Mitigation, Monitoring, and Reporting Plan for the California High-Speed Rail Program EIR/EIS

This mitigation, monitoring, and reporting plan is designed to fulfill Section 21081.6 of the California Environmental Quality Act (CEQA), which requires public agencies to adopt a reporting or monitoring program whenever a project or program is approved that includes mitigation measures identified in an environmental document. The mitigation strategies described below are for a program-level decision and are to be used to avoid, minimize, or reduce any potentially significant environmental impacts. Project-level activities will undergo future environmental analysis as required by NEPA and CEQA tiering from this EIS/EIR. As part of these second-tier environmental reviews, the lead agency for each of these projects will use the mitigation strategies identified in the program document as starting points to determine their applicability to a specific project and to develop additional mitigation measures for significant adverse impacts identified in the project-specific analysis. Because all the potential actions and impacts for tiered projects cannot be anticipated at a programmatic level, each project needs to select those strategies applicable to the impacts associated with the specific location and type of action. For purposes of CEQA, the mitigation strategies in the Final EIS/EIR also serve as mitigation measures at a programmatic level. The NEPA/CEQA monitoring process includes review, guidance, and reporting components. The lead agencies for second tier documents will note which applicable programmatic mitigation strategies are being adopted and used for mitigation measures and explain why others are not. The lead agencies will provide a schedule for implementing the adopted mitigation measures and for reviewing the implementation of those measures.

As a programmatic-level document, the Program EIR/EIS does not analyze site-specific impacts of potential alignments or stations; therefore, it cannot predict with certainty which impacts will occur and what site-specific mitigation measures are appropriate for the second-tier level of actions. Consequently, the Program EIR/EIS describes mitigation strategies that are approaches tailored to address the types of impacts anticipated as a result of construction of the HST system. These strategies will provide the basis to structure more site-specific measures when more detailed data on the impacts is available at the second-tier. In addition, the Authority has committed to design practices and policies that will be used to develop alignment alternatives at the project-level to avoid impacts and to help shape specific mitigation measures.

At this program level of planning, the Authority is responsible for tracking the mitigation and incorporating it into future studies that it undertakes, but a monitoring plan cannot yet be developed. For the next tiers of environmental analysis, a monitoring plan will be developed as part of each project-level analysis that includes more specific timing for the mitigation measures, and additional parties may be identified with responsibility for implementing the measures.

Resource Area	Impact Area	Mitigation Measure
Traffic and circulation	Traffic and circulation	Require that HST system stations serve as multi-modal transportation hubs providing easy connection to local/regional bus, rail and transit services, as well as providing bicycle and pedestrian access.
		Require the HST system to be grade-separated from all roadways to allow vehicular traffic to flow without impediment from the HST system.
		Work with local and regional agencies to develop and implement transit-oriented development strategies, as described in Chapter 6B, around HST stations.
		Work with local and regional agencies to identify, plan, coordinate, and implement traffic flow improvements around HST station locations during project-level planning. Such improvements may include: a. a construction phasing and traffic management plan for construction periods b. improving capacity of local streets with upgrades in geometrics such as providing standards roadway lane widths, traffic controls, bicycle lanes, shoulders and sidewalks c. modifications at intersections, such as signalization and/or capacity improvements (widening for additional left-turn and/or through lanes), and turn prohibitions d. signal coordination and optimization (including retiming and rephasing) e. designation of one-way street patterns near some station locations f. truck route designations g. coordination with Caltrans regarding nearby highway facilities
		Work with public transportation providers to coordinate services and to increase service and/or add routes, as necessary, to serve the HST station areas.
		Avoid parking impacts by developing and coordinating implementation at the project-level of parking improvement strategies consistent with local policies, including shared parking, off-site parking with shuttles, parking and curbside use restrictions, parking permit plans for neighborhoods near HST stations, and other parking management strategies.
Air quality	Localized air quality impacts due to congestion/traffic near HST stations	Assure that HST stations are multi-modal hubs and include appropriate parking
		Coordinate with local and regional public transportation providers to increase opportunities for connection between the HST system and other public transportation services.
		Work with local and regional agencies to implement local street and roadway improvements, including various traffic flow improvements and congestion management techniques, and parking management strategies to reduce localized pollution from traffic related to the HST system
	Short-term air quality impacts due to construction	Water all active construction areas at least twice daily.
		Require that all trucks hauling soil, sand, and other loose materials be covered or maintain at least two feet of freeboard.
		Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at active construction sites.
		Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at active construction sites.
		Sweep nearby streets daily (with water sweepers) if visible soil materials from HST system construction are carried onto adjacent public streets.
		Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

Resource Area	Impact Area	Mitigation Measure
		Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles of dirt, sand, etc.
		Limit traffic speeds on unpaved roads to 15 mph
		Install sand bags or other erosion control measures to prevent silt runoff to public roads.
		Replant vegetation in disturbed areas as quickly as possible.
		Use alternative fuels for construction equipment when feasible.
		Minimize equipment idling time.
		Maintain properly tuned equipment.
Noise	Increased noise from train operations and construction	Grade separations to eliminate grade crossing related noise.
		Noise barriers, such as sound walls, where there are severe noise impacts.
		Require noise reduction in HST equipment design and track structures design.
		Use of enclosures or walls to surround noisy equipment, and installation of mufflers on engines; substitution of quieter equipment or construction methods, minimizing time of operation and locate equipment farther from sensitive receptors.
		Where not already included, consider placing alignment sections in tunnel or trenches or behind berms where possible and where other measures are not available to reduce significant noise impacts.
		Suspend construction between 7:00 pm and 7:00 am and/or on weekends or holidays in residential areas where there are severe noise impacts.
		In managing construction noise take into account local sound control and noise level rules, regulations and ordinances.
		Ensure that each internal combustion engine would be equipped with a muffler of a type recommended by the manufacturer.
		Specify the use of the quietest available construction equipment where appropriate and feasible.
		Turn off construction equipment during prolonged periods of non-use.
		Require contractors to maintain all equipment and to train their equipment operators.
		Locate noisy stationary equipment away from noise sensitive receptors.
	Exposure to ground-borne vibration	Specify the use of train and track technologies that minimize ground vibration such as state of the art suspensions, resilient track pads, tie pads, ballast mats or floating slabs.
		Phase construction activity, use low impact construction techniques and avoid use of vibrating construction equipment where possible to avoid vibration construction impacts.
Energy	Increased energy use and electricity demand with the HST system	HST stations will be multi-modal hubs providing linkage for various transportation modes, which will contribute to increased efficiency of energy use for intercity trips and by commuters, and the stations will be required to be constructed to meet Title 24 California Code of Regulations energy efficiency standards.
		Design practices will require that the electrically powered HST technology be energy efficient, include regenerative braking to reduce energy consumption, and minimize grade changes in steep terrain to reduce energy consumption
		Design practices will require that localized impacts be avoided through planning and design of the power distribution system for the HST System.

Resource Area	Impact Area	Mitigation Measure
		Locate HST maintenance and storage facilities within proximity to major stations/termini.
	Energy use during construction of the HST system	Develop and implement a construction energy conservation plan.
		Use energy efficient construction equipment and vehicles.
		Locate construction material production facilities on-site or in proximity to project construction sites.
		Develop and implement a program encouraging construction workers to carpool or use public transportation for travel to and from construction sites.
Electromagnetic fields and electromagnetic interference	Exposure of electromagnetic fields to HST system workers, passengers, and nearby residents, schools and other facilities	Use standard design practices for overhead catenary power supply systems and vehicles, including appropriate materials, location and spacing of facilities and power supply systems to minimize exposure to receptors over distance, and shielding with vegetation and other screening materials.
		Design overhead catenary system, substations, and transmission lines to reduce the electromagnetic fields to a practical minimum.
	Electromagnetic interference with electronic and electrical devices	Design the overhead catenary system, substations, and transmission lines to reduce the electromagnetic fields to a practical minimum.
		Design the project component to minimize arcing and radiation of radiofrequency energy.
		Choose devices generating radiofrequency with a high degree of electromagnetic compatibility.
		Where appropriate, add electronic filters to attenuate radiofrequency interference.
		Relocate receiving antennas and use antenna models with greater directional gain where appropriate, particularly for sensitive receptors near the HST system.
		Comply with the FCC regulations for intentional radiators, such as the proposed HST wireless systems.
		Establish safety criteria and procedures and personnel practices to avoid exposing employees with implantable medical devices to EMF levels that may cause interference with such implanted biomedical devices.
Land use	Incompatibility with land uses and disruption to communities	Continue to apply design practices to minimize property needed for the HST system and to stay within or adjacent to existing transportation corridors to the extent feasible.
		Work with local governments to consider local plans and local access needs, and to apply design practices to limit disruption to communities.
		Work with local governments to establish requirements for station area plans and opportunities for transit oriented development.
		Work with local governments to enhance multi-modal connections for HST stations.
		Coordinate with cities and counties to ensure that HST facilities would be consistent with land use planning processes and zoning ordinances.
		Provide opportunities for community involvement early in project-level studies.
		Hold design workshops in affected neighborhoods to develop understanding of vehicle, bicycle, and pedestrian linkages in order to preserve those linkages through use of grade-separated crossings and other measures.
		Ensure that connectivity is maintained across the rail corridor (pedestrian/bicycle and vehicular crossings) where necessary to maintain neighborhood integrity.
		Develop facility, landscape and public art design standards for HST corridors that reflect the character of adjacent affected neighborhoods.

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		Maintain high level of visual quality of HST facilities in neighborhood areas by implementing such measures as visual buffers, trees and other landscaping, architectural design and public artwork.
	Impacts to neighborhoods during construction	Develop a traffic management plan to reduce barrier effects during construction.
		To the extent feasible maintain connectivity during construction.
Agricultural lands	Conversion of prime, statewide important, and unique farmlands, and farmlands of local importance, to project uses	Avoid farmland whenever feasible during the conceptual design stage of the project.
		Reduce the potential for impacts by sharing existing rail rights-of-way where feasible or by aligning HST features immediately adjacent to existing rail rights-of-way.
		Reduce the potential for impacts by reducing the HST right-of-way width to 50 feet in constrained areas.
		Increase protection of existing important farmlands by securing easements or participating in mitigation banks.
		Coordinate with and support the California Farmland Conservancy Program to secure conservation easements on farmland in geographic areas where the HST project creates impacts.
		Coordinate with private agricultural land trusts, local programs, mitigation banks, and Resource Conservation Districts to identify additional measures to limit important farmland conversion or provide further protection to existing important farmland.
	Severance of prime, statewide important, and unique farmlands, and farmlands of local importance, to project uses	Avoid farmland whenever feasible during the conceptual design stage of the project
		Minimize severance of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access
		Work with landowners during final design of the system to enable adequate property access
		Provide appropriate severance payments to landowners.
Aesthetics and visual resources		At the project-level, design proposed facilities that are attractive in their own right and that would integrate well into landscape contexts, so as to reduce potential view blockage, contrast with existing landscape settings, light and shadow effects, and other potential visual impacts.
		Design bridges and elevated guideways with graceful lines and minimal apparent bulk and shading effects.
		Design elevated guideways, stations, and parking structures with sensitivity to the context, using exterior materials, colors, textures, and design details that are compatible with patterns in the surrounding natural and built environment, and that minimize the contrast of the structures with their surroundings.
		Use neutral colors and dulled finishes that minimize reflectivity for catenary support structures, and design them to fit the context of the specific locale.
		Use aesthetically appropriate fencing along rights-of-way, including decorative fencing, where appropriate, and use dark and non-reflective colors for fencing to reduce visual contrast.
		Where at-grade or depressed route segments pass through or along the edge of residential areas or heavily traveled roadways, install landscape treatments along the edge of the right-of-way to provide partial screening and to visually integrate the right-of-way into the residential context.
		Use the minimum amount of night lighting consistent with that necessary for operations and safety.

