EIR for the Bay Area to Central Valley segment was adequate and dismissed the challenges to the CHSRA route selection and ridership modelling under CEQA.

Please see Master Response 2 (Alternatives) on alternatives. As explained therein, all of the non-electrification alternatives would result in higher criteria air pollutant and GHG emissions, higher noise levels, and higher fuel costs. Some of the alternatives could also have notable effects on ridership.

I62-3

See Master Response 4 (Ridership and Capacity). Modeling of ridership was done using a validated model that can replicate existing ridership and using accepted regional socioeconomic forecasts. The comment does not present any evidence as to the inadequacy of the ridership modeling for the EIR.

The current number of trains per peak hour in the morning between 5 and 9 am is 16 trains in the northbound direction and 15 in the northbound direction. As shown by the prototypical schedule in Appendix I, with the PCEP, there would be 20 trains in the northbound direction and 20 in the northbound direction during this period. This is 4 to 5 trains per direction more than under existing conditions in contrast to the commenter's assertion of only 2 trains.

The current number of trains per peak hour in the afternoon/evening peak period between 4 and 7 p.m. is 14 trains in the northbound direction and 15 in the northbound direction. As shown by the prototypical schedule in Appendix I, with the PCEP, there would be 19 trains in the northbound direction and 18 in the northbound direction during this period. This is 3 to 5 trains per direction more than under existing conditions in contrast to the commenter's assertion of only 2 trains.

The comment focuses on the number of peak hours trains only whereas an additional key element to the increased ridership with the project is an increase in the number of stops and/or reduced travel time. As shown in the Appendix I, prototypical schedule, peak service with improved train performance with EMUs will serve many more stations compared to existing conditions.

I62-4

Please see Master Response 9 (Bikes on Board). Comment in support for increased onboard bike capacity is noted. Mitigation Measure TRA-4b requires the JPB continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available following guidance in Caltrain's Bicycle Access and Parking Plan. Specific improvements will be informed by the Caltrain's Bicycle Access and Parking Plan according to needs of the riders at various locations.

I62-5

The cited 8-minute difference in the video prepared for the 150th anniversary of train service is a comparison of the possible end to end time from San Jose to San Francisco for a Baby Bullet train with current diesel locomotives vs. the proposed EMUs (e.g. for the same number of stops and with no increase in the top speed of 79 mph).

The Caltrain promotional video is not part of the EIR. No further response is necessary.

I62-6

See Master Response 4 (Ridership and Capacity). As explained therein the current 5-coach train consists have approximately 610 to 660 seats per train with additional space for 30 to 65 standees. With PCEP, for the EIR ridership analysis, the 6-car EMU consists are assumed to have approximately 600 seats plus comfortable standing area for 60 additional passengers in the vestibules for total of 660 passengers or approximately the same as today. The specific EMU capacity and layout will be determined through the procurement process. The approximate capacities used for the DMU and the Dual-Mode MU Alternative (and the Tier 4 Diesel Locomotive Alternative added to the Final Draft EIR) were designed to be roughly equivalent to the Proposed Project.

The current diesel-locomotive 6–car consists (including the locomotive) are slightly less than 500 in the length. The current PCEP planning is for a 6-car EMU consist. Existing multi-level EMUs can vary in length, but several common designs vary from 80 to 90 feet in length and thus a 6-car consist could be 480 to 540 feet in length.

I62-7

The length of the existing platforms vary, but most are approximately 600 feet or greater. A few of the station platforms are notably less than 600 feet (including 22nd Street, Broadway, and one of the California St. platforms) with the shortest platform at 22nd street of 519 feet

I62-8

The current funding is sufficient to provide the increase to 114 trains to day and increased peak hour service to 6 trains per peak hour per hour. Existing funding for the project does not include system improvements necessary to upgrade allowable speeds to greater than 79 mph.

There is no requirement in CEQA to analyze alternatives that do not avoid or substantially reduce significant adverse impacts of the project. Speeds greater than 79 mph or longer train consists than proposed, would not avoid or substantially reduce any significant adverse impacts of the project over baseline. The project would improve air quality and regional traffic, as a result there is no need to analyze a higher speed alternative in regards to these impacts.

Regarding grade separations and localized traffic impacts, as explained in Section 3.14, *Transportation and Traffic*, there is inadequate funding for Caltrain to commit to a comprehensive program of grade separations to address localized traffic impacts. Please see also Master Response 11 (Freight). Caltrain has supported and will continue to support grade separation efforts in cooperation with local jurisdictions and local, regional state and federal funding partners, as funds become available.

Regarding lengthened platforms, the project does not propose EMU consists greater than 6 cars and thus the EIR need not analyze the potential impacts of longer consist trains.

I62-9

The Draft EIR discloses that the project will result in certain localized intersection traffic level of service impacts (including in Burlingame) some of which can be mitigated to a less than significant level by the mitigation included in the EIR and some of which cannot. As discussed in the Draft EIR, the JPB does not have sufficient funding to include grade separations instead of the proposed mitigation included in the EIR and some of the intersection impacts are disclosed as remaining significant and unavoidable.

The Draft EIR traffic analysis for 2020 and 2040 are based on a comparison between conditions with and without the project. Thus, the impacts identified are related to the PCEP itself and the JPB is responsible for the identified traffic mitigation.

I62-10

The Project does not include a plan to relocate the tracks horizontally in order to provide space for center pole placement. Track relocation would involve greater construction impacts and could involve greater impacts on land that is currently privately held.

Mitigation Measure BIO-5 requires that all trees removed outside the Caltrain ROW be replaced at a ratio of at least 1:1, and greater under some conditions; and trees removed inside the Caltrain ROW also be replaced at a 1:1 ratio. As described under Impact BIO-5b (see page 3.3-46 of the Draft EIR), routine tree maintenance along the Project corridor would be similar to existing maintenance practices. See also Master Responses 6 concerning tree removal and aesthetics and Master Response 8 (Train Noise) concerning tree removal and noise.

<u>Mitigation Measure BIO-5 has been revised to describe required maintenance for a period of five years.</u>

I62-11

Please see Master Response 11 (Freight) which addresses the EMI concerns raised in this comment

I62-12

Caltrain conducted a prior assessment of the potential impact on the PG&E electrical supply system in 2008 (LTK 2008). The results of the study show that the PG&E transmission and generation system stands up well to the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. It was concluded, that, the PG&E system would accommodate the planned traction power system loads.

This study will be updated to current conditions as part of final design, but as shown in Table 3.13-4, electricity demand in 2012 in Santa Clara/San Mateo counties is actually 5 percent less than in 2008 and thus there is no reason to think that the 2008 report conclusions on reliability will change with the updated study.

I62-13

See Master Response 2 (Alternatives). The EIR provides all the necessary elements concerning alternative analysis.

I62-14

The comment period for the Draft EIR was 60 days which is 15 days more than the required 45 day circulation period.

3.2.112 Responses to Comment Letter I63

I63-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.113 Responses to Comment Letter I64

I64-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.114 Responses to Comment Letter I65

I65-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.115 Responses to Comment Letter I66

I66-1

As explained in the EIR, the bikes on board program will continue with the electrification project. The exact configuration of the EMUs in terms of specific bicycle capacity will be determined during EMU procurement.

The frustration with bike bumps is noted.

Caltrain apologized and sent a refund to the commenter in response to this comment.

The suggestion about handling refunds better for bicycle bumps is noted.

Please also see Master Response 9 (Bikes on Board).

3.2.116 Responses to Comment Letter I67

I67-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.117 Responses to Comment Letter I68

I68-1

Comment noted. Please see responses to comments I68-2 through I68-61.

I68-2

Please see Master Response 1 which explains that the PCEP has independent utility from the HSR project and can be implemented independently from the HSR. As explained in the master Response, the PCEP can be analyzed in a separate environmental document from blended service.

Also please see Master Response 11 (Freight), which addressed Union Pacific comments on EMI and freight signals.

I68-3

See Master Response 3 (Use of Proposition 1A Funding).

I68-4

See Master Response 3 (Use of Proposition 1A Funding) regarding Prop. 1A funding and Master Response 2 (Alternatives) concerning non-electrification alternatives.

I68-5

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I68-6

See Master Response 2 (Alternatives).

I68-7

See Master Responses 1 and 3.

I68-8

In regards to alleged segmentation please see Master Response 1 (Segmentation and Independent Utility).

In regards to mitigation, the project-level mitigation is the responsibility of the JPB. The cumulative mitigation is a shared responsibility with the other contributors to the cumulative impact, which include freight, HSR, ACE, Capitol Corridor, Amtrak or others. The JPB is only responsible to contribute its "fair-share" to cumulative mitigation. Fair-share mitigation is a routine approach to addressing cumulative impacts of independent projects.

I68-9

The JPB owns the commuter passenger rights on the Caltrain Corridor. The Trackage Rights Agreement with Union Pacific specifies certain obligations for both the JPB and Union Pacific. Master Response 11 (Freight), discusses the relevant TRA issues and how they can be resolved to allow the PCEP to move forward.

The situation with blended service is different, as Union Pacific holds the intercity passenger rights. In order to utilize the Caltrain Corridor, the CHSRA will need to obtain Union Pacific's permission and/or obtain the intercity passenger rights. That is an issue that CHSRA needs to resolve as part of advancing HSR service on the Caltrain Corridor and does not relate to the PCEP. At this time, CHSRA's proposal is for blended service and that is what is analyzed in the cumulative section of the PCEP EIR.

Regarding Union Pacific's issues with electrification and freight signal systems, please see Master Response 11 (Freight) which addressed this issue.

As to any modifications to the TRA and associated costs (if any), that is a matter between the JPB and Union Pacific. The PCEP requires a number of permits and approvals; the TRA is but one of those necessary. Resolution of these permits and approvals can occur after the completion of the CEQA process.

I68-10

See Master Response 11 (Freight) and also see responses to UPRR comment letter (comment letter P5).

I68-11

Comment noted.

The letter referenced by the commenter is regarding the California High-Speed Train Project, not the PCEP.

Regarding the PCEP and its potential impact on freight signals (due to EMI) and operations, the Trackage Rights Agreement, and intercity rail rights and blended service, please see Master Response 11 (Freight).

Regarding blended service, see Master Response 1 (Segmentation and Independent Utility).

I68-12

This comment provides no comment about the PCEP Draft EIR.

The current CPUC rule-making pursuant to the CHSRA petition does not address shared tracks. Unless the scope of that rule-making is changes, separate CPUC rule-making will need to occur for the Caltrain Corridor. As discussed in the PCEP Draft EIR, the PCEP will comply with any applicable CPUC regulations.

Please also see Master Response 11 (Freight).

I68-13

The FRA is the federal funding agency for intercity passenger projects and is not the NEPA lead agency for the PCEP. The FTA is the federal funding agency for commuter rail and transit service and is the NEPA lead agency for the PCEP. The FTA has already approved an Environmental Assessment and a Finding of No Significant Impact (FONSI) in 2009 for electrification of the Caltrain Corridor and that approval does not hinge on completion of blended service. Similarly, the JPB consideration of the PCEP EIR and potential approval of moving forward with the PCEP does not hinge on completion of blended service.

The FTA's action is a confirmation of the federal view that electrification does have independent utility. Anything the FRA may have said or not said in a "basement meeting" about Caltrain electrification is moot as the FRA is not the federal lead agency for Caltrain electrification and thus any determination of independent utility on the federal level is the responsibility of the FTA, not the FRA. Referencing an article that was written by the comment author is not an independent verification of the author's presentation of what may have been said or not said by the FRA. The JPB has briefed the FRA directly on the PCEP and the FRA has raised no objections to the Proposed Project.

I68-14

Comment noted.

The letter referenced by the commenter is regarding the California High-Speed Train Project, not the PCEP.

Regarding the PCEP and its potential impact on freight signals (due to EMI) and operations, the Trackage Rights Agreement, and intercity rail rights and blended service, please see Master Response 11 (Freight).

Regarding blended service, see Master Response 1 (Segmentation and Independent Utility).

I68-15

The JPB does not require a Master Agreement to implement the PCEP.

The PCEP is not blended service.

See Master Response 11 (Freight) regarding the TRA issues for the PCEP and how they can be resolved as well as potential Union Pacific issues with blended service.

I68-16

See Master Response 8 (Train Noise) and Section 3.11 in the EIR concerning noise.

I68-17

As reported in PG&E's 2012 Power Content Label (http://www.energy.ca.gov/sb1305/labels/2012_labels/IOUs/), the majority (51 percent) of their power mix is comprised of carbon-neutral resources, including hydro-electric, renewables, and nuclear. Natural gas and unspecified resources make up the remainder of their power portfolio (49 percent). Pursuant to the California Renewables Portfolio Standard (Senate Bills 1078/107/X 1-2), PG&E is required to obtain at least 33 percent of their energy from renewable resources by 2020. Accordingly, the utility's carbon-based emission intensity is expected to decrease overtime (see http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf). The difference in GHG and criteria pollutant emissions generated by diesel locomotives and EMUs is evaluated in the Draft EIR. As shown in Table 3.7-3 in Chapter 3.7, *Greenhouse Gas Emissions and Climate Change*, and Table 3.2-7 in Chapter 3.2, *Air Quality*, replacing diesel locomotives with EMUs will result in an overall net reduction of GHG and criteria pollutant emissions. Accordingly, while a portion of electricity delivered to the Project may come from fossil fuel resources, the Project would consume far less energy than the current system and would result in an overall emissions benefit.

I68-18

Appendix I, *Ridership Technical Memorandum*, to the Draft EIR was prepared in early 2014 and represents a ridership projection based on current information. Please also see Master Response 4 (Ridership and Capacity).

I68-19

Comment noted. Under the *Train Horn Rule* (49 CFR Part 222[47]), locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. If a train is traveling faster than 60 mph, engineers will not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds. There is a "good faith" exception for locations where engineers can't precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. Thus, there can be some variation amongst different trains and different train engineers. Under the PCEP, horn soundings will continue to be required per the FRA regulations and increased horn soundings (primarily during peak hours) due to increase train service is fully included in the noise impact analysis.

I68-20, 21

See Master Response 8 (Train Noise).

The FRA has established a process by which a local jurisdiction can designate a specific area containing at-grade crossings as a "quiet zone", provided that certain supplemental safety measures (SSM) are used in place of the locomotive horn to provide an equivalent level of safety at the at-grade crossing. The implementation of quiet zones requires that the local municipality take the lead role. Further details are described on pages 4-89, 4-90, and 4-92 of Section 4.1, *Cumulative Impacts*, of the Draft EIR.

[47] http://www.fra.dot.gov/Page/P0104

I68-22

As stated in Master Response 8 (Train Noise), noise and vibration measurement locations are shown in Figure 3.11-5 in Section 3.11, *Noise and Vibration*, of the Draft EIR. The modeled receptor locations are shown in Attachment C, Appendix C. The noise analysis for the EIR follows standard methodological guidelines established by the Federal Transit Administration (FTA). Noise impacts were identified using the FTA noise criteria. Noise impacts were calculated using the FTA noise criteria.

As described in Section 3.11 in the EIR, the project on its own would not result in any significant noise impacts except at one potential location for a substation in South San Francisco and specific mitigation is identified for that location in the EIR.

As described in Chapter 4 in the EIR, cumulative noise would be significant at many different locations along the route, but the PCEP would only make adverse contributions at a small number of locations. As the bulk of responsibility for cumulative noise will fall on other contributors to cumulative noise effects and will not occur if those cumulative noise increases actually are realized, the development of cumulative mitigation will be a phased implementation over time that may use different methods in different locations. In particular, noise mitigation will be developed further during the design and project environmental review of blended service since the primary contributor to the increased number of cumulative trains will be the high-speed rail project. Given that the high-speed rail system for the corridor is only at a conceptual level of design, the exact site-specific cumulative impacts are not fully understood and thus the specific development of mitigation, as warranted will need to be done subsequently.

I68-23

See Level Boarding in Master Response 2 (Alternatives).

I68-24

Regarding the potential for accidents and suicide, the PCEP will not increase the potential for suicide nor accidents. The PCEP will not increase top speeds along the route above the current 79 mph. The combination of PCEP EMUs and CBOSS should improve the ability to stop trains more quickly which may help to reduce some accidents, but would not eliminate the potential for suicide.

The assertion that there would necessarily be more deaths with the addition of more Caltrain trains and the HSR trains is speculative. The vast majority of deaths along the corridor are due to suicide which is primarily a mental health issue. The potential for death or grievous bodily injury for individuals attempting suicide is not meaningfully higher due to additional trains in a corridor that already has frequent train traffic. With CBOSS PTC and EMUs that can decelerate faster than diesel locomotives, the potential for accidental death along the corridor due to Caltrain trains should actually be reduced as the risk of train on train collisions is reduced and the potential for trains to stop in the event of a vehicle stuck on the tracks is increased.

A fully grade-separate system would avoid possible car-train accidents but would not avoid the potential for suicide as access to the tracks will still be easily accessible at stations.

Caltrain has an ongoing commitment with the local communities to support efforts to prevent suicides along the Caltrain ROW. Caltrain has installed suicide prevention signs along the ROW with a hotline number to a local crisis intervention agency. Caltrain recently launched a special page on its website dedicated to suicide prevention information and outreach. The page, under the rail safety menu, includes a crisis hotline number and links to local, regional and national suicide prevention resources. A list of guidelines developed by mental health professionals that outline the most effective way media to cover suicide also will be available on the website. Caltrain transit police are trained in crisis intervention and provide referrals to treatment with people in danger of harming themselves on Caltrain's ROW. Caltrain will continue to work at providing information and partnering with the community to continue these efforts.

Grade separation is not required as a result of the PCEP for operational purposes.

Regarding a plan for grade crossings, the Draft EIR considers the potential for grade separations to address project effects to traffic and concludes that there is insufficient funding to commit to a comprehensive set of grade separations as mitigation at the affected sites. Grade separations are included as potential cumulative mitigation for noise but will require substantial funding from other parties as Caltrain is only responsible for a small contribution to cumulative noise effects (and Caltrain would have no adverse noise contribution to cumulative noise over existing conditions once all Caltrain trains between San Jose and San Francisco are EMUs).

I68-25

The aesthetic impact of removal of trees are addressed in Section 3.1 of the EIR and Master Response 6 (Visual Aesthetics including Tree Removal).

