California High-Speed Train Project

Request for Proposal for Design-Build Services

RFP No.: HSR 11-16
Book 3, Part A: Policies

1. Basis for Design
2. Conflict of Interest Policy
3. Small Business Enterprise Policy

California High-Speed Train Project

Request for Proposal for Design-Build Services

RFP No.: HSR 11-16
Basis of Design

03/08/2012 RFP HSR 11-16

Prepared for
CALIFORNIA High-Speed Rail Authority

California High-Speed Train Project

TECHNICAL MEMORANDUM

Basis of Design
TM 0.3

Prepared by: _____ _____
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Released by: _____ _____
Hans Van Winkle, Program Director — Date

Revision	Date	Description
0	01 Mar 07	Initial Release
1	20 Dec 07	General Update
2	01 Sep 10	General Update, revise design speeds, delete text not related to design
3	22 Feb 12	General Update, revise seismic design approach, revise to be consistent with FRA High-Speed Passenger Rail Safety Strategy

Prepared by PARSONS BRINCKERHOFF

for the California High-Speed Rail Authority

System Level Technical and Integration Reviews
The purpose of the review is to ensure:

- Technical consistency and appropriateness
- Check for integration issues and conflicts

System level reviews are required for all technical memoranda. Technical Leads for each subsystem are responsible for completing the reviews in a timely manner and identifying appropriate senior staff to perform the review. Exemption to the system level technical and integration review by any subsystem must be approved by the Engineering Manager.

System Level Technical Reviews by Subsystem:

Systems:	Rick Schmedes	Date
Infrastructure:	John Chirco, PE	Date
Operations:	Joe Metzler	Date
Maintenance:	Joe Metzler	Date
Rolling Stock:	Frank Banko	Date
Project Management Oversight:	Michael D. Lewis, PE	Date

Note: Signatures apply for the technical memorandum revision corresponding to revision number in header and as noted on cover.

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ACRONYMS

ACE JPA	Altamont Commuter Express Joint Powers Authority
BNSF	Burlington Northern Santa Fe Railway
Caltrans	California Department of Transportation
CCF	Central Control Facility
CCJPA	Capital Corridor Joint Powers Authority
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHST	California High-~~-~~Speed Train
CHSTP	California High-~~-~~Speed Train Project
CPUC	California Public Utilities Commission
~~DBE~~	~~Design Base Earthquake~~
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMU	Electric Multiple Unit
ERTMS	European Railway Traffic Management System
FRA	Federal Railroad Administration
g	Standard gravity (9.81m/sec^2)
GO	General Order
HSR	High Speed Rail
HST	High Speed Train
IA	Interagency Agreements
~~LDBE~~	~~Lower-level Design Basis Earthquake~~
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service
LOSSAN	Los Angeles to San Diego operated by the Southern California Regional Rail Authority
MOU	Memorandum of Understanding
MOI~~W~~	Maintenance of Infrastructure~~Way~~
mph	Miles per hour
NCTD	North County Transit District
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
NOD	Notice of Determination (CEQA)
OCS	Overhead Contact System
PCJPB	Peninsula Corridor Joint Powers Board
PMT	Program Management Team
PTC	Positive Train Control
RAMS	Reliability, Availability, Maintainability, and Safety
RC	Regional Consultant
ROD	Record of Decision (NEPA)
RPA	Rule of Particular Applicability
SCRRA	Southern California Regional Rail Authority
TAP	Technical Advisory Panel
TPSS	Traction Power Supply System
TSI	Technical Specifications for Interoperability
TOD	Transit Oriented Development
UPRR	Union Pacific Railroad
VHS	Very High Speed

1.0 INTRODUCTION

1.1 PURPOSE OF BASIS OF DESIGN POLICY

This Basis of Design Policy document defines the major components and performance objectives of the California High-Speed Train (CHST) System as envisioned by the California High-Speed Rail Authority (Authority) to support development of the engineering and regulatory basis for the California High-Speed Train Project (CHSTP). Specifically, it focuses on components, objectives, processes, requirements, and assumptions which are governed by Authority policy. The Basis of Design Policy document is considered a living document and will be updated as the California High-Speed Train Project (CHSTP) is further developed and defined. The policies determining processes, standards, and sub-systems of the CHST System are generally divided in this document into:

- Program Implementation
- Performance Requirements
- Infrastructure
- Systems (Electrification, Train Controls, and Communications)
- Rolling Stock
- Maintenance
- Operations

1.2 BACKGROUND

The California High-Speed Rail Authority is the nine-member state governing board responsible for planning, designing, constructing, and operating a HST system that will serve California's major metropolitan areas.

The purpose of the Statewide HST System is to provide a safe and reliable high-speed electrified train system that links the major metropolitan areas of the state, and that delivers predictable and consistent travel times. A further objective is to provide an interface with commercial airports, mass transit and the highway network and relieve capacity constraints of the existing transportation system as increases in intercity travel demand in California occur, in a manner sensitive to and protective of California's unique natural resources.

Following a review of a range of alternatives to meet the growing demand for intercity travel in California, the CHST System Alternative was identified as the environmentally preferred alternative under the National Environmental Policy Act (NEPA), as well as the environmentally superior alternative under the California Environmental Quality Act (CEQA). The studies included the identification of a preferred alignment and station locations. The Authority, in cooperation with the Federal Railroad Administration (FRA), certified the Statewide Final program-level Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) in November 2005, allowing the Authority to begin the implementation of the CHST System. The Bay Area to Central Valley Final program-level EIR/EIS was initially certified in December 2008. Due to a lawsuit, the environmental document was revised and re-released in March 2010 for public review and comment. The Bay Area to Central Valley Final program-level EIR/EIS was certified in September 2010.

1.3 PROJECT DESCRIPTION

The proposed CHST System encompasses approximately 800 route miles and will provide intercity travel in California between the major metropolitan centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The CHST System is envisioned as a state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, including, state-of-the-art safety, signaling, and train-control systems.

The CHST System will operate primarily on dedicated track with about six to ten percent of the tracks in the route expected to be shared with other passenger rail operations (Peninsula Corridor in the San Francisco Bay area, and potentially the LOSSAN Corridor between Los Angeles and Anaheim). Dedicated high-speed train alignment options for the Peninsula Corridor were evaluated and eliminated from further consideration during the program-level studies

The CHSTP System route will be constructed at-grade, in ~~an~~ open trench, in ~~a~~ tunnels, or on ~~an~~ elevated guideway, depending on the terrain and physical constraints encountered. Extensive portions of the CHST System may lie within, or adjacent to, existing rail or highway rights-of-way ~~(rather than new alignment)~~ to reduce potential environmental impacts and minimize land acquisition costs.

The CHST System will be capable of operating speeds up to 220 miles per hour (mph) and the alignment will be designed for a maximum design speed of 250 mph, where feasible and practicable, on a fully grade-separated alignment with an expected trip time objective from San Francisco to Los Angeles of two hours and forty minutes. Interfaces with commercial airports, mass transit, and the highway network ~~is~~ are provided as part of the CHST System. As the CHST program and sections are developed, updated~~.~~, and refined, ridership data will be used to confirm desired system capacity, service levels and frequency of service, and operating plans.

2.0 PROGRAM IMPLEMENTATION

2.1 GOVERNING LEGISLATION AND ENVIRONMENTAL DOCUMENTATION

Governing legislation and other legal documentation dictate performance characteristics of the CHSTP. Proposition 1A was passed by the voters of the state of California on November 4, 2008. The following language outlines the requirements from the proposition which have since been added as Chapter 20 to Division 3 of the State Streets and Highways Code:

2704.09. The high-speed train system to be constructed pursuit to this chapter shall have the following characteristics:

(a) Electric trains that are capable of sustained maximum revenue operating speeds of no less than 200 miles per hour.

(b) Maximum nonstop service travel times for each corridor that shall not exceed the following:

(1) San Francisco-Los Angeles Union Station: two hours, 40 minutes.

(2) Oakland-Los Angeles Union Station: two hours, 40 minutes.

(3) San Francisco-San Jose: 30 minutes.

(4) San Jose-Los Angeles: two hours, 10 minutes.

(5) San Diego-Los Angeles: one hour, 20 minutes.

(6) Inland Empire-Los Angeles: 30 minutes.

(7) Sacramento-Los Angeles: two hours, 20 minutes.

(c) Achievable operating headway (time between successive trains) shall be five minutes or less.

(d) The total number of stations to be served by high-speed trains for all of the corridors described in subdivision (b) of Section 2704.04 shall not exceed 24. There shall be no station between the Gilroy station and the Merced station.

(e) Trains shall have the capability to transition intermediate stations, or to bypass those stations, at mainline operating speed.

(f) For each corridor described in subdivision (b), passengers shall have the capability of traveling from any station on that corridor to any other station on that corridor without being required to change trains.

(g) In order to reduce impacts on communities and the environment, the alignment for the high-speed train system shall follow existing transportation or utility corridors to the extent feasible and shall be financially viable, as determined by the authority.

(h) Stations shall be located in areas with good access to local mass transit or other modes of transportation.

(i) The high-speed train system shall be planned and constructed in a manner that minimizes urban sprawl and impacts on the natural environment.

(j) Preserving wildlife corridors and mitigating impacts to wildlife movement, where feasible as determined by the authority, in order to limit the extent to which the system may present an additional barrier to wildlife's natural movement.

In addition, the Mitigation, Monitoring and Reporting Plans from approved environmental documents will be implemented, including:

- Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)
- Bay Area to Central Valley Final Program EIR/EIS

2.2 PROJECT DEVELOPMENT PROCESS

Project development for the California High-Speed Train system adheres to a prescriptive regulatory process to ensure that issues are assessed, impacts are identified, and mitigation is included in the final project. Included are the fulfillment of the requirements of the National Environmental Protection Act (NEPA) and California Environmental Quality Act (CEQA).

The major milestones in this process are:

- Program EIR/EIS, Conceptual Engineering
- Draft Project Specific EIR/EIS, Preliminary Engineering (15% Design)
- Final Project Specific EIR/EIS
- Preliminary Engineering (~~30% Design~~to support procurement)
- Record of Decision (ROD)/Notice of Determination (NOD)
- Procurement Documents
- Permitting

Following receipt of the Record of Decision from the Federal Railroad Administration (FRA), implementation activities will culminate in the start of revenue service for the California High-Speed Train, including:

- Land Acquisition and Utility Relocation
- Design and Construction
- Testing, Commissioning, and Training
- Start of Revenue Service

2.3 DEVELOPMENT OF TECHNICAL REQUIREMENTS

2.3.1 State and Federal Regulating Agencies

Development of high-speed rail in California will ~~need to~~ address applicable regulatory safety requirements. These include but are not limited to:

- Federal Railroad Administration, 49 CFR Part 200-299
- California Public Utilities Commission (CPUC), General Orders

In order to commence operation and address applicable regulations, the California High-Speed Rail system will need to obtain a FRA Rule of Particular Applicability (RPA)~~,~~ and approval of new General Orders or waivers from existing and applicable CPUC General Orders (GO).