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		Use shielded and hooded outdoor lighting directed to the area where the lighting is required, and use sensors and timers for lights not required to be on all the time.
		Design stations to minimize potential shadow impacts on adjacent pedestrian areas, parks, and residential areas, and site all structures in a way that minimizes shadow effects on sensitive portions of the surrounding area.
		Seed and plant areas outside the operating rail trackbed that are disturbed by cut, fill or grading to blend with surrounding vegetated areas, where the land will support plants. Use native vegetation in appropriate locations and densities.
		Use strategic plantings of fast-growing trees to provide partial or full screening of elevated guideways where they are close to residential areas, parks, and public open spaces.
		Where elevated guideways are located down the median strips or along the edge of freeways or major roadways, use appropriate landscaping of the area under the guideway to provide a high level of visual interest. Landscaping in these area should use attractive shrubs and groundcovers, and emphasize the use of low-growing species to minimize any additional shadow effects or blockage of views.
		Plan hours of construction operations and locate staging sites to minimize impacts to adjacent residents and businesses.
Public utilities		Make adjustments to the HST system alignments and vertical profiles to avoid crossing or using major utility right-of-way or fixed facilities during engineering design.
		If avoidance is not feasible, in consultation and coordination with the utility owner, relocate or protect in place transmission lines, substations, and any other affected facilities.
		For acquisition projects which result in utility relocation, follow the uniformity and equitable treatment policies, and comply with the requirements, of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 for all property necessary for the proposed HST system.
Hazardous materials and wastes		Investigate soils and groundwater for contamination and prepare environmental site assessments when necessary.
		Design realignment of the HST corridors to avoid identified sites.
		Relocate HST associated facilities such as stations to avoid identified sites.
		Remediate identified hazardous materials and hazardous waste contamination.
		Prior to demolition of buildings for project construction, survey for lead-based paint and asbestos-containing materials.
		Follow BMP's for testing, treating, and disposing of water, and acquire necessary permits from the regional water quality control board, if ground dewatering is required.
		When indicated by project level environmental site assessments, perform Phase II environmental site assessments in conformance with the ASTM Standards related to the Phase II Environmental Site Assessment Process to identify specific mitigation measures.
		Prepare a Site Management Program/Contingency Plan prior to construction to address known and potential hazardous material issues, including a. Measures to address management of contaminated soil and groundwater; b. Site-specific Health and Safety Plan (HASP), including measures to protect construction workers and general public; and c. Procedures to protect workers and the general public in the event that unknown contamination or buried hazards are encountered.

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		As part of the second-tier environmental review, consider impacts to the environment on sites identified on the Cortese list (Government Code section 65962.4) at that time.
Cultural and paleon-tological resources	Impacts to archaeological resources and traditional cultural properties	Avoid the impact, or when avoidance cannot be accommodated, minimize the scale of the impact.
		Incorporate the site into parks or open space.
		Provide data recovery for the archaeological resources, which may include excavation of an adequate sample of the site contents so that research questions applicable to the site can be addressed.
		Develop procedures for fieldwork, identification, evaluation, and determination of potential effects to archaeological resources in consultation with SHPO and Native American tribes. Procedures may include on-site monitoring when sites are known or suspected of containing Native American human remains and be reflected in Memoranda of Agreement with appropriate bodies.
		Coordinate and consult with tribal representatives.
	Impacts to historic properties/ resources	Avoid the impact through project design. Prepare and utilize a treatment plan for protection of historic properties/resources that would describe methods to preserve, stabilize, shore/underpin, and monitor buildings, structures, and objects.
		Avoid high vibration construction techniques in sensitive areas.
		Record and document cultural resources that would be adversely affected by the project to the standards of the Historic American Building Survey or Historic American Engineering Record.
		Develop design guidelines to ensure sympathetic, compatible, and appropriate designs for new construction.
		Consult with architectural historians or historical architects to advise on appropriate architectural treatment of the structural design of proposed new structures. Prepare interpretive and/or educational materials and programs regarding the affected historic properties/resources. Materials may include: a popular report, documentary videos, booklets, and interpretive signage.
		Make interpretive information available to state and local agencies, such as salvage items, historic drawings, interpretive drawings, current and historic photographs, models, and oral histories. Also assist with archiving and digitizing the documentation of the cultural resources affected, and disseminating material to the appropriate repositories.
		Relocate and rehabilitate historic properties/resources that would otherwise be demolished because of the project.
		Monitor project construction to ensure it conforms to design guidelines and any other treatment procedures agreed to by the parties consulting pursuant to Section 106 of the National Historic Preservation Act. Repair inadvertent damage to historic properties/resources in accordance with the Secretary of the Interior's Standards for Treatment of Historic Properties.
		Salvage selected decorative or architectural elements of the adversely affected historic properties/resources, and retain and incorporate salvaged items into new construction where possible. If reuse is not possible, make salvaged items available for use in interpretive displays near the affected resources or in an appropriate museum.
		Implement an agreement with appropriate bodies specifying procedures for addressing historic resources which may be affected by the HST system.

Resource Area	Impact Area	Mitigation Measure
	Impacts to paleontological resources	Educate workers.
		Recover fossils identified during the field reconnaissance.
		Monitor construction.
		Develop protocols for handling fossils discovered during construction, such as temporary diversion of construction equipment so that the fossils could be recovered, identified, and prepared for dating, interpreting, and preserving at an established, permanent, accredited research facility.
Geology and soils	Seismic hazards	Design structures to withstand anticipated ground motion, using design options such as redundancy and ductility.
		Prevent liquefaction and resulting structural damage and traffic hazards using: (1) ground modification techniques such as soil densification; and (2) structural design, such as deep foundations.
		Utilize motion sensing instruments to provide ground motion data and a control system to temporarily shut down HST operations during or after an earthquake to reduce risks.
		Design and engineer all structures for earthquake activity using CalTrans Seismic design Criteria.
		Design and install foundations resistant to soil liquefaction and settlement.
		Identify potential serpentinite bedrock disturbance areas and implement a safety plan.
		Apply Section 19 requirements from the most current CalTrans Standard Specifications to ensure geotechnically stable slopes are planned and created.
		Install passive or active gas venting systems and gas collection systems in areas where subsurface gases are identified.
		Remove corrosive soil and use corrosion protected materials in infrastructure.
		Address erosive soils through soil removal and replacement, geosynthetics, vegetation, and or rip/rap, where warranted.
		Remove or moisture condition shrink/swell soils.
		Utilize stone columns, grouting, and deep dynamic compaction in areas of potential liquefaction.
		Utilize buttress berms, flattened slopes, drains, and/or tie-backs in areas of slope instability.
		Avoid settlement through preloading, use of stone columns, deep dynamic compaction, grouting, and/or special foundation designs.
	Surface rupture hazards	Install early warning systems triggered by strong ground motion associated with ground rupture, such as linear monitoring systems (i.e., time domain reflectometers) along major highways and rail lines within the zone of potential rupture to provide early warnings and allow for temporary control of rail and automobile traffic to avoid and reduce risks.
		Continue to modify alignments to avoid crossing known or mapped active faults within tunnels.
		Avoid active faults to the extent possible. Where avoidance is not possible, cross active faults at grade and perpendicular to the fault line.
	Slope instability	Install temporary and permanent slope reinforcement and protection, based on geotechnical investigations, and review of proposed earthwork and foundation excavation plans.
		Conduct geotechnical inspections during construction to verify that no new, unanticipated conditions are encountered.

Resource Area	Impact Area	Mitigation Measure
		Incorporate slope monitoring in final design.
	Difficulty in excavation	Identify areas of potentially difficult excavation to ensure safe practices.
		Focus future geotechnical engineering and geologic investigations in areas of potentially difficult excavation.
		Monitor conditions during and after construction.
		Employ tunnel excavation and lining techniques to ensure safety.
	Hazards related to oil and gas fields	Follow federal and state Occupational Safety and Health Administration regulatory requirements for excavations.
		Consult with other agencies such as the Department of Conservation's Division of Oil and Gas, or the Department of Toxic Substances Control regarding known areas of concern.
		Use safe and explosion-proof equipment during construction.
		Test for gases regularly.
		Install monitoring systems and alarms in underground construction areas and facilities where subsurface gases are present.
		Install gas barrier systems.
Hydrology and water resources	Impacts on floodplains	Avoid or minimize construction of facilities within floodplains where feasible.
		Minimize the footprint of facilities within the floodplain, through design changes or the use of aerial structures and tunnels.
		Restore the floodplain to its prior operation in instances where the floodplain is impacted by construction.
	Impacts on surface waters	Use construction methods and facility designs to minimize the potential encroachments onto surface water resources.
		Minimize sediment transport caused by construction by following best management practices (BMPs) as part of National Pollutant Discharge Elimination System (NPDES) and Storm Water Pollution Prevention Plan requirements that will be included in construction permits. BMPs may include measures such as: a. providing permeable surfaces where feasible; b. retaining and treating stormwater onsite using catch basins and filtering wet basins; c. minimizing the contact of construction materials, equipment, and maintenance supplies with stormwater; d. reducing erosion through soil stabilization, watering for dust control, installing perimeter silt fences, placing rice straw bales, and installing sediment basins; e. maintaining water quality by using infiltration systems, detention systems, retention systems, constructed wetland systems, filtration systems, biofiltration/bioretention systems, grass buffer strips, ponding areas, organic mulch layers, planting soil beds, sand beds, and vegetated systems such as swales and grass filter strips that are designed to convey and treat either fallow flow (swales) or sheetflow (filter strips) runoff.
		Use methods such as habitat restoration, reconstruction of [habitat] onsite, and habitat replacement offsite to minimize surface water quality impacts.
		Comply with mitigation measures included in permits issued under sections 404 and 401 of the federal Clean Water Act.
		Comply with requirements in the Storm Water Pollution Prevention Plan to reduce pollutants in storm water discharges and the potential for erosion and sedimentation.