Concern about property values and income is noted. However, CEQA is concerned about physical impacts on the environment. Socioeconomic impacts are not a concern under CEQA,

I68-26

Mitigation Measure BIO-5 prescribes that any protected trees removed outside Caltrain ROW in the City of Menlo Park be replaced using local requirements. Please see also Master Response 6 (Visual Aesthetics including Tree Removal) concerning consideration of different OCS pole options to reduce tree removals, including a feasibility assessment for reducing tree removals in Menlo Park.

I68-27

The Proposed Project does not propose the construction of a third track or a passing track anywhere along the Project corridor, including the city of Menlo Park. This is a potential for blended service, which is discussed in the cumulative analysis.

See also Master Response 1 (Segmentation and Independent Utility).

I68-28

Please see Master Response 6 (Visual Aesthetics including Tree Removal) concerning pole design options.

Also please refer to Chapter 5, *Alternatives*, for a description of the alternatives analysis which included an alternatives screening analysis of several alternatives, some of which would not include the use of an OCS.

The comment about electrical charging at the stations appears to be asserting that some kind of battery operated train could be used instead of electrified trains using an OCS and that charging would only need to occur at the stations.

There are only a few examples of battery-electric commuter trains currently operating or currently in the testing phase for use in commuter applications.

- There is a battery-electric EMU (BEMU) train called the EV-301 in Japan that is operating over a short (20 km/12-mile) diesel branch line and recharging on the electrified mainline or terminal station using a special OCS based recharging station (GS Yuasa, 2014). The EV-301 consists of a two-car train with a maximum speed of 100 km/h (62 mph) and began commuter rail revenue service in early 2014 (Railway Gazzette 2014).
- There is another experimental battery-operated commuter/intercity train being tested in England. This train is referred to as the Independently Powered EMU (IPEMU). However, this vehicle is not yet in revenue service. This vehicle is being designed to run under battery operation for a maximum of about 30 kilometers (18 miles) before needing to recharge (either at a station or along an electrified OCS section) and simulated speeds are only up to about 62 mph (Network Rail/Bombardier 2013).

Given the speed and distance limitations of the one operational example in Japan and the experimental system in England, there is no way that these vehicles could meet the Caltrain schedule or be used over the entire 50-mile San Francisco-San Jose corridor for Caltrain commuter operations. Thus, this is not considered a feasible alternative.

I68-29

The JPB would not acquire any public or private land in the Cities of Menlo Park, Atherton, or Palo Alto for OCS pole placement, as there would be no OCS poles located outside the Caltrain ROW in Menlo Park, Atherton, or Palo Alto. However, there will be need for acquisition of electrical safety zone (ESZ) easements from some local commercial and residential parcels. The easements would limit vegetation within 10 feet of the energized elements of the OCS and structures within 6 feet of the energized elements of the OCS.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the potential encroachment areas along the route including in Menlo Park, Atherton, and Palo Alto. All potentially affected property owners were notified in March 2014 during the Draft EIR review period and an example letter is included in Appendix J.

I68-30

Comment noted regarding the aesthetic overhead structures competition.

The relevant comment made pursuant to the PCEP EIR concerns center-line pole configuration.

Line of sight is not irrelevant. While PTC will help with stopping trains related to train signals and train to train collisions, PTC cannot cover all contingencies. For example, PTC won't necessarily be able to detect a person or obstacle on the tracks which the engineers need a line of sight to see. Thus, line of sight will remain an important safety consideration.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) regarding assessment of pole design/alignment options to reduce tree impacts. Please see Master 7 regarding tree removals and air quality and Master Response 8 (Train Noise) concerning tree removals and noise.

I68-31, 32

The commenter appears to be advocating that the JPB only use a 4 foot separation between vegetation and energized elements of the OCS without taking into account sway or growth. Vegetation can sway in strong winds any time of the year and some vegetation can grow very rapidly. The JPB is not aware of any electrified systems in the U.S. that use such a small vegetation clearance area.

Use of only a 4-foot clearance zone would be a potentially dangerous approach to managing safety for operation of an electrified railroad as it could potentially put the railroad, its passengers, and the adjacent homes and business at risk of electrocution and fire in the event of vegetation coming into contact with the OCS poles and wires.

As described in the Draft EIR, the CPUC has no regulations for 25 kVA OCSs for electrified trains. Thus, General Order 95 does not legally apply to the PCEP OCS. The quoted 4 foot minimum clearance is a regulatory minimum. General Order 95 Appendix E explicitly states that "each utility may determine and apply additional appropriate clearance beyond clearances listed below" taking into account among other factors, planned maintenance cycles, location of vegetation, growth rate, climate, and fire risk, among others. Thus, even if General Order Appendix E were to apply, the JPB would be within its right to consider all factors in determining vegetation maintenance requirements and not merely assuming a minimum clearance.

In addition, while the commenter includes the entire UPRR comment regarding electrification concerns on the draft CPUC rule-making (13-003-009) on 25 kV systems for high-speed rail, she neglects to actually mention what that draft CPUC rule-making says about vegetation clearances. Because it is still to be determined how the CPUC rule-making (13-003-009) would or would not be applied to the Caltrain Corridor, it is appropriate to call out Section 5.1-7, *Clearances to Vegetation*, which states that…."*trackside vegetation shall be managed, such that there is no overhanging vegetation and that a minimum clearance of 8'- 3" (2.5 m) is maintained between the vegetation and energized parts of the OCS at all times and under all climatic conditions*." A 10-foot vegetation clearance zone would leave additional room for tree sway and growth while meeting this potential requirement which is a prudent approach.

For the reasons above, the JPB is not assuming that the minimum standard in General Order 95 applies to the PCEP and is accounting for the potential for the requirement in the draft CPUC rule-making to apply when estimating the necessary vegetation management at this time and in the disclosure of environmental effects in the EIR.

To use the commenter's suggestion of only 4 feet of vegetation clearance would not only result in potential risks, but would likely not comply with future CPUC requirements, and would thus result in an underestimate of the PCEP's impact on tree removal.

I68-33

Comment noted. Please see Master Response 6 (Visual Aesthetics including Tree Removal).

I68-34

Comment noted.

The Project does not include a plan to relocate the tracks horizontally in order to provide space for center pole placement. In addition to an increase in construction-related impacts (i.e., ground-disturbance, construction-related noise and traffic), shifting tracks horizontally would move tracks closer to existing sensitive receptors including residences and parks. This would result in an increase in noise impacts.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) which describes that center poles and other pole options will be considered where necessary to lower tree removal effects and where consistent with maintenance, operational and safety requirements.

I68-35

Comment noted. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I68-36

Comment noted. This comment describes a conceptual center pole design, but makes no comment specific to the PCEP.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) concerning center poles and other pole designs.

I68-37

Comment noted. This comment describes a conceptual center pole design, but makes no comment specific to the PCEP.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal) concerning center poles and other pole designs.

I68-38

Figure 2-26 in the Draft EIR shows the estimated construction schedule for PCEP. Figure 2-26 shows the various construction activities and how construction could occur simultaneously at several locations. Construction is anticipated to take approximately 3 to 4 years, and testing and commissioning would take an additional 1 to 2 years (testing will start during construction).

I68-39

Please refer to Section 3.11, *Noise and Vibration*, for a description of construction noise. Specifically, refer to Impact NOI-1a.

I68-40

Shoofly tracks are not proposed for construction. They were considered in Chapter 5 of the Draft EIR as Alternative C1. Caltrain analyzed this alternative and found it to be prohibitively expensive for this project and highly disruptive to build and thus this alternative was rejected. Train service will be maintained by leaving one track open while other tracks are being worked on and carefully scheduling any multi-track closures to minimize disruption to freight service.

I68-41

Please see revised cost in the project description in the Final EIR. This estimate is based on the best available information at this time.

I68-42 through I68-46

The commenter has included verbatim Comments I83-2 through I83-6 from Paul Jones. Please refer to those specific responses later in this document.

I68-47

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I68-48

See Master Response 2 (Alternatives).

I68-49

See Master Response 2 (Alternatives) and Master Response 1 (Segmentation and Independent Utility) concerning blended service.

I68-50

Please see Master Response 1 (Segmentation and Independent Utility) about the relation between the PCEP and blended service and the independent utility of the PCEP.

The comment is correct that HSR operations on the Caltrain Corridor do not require Caltrain to electrify the tracks, but the tracks would need to be electrified before HSR operates on the tracks. The comment is also correct that Caltrain could run diesel trains under the wire, including new Tier 4 diesel locomotives, however, if HSR operates up to 110 mph, Caltrain commuter diesel trains would also need to be able to operate faster than 79 mph to optimally manage trains on the non-passing track segments of the blended system. Diesel trains can achieve speeds up to 110 mph where appropriate trackage is present. A Tier 4 Diesel Locomotive Alternative has been added to the PCEP EIR and the new Siemens Tier 4 diesel locomotives are capable of speeds up to 125 mph.

This comment does not actually provide any comment about the PCEP EIR, so no further response is necessary.

I68-51

Please see Master Response 1 (Segmentation and Independent Utility) about the independent utility of the PCEP.

The JPB has been planning for electrification going back 15 years or more, long before the programmatic CEQA/NEPA documents for HSR, long before Proposition 1A, and long before the concept of blended service was developed. The PCEP by itself can justify electrification of Caltrain operations on its own separate from HSR. Because CHSRA has found that its preferred route to San Francisco is the Caltrain Corridor and has proposed blended service as a means to lower project cost and to lower impact to the San Francisco Peninsula (compared to a full 4-track grade separated system), the electrification infrastructure that Caltrain needs for its project can also be used by HSR.

Regarding unnecessary removal of trees, if Caltrain is to electrify the corridor for its own purposes, regardless of the source of capital funding, tree removal will be necessary. The PCEP Draft EIR includes mitigation (Mitigation Measure BIO-5) to reduce tree removal where feasible and consistent with maintenance, safety, and operational requirements.

The comment speculates that there will be an extensive rebuild of electrification, that unknown 2026 to 2029 conditions will change things, and that the HSR project will likely not come to the Caltrain Corridor. All of these statements are highly speculative. No evidence is provided as to how extensive the rebuild will be or how the changed conditions will change the environmental impacts. Proposition 1A was approved by the voters, CHSRA has completed its Program environmental documents and survived legal challenges, and CHSRA is commencing construction this year which is all evidence of a project moving forward.

No one can know the future precisely, but the PCEP Draft EIR makes a reasoned good faith disclosure of both project environmental impacts and conceptual cumulative environmental impacts with blended service. CEQA admonishes lead agencies to not engage in speculative analysis.

No revisions to the PCEP Draft EIR are necessary pursuant to this comment.

I68-52

See Master Response 2 (Alternatives) and responses to Comment I135.

I68-53

See Master Response 2 (Alternatives) and responses to Comment I135.

I68-54

Reference CHRSA 2013a is not on page 4-6 in the Draft EIR. However, CHSRA 2013a is on page 4-16 and the reference is provided in Chapter 7, page 7-18 of the Draft EIR. No revisions to the Draft EIR are necessary.

I68-55

This comment expresses concern about potential changes with future blended service but does not describe any particular concern about the adequacy of the PCEP EIR. Comment is noted.

I68-56

Section 3.14 and Appendix D to the EIR describes all traffic analysis performed. The methods of analysis used on intersections are described in Section 3.5.3 of Appendix D. All analysis was performed based on actual traffic volumes and intersection configurations, and these inputs were adjusted for future scenarios where appropriate. Section 3.6.6 of Appendix D discusses intersection impacts and mitigations for 2020 Project and 2040 Project scenarios.

If an intersection is expected to have a significant and unavoidable impact under a Project scenario (2020 or 2040 Project scenarios), this means that there is no feasible mitigation that would reduce the intersection delay to a less-than-significant level.

The analysis is specific to the intersections studied, including those in Menlo Park. Seven intersections #55 through #61) were evaluated in the Draft EIR and five additional intersections (#86 through #90) were added to the evaluation for the Final EIR. See Section 3.14, *Transportation and Traffic*, including Table 3.14-16 which shows the project impacts on localized intersections in Menlo Park.

I68-57

This comment is the same as Comments I68-23 and I68-24. Please see responses to those comments.

I68-58

See Master Response 3 (Use of Proposition 1A Funding).

I68-59

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I68-60

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I68-61

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.118 Responses to Comment Letter I69

I69-1

See Master Response 11 (Freight).

3.2.119 Responses to Comment Letter I70

I70-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.120 Responses to Comment Letter I71

I71-1

Comment is support of the Project is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I71-2

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I71-3

Please see Master Response 9 (Bikes on Board).

I71-4

Comment in support of level boarding is noted. The PCEP does not include level boarding and there is inadequate funding in the project funding for it, but neither does the PCEP preclude level boarding in the future.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I71-5 through I71-11

Please see Master Response 9 (Bikes on Board). The comments about improvements for bicycle riders are noted, but these comments do not raise any concerns about adequacy of the analysis in the EIR.

I71-12

Comment noted.

The PCEP does not include the construction of any new Caltrain stations. Thus new stations are outside the scope of the project. The closest existing Caltrain stations to Hunters Point are the 22nd Street Station and the Bayshore Station.

I71-13

For more information on the prototypical future schedules for PCEP, see Appendix I of the Final EIR. Actual scheduling will be developed closer to opening year in 2020. Comments about keeping Baby Bullets are noted.

I71-14

Please see Master Response 9 (Bikes on Board).

3.2.121 Responses to Comment Letter I72

I72-1

Please see Master Response 9 (Bikes on Board).

3.2.122 Responses to Comment Letter I73

I73-1

Please see Master Response 9 (Bikes on Board).

3.2.123 Responses to Comment Letter I74

I74-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.124 Responses to Comment Letter I75

I75-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.125 Responses to Comment Letter I76

I76-1

The concern about costs is noted, but this specific comment does not address the environmental analysis in the EIR, so no further response is required.

I76-2

In Chapter 5, *Alternatives*, an electric locomotive alternative (Alternative T1) was considered. While this alternative would be feasible, this alternative would not avoid any significant impacts of the Proposed Project, and thus CEQA does not require it to be analyzed further.

An electric locomotive alternative would require the same costs as the Proposed Project to construct an OCS to power the new locomotives and such an alternative would avoid none of the construction period impacts and would avoid none of the aesthetic impacts or tree removal impacts of the Proposed Project. As the comment describes, single electric locomotives have inferior performance characteristics compared to EMUs.

Much of the Caltrain fleet is reaching the end of its lifetime and will need to be replaced regardless of which technology would be employed. For example, 20 out of 29 locomotives and 73 out of 118 passenger coaches will be 30 years or older in 2020. The PCEP does not propose to replace the 9 locomotives and the passenger coaches that have not reached the end of their service life, there will still continue to be diesel service to Gilroy and approximately 25 percent of the San Jose to San Francisco service.

The concern about costs is noted.

I76-3

Updated cost estimates are included in the Final EIR. There is no requirement in CEQA that mandates that updated cost estimates be included in the Draft EIR. The cost estimate is provided for public information but would not change the environmental analysis in any way which is focused on the environmental impacts, not the project costs.

I76-4

See Master Responses 3 in regards to use of Proposition 1A Funding.

I76-5

The referenced comment is actually about the HSR project, not the PCEP. However, the Union Pacific concerns about electromagnetic interference with freight system signals and warning devices are addressed in Master Response 11 (Freight).

3.2.126 Responses to Comment Letter I77

Caltrain staff also contacted this commenter directly per their query.

I77-1

As stated in Appendix F of the Draft EIR, Draft Tree Inventory and Canopy Assessment, Peninsula Corridor Electrification Project, in Section 1.2, 2013 Tree Inventory and Canopy Assessment, the worst-case assumption is that side poles located 10 to 12 feet from the centerline of the outermost track will be required. The specific methods used to determine the worst-case scenario for tree removal are described in detail in Appendix F of the Draft EIR in Section 2.0, *Methods*.

I77-2

The JPB will not know the exact number of trees that will be removed until final design of the Project. Based on preliminary engineering, The PCEP OCS/ESZ/Tree Impact Maps (Appendix J) detail which trees fall within the ESZ and parcel lines.

I77-3

The likely number of trees to be removed was based on the preliminary engineering (current data available) that show the placement of system infrastructure including OCS poles, catenary system, and TPF-related facilities. Tree removal and pruning is required within 10 feet of the OCS poles for the establishment of an ESZ. A visual tree survey was conducted and geographic information system (GIS) tools used to determine the existing number of trees to be removed. The PCEP OCS/ESZ/Tree Impact Maps (Appendix J) detail which trees fall within the ESZ and parcel lines.

I77-4

Regarding the disposal of trees that are cut down, they will be appropriately disposed of which could include chipping of the trees, recycling, and/or disposal in a landfill.

I77-5, 6

The JPB will consult with each local jurisdiction in which there would be tree removal or trimming. In most cases, the JPB will coordinate with the local arborist, however the specific department with whom the JPB coordinate is up to the discretion of the jurisdiction.

I77-7

Please see responses to comments I77-1 through I77-6.

3.2.127 Responses to Comment Letter I78

I78-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.128 Responses to Comment Letter I79

I79-1

All property owners with property that would fall within the ESZ were notified with letters mailed between March 5, 2014 and March 10, 2014. An example letter to property owners is included in Appendix J.

Please also refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines.

The current requirements for the ESZ is that vegetation will not be allowed within 10 feet of the energized elements of the OCS and structures will not be allowed within 6 feet of the energized elements of the OCS.

Stacy Cocke of Caltrain contacted the commenter in March 2014 to discuss the potential ROW encroachment on the property.

3.2.129 Responses to Comment Letter I80

I80-1

Comment noted.

See Master Response 10 (Traffic Analysis).

Grade separations are not an alternative to the project as they would not meet most of the project objectives.

3.2.130 Responses to Comment Letter I81

I81-1

Comment in support of the Project is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I81-2

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.131 Responses to Comment Letter I82

I82-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.132 Responses to Comment Letter I83

I83-1

Comment noted. Please see responses to comments I83-2 and I83-3 and Master Response 2 (Alternatives).

I83-2

This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service.

See also Master Response 1 (Segmentation and Independent Utility).

I83-3

See Master Response 2 (Alternatives). Regarding the DTX tunnel, this is an approved project with an approved design that can only accommodate electrified train operations in the DTX tunnel and the TTC. Unlike DTX, blended service has not been the subject of a project-level environmental analysis. Non-electrification alternatives are considered in the EIR.