2.3.2 System Design Approach

Due to the complex and high-speed operating conditions, high-speed railways need to be developed from the beginning as a system, integrating all elements to work together in an efficient, safe, and reliable manner. The U.S. has no specific or current guidelines for the development of a high-speed rail system capable of 220 mph operating speeds. However, there is a history of long-term success in the development of the European and Asian HST systems. For the development of the California High-Speed Train Project, it is prudent to consider adaptation of existing and available HST system approaches from Asia and Europe to guide a system design approach, one that meets the requirements of applicable and developing federal and state safety regulations.

2.3.3 Safety and Reliability

Safety and reliability are achieved by the application of proven technical standards commensurate with the specified level of performance. The technical standards must reflect a comprehensive set of proven principles and system requirements to ensure that all aspects of a high-speed rail network are addressed and integrated.

A Reliability, Availability, Maintainability, and Safety (RAMS) plan will be developed consistent with best practices for international high speed rail and *EN 50126, Railway applications — The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS)*.

2.4 CHSTP SYSTEM REQUIREMENTS

The development of design criteria and standards will be based on a proven and accepted set of requirements that provide a safe and reliable high-speed rail system. For existing railroad systems in the U.S. and high-speed rail in Europe and Asia, rail safety requirements are communicated in the form of regulatory statute.

Given the multiple sources to guide CHSTP safety standards, a common platform is needed to compare and relate requirements between U.S. and global HST safety regulations. Regulatory requirements for railroad systems in the U.S. are embodied in 49 CFR Parts 200-299, CPUC General Orders, and European Union's Technical Specifications for Interoperability (TSI) for the trans-European high-speed rail system. Application of the state and federal regulations will ensure that applicable U.S. safety requirements are incorporated into the design and operations of the CHST system. Review and reference of the existing European and Asian ~~–~~high-speed rail regulations will ensure that ~~all~~ system elements necessary for a safe and reliable high-speed train network have been addressed by the CHSTP design and operational requirements. Additionally, as existing regulatory requirements support multiple operational levels, it is necessary to have a CHSTP specific document to identify the performance specifications in which to apply the regulations. ~~.~~

CHSTP regulations must be derived from a common source as regulations are interdependent and exclusion of some regulations or integration of different regulatory systems could lead to unsafe infrastructure and operations. For the CHSTP, a set of CHSTP System Requirements will be developed to provide an integrated and common platform to direct completion of the regulatory documentation, design criteria and other implementation documents

2.5 DESIGN DEVELOPMENT

To facilitate the project development process, the project is being developed in geographic regions with a separate design team or Regional Consultant (RC) for each region. Overall design management is provided by a Program Management Team (PMT) to promote~~ensure~~ technical consistency across the CHST System. The PMT is responsible for design of the system-wide elements to meet system performance objectives. The general responsibilities of the Program Management Team and the Regional Consultants, with respect to system and design development, are outlined as follows:

2.5.1 Program Management Team

- Basis of Design
- System Level Design
  - Ridership Forecasts
  - System Capacity
  - Rolling Stock Performance
  - Train Simulation and Dispatch Modeling
  - Traction Power Modeling and Electrification
  - Train Control System
  - Communications System
  - Preliminary Operations Plan
  - Preliminary Maintenance Plan
- Design Manual, including Design Criteria and Standards
  - Track Alignment
  - Stations
  - Bridge / Elevated Structures
  - Tunnels
  - Buildings and Facilities
  - Drainage and Grading

- Utilities
- Safety and Security
- Geotechnical
- Seismic
- Traction Power and Electrification
- Train Control
- Communications
- Rolling Stock

- Oversight to ensure technical consistency across the CHST system and conformance with standards
- Procurement of ~~D~~designers, ~~/B~~builders, ~~and O~~operators, and ~~/M~~maintainers
- Coordination and monitoring of testing and commissioning
- Final Acceptance and Recommendation for Start up and Revenue Service

2.5.2 Regional Consultants

- Environmental Technical Studies and Approval, including Project–level EIR/EIS and applicable permits
- Preliminary Engineering (15% Design and Preliminary Engineering to support procurement~~30% Design~~), including preparation of Design Variances where minimum criteria are not achieved.

Design variances from adopted minimum design standards, standard drawings, standard specifications, adopted standards or design guidelines established for CHSTP will go through an extensive review, assessment, approval, and documentation process by the Program Management Team and the Authority.

2.5.3 Design/Builder

- Final Design
- Construction
- Testing and Commissioning

2.5.4 Operator/Maintainer

- Operations Plan
- Maintenance Plan
- Revenue Service

2.6 HST Project Section Limits

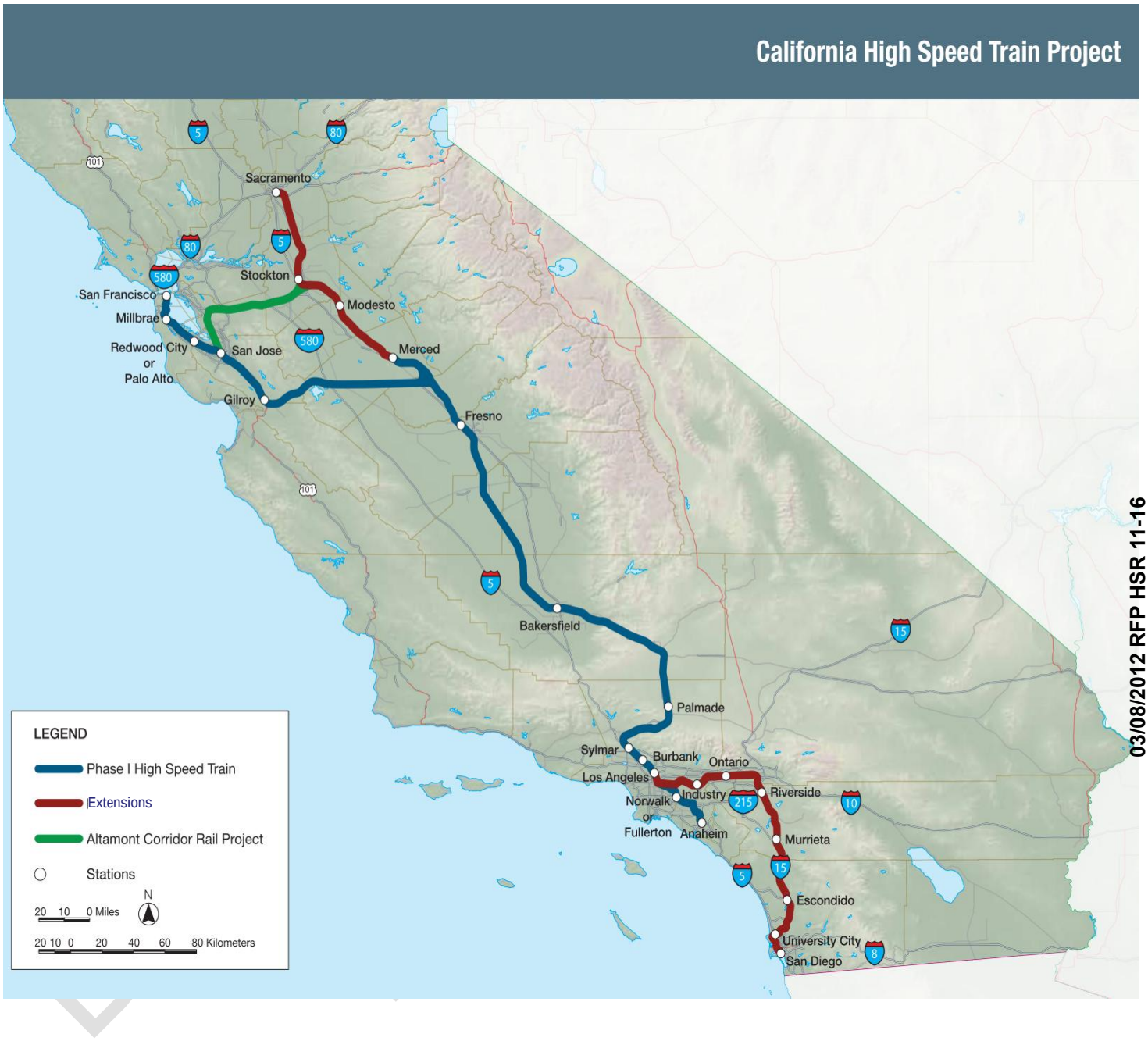
Environmental Approval and Preliminary Engineering for the CHST System will be accomplished by utilizing locally-focused, regional efforts. The section limits for environmental review of the CHST System is as follows (see Figure 1):

- San Francisco to San Jose
- San Jose to Merced
- Merced to Fresno
- Fresno to Bakersfield
- Bakersfield to Palmdale
- Palmdale to Los Angeles
- Los Angeles to Anaheim
- Sacramento to Merced

- Los Angeles to San Diego via the Inland Empire

Although a high-speed connection across Altamont Pass is not part of the currently approved CHST system, Altamont Pass studies are currently in progress as a separate but related effort to review the feasibility of connections between San Jose and Stockton.

Figure 1. CHSTP Preferred Alignment



2.7 COORDINATION WITH AGENCIES AND RAILROAD OPERATORS

For those areas where the HST line might enter, intersect or impact the jurisdiction of other owner-operators, the Authority ~~shall establish~~has or will establish ~~a~~ statewide memorandum of understandings (MOUs) with the owner-operator for implementation throughout the system. In some cases, Interagency Agreements (IA) shall be established. Owner-operators may include, but are not limited to:

- Amtrak
- BNSF Railway
- Caltrans (California State Department of Transportation)
- Capitol Corridor Joint Powers Authority (CCJPA, governing body for Capital Corridor intercity passenger rail)
- North County Transit District (NCTD, governing body for the San Diego Coaster commuter rail)
- Peninsula Corridor Joint Powers Board (PCJPB, governing body for Caltrain commuter rail)
- San Joaquin Regional Rail Commission (SJRRC, governing body for ACE commuter rail)
- Southern California Regional Rail Authority (SCRRA, governing body for Metrolink commuter rail)
- Union Pacific Railroad (UPRR)

2.8 COST ESTIMATING

Cost estimates will be updated ~~annually~~ based on the best available information ~~and~~ from the environmental and preliminary engineering studies. Capital cost estimates will include standard values for environmental mitigation, program implementation, and contingency costs. Where required, unit prices will be escalated using standard construction estimating practices. Cost estimate updates will be formally released by the Authority with the issuance of a Business Plan or other formal report.

3.0 PERFORMANCE REQUIREMENTS

To meet the travel time and service quality goals of the CHSTP, the Authority has established performance requirements to guide the development of the CHST System.

3.1 SYSTEM CAPACITY AND RIDERSHIP

The California High-Speed Rail system will be developed to accommodate the level of passengers anticipated in the year 2035, consistent with the demand forecast model and a feasible fare structure approved by the Authority.

Computer-based simulation modelling will be used to develop a ridership demand model which considers future population and employment distribution, income growth, transportation networks, travel conditions and patterns, and the speed, frequency and cost of available transportation modes.

The ridership and travel time projections for the CHST System will be updated and refined as the HST route sections are further developed during the project-level environmental and engineering studies. Additional operational modelling efforts will be concurrent with the preliminary engineering studies and will be the primary tool to confirm performance levels of the CHST System.

3.2 DESIGN/OPERATING SPEEDS

The speed criteria for the system are as follows:

- ~~**Maximum**~~ **Design Speed:** The design of the CHST System will incorporate a maximum design speed of 250 mph where cost-effective, practicable, and environmentally feasible.