Resource Area	Impact Area	Mitigation Measure
		Comply with requirements of section 10 of the federal Rivers and Harbors Act for work required around a water body designated as navigable and applicable permit requirements.
		Comply with the requirements of a state Streambed Alteration Agreement for work along the banks of various surface water bodies.
		Implement a spill prevention and emergency response plan to handle potential fuel or other spills.
		Where feasible, avoid significant development of facilities in areas that may have substantial erosion risk, including areas with erosive soils or steep slopes.
	Impacts on groundwater	Minimize development of facilities in areas that may have substantial groundwater discharge or affect recharge.
		Apply for, obtain, and comply with conditions of applicable waste discharge requirements as part of project-level review.
		Develop facility designs that are elevated, or at a minimum are permeable, and would not affect recharge potential where construction is required in areas of potentially substantial groundwater discharge or recharge.
		Apply for and obtain a Storm Water Pollution Prevention Plan for grading, with Best Management Practices that would control release of contaminants nears areas of surface water or groundwater recharge. Best Management Practices may include constraining fueling and other sensitive activities to alternative locations, providing drip plans under some equipment, and providing daily checks of vehicle condition.
		Use and retain native materials with high infiltration potential at the ground surface in areas that are critical to infiltration for groundwater recharge.
Biological resources and wetlands	Impacts to sensitive vegetation communities	Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Use large diameter tunnels as part of the design to limit surface access needs in tunnels for ventilation or evacuation, as a method to avoid or limit impacts to vegetation and habitat above tunnels.
		Use in-line construction (i.e., use new rail infrastructure as it is built) to transport equipment to/from the construction site and to transport excavated material away from the construction to appropriate re-use or disposal sites to minimize impacts from construction access roads on vegetation/habitat.
		Accomplish necessary geologic exploration in sensitive areas by using helicopters to transport drilling equipment and for site restoration to minimize surface disruption.
		Use and reuse excavated materials within the confines of the project.
		Participate in or contribute to existing or proposed conservation banks or natural management areas, including possible acquisition, preservation, or restoration of habitats.
		Revegetate/restore impacted areas, with a preference for on-site mitigation over off-site, and with a preference for off-site mitigation within the same watershed or in close proximity to the impact where feasible.
		Comply with the Biological Resources Management Plan(s) developed or identified during project-level studies, as reviewed by the USFWS, CDFG, and USACE.
		Conduct pre-construction focused biological surveys.
		Conduct biological construction monitoring.
		Undertake plant relocation, seed collection, plant propagation, and outplanting at suitable mitigation sites.

Resource Area	Impact Area	Mitigation Measure
		Prevent the spread of weeds during construction and operation by identifying areas with existing weed problems and measures to control traffic moving out of those areas such as cleaning construction vehicles or limiting the movement of fill.
	Impacts to wildlife movement corridors	Construct wildlife underpasses, bridges, and/or large culverts, to facilitate known wildlife movement corridors.
		Ensure that wildlife crossings are of a design, shape, and size to be sufficiently attractive to encourage wildlife use.
		Provide appropriate vegetation to wildlife overcrossings and undercrossings to afford cover and other species requirements.
		Establish functional corridors to provide connectivity to protected land zoned for uses that provide wildlife permeability.
		Design protective measures for wildlife movement corridors using the following process in consultation with resource agencies: a. Identify the habitat areas the corridor is designed to connect b. Select several species of interest from the species present in the area c. Evaluate the relevant needs of each selected species d. For each potential corridor, evaluate how the area will accommodate movement by each species of interest e. Draw the corridors on a map f. Design a monitoring program
		Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Use aerial structures or tunnels to allow for unhindered crossing by wildlife.
	Impacts to non-wetland jurisdictional waters	Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Return degraded habitat to pre-existing conditions.
		Create new habitat by converting non-wetland habitats into wetland or other aquatic habitat.
		Enhance existing habitats by increasing one or more functions through activities such as plantings or non-native vegetation eradication.
		Provide for passive revegation by allowing a disturbed area to revegetate naturally.
		Purchase credits in an existing wetlands or aquatic habitat mitigation bank.
		Provide in-lieu fee payments to an agency or other entity who will provide aquatic habitat conservation or restoration.
		Prefer on-site mitigation over off-site mitigation, and for off-site mitigation prefer that located within the same watershed or as close in proximity to the area of impact as possible.
	Impacts to wetlands	Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Return degraded habitat to pre-existing conditions.
		Create new habitat by converting non-wetland habitats into wetland or other aquatic habitat.
		Enhance existing habitats by increasing one or more functions through activities such as plantings or non-native vegetation eradication.
		Provide for passive revegation by allowing a disturbed area to revegetate naturally.
		Purchase credits in an existing wetlands or aquatic habitat mitigation bank.
		Provide in-lieu fee payments to an agency or other entity who will provide aquatic habitat conservation or restoration.

Resource Area	Impact Area	Mitigation Measure
		Develop and implement measures to address the "no net loss" policy for wetlands.
		Prefer on-site mitigation over off-site mitigation, and for off-site mitigation prefer that located within the same watershed or as close in proximity to the area of impact as possible.
	Impacts to marine and anadromous fishery resources	Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Comply with the terms of a Streambed Alteration Agreement for work along banks of surface water bodies.
		Implement a spill prevention and emergency response plan to handle potential fuel or other spills.
		Incorporate bio-filtration swales to intercept runoff.
		Where feasible, avoid significant development of facilities in areas that may have substantial erosion risk, including areas with erosive soils and steep slopes.
	Impacts to special status species	Utilize existing transportation corridors and rail lines to minimize potential impacts.
		Relocate sensitive species.
		Conduct pre-construction focused surveys.
		Conduct biological construction monitoring.
		Restore suitable breeding and foraging habitat.
		Purchase credits from an existing mitigation bank.
		Participate in an existing Habitat Conservation Plan.
		Phase construction around the breeding season.
Public parks and recreation resources	Impacts to parks and recreational resources	Continue to apply design practices to avoid impacts to park resources, and when avoidance cannot be accommodated, minimize the scale of the impact
		Apply measures at the project level to reduce and minimize indirect/proximity impacts as appropriate for the particular sites affected, while avoiding other adverse impacts (e.g., visual), such as noise barriers, visual buffers and landscaping.
		Apply measures to modify access to/egress from the recreational resource to reduce impacts to these resources.
		Design and construct cuts, fill, and aerial structures to avoid and minimize visual impacts to units of the state park system.
		Incorporate wildlife under or over crossings at appropriate intervals as necessary.
		Where public parklands acquired with public funds would be acquired for non-park use as part of the HST system, commit as required by law to providing funds for the acquisition of substantially equivalent substitute parkland or to acquiring/providing substitute parkland of comparable characteristics for construction impacts.
		Restore affected park lands to natural state and replace or restore affected park facilities.
		If park facilities must be relocated, provide planning studies as well as appropriate design and replacement with minimal impact on park use.
		Use local native plants for revegetation.
		Develop and implement construction practices, including scheduling, to limit impacts to wildlife, wildlife corridors and visitor use areas within public parks.
		For temporary unavoidable loss of park and recreation facility uses consider providing compensation.

Resource Area	Impact Area	Mitigation Measure
Cumulative	Impacts on traffic and circulation and travel conditions	The following program level mitigation strategies can be developed, in consultation with state, federal, regional, and local governments and affected transit agencies, to improve the flow of intercity travel on the primary routes and access to the proposed stations or airports and will reduce this impact: 1. Regional strategies would include coordination with Regional Transportation planning and Intelligent Transportation System Strategies. 2. Local improvements could employ TSM/Signal Optimization; local spot widening of curves; and major intersection improvements.
		The following program level mitigation strategies can be developed, in consultation with state, federal, regional, and local governments and affected transit agencies, to improve the flow of intercity travel on the primary routes and access to the proposed stations or airports and will reduce this impact: 1. Regional strategies would include coordination with Regional Transportation planning and Intelligent Transportation System Strategies. 2. Local improvements could employ TSM/Signal Optimization; local spot widening of curves; and major intersection improvements.
	Impacts on air quality	The project level mitigation strategies to address localized impacts can consider the following and will reduce this impact: 1. Increase emission controls from power plants supplying power for the HST Alternative. 2. Design the system to utilize energy efficient, state-of-the-art equipment. 3. Promote increased use of public transit, alternative fueled vehicles, and parking for carpools, bicycles, and other alternative transportation methods. 4. Alleviate traffic congestion around passenger station areas. 5. Minimize construction air emissions.
	Impacts on noise and vibration	The program level mitigation strategies relate to the following and will reduce this impact: 1. design practices emphasizing the use of tunnels or trenches 2. use of electric powered trains, higher quality track interface, and smaller lighter and more aerodynamic trainsets; and 3. full grade separations from all roadways.
		The project level mitigation strategies include the following and will reduce this impact: 1. treatments for insulation of buildings affected by noise and vibration; 2. sound barrier walls within the right-of-way; 3. track treatments to minimize train vibrations; and 4. construction mitigation.
	Impacts on land use and planning, communities and neighborhoods, property, and environmental justice	The program level mitigation strategies for HST Alternative contributions to the land use impacts, include the following and will reduce this impact: 1. Design practices to maximize use of existing rights-of-way and incorporating strategies for stations to incorporate transit oriented design. 2. Coordination with cities and counties in each region to ensure that project facilities would be consistent with land use planning processes and zoning ordinances.

Resource Area	Impact Area	Mitigation Measure
	Impacts on agricultural lands	The program level mitigation strategies include the following and will reduce this impact: 1. design practices to avoid agricultural land conversion through maximizing use of existing rights-of-way to minimize encroachment on additional agricultural lands 2. utilizing aerial structure or tunnel alignments to allow for vehicular and pedestrian traffic access across the alignment; and 3. reducing the new right-of-way to 50 feet in constrained areas.
		The project level mitigation strategies include the following and will reduce this impact: 1. securing easements, 2. participating in mitigation banks, 3. increasing permanent protection of farmlands at the local planning level, and 4. coordinating with various local, regional, and state agencies support farmland conservation programs.
	Impacts on aesthetics and visual resources	The program level mitigation strategies include the following and will reduce this impact: 1. design practices that will incorporate local agency and community input during subsequent project level environmental review in order to develop context sensitive aesthetic designs and treatments for infrastructure.
		The project level mitigation strategies include the following and will reduce this impact: 1. design of facilities that integrate into landscape contexts, reducing potential view blockage, contrast with existing landscape settings, and light and shadow effects.
	Impacts on public utilities	The program level mitigation strategies include the following and will reduce this impact: 1. design practices that will avoid potential conflicts, at the project level analysis, to the extent feasible and practical. These practices include: design methods to avoid crossing or using utility rights-of-way include modifying both the horizontal and vertical profiles of proposed transportation improvements. Emphasis would be placed on detailed alignment design to avoid potential contribution to cumulative impacts from linear facilities on land use opportunities and to minimize conflicts with existing major fixed public utilities and supporting infrastructure facilities.
		The project level mitigation strategies include the following and will reduce this impact: 1. coordination with utility representatives during construction in the vicinity of critical infrastructure will occur.
	Impacts on cultural and paleontological resources	The program level mitigation strategies include the following and will reduce this impact: 1. Continued consultation with SHPO would occur to define and describe general procedures to be applied in the future for fieldwork, method of analysis, and the development of specific mitigation measures to address effects and impacts to cultural resources, resulting in a programmatic agreement between the Authority, FRA and SHPO. 2. Consultation with Native American tribes would occur.