I83-4

See Noise Modeling Methodology in Master Response 8 (Train Noise), Section 3.11 concerning project noise analysis, and Chapter 5 regarding alternative noise analysis. The commenter is wrong that EMU noise is “no different” than diesel-propelled trains. EMUs are quieter than diesel locomotives, DMUs, and dual-mode MUs (when operating in diesel mode) because electrical engines are quieter than diesel engines. All trains have noise associated with wheel-rail interaction and horns sounded at grade crossings. The pantograph-catenary wire noise for EMUs is minimal as discussed in Master Response 8 (Train Noise). The EIR also analyzed the noise with a DMU Alternative and a Tier 4 Diesel Locomotive Alternative and found them to be higher than the EMUs with the Proposed Project (see discussion in Chapter 5 in the EIR).

I83-5

Regarding EMU specifications, the acceleration and deceleration of EMUs is described in Chapter 5 of the EIR. These performance characteristics supported the assumptions about schedule and operations used to develop project ridership. The specific size, weight and horsepower are not known as the EMU procurement process has not advanced. Reference sources, such as for noise, were used in the EIR impact analysis.

Regarding Alternatives, see Master Response 2 (Alternatives). A Tier 4 Diesel Locomotive Alternative has been added to the EIR.

I83-6

The Project will increase Caltrain service up to 6 trains per peak hour and with EMUs will allow scheduling flexibility such as adding more stops along the corridor without compromising overall end to end transit time, or to improve end to end trip times. CBOSS does not include any service increase. Any increase of service along with increased train performance is necessary to accommodate projected increases in ridership demand.

This EIR does not environmentally clear high-speed rail service in the Peninsula Corridor. The California High-Speed Rail Authority (CHSRA) would be the lead agency for a subsequent a separate environmental clearance document at a future time to environmentally clear high-speed rail service in the Peninsula Corridor. The cumulative impact analysis in this document provides a qualitative discussion of the potential cumulative impacts of blended service as it is conceptually understood at this time including potential system improvements (see Chapter 4, Section 4.1, of the Final EIR).

Regarding capacity, please also see Master Response 4 (Ridership and Capacity).

I83-7

Table 4-20 in the Draft EIR documented the annual direct energy consumption associated with the Proposed Project and compared the direct energy use to the existing Caltrain system. Section 3.13, *Public Services and Utilities*, in the Draft EIR also described the physical environmental impacts associated with the energy infrastructure system. The analysis states that the Proposed Project's increase in electricity demand would be supported by the PG&E existing transmission and generation system and that no remedial measures would be required.

Caltrain conducted a prior assessment of the potential impact on the PG&E electrical supply system in 2008 (LTK 2008). The results of the study show that the PG&E transmission and generation system stands up well to the traction electrification system loads under normal operating conditions and under various system contingencies, including transmission line, generator, and traction power system outages. It was concluded, that, the PG&E system would accommodate the planned traction power system loads.

This study will be updated to current conditions as part of final design, but as shown in Table 3.13-4, electricity demand in 2012 in Santa Clara/San Mateo counties is actually 5 percent less than in 2008 and thus there is no reason to think that the 2008 report conclusions on reliability will change with the updated study.

To make the energy consumption impacts more clear to the reader, Section 4.5, *Energy*, has been added to the Final EIR. The information provided in this Section also meets the requirements of CEQA Guidelines, Appendix F (Energy Conservation). Appendix F requires that "potentially significant energy implications of a project shall be considered in an EIR *to the extent relevant and applicable to the project*" (emphasis added).

Regarding fuel costs, please see the fuel cost estimates in Chapter 5, Table 5-4 of the Final EIR. As shown therein, the project would reduce fuel costs compared to existing conditions and would also have lower fuel costs than No Project conditions. Revisions to Chapter 5 of the Final EIR show estimated fuel costs for all analyzed alternatives and that the Proposed Project would have the lowest fuel costs of the analyzed alternatives.

I83-8

Please see Master Responses 6, 7, and 8 regarding aesthetics relative to tree removal and the OCS, and air quality and noise relative to tree removal.

I83-9

The Draft EIR acknowledged that removal of trees would result in significant and unavoidable visual impacts. Although replacement of trees is proposed, it will take many years for the trees to mature and provide equal canopy cover. As prescribed by Mitigation Measure BIO-5, a Tree Avoidance, Minimization, and Replacement Plan will be developed in consultation with a certified arborist and in consultation with cities, counties, and affected property owners along the project route to help minimize the effect of tree removal.

Socioeconomic effects are not a consideration under CEQA.

I83-10

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service, included potential additional tracks, will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service which notes the potential for additional ROW needs, particularly related to new passing tracks. See also Master Response 1 (Segmentation and Independent Utility).

I83-11

HortScience's field work was originally conducted when the project area was 29 feet. At that time HortScience assessed the severity of pruning for each tree, considering the species and what specific portions of the canopy would be removed. When the project area was later reduced to 24 feet, HortScience made estimates of pruning based on percentage reductions. This change is described on page 9 of the Tree Inventory and Canopy Assessment (see Appendix F of the Draft EIR).

It is not the intent of the EIR to define exactly which trees will or won't be removed, especially at this preliminary level of design and before consideration of the pole design/alignment options included in Mitigation Measure BIO-5. Instead the methods used in the EIR provide a reasonable estimate of the potential tree effects. The actual effects are expected to be less than disclosed in the EIR due to implementation of Mitigation Measure BIO-5. Implementation of Mitigation Measure BIO-5 will include a 100 percent field survey in conjunction with final design to identify the specific trees requiring removal and pruning and to determine the replacement requirements.

I83-12

See Master Response 6 (Visual Aesthetics including Tree Removal).

I83-13

The current scope of the Peninsula Corridor Electrification Project (PCEP) is to convert Caltrain from the existing diesel-hauled trains to Electric Multiple Unit (EMU) trains between San Francisco and San Jose. This includes new electrical infrastructure to support these operations and new electrified vehicles to use this infrastructure. Service can be restored to the Atherton station without elimination of the "hold out rule".

The PCEP does not include infrastructure improvements such as station reconstruction. Platform changes needed to remove the "hold out rule" would be done as part of a separate project. If design is sufficiently mature for platform changes at the time of final design for the PCEP, and funding is identified, it may be possible to avoid relocation of any OCS poles and wires. Removal of the "hold out rule" is not necessary in order to have electrified or blended service.

The PCEP also does not include infrastructure improvements that would be necessary for future high speed rail service. During design of blended service improvements, whether or not hold out rule stations will require modification or not will need to be evaluated. As stated in Section S.2.1.5 of the Final EIR, any further improvements needed to allow high speed rail trains to use the Caltrain corridor would be subject to a separate environmental review.

I83-14

Caltrain was unable to locate the referenced January 14, 2014 letter from Union Pacific to JPB regarding electrification of the Caltrain corridor. Regardless, in Union Pacific's comment letter on the PCEP Draft EIR, dated April 29, 2014 they raised their concern about EMI effects on freight signals and grade crossing warning devices.

Please refer to Master Response 11 (Freight) which responds to this issue.

I83-15

See Master Response 3 (Use of Proposition 1A Funding).

The current court rulings on Proposition 1A allow the CHSRA to issue the bonds as the lower court ruling was overturned by the Appellate Court. While the case has been appealed to the California Supreme Court, it is unknown whether the higher court will take it up or what decision it may render if it takes the case on. The Lieutenant Governor has no executive authority or responsibility related to the CHSRA and thus his opposition is noted, but is not relevant to the matters at hand. Regarding any assertion that HSR cannot meet Proposition 1A, this matter has yet to be adjudicated in the pending court case.

I83-16

See Master Response 11 (Freight) and also see responses to UPRR comment letter (comment letter P5).

I83-17

See prior responses.

I83-18

The Draft EIR analyzed a DMU Alternative and the Final EIR includes a Tier 4 Diesel Locomotive Alternative. The alternative analysis in Chapter 5 of the EIR includes consideration of the speed, acceleration rates, and emissions level. Both the DMU Alternative and the Tier 4 Diesel Locomotive Alternative are considered feasible alternatives to the Proposed Project and both would avoid the electrical infrastructure costs of the Proposed Project.

As explained in Master Response 2 (Alternatives), while Tier 4 DMUs or Diesel Locomotives would have substantially lower criteria pollutant emissions than current diesels, they would have higher criteria pollutant emissions than EMUs and substantially higher GHG emissions than EMUs. In addition, they would also have higher noise levels as DMUs and Tier 4 Diesel Locomotives are noisier than EMUs.

I83-19

Comment noted.

3.2.133 Responses to Comment Letter I84

I84-1

Please see Master Response 9 (Bikes on Board). Comments in support of increased onboard bike capacity and improved services (restrooms, plugs for all technological needs, etc.) on the trains are noted.

3.2.134 Responses to Comment Letter I85

I85-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.135 Responses to Comment Letter I86

I86-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.136 Responses to Comment Letter I87

I87-1

Comment noted. Please see responses to comments I87-2 through I87-6.

I87-2

Comment noted. Please see Master Responses 6, 7, and 8 regarding aesthetics (including tree removal), air quality (including dust), and noise. Regarding traffic impacts, see Section 3.14, *Transportation and Traffic* for an analysis of project effects on regional and localized traffic conditions, including in Atherton and neighboring cities.

Regarding property values, the comment is noted, but socioeconomic effects are not a consideration under CEQA.

I87-3

Please refer to Chapter 5, *Alternatives*, which includes an analysis of two self-propelled vehicles: a diesel multiple unit (DMU) and a dual-mode multiple unit (dual-mode MU). A third self-propelled vehicle alternative, the Tier 4 Diesel Locomotive Alternative has been added to the Final EIR.

I87-4

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor.

Please also see Master Responses 6, 7, and 8 regarding aesthetics, air quality and noise relative to tree removal. As described in Master Response 6 (Visual Aesthetics including Tree Removal) a feasibility assessment of potential pole design options was conducted for the ROW within Atherton which shows that the amount of tree removals can be lowered compared to that disclosed in the Draft EIR. Also see Appendix J in the Final EIR which provides preliminary tree impact mapping.

Regarding property values, the comment is noted, but socioeconomic effects are not a consideration under CEQA.

I87-5

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I87-6

Comment noted. Please see responses to comments I87-1 through I87-5 and Master Response 2 (Alternatives). All resource areas required by CEQA were analyzed in the Draft EIR in their respective chapters.

3.2.137 Responses to Comment Letter I88

I88-1

Gate down times at grade crossings were studied extensively in the PCEP EIR process under existing, 2020 No Project, 2020 Project, 2040 No Project, and 2040 conditions. Existing gate down times are available in Section 2.6.3.1 of Appendix D to the Final EIR. 2020 gate down times for both Project and No Project conditions are available in Section 3.6.4.1.1 of Appendix D. 2040 gate down times for both Project and No Project conditions are available in Section 3.6.4.2.1 of Appendix D. Improvements from the Communications Based Overlay Signal System and Positive Train Control (CBOSS PTC) advanced signal system discussed in Section 2.4.1 of Appendix D are included in all future scenarios. These gate-down times for the grade crossings are factored into the traffic analysis models. As a result, delay associated with a change in gate down time at a grade crossing is accounted for in the levels of service and delay reported for study intersections. The increase in the number of trains traveling in the Study Area under Project conditions is expected to result in an increase in aggregate gate down time over the peak hour at some locations and a decrease at some locations.

I88-2

See Noise Modeling Methodology in Master Response 8 (Train Noise). The EIR analyzed the combined effect of quieter EMUs and increased number of trains including increased sounding of horns and found that overall the combined effect would be a slight reduction in noise at most locations with a slight increase at a few study locations less than FTA threshold levels. Regarding grade separations, this is not proposed as project mitigation (as the project alone won't have a significant impact) but is included as one option for the cumulative noise mitigation.

I88-3

Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions). As explained in Section 3.2, *Air Quality* and 3.7, *Greenhouse Gas Emissions and Climate Change*, the EIR took into account both the reduction of emissions from switching from diesel to electricity as well as the indirect emissions associated with increased consumption of electricity and the project would have a substantial net improvement in regional air quality and a net reduction in GHG emissions.

Regarding changing electricity generation portfolios, California's Renewable Portfolio Standard (RPS) requires increasing amounts of renewable energy to be used to generate electricity for California and California's fundamental GHG law, AB-32, required reduction of GHG emissions over time. Thus, if anything, the GHG intensity of electricity generation by PG&E and throughout California is likely to reduce over time than increase.

Regarding power demand of the project and impact on the electricity generation system, as stated in Section 3.13, *Public Services and Utilities*, in the Draft EIR (see page 3.13-28, lines 28-32), if new power plants or distribution facilities are required for the cumulative electricity demand of the region as whole, these would be planned by the power production and distribution companies, not by JPB.

I88-4

Comment is noted.

Grade separations on their own would reduce noise and traffic congestion at certain grade crossings, which would reduce some limited traffic GHG emissions. But grade separations on their own would not reduce overall vehicle miles travelled and the associated GHG emissions and would do nothing to reduce GHG emissions associated with Caltrain trains.

Grade separations on their own would not meet most of the project objectives and thus is not an alternative to the project. A fully graded separated alternative (with electrification) was considered in Chapter 5 in the EIR, but was dismissed due to cost.

3.2.138 Responses to Comment Letter I89

I89-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.139 Responses to Comment Letter I90

I90-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.140 Responses to Comment Letter I91

I91-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.141 Responses to Comment Letter I92

I92-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.142 Responses to Comment Letter I93

I93-1

The EIR has been updated for the Dual-Mode MU Alternative per this comment to include an updated estimate of initial acceleration, acceleration to 79 mph, as well as the operational features during power outages and the potential for conversion to full EMU if the diesel mode is no longer required by removing the diesel power pack. The qualitative assessment of ridership potential has also been updated to note that this Alternative could have closer performance to the Proposed Project EMUs.

I93-2

The EIR has been updated for the DMU Alternative unit per this comment to include an updated estimate of initial acceleration. The qualitative assessment of ridership potential has also been updated to note that this Alternative would have closer performance to the Proposed Project EMUs accordingly.

I93-3

Regarding the comment expressing concern about EMU acceleration of 2.1 mph/sec being handled safely by a CBOSS PTC overlay type signaling system, the PTC system does not need to monitor acceleration (the rate at which a train speeds up) and acceleration has no effect on the safety of the PTC system.

Regarding the headway "safety factor" for EMUs relative to 100 mph, this is not relevant to the PCEP which only designed to 79 mph but would be relevant to blended service operations. Blended service at present is only proposed up to 110 mph, and thus the comment about 150 mph does not apply.

I93-4

While the Dual-Mode Multiple Units would be able to operate in a blended service environment, this alternative as defined in the Draft EIR does not include electrification from San Jose to San Francisco and thus cannot meet the project objective of providing electrification infrastructure compatible with HSR.

The comment is correct that Dual Mode MUs could operate in a hybrid network, but the alternative as defined in the Draft EIR is intended to show the maximum of avoidance of the aesthetic and tree removal impacts of not having an OCS on the San Francisco Peninsula. It is recognized that there could be a number of variations of partial electrification and partial non-electrified territory for use with Dual –Mode MUs. This possibility has been added to Chapter 5, *Alternatives*, but the impacts of a partial electrification + Dual-Mode MU alternative would be a mix of the impacts of the Proposed Project and Dual-Mode MU Alternative described in the Draft EIR.

Regarding the potential conflict with the proposed 22-Fillmore extension, the Draft EIR included mitigation for a feasible technical solution to the meeting of the trolley OCS and the PCEP OCS.

Regarding electrification of MT-1, this is no longer proposed south of Santa Clara.

I93-5

As noted above, the Dual Mode MU Alternative assumes diesel operations between San Jose and San Francisco and only included electrified operations from north of 16th street to the TTC. In that mode, this alternative would increase fuel consumption relative to existing conditions due to the increased service requiring longer hours of operation.

A variant of this alternative with full electrification from San Jose to San Francisco but using Dual Mode MUs instead of EMUs would not avoid any of the Proposed Project impacts related to the OCS and thus is not considered further in the EIR.

As noted above, the possibility of a partial electrification + Dual-Mode MU Alternative has been added to the analysis in the Draft EIR and would result in lowering diesel consumption compared to existing conditions.

As to replacing the remaining 25 percent of the diesel fleet, this was not assumed in the DMU or Dual-Mode MU alternative for 2020 in order to have a fair comparison to the Proposed Project which assumes use of the remaining 25percent of the diesel fleet that has not reached its end of service life (specifically the 1998 F40s and the 2003 MP36s).

The details about shutting down power packs at stations have been added to the alternative description.

I93-6

Even using the commenter's updated acceleration figures, the Dual-Mode MU Alternative would still not match the performance of the EMUs and thus one would expect some impact on ridership. Revisions to Chapter 5 of the Final EIR include disclosure of acceleration rates to 79 mph, which support this conclusion. The commenter is correct that the Proposed Project EMUs cannot offer a one-seat ride from south of Tamien to San Francisco because the ROW south of Tamien is owned by UP and not electrified. Commuter service between Tamien and Gilroy is important but it is not part of the PCEP project. The Chapter 5 analysis of the air quality and GHG impacts of this alternative include an assumption of the same ridership as the Proposed Project for the sake of comparison, even though with lesser performance ridership would likely be less than the Proposed Project. The EIR has also been revised to note the potential for one-seat rides for the Dual-Mode MU Alternative.

As to the potential to service the Facebook campus using the Dumbarton line that is not part of this project and thus not part of the Dual Mode MU Alternative.

I93-7

The Draft EIR has been revised to note that Dual-Mode MUs have been in operation for the last 10 years to qualify the "relatively recent" and "long track record" statements.

I93-8

The discussion of trolleybuses has been deleted.

The Draft EIR noted, factually, that some of the Dual-Mode locomotives used by the Long Island Railroad have had some reliability concerns. The factual statements about reliability did not influence the environmental analysis of this alternative in any way. The statements about reliability were merely for context to note that some applications in the U.S. have experienced some issues. In fact, the Dual-Mode MU alternative was identified as the environmentally superior alternative over the DMU Alternative, for which the Draft EIR did not identify any reliability concerns.

I93-9

Per the response to Comment I93-6 above, this alternative would still not match the EMU performance using the commenter's own data and ridership south of Tamien is a small part of Caltrain ridership and thus the JPB does not agree that ridership would be higher than the Proposed Project. As noted above, a sensitivity analysis was done to disclose the potential air quality and GHG impacts is this alternative resulted in the same ridership as the Proposed Project.