  In areas of shared-use track, maximum design speed will be 125 mph including:

  - Peninsula Corridor in the San Francisco to San Jose Section
  - LOSSAN Corridor in the Los Angeles to Anaheim Section

  Due to significant topographical constraints, the following areas will apply a maximum design speed of 220 mph:

  - Pacheco Pass - Gilroy to the Central Valley floor
  - Tehach~~a~~api Mountains – Bakersfield to the Mojave Desert
  - Soledad Canyon – Sylmar to Palmdale

- **Maximum Operating Speed:** The design of the CHST System will incorporate a maximum operating speed of 220 mph where geometry, operational, and environmental conditions permit.

3.3 TRIP TRAVEL TIMES

Intercity trip travel times are dictated by Chapter 20, Division 3 of the California Streets and Highway Code as referenced in Section 2.1.

3.4 PHYSICAL REQUIREMENTS

The CHST System will meet the following physical requirements:

General

- Electrified Steel-Wheel-On-Steel-Rail very high speed (VHS) system
- Capable of safe, comfortable, and efficient operation at speeds of up to 220 mph
- Passenger comfort (smoothness of ride) with a lateral acceleration equal to or less than 0.05 g for the maximum design speeds as noted in Section 3.2.

Infrastructure

- Fully grade-separated track consistent with the draft FRA safety guidance for Tier III HSR operations.
- Fully dual-track mainline with off-line station stopping tracks, unless otherwise determined to not be required.
- Fully access-controlled railway with intrusion detection monitoring systems and intrusion protection systems when adjacent to other transportation facilities and as required.

Traction Power

- Electric traction system – 2x25kV, 60 Hz
  - ~~Capable of accommodating a minimum of 12 double trainsets per hour per direction , as follows~~
  - ~~9 double trains (16 car trains)~~
  - ~~3 single trains (8 car trains)~~
  - ~~.~~

Train Controls and Communications

- Capable of operating 3-minute headways practical capacity
- Automatic Train Control system targeted to be equivalent to the European Railway Traffic Management System (ERTMS) standard ~~of Level 2~~ with the capability ~~to upgrade to Level 3 or equivalent~~for operating speeds up to 220 mph, subject to FRA approval~~.~~
- Equipped with high-capacity and redundant communications systems capable of supporting fully automatic train operations

Rolling Stock

- Trainsets using a distributed traction power configuration, approximately 660 feet in length capable of coupling to provide 1320-foot long double trainsets during peak operating hours and as required by ridership demand~~.~~
- Approximately 450 to 500 passengers per 660-foot long trainset (900 to 1000 passengers for a 1320-foot double trainset)
- Support an open competitive procurement and not preclude Asian or European manufacturers
- Maximum annual average mileage of 400,000 miles per trainset per year

Operations

- All-weather/all-season operation
- Capable of accommodating normal maintenance activities without disruption to daily operations
- Capable of operating on shared-use tracks (i.e., Caltrain~~,~~ and possibly LOSSAN corridors)

3.5 DESIGN LIFE

A design life will be established for elements selected based on industry best practices. Determination of design life will take into account technology, maintenance cycles, operating and maintenance costs, and other factors.

4.0 INFRASTRUCTURE

4.1 TRACK ALIGNMENT

CHST alignments are generally established along or adjacent to existing railroad and highway transportation facilities, where possible, instead of creating new transportation corridors. Alignments will be grade separated at rail, highway, and roadway crossings.

~~The~~ HST technology requires a dual-track mainline system to support the ridership volumes, frequency of service, scheduling flexibility, and delay recovery required for the proposed system.

Unless otherwise documented, the dual-track mainline will be maintained through station areas to allow for run-through or express service. Off-line stopping tracks are provided at all intermediate stations unless otherwise determined to not be required.

4.1.1 Track Structure

The track structure selection includes consideration of conventional ballasted track and non-ballasted track forms (slab track). Selection will be dependent on the alignment configuration, maintenance accessibility, and cost effectiveness.

4.1.2 Intrusion Protection

Conventional trains and highway vehicles sharing corridors with or operating adjacent to CHST will be restrained from intruding into HST operational infrastructure by physical separation, or by a physical barrier where adequate separation is not practical.

Where required, ~~The~~ an intrusion detection system will be integrated with the signaling system to automatically notify the Operating Control Center and, if required, stop the HST if there has been intrusion into the operating envelope. Where warranted, risk of intrusion will be assessed and mitigated as necessary.

4.1.3 Tunneling

Due to the high cost of tunneling, it is the Authority's goal to thoroughly evaluate and minimize the amount of tunneling needed for the CHSTP. The CHSTP program will consider and document the trade-offs associated with lower grade/longer tunnels versus higher grade/shorter tunnels. Additionally, different configurations (including single or twin tunnels) and types of construction (including bored, cut and cover, and mined tunnels) will be considered and evaluated. Such factors as normal maintenance, emergency access/egress, fire and life safety requirements, vehicle aerodynamics and passenger health, travel time impacts, power usage, costs, construction feasibility, and train operations are to be included in these analyses.

4.1.4 Aerial Structures

~~A consistent approach to simply supported aerial structures will be developed and applied throughout the CHST network. This s~~Structures carrying high-speed trains will be designed to achieve~~address~~ the performance, functionality, safety, serviceability, economic~~y~~, aesthetics requirements defined by the project~~, and structural integrity~~. ~~Development and implementation of A~~ standard, simply-supported structures ~~can~~ may be considered to reduce costs and risk as these may~~nd~~ improve constructability, quality control, ease of maintenance, and system integration.

4.1.5 Corridor Grade Separation

Consistent with FRA preliminary guidance, ~~T~~there will be no at-grade vehicular ~~at-grade~~ crossings permitted on the CHST System where ~~design~~operating speeds exceed 125 mph ~~so as to support the safety and performance requirements~~. For areas where design speeds are 125 mph or less and where there is shared-use track (see ~~s~~Section 4.2.2), grade crossings may be considered consistent with FRA preliminary guidance for mixed fleet operations.

Grade separations ~~projects~~ required for the CHST System will be a high priority, particularly ~~those~~ grade separations ~~projects~~ that affect other existing and planned rail and road facilities. Early implementation of the grade separation projects ~~can~~ may improve local safety, circulation, and reduce air pollution and noise impacts.

4.1.6 Seismic Design Reliability

The primary structural seismic performances goals are to safeguard against catastrophic failures, loss of life, and prolonged interruption of operations due to structural damage. To address reliability for structures supporting high-speed trains, the seismic design criteria uses a hybrid probabilistic-deterministic approach using industry best practices. ~~Two design earthquakes and performance levels are used:~~

~~The Maximum Considered Earthquake (MCE) is the maximum of the probabilistic 950 year return period event, or the site-specific deterministic event based upon the maximum rupture of any fault(s) within the vicinity. The main performance goal for the MCE is no collapse. Significant damage may occur which requires extensive repair of replacement. Occupants not on trains are able to evacuate safely. Damage and collapse due to Potential for train derailment will be mitigated through structural design. If derailment occurs, train occupants are able to evacuate derailed trains safely.~~

~~The Operating Basis Earthquake (OBE) is the probabilistic 50 year return period event. The main performance goals for the OBE are elastic response with no spalling, limits to structural deformation to minimize the probability of derailment and excessive rail stress, trains to safely brake from the maximum design speed to a safe stop, and train occupants to evacuate stopped trains safely.~~

~~At hazardous fault zones, the alignment depends upon the dominant direction of fault displacement.~~

~~Where the dominant displacement is lateral, the alignment shall consist of at-grade track, oriented as near to perpendicular as feasible to the fault trace, in order to minimize the fault zone length beneath the alignment. For at-grade fault crossings, additional mitigation measures include providing an increased right-of-way. The width of right-of-way shall anticipate damage to adjacent embankments and retaining walls provide separation between the tracks and improvements, provide access for emergency rescue, and add flexibility for realignment and reconstructive work.~~

~~Where the dominant displacement is vertical, the alignment shall consist of a structural solution in the form of an elevated or tunnel structure. For such structures, design mitigation strategies include those that provide seismic isolation/dissipation, increase large displacement compatibility, provide access for emergency rescue, accommodate track realignment, and facilitate reconstructive work.~~

Oversight by a Technical Advisory Panel (TAP) provides an independent assessment of technical issues during development of the project's seismic criteria. The panel is represented by multiple technical disciplines with recognized technical expertise and practical experience in seismic design. The seismic design criteria ~~associated with the MCE and OBE has been~~ will be reviewed with the TAP.~~, and meets or exceeds the criteria of Caltrans, the Transportation Safety Institute, and the Railway Technical Research Institute of Japan.~~

~~A system-wide risk evaluation may be performed as a means to further assess and mitigate risk. A likely product of this risk evaluation would be the inclusion of a third design earthquake, with return period of approximately 500 years, and performance goals of repairable damage resulting in temporary service suspension while short term repairs to structure and track components are made.Seismic design will use a hybrid probabilistic deterministic approach with oversight by a Technical Advisory Panel (TAP) and will implement industry best practices. A system-wide risk evaluation will be performed to assess and mitigate risks.~~

~~Oversight by a Technical Advisory Panel will provide an independent identification and assessment of technical issues during development of the project's seismic criteria. The panel will be represented by multiple technical disciplines with recognized technical expertise and practical experience in industry's~~

~~best practices pertaining to seismic design. The panel will meet at periodic intervals during the preliminary engineering phase to review the reasonableness of the expected structural performance levels, and assist in development of a hybrid probabilistic-deterministic seismic approach and review of seismic design criteria for the high-speed rail system.~~

~~Continuing safe revenue operation of the CHST System during and after a strong seismic event is a priority of the Authority. Because of the high likelihood of major seismic activity during the life of the facility, preventive measures will be made to avoid an unnecessarily long shut-down of the system after a major earthquake and to avoid catastrophic failure during such an event. To this end, in the determination of the horizontal and vertical alignment, it is desirable to cross fault zones at-grade without structures at fault crossings where mitigating designs can be more cost-effectively employed. Faults shall be crossed perpendicular to reduce the extent of damage. The system will also be designed to withstand smaller, more common earthquakes without impact to passenger safety or service interruption.~~

~~The goal of the CHSTP, in terms of structural performance during a seismic event, is to safeguard against major failures, loss of life, and to prevent a prolonged interruption of CHST System operations caused by structural damage. In order to achieve this, the following three seismic performance levels are under consideration.~~

~~Ensure that the CHST System facilities are able to undergo the effects of the Maximum Considered Earthquake (MCE) without collapse although significant repairs will be necessary.~~

~~Ensure that CHST System facilities are able to undergo the effects of the Design Basis Earthquake (DBE) without collapse and that damages are repairable. Train operations can resume immediately or within a reasonable amount of time.~~

~~Ensure that the CHST System will be able to operate safely, at the maximum operating speed when subjected to the Lower-level Design Basis Earthquake (LDBE).~~

~~The ground motion criteria and probabilistic-deterministic levels associated with the MCE, the DBE, and the LDBE will be established and reviewed by the TAP. These performance levels will be compared to other rail and high speed rail seismic design criteria and meet or exceed guidance criteria by Caltrans, Transportation Safety Institute, and the Railway Technical Research Institute of Japan.~~

4.2 STATIONS

It is the Authority's objective to minimize impacts associated with growth by selecting multi-modal transportation hubs as potential CHSTP stations. These locations will maximize access and connectivity, and facilitate transit oriented development (TOD). The CHST System will be ~~compatible~~ coordinated with local and regional plans that support rail systems and TOD, offering opportunities for increased land use efficiency. Intermodal connectivity with local and regional transit, airports, and highways will also be supported.