Resource Area	Impact Area	Mitigation Measure
		The project level mitigation strategies include the following and will reduce this impact: 1. avoidance measures through identification of sensitive resources within the project level analysis and project design refinement and careful selection of alignments. 2. subsequent project level field studies to verify the location of cultural resources would offer opportunities to avoid or minimize direct impacts on resources, based on the type of project, type of property, and impacts to the resource.
	Impacts on geology and soils	The program level mitigation strategies include the following and will reduce this impact: 1. Design practices will be used while preparing extensive alignment studies to ensure that potential effects related to major geologic hazards such as major fault crossings, oil fields, and landslide areas, will be avoided. 2. Mitigation for potential impacts will be developed on a site-specific basis, based on detailed geotechnical studies to address ground shaking, fault crossings, slope stability/landslides, areas of difficult excavation, hazards related to oil and gas fields, and mineral resources.
	Impacts on hydrology and water resources	The program level mitigation strategies include the following and will reduce this impact: 1. design practices to maximize use of existing rights-of-way to minimize potential impacts on water resources.
		The project level mitigation strategies include the following and will reduce this impact: 1. Avoidance and minimization measures would be incorporated into the development, design, and implementation phases. 2. Close coordination will occur with the regulatory agencies to develop specific design and construction standards for stream crossings, infrastructure setbacks, erosion control measures, sediment controlling excavation/fill practices, and other best management practices. 3. Mitigation strategies specific to reconstruction, restoration, or replacement of the resource will occur, in close coordination with state and federal resource agencies, related to flood plains; surface waters, runoff, and erosion; and groundwater.
	Impacts on biological resources and wetlands	The program level mitigation strategies include the following and will reduce this impact: 1. design practices to maximize use of existing rights-of-way to minimize potential impacts on biological resources and wetlands.

Resource Area	Impact Area	Mitigation Measure
		The project level mitigation strategies include the following and will reduce this impact: 1. Avoidance and minimization measures would be incorporated into the development, design, and implementation phases. 2. Close coordination will occur with the regulatory agencies to develop specific design and construction standards for stream crossings, infrastructure setbacks, monitoring during construction, and other best management practices. 3. Mitigation strategies specific to reconstruction, restoration, or replacement of the resource will occur, in close coordination with state and federal resource agencies, related to wetlands. 4. Field studies would be conducted to verify the location, in relation to the HST alignments, of sensitive habitat, wildlife movement corridors, and wetlands. These studies would provide further opportunities to minimize and avoid potential impacts on biological resources through changes to the alignment plan and profile in sensitive areas. For example, the inclusion of design features such as elevated track structures over drainages and wetland areas and wildlife movement corridors would minimize potential impacts to wildlife and sensitive species.
	Impacts on Section 4(f) and 6(f) resources (public parks and recreational resources)	The program level mitigation strategies include the following and will reduce this impact: 1. Incorporation of sound barriers (e.g., walls, berms or trenches), visual buffers/landscaping, and modification of transportation access to/egress from the public lands and recreational resource. 2. Incorporation of design modifications or controls on construction schedules, phasing, and activities.
		The project level mitigation strategies include the following and will reduce this impact: 1. Beautification measures. 2. Replacement of land or structures or their equivalents on or near their existing site(s). 3. Tunneling, cut and cover, cut and fill of right-of-ways. 4. Treatment of embankments. 5. Planting, screening, creating wildlife corridors, acquisition of land for preservation, installation of noise barriers. 6. Establishment of pedestrian or bicycle paths. 7. Other potential mitigation strategies could be identified during the public input process.

Resource Area	Impact Area	Mitigation Measure
		In the event that HST alignments or facilities are located within or in close proximity to public parks, the following mitigations for natural, cultural, aesthetic and recreational impacts may be considered to offset the contribution to the cumulative impact, including but not limited to: 1. Compensation for temporary and loss of park and recreation use. 2. Recordation of any historic features removed. 3. If necessary, provide alternative shuttle access service to park visitors. 4. Restore directly impacted park lands to a natural state. 5. If any facilities must be relocated, provide planning studies as well as design and appropriate replacement with minimal impact on park use. 6. Inventory and record affected historic structures. Provide appropriate mitigation for adverse effects to historic structures. 7. Require appropriate vehicle cleaning for all construction equipment used near units of the California State Park System to protect against spreading exotic plants or disease. 8. Use local native plants for revegetation. 9. Design and construct cuts, fills, and aerial structures to avoid and minimize visual impact to units of the State Park System. 10. In addressing impacts to wildlife movement corridors and habitat directly related to California State Park System units, consult with the California Department of Parks and Recreation. 11. Incorporate wildlife under- or over-crossings as necessary. 12. Adopt construction practices to protect critical wildlife corridors and visitor use areas within public parks.

Staff Summary of and Brief Response to Comments on the Final Program EIR/EIS

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November 2, 2005

California High-Speed Rail Authority. 2005. *Staff summary of and brief response to comments on the final program EIR/EIS.* November 2. Sacramento, CA.

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Staff Summary of and Brief Response to Comments on the Final Program EIR/EIS

1.1 Introduction

This attachment to the *Staff Report for the Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* summarizes comments received on the Final Program EIR/EIS for the proposed California High-Speed Train System.

No comments were received that provided significant new information (as defined in the State California Environmental Quality Act Guidelines section 15088.5(a) or 40 Code of Federal Regulations 15029(c)(1)); therefore, recirculation is not required.

1.2 Summary of Comments Received on the Final EIR/EIS

1.2.1 Hal B.H. Cooper

Hal B. H. Cooper submitted a letter and an attached report on September 16, 2005, and a background report on November 1, 2005, in response to the publication of the notice of the Final Program EIR/EIS. As discussed below, the letter and reports are in addition to Mr. Cooper's comments on the Draft Program EIR/EIS (Comment Letter PH-F031 on April 28, 2004 & O008 dated June 02, 2004).

Mr. Cooper's letter of September 16 enclosed for the Authority's review a proposal Mr. Cooper had submitted to the District 7 Office in Los Angeles of the California Department of Transportation. This proposal (private sector financing of a new 32 mile long electrified railroad tunnel through the Tehachapi Mountains under the Grapevine Grade between Grapevine and Castaic) was discussed in Mr. Cooper's previous submittals on the Draft Program EIR/EIS. This 32-mile-long tunnel is part of a proposed alternative high-speed rail passenger and freight service that is 405 miles long. This proposal does not meet the project purpose and need and project objectives and is not technically feasible for reasons described in PH-F013-1. The proposal is infeasible for two reasons: because of length of tunnels and seismic issues and the incompatibility of standard U.S. freight service and high-speed rail passenger service (Standard Responses 2.7.1, 2.7.2, and 2.7.3).

Mr. Cooper's comments on the Final Program EIR/EIS are also addressed by the response to his earlier comments on the Draft Program EIR/EIS (see Final Program EIR/EIS comment number PH-F013-1). In addition, the Final Program EIR/EIS considered and rejected HST technology with maximum speeds of less than 200 mph (please see Final Program EIR/EIS, Standard Response 2.9.1).

1.2.2 Joseph P. Thompson

Joseph P. Thompson submitted an e-mail on September 12, 2005 and a letter and several attachments on September 13, 2005 in response to the publication of the notice of the Final Program EIR/EIS. The issues raised by Mr. Thompson have been previously addressed in response to Mr. Thompson's comments on the Draft Program EIR/EIS (Comment Letter I015 dated March 10, 2004) and responses to other comments.

Mr. Thompson restated his assertion that the proposed HST system should rely on private financing, rather than using public financing or receiving public subsidies. Mr. Thompson's comments on the Final Program EIR/EIS regarding private sector financing of the HST system are fully addressed by the response to his earlier comments on the Draft Program EIR/EIS (see Final Program EIR/EIS Comment Letter I015).

Mr. Thompson also submitted in support of his comments a number of publications by Wendell Cox, including a paper critical of the proposed Florida high speed train system, and wrote "Same for California" on this and other documents.

Mr. Cox, asserting that the purpose of the Florida high-speed train system was to "reduce traffic congestion and provide transportation alternatives to the public" concluded that the Florida high speed rail proponents overestimated ridership, and underestimated costs, and that the proposed system would not drastically reduce traffic congestion. Mr. Cox also claimed that, in Florida, airport and freeway improvements would be more cost effective than high-speed rail. Mr. Thompson also submitted a January 1998 article titled "Infrastructure Project Forecasts: Major Inaccuracies," in which Mr. Cox criticizes as inaccurate the cost projections for a number of major infrastructure projects. In his article titled "US Government Report Finds High Speed Rail to Require Heavy Subsidies: "Commercial Feasibility" Terminology Could be Misleading", Mr. Cox quotes a 1996 FRA Report as finding that commercial revenues would fall far short of costs in all studies corridors (including Los Angeles – San Diego, and San Francisco – Los Angeles – San Diego). Mr. Cox notes that despite this finding the FRA concluded that high-speed rail would be commercially feasible in a number of the corridors (because they counted non-user and consumer surplus as commercial revenues).

Reducing traffic congestion is not the purpose of the proposed HST system, and the Final Program EIR/EIS concludes that while the HST Alternative would have slightly less congestion than the No Project Alternative, "congestion would still increase on highways and the airports compared to existing conditions for both the

Modal Alternative and the HST Alternative." (page S-17) Standard Responses 2.1.1 and 2.1.2 respond to comments concerning the Authority's ridership and revenue forecasts. Standard Response 4.2.2 and Response to Comment O024-4 respond to comments concerning the HST capital cost estimates. Maglev technology was eliminated from further investigation in the Final Program EIR/EIS. The Authority's June 2000 Business Plan concluded that most of the HST system's capital costs would need to be publicly financed. This conclusion is consistent with the FRA's 1996 Commercial Feasibility Study referenced by Mr. Cox and consistent with Mr. Cox's conclusion that high-speed train systems in North America would need to be largely publicly financed. However, both the Authority's and the FRA's cost/benefit analysis done for these respective studies found that the benefits (which included non-user benefits and consumer surplus) for HST would greatly outweigh the costs. A financing plan and an investigation relating to the subsidies (past and present) for air and automobile transportation are beyond the scope of this Final Program EIR/EIS. A comparison of the HST Alternative to potential highway and air transportation improvements (the Modal Alternative) is provided in the Summary of the Final Program EIR/EIS.