I93-10

The reference to different deceleration rates between different multiple unit alternatives has been deleted. As to acceleration, there is a factual basis for differentiating performance of the EMUs vs. this alternative using the commenter's own data.

I93-11

The Dual-Mode MU Alternative in the Draft EIR was specifically designed to show an alternative that would have no tree removal and no aesthetic impacts related to the OCS, but that could still reach TTC after completion of the DTX. As noted above, a partial-electrification variant of this alternative has been added to the Final EIR that is identified to have impacts somewhere between those of the Proposed Project and the non-electrification variant of this alternative.

I93-12

As noted above, a partial electrification variant of this alternative has been added to the EIR. The statements about use of other funds are not relevant to the environmental analysis in this EIR.

I93-13

The JPB has no plans to vacate the Fourth and King Rail Yards in the 2020 to 2030 timeframe. The number of Caltrain trains serving the TTC is unknown at this time. Caltrain has only operationally modelled 2 trains to TTC at this time, but more trains are possible. The PCEP only includes funding for 6 trains per peak hour, so there is no proposal to put 8 trains (or more) through to TTC. As noted in Master Response 4 (Capacity and Ridership), TTC station ridership would be higher if one were to assume 6 Caltrain trains per peak hour.

As to the new Transbay Tunnel linking the TTC to the East Bay, that project is speculative at this point as it is not proposed or funded.

I93-14

The comment confirms the accuracy of the quote from the EIR. Bombardier has been building dual-mode MUs for a number of years.

I93-15

With the change in the Proposed Project to not assume temporal separation requirements for Alternatively Compliant EMUs, the Dual-Mode MU Alternative has also been revised to not assume temporal separation as well and thus describes potential use of the dual mode MUs south to Gilroy. However, in 2020, this alternative assumes use of the remnant diesel fleet like the Proposed Project.

I93-16

The Proposed Project assumes that remnant diesels not at the end of their service life will continue to be in operation in 2020 and that assumption is applied equally to the Dual-Mode MU Alternative. Over time, the Proposed Project will replace retiring diesels with EMUs and the Dual-Mode MU Alternative would replace retiring diesels with Dual –Mode MUs. This way, the EIR is presenting an "apples to apples" comparison of the different technologies.

As shown in the updated air quality and GHG analysis of alternatives in Chapter 5, the Proposed Project would still have lower criteria pollutant emissions and GHG emissions compared to the other action alternatives. While the criteria pollutant emissions and GHG emissions were not calculated for the "partial electrification + Dual-Mode MU" variant they are noted as being somewhere between the Proposed Project and the no electrification + Dual Mode MU variant".

As to air quality south of San Jose, service from San Jose to Gilroy is not part of the Proposed Project. Furthermore, with aging of diesel equipment, Caltrain will eventually replace the current diesel equipment servicing Gilroy with Tier 4 diesel locomotives (or whatever tier is required at that time if better than Tier 4). The same would happen with a Dual-Mode MU equipment in that approximately 75% of the fleet would be replaced by 2020 with the remainder replaced as the aging equipment reached the end of its service life. Thus, relative to areas south of San Jose, both the Proposed Project and the Dual-Mode MU Alternative would have similar air quality impacts as they would swap out diesels for Tier 4 (or better) equipment over time.

I93-17

The statement about acceleration is accurate. The statement about deceleration is not and has been removed. Regarding ridership, see the response to Comment I93 -6.

I93-18

The EIR has been revised to note that if no electrification is included at the 16th Street crossing, then there would be no need for crossing mitigation as the pantograph could be lowered with this alternative. It should be noted that for the Proposed Project there is a technical solution to the trolleybus OCS/PCEP OCS interface which is included as mitigation in the Draft EIR.

I93-19

The referenced statement has been revised to note that the Dual-Mode MU Alternative would not require the proposed mitigation at 16th Street for the Fillmore 22 trolley OCS.

I93-20

The project limits are just south of the Tamien Station. Blossom Hill and Capitol are not included in the project limits. The parking demand impacts are found to be less than significant under CEQA and thus there is no requirement to consider alternatives relative to less than significant impacts.

See prior comment responses about ridership.

I93-21

<u>The information about the Network Rail contracts has been added to the Final EIR.</u>

It should be noted that costs in California, which has no experience constructing an electrified rail system, may vary from costs in the United Kingdom which has extensive experience in construction electrified rail systems, in addition to different labor markets, cost of living, and many other differences.

I93-22

The rate of progress for the remaining 20 percent of the OCS system not only includes stations but also constrained areas like tunnels, bridges and underpasses. At stations, not all of the poles are on platforms and some will require work in the operational ROW which will be prioritized for night work where feasible. <u>The EIR has been revised to note the potential to cut the additional 6 to 7 months by completing some of the conventional work at the same time as factory train work at night.</u>

I93-23

The potential cost savings with a factory train have been added to the EIR. The EIR does not speculate as to the potential use of any cost savings for other rolling stock acquisition.

As to a mixed procurement with other passenger rail services and potential private sector capital, this is not a comment on the EIR and requires no response.

I93-24

This comment refers to text describing why Alternative S4 (electrification to Gilroy) is not considered feasible.

The costs assume conventional construction and are based on the updated project infrastructure costs in the Final EIR. <u>The EIR in Chapter 5 has been revised to note that a factory train may substantially lower the costs for electrification.</u>

More importantly, south of Tamien, the corridor is owned by Union Pacific which has insisted that Caltrain not electrify tracks owned by Union Pacific. The Proposed Project has been modified to exclude electrifying MT-1 (which is owned by Union Pacific). <u>For this additional reason this alternative is considered infeasible. This has been added to the EIR.</u>

As to ridership, 2013 daily ridership south of Tamien is only 365 and 2020 No Project daily ridership only increases to 1,925. Alternative S4 refers to adding 26 trains per day (each with nominal capacity of 500 + passengers) and there is no demonstrated need for so many trains.

As discussed in prior response, the Draft EIR does not identify any significant environmental impact related to parking deficits and thus an alternative need not be identified to address this less than significant impact.

As to not electrifying south of Tamien due to use of Dual-Mode MUs, electrifying south of Tamien is part of Alternative S4, not part of the Proposed Project and thus is not relevant to consideration of alternatives to the Proposed Project.

I93-25

This comment refers to text describing why Alternative S5 (Electrification to Gilroy/Blossom Hill alternative) is not considered feasible.

<u>The EIR has been revised to note that a factory train may substantially lower the costs for OCS construction.</u>

As to not electrifying south of Tamien due to use of Dual-Mode MUs, electrifying south of Tamien is part of Alternative S5, not part of the Proposed Project, and thus this thus is not relevant to the alternatives to the Proposed Project.

More importantly, south of Tamien, the corridor is owned by Union Pacific which has insisted that Caltrain not electrify tracks owned by Union Pacific. The Proposed Project has been modified to exclude electrifying MT-1 (which is owned by Union Pacific). <u>For this additional reason this alternative is considered infeasible. This has been added to the EIR.</u>

3.2.143 Responses to Comment Letter I94

I94-1

Comment noted. With Project implementation, the Draft EIR described that in a worst-case scenario with a side-pole OCS arrangement, approximately 2,200 trees would be removed. As described in Master Response 6 (Visual Aesthetics and Tree Removal), with likely ESZ areas described in the Final EIR and Mitigation Measure BIO-5, tree removals and prunings would be substantially less than the worst-case scenario.

OCS poles would be installed so that EMUs could run along the Caltrain tracks. Mitigation Measure BIO-5 would help to reduce tree removal impacts.

I94-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

Overhead contact systems are the most common technological approach in use in the world today for new projects to electrify commuter and intercity rail.

I94-3

Comment noted. The comment does not raise any new environmental concerns.

As described in Chapter 5, *Alternatives,* of the Draft EIR, a Caltrain Third-Rail Alternative (i.e., no OCS) was considered and dismissed for feasibility and financial reasons.

See also Master Response 2 (Alternatives).

The comment is incorrect that in the rest of the world the public rides on high-speed electric trains with no overhead wires. All electrified high-speed (> 150 mph) trains in operation in the U.S., Europe, and Asia use overhead wires with one exception, which is a short maglev train in Shanghai. There are several lower speed maglev trains in Japan and Korea, but these are not high-speed applications. For lower speed trains there are a variety of power systems used including overhead systems like on the NEC in the northeast U.S. as well as third rail power systems like BART. The comparison of airport shuttle electric trains to the needs for Caltrain commuter rail service is not appropriate as the power requirements, speeds, and capacity for the two application are completely different.

I94-4

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I94-5

See response to comment I94-3.

I94-6

The Scoping period for the Project (January 31, 2013 through March 18, 2013) was a formal opportunity for agencies and the public to submit comments on the scope of the EIR and suggest potential alternatives to the Project. The JPB considered a wide range of alternatives suggested during the scoping process and then conducted a three-part screening evaluation to select the alternatives to be analyzed in this EIR. The Alternatives Screening Process is described in Chapter 5, *Alternatives*, of the EIR. See also Master Response 2 (Alternatives).

I94-7

Please refer to Chapter 5, *Alternatives*, of the Draft EIR for a description of the alternatives considered and analyzed. See also Master Response 2 (Alternatives).

Regarding the "high frequency multi-phase multi-contact, multi-channel power rail strip" alternative, while creative, the commenter admits that he is engaging in speculation ("wild impulsive arm waving". The commenter provides no evidence that this alternative would work. Caltrain is not aware of any research, prototypes, or in operation systems using this technology.

However, at a conceptual level, this alternative is only a variation on third-rail technology (which the commenter himself called "1960's technology" in a prior comment. Third-rail systems must be entirely grade separated to isolate the power system from public contact and to provide uninterrupted power at roadway crossings and to comply with CPUC requirements. The EIR considered a third-rail alternative and dismissed it based on financial reasons (see Chapter 5).

CEQA does not require a lead agency to analyze speculative alternatives because they aren't viable alternatives to the Proposed Project, which consists of off-the shelf technology in wide use today.

I94-8

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I94-9

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

3.2.144 Responses to Comment Letter I95

I95-1

As explained on page 4-28 in the Draft EIR, the removal of the hold out rule is part of other on-going planning by Caltrain. Removal of the hold out rule is not necessary to implement the PCEP.

The PCEP includes restored weekday service to the Atherton and Broadway stations only, and thus does not include any platform improvements to these stations. If the hold out rule is not eliminated by 2020, then service will commence in compliance with the rule until the necessary improvements are made.

3.2.145 Responses to Comment Letter I96

I96-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.146 Responses to Comment Letter I97

I97-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.147 Responses to Comment Letter I98

I98-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I98-2

Please also see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I98-3

Commenter's request for electric car chargers, car share, bike share, and LED lighting at the stations is noted. The proposed project does not propose any changes to the existing station facilities and/or parking. Please also see Master Response 9 (Bikes on Board).

I98-4

Comment regarding providing a parallel bike trail alongside Caltrain is noted. It is unclear how placing a bike trail along the rail ROW would improve rail safety. While trails next to rails have been done safely in many locations, adding a trail does not improve rail safety.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.148 Responses to Comment Letter I99

I99-1

Please see Master Response 2 (Alternatives).

3.2.149 Responses to Comment Letter I100

I100-1

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I100-2

Please refer to Chapter 5, *Alternatives*, which includes an analysis of two self-propelled vehicles: a diesel multiple unit (DMU) and a dual-mode multiple unit (dual-mode MU).

A 100 percent Center Pole Alternative was considered in the Draft EIR. As shown in Table 5-7 in Chapter 5, *Alternatives*, of the Draft EIR, this alternative was found to be logistically infeasible because there is insufficient track separation in many areas. Because this alternative is considered infeasible, it was not analyzed in the EIR. However, center poles, two-track cantilevers and other pole configurations will be considered as part of Mitigation Measure BIO-5 for locations along the ROW, as feasible to avoid and minimize tree removals.

Please also see Master Response 2 (Alternatives).

Regarding battery-driven trains, please see response to Comment I68-28 on battery-electric multiple units. Regarding fuel-cell trains, as the commenter notes this is an experimental technology for commuter rail applications. Although several prototypes are in development in Japan and

Europe they are not yet proven (Chan et al. 2013). Internet searches could not locate any examples of in-use fuel cell commuter trains. Thus a fuel-cell train alternative is considered speculative. CEQA does not require consideration of speculative alternatives.

I100-3

Please see Master Response 6 (Visual Aesthetics including Tree Removal).

I100-4

Mitigation Measure BIO-5 prescribes that a Tree Avoidance, Minimization, and Replacement Plan be developed in consultation with a certified arborist and in consultation with cities, counties, and affected property owners along the project route. The plan will include provisions for tree replacement as stated in Mitigation Measure BIO-5. The Mitigation Measure has been revised to prioritize replanting on-site where feasible.

I100-5

See Master Response 3 (Use of Proposition 1A Funding).

3.2.150 Responses to Comment Letter I101

I101-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I101-2

Comment requesting additional trains during evening game days is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.151 Responses to Comment Letter I102

I102-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.152 Responses to Comment Letter I103

I103-1

Comment noted. Comment does not raise an environmental concern. No revisions to the Draft EIR are necessary.

I103-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.153 Responses to Comment Letter I104

I104-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.154 Responses to Comment Letter I105

I105-1 through I105-4

The San Carlos Transit Village project is one of the cumulative projects (#30) considered in the Draft EIR. All potential cumulative impacts, including tree removal, are analyzed in Chapter 4, *Other CEQA-Required Analysis*.

As explained in the responses to comments from the City of San Carlos, the JPB will work with the City of San Carlos to determine whether to include the trees to be planted at the Transit Village in replacement requirements per Mitigation Measure BIO-5. If the trees are not planted by the time of the PCEP construction or do not fall within the ESZ, then there would be no reason to include them in the tree count as these trees would not be removed or trimmed.

Regarding the effect of tree removal on noise, please see Master Response 8 (Train Noise).

I105-5

The number of trees that would be removed if there were center-poles has not been estimated. As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

No changes to berms are planned as part of the Project.

3.2.155 Responses to Comment Letter I106

I106-1

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor.

Mitigation Measure BIO-5 requires replanting of any removed trees.

Please also see Master Responses 7 concerning air quality and tree removal.

I106-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.156 Responses to Comment Letter I107

This comment provides the same comments as Comment Letter I11, so reference is made to the prior responses.

I107-1

Comment noted. Please see responses to comments I107-2 through I107-6

I107-2

Comment noted. The commenter accurately summarizes the Project's purpose.

I107-3

See response to comment I11-2 and I11-3.

I107-4

See response to comment I11-4.

I107-5

Comment noted. See response to comment I11-5.

I107-6

See response to comment I11-6.

3.2.157 Responses to Comment Letter I108

I108-1

Comment noted. The EIR identifies the adverse effects of the Proposed Project in all the resource areas required for study by CEQA. Please see responses to comment I108-2 through I108-14 for specific comments raised.

I108-2

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Responses 6 regarding aesthetics and Master Response 8 (Train Noise) concerning tree removals and noise.

I108-3

Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning tree removal and air quality.

I108-4

Comment noted. Please see Master Response 6 (Visual Aesthetics including Tree Removal). Where feasible, trees will be replanted as close to their original location as consistent with the project's need for electrical safety and as allowed by ROW space and landowner permission (if outside the JPB ROW).

I108-5

See Noise Modelling Methodology in Master Response 8 (Train Noise). The noise analysis for the EIR follows standard methodological guidelines established by the Federal Transit Administration. The noise model includes the following: train horn noise, noise from the wheel/rail interaction, locomotive engine or propulsion noise and aerodynamic effects. The latter include noise at the train noise, around the wheels and at the pantograph (catenary). The noise analysis takes into consideration several factors, including the noise from a mixed fleet of EMU and diesel locomotives, the increased number of trains, including specifically during the peak hour.

I108-6

Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning air quality. As demonstrated therein and in Section 3.2, *Air Quality*, the EIR clearly shows that the project will improve air quality overall.

I108-7

The Draft EIR evaluates potential impacts to birds from proposed tree removal and trimming associated with the project in Table 3.3-2 (page 3.3-8), Impact BIO-1a (page 3.3-35), and Impact BIO-1b (page 3.3-40). Potential project-related impacts, including tree trimming during both project construction and operation/maintenance. Disruption to bird nesting would be avoided through the implementation of Mitigation Measures BIO-1a (page 3.3-36), BIO-1e (page 3.3-35), BIO-1f (page 3.3-38), BIO-1g (page 3.3-39), and BIO-1j (page 3.3-41).

Also, refer to Mitigation Measure BIO-5 on page 3.3-47 of the Draft EIR which requires the implementation of a tree avoidance, minimization, and replacement plan. No revisions to the Draft EIR are necessary.

I108-8, 9

Trees within 10 feet of the OCS will be required to be removed. Thus, OCS foundations may affect some tree roots from trees that are more than 10 feet from the OCS. However, tree roots in general grow radially out from the trunk and thus the area of effect for a single foundation would only be 3 to 4 square feet which is likely to be only a small portion of any trees roots.

As to compaction, there is no proposed compaction needed in association with OCS foundations or for the wires for the AFOs. Where utilities must be undergrounded by trenching, the soil over the trench would be compacted. It should be noted that the portion of the ROW under and adjacent to the tracks has been graded and compacted over the years and thus any additional compactions at and immediately adjacent to the tracks would not be a substantial change in existing conditions. Compaction will also occur at the TPF sites for the transformer pads, but again trees will be removed within 10 feet of the TPF electrical equipment and thus any remaining trees will be less affected by compaction.

While there may be some limited effects, the project is not likely to have significant impacts on tree roots during construction. As a precaution, during implementation of Mitigation Measure BIO-5, potential effects to non-removed individual tree roots, including root pruning and soil compaction, will be considered by an arborist to determine if root pruning will jeopardize the health of affected trees. If health is compromised substantially such that the tree may die, mitigation would occur at the ratios specified in Mitigation Measure BIO-5. This would ensure that significant impacts are reduced to a less than significant level. This has been added to Mitigation Measure BIO-5.

I108-10

The purpose of the referenced letter to property owners was to inform them that the JPB may need to acquire property (in fee or in easement) on their property. An example letter to property owners is included in Appendix J.

All residents along the ROW were notified of the availability of the Draft EIR and the Draft EIR includes a tree appendix that describes potential tree effects along the ROW. Tree removal is described in the Draft EIR including an appendix that describes tree effects in Atherton based on the tree survey. The impacts of tree removal/pruning are disclosed in the aesthetic and biological resource sections.