The specific station configuration will be defined as necessary to accommodate train and passenger volumes and frequency required to serve the forecasted demand. Overall station size will also consider access facilities, parking facilities, and passenger facilities.

Stations and station areas will be designed to reflect the surrounding natural and manmade landscape yet include some CHSTP standardized elements, including signage and graphics, fare collection and train boarding process, ticket sales office location and configuration, and communications systems, in order to provide a consistent image for the system.

Where applicable, stations and maintenance facility buildings will target sustainable designs in accordance with guidelines established for Leadership in Energy and Environmental Design (LEED) "Silver" or better.

4.2.1 Terminal Stations / Intermediate Stations

Terminal stations are those ~~where a revenue service trip originates and/or~~located at the "end points" of the HST system, ~~ends~~ and where all trains are planned to stop upon arrival and perhaps lay-over during non-peak periods. ~~Terminal stations are generally located at the "end points" of the HST system.~~ Los

Angeles is ~~the exception~~atypical because it is both terminal (some trains originate and end a revenue service trip and all trains stop upon arrival) and a run-through intermediate station (~~most~~ some trains will run through to Anaheim or San Diego)

The following stations are designated as terminal stations:

- Sacramento
- San Francisco
- Los Angeles (both Terminal and Intermediate)
- San Diego
- Anaheim*

Intermediate stations are defined as "line" stations providing service along the ~~dedicated~~ CHST route and located between San Diego, Anaheim/Irvine, Sacramento, and San Francisco. The following stations were designated as possible intermediate stations:

- Stockton
- Modesto
- Merced (potential Terminal Station for Phase 1)
- Millbrae/San Francisco Airport
- Redwood City or Palo Alto
- San Jose
- Gilroy
- Fresno
- Kings/Tulare Regional
- Bakersfield
- Palmdale
- Sylmar
- Burbank
- Norwalk or Fullerton
- City of Industry
- Ontario Airport
- Riverside
- Murrieta
- Escondido
- University City

The station locations and alignments are under review and final number of stations and locations will be confirmed consistent with the requirements of Proposition 1A (now embodied in Chapter 20 to Division 3 of the Streets and Highways Code, see also Section 2.1 of this document)

* The Authority has not precluded the potential for a future extension to Irvine.

4.2.2 Shared-use Tracks

It may be possible to integrate the CHST System into existing conventional rail lines in congested urban areas subject to ~~resolution of potential equipment and operating compatibility issues and working in cooperation with the FRA.~~ Preliminary FRA guidelines for mixed fleet or 'blended' operations for conventional passenger, freight, and high-speed passenger services.

Some stations in this type of shared-use condition may accommodate both the conventional rail services and the CHST System. Shared-use stations may occur in the following rail corridors:

- **Peninsula Corridor:** Corridor between San Francisco and San Jose, operated by the Peninsula Corridor Joint Powers Board, providing Caltrain commuter rail service. ~~Temporally or physically separated freight service will be operated in this corridor.~~
- **LOSSAN Corridor:** The section between Los Angeles and Anaheim, dispatched by the Southern California Regional Rail Authority (SCRRA) and owned by BNSF Railway in Los Angeles County and OCTA in Orange County, supports Metrolink commuter rail service, passenger service by Amtrak, and freight by the Burlington Northern Santa Fe (BNSF) Railroad. It should be noted that while freight service is provided in the LOSSAN Corridor, freight and CHST service will generally operate on separate tracks or with temporal separation in limited locations.

4.2.3 Passenger Facilities

The configuration of station passenger facilities will depend upon many variables including, station location, ridership demand, interaction with intermodal connections (if available), mix of trip purposes served, local land use, and building code requirements. The development of passenger facilities will also consider the need for waiting areas, concourses, ticketing, restrooms, safety and security, as well as other support services.

Passenger tickets may be purchased in person at stations potentially with staffed ticketing booths, at a ticket vending machine at the station, or by phone or internet. Ticketing procedures will encourage use of pre-purchased tickets and automated ticket vending machines thereby reducing the need for ticketing booths.

CHSTP will not have formal~~ized~~ baggage handling. Luggage storage facilities shall be considered at stations for passenger convenience.

~~Only b~~Basic concessionary spaces will be included in pre-procurement designs.

4.2.4 Station Security

Station security will be commensurate with station security on existing high speed rail networks in the USA, Europe and Asia. Unless otherwise exempted, the CHST System will conform to the current Federal requirements regarding transportation security as developed and implemented by the FRA and TSA.~~.~~

4.2.5 Track and Platform Configuration

Station platforms are planned for a length of approximately 1400~~10380~~ feet to accommodate a range of existing high-speed trainsets.

Intermediate station platform configurations must ensure customer safety as trains may operate through or in proximity to the station area without stopping. Platform layout and station operations will ~~look to~~ mitigate potential hazards and noises from trains running through the station at high-speeds. Turn~~-~~outs to stations will be designed to maintain headways and allow efficient train operations by not slowing or stopping following trains. Because of this, intermediate station platforms will:

- Provide off-line passenger platforms allowing for pass-through express services on the dual-track mainline.
- Provide side platforms with center running tracks as the desirable configuration for operational considerations.

Terminal stations may have center or side platforms based on the specific station. Center platforms have two platform “edges” with a track on each side to allow boarding and alighting on either side from either of the two tracks. Because all trains will stop at terminal stations, there is no need to mitigate issues created by ~~a~~ fast-moving through trains.

4.2.6 Station Area Amenities

Design of the station site and surrounding area will adhere to the Authority’s Adopted “HST Station Development Policies” (May 14, 2008), which states that that the Authority will encourage the following development patterns: higher density development in relation to the existing land uses; a mix of land uses and housing types; compact, pedestrian-oriented design; context-sensitive buildings; and limits on the amount of parking for new development and a preference for structured parking.

The full "HST Station Development Policies" can be found on the Authority's website at:

http://www.cahighspeedrail.ca.gov/images/chsr/20080605123121_Station%20Policies.pdf

4.2.6.1 Intermodal Connectivity

Station area amenities ~~shall~~ will be designed with a focus on convenience and ease of transfer to and from the CHST System and to other modes of transportation.

Development of station areas requires a hierarchy between modes of access and egress: Pedestrians will have~~th~~ the highest priority, followed by public transit, bicycles, pick-up and drop-off, and ~~finally~~ park-and-ride. In addition ~~to this~~, modes ~~shall~~ will be integrated ~~while preserving safety~~ in order to make the station site an active place.

Level of service for all modes within a CHST station area will be commensurate with best practices for high-speed train stations.

Facilities for other transportation operators including right-of-way, parking spaces, offices, information booths and layover space will be provided based on the terms of memorandums of understanding as outlined in Section 2.7.

4.2.6.2 Parking

The Authority will oversee conceptual design and environmental clearance for parking facilities at each of the stations. However, the parking facilities will be constructed and operated by others, with parking offered at market rates.

4.2.7 Postal/Mail Capabilities

The CHST system infrastructure could be used to carry small packages, parcels, letters, or any other freight. Such a system may utilize dedicated trains and distribution facilities. The postal system would operate during CHSTP service hours using potentially available capacity and without impacting passenger revenue service.

4.3 UTILITIES

Utility construction and location within the high-speed rail right-of-way ~~shall~~ will be related directly to the design, construction, and operations of CHSTP and ~~shall~~ will not be used by utility agencies/owners for betterments to existing facilities. Betterments are the responsibility of the utility owner.

4.3.1 Right of Way Encroachment

An encroachment is defined as a structure or object that is within the high-speed rail right-of-way and is not a CHSTP facility. CHSTP policy is to exclude public and private utilities from being located within the access controlled high-speed rail right of way where possible.

Existing longitudinal utilities located within the existing or proposed right of way shall be relocated to the outside of the CHSTP right of way, unless otherwise determined by the Authority.

New utility installations, and adjustments or relocation of existing utilities, will be permitted to transversely cross the Authority right-of-way, subject to review and confirmation that no there are no adverse effects on the safety and reliability of the high-speed rail system.

5.0 SYSTEMS

5.1 ELECTRIFICATION / TRACTION POWER SYSTEM

The traction power supply system (TPSS) will be a 2 x 25kV autotransformer system with center-feed and/or single-end feed segments, utilizing supply stations that have utility supply circuits, switching stations with autotransformers, and paralleling stations with autotransformers. The TPSS will be able to support the ultimate level of service (LOS) proposed without degradation when a single power supply system component is out of service.

Design of the TPSS will be developed using a system-wide, computer-simulated traction power model based on the ridership demand forecast and supporting train timetable for the CHST System. The model will identify the electrification requirements for confirming the size and location of supply stations, switching stations, and paralleling stations.

An auto-tensioned Overhead Contact System (OCS) will distribute electric power to rolling stock. The OCS may be a simple two-wire system supported by cantilevers and attached to track-side poles, ~~(~~and/or gantries or headspans~~)~~.

Traction power return system will return traction power supply current to the center tap of the autotransformers at supply, switching, and paralleling stations.

5.2 TRAIN CONTROL SYSTEM

The train control system will safely support the ultimate level of service proposed for the grade-separated CHST System and will address the following:

- Train maximum operating speed of ~ 220 mph (350 kph) ~~maximum~~
- Safe braking criteria in ~~exclusive~~ HSR dedicated guideway
- Safe braking criteria for the Caltrain and LOSSAN segments, considering other railroads trainset technologies on shared-use tracks
- Compatibility with shared-use track train control equipment specifications
- System operations plan requirements
- Design headway of 3 minutes practical capacity

The CHSTP ATC (Automatic Train Control) system will adopt a collision avoidance approach by employing Positive Train Control (PTC) to ~~significantly~~ reduce the risk of collisions between trains and maximize overall system safety by focusing on the key train control and signaling functional requirements. The CHSTP ATC system will include, but not be limited to, the elements of precise train location detection, ~~,~~ safe train separation, worker protection, and automatic train stop enforcement in the event of overspeed, system failure, or other incident~~.~~.

The CHSTP ATC system will be fully coordinated with the FRA in terms of the technical development and implementation.

5.3 COMMUNICATIONS

The CHST System will have a central Operational Control Center (OCC) for supervisory monitoring and control and monitoring of the CHST system operations.

The system will have redundancy~~ies~~ through ERTMS ~~Level 2 or 3~~ and be capable of supporting fully automatic train control.

The OCC is envisioned to be co-located with the main repair and heavy maintenance facility, with supporting Regional Control Centers (RCC) established as needed to support operation control and provide system back-up.