1.2.3 John F. (Jack) Munro

John F. (Jack) Munro submitted a letter dated October 15, 2005 in response to the publication of the notice of the Final Program EIR/EIS. The issues raised by Mr. Munro are in addition to Mr. Munro's comments on the Draft Program EIR/EIS (Comment Letter I011 dated February 25, 2004). These new comments do not raise new issues concerning the Final Program EIR/EIS. Mr. Munro's comments cover a variety of areas including shared use, freight service, double-deck passenger cars, electrification, the location of the San Francisco Terminus, and a potential station to serve Gilroy.

- Mr. Munro states that sharing HST tracks with existing rail services "is not a good idea" and asks if the HST is being compromised to save money. The HST system described in the Final Program EIR/EIS (pages 2-30 & 2-31) "would operate in the majority of the statewide system in dedicated (exclusive track) configuration. However, where the construction of new separate HST infrastructure would be infeasible, shared track operations would use improved rail infrastructure and electrical propulsion. Potential shared-use corridors would be limited to sections of the statewide system with extensive urban constraints." The two segments of the HST system identified for shared track operations with existing rail services are between San Francisco and San Jose and between Los Angeles and Orange County. The Authority has determined that sharing tracks in these corridors at reduced speeds is the most viable option for providing direct HST service to these markets (see Section 2.6.9 and Chapter 6A).

- Mr. Munro states that "if you propose three different levels of service, a minimum of three tracks will be required, not two." The Authority respectfully disagrees with this assertion. The Japanese have been operating several

levels of service on their double track HST lines for decades (nearly 300 trains per day on the Tokaido Line). Intermediary HST stations would have off-line station stopping tracks (Table 2.6-2, page 2-27) to allow for express services and local stopping patterns.

- Mr. Munro states that freight services on the HST tracks are only acceptable if the rolling stock is identical in performance to passenger equipment. This is consistent with the findings of the Final Program EIR/EIS (please see Standard Response 2.9.4).
- Mr. Munro states that double-deck passenger cars are "unsuitable for high-speed service". The Authority respectfully disagrees with this assertion. The Japanese (for over a decade) and the French both operate double-deck HST passenger cars.
- Mr. Munro states that power demand will probably require dedicated generating stations. The Authority respectfully disagrees with this assertion. Energy requirements and impacts for the HST system are covered in Section 3.5 of the Final Program (please also see Standard Response 3.5.3).
- Mr. Munro questions why HST tunnels were limited to 12 miles when the Swiss are building a 35-mile long tunnel. This issue is addressed on pages 2-9 & 2-10 of the Final Program EIR/EIS (please also see Response to Comment PH-F013-1). Although tunnels longer that 12 miles have been and are being constructed in other countries, the tunneling criteria for the HST system were developed for California's unique geology and seismic conditions.
- Mr. Munro states that the SF terminal should not be at 3rd and Townsend and that the best location would be at the Ferry Building. The Authority selected the Transbay Terminal as the preferred option for a SF terminal which is supported by the City of San Francisco and many other local agencies. There is no alignment identified or local plans to extend the Caltrain alignment to the Ferry Building.
- Mr. Munro states that the HST alignment "must include Gilroy". A broad corridor has been selected between the Bay Area and Central Valley, which could include a potential HST station at Gilroy. The selection of a preferred HST alignment between the Bay Area and Central Valley will be the focus of a subsequent "Bay Area to Central Valley HST Program EIR/EIS".

1.2.4 Dianne Domingo-Foraste M.D.; and Mayisha Akbar (founder of the Jr. Posse Youth Equestrian Culture Center

Dianne Domingo-Foraste M.D. submitted an e-mail on October 29, 2005 and Mayisha Akbar submitted an e-mail on October 31, 2005 in response to the publication of the notice of the Final Program EIR/EIS. The issues raised by Ms. Domingo-Foraste, and Ms. Akbar have been previously addressed in the Final

Program EIR/EIS and in response to others comments on the Draft Program EIR/EIS.

Ms. Domingo-Foraste asserts that the impacts of the proposed HST system on the area known as "Taylor Yards" must be studied, Ms. Akbar states that it would take away open space promised to LA Residents, many who are minority and disadvantaged, both suggest that the Authority should re-route the HST system to another area such as LAX. Ms. Domingo-Foraste's, and Ms. Akbar's comments on the Final Program EIR/EIS regarding Talyor Yards are fully addressed by Standard Response 6.24.2. LAX was considered but rejected as a potential HST terminus station for Los Angeles as part of the Final Program EIR/EIS (see 2.6.8G, pages 2-36 & 2-37).

1.2.5 Joyce Dilliard

Joyce Dilliard submitted an e-mail on October 31, 2005 in response to the publication of the notice of the Final Program EIR/EIS. The issues raised by Ms. Dilliard have been previously addressed in the Final Program EIR/EIS and in response to others regarding the level of detail of a program-level environmental process.

Ms. Dilliard asserts that the Los Angeles connection needs to be addressed in the entirety of the region and lists a number of projects being discussed in the Los Angeles Metropolitan area, Ms. Dilliard suggests that the Authority should study LAX as an "alternative departure point". The Final Program EIR/EIS addressed the Los Angeles connection in the entirety of the region as part of a study area that included most of the state from San Diego to Sacramento and the San Francisco Bay Area. This is a program-level EIR/EIS that would be followed by project-level environmental reviews that assess and address site-specific issues (see Standard Responses 3.15.2, 3.15.4, 3.15.6, & 3.15.13). LAX was considered but rejected as a potential HST terminus station for Los Angeles as part of the Final Program EIR/EIS (see 2.6.8G, pages 2-36 & 2-37), however a link to LAX from Los Angeles Union Station could be considered for a future expansion of the HST system should it be implemented (see 6A6.2, pages 6A-28 & 6A-29).

1.2.6 Stuart Flashman on behalf of Train Riders Association of California, the Planning and Conservation League, and Defense of Place

Stuart Flashman submitted a letter on October 28, 2005 commenting on the Final Program EIR/EIS. The issues raised by Mr. Flashman are in addition to comments submitted on the Draft Program EIR/EIS (Comment Letters PH-S011 and PH-S018 on March 23, 2004, O029 on August 5, 2004, and O049 and O069 on August 31, 2004). The October 28, 2005 letter raises new issues concerning the Final Program EIR/EIS, including- suggesting no action on the Final Program EIR/EIS in

early November, requesting the removal of table 2-H-3 from the Appendices of the Final Program EIR/EIS, noting the Final Program EIR/EIS fails to account for the effects that different northern crossing alignments would have on alignment selection between Merced and Stockton/Tracy, and concern regarding the treatment of commuter ridership. Mr. Flashman also raised new issues on areas that were already addressed as part of previous comments on the Draft Program EIR/EIS in regards to the approach to analyzing impacts on parks, and reiterates previous comments on Draft Program EIR/EIS in regards to the adoption of feasible mitigation measures to mitigate the Project's growth-inducing impacts.

Request for Delay and No action on the Final EIR/EIS in early November 2005

Noting the Final Program EIR/EIS "is a voluminous document," Mr. Flashman requests the Authority not take action in early November and delay action for at least a month to allow further opportunity to meet with staff to address concerns regarding the adequacy of the document. The time provided between the announced availability of the Final Program EIR/EIS and the Authority's meeting date is more than that necessary to meet CEQA and NEPA requirements, and Authority staff believe that the time provided has been sufficient. The Authority staff met with the Train Riders Association of California after the approval of staff recommendations to identify the Authority's preferred alignment and station locations to discuss many of the concerns raised by Mr. Flashman. The Authority staff had several meetings and frequent communications with the Planning and Conservation League prior to the release of the Final Program EIR/EIS. The Authority staff will continue to meet with interested persons and groups as further studies proceed. Staff does not believe a delay in the Authority's meeting or proposed action is needed.

Requesting the removal of a table 2-H-3 from the Appendices of the Final Program EIR/EIS

See "Erratum" at end of this attachment.

Failure of the Final Program EIR/EIS to account for the effects that different northern crossing alignments would have on alignment selection between Merced and Stockton/Tracy

Restudy of connections from the Central Valley to potential mountain passes (including the example stated above by Mr. Flashman) is included in the scope of the planned programmatic EIR/EIS for the Bay Area to Central Valley. In this way the Final Program EIR/EIS takes into account the potential for impact related connections in the Central Valley portion of the HST system. After describing the general northern mountain crossing study area, the Final Program EIR/EIS states in part on page 6A-10:

The Authority in consultation with the FRA, has identified a broad preferred corridor between the Bay Area and the Central Valley containing a number of feasible route options which further study will permit the identification of a single preferred alignment option. This corridor is bounded generally by (and includes) the Pacheco Pass (SR-152) to the south, the Altamont Pass (I-580) to the north, the BNSF Corridor to the east, and the Caltrain Corridor to the west, but would not include alignment options through Henry Coe State Park and station options at Los Banos.[1] Future studies would focus on the identification of a preferred alignment between the Central Valley and the San Francisco Bay Area.

Future studies would include consideration of: (1) how and where the HST alignment from the Bay Area would connect with the HST alignment in the Central Valley; (2) how and where the HST alignment would enter the Bay Area and would connect to Bay Area termini; (3) the location of stations within these segments.

The preferences herein for portions of the Sacramento to Bakersfield alignment and stations, which are also in the broad corridor for further study between the Central Valley and the Bay Area (see above) are based on current information. These preferences are subject to change based upon the information provided in other future studies.

Treatment of Commuter Ridership

The HST system is proposed to primarily serve intercity trips (trips between regions) rather than local commuter trips. The Final Program EIR/EIS, however, acknowledges that among the 42-68 million annual riders forecast for 2020, an estimated 12 million passengers may be long distance commuters (please see Standard Response 1.1.33). The Final Program EIR/EIS did not address long distance commuter ridership between Tracy and San Francisco, as this alignment was not evaluated in the Final Program EIR/EIS and this would be appropriately addressed in future regionally focused studies. The Authority is working in partnership with the Metropolitan Transportation Commission (MTC) to complete new HST ridership and revenue forecasts which will take into account long-distance commuter trips. Study of the long-distance commuter potential between the Central Valley to the Bay Area via various potential mountain passes (including Tracy to San Francisco) will be included in the scope of the planned programmatic EIR/EIS for the Bay Area to Central Valley.

The Approach to Analyzing Impacts on Parks

Mr. Flashman raised new concerns about issues that were already addressed in response to the Planning and Conservation League's (Comment Letter O049 on August 31, 2004) and California Department of Parks and Recreation's (Comment Letter AS004 on August 19, 2004) comments on the Draft Program EIR/EIS.

[1] Highway route numbers are provided as a convenient reference for the reader, not as a limitation on the corridor to be considered.