The Final EIR includes maps of tree impacts and ROW encroachments (see Appendix J) that amplifies and clarifies the information presented in the Draft EIR.

I108-11

Comment noted. The EIR has been prepared in accordance with the State CEQA guidelines and analyzes impacts of the project on various resource areas as required. The EIR looked at project level impacts during construction and operation as well as cumulative impacts due to overlap with other relevant and reasonably foreseeable projects in the region. The commenter’s assertion that only positive impacts of the project were addressed in the EIR is not correct. The EIR presents a detailed study of adverse significant impacts and mitigation measures to minimize harm as required by CEQA. The EIR acknowledged that the loss of trees along the alignment would be a significant and unavoidable impact. For any trees that would be removed, replacement planting will be provided as mitigation, such that in time, all trees will be replaced.

The purpose of the project is not about getting federal funds for HSR.

The project objectives are described clearly in the EIR including improving Caltrain service, lowering operating fuel costs, improving air quality, lowering GHG emissions, lowering train engine noise, as well as providing electrical infrastructure compatible with future HSR use.

I108-12

See Master Response 6 (Visual Aesthetics including Tree Removal). Maps of tree impacts have been added to the Final EIR (See Appendix J).

I108-13

The Draft EIR includes visual simulations of the Proposed Project (refer to Figures 3.1-3 through 3.1-18 of the Draft EIR). Most of these figures (Figures 3.1-3 through 3.1-7, 3.1-9, 3.1-12, 3.1-13, and 3.1-15 through 3.1-17) show existing conditions as well as a simulated view. See also Master Response 6 (Visual Aesthetics including Tree Removal).

I108-14

Comment noted. Please see Reponses to Comments I108-1 through I108-13.

3.2.158 Responses to Comment Letter I109

I109-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.159 Responses to Comment Letter I110

I110-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.160 Responses to Comment Letter I111

I111-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.161 Responses to Comment Letter I112

I112-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.162 Responses to Comment Letter I113

I113-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.163 Responses to Comment Letter I114

I114-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.164 Responses to Comment Letter I115

I115-1

Comment in support of the Project is noted. No revisions to the Draft EIR are necessary.

3.2.165 Responses to Comment Letter I116

I116-1

Please refer to Section 4.14, *Transportation and Traffic*, of the Draft EIR for a full discussion of bicycles. Please also see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.166 Responses to Comment Letter I117

I117-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.167 Responses to Comment Letter I118

I118-1

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I118-2

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements and impacts associated with HSR service, including potential health impacts) will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I118-3

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I118-4

Comment noted. Mitigation Measure AES-2b provides guidance for aesthetic treatments for the OCS. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I118-5

Comment noted. Please see responses to comment I118-6 through I118-15 below. Socioeconomic effects of a project on property values are not considered under CEQA. Impacts to properties in terms of removal of vegetation are addressed in the EIR. Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines, and which trees fall within the ESZ.

I118-6

Seismic safety concerns are addressed in Section 3.6, *Geology, Soils, and Seismicity,* of the Peninsula EIR. The analysis contains discussions related to the exposure of people and/or structures to fault rupture, seismic ground shaking, ground failure, landslides and unstable or expansive soils during seismic events. Public health/environmental safety considerations (from a hazardous materials, airport safety hazards, and wildfire standpoint) are discussed in Section 3.8, *Hazards and Hazardous Materials*, of the EIR.

I118-7

See Master Response 8 (Train Noise) for response concerning noise impacts including noise effects due to tree removal. See Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning air quality and tree removal.

Noise and vibration impacts and mitigation during constriction are discussed in Section 3.11. As discussed in Section 3.11, *Noise and Vibration* operational noise and vibration impacts along the

ROW, such as in Atherton would be less than significant. Cumulative noise and vibration impacts and mitigation are discussed in Chapter 4 of the Final EIR.

I118-8

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements and impacts associated with HSR service, including potential health impacts, will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I118-9

The PCEP OCS/ESZ/Tree Impact Maps are included as Appendix J in the Final EIR, to show locations of all trees potentially affected by the Project. As specified in Mitigation Measure BIO-5, trees will be replaced with a tree of the same species wherever possible, unless that species is a non-native invasive species. Alternative species to the tree removed may be planted with concurrence of the landowner and local municipality. As prescribed in Mitigation Measure BIO-5, for trees removed outside of the Caltrain ROW in the Town of Atherton, the JPB will replace protected trees using the local requirements described in Appendix F, Attachment 1. In Atherton, the JPB will replace trees at a 3:1 ratio for protected trees and at a 1:1 ratio for non-protected trees. In accordance with Atherton's Tree Removal Procedures, protected trees will be replaced with three 15-gallon, two 24-inch box, or one 15-gallon and one 36-inch box. Non-protected trees will be replaced with a 15-gallon tree. Protected trees within Caltrain's ROW will be replaced at a 1:1 ratio using 15-gallon trees, where feasible.

As prescribed in Mitigation Measure BIO-5, if there is no space for tree replacement within Caltrain's ROW, then tree replacement may occur on other part of the affected property. Alternatively, JPB may pay into a local urban forestry fund to support local tree planting programs.

A detailed construction schedule has not been finalized, therefore a tree replacement schedule cannot be provided at this time. Mitigation Measure BIO-5 includes the preparation of a replanting plan which will include the details of the tree replacement schedule.

Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I118-10

Please see EIR Section 3.1, *Aesthetics*, and Master Response 6 (Visual Aesthetics including Tree Removal).

The project will not change any railway alignments or grades.

Non-electrification alternatives were evaluated in the EIR. Please see Chapter 5 in the EIR and Master Response 2 (Alternatives).

I118-11

Comment noted.

Noise and Vibration impacts are discussed in detail in Chapter 3.11, *Noise and Vibration*, of the EIR.

Potential socioeconomic effects of a project on property values are not considered under CEQA.

I118-12

The Proposed Project would be in compliance with safety regulations for the OCS set forth by the CPUC. An ESZ will be established within 10 feet of the OCS for electrical safety. Vegetation and any structures would be removed within this zone. The proposed Project would not change or increase the existing maximum speed along the corridor.

Impacts to the Holbrook-Palmer Park are described on pages 3.10-21 and 3.10-22 of the Draft EIR. Vegetation would be removed within 10 feet of the Holbrook-Palmer Park adjacent to the ROW to establish the ESZ. This would not adversely affect the existing recreational activities at the park. Access to and circulation within the park would remain unchanged.

I118-13

See response to comment I118-7. See Consideration of Mitigation in Master Response 8 (Train Noise) for quiet zones. The project included a noise and vibration analysis, see Appendix C in the EIR and Section 3.11. The analysis considered both project and cumulative impacts and identified feasible mitigation where significant impacts are identified.

The only new lighting associated with the Proposed Project would be security lighting located at the TPFs, not along the ROW separate from the TPFs and there are no new TPFs proposed in Atherton Therefore, with the exceptions of security lighting at TPFs, nighttime lighting after Project implementation would be the same as existing conditions.

Overall, the Project would result in improved air quality along the corridor. Please see Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning air quality including the effect of tree removal.

I118-14

Comment noted. The Project does not include the construction of an elevated system or the addition of tracks. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I118-15

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.168 Responses to Comment Letter I119

I119-1

Please see responses to comments I119-1 through I119-9.

I119-2

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I119-3

Mitigation Measure AES-2b provides guidance for aesthetic treatments for the OCS. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I119-4

The comment is correct that easements will be required in some locations for the installation of the OCS poles. Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in the Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines.

I119-5

See Noise Modelling Methodology in Master Response 8 (Train Noise). The noise analysis takes into consideration train engine noise, wheel/rail noise, and horn noise. When considering all three, the combination of these three changes provides a net reduction at most locations and only slight increases at some locations, all less than the FTA moderate impact threshold.

I119-6

See Consideration of Mitigation in Master Response 8 (Train Noise) in regards to grade separations.

I119-7

Grade separations would reduce traffic impacts at grade crossings, but are not within the financial capability of Caltrain as described in the EIR.

I119-8

Comment noted. The Project does not include grade separation. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

Grade separations can be up or down. If elevated, an electrified rail would still use overhead wires and would still require an electrical safety zone nominally as wide as the one with an at-grade system. Only with a tunnel option would an electrical safety zone be avoided. A below-grade alternative was considered in Chapter 5 of the EIR and found to be infeasible due to cost.

I119-9

Comment noted. As described in response to comment 119-8, the Project does not include grade separation. Additionally, as described in Chapter 5, *Alternatives*, a Third-Rail Alternative was considered. As shown in Table 5-7, *Alternatives Screening, Tier 1 (Feasibility)*, this alternative was considered financially infeasible as it would cost substantially more than the Proposed Project and far outside the available funding to Caltrain.

3.2.169 Responses to Comment Letter I120

I120-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I120-2

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I120-3

The project does not include any elevated tracks. No new passing tracks are being proposed as part of the Project. Passing tracks may be necessary as part of blended service, which is not included as part of the current project.

I120-4

As discussed in Section 3.14, *Transportation and Traffic*, the project would improve traffic regionally by offering an alternative to car travel. This would improve traffic conditions along Peninsula highways and arterial roadways. The project would reduce overall vehicle miles travelled in the region as well as in every City located along the corridor.

Locally, there will be some traffic effects at certain grade crossings (due to changes in gate-down times) and near certain stations (due to additional riders that drive to the station). The EIR identified significant impacts at certain intersections and included feasible mitigation where available for identified localized traffic effects. At some grade-crossings, gate-down times would actually be reduced which would improve traffic conditions in the immediately adjacent areas.

I120-5

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service, including passing tracks, will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I120-6

Comment noted. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I120-7

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Responses 6 and 8.

3.2.170 Responses to Comment Letter I121

I121-1

Comment in support of the Project is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.171 Responses to Comment Letter I122

I122-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.172 Responses to Comment Letter I123

I123-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.173 Responses to Comment Letter I124

I124-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.174 Responses to Comment Letter I125

I125-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.175 Responses to Comment Letter I126

I126-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.176 Responses to Comment Letter I127

I127-1 through I127-3

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.177 Responses to Comment Letter I128

I128-1 through I128-9

This entire comment letter refers to the high-speed rail project, not the Caltrain electrification project. None of these comments are specific to the Caltrain electrification project or concern the environmental analysis in the EIR.

The commenter's opposition to and concerns about the HSR project are noted. The EIR discloses potential cumulative effects with blended service based on a conceptual understanding of blended service at this time, but this EIR is not clearing blended service or HSR service on the Caltrain corridor.

No further response is necessary.

3.2.178 Responses to Comment Letter I129

I129-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.179 Responses to Comment Letter I130

I130-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.180 Responses to Comment Letter I131

I131-1

The building located at 2417 Broadway Street in Redwood City would not be removed for construction or operation of the Project. In a worst-case outer pole arrangement, the 10-foot ESZ would be located within a portion of the aforementioned parcel.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines.

All property owners were notified in March 2014 of potential ROW encroachments. An example letter to property owners is included in Appendix J.

3.2.181 Responses to Comment Letter I132

I132-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I132-2

Please see Master Response 9 (Bikes on Board). The commenters request for level boarding is noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.182 Responses to Comment Letter I133

I133-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.183 Responses to Comment Letter I134

I134-1

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I134-2

Figure 3.1.9 (Simulation #7) was reviewed and slight revisions were made to the representation to more accurately reflect spacing relative to the tracks. Since the revisions were slight, the Draft EIR simulations fairly represented the distance of the tracks from the poles.

I134-3

Any structures, including fences or small sheds, that are within 6 feet of the energized portions of the OCS would need to be removed. However, the energized portions are usually 16 feet or higher in the air. Thus, if structures are low enough, such that they do not come within 6 feet of the energized portions of the OCS, then they would not need to be removed.

I134-4

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J, which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, parcel lines, and trees within the ESZ.

Site-specific details will be further refined during the final design and during the property acquisition process. The details included in the EIR are sufficient to characterize overall environmental impacts for the purposes of CEQA.

I134-5

The two-track arrangement with side pole construction is considered a worst-case scenario. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. These options would further minimize aesthetic impacts and tree removal. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I134-6

Mitigation Measure BIO-5 requires that all trees removed outside the Caltrain ROW be replaced at a ratio of at least 1:1, and greater under some conditions; and trees removed inside the Caltrain ROW also be replaced at a 1:1 ratio. As shown in Attachment 1 in Appendix F, in the city of Palo Alto, protected trees removed outside of the Caltrain ROW would be replaced at a ratio of up to 6:1 depending on the size of the tree removed. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

3.2.184 Responses to Comment Letter I135

I135-1

The previously approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) under NEPA was determined to be valid for the Proposed Project by FTA (federal lead agency). All

NEPA determinations are up to the FTA, not Caltrain. This does not concern the EIR, which is done in accordance with CEQA, not NEPA.

I135-2

See Master Response 1 (Segmentation and Independent Utility).

I135-3

See Master Response 1 (Segmentation and Independent Utility).

I135-4

As described in the EIR, grade separations are not required for the PCEP. Grade separations were considered for project-level traffic impacts, but were determined to be financially infeasible for Caltrain.

The cumulative analysis in Chapter 4 considers grade separations along the Project corridor as a potential mitigation for noise impacts. It is possible that other grade separations may be installed over time, where and when funding is available but it is somewhat speculative to assert that all the listed grade separations will absolutely be in place when at present there is no funding for them.

I135-5

The Dumbarton Rail Corridor project was considered in the cumulative impact analysis of the Draft EIR (see Chapter 4, *Other-CEQA Required Analysis*). See Cumulative Project #5 in Table 4-3 and figure 4-1. No revisions to the Draft EIR are necessary.

I135-6

Comment noted. The EIR acknowledges that blended service would require passing tracks. See Master Response 1 (Segmentation and Independent Utility).

I135-7

See Master Response 1 (Segmentation and Independent Utility).

Delaying electrification for perhaps 6 years (2020 to 2026) or longer waiting for the resolution of HSR planning and/or waiting for uncertain grade separation funding would mean that the ridership, revenue, air quality, greenhouse gas, and noise benefits of the project would not occur. That is ultimately a policy choice for the JPB and the funding entities.

As to the potential relocation of overhead poles and wires, the cumulative section of the EIR acknowledges that this may need to occur, for example, in areas of future passing tracks for blended service.

I135-8

See Master Responses 1, 2, and 3.

The word "purpose" is not a ploy. CEQA requires that a project's purpose and objectives be identified in the project description. The EIR includes analysis of non-electrification alternatives.

Caltrain funding from HSR does not include any federal stimulus funding, only funding from the state Prop. 1A funds. Caltrain funding for rolling stock is scheduled to come from federal sources through the FTA, but not stimulus funding.

I135-9

Comment noted. Non-electrified alternatives are considered in Chapter 5, *Alternatives*. Step 3 of the alternatives screening analysis considered compatibility with the Project's purpose and need. Two non-electrification alternatives that would not require overhead wires were included in the alternatives analysis: the DMU alternative and the Dual-Mode MU alternative. A third non-electrification alternative, the Tier 4 Diesel Locomotive Alternative was added to the Final EIR. None of these alternatives would meet the objective of reducing operating fuel costs because they would increase fuel costs. See also Master Response 2 (Alternatives).

I135-10

The comment is correct that Caltrain has been considering electrification for a long time as a way to modernize the service. That said, the EIR for the PCEP properly considers multiple non-electrification alternatives as necessary to fulfill CEQA requirements.

Regarding the prior environmental documents, both NEPA and CEQA allow a lead agency to identify a preferred alternative.

Regarding stimulus funds, this project is not being funded through ARRA funds.

I135-11

See Master Response 2 (Alternatives) and response to comment I135-9.

I135-12

See Master Response 2 (Alternatives) and response to comment I135-9.

I135-13

See Master Response 2 (Alternatives) and response to comment I135-9.

I135-14

The Draft EIR disclosed that the project would continue to use the relatively younger diesel equipment (including the six 1998 F40s and the three 2003 MP-36s as well as the younger passenger coaches) in 2020 while replacing the older equipment with EMUs. The current fleet will mostly need to be replaced by 2020 as 20 out of 29 locomotives and 73 out of 118 passenger coaches will be 30 years or older by then.

Regarding the Baby Bullets, the Draft EIR clearly states that they are likely to use the remaining diesel equipment in 2020. The reason is that with fewer stops or larger scheduled station spacing, the Baby Bullets can achieve a reasonable end to end travel time to support service needs. The EMUs can service more stops with far less effect on overall travel times. Thus in a mixed fleet situation with the PCEP in 2020, it is reasonable to assume that the Baby Bullets will use the equipment with the inferior performance – which will be the remnant diesel locomotives. The prototypical schedule in Appendix I for 2020 shows a mix of Baby Bullets, skip-stop and local trains.

There is nothing false and misleading about the statement that all of the Caltrain fleet will need to be EMUs at the time of blended service. This statement concerns the Proposed Project, not any alternative. While it is feasible to run diesels under the wires, as Caltrain proposes to do in 2020 and afterward until 100 percent EMU replacement, Caltrain has conducted operational studies of blended service that indicate it would not be possible to maintain the PCEP schedule improvements using a mixed fleet of EMUs and the remnant 1998/2003 diesel locomotive trains. With blended service, only HSR trains would be using the blended service passing tracks. In that situation, then in order to maintain service, all the Caltrain trains need to be operating at a high efficiency level that is not possible with current diesel locomotives in the mix

The analysis above concerns the proposed operations for the PCEP. It was not used to exclude consideration of the non-electrification alternatives. It was used to estimate the likely cumulative situation with the PCEP and blended service.

For the Tier 4 Diesel Locomotive Alternative (or the DMU Alternative or the Dual-Mode MU Alternative), it is possible for these alternatives to operate in a blended service scenario, although it will be more difficult to maintain all of the schedule improvements (both in terms of stops and/or overall times) with equipment that does not have the acceleration characteristics of the EMUs. As shown in the revised Chapter 5, the DMU Alternative and the Dual-Mode MU Alternative have slower acceleration times as does a single-locomotive variant of the Tier 4 Diesel Locomotive Alternative and slower times accelerating to 79 mph. In concept, all of the diesel alternatives could operate at speeds greater than 79 mph as possible under blended service. Thus, it may be possible for these diesel alternatives to operate in a blended service environment, but there would be compromises in terms of the number of stops made and the end to end times as well as ridership. Also, the DMU Alternative and the Tier 4 Diesel Locomotive Alternative would not be able to service TTC since DTX and TTC are being designed for electrified trains only.