6.0 ROLLING STOCK

The CHST vehicles will be steel-wheel-on-steel-rail very high-speed (VHS) technologies, using distributed power cars and a catenary capable of revenue service operating speeds of 220 mph (354 kph). The trains must be capable of integrating into existing conventional rail lines where shared-use is expected to occur in the Caltrain corridor and potentially in the LOSSAN corridor. Performance objectives for the HST trainsets include:

- Capable of revenue service operating speeds of 220 mph (354 kph)
- 900 to1000 passengers per double trainset capacity (1320 foot length)
- Pressure-sealed trainsets to maintain passenger comfort and safety ~~regardless~~ to mitigate~~of~~ aerodynamic changes along the line
- Level boarding at stations
- Compliant with U.S. Americans with Disability Act requirements

In order to minimize costs, facilitate competition, and take advantage of service proven global technology, the Authority is seeking to utilize currently available high-speed train technology on the California high-speed rail system.

Until final selection of the trainset technology, the CHSTP will move forward with the design of infrastructure elements such as alignment, track design, stations, electrification, etc. in a manner that will accommodate high speed trainsets from different manufacturers expected to be capable of 220 mph revenue service speeds by the year 2015.

7.0 TRAIN STORAGE AND MAINTENANCE FACILITIES

7.1 VEHICLE STORAGE AND MAINTENANCE

Fleet storage, cleaning, servicing, inspection, maintenance, and repair requirements will be supported at three types of facilities that are defined as follows:

- Overnight layup and storage facilities (Level 1/2) which provide in-service inspection, cleaning and maintenance (locations in proximity to San Diego, Los Angeles/Anaheim, San Francisco, and Sacramento terminal stations, and possibly Merced Station during Phase 1)
- Periodic inspection facilities (Level 3) which provide in-service maintenance and periodic inspections (locations in proximity to the Los Angeles/Anaheim and San Francisco terminal stations, and potentially the San Diego terminal station)
- Heavy maintenance and rehabilitation facility (Level 4/5) which provides in-service maintenance and periodic inspections in addition to programmed overhauls, accident repair and design modifications (one location, on main trunk line between Merced and Bakersfield)

7.2 MAINTENANCE OF INFRASTRUCTURE~~WAY~~

Facilities will be provided for the storage of maintenance-of-~~way~~ infrastructure (MOI~~W~~) equipment at appropriately-spaced intervals. The MOI~~W~~ facilities include areas for the storage of extra parts and inventories associated with the track way and systems, and areas for associated MOI~~W~~ personnel facilities.

MOI~~W~~ facilities may be combined with vehicle maintenance facilities and/or stations where feasible and appropriate.

8.0 OPERATIONS

8.1 SERVICE DESCRIPTION

The CHST System will be developed in a manner capable of accommodating a wide range of service types, from express services between northern and southern California to localized regional trips. The types of services in the operating pattern for both Phase 1 and Full Build Service Plans include:

- **Express service:** Serves San Francisco to Los Angeles/Anaheim only. Skips all intermediate stations, offers the fastest trip time between San Francisco and Los Angeles, generally limited to morning and afternoon peaks. Express trains may include a single stop in San Jose.
- **Limited-stop service:** Skips selected stops along a route, offers some of the trip time benefits of express-style service to intermediate stations as well as the major terminals.
- **All-stop service:** "Local" trains that make all stops along a particular route section, ensures direct service to and from all stations on the network.

8.2 HOURS/DAYS OF OPERATION

The CHST System will operate seven days a week. The hours of operation are assumed to be from 5:00 a.m. to midnight ~~.~~(revenue service begins at 6:00 a.m.).

8.3 MODELING EFFORT

Operations will be confirmed using computer-based modelling including simulated intercity travel times and operating speeds. Optimal theoretical trip time targets will be developed using a computer-based train performance calculator (TPC), providing speed profiles depicting performance of single trains between specific locations on the system, including stations. Train performance calculations will use published train set performance specifications for the assumed trainset and alignment attributes as included in the environmental assessment. Unique geometric parameters, infrastructure configurations and identified operating restrictions will be applied.

Conceptual service plans will be developed and updated as required for both the Phase 1 System and the Full Build System based on ridership demand forecasts. Infrastructure design and construction, rolling stock acquisition, and operating plans will take into account a range of interim and future operating scenarios and conditions.

8.4 SAFETY/SECURITY

The CHST will incorporate or exceed the best practices in HST network safety and security commensurate with HST systems around the world. Unless otherwise exempted, the CHST system will conform ~~with~~to United States Federal, State, and Local governing rules requirements and regulations.

In the areas of dedicated HST service, ~~T~~the CHST System will be a fully grade-separated and fully access-controlled with intrusion monitoring, detection and protection, as required and consistent with FRA guidelines.

The CHST System will incorporate climatic and seismic monitoring facilities that include automatic train protection when climate or seismic events exceed specified thresholds of operational safety.

8.5 SHARED USE/COMPATIBILITY ON TRACKS

In order for the CHST system to operate under shared use with other passenger traffic, the CHSTP train sets and train control system will be developed in consultation with the FRA.

Under no circumstances is it to be considered that the HST system will operate over conventional freight lines and freight trackage. ~~Shared-use operations with conventional freight traffic will be avoided through the use of physical or temporal separation.~~

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

ORGANIZATIONAL CONFLICT OF INTEREST POLICY

I. Purpose

This Organizational Conflict of Interest Policy ("Policy") prescribes ethical standards of conduct applicable to persons and entities entering into contracts with the California High-Speed Rail Authority ("Authority") as authorized by Section 185000 et seq. of the California Public Utilities Code, and applies to subcontractors as well as prime contractors.

This Policy is supplemental to the Authority's general Conflict of Interest Code and does not modify or supersede any requirements contained in that Code.

This Policy is intended to accomplish the following goals:

1. Promote integrity, transparency, competitiveness and fairness in the Authority's procurements and contracts;

2. Prevent bidders and proposers from obtaining or appearing to obtain an unfair competitive advantage with respect to the Authority's procurements and contracts;

3. Provide guidance to enable contractors to make informed decisions while conducting business with the Authority; and

4. Protect the validity of Authority contracts, confidential and sensitive information concerning the High-Speed Rail ("HSR") Project, and other Authority interests.

The Authority recognizes that its goals must be balanced against the need to not unnecessarily restrict the pool of potential proposers or contractors available to participate in Authority procurements and contracts. This Policy neither purports to address every situation that may arise in the context of the Authority's procurements and contracts, nor to mandate a particular decision or determination by the Authority. The Authority retains the ultimate and sole discretion to determine on a case-by-case basis whether an Organizational Conflict of Interest (as defined below) exists and what actions may be appropriate to avoid, neutralize or mitigate any actual or potential Organizational Conflict of Interest or the appearance of any such Organizational Conflict of Interest.

This Policy does not address all applicable requirements that may affect persons and entities wishing to enter into contracts with the Authority. Examples of such requirements include: (a) the requirements of the California Political Reform Act and regulations promulgated by the California Fair Political Practices Commission, (b) restrictions in Public Contract Code section 10365.5 with respect to certain contractors engaged to perform consulting services, and (c) rules of conduct

established by the California Board for Professional Engineers and Land Surveyors,[1] State Bar of California[2] and California Board of Accountancy.[3]

Attachments A and B hereto identify certain hypothetical situations involving potential conflicts of interest and how they would likely be resolved under this Policy.

II. Definitions

1. An **"Affiliate"** of a Contractor is:

   A. Any shareholder, member, partner or joint venture member of the Contractor,

   B. Any person or entity which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, the Contractor or any of its shareholders, members, partners or joint venture members;

   C. Any entity for which ten percent or more of the equity interest in such entity is held directly or indirectly, beneficially or of record by (i) the Contractor, (ii) any of the members, partners or joint venture members of the Contractor, or (iii) any Affiliate of the Contractor under clause (B) of this definition; and

   D. Any entity for which ten percent or more of the equity interest in such entity is held directly or indirectly, beneficially or of record by any of Contractor's shareholders other than shareholders whose only interest in Contractor is in the form of publicly traded stock.

   For purposes of this definition the term "control" shall mean the possession, directly or indirectly, of the power to cause the direction of the management of an entity, whether through voting securities, by contract, family relationship or otherwise.

2. **"CEQA"** means the California Environmental Quality Act.

3. **"Contractor"** means any individual or legal entity retained by the Authority to perform work on the HSR Project, or proposing to perform such work, including joint venture members and general partners of any such entity; any subcontractor of such individual or legal entity (at all tiers); and each individual employee of such individual, legal entity or subcontractor.

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[1] California Code of Regulations, Title 16, Division 5, Article 4, Sections 475 and 476.

[2] State Bar of California, Rules of Professional Conduct, Rules 3-300 and 3-310,

[3] California Code of Regulations, Title 16, Division 1, Article 9.

4. **"Consultant"** means a Contractor performing or proposing to perform professional or consulting services for the Authority or another public agency working on the HSR Project. The term includes, without limitation, any person or legal entity providing accounting, auditing, architecture, landscape architecture, construction project management, engineering, environmental consulting, land surveying, legal, or right of way acquisition services.

5. **"EIS"** means Environmental Impact Statement.

6. **"FRA"** means the Federal Railroad Administration.

7. **"FTA"** means the Federal Transit Administration.

8. **"NEPA"** means the National Environmental Policy Act.

9. **"Organizational Conflict of Interest"** means a circumstance arising out of a Contractor's existing or past activities, business or financial interests, familial relationships, contractual relationships, and/or organizational structure (i.e., parent entities, subsidiaries, Affiliates, etc.) that results in (i) impairment or potential impairment of a Consultant's ability to render impartial assistance or advice to the Authority or of its objectivity in performing work for Authority, (ii) an unfair competitive advantage for any Contractor bidding or proposing on an Authority procurement; or (iii) a perception or appearance of impropriety with respect to any of the Authority's procurements or contracts or a perception or appearance of unfair competitive advantage with respect to a procurement by the Authority (regardless of whether any such perception is accurate).

10. **"Project Section"** means each of the sections of the High-Speed Rail Project which are currently being studied in the draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) process, as such sections may be modified during the CEQA/NEPA process. The sections are currently identified as:

    - San Francisco – San Jose
    - San Jose – Merced
    - Merced – Fresno
    - Fresno – Bakersfield
    - Bakersfield – Palmdale
    - Palmdale – Los Angeles
    - Los Angeles – Anaheim
    - Los Angeles – San Diego
    - Sacramento – Merced
    - Altamont Corridor

Certain of the Authority's contracts may include services that apply to multiple Project Sections, for example for trackwork and systems, or may include general services to the Authority that do not apply to any particular Project Section. For

such contracts, all Consultants will be subject to the requirements of Sections VII(2) or VIII(1), as appropriate.

11. **"Procurement Services"** mean services provided by a Consultant for the benefit of the Authority relating to any or all of the following:

    A. Development of procurement strategy and/or approach to risk allocation;

    B. Development and preparation of procurement documents including requests for qualifications, requests for proposals, invitations for bids, contract documents and technical specifications, but excluding development and preparation of preliminary design, reports or similar "low level" documents for incorporation by others into a procurement package.

    C. Development of evaluation criteria, process or procedures;

    D. Administration of a procurement;

    E. Evaluation of procurement submittals by Contractors (e.g., qualification submittals, proposals, etc);

    F. Negotiation of a contract; and

    G. Advising the Authority in any other aspect of the procurement that the Authority determines, in its sole discretion, should be considered Procurement Services.

12. **"Public Records Act"** means the California Public Records Act, Government Code Section 6250 et seq.).