A key objective for the HST system is to avoid and/or minimize the potential impacts to cultural, park, and recreational resources and wildlife refuges. This objective, along with others, was used to eliminate several alignment options that would have potentially affected 4(f) and 6(f) resources, including parks. A table identifying each potentially affected resource and the nature of potential impact in terms of its relative proximity to the proposed facilities for both the Modal and HST Alternatives is provided in the Final Program EIR/EIS (Appendix 3.16-A). In addition, the "High-Speed Train Alignment Options Comparison" (pages 3.16-7 through 3.16-10) highlights key differences between alignment options in regards to potential impacts to parklands. These differences included naming particularly sensitive/important 4(f) and 6(f) resources that may be impacted by the HST alignment options. For example, between the Bay Area and Merced, it was noted that the Hayward/Niles/Mulford option has a greater potential impact on the "highly sensitive Don Edwards San Francisco Bay National Wildlife Refuge" (page 3.16-7) than the Hayward/I-880 alignment option. As noted in Chapter 6A, this was one of the primary reasons that the Hayward/I-880 alignment was selected instead as the preferred alignment between Oakland and San Jose. The Final Program EIR/EIS states that the preferred HST alignment would not "run through" any State Parks (Page S-6), and of the State's 278 State Parks, only five State Parks are within 900 feet of the over 700-mile long preferred HST alignment – four of these are within existing, heavily used rail corridors adjacent to State Parks and the HST system would not be expected to greatly alter the existing environment, given these existing rail lines.

The Adoption of Feasible Mitigation Measures to Mitigate the Project's Growth-Inducing Impacts

Feasible mitigation measures to mitigate potential growth inducing impacts were described in Chapter 6B of the Final Program EIR/EIS and are included in the MMRP. Please also see Standard Response 5.2.5 of the Final Program EIR/EIS.

1.2.7 Sierra Club (signed by Patrick Moore, Chair, Transportation Committee, Loma Prieta Chapter)

In addition to the letter dated October 31, 2005, submitted by the Sierra Club, Patrick Moore spoke on behalf of the Sierra Club on November 1. The issues raised by the Sierra Club are in addition to comments submitted on the Draft Program EIR/EIS (Comment Letter O003 on March 5, 2004, O067 on August 22, 2004). The October 31, 2005, letter and the November 1 presentation from the Sierra Club raise new issues concerning the Final Program EIR/EIS, including-requesting the removal of table 2-H-3 from the Appendices of the Final Program EIR/EIS, noting the Final Program EIR/EIS fails to account for the effects that different northern crossing alignments would have on alignment selection between Merced and Stockton/Tracy, concern regarding the treatment of commuter ridership such that the Sierra Club states mention of the Charles River Associates

ridership study should be removed from the Final Program EIR/EIS. The Sierra Club also raised new issues on areas that were already addressed as part of previous comments on the Draft Program EIR/EIS in regards to the approach to analyzing impacts on parks.

Requesting the removal of a table 2-H-3 from the Appendices of the Final Program EIR/EIS

See “Erratum" at end of this attachment.

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Restudy of connections from the Central Valley to potential mountain passes is included in the scope of the planned programmatic EIR/EIS for the Bay Area to Central Valley. In this way the Final Program EIR/EIS takes into account the potential for impact related to connections in the Central Valley portion of the HST system. After describing the general northern mountain crossing study area, the Final Program EIR/EIS states in part on page 6A-10:

> The Authority in consultation with the FRA, has identified a broad preferred corridor between the Bay Area and the Central Valley containing a number of feasible route options which further study will permit the identification of a single preferred alignment option. This corridor is bounded generally by (and includes) the Pacheco Pass (SR-152) to the south, the Altamont Pass (I-580) to the north, the BNSF Corridor to the east, and the Caltrain Corridor to the west, but would <u>not</u> include alignment options through Henry Coe State Park and station options at Los Banos.[2] Future studies would focus on the identification of a preferred alignment between the Central Valley and the San Francisco Bay Area.
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Treatment of Commuter Ridership

The HST system is proposed to primarily serve intercity trips (trips between regions) rather than local commuter trips. The Final Program EIR/EIS, however, acknowledges that among the 42-68 million annual riders forecast for 2020, an estimated 12 million passengers may be long distance commuters (please see Standard Response 1.1.33). The Final Program EIR/EIS did not address long distance commuter ridership between Tracy and San Francisco (Altamont Pass), as this alignment was not evaluated in the Final Program EIR/EIS and this would be appropriately addressed in future regionally focused studies. The Authority is working in partnership with the Metropolitan Transportation Commission (MTC) to complete new HST ridership and revenue forecasts which will take into account long-distance commuter trips. Study of the long-distance commuter potential between the Central Valley to the Bay Area via various potential mountain passes (including Tracy to San Francisco) will be included in the scope of the next-tier programmatic EIR/EIS for the Bay Area to Central Valley.

In regards to the Charles River Associates ridership and revenue forecasts, please see Standard Response 2.1.1 and 2.1.2 as well as the detailed technical reports referenced in the Final Program EIR/EIS. The consideration for "any alternative operators, such as the San Joaquin Rail Authority, running their own commuter operations with a lower subsidized ticket price than what the Authority is prepared to charge" is beyond the scope of this program EIR/EIS process. Should the HST proposal move forward, more detailed studies of operations and potential operators will be completed. The Authority has determined that the Charles River Associates forecasts are appropriate for this Program EIR/EIS process. However, as noted above, the Authority is working in partnership with the Metropolitan Transportation Commission (MTC) to complete new HST ridership and revenue forecasts which will be available for future environmental studies.

The Approach to Analyzing Impacts on Parks

The Sierra Club raised new concerns about issues that were already addressed in response to the Planning and Conservation League's (Comment Letter O049 on August 31, 2004) and California Department of Parks and Recreation's (Comment Letter AS004 on August 19, 2004) comments on the Draft Program EIR/EIS.

A key objective for the HST system is to avoid and/or minimize the potential impacts to cultural, park, and recreational resources and wildlife refuges. This objective, along with others, was used to eliminate several alignment options that would have potentially affected 4(f) and 6(f) resources, including parks. A table identifying each potentially affected resource and the nature of potential impact in terms of its relative proximity to the proposed facilities for both the Modal and HST Alternatives is provided in the Final Program EIR/EIS (Appendix 3.16-A). In addition, the "High-Speed Train Alignment Options Comparison" (pages 3.16-7 through 3.16-10) highlights key differences between alignment options in regards to potential impacts to parklands. These differences included naming particularly sensitive/important 4(f) and 6(f) resources that may be impacted by the HST

alignment options. For example, between the Bay Area and Merced, it was noted that the Hayward/Niles/Mulford option has a greater potential impact on the "highly sensitive Don Edwards San Francisco Bay National Wildlife Refuge" (page 3.16-7) than the Hayward/I-880 alignment option. As noted in Chapter 6A, this was one of the primary reasons that the Hayward/I-880 alignment was selected instead as the preferred alignment between Oakland and San Jose. The Final Program EIR/EIS states that the preferred HST alignment would not "run through" any State Parks (Page S-6), and of the State's 278 State Parks, only five State Parks are within 900 feet of the over 700-mile long preferred HST alignment – four of these are within existing, heavily used rail corridors adjacent to State Parks and the HST system would not be expected to greatly alter the existing environment, given these existing rail lines.

1.2.8 U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) submitted comments on the Final Program EIR/EIS for the proposed California High Speed Train (HST) System.

EPA submitted comments on the cumulative impacts assessment in the Final Program EIR/EIS and made recommendations for the "Bay Area to Central Valley PEIS", and for "Future Project-level Tier 2 NEPA Analyses".

Cumulative impacts assessment: EPA commented that the Final Program EIR/EIS did not contain a landscape–level cumulative impact assessment for all sensitive resources, and did not address a comprehensive set of reasonably foreseeable projects. EPA suggested that a different cumulative impacts analysis may have resulted in different conclusions or different mitigation options, and recommended that future environmental documents consider Caltrans guidance on cumulative impact assessments. *Reasonably foreseeable future actions:* EPA suggested that additional projects, such as large-scale developments and approved urban planning documents identified within and around the proposed high speed train system, should have been included in the cumulative impacts analysis as reasonably foreseeable future actions.

Past and present actions: EPA disagreed with the Final PEIS's characterization of past actions in the context of cumulative impacts analysis, and asserted that a landscape cumulative impacts analysis should include large scale mitigation, citing for example EPA's assumption that a continuously-fenced high speed rail system would impede wildlife movement, and when considered with other past, present, and future project impacts to wildlife movement in California, would be potentially significant to a number of species.

Response

EPA's recommendations for the Bay Area to Merced Program EIR/EIS and for future NEPA/CEQA review will be considered for these activities and efforts to coordinate with EPA will continue. Future cumulative impacts analysis and identification of mitigation will be based on appropriate study areas identified for individual resources. These study areas will be largely regional and local and they cannot be adequately identified until further information is known about alignment locations and the time period of implementation. Additional cumulative impacts analysis and identification of more refined mitigation will accompany project-level review. The Authority and the FRA find the Final Program EIR/EIS applied appropriate methodology to evaluate cumulative impacts from the proposed HST system at the program level and for decisions to be made on the Program EIR/EIS.

Cumulative impacts assessment: The EPA letter does not raise new issues about cumulative assessment in the Final EIR/EIS that were not already addressed in response to EPA's comments on the Draft EIR/EIS (Comment Letter AF008 in the Final EIR/EIS, dated August 31, 2004).

The cumulative impact analysis in the Program EIR/EIS focused on the resources potentially affected by the proposed action and alternatives and identified where there may be added impacts to these resources, when considering past, present, and reasonably foreseeable future actions. The Program EIR/EIS described the current conditions that incorporate past and present effects of other recent projects in analyzing the potential for direct, indirect and cumulative impacts. The cumulative impact analysis considered reasonably foreseeable highway improvements and transit projects within the study area and extensively analyzed the potential for economic growth related cumulative and secondary effects for each of the three system alternatives. In addition, consideration of the indirect effects related to the reasonably foreseeable population and employment growth that could result from the proposed action and alternatives, as identified using local agency general plans and other planning documents, is addressed in the Final EIR/EIS (see Chapter 5, *Economic Growth and Related Impacts),* and is considered part of the cumulative impacts analysis.

The methodology used is appropriate for this Program EIR/EIS due to the future time frame for the proposed HST system and the speculative nature of information about potential projects some 10 to 15 years in the future, and is consistent with CEQ Guidance. CEQ Guidance suggests that where evaluating reasonable foreseeable adverse effects and where there is incomplete information or unavailable information …"that cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known . . . the agency shall include … the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community." [CEQ Guidance "Considering Cumulative Effects," p. 20; 40 CFR 1502.22]

Past and reasonably foreseeable future actions: EPA's suggested approach to future projects is not appropriate for this program analysis, and would be speculative for a proposed system that will not be implemented for at least 10

years. Thorough analysis of site-specific, local area, and focused regional cumulative effects, including specific urban development projects, will be undertaken as part of future project-level environmental review, when this information will be available and more relevant to substantive impact analysis.