I135-15

In 2020, diesel trains would operate between Gilroy and San Francisco during peak periods on weekdays and a transfer would not be necessary. However, in the long run with only using EMUs between San Jose and San Francisco, Gilroy passengers will have to change trains in San Jose.

I135-16

The Draft EIR clearly discloses repeatedly throughout the whole document that there is insufficient funding to provide 100 percent of electrified service in 2020. The project description (see Section 2.3) in the EIR describes that approximately 75 percent of the San Jose to San Francisco service would be EMUs.

The commenter’s statements about there being any intention to deceive or mislead anyone are groundless.

I135-17

The referenced text that there is no existing U.S. based prototype for the project EMUs is true but this does not mean there aren’t U.S.-based manufacturers capable of building the project EMUs. For example, Siemens has a manufacturing facility in Sacramento and Siemens is a major manufacturer of bi-level EMUs in Europe.

The commenter's preference that the project not be approved unless the EMUs can be built in the U.S. is noted but the location of rolling stock manufacture is not a matter of concern for the EIR. It is rather a matter of concern for the vehicle procurement process and reflated federal funding laws.

I135-18

Section 2.4.2, *Capital Funding Sources and Programming*, has been updated to show the updated infrastructure costs. This change is shown in Chapter 2 in Volume I of this Final EIR. Under CEQA, certification of the EIR is not contingent upon having full funding available at the time of certification. The cost estimate is provided as a matter of public information and does not change the environmental analysis in the document.

I135-19

Comment noted. Please see responses to comments I135-20 through I135-23.

I135-20

Comment noted. Please refer to Chapter 5, *Alternatives*, in the Draft EIR for a discussion of alternatives, including alternatives which would not have an OCS.

I135-21

Comment noted. Chapter 5, *Alternatives*, of the Draft EIR did consider other non-electrification alternatives.

The EIR only identifies significant unavoidable impacts related to the OCS concerning aesthetics and tree removal, construction noise, and impacts to one historic tunnel. All other project impacts related to the OCS are less than significant or mitigable to a less-than-significant level. The EIR identifies significant unavoidable impacts related to traffic and cumulative noise, but those are not related to the OCS *per se*, they are related to localized traffic from increased gate-down time and station access or increased number of trains along the ROW. The commenter does not substantiate his claim that there are significant unavoidable impacts to resources other than aesthetics from the OCS.

It is important to note that while diesel-based alternatives would avoid impacts due to the OCS, they would still result in significant unavoidable impacts related to localized traffic and cumulative noise.

While CEQA requires consideration of alternatives that avoid significant unavoidable impacts of a project, a lead agency does not have to adopt an alternative if it has overriding considerations for not doing so. Caltrain will be required to adopt such a statement of overriding considerations if it chooses to approve the electrification project and not adopt any of the non-electrification alternatives to address the significant unavoidable aesthetic impact due to tree removal.

I135-22

The commenter is mistaken. The EIR does evaluate both criteria pollutant and GHG emissions that would be generated by power plants to supply electricity to the Project. Carbon dioxide emissions are based directly on PG&E's latest GHG emission factor for delivered electricity, whereas criteria pollutant emissions are based on averages for the statewide electrical grid (San Francisco region). The emission factors incorporate the annual energy and associated emissions from each generation source, including natural gas power plants. Please refer to Table 3.7-3 in Section 3.7, *Greenhouse Gas Emissions and Climate Change*, and Table 3.2-7 in Section 3.2, *Air Quality,* for a summary of estimated GHG and criteria pollutant emissions, respectively.

I135-23

Comment noted. Socioeconomic impacts are not considered physical impacts on the environment under CEQA and thus need not be evaluated in the EIR.

Any acquisition of private property for the OCS (in fee) or the ESZ easements would be in accordance with all applicable regulations for public acquisition of private land.

Costs for tree replacement are included in the updated construction cost estimates for the project.

Please refer to Chapter 5, *Alternatives*, which includes analysis of several non-electrification alternatives. Please also see Master Response 2 (Alternatives).

I135-24

Please refer to Chapter 5, *Alternatives,* which includes an analysis of the DMU alternative. See also Master Response 2 (Alternatives) and response to comments I135-9 and I135-23.

I135-25, 26

Comment listing technological advancements to diesel locomotives is noted.

The DMU Alternative analyzed in the Draft EIR presumed the use of Tier 4 DMU equipment (as did the Dual Mode MU Alternative.

See Master Response 2 (Alternatives). A Tier 4 Diesel Locomotive Alternative has been added to this EIR. Refer to Chapter 5 in Volume I of this Final EIR for the new analysis.

I135-27

The discussion of level boarding does not provide any comment about the PCEP itself or the adequacy of the environmental analysis in the EIR.

The Draft EIR discloses that level boarding could be accomplished with or without the PCEP.

The commenter is correct that the design specifications for any new rolling stock will need to take into account planned platform specifications.

No further response is required pursuant to this comment.

I135-28 through I135-35

<u>As described in Master Response 2 (Alternatives), a Tier 4 Diesel Locomotive Alternative has been added to the Final EIR.</u>

The Draft EIR already included a DMU Alternative (See Chapter 5 of the EIR) that has been designed to match, as much as possible the project needs fulfilled by the Proposed Project. The analysis of the DMU Alternative in the Draft EIR already presumed Tier 4 DMUs. The commenter's details on a potential DMU Alternative would not fundamentally change the analysis of impacts in the Draft EIR. Of note, the fuel consumption of a DMU two-car set (like SMART) is quite different from more lengthy consists on a passenger-mile basis. By contrast, the Mass. EOT 2008 reference describes that "using a consist mix of at least 50 percent DMUs, fuel utilization rates would range from 2.0 gallons per mile for a four car DMU train set to 3.9 gallons per mile for an eight car DMU train set", thus showing the influence on train length on fuel efficiency. The specific acceleration of DMUs for Caltrain is not known, but the Final EIR was updated to include the potential for DMUs to have an initial acceleration of up to 1.8 mph/second based on current designs and to provide as fair of a comparison to the Proposed Project as possible but this would still be less than EMU acceleration of 2.1 mph/second. A DMU Alternative would also be notably slower in acceleration to 79 mph as shown in revisions to Chapter 5 in the Final EIR.

The creation of a hybrid DMU/new Tier 4 Diesel Locomotive Alternative as suggested by commenter would provide an intermediary alternative that would have a mix of the impacts of the DMU alternative and the Tier 4 Diesel Locomotive Alternative. Since the Final EIR considers both of these alternatives, the addition of a hybrid using both new DMUs and new Tier 4 Diesel Locomotives would not meaningfully expand the range of alternatives nor be particularly revealing for the environmentally analysis.

Regarding replacing non-obsolete equipment, such as the suggestion to replace the current 1998 and 2003 diesel locomotives before they reach the end of their useful life is not a reasonable assumption, as useful equipment should be used to its service life unless there are overriding reasons not to. In addition, federal funding is usually not available for equipment until it is old enough to be replaced.

As to the assertion about the PCEP not improving the Baby Bullet service until 2033, this is not correct based on current planning for blended service which CHSRA identifies as occurring as soon as 2026, at which time, as indicated in the EIR, Caltrain intends to be operating 100 percent EMUs.

There are U.S.-based manufacturers of Tier 4 Diesel Locomotives and DMUs such as EMD (Tier 4 locomotives), Siemens (tier 4 locomotives and DMUs), Sumitomo/Nippon Sharyo USA (DMUs) and US Railcar (DMUs). Bombardier in Canada also manufactures DMUs. There are multiple manufacturers of all rail types in Europe.

Regarding rolling stock, this alternative would also require replacement of the 73 passenger coaches that will be 30 years or older in 2020 which would need to be included in the alternative cost.

Regarding no economic justification for the PCEP, the commenter is making a value judgment by asserting that the costs of the infrastructure does not justify the project benefits in terms of service, ridership, savings in operating fuel costs, improved air quality and reduced greenhouse gas emissions. This comment is noted, but requires no further response.

Cost estimates for the DMU Alternative, the Dual-Mode Alternative, and the Tier 4 Diesel Locomotive Alternative have not been prepared. <u>However, Chapter 5 of the Final EIR has been revised to make it clear that these alternatives would avoid the electrical infrastructure costs of the Proposed Project and would likely have similar rolling stock costs as the Proposed Project. The DMU Alternative and the Dual-Mode Alternative would have some capital costs for platform extensions due to train</u>

<u>consist length. The DMU Alternative, the Dual-Mode Alternative, and the Tier 4 Diesel Locomotive Alternative would also have higher operational fuel costs.</u>

Regarding benefits and impacts of a Tier 4 Diesel Locomotive Alternative or a DMU Alternative:

- *Performance:* The Tier 4 Diesel Locomotive Alternative with double-head train consists would be comparable to the initial acceleration characteristics of the EMUs, have slightly slower acceleration to 79 mph, but would have lesser deceleration characteristics. The DMU Alternative could not match the acceleration of the EMUs but could match the deceleration.
- *Timing:* The timing of these alternatives would depend on the availability of funding for rolling stock, which may or may not occur earlier than 2020.
- *Risk:* There are multiple EMU manufacturers, including some with manufacturing facilities in the U.S. (like Siemens), Canada (Bombardier), and Europe (Alstom, and others). Thus it is speculative to assert risk for the EMU manufacturer.
- *Gilroy transfer:* In 2020, the PCEP would not require transfer for Gilroy passengers for diesel through trains to San Francisco. In the long run, a transfer would be required, but Gilroy passengers are presently and in the long run expected to be a small portion of the ridership as shown in Appendix I of the EIR. The DMU or Tier 4 Diesel Locomotive Alternative would not require a transfer for Gilroy passengers.
- *Aesthetics/Tree Removal:* The non-electrification alternatives would avoid tree removal and overhead wires, and construction impacts, except possibly for platform extensions for the DMU Alternative.
- *Noise:* The DMU Alternative and the Dual-Mode MU Alternative (when running in diesel mode) would have higher noise than the PCEP and in some locations would result in higher noise than under existing conditions (due to increased horn noise with increase number of trains). The Tier 4 Diesel Locomotive Alternative would have notably higher noise than the PCEP, especially for the double-head trains necessary for peak hour service and would increase noise compared to existing conditions (due to double-head locomotives and increased number of trains). Wire contact noise, as explained in Master Response 8 (Noise) is negligible. This is compared to the PCEP which would mostly lower noise relative to existing conditions, with limited areas of increased noise under FTA threshold criteria.
- *Air Quality/GHG emissions:* The non-electrification alternatives would have lower emissions than the present equipment, but would have higher criteria pollutant emissions and substantially higher GHG emissions compared to the PCEP. If remnant diesel equipment that has not reached the end of its service life continues to be used in 2020 in the non-electrification alternatives (as assumed for the PCEP), then NO_X emissions would actually increase compared to No Project conditions for the DMU Alternative, the Dual-Mode Alternative and the Tier 4 Diesel Locomotive Alternative as the increased number of trains per day more than offsets the reduced emissions from the newer equipment. When all remnant diesel equipment is replaced, then the non-electrification alternatives would have lower emissions than No Project conditions. The PCEP electricity generation emissions are more than offset by the reduction/elimination of diesel emissions with the Proposed Project and are taken into account in the comparisons above.
- *DTX/TTC:* The DMU Alternative and the Tier 4 Diesel Locomotive Alternative would not allow Caltrain to extend service to downtown San Francisco once the DTX and TTC are complete thus affecting ridership and passenger convenience in the long run. This would also result in

underutilization of the public investment in the TTC which would then only be used for HSR and other transit. The Dual-Mode MU Alternative could reach the TTC.

- *Traffic:* While the non-electrification alternatives would also improve ridership over the No Project Alternative, ridership would likely be less than the PCEP in the long run considering lesser performance (DMU Alternative and Dual-Mode MU Alternative) or lack of access to the TTC (DMU Alternative, Tier 4 Diesel Mode Alternative and the commenters' mixed alternative).
- *Maintenance Facilities:* With new equipment, whether DMUs, new Tier 4 Diesel Locomotives, or EMUs, there may need to be minor changes within the interior of the maintenance facilities and changes in maintenance practice. This is a trivial difference between the alternatives because it would not result in any meaningful environmental effects.
- *Equipment Flexibility:* The commenter does not explain why the suggested alternative would have flexibility and the PCEP would not. Both the PCEP and these alternatives would allow for swapping out equipment for maintenance to maintain service. This is not a meaningful difference between alternatives.
- *HSR Uncertainty:* Please see responses above regarding speculation about the HSR project. Electrical overhead infrastructure may need to be modified/relocated in areas of passing tracks and near HSR stations, but this is not considered a major risk to moving forward with blended service.
- *Costs:* As noted above, the non-electrification alternatives would have much lower capital costs. Whether the lowering of cost, would increase the chance to obtain additional funding or not for other projects is speculative. For example, it is unclear whether level boarding would be as high a priority for regional, state and federal grant funding if Caltrain electrification is not completed, diesel service is continued, and Caltrain operations would be incompatible with DTX/TTC and with future HSR service. If funding is not available from Prop. 1A for the PCEP, then alternative funding sources would need to be found to pursue electrification at this time.
- *CEQA:* The commenter is correct that a change of equipment only and increased service, without any construction of physical improvements, would not require CEQA as there is a statutory exemption for this in the statute. The DMU Alternative, if it required platform extensions, would trigger CEQA. However, if CEQA were not triggered for the a non-electrification alternative, this would mean that the adverse effects of increasing service, including noise impacts and local traffic impacts around stations and grade-crossing locations would not be disclosed to the public providing them the opportunity to comment on such impacts and the JPB would not be required to provide mitigation for any associated significant impacts.

I135-36

Regarding a cost estimate for the Tier 4 Diesel Locomotive Alternative or other alternatives, there is no requirement under CEQA to provide a cost-benefit analysis for alternatives. <u>Updated cost estimates are provided for the No Project Alternative and the Proposed Project in the Final EIR. Chapter 5 of the EIR has been revised to note that the Tier 4 Diesel Locomotive Alternative, the DMU Alternative and the Dual-Mode Alternative would avoid the electrical infrastructure costs and would likely have similar rolling stock costs as the Proposed Project.</u>

The project is intending to receive Proposition 1A funding but will not be receiving any AARA stimulus funds. The commenter has confused the PCEP with the HSR project which is receiving AARA funds.

I135-37

The commenter is incorrect that the Draft EIR did not analyze non-electrification alternatives. Two non-electrification alternatives were evaluated in Chapter 5 of the Draft EIR and a third non-electrification alternative was added to the Final EIR.

Regarding a cost estimate for the analyzed alternatives, there is no requirement under CEQA to provide a cost-benefit analysis for alternatives. CEQA does not require the costs of an alternative to be analyzed provided the alternatives are not dismissed for cost reasons. Several alternatives were dismissed on a cost basis, such as third-rail alternatives, but if cost was used as the reason for dismissal then a rough cost estimate is provided in Chapter 5 of the EIR. The three analyzed action alternatives (DMU Alternative, Dual-Mode Alternative, and Tier 4 Diesel Locomotive Alternative) were not dismissed from analysis as they were analyzed in the EIR.

The three non-electrification alternatives (DMU Alternative, Dual-Mode Alternative, and Tier 4 Diesel Locomotive Alternative) are all considered feasible, including on costs. As noted in the prior response, the revised EIR clearly indicates that these alternatives would avoid the costs of the electrical infrastructure.

I135-38

The previously approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) under NEPA was determined to be valid for the Proposed Project by FTA (federal lead agency). All NEPA determinations are up to the FTA, not Caltrain. This does not concern the EIR, which is done in accordance with CEQA, not NEPA.

The project is not approving blended service or HSR service.

I135-39

The Tier 4 Diesel Locomotive Alternative has been added to the Final EIR. Based on the revised analysis, the alternative would provide some of the project benefits in terms of increased service and ridership, and it would avoid project effects related to aesthetics and tree removal, but the alternative would have the same effects on localized traffic, higher noise levels than the proposed project, and higher criteria pollutant and GHG emissions in the long run. A diesel locomotive alternative would avoid the capital costs of electrification and this is noted in the Final EIR. Finally, this alternative would not allow the DTX project to fulfill one of its purposes of bringing Caltrain service to downtown San Francisco to the TTC.

Regarding the potential for the HSR project to not proceed, in summer 2014, two appellate court rulings found that CHSRA could issue Proposition 1A bonds and that the Program EIR/EIS for the project for the Bay Area to Central Valley segment met all the requirements of CEQA. Future court rulings cannot be guessed at. At present, the HSR project is proceeding and it would be speculative for Caltrain to assume it is not proceeding. CEQA requires that blended service be considered in the cumulative analysis accordingly.

3.2.185 Responses to Comment Letter I136

I136-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I136-2

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I136-3

Please refer to Chapter 5, *Alternatives*, for a thorough description of the alternatives to the Project that were considered. See also Master Response 2 (Alternatives).

I136-4

Please also see Master Responses 6 concerning aesthetics and tree removal and Section 3.1, *Aesthetics* in the EIR.

I136-5

The impacts of the OCS and tree removal are fully analyzed in the EIR including in Section 3.1 (aesthetics), Section 3.3 (biological resources) as well as other required subjects such as cultural resources and EMF/EMI.

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where adequate separation existing between rail lines and where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I136-6

The comment is incorrect. The EIR analyzes noise effects of increased trains in Section 3.11 and the traffic effects of increased gate down time and station area traffic in Section 3.14.

I136-7

Comment noted. The PCEP EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I136-8

Please see responses to comments I136-1 through I136-7 above. The purpose of the project is to provide electrical infrastructure compatible with high-speed rail, improve train performance, increase ridership and service, increase revenue and reduce cost, reduce noise emanating from trains and improving regional air quality and reducing GHG emissions.

I136-9

Please refer to Chapter 5, *Alternatives*, for a description of the 51 different alternatives considered. An analysis of a Tier 4 Diesel Locomotive has been added to Chapter 5 (see Volume I of this Final EIR). See also Master Response 2 (Alternatives). Non-electrification alternatives using self-propelled diesel-based trains are analyzed in the EIR.

I136-10

Please refer to Chapter 5, *Alternatives*, for a description of the 51 different alternatives considered.

All project noise (Section 3.11, *Noise and Vibration*), visual (Section 3.1, *Aesthetics*), and construction-related impacts associated with the PCEP are analyzed in the Draft EIR.