III. Applicability

1. This Policy applies to all Contractors that have entered into, or wish to enter into, contracts with the Authority.

2. To the extent that the Authority has previously consented in writing to performance of work by a Contractor that would not have been permitted under this Policy, adoption of this Policy does not modify or alter the prior consent. The foregoing does not, however, mean that the Authority is required to consent to Contractor's participation in future proposals or contracts.

IV. Federal Requirements

The Authority must comply with requirements applicable to FRA-funded projects, including United States Department of Transportation regulations applicable to federally funded procurements and contracts set forth in 49 CFR Part 18. Nothing in this Policy

is intended to limit, modify, supersede or otherwise alter the effect of other relevant federal, State, or local regulations, statutes or rules.

V. Organizational Conflicts of Interest Disclosure

1. Obligation to Disclose

Subject to the written requirements established for a particular procurement, any Contractor having or potentially having an Organizational Conflict of Interest shall promptly disclose the matter to the Authority at:

The office of the Chief Counsel/ Mr. Thomas Fellenz
770 L Street, Suite 800
Sacramento CA 95814

The disclosure should contain a detailed description of (i) the facts and circumstances giving rise to the actual or potential Organizational Conflict of Interest; and (ii) any efforts the Contractor has taken or proposes to take to mitigate the conflict. The procurement documents or contract may provide supplemental requirements regarding disclosures. The failure to disclose any actual, perceived or potential Organizational Conflict of Interest may result in serious consequences to the Contractor and its Affiliates.

Upon receipt of a disclosure, the Authority will review the matter and, in accordance with this Policy, advise the Contractor in writing whether it has an Organizational Conflict of Interest with respect to its participation in a procurement or performance of a contract with the Authority. The Authority's decision on the matter shall be final and binding and shall not be subject to appeal.

An Organizational Conflict of Interest may arise at any time, and a Contractor's obligation to disclose is ongoing. Contractors participating in contracts with the Authority and bidding/proposing on Authority contracts shall use all reasonable efforts to arrange their affairs so as to prevent Organizational Conflicts of Interest from arising. Contractors should undertake reasonable due diligence, including necessary conflict searches, to determine whether new actual, perceived or potential Organizational Conflicts of Interest have arisen. Each Contractor shall consider whether disclosure is required in connection with new hires, changes in the company's board of directors, mergers, and new business relationships including joint ventures and contractor/subcontractor relationships. Due to the potential for conflicts which could result in an Authority contract being deemed invalid and void, the Authority is particularly concerned about Contractor's relationships with current and former Authority employees and individuals designated by the Authority as consultants subject to the Authority's Conflict of Interest Code. A Contractor must immediately inform the Authority if it is negotiating to hire, has made an offer of employment to, or has actually hired (i) an existing Authority employee, (ii) a former Authority employee, (iii) an individual who is currently on the Authority's list of consultants subject to the Authority's Conflict of Interest Code, or (iv) an individual who was formerly on the Authority's list of consultants subject to the Authority's Conflict of Interest Code but who is not currently performing work for the Authority.

Consultants whose responsibilities to the Authority include review, supervision or oversight of work by other entities should pay careful attention to their relationships with the other entities and their Affiliates and should take care to avoid relationships with such other entities that would give rise to an Organizational Conflict of Interest. Due diligence should extend to investigation of past relationships and, if the Contractor is a corporate entity, to officers or directors of the Contractor. A Consultant shall not be the Authority's agent for review, approval, or acceptance of its own work product. If a Contractor becomes aware of an actual, perceived or potential Organizational Conflict of Interest at any time during its participation in a procurement or performance of a contract, the Contractor shall promptly disclose the matter as described herein.

2. Failure to Comply

If the Authority determines, in its sole discretion, that a Contractor has failed to comply with this Policy in any respect (including any failure to disclose an actual, perceived or potential Organizational Conflict of Interest), the Authority may, among other things, take the following actions:

A. Preclude and/or disqualify the Contractor and its Affiliates, as well as any other persons or legal entities on the Contractor's team, from participation in the Authority's procurements;

B. Require the Contractor and its Affiliates, as well as any other persons or legal entities on the Contractor's team, to implement mitigating measures;

C. Cancel or amend the contract under which the Contractor is performing work for the Authority; and/or

D. If the Contractor was or should have been aware of and failed to disclose an Organizational Conflict of Interest prior to award of the contract, terminate such contract for default.

If the Authority cancels a contract as specified above, it will have no obligation, responsibility or liability to reimburse all or part of the costs incurred or alleged to have been incurred by the Contractor, its Affiliates or other team members. Additionally, the Authority shall be entitled to recover any and all payments made to the Contractor subsequent to the date when the Contractor became aware of or should have become aware of the existence of the Organizational Conflict of Interest.

VI. Conflict of Interest Standards Applicable to Environmental Consultants

Consultants responsible for preparing documents under CEQA and NEPA are required to comply with all State and Federal laws and regulations applicable to such services, including requirements relating to organizational conflicts of interest. Until such time as the FRA issues a policy, guidelines or regulations regarding organizational conflicts of interest for such services, the Authority will follow the guidance provided by the FTA, including the FTA's Best Practices Procurement Manual. Among other things, the FTA

manual precludes any consultant that is responsible for preparing an EIS from having any financial or other interest in the outcome of the project that is the subject of the EIS, until after the EIS is complete. Accordingly, any Consultant that is responsible for preparing an EIS for a Project Section or portion of a Project Section will be precluded from joining a design-build team for such Project Section(s) until after the Record of Decision has been issued.

Subconsultants to a CEQA/NEPA Consultant may request permission to be released from further CEQA/NEPA work to allow them to join design-build teams or participate in other procurements for the Project Section(s) being analyzed in the CEQA/NEPA document. The Authority has no obligation to authorize a CEQA/NEPA subconsultant to participate on a design-build team or to agree to release the subconsultant from its responsibilities relating to the CEQA/NEPA document. The Authority's decision on the matter shall be final and binding and shall not be subject to appeal.

VII. Restrictions Affecting Consultants Joining Design-Build Teams

1. Procurement Consultants

A. No team submitting a proposal for an Authority design-build contract (referred to herein as Contract A) may include any Consultant that provides or has provided Procurement Services for Contract A.

B. Unless the Authority provides prior written approval as specified below, no team submitting a proposal for Contract A may include (i) any Consultant that provides or has provided Procurement Services (other than development of technical specifications or review and evaluation of technical submittals) for any other Authority design-build contract (referred to herein as Contract B) within 12 months prior to the proposal due date for Contract A or (ii) any Affiliate of such a Consultant. Subject to Sections VI and VII(1)(A), a Consultant that has provided Procurement Services for Contract B within 12 months prior to the proposal due date for Contract A may submit a request to the Authority to permit the Consultant or its Affiliate to participate on a design-build team submitting a proposal for Contract A. Upon receipt of such request, the Authority will consider the factors set forth in Section IX and may, in its sole discretion, provide written authorization allowing such a Consultant or its Affiliate to participate on the team, subject to implementation of safeguards and mitigating measures deemed appropriate by the Authority.

2. Consultants Providing Services for the Same Project Section

A. Unless the Authority provides prior written approval as specified in Sections VII(2)(B) and (C) below, no team submitting a proposal for a Project Section design-build contract may include (i) any Consultant that provides or has provided professional or consulting

services to the Authority with respect to the same Project Section or (ii) any Affiliate of such a Consultant.

B. Subject to Sections VI and VII(1), a Consultant that has provided professional or consulting services for a Project Section may submit a request to the Authority to permit the Consultant or its Affiliate to participate on a design-build team for the same Project Section. Upon receipt of such request, the Authority will consider the factors set forth in Section IX and may, in its sole discretion, provide written authorization allowing such a Consultant or its Affiliate to participate on the team, subject to implementation of safeguards and mitigating measures deemed appropriate by the Authority.

C. Subject to Sections VI and VII(1) and full disclosure of all actual or potential organizational conflicts as required herein, a Consultant (and/or its Affiliates) may participate in a design-build team without written authorization under Section VII(2)(B), if all of the following conditions are satisfied as of the date of issuance of the request for proposals for the design-build contract: (i) all services to be performed by such Consultant and its Affiliates with respect to the relevant Project Section have been fully completed, (ii) all relevant contracts with the Consultant and Affiliates have been terminated or the Authority has stated in writing that no further services will be required of the Consultant or its Affiliates under said contracts, and (iii) the Authority has stated in writing that the relevant work product of the Consultant and its Affiliates will be made available to all of the design-build teams.

3. **Consultants Providing Services on a Different Project Section**

Except as otherwise provided in Sections VI and VII(1), a team submitting a proposal for a Project Section design-build contract may include (i) a Consultant that has not provided services on the Project Section in question but is providing (or has completed) services on a different Project Section and/or (ii) Affiliates of such a Consultant. In certain cases, the Consultant may be considered to have performed work on a Project Section because of overlapping limits, interfaces or coordination efforts between Project Sections, or because the Consultant provided general services to the Authority, or because an Affiliate has performed work on the Project Section in question. Under such circumstances, the Consultant must obtain permission under Section VII(2)(B) before it (or its Affiliate) may join a design-build team.

VIII. Conflict of Interest Standards Applicable to Consultants Desiring to Participate in New Procurements (Other Than Design-Build Procurements)

This Section VIII does not apply to Consultants wishing to participate in the Authority's design-build contracts. Refer to Section VII above for requirements that apply.

1. **Consultants Providing Services for the Same Project Section**

A. Except as provided in Sections VIII(1)(B) and (C) below, no Consultant may submit or participate in a proposal or bid for a contract to the Authority for a Project Section if the Consultant or any Affiliate of the Consultant is currently actively engaged in or has previously provided professional or consulting services to the Authority with respect to that same Project Section.

B. A Consultant subject to Section VIII(1)(A) may submit a request to the Authority to permit the Consultant or its Affiliate to submit or participate in a proposal or bid for a new contract for the same Project Section as the original contract, except that no such request may be made (i) if Section VI applies or (ii) if the Consultant or Affiliate provided Procurement Services with respect to the current procurement. Upon receipt of such request, the Authority will consider the factors set forth in Section IX and may, in its sole discretion, provide written authorization allowing such a Consultant or its Affiliate to participate on the team, subject to implementation of safeguards and mitigation measures deemed appropriate by the Authority.

C. Except as otherwise provided in Section VI, a Consultant subject to Section VIII(1)(A) may submit or participate in a proposal or bid for a new contract without written authorization under Section VIII(1)(B), if all of the following conditions are satisfied as of the date of issuance of the request for proposals or other procurement document for the contract: (i) all services to be performed by such Consultant and its Affiliates with respect to the relevant Project Section have been fully completed, (ii) all relevant contracts with the Consultant and Affiliates have been terminated or the Authority has stated in writing that no further services will be required of the Consultant or its Affiliates under said contract, and (iii) the Authority has stated in writing that the Consultant's and Affiliate work product under the original contracts will be made available to all of the proposers.

2. **Consultants Providing Services on a Different Project Section**

A Consultant (or its Affiliate) may propose or participate in a proposal for a Project Section contract even though the Consultant is providing (or has completed) professional or consulting services for a different Project Section. In certain cases, the Consultant may be considered to have performed work on a Project Section because of overlapping limits, interfaces or coordination efforts between Project Sections, or because the Consultant provided general services to the Authority, or because an Affiliate has performed work on the Project Section in question. Under such circumstances, the Consultant must obtain permission under

Section VIII(1)(B) before it (or its Affiliate) may submit or participate in a proposal.