For the Program EIR, the costs of attempting to collect detailed, timely, accurate data on projects which could be considered "reasonably foreseeable" some 10 to 15 years in the future across all the jurisdictions represented by the HST Alternative conceptual corridors and the Modal Alternative components would be exorbitant and the means to obtain it are not assured. Given the limitations of available information, and the need to assess a future timeframe, the use of the growth analysis to address impacts from future development is an appropriate theoretical approach to cumulative impacts for this programmatic analysis.

EPA's suggestion that local general plans be used to identify reasonably foreseeable projects is not appropriate for this EIR/EIS. Every city and county is required by California law to adopt a general plan, but, except for housing elements, general plans are not comprehensively updated on a regular periodic basis pursuant to a statutory schedule. Each city and county determines when to update its general plan. Comprehensive updates are both unpredictable and irregular. Because at the beginning of the EIR/EIS process in 2001 the general plans for many of the jurisdictions with potential locations for HST facilities or components of the modal alternative were more than 10 years old, and some were more than fifteen or twenty years old, they were useful for identifying land use patterns and growth projections, but not individual projects. For preparing a cumulative impact analysis for thousands of miles of alternative transportation corridors, the general plans did not provide a reliable and consistent information base for identifying reasonably foreseeable future projects to use in analyzing cumulative impacts in a consistent manner for the system as a whole. The economic growth analysis in Chapter 5 addressed the relevant statewide and regional consequences of future actions that may be influenced by the choice of system alternative, and accounted for anticipated growth according to general plans without listing specific projects. The growth analysis properly considered available information, the timeframe for the implementation of the proposed HST system, the timelag in related projects potentially affecting resources, and the estimated secondary environmental impacts in jurisdictions in which HST facilities could potentially be located. In addition, appropriate mitigation was identified in Chapter 6B, Station Area Development, that could avoid, minimize, and mitigate potential cumulative and secondary effects.

Cumulative Impact Analysis: EPA suggests using Caltrans guidance. This may be considered for future project-level documents. The Caltrans documents provide no guidance on cumulative impact analysis in programmatic EIS's or EIRs, and no guidance on the temporal relationship of future projects to the proposed project, other than noting that reasonably foreseeable projects should be considered based on proximity in time and location

Circumstances at locations across the proposed HST system vary widely; therefore identification of statewide or large-scale mitigation for cumulative effects is not

appropriate. The Final Program EIR/EIS explains that the proposed HST system would traverse widely varied terrain with different soils, climate, topography, habitat conditions and species. It will be at grade, on aerial structures and in tunnels. It will include features to facilitate wildlife movement. However, because of the varied terrain it will cross, the impacts from the HST system will differ in different locations. Habitat for individual wildlife species is not continuous across the state but exists in distinct ecosystems. Movement requirements differ for individual species and in different locations. For example, there are great differences between the separate and distinct habitat types found in coastal Orange County, Soledad Canyon, Palmdale, and the Central Valley alignments. While coastal sage scrub habitat is a concern in Orange County, in the Central Valley there are different species and habitats of concern (e.g., San Joaquin Kit Fox). Each area has its own mix of habitat types, species, waters, climate and topography, as well as its own array of land uses and human population. The Program EIR/EIS included a broad analysis of the potential for cumulative impact by resource type. The Final Program EIR/EIS also identifies design practices and mitigation strategies for each resource/impact area, based on potential impacts identified in Chapter 3; Environmental Consequences. These mitigation strategies are also appropriate for the general types of impacts anticipated from cumulative effects. Additional analysis of cumulative impacts in local and regional contexts, and more refined mitigation measures, will be addressed during project-level reviews.

1.2.9 Libby Lucas

Libby Lucas submitted a letter on October 26, 2005 commenting on the Final Program EIR/EIS. This letter and the attached report do not raise new issues on the Final Program EIR/EIS that were not already addressed in response to Ms. Lucas' comments on the Draft Program EIR/EIS (Comment Letter I139 on August 30, 2004).

Ms. Lucas' letter of October 26 raised concern that additional regulatory agencies with jurisdiction in the vicinity of certain alignment options should have been consulted.

Ms. Lucas' comments on the Final Program EIR/EIS, are fully addressed by the response to her earlier comments on the Draft Program EIR/EIS (see Final Program EIR/EIS standard response number 6.3.1). The Authority and the FRA have determined that additional study will be needed in a separate program EIR/EIS in order to identify a preferred alignment alternative for the northern mountain crossing and that Altamont alignment options will be considered in that separate program EIR/EIS. A broad corridor containing a number of feasible route options has been identified for study. While the concerns raised in the comment letter regarding specific facilities and alignments may be identified in the separate program EIR/EIS, they will also be addressed in detail in subsequent project level environmental reviews. The San Francisco and Central Valley Regional Water Quality Control Boards and the Santa Clara Valley Water District were among the agencies that received notices and were coordinated with during the preparation of

the Program EIR/EIS, as were the Water Quality Division of the State Water Resources Control Board and the California Department of Water Resources. In addition, the final EIR/EIS notice was published on September 16 in the Mercury News in San Jose and on September 18 in the San Francisco Chronicle. These agencies will also receive notices and be consulted in the preparation of future environmental documents which pertain to areas within their jurisdiction.

1.2.10 State Parks

The California Department of Parks and Recreation (State Parks) commented on the analysis of three issues in the Final Program EIR/EIS: (1) potential impacts to the five units of the State Park System that lie within 900 feet of the preferred HST north-south alignment, (2) impacts to wildlife corridors and connectivity between State Park System units and other open space or protected lands, and (3) potential impacts of the Bay Area to Central Valley (i.e., Merced) alignment that will be analyzed in a Second Tier Program EIR/EIS. Detailed comments were included on mitigation measures, alternatives, aesthetics, noise, environmental justice, recreation resources, cultural resources, geology and soils, biological resources, and cumulative impacts that substantially restate previously raised concerns, seek additional detailed studies and are critical of the responses provided to earlier State Parks comments on the Draft Program EIR/EIS. State Parks claims that the Final Program EIR/EIS does not provide adequate responses to its comments in order to comply with CEQA guidelines §15088, subd. (b). Finally, State Parks provided for use in future documents the new names given to the Taylor Yard and Cornfield park properties, and noted that Orestimba Wilderness had been misspelled in the Final Program EIR/EIS.

At the November 1 Authority meeting, State Parks raised two additional concerns: a concern about consideration of compensation for loss of park use as mitigation and a concern that the Final Program EIR/EIS inadequately analyzed impacts to parks more than 900 feet from the HST system.

Response

The requested additional analysis of the state park system and particularly the five units that are identified as potentially affected by the selected HST corridor alignments, will appropriately be conducted during project-level environmental review. The Program EIR/EIS provides a consistent level of analysis for alternatives within the entire HST system, including thousands of corridor miles, includes design practices and mitigation strategies to avoid and minimize impacts to parks, and identifies steps for subsequent studies. The additional detailed analysis sought by State Parks would have been costly and speculative had it been performed at this time for the Program EIR/EIS. The potential for adverse impacts to parks that may not be fully avoided or reduced by mitigation was acknowledged in the Final Program EIR/EIS.

In detailed comments State Parks fails to distinguish between the program level of analysis appropriate for the HST proposal due to its large scale and the more detailed, site specific studies that are appropriate for project level EIR/EIS's or other more limited programmatic EIR/EIS's, and fails to recognize that site-specific analysis are not necessary or required for the program decisions to be made based on the Final Program EIR/EIS. Future tiered environmental documents will be sufficiently comprehensive, and are the appropriate studies, to incorporate the additional information provided by State Parks (e.g., data from 2005 preliminary planning documents for the Rio de Los Angeles State Park (formerly known as Taylor Yard)) and to address the concerns raised by State Parks' comments in greater detail. The Final Program EIR/EIS avoids impacts to many parks and, where potential impacts remain, the Final Program EIR/EIS incorporates mitigation strategies to avoid, reduce and minimize the potential impacts to parks. As State Parks' comments recognize, potential impacts to park units may vary widely depending upon the rural or urban location, the resources at each park, the ambient noise environment, and other factors, all of which are appropriate for study in future environmental documents. Additionally, Section 4(f) and 6(f) findings will be made at the project level when alignments have been defined in more detail and after considering further variations to reduce and avoid impacts. Regarding wildlife movement, the Final Program EIR/EIS notes that up to 24% of the preferred HST system would be at-grade in new corridors and could present a barrier to wildlife movement, unless adequate features for wildlife crossings are included and incorporated in the system. The mitigation strategies in the Final Program EIR/EIS include underpasses or overpasses or other appropriate passageways at reasonable intervals to be designed during project level studies in order to avoid, minimize and mitigate potential impacts to wildlife movement. The design and placement details for features to facilitate wildlife movement are appropriately determined in the project level studies when more detailed information is available for alignments, HST facilities, and wildlife resources.

Environmental justice, which was noted as a concern by State Parks, was addressed for the proposed HST system as a whole in the Program EIR/EIS, which satisfies all applicable requirements for program level review, and will receive additional study in future environmental documents for the HST system.

Measurable low level EMF's occur only in very close proximity to electric power facilities, and would generally be within the HST system right-of-way. Low level EMF's occur with all electric power facilities and are not unique to the HST system. A variety of studies that have examined the effects of low-level EMF exposures on animals have found that general physiological status is relatively unaffected by low-level EMF exposures. Also, FRA data measuring EMF exposures after the Northeast Corridor Electrification Project found very low exposures levels in proximity to the train system. Further evaluation of potential EMF exposures will occur at the project level when specific species and locations can be examined along with more detailed project design information.

After consultation with the President's Council on Environmental Quality and the Resources Agency, the Authority and the FRA determined that additional study was needed of the proposed HST system connection between the Bay Area and

the Central Valley before identifying a preferred alignment for this portion of the system. Rather than segmentation, this decision represents appropriate recognition of the limits of available data and need for further study, which will include review of connections in the Bay Area and the Central Valley, before additional decisions are made to select a preferred route in this area.

The Final Program EIR/EIS provides adequate responses to comments in keeping with CEQA guidelines §15088, subd. (b), and incorporates as mitigation strategies many of State Parks' mitigation suggestions, which will also be refined and applied in future environmental documents. At the November 1 Authority meeting, State Parks raised a concern about consideration of compensation for loss of park use as mitigation. That mitigation is included in the Final Program EIR/EIS for potential impacts to parks. In addition, State Parks expressed concern that the Final Program EIR/EIS inadequately analyzed impacts to parks more than 900 feet from the HST system. This issue was addressed in response to comment AS004-14.