This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements and impacts associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

3.2.186 Responses to Comment Letter I137

I137-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.187 Responses to Comment Letter I138

I138-1

Please refer to Chapter 5, *Alternatives,* page 5-4 for a description of air quality impacts under the No Project Alternative. As described, there would be lower ridership, and thus higher vehicle-related emissions, than the Proposed Project. An EIR is not required to analyze the Project's alternatives at an equal level as the Proposed Project.

The No Project conditions were used as the baseline for the analysis of air quality and thus the differences between the Project VMT-related emissions and the No Project conditions are shown as a negative emission in Section 3.2 (concerning criteria pollutant emissions) and 3.7 (concerning GHG emissions). Because the VTA VMT model is a regional model, it would have been confusing to present emissions for all VMT in the regional model; it was determined more appropriate to show the net difference instead as that is what is relevant for the project analysis.

I138-2

The EIR is clear that the project would improve air quality and reduce GHG emissions relative to the No Project conditions and the amount of improvement is shown in the EIR.

I138-3

Please see response to comment I138-2.

I138-4

Please refer to Section 2.3.6, *Rolling Stock*, in Chapter 2, *Project Description*, for a description of the rolling stock that would be used for the Project.

I138-5

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.188 Responses to Comment Letter I139

This comment presents identical comments to Comment I11, so reference to prior responses is provided.

I139-1

Comment noted. The commenter accurately summarizes the Project's purpose.

I139-2

See response to comment I11-2.

I139-3

See response to comment I11-3.

I139-4

See response to comment I11-4.

I139-5

See response to comment I11-5.

I139-6

See response to comment I11-6.

I139-7

See response to comment I11-7.

3.2.189 Responses to Comment Letter I140

I140-1

Please refer to Chapter 5, *Alternatives,* which describes the potential alternatives to the Proposed Project considered in this EIR. A Third-Rail Alternative, similar to BART, was considered in the alternatives screening process. A third-rail system was considered to be financially infeasible because it would require the entire corridor to be grade separated and would require substantial ROW and station modifications. See also Master Response 2 (Alternatives).

3.2.190 Responses to Comment Letter I141

I141-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.191 Responses to Comment Letter I142

I142-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.192 Responses to Comment Letter I143

I143-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.193 Responses to Comment Letter I144

I144-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.194 Responses to Comment Letter I145

I145-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.195 Responses to Comment Letter I146

I146-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I146-2

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.196 Responses to Comment Letter I147

I147-1

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I147-2

Comment noted. This comment summarizes details stated in the EIR.

I147-3

See Master Response 4 (Ridership and Capacity) regarding how future capacity and ridership was estimated.

I147-4

Please see Master Responses 4 and 9. While the bikes on board will continue, the exact amount of bike capacity will be determined during the EMU design and procurement process.

I147-5

See Master Response 4 (Ridership and Capacity) regarding how future capacity and ridership was estimated.

I147-6

The Project includes an increase of peak hour service from five trains per peak hour per direction to six trains per peak hour per direction. In addition, the Proposed Project could include a substantial number of increased stops increasing the frequency of service at stations throughout the Caltrain system between San Jose and San Francisco, as demonstrated in the prototypical schedule in Appendix I in the EIR. This increase in service without compromising end to end travel times is based on the typical operating characteristics of Electric Multiple Unit (EMU) vehicles. EMUs can accelerate and decelerate faster than diesel trains thus providing the flexibility to increase the frequency of service and stops without adding travel time.

A permanent schedule has not yet been established for the increase in service that would be in place timed with the implementation of the PCEP. A prototypical schedule was developed based on a number of contextual factors and assumptions about future conditions on the corridor, including the typical operating characteristics of EMUs. This schedule was used in the PCEP EIR to conduct analysis such as gate down time analysis and ridership forecasting (Appendix I to the Final EIR). In the future, Caltrain would work with the public to determine the schedule that meets the needs of its users by balancing more frequent trains and faster trip times.[48] Please refer to the prototypical schedules in Appendix I which shows the increased number of stops per station compared to the existing schedule.

I147-7

Comment noted. The proposed project is included in the 2014 Caltrain Strategic Plan.

3.2.197 Responses to Comment Letter I148

I148-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.198 Responses to Comment Letter I149

I149-1

Comment in support of undergrounding the Caltrain tracks is noted. Undergrounding the train in a buried trench was considered to be financially infeasible. See Table 5-7 on page 5-50 of the Draft EIR.

I149-2

Comment noted. The comment does not raise an environmental concern. No revisions to the Draft EIR are necessary.

I149-3

The signal controller at El Camino Real and Sand Hill Road currently does not have signal "preemption" due to oncoming trains, and as a result, the signal does not behave any differently when a train arrives at the at-grade crossing. By incorporating preemption at this intersection, certain movements could be prohibited before and during the train's passage and this could facilitate better vehicular flow. However, because this intersection is owned and operated by Caltrans, the decision to incorporate preemption would be at their discretion. As discussed in Section 3.14, due to the project's effect on traffic conditions at the Alma, Sand Hill, El Camino Real intersection, Mitigation Measure TRA-1c would require improvements at this intersection including widening the west leg of Sand Hill Road by adding one lane to allow southbound right turns on red and adjust signal timings to better serve traffic after project. Caltrain will be working with Caltrans

[48] "Peninsula Corridor Electrification Frequently Asked Questions." Peninsula Corridor Caltrain. 2014. <http://www.caltrain.com/Assets/Caltrain+Modernization+Program/Documents/PCEP+FAQ.pdf>

and the City of Palo Alto in implementing the mitigation at this location. Depending on Caltrans approval, preemption may be a possible element for improvement at this location.

3.2.199 Responses to Comment Letter I150

I150-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.200 Responses to Comment Letter I151

I151-1

Construction scheduling approaches will be determined during the final design process by the Design-Build Contractor. The Draft EIR uses a prospective schedule to disclose potential construction period aspects. Further development of the schedule at this time would be premature and would not change the disclosure of impacts in the Draft EIR. This comment thus does not concern the adequacy of the analysis in the EIR and requires no further response.

I151-2

The Project is currently in its preliminary engineering phase. It is too soon to speculate whether contractors and equipment venders will be financially incentivized for early delivery. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are warranted.

3.2.201 Responses to Comment Letter I152

I152-1

The commenter incorrectly states that over 90 percent of riders bring their bikes on board. As shown in the Draft EIR, Table 3.14-8, *Top Ten Stations for Bicycle Ridership (2013)*, bike ridership ranges from 8 percent to 15 percent of total ridership at the top ten stations for bicycle ridership.

The commenter was likely instead referring to the fact that over 90 percent of bike riders bring their bikes on board, which is correct.

Please also see Master Response 9 (Bikes on Board).

Comment in support of increased onboard bike capacity is noted.

3.2.202 Responses to Comment Letter I153

I153-1

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in this Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, and parcel lines.

All property owners were contacted in March 2014 concerning potential ROW encroachments. An example letter to property owners is included in Appendix J.

Caltrain has contacted the property owner in response to this query.

3.2.203 Responses to Comment Letter I154

I154-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.204 Responses to Comment Letter I155

I155-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.205 Responses to Comment Letter I156

I156-1

The PCEP does not include any grade separations. The design for blended services is only conceptual and thus it is unknown whether it may or may not include grade separations other than one potential grade separation identified at Center Street north of the Millbrae station.

The City of San Francisco desires to grade separate 16th Street and Mission Blvd., but at present it is uncertain what the ultimate design for blended service may be at these crossings.

3.2.206 Responses to Comment Letter I157

I157-1

Comment noted. Any removal of trees and replacement of existing fence will not be at owner's expense but at Caltrain's expense.

Please refer to the PCEP OCS/ESZ/Tree Impact Maps included in the Final EIR as Appendix J which show the proposed location of the OCS poles (in a worst-case outer pole arrangement), the ESZ, the Caltrain ROW, parcel lines and trees within the ESZ. See also Master Response 8 (Train Noise).

Regarding fences, see the response to the next comment.

I157-2

No switching station is proposed on the commenter's property. There are two options for the switching station. The two potential switching station locations are both at or adjacent to Redwood Junction which is approximately 1 mile north of the commenter's property. The existing areas adjacent to the two potential locations are industrial/commercial in nature.

Where tree removal is required, construction contractors working for the JPB will do the tree removal at the JPB's expense, not at the private homeowner's expense. Regarding fences, if fences must be removed or relocated, that will be done at the JPB's expense.

At the commenter's location, the potential encroachment is for an Electrical Safety Zone (ESZ); the Overhead Contact System (OCS) at this location will be placed within the JPB's existing ROW. The existence of an ESZ on a private property will not necessarily require removal or relocation of a fence. All structures, including fences, will need to be at least 6 feet from the energize elements of the OCS, but the lower energized elements are approximately 16 feet above ground and thus fences lower than 10 feet may be able to remain in their location.

I157-3

Comment in support of electrification is noted. See Consideration of Mitigation in Master Response 8 (Train Noise) for response to horn noise and quiet zones.

Under the *Train Horn Rule* (49 CFR Part 222[49]), locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. Train horns must be sounded in a standardized pattern of 2 long, 1 short and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. Thus, there can be some variation amongst different trains and different train engineers. Under the PCEP, horn soundings will continue to be required per the FRA regulations and increased horn soundings (primarily during peak hours) due to increase train service is fully included in the noise impact analysis.

Regarding costs, as noted in the response above, any tree removal or fence relocation costs would be Caltrain's responsibility, not the property owner's.

3.2.207 Responses to Comment Letter I158

I158-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.208 Responses to Comment Letter I159

I159-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

[49] http://www.fra.dot.gov/Page/P0104

3.2.209 Responses to Comment Letter I160

I160-1

The comment is correct that if the OCS wires are disrupted or if there are disruptions to the PG&E electrical supply, there will not be power to run the trains. The system is being designed to be resilient to high winds, tree removal is proposed to avoid the potential for trees falling on the wires, and geotechnical concerns related to earthquakes and liquefactions are being addressed during design per Mitigation Measure GEO-1.

The likely frequency of power outages is expected to quite low.

I160-2

As described in the Draft EIR, electric multiple units (EMUs) perform better than diesel locomotives thus allowing Caltrain to improve service. Also electricity is a more efficient source of power, as evidenced by the lower air pollution and greenhouse gas emissions associated with the Proposed Project compared to existing conditions, no project conditions and to the diesel-based alternatives. Also, as shown in the updated alternative analysis in Chapter 5, the annual fuel costs for the proposed Project are less than the fuel costs for any of the diesel-based alternatives.

I160-3

As noted above, the use of diesel fuel, which is a fossil fuel, would result in higher fuel costs, more air pollution, and higher greenhouse gas emissions. In addition, the EMUs have superior performance to both diesel locomotives and to most diesel-based alternatives.

I160-4, 5

The updated cost estimate is included in the Final EIR and is identified as $950 to $958 million for capital costs and $524 to $573 million for vehicle costs for a total of $1.474 to $1.531 billion. As described in Chapter 2, *Project Description* in the Final EIR, there is a capital funding gap at present between identified funding sources and the needed amount of funding. Caltrain and its funding partners are considering a wide variety of strategies to fill this funding gap, including grant sources, financing arrangements, and potential fare increases. At this time, the potential effect on fares is not known.

I160-6

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I160-7

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

3.2.210 Responses to Comment Letter I161

I161-1

Comment in opposition of the Proposed Project due to cost, aesthetics, loss of trees, alternatives and the approach to transit planning in the region is noted.

Please see responses to comments I161-2 through I161-59 regarding specific concerns raised in the comment letter.

Please also see Master Responses 2 (Alternatives), 6 (Aesthetics including tree removals), and 7 (Air Quality).

I161-2

Comment noted. This comment describes background information about Caltrain and does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I161-3

Comment noted.

The PCEP does not include bi-modal trains (as in trains that can operate in both a diesel and electric mode), but rather includes a mixed fleet of EMUs and some remnant diesel –hauled trains. There is no proposal to electrify the Caltrain corridor south of San Jose to Gilroy by Caltrain as this section is owned by Union Pacific that does not want to electrify their tracks.

The comment makes assertions about the reliability of forecasts and calculations without citing any supporting evidence and no response is necessary to such comments.

The project's cost estimate has been updated and is included in the Final EIR.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I161-4

Comment noted. This comment is descriptive only and required no response.

I161-5

This comment is about blended service, not about the PCEP. This EIR is only environmentally clearing the PCEP, not blended service. The cumulative analysis is based on the conceptual understanding of blended service at this time. Alternatives need only be considered to the PCEP, which has independent utility from blended service.

The comments about "fuzzy math" and "slanted model train load simulations" are spurious and no evidence is provided to support them and no response to such comments is required.

I161-6

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

I161-7

An additional alternative (the Tier 4 Diesel Locomotive Alternative) has been added to the Final EIR to consider the potential to increase the number of diesel locomotive-hauled trains similar to the increased number of trains in the Proposed Project (6 trains per peak hour per direction). As described in Master Response 2 (Alternatives), while such an alternative is feasible, it would result in higher criteria pollutant emissions, higher GHG emissions, and higher noise emissions than the Proposed Project, while avoiding aesthetic impacts and tree removal of the Proposed Project. This diesel locomotive alternative would avoid the capital costs associated with electrification.

As to 7 trains per peak hour per direction, as discussed in Chapter 5, *Alternatives*, the Tier 4 Diesel Locomotive Alternative could meet the project schedule in 2020 and thus analysis of a 7 train per peak hour diesel locomotive alternative is not necessary.

I161-8

Comment is about the high-speed rail project, not about the PCEP.

The CHSRA has completed a program EIR/EIS that selected the Caltrain Corridor as the preferred alternative alignment for HSR. A separate project-level environmental process will be necessary for HSR service.

I161-9

Comment noted. The project has independent utility unrelated to the HSR project. Therefore, there is no reason to wait for the HSR system to be built to decide on its project. See Master Response 1 (Segmentation and Independent Utility).

I161-10

Comment is about the high-speed rail project, not about the PCEP.

The CHSRA has completed a program EIR/EIS that selected the Caltrain Corridor as the preferred alternative alignment for HSR. A separate project-level environmental process will be necessary for HSR service.

I161-11

Comment noted. See response to comment I161-9.

I161-12

Multiple changes by the Peninsula Corridor Electrification Project would increase ridership on the existing Caltrain corridor, even without adding more stations. As discussed in Section 2.1.2 in Appendix D to the Final EIR (Transportation Impact Analysis), Caltrain has seen ridership increases in recent history. Without any major infrastructure investment to improve service from 2012 to 2013, peak hour ridership increased 10 percent. Since 1997, Caltrain average daily ridership increased by more than 90 percent. This trend would continue with the Project providing more capacity, and more frequent and efficient service. The Project would increase peak hour trains per direction from 5 to 6 and would add 22 trains per day over the existing schedule. Due to the efficiency of EMUs, more stops could be added without compromising end to end travel times and/or travel times could be reduced. For more details on the capacity analysis for the future Caltrain system, please see Master Response 4 (Ridership and Capacity).

The direct ridership analysis performed as part of the EIR considers population, housing and employment growth and includes an analysis of mode of access and egress to Caltrain stations based on those growth assumptions. See Section 3.3 of Appendix D to the Final EIR for more information on ridership forecasting results. Additionally, the Association of Bay Area Governments has more detailed information on the forecast at their website: http://www.abag.org/planning/research/.

As to the potential effects of HSR on Caltrain system, the current project is the PCEP, not blended service. That issue is a concern for blended service, which is not the subject of the current EIR.

I161-13

Comment in support of regional planning is noted. Increased ridership is a function both of land use development choices and of expansion of commuter and transit services. Without transit services, many of the potential gains of TOD or high-density mixed-use development in terms of reducing VMT cannot be realized.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I161-14

A Tier 4 Diesel Locomotive Alternative has been added to the Final EIR to consider the potential to increase the number of diesel locomotive-hauled trains similar to the increased level of trains in the Proposed Project. As described in Master Response 2 (Alternatives), while such an alternative is feasible, it would result in higher criteria pollutant emissions and higher GHG emissions than the Proposed Project.

Regarding 7 trains per peak hour per direction, please see the prior response to Comment I161-7.

Regarding CNG and hydrogen fueled train alternatives, there are no operating commuter or intercity passenger rail systems operating using these fuels today and Caltrain is not aware of any proposals to use such trains by any operating commuter passenger railroad. Some of the Class I freight railroads like BNSF are beginning to test CNG freight locomotives. Such systems, while potentially feasible in the future, are unproven technologies and thus their potential use at this time is speculative.

I161-15

Comment supporting the expansion of Caltrain is noted.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

Inclusion of the Dumbarton Rail Project in the Proposed Project was considered as an alternative in Chapter 5, *Alternatives,* see Alternative O9. This alternative was considered infeasible because the

Project's funding does not include the Dumbarton Rail Project. The Dumbarton Rail Project is a separate project that is not fully funded at present.

I161-16

The Peninsula Corridor Electrification Project (PCEP) Project only includes electrification to a point approximately two miles south of Tamien Station. Caltrain would continue to provide diesel service to Gilroy.

Increase of ridership south of San Jose is not an objective of the project.

As demonstrated by the ridership analysis, increasing service levels and the number of stops by using EMUs can increase ridership substantially. The comment provides no evidence as to why the project would not increase ridership.

I161-17

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

I161-18

This comment asserts that the parking lot capacities "may have been unintentionally profiled at the wrong time of day", but provides no evidence for this speculation that the capacity was incorrectly assessed and thus no response is necessary.

Regarding parking, the Draft EIR does not identify a significant environmental impact related to parking and thus no mitigation is proposed.

"Core Capacity" improvements are related to improvements for blended service, not for the Proposed Project.

The comment about adding park and ride vehicle structures is noted.

I161-19

Comment noted. Please see Master Response 6 (Visual Aesthetics including Tree Removal) and Section 3.1 concerning aesthetics including impacts to scenic vistas and visual character.

This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I161-20

Comment noted. There is only one location where overhead wires associated with existing transit (SF MUNI buses) would intersect with the Project. Mitigation is included in the EIR to ensure safe operation of the overhead contact system for SF MUNI trolleybuses at this location as well as the overhead contact system for Caltrain.

The Project's OCS would not cross any existing or planned VTA OCS wires.

I161-21

Comment noted. Please see Master Response 6 (Visual Aesthetics including Tree Removal) and Section 3.1 concerning aesthetics. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary.

I161-22

Comment noted. Please refer to Section 3.1, *Aesthetics*, in the Draft EIR for a description of the potential aesthetic impacts of the OCS poles and wires.

I161-23

As described on pages 3.3-42 and 3.3-43 of the Draft EIR, the two-track arrangement with side pole construction is considered the worst-case scenario for tree removal. Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating OCS poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements. Options to achieve this include using alternative pole designs where consistent with operational and safety requirements. This would reduce the number of trees removed and/or pruned along the ROW corridor.

Please also see Master Response 7 (Air Quality and Greenhouse Gas Emissions) concerning air quality and tree removal. As indicated therein and Section 3.2 and 3.7 in the EIR, the project will substantially reduce air pollution and GHG emission compared to existing conditions, to No Project conditions, and to the non-electrification alternatives.

Regarding the salacious comment about removing Caltrain staff, management and board members, personal attacks have no place in adult conversation and will be ignored.

I161-24

Comment noted. See responses to comments I161-25 through I161-27. As explained in response below, the commenter does not substantiate why the “math doesn’t add up”.

I161-25

Comment noted. This comment does not concern the adequacy of the EIR and provided no comments on the EIR. No revisions to the Draft EIR are necessary.

I161-26

As prescribed in Mitigation Measure BIO-5, protected trees removed outside of the Caltrain ROW will be replaced using the local tree ordinance or guidance (as described in Appendix F, Attachment 1) or at a 1:1 basis using 15-gallon trees where specific replacement ratios or specifications are not provided in local tree ordinances. Non-protected trees outside of the Caltrain ROW will be replaced at a 1:1 ratio using 15-gallon trees. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I161-27

Please see Master Response 6 (Visual Aesthetics including Tree Removal).

As noted in Mitigation Measure BIO-5, if replanted trees cannot be planted within the Caltrain ROW or an adjacent property, replacement may occur on other parts of the affected property or other parts of the local area with concurrence of the local municipality. Transplantation of existing trees was not considered to be feasible due to high cost and variable chance of success. It is accurate that the 'No Project' Alternative would avoid loss of trees and this is acknowledged in the EIR.

I161-28

Comment noted. The comment alludes to better alternatives that could achieve similar objectives without the environmental impacts but does not offer any.

See Master Response 2 (Alternatives), Master Response 5 (Environmental Benefits), and Master Response 7 (Air Quality and Greenhouse Gas Emissions). As demonstrated therein, none of the feasible non-electrification alternatives would have less criteria pollutant or GHG emissions than the PCEP.

I161-29

Comment noted. See Master Response 2 (Alternatives), Master Response 5 (Environmental Benefits), and Master Response 7 (Air Quality and Greenhouse Gas Emissions).

As noted before, in a dynamic metropolitan area where individuals often taken jobs and patronize services that are not located in their neighborhood, simply building TOD or high-density housing without transit improvements will not be an effective strategy to improve air quality or reduce GHG emissions. You need both land use and transit strategies to be effective. Caltrain support TOD near its stations but TOD is not an alternative to the PCEP, it is a complement to it. TOD alone will not lower Caltrain emissions or reduce train noise and thus will not meet project objectives.

I161-30

The PCEP would replace diesel locomotives and passenger coaches that are reaching the end of their service life. By 2020, 20 out of 29 diesel locomotives and 73 of the 118 passenger coaches will be 30 years or older. Disposal of the aging equipment will be done by Caltrain in accords with what financially makes the most sense, which is the only logical way for a public railroad system to operate. It is doubtful that other Bay Area railways will desire 30-year old (or older) equipment, in particular 30 year old diesel locomotives, given their criteria pollutant and GHG emissions and lower fuel economy compared to newer equipment.

I161-31

Comment noted. For additional explanation on alternatives, see Master Response 2 (Alternatives). The comment does not substantiate any inadequacies in the alternatives analysis in this comment. An additional alternative, the Tier 4 Diesel Alternative has been analyzed in detail in Chapter 5 in the Final EIR. See responses to subsequent comments on this topic below.

I161-32

Comment noted. For additional explanation on alternatives, see Master Response 2 (Alternatives). As described in the EIR, the DMU alternative is feasible, but would not meet the project objectives as well as the Proposed Project.

I161-33

The EIR has been revised to indicate that 2020 No Project diesel consumption is estimated as 4.5 million gallons/year. This change is shown in Chapter 5 in Volume I of this Final EIR.

I161-34

Comment in support of Dual-Mode Multiple Unit Alternative is noted. For additional explanation on alternatives, see Master Response 2 (Alternatives). As described in the Draft EIR, among the alternatives, the Dual Mode MU Alternative is considered the environmentally superior alternative.

I161-35

Comment in support of No-Project Alternative is noted. For additional explanation on alternatives, see Master Response 2 (Alternatives).

Regarding CNG and hydrogen fueled locomotives, see prior response to Comment I161-14.

I161-36

Comment in support of new-diesel fuel locomotives is noted.

For additional explanation on Alternatives, see Master Response 2 (Alternatives). As explained therein, the No Project alternative would include replacement of most of the current diesel locomotives with new locomotives since much of Caltrain's diesel fleet is aging and reaching the end of its service life.

I161-37

Comment in support of compressed natural gas (CNG) locomotives is noted. Regarding CNG and see prior response to Comment I161-14.

I161-38

Comment in support of hydrogen fueled locomotives is noted. Regarding hydrogen fuel, please see prior response to Comment I161-14.

I161-39

Comment in support of No-Project Alternative is noted.

I161-40

Comment noted. This comment does not concern the adequacy of the EIR. No revisions to the Draft EIR are necessary. See also Master Response 3 (Use of Proposition 1A Funding) regarding Proposition 1A funding.

I161-41

The comment describes what the EIR described about the cost of grade separations but makes no comment about the EIR analysis and thus no response is necessary.

Regarding switching out and replacing "good-working" locomotive-hauled train set being costly, the comment is correct that new equipment, whether diesel-based on EMUs, is expensive. But as noted in response to Comment I161-30, by 2020, 20 out of 29 diesel locomotives and 73 of the 118 passenger coaches will be 30 years or older. Thus Caltrain will need to modernize its system regardless of whether electrification is implemented or not. In addition, the PCEP will continue to use diesel locomotives and passenger coaches that have not reached the end of their useful service life in a mixed operation for some years after 2020.

I161-42

The Project would not exacerbate any existing bottlenecks or create new ones. The tracks shown on Figure 2-10 are existing Caltrain tracks. The comment in favor of 4 tracks throughout the corridor is noted.

I161-43

The Project does not involve adding any tracks. The purpose of the PCEP is to electrify the corridor. To meet that purpose, additional tracks are not required. The PCEP would not exacerbate any existing bottlenecks or create new ones. The comment in favor of 4 tracks throughout the corridor is noted.

I161-44

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements and impacts associated with HSR service on the Caltrain corridor will be evaluated under separate environmental review per CEQA. However, as discussed in Chapter 4 of the EIR, operational studies of blended service have shown that it is feasible to operate up to 6 Caltrain trains and up to 4 HSR trains per peak hour per direction at speeds up to 110 mph along the corridor, although this will require system improvements in order to run at increased speeds.

See also Master Response 1 (Segmentation and Independent Utility).

I161-45

The Draft EIR does not mislead the public in regards to the fact that there will be additional costs for blended service operation of HSR. Chapter 4 of the EIR clearly discloses that there will need to be system improvements, station improvements, and potentially additional maintenance facilities to support future HSR service. The Draft EIR properly discloses the cost of the PCEP.

There are no conflicting priorities in pursuing electrification of the corridor now for Caltrain electrified service and later for CHSRA to pursue HSR service. Phased implementation of projects with independent utility is a responsible way to maximize early benefits while not precluding other long-term investments in the future.

I161-46

Core Capacity projects have not yet been defined but they are not necessary to the PCEP; they are necessary for blended service. When these projects are identified by CHSRA and Caltrain these projects would be subject to separate environmental review. This comment is noted. The comment does not regard the adequacy of this EIR. No revisions to the Draft EIR are necessary.

I161-47, 48

This comment concerns the design of the DTX and the TTC. The PCEP Draft EIR accurately describes that the DTX and TTC are being designed for electric trains, not diesel trains. The TJPA 2004 EIS/EIR is the environmental document that cleared the DTX and TTC. This comment should have been made during the environmental process for that project and is not timely now.

It is beyond the scope of the PCEP to consider fundamental changes to the DTX and TTC design. Furthermore, there are important environmental reasons why DTX and TTC are designed for electric trains. First, diesel emissions within confined spaces pose an inherent impact to public health. Across the world, older urban underground rail systems have been converting to electric trains (or dual-mode trains) in order to avoid diesel emissions in confined spaces. Apart from the public health concerns, there is an aesthetic adverse effect of diesel emissions in confined spaces that detracts from passenger enjoyment of train travel as well as the terminal space. Third, diesel engines are much noisier than electric trains, which also detracts from the aesthetic amenities of terminal areas.

While in theory the DTX and TTC could be redesigned to allow for diesel trains, this would be a highly costly change to allow for increased ventilation and would still result in a worsened public health outcome as no ventilation system can be 100 percent effective in avoiding diesel emission impacts to passengers on trains and at the TTC. As noted in Master Response 2 (Alternatives), all the diesel alternatives to the PCEP would result in worsened emissions overall and related health impacts, regardless of whether they could access TTC or not.

Regardless of the worsened health outcomes, the decision on design for the DTX and TTC has been made and comments about redesigning that project are untimely and should have been made during the original environmental process for the DTX/TTC project.

I161-49

The HSR project is not forcing Caltrain to electrify. The JPB has been planning on its own to modernize the Caltrain system for decades and has considered electrification as a favored approach long before completion of the programmatic environmental process for high speed rail and the approval of Proposition 1A. As discussed in Master Response 1 (Segmentation and Independent Utility), the PCEP has independent utility from the HSR project and would be pursued regardless of whether there was a HSR project. With the HSR project, there is a convergence of the independent interest of Caltrain to electrify its system and CHSRA to operate on the Caltrain corridor and thus funding can be made available through Proposition 1A for Caltrain electrification now and blended service can be pursued later.

I161-50

The PCEP is not an all at once electrification. As described, funding is only available to operate approximately 75percent of the San Jose to San Francisco service as an electrified service and diesel locomotives will be used for some period after 2020. The PCEP project only reaches the San Francisco Fourth and King Station. Extension to downtown San Francisco is part of a separation Downtown Extension/Transbay Terminal Center project by TJPA.

The comment about a more gradual approach is noted, but is not related to the adequacy of the EIR analysis and no further response is necessary.

I161-51

Please see the prior response to Comment I161-51 regarding the design of the DTX/TTC and the timeliness of the comment about diesel service to TTC.

I161-52, 53

The comment describes some of the benefits of transit-oriented development and higher-density mixes use development but makes no comment about the adequacy of the analysis in the EIR. No response is necessary.

The PCEP is consistent with TOD and mixed-use development in close proximity to the Caltrain stations. The PCEP is more supportive of TOD and mixed-use developments in comparison to any diesel-based alternatives because it would result in lower localized air pollution to areas of concentrated development along the Caltrain ROW and would have lower noise impacts than diesel-based alternatives.

I161-54, 55, 56

Comments in support of national, statewide and regional planning initiatives, CNG and hydrogen fueled transportation system are noted, but these comments are not about the PCEP but transportation planning and technology as a whole, which is far outside the scope of the PCEP.

I161-57

The comment is a statement about the operations of public agencies and not about the PCEP EIR.

No response is necessary.

I161-58

Comment in opposition of the Project is noted. The EIR was prepared in accordance with CEQA, a state law that requires the preparation of an environmental document which presents the potential environmental impacts of a proposed project to the public and the decision-making body.

I161-59

Comment noted. Please refer to Chapter 5, *Alternatives*, for a thorough description of all alternatives considered. Please also see Master Response 2 (Alternatives).

3.2.211 Responses to Comment Letter I162

I162-1

Please see Master Response 9 (Bikes on Board). Comment in support of increased onboard bike capacity is noted.

3.2.212 Responses to Comment Letter I163

I163-1

Commenter's support of the project is noted.

3.2.213 Responses to Comment Letter I164

This comment contains the identical comments as Comment Letter I118. Please refer to responses to that comment letter.

3.2.214 Responses to Comment Letter I165

I165-1

Commenters support for the project is noted.

3.2.215 Responses to Comment Letter I166

I166-1

Freight and commuter rail currently share the Caltrain tracks. The Project would not change this existing condition.

I166-2

Please see Master Responses 6 (aesthetics and tree removal), 7 (air quality including effects of tree removal) and 8 (noise including effects of tree removal.)

I166-3

Comment noted. This EIR does not intend to environmentally clear HSR from San Francisco to San Jose. All elements associated with HSR service will be evaluated under separate environmental review per CEQA. However, HSR was evaluated in the cumulative analysis of this EIR (refer to Chapter 4), based on the current understanding of blended service. See also Master Response 1 (Segmentation and Independent Utility).

3.2.216 Responses to Comment Letter I167

I167-1

Please see Master Response 9 (Bikes on Board).

3.2.217 Responses to Comment Letter I168

I168-1

The JPB ROW adjacent to Agate Drive has four tracks close together north of Meadowbrook Drive (3129 Agate Drive is adjacent to a 4-track segment). South of Meadowbrook Drive, the tracks transition to only two tracks.

For the 4-track segment, it is not feasible to use standard side poles or center poles. It is also not feasible to have a single pole on the opposite side of the ROW in multi-track areas as the poles are not sufficiently strong to support 4 sets of OCS wires and to hold them rigidly as required for safe train operations. In multi-track segments, the only feasible options are portals or headspans. Headspans are only proposed for the CEMOF and the Diridon Station. Headspans can also have higher poles (up to 50 feet) compared to portals (nominally 30+ feet) Thus the likely design for this portion of the route will be a portal.

The OCS poles will be placed within the JPB ROW in areas adjacent to Agate Drive, not on private residential property. However, electrical safety zone easements may be necessary for a number of residential parcels in this area. All property owners were notified of potential encroachments in March 2014. An example letter to property owners is included in Appendix J.

The commenters concerns about aesthetics are noted. The EIR analyzed aesthetics in Section 3.1. Please also see Master Response 6 (Visual Aesthetics including Tree Removal).

I168-2

Please see the PCEP OCS/ESZ/Tree Impact Maps included in Appendix J for the potential location of OCS poles.

I168-3

The JPB will be responsible for tree maintenance within the Project corridor including within any electrical safety zones outside the JPB-owned ROW. The JPB has an existing tree maintenance program that will be expanded to provide the new clearance around the OCS.

I168-4

The location of OCS poles is chosen based on operational and safety requirements. Minimum distances between OCS poles are required for a safe and stable system. The majority of OCS poles would be located within the Caltrain ROW and alternative pole designs will be used pursuant to Mitigation Measure BIO-5 where feasible and where consistent with construction, maintenance, operations and safety requirements. However, as noted above, in 4-track areas the options are limited and the likely pole option would be a portal.

3.2.218 Responses to Comment Letter I169

I169-1

Please see Master Response 9 (Bikes on Board). Comments regarding bikes on board capacity are noted.

3.2.219 Responses to Comment Letter I170

I170-1

Please see Master Response 9 (Bikes on Board). Comments regarding bikes on board capacity are noted.

3.2.220 Responses to Comment Letter I171

I171-1

Please see Master Response 9 (Bikes on Board). Comments regarding bikes on board capacity are noted.

3.2.221 Responses to Comment Letter I172

I172-1

The proposed location for Paralleling Station 5 (PS5), Option 2, is near Page Mill Road in Palo Alto, within the Caltrain ROW. Figure 2-15b in the Draft EIR shows the location of the proposed paralleling station option. The proposed location is immediately north of the 195 Page Mill project, adjacent to the small communication facility. The proposed location is within the JPB ROW not within the 195 Page Mill Project property. <u>The EIR sections on land use and aesthetics have been revised to indicate that the mixed use development under construction will be directly adjacent.</u>

There is also an option (Option 1) to locate PS5 approximately 1.6 miles south of Option 2, along Alma Street near Greenmeadow Way, also within Caltrain's ROW. Figure 2-15a in the Draft EIR shows the location of PS5, Option 1.

The development project (Park Plaza) located at 195 Page Mill Road in Palo Alto is included in the cumulative analysis in Chapter 4, *Other CEQA-Required Analysis,* of the Draft EIR. Park Plaza is Project #44 on Figure 4-1, *Projects Considered in the Cumulative Analysis*, and Table 4-9, *Land Use Development Projects Adjacent to Caltrain ROW*, on page 4-42 of the Draft EIR.

3.2.222 Responses to Comment Letter I173

I173-1

Please see Master Response 9 (Bikes on Board).

3.2.223 Responses to Comment Letter I174

I174-1

Please see Master Response 9 (Bikes on Board).

3.2.224 Responses to Comment Letter I175

I175-1

Please see Master Response 6 (Visual Aesthetics including Tree Removal). The OCS is being installed along an existing transportation corridor and that is an important context for the determination in the EIR.

I175-2

Please see Master Response 2 (Alternatives). Non-electrification alternatives are considered in the EIR.

I175-3

Comment noted. Please see responses to comment I175-1 and I175-2 and Master Response 6 (Visual Aesthetics including Tree Removal).

3.2.225 Responses to Comment Letter I176

I176-1

Please see Master Response 9 (Bikes on Board).

3.2.226 Responses to Comment Letter I177

I177-1

Please see Master Response 9 (Bikes on Board).

3.2.227 Responses to Comment Letter I178

I178-1

Please see Master Response 9 (Bikes on Board).

3.2.228 Responses to Comment Letter I179

I179-1

Stacy Cocke, Senior Planner for the Caltrain Modernization Program, provided Figure 2-8 to Mr. Kim via e-mail on March 10, 2014. Figure 2-8 is also included in the Draft EIR following page 2-7 in Chapter 2, *Project Description.* Figure 2-8 shows the layout of the OCS and ESZ.

Ms. Cocke followed up with Mr. Kim and informed him that based on the preliminary engineering evaluated as part of the Draft EIR, the OCS outer pole alignment adjacent to Mr. Kim's property would be within the Caltrain right-of-way but the ESZ may encroach on part of the property. OCS/ESZ maps are provided in the Final EIR in Appendix J.

3.2.229 Responses to Comment Letter I180

I180-1

Stacy Cocke, Senior Planner for the Caltrain Modernization Program, responded to Mr. Alves' questions via a phone call and an e-mail on April 15, 2014 and confirmed the location of TPS2, Option 2 to the commenter.