IX. Organizational Conflict of Interest Factors to Consider

The Authority will consider the following relevant factors, including case-specific factors, in determining whether a Contractor should be permitted to participate or to continue to participate in a procurement or the performance of a contract:

1. **Relevance or Materiality of the Information**

   A. This factor may include considering whether the Contractor has in its possession information that will not and should not be made public or disclosed to other participants in the procurement, as the case may be, or that will give an unfair advantage to the Contractor, including the following:

      (i) Planning, budgetary, or business information

      (ii) The Authority' strategies, tactics, plans, alternatives or other inside information concerning the procurement; or

      (iii) Information prepared for use by the Authority for the purpose of evaluating proposals, for defining the scope of the work, or for determining terms, conditions or specifications.

   B. This factor may include considering the "age" of the information, including whether the length of time between the acquisition of the information, combined with interim developments within a project (e.g., transaction structure, design, etc.), is sufficient to render the information irrelevant, immaterial, or of little or no value.

   C. This factor may include considering the extent to which the information is or will be available to other participants in the procurement and the time other participants had or will have to analyze and assimilate the information.

2. **Materiality of the Relationship**

   A. This factor may involve considering whether the subject relationship involves branch offices or a parent company of the Contractor, and the degree of separation of work teams and information between the offices and companies.

   B. This factor may include considering the substance of a subject relationship, including whether the relationship is so indirect or remote that an actual or perceived Organizational Conflict of Interest is sufficiently mitigated (e.g., no effective risk of passing or use of confidential information or bias in the discharge of functions).

3. **Resources and Expertise**

A. This factor may include considering the expertise required to undertake the subject work and the availability of suitably qualified and skilled Contractors.

B. This factor may include considering the magnitude of the resources required to deliver a Project Section in a timely manner.

C. This factor may include disclosing these exigencies in a competitive process, including to any relevant governing association or body to obtain its concurrence.

4. **Professional Governing Body Rules - Common Law**

A. This factor may include considering the rules that are put in place by professional or other governing bodies regarding actual and perceived Organizational Conflicts of Interest and determining whether delivery of a certification or acknowledgement by a prospective Contractor or Contractor of its compliance with any such rules would be sufficient mitigation.

B. This factor may include obtaining the advice of any such professional or governing body to the participation of a Contractor.

C. This factor may include considering the case law relevant to Organizational Conflicts of Interest matters.

X. Safeguards and Mitigation Efforts

If the Authority, after considering the relevant factors set forth in Section IX above, including case-specific factors, is of the view that a Contractor should be permitted to participate or to continue to participate in a particular procurement or contract, then the Authority, in its sole discretion, may require the Contractor to implement suitable safeguards, including those described below, to mitigate any Organizational Conflict of Interest.

1. The Authority may require a Contractor to establish ethical walls and related safeguards and procedures, including the segregation of individuals and information within a Contractor firm or company, thereby allowing the Contractor firm or company to participate or continue to participate in the HSR Project.

A. Segregated individuals may include those persons who were involved in an earlier phase or in work associated with or relevant to a specific Project Section.

B. Segregated information may include confidential information obtained as a result of a Contractor's or prospective Contractor's

former contracts with the Authority or confidential information obtained from former or current Authority employees.

2. The Authority may require assurances or demonstration of the type of ethical walls and the effectiveness of the ethical walls.

3. The Authority may require information (including in affidavit form) as to when ethical walls were put into place, how they operate, and whether there is any form of notification within the subject firm or company of their existence.

4. The Authority may audit, or direct others to audit on its behalf, for compliance with ethical walls and related safeguards and procedures.

5. The Authority may require such other safeguards or mitigation measures at it deems appropriate to address a specific instance of an Organizational Conflict of Interest.

XI. Application of Policy to Employees

If the Authority determines that a potential or actual Organizational Conflict of Interest exists for a particular Contractor, an Organizational Conflict of Interest shall also be considered to apply to any employee of such Contractor that has participated in a material way in the performance of work giving rise to the determination. If such individual leaves the Contractor's employment, the potential or actual Organizational Conflict of Interest shall apply to such individual in the same manner as it applies to the Contractor. However, the individual's new employer (if not an Affiliate of the original employer) will not be considered to have an Organizational Conflict of Interest provided the new employer adopts and implements safeguards and mitigation measures satisfactory to the Authority its sole discretion.

XII. Confidentiality

The Authority recognizes that certain information submitted to the Authority in connection with a disclosure or a request for Authority approval hereunder may be considered by the submitting party to constitute confidential information that is exempt from disclosure under the Public Records Act. In such event, the submitting party shall be responsible for clearly and conspicuously identifying the information as "CONFIDENTIAL INFORMATION SUBMITTED PURSUANT TO CHSRA ORGANIZATIONAL CONFLICTS OF INTEREST POLICY." Each Contractor submitting information pursuant to the Policy should contact its own legal counsel concerning the Public Records Act and its application to the submitting party's own circumstances.

The Authority intends to maintain confidentiality of information submitted hereunder to the extent permitted by applicable law. If the Authority is asked, while a procurement is pending, to disclose any material marked confidential that was submitted in connection with that procurement, the Authority will endeavor to notify the submitting party of the request. If any litigation is filed, the Authority's sole involvement will be as a stakeholder retaining the material until otherwise ordered by a court, and the submitting party shall

be responsible for otherwise prosecuting or defending any action concerning the materials at its sole expense and risk. In no event shall the Authority, or any of its agents, representatives, consultants, directors, officers or employees, be liable to a submitting party for the disclosure of any information submitted hereunder,

ATTACHMENT A

HYPOTHETICAL ORGANIZATIONAL CONFLICTS OF INTEREST SITUATIONS

The following table addresses potential Organizational Conflicts of Interest with respect to Consultants that provide services to the Authority, including Regional Consultants ("RCs") that provide planning services, environmental services and design services for the Project Sections as well as Consultants that are engaged to provide professional and consulting services relating to administration of a design-build contract. These hypotheticals are presented for the purpose of illustrating the process to be followed in ascertaining whether an Organizational Conflict of Interest exists. In all cases, the hypotheticals are based on the following assumptions:

1. The Consultant that is the subject of the hypothetical does not have any Affiliates that also act or have previously acted as Consultants.
2. The Consultant that is the subject of the hypothetical does not perform any services for the Authority other than those described in the hypothetical.
3. The limits of relevant Project Sections do not overlap.

Hypothetical Situation	**Result**
1. RC or other Consultant for a Project Section (or Affiliate) wishes to join a design-build team (or participate in a different type of non-consulting contract) for the same Project Section.	• Any RC is prohibited from participating in any design-build team for the same Project Section. • If the Consultant has performed Procurement Services (including developing technical specifications for the procurement) for the contract in question, the Consultant/Affiliate cannot participate. • If the RFP for the new contract is issued prior to final NEPA/CEQA approval, and if the Consultant has ongoing responsibility for preparation of the NEPA/CEQA document, the Consultant/Affiliate cannot participate. • In situations not involving Procurement Services or preparation of the NEPA/CEQA document, the Consultant/Affiliate may participate in the procurement without Authority approval if (a) the Consultant's services have been completed, (b) the Consultant's contract has been terminated or the Authority has stated in writing that no further services will be required of the Consultant and (c) the Authority has stated in writing that the Consultant's work product will be made available to all of the proposers/bidders. • In all other cases, the Consultant may request Authority approval for the Consultant/Affiliate to participate. Safeguards and mitigation measures may be required.
2. RC or other Consultant for one Project Section (or Affiliate) wishes to join a design-build team for another Project Section.	In general, no approval is required for the Consultant/Affiliate to participate. However: • If the Consultant's services include performance of Procurement Services within the 12-month period prior to issuance of the design-build RFP, the Consultant must

Hypothetical Situation	Result
	request Authority approval for the Consultant/Affiliate to participate on the team. If the Authority approves participation, it may require safeguards and mitigation measures to be implemented.
3. Subconsultant to an RC or other Consultant (or Affiliate of the subconsultant) wishes to join a design-build team (or participate in a different type of non-consulting contract) .	• The same answer applies as for hypothetical 1 and (if it is a design-build procurement) hypothetical 2. If Authority approval is required, the role played by the subconsultant on the Consultant's team will be taken into consideration when determining whether any organizational conflicts exist and the nature of any mitigation required.
4. Consultant (or Affiliate) that previously performed work on a Project Section wishes to join a design-build team for that Project Section, and will not be a major participant on the design-build team.	• The same answer applies as for hypothetical 2. If Authority approval is required, the role played by the Consultant for the Authority and the role it would play on the design-build team will be taken into consideration when determining whether any organizational conflicts exist and the nature of any mitigation required.
5. RC or other Consultant (or Affiliate) wishes to join a design-build team for the Trackwork or Core Systems (electrification, signaling etc).	• Since Trackwork and Core Systems contracts will apply to all of the Project Sections, the same answer applies as for hypothetical 1.
6. Subconsultant to an RC (or Affiliate of the subconsultant) responsible for preliminary engineering services relating to right-of-way (ROW) for a Project Section wishes to propose on a new Consultant contract for ROW acquisition services for the same Project Section (including surveying, ROW engineering, ROW environmental clearance, utility clearance, appraisals, etc).	• The subconsultant (or Affiliate) may participate in the ROW procurement without Authority approval if (i) all services to be performed by such subconsultant with respect to the relevant Project Section have been fully completed, (ii) the prime contract has been terminated or the Authority has stated in writing that no further services will be required of the subconsultant under said contracts, and (iii) the Authority has stated in writing that the relevant work product of the subconsultant will be made available to all of the design-build teams. • In all other cases Authority approval must be requested. Safeguards and mitigation measures may be required.

Hypothetical Situation	Result
7. Subconsultant to an RC (or Affiliate of the subconsultant) that was responsible for preliminary engineering services relating to right-of-way (ROW) for a Project Section wishes to propose on a new Consultant contract for ROW acquisition services for a different Project Section.	• The subconsultant (or Affiliate) may participate in the ROW procurement without Authority approval.
8. An Affiliate of a Consultant that provided Procurement Services wishes to join a design-build team.	• If the Consultant provided Procurement Services for the design-build procurement in question, the Affiliate may not join a team. • If the Consultant provided Procurement Services for a different procurement within the past 12 months, Authority approval is required.
9. A Consultant that performs design or construction management services for a Project Section (or an Affiliate of the Consultant) is asked to team with the design-builder for that Project Section (or Affiliate of the design-builder) for a separate project.	The Consultant/Affiliate must disclose the relationship to the Authority under Rule 475 referenced on page 1 of the Policy. The Authority may require safeguards and mitigation measures to be implemented. The contract between the Authority and the Consultant may include additional requirements.
10. A Consultant or an Affiliate has the opportunity to perform work that includes preparation of design documents in a circumstance where the Consultant is responsible to the Authority for overseeing preparation of the same design documents.	• The Consultant should avoid placing itself in a position of overseeing delivery and quality of work product by itself or an Affiliate. • Immediately upon becoming aware that that a work assignment may place the Consultant in the position of overseeing delivery and quality of its own or an Affiliate's work product, the Consultant/Affiliate must inform the Authority. • The Authority will take measures to avoid the potential resulting conflict, which may include removal of the Consultant or Affiliate from the assignment or assignments giving rise to the conflict.
11. An entity that wishes to join a design-build team has knowledge about the Project Section based on services provided to a third party that were funded by the Authority.	• The result depends on the nature of the services provided. See Attachment B Contract Compatibility Matrix for additional information concerning third party HSR work.

ATTACHMENT B

CONTRACT COMPATIBILITY MATRIX

The following matrix addresses potential Organizational Conflicts of Interest with respect to Contractors who are currently under contract to provide services to the Authority. This matrix is presented for the purpose of providing general guidance concerning Organizational Conflicts of Interest and does not indicate a final determination by the Authority with respect to a particular contract or otherwise obviate the obligation to disclose all actual, potential or perceived Organizational Conflicts of Interest. When in doubt, Contractors should consult directly with the Authority with respect to the particular facts and circumstances of their own situation, consistent with any restrictions on contact set forth in applicable procurement documents.

A "No" designation in the matrix below means that either the Contractor is precluded from asking for permission to participate in a procurement or the Authority would disallow participation if asked. An "OK" designation in the matrix below means that the Contractor has the right to ask for permission and that the Authority will likely allow participation, but does not obligate the Authority to provide permission or to explain its reasons for disallowing participation. A "?" indicates that additional facts are required in order to determine whether the Contractor has the right to ask for permission and the likelihood that the Authority will allow participation.

	Can you have a contract here…													
If you have a contract here…	**PMT**	**PMO**	**HSR - Personal Services[1]**	**Same Segment ROW**	**Same Segment CM**	**Same Segment D/B**	**Same Segment GC**	**Other Segment ROW**	**Other Segment CM**	**Other Segment D/B**	**Other Segment GC**	**On Call ROW**	**Property Management**	**Multi-Segment Systems**
PMT – Prime	OK	No	N/A	No	No	No	No	No	No	No	No	No	No	No
PMT - ROW Sub	OK	No	N/A	No	No	No	No	No	No	No	No	No	No	No
PMT - 2nd Tier Sub	OK	No	N/A	N/A	?	?	?	?	?	?	?	No	OK	?
PMT - SBE Sub	OK	No	N/A	N/A	?	?	?	?	?	?	?	No	OK	?

	Can you have a contract here…													
If you have a contract here…	**PMT**	**PMO**	**HSR - Personal Services[1]**	**Same Segment ROW**	**Same Segment CM**	**Same Segment D/B**	**Same Segment GC**	**Other Segment ROW**	**Other Segment CM**	**Other Segment D/B**	**Other Segment GC**	**On Call ROW**	**Property Management**	**Multi-Segment Systems**
PMT - Personal Services[4]	OK	?	OK	OK	OK	?	?	OK	?	?	?	No	OK	?
PMO – Prime	No	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
PMO - 2nd Tier Sub	No	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
PMO - SBE Sub	No	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
PMO - Personal Services[1]	No	OK	OK	?	?	No	No	?	?	No	No	No	No	No
Segment RC – Prime	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	OK
Segment RC - ROW All tiers	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	OK
Segment RC - 2nd Tier Sub	No	No	N/A	OK	OK	?	?	OK	OK	OK	OK	OK	OK	OK
Segment RC - SBE Sub	No	No	N/A	OK	OK	?	?	OK	OK	OK	OK	OK	OK	OK
Segment RC - Personal Services[1]	?	?	OK	OK	OK	?	?	OK	OK	OK	OK	OK	OK	OK
Segment ROW - All Tiers	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	OK
Segment CM – Prime	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	?
Segment CM 2nd Tier Sub	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	?
Segment CM - SBE Sub	No	No	N/A	OK	OK	No	No	OK	OK	OK	OK	OK	OK	OK
Segment CM - Personal Services[1]	No	No	OK	OK	OK	No	No	OK	OK	OK	OK	OK	OK	OK
Segment D/B - Prime	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Segment D/B - Designer Prime	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Segment D/B - Designer Sub - All Tiers	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK

[4] "Personal Services" indicates a contract with an individual.

	Can you have a contract here…													
If you have a contract here…	**PMT**	**PMO**	**HSR - Personal Services[1]**	**Same Segment ROW**	**Same Segment CM**	**Same Segment D/B**	**Same Segment GC**	**Other Segment ROW**	**Other Segment CM**	**Other Segment D/B**	**Other Segment GC**	**On Call ROW**	**Property Management**	**Multi-Segment Systems**
Segment D/B – ROW Relocation	No	No	N/A	OK	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Segment D/B - GC or Subcontractors	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Segment GC – Prime	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Segment GC - Subcontractors	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Component D/B+ - Prime	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Component D/B+ - Contractor- All Tiers	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Component D/B+ - Designer Prime	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
Component D/B+ - Designer Sub - All Tiers	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
System Operator - Engineering - All Tiers	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
System Operator – M&O Facilities - Engineering	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
System Operator – M&O Facilities - CM	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
System Operator – M&O Facilities - Contractor	No	No	N/A	No	No	OK	OK	OK	OK	OK	OK	OK	OK	OK
On-Call Environmental	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
On-Call ROW	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Property Management - Prime	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Property Management - Subcontractors	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
On-Call GC or Trade Contractors	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
On-Call Engineering	No	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - State Agency - A/E/CM	OK	OK	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Public Agency - Engineering	No	No	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Public Agency - Environmental	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Public Agency - ROW	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

	Can you have a contract here…													
If you have a contract here…	**PMT**	**PMO**	**HSR - Personal Services[1]**	**Same Segment ROW**	**Same Segment CM**	**Same Segment D/B**	**Same Segment GC**	**Other Segment ROW**	**Other Segment CM**	**Other Segment D/B**	**Other Segment GC**	**On Call ROW**	**Property Management**	**Multi-Segment Systems**
3rd Party HSR Work - Public Agency - CM	No	No	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Public Agency - GC	No	No	N/A	OK	?	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Transit Agency - Engineering	No	No	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Transit Agency - Environmental	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Transit Agency - ROW	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Transit Agency - CM	No	No	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Transit Agency - GC	No	No	N/A	OK	?	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Utilities - Engineering	No	No	N/A	OK	?	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Utilities - Environmental	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Utilities - ROW	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Utilities - CM	No	No	N/A	OK	?	?	?	OK	OK	OK	OK	OK	OK	OK
3rd Party HSR Work - Utilities - GC	No	No	N/A	OK	?	OK	OK	OK	OK	OK	OK	OK	OK	OK
Surveying, Mapping, GIS	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
EIS Consultants	?	?	N/A	?	?	?	?	?	?	?	?	?	?	?
Environmental Abatement	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Quality Assurance - PMT, PMO, RC, CM	OK	OK	N/A	OK	OK	No	No	OK	OK	No	No	OK	OK	No
Inspection and Quality Control	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Laboratory Services	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Construction Traffic Engineering	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Safety	OK	OK	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Project Controls - PMT, PMO, RC, CM	OK	OK	N/A	OK	OK	?	?	OK	OK	?	?	OK	OK	?
Community Relations - HSR	OK	OK	N/A	No	No	No	No	No	No	No	No	No	No	No

	Can you have a contract here…													
If you have a contract here…	**PMT**	**PMO**	**HSR - Personal Services[1]**	**Same Segment ROW**	**Same Segment CM**	**Same Segment D/B**	**Same Segment GC**	**Other Segment ROW**	**Other Segment CM**	**Other Segment D/B**	**Other Segment GC**	**On Call ROW**	**Property Management**	**Multi-Segment Systems**
Community Relations - RC, CM	No	No	N/A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
SBE/DBE Outreach - PMT, PMO, CM	OK	OK	N/A	OK	OK	No	No	OK	OK	No	No	OK	OK	No
SBE/DBE Outreach - All Others	No	No	N/A	OK	No	No	No	OK	No	No	No	OK	OK	No
Labor Compliance - PMT, PMO	OK	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
Labor Compliance - CM	No	No	N/A	OK	OK	No	No	OK	OK	No	No	OK	OK	No
Project Jobs Programs - PMT, PMO	OK	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
Project Jobs Programs - CM	No	No	N/A	OK	OK	No	No	OK	OK	No	No	OK	OK	No
Procurement Services - HSR, PMO, PMT	OK	OK	N/A	No	No	No	No	No	No	No	No	No	No	No
Procurement Services - CM	No	No	N/A	OK	OK	No	No	OK	OK	No	No	OK	OK	No
Remember: when in doubt, check first!	OK	***Probably no conflict***						?	***Depends - check first***					
	No	***Definitely a conflict***						N/A	***Not applicable***					

CALIFORNIA HIGH SPEED RAIL AUTHORITY

Small Business Policy

Policy Number:	Policy Description:	Revision Number:	Date:
POLI –LEG-04	Small Business Policy	Rev: 0	November 3, 2011

	Name	Date	Signature
Drafted:	Patricia Padilla		signed
Checked for CHSRA:	Chris Ryan Chief of Staff	10-29-11	
Approved for PMT:	Hans vanWinkle	28 Oct 201	
Approved for CHSRA:	Roelof van Ark	November 1, 2011	signed
Approved for CHSRA:	Full Board	November 3, 2011	Resolution HSRA 11-25

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California High Speed Rail Authority Small Business Policy

The California High Speed Rail Authority (CHSRA) is overseeing the construction of a multi-billion dollar state-of-the-art high speed rail system, with 800 miles of track connecting urban centers from San Francisco to San Diego, utilizing trains that operate at speeds of 220 mph. Building this state-of-the-art high speed rail system will promote a strong, diverse economy. The project will create significant contracting opportunities for businesses throughout the State of California and more than 600,000 construction-related jobs and 450,000 permanent jobs once the system is fully in place. The CHSRA is committed to ensuring Small Businesses (SBs), Disabled Veteran Business Enterprises (DVBE), Disadvantaged Business Enterprises (DBEs) and Micro-Businesses have the maximum practicable opportunity to compete for and participate in the CHSRA's contracting and procurement opportunities.

As a condition of Federal financial assistance, from the Federal Railroad Administration (FRA), the CHSRA has signed an assurance that it will implement the best practices of Title 49 Code of Federal Regulations (CFR) Part 26 "*US Department of Transportation DBE Program*" and comply with Title VI of the Civil Rights Act of 1964 and related statutes to ensure Small and Disadvantaged Businesses have an equitable opportunity to participate in contracts funded in part or in whole with Federal financial assistance. The CHSRA has established a Small and Disadvantaged Business Program, inclusive of the aforementioned businesses, which meet the State of California SB/DVBE and Federal DBE certification eligibility criteria, and herein after, will be referred to as SBs. The SB Program will be administered in accordance with Executive Order S-02-06 and, where applicable, Federal regulations at 49 CFR Part 26.

It is the policy of the CHSRA to ensure SBs as defined by Government Code 14837, Military and Veteran Code 999 and 49 CFR Part 26; are afforded every opportunity to participate in the CHSRA's contracting program. The CHSRA strives to meet an overall 30 percent SB participation goal, representative of firms that reflect the diversity of California.

Program Objectives

The CHSRA's policy and race and gender neutral SB Program is further established to meet the following objectives:

- Ensure participation by