1.2.11 State Parks Foundation

The California State Parks Foundation (in a letter signed by President Elizabeth Goldstein and presented in the November 1 Authority meeting) commented on the analysis of these issues in the Final Program EIR/EIS: (1) the Final Program EIR/EIS "remains inadequate in its response to potentially significant park impacts and inappropriately defers critical analysis for land management, habitat preservation, cultural and biological resource management and noise and visual impacts to future project-level analysis"; (2) disagree that the use of existing rail corridors for HST operations is not expected to greatly alter the environmental effect of these existing rail lines; (3) disagrees that it is premature at this level of design to develop more specific mitigation measures for potential effects; (4) do not believe that sufficient information has been disclosed that would lead to a thorough assessment of the proposed project, particularly as it relates to potentially significant impacts on state parks; (5) encourage the Authority to establish an official Advisory Committee for Burbank to Los Angeles Union Station similar to that proposed for the Bay Area study.

The Final Program EIR/EIS remains inadequate in its response to potentially significant Park Impacts

Please see responses to letter from State Parks on the Final Program EIR/EIS.

Disagree that the use of existing rail corridors for HST operations is not expected to greatly alter the environmental effect of these existing rail lines

In alignments near parks where existing nearby passenger and freight trains are part of the ambient noise and visual environment, it is important to recognize that

while the HST system is different than those services, the added impact may not be great, and the combined HST and conventional rail facility may improve existing local environments. In dense urban areas (such as at Taylor Yards and Old Town San Diego) the urban environment has elevated ambient noise levels, particularly where there are also freeways nearby and/or existing rail lines. When traveling at reduced speeds the HST is quieter than existing freight and conventional passenger trains. Moreover, when the HST shares rights-of-way with conventional rail, grade separation improvements and/or sound walls or other mitigation measures will reduce existing noise levels and other existing environmental impacts in these corridors.

Disagree that it is Premature at this Level of Design to develop more specific mitigation measures for potential effects

The need for further study is inherent to the first phase of a tiered environmental process that is followed by further studies and it is entirely proper for further study of discrete issues to be included in future project-level environmental documents, which will be more detailed. The Final Program EIR/EIS contains mitigation strategies appropriately identified at the program level and notes that such strategies will be refined and applied at the project level. Additional steps will be taken at the project-level to avoid impacts to parks by considering alignment variations. The Authority is committed to avoiding Henry Coe State Park, and will continue to apply avoidance and mitigation strategies in future studies regarding other State Parks.

Do not believe that sufficient information has been disclosed that would lead to a thorough assessment of the proposed project, particularly as it relates to potentially significant impacts on state parks

This comment has been addressed as part of the Final Program EIR/EIS. Please refer to Standard Responses 3.15.2, 3.15.4, 3.14.6, 3.15.13 and the Summary of the Final Program EIR/EIS.

Encourage the Authority to establish an official Advisory Committee for Burbank to Los Angeles Union Station similar to that proposed for the Bay Area study

The Authority has not formed any official advisory committees for its upcoming Bay Area to Central Valley HST Program EIR/EIS process. It is premature to make any commitment at this time on official advisory committees for future study of parts of the system; however, such committees will be considered in the future.

1.2.12 City of Visalia

Mayor Bob Link of the City of Visalia spoke in support of the Final Program EIR/EIS at the November 1 Authority meeting.

1.2.13 City of Palmdale

Laura Biery of the City of Palmdale, speaking at the November 1 Authority meeting, supports the proposed HST system with the selection of the Antelope Valley/Palmdale route as part of the preferred system.

1.2.14 Natural Resources Defense Council

James Birkelund of the Natural Resources Defense Council (NRDC) spoke at the November 1 Authority meeting. He expressed support for the project in concept, and reiterated NRDC's comments made on the Draft Program EIR/EIS. These issues were responded to in the Final Program EIR/EIS O015-1 through 14.

1.3 Erratum

The following erratum is in addition to and supplements the Errata contained in the Staff Report of October 2005.

The inclusion of Table 2-H-3 in the appendices of the Final Program EIR/EIS was an error. The inclusion of Table 2-H-3 in the Appendices and its reference in Chapter 2 of the Final Program EIR/EIS is hereby removed from the Final Program EIR/EIS.

Errata for the Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System

1.1 Introduction

As a part of the California High-Speed Rail Authority's and the Federal Railroad Administration's review of the Final environmental impact report/environmental impact statement (EIR/EIS), several minor corrections were identified. These corrections make insignificant modifications to the EIR/EIS, are not considered significant new information, and do not change the analysis or conclusions of the Program EIR/EIS. These corrections merely clarify and amplify issues adequately addressed in the Final Program EIR/EIS. These corrections do not trigger the need to recirculate the document, per the requirements of California Environmental Quality Act (CEQA) and the State CEQA Guidelines (CA Pub. Res. Code Section 21092.1; CA Code of Regulations, Title 14, Section 15088.5), and do not trigger the need to prepare a supplement, per the requirements of the U.S. Council on Environmental Quality National Environmental Policy Act regulations (40 CFR 1502.9(c)(1)).

1.2 Corrections

The table below shows the corrections to the Final Program EIR/EIS. Additions are shown in underline, deletions are shown in strikethrough, and notes are shown in italics.

Chapter	Location	Page	Change
Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Strategies	Section 3.4, Noise, subsection 3.4.6, B. Vibration Mitigation	3.4-25	1. Specify the use of train and track technologies that minimize ground vibration such as state of the art suspensions, resilient track pads, tie pads, ballast mats or floating slabs. 2. Phase construction activity, use low impact construction techniques and avoid use of vibrating construction equipment where possible to avoid vibration impacts.
	Section 3.5, Energy, subsection 3.5.4, Operational (Direct) Energy	3.5-14	By contrast, the proposed HST Alternative would increase direct energy consumption by ~~10%~~ 9% over existing conditions, a much slower rate than the Modal or No Project Alternatives.
	Section 3.12, Cultural and Paleontological Resources, Table 3.12-1	3.12-20	~~Medium~~ Undetermined *(applies to each occurrence in the HST row of the Paleontological column)*

CALIFORNIA HIGH SPEED RAIL AUTHORITY
U.S. Department of Transportation
Federal Railroad Administration

Chapter	Location	Page	Change
	Table 3.14 1, title	3.14-10	Summary of Hydrologic Resources within Potentially Affected Areas
	Table 3.15-1, title	3.15-21	Summary of ~~Potential Impacts on~~ Biological Resources within the Potentially Affected Area ~~for Modal and HST Alternatives~~
	Section 3.17, Cumulative Impacts Evaluation	3.17-14	*Delete last paragraph in subsection and replace with the following.* Program-level mitigation for Modal and HST Alternative contributions to the cumulative impacts to 4(f) and 6(f) resources, as discussed in Chapter 3 (Sections 3.16.6, 3.16.7, 3.16.8), include sound barriers, visual buffers/landscaping, and modification of transportation access to/egress from the resource. Some of these measures could include design modifications or controls on construction schedules, phasing, and activities. Planning efforts would be undertaken as a part of the project-level documentation phase to minimize harm to the Section 4(f) and 6(f) resources. At this second-tier review, it is expected that, for the proposed HST alignments, most of the impacts to individual park resources will be avoided or mitigated to a less-than-significant level, thereby minimizing contributions to cumulative impacts to public parks and recreation resources. At a project level, mitigation measures that may be taken to mitigate potential adverse environmental impacts include beautification measures, replacement of land or structures or their equivalents on or near their existing site(s), tunneling, cut and cover, cut and fill, treatment of embankments, planting, screening, creating wildlife corridors, acquisition of land for preservation, installation of noise barriers, and establishment of pedestrian or bicycle paths. Other potential mitigation strategies could be identified during the public input process.
Chapter 5, Economic Growth and Related Impacts	Subsection 5.3.3, Statewide Comparison of Alternatives	5-10	Urbanized areas in California are expected to grow by 48% between ~~2004~~ 2002 and 2035 under the No Project Alternative, as shown in Table 5.3-3.
	B. Detail for HST Alternative	5-13	The HST Alternative would also need less land than the Modal Alternative; in 2035, the HST Alternative would consume approximately 68,100 ac (27,559 ha) fewer, or 1.4% less, of ~~non-~~urbanized land than the Modal Alternative.

Chapter	Location	Page	Change
Chapter 7, Unavoidable Adverse Environmental Impacts	Section 7.1, Adverse Unavoidable Potentially Significant Impacts	7-2	*Add the following subsection:* **7.1.4 Cumulative Impacts** The Modal and HST Alternatives would each commit the use of land and natural resources to a transportation right-of-way causing significant and unavoidable direct impacts, as described in 7.1.2 . The construction of either the Modal or HST Alternatives could, in addition, cause a considerable contribution to cumulative impacts related to land use, agricultural lands, aesthetics and visual resources, cultural and paleontological resources, biological resources and wetlands, and public parks and recreation resources. As with the direct impacts, potential cumulative impacts would need to be further studied and clarified in the next stage of project design and environmental review, when more specific information would be available on the right-of-way needed for proposed alignments and station locations, and on the specific properties potentially affected. The objective at the project-specific stage of analysis would be to identify design options (plans and profiles) that would avoid or substantially reduce the contribution to the significant cumulative impacts, to the extent feasible.
	Section 7.3.2, Significant Unavoidable Adverse Effects, second paragraph	7-4	Depending on the alignment options that may ultimately be selected, potentially significant unavoidable effects can be expected at some locations within the proposed HST system in the general environmental categories of agricultural lands, biological resources and wetlands, ~~hydrology and water resources, and~~ cultural resources, <u>and cumulative impacts</u>.
	Table 7.3-1, title	7-6	*Add the following footnote to table title:* [1] Short-term impacts, such as construction-related impacts, are not described.
	Table 7.3-1, Traffic and Circulation row, After Mitigation column	7-6	~~potentially significant/ unavoidable~~
	Table 7.3-1, Land Use row, Before Mitigation column	7-8	Potentially significant/<u>unavoidable</u>
	Table 7.3-1, Land Use row, After Mitigation column	7-8	<u>Potentially significant/unavoidable</u>
	Table 7.3-1, Visual Quality row, After Mitigation column	7-9	~~Potentially less than significant~~
	Table 7.3-1, Hydrology and Water Resources row, After Mitigation column	7-11	~~potentially significant/ unavoidable~~
	Table 7.3-1, Section 4(f) and 6(f) (Public Parks and Recreation) row, After Mitigation column	7-11	~~Potentially less than significant /~~ Potentially significant/ unavoidable <u>indirect impacts</u>

Chapter	Location	Page	Change
	Table 7.3-1, Public Utilities row, Modal Alternative column	7-13	Potential conflicts with ~~831~~ 833 utilities.
	Table 7.3-1, Public Utilities row, HST Alternative column	7-13	Potential conflicts with ~~545 to 812~~ 511 to 842 utilities, depending on alignments.
Summary	S.5 Key Findings	S-8	The key findings of this ~~Draft~~ Final Program EIR/EIS indicate that taking no action under the No Project Alternative would not meet the intercity travel needs projected for the future (2020) as population continues to grow, and would fail to meet purpose and need or the objectives of a statewide HST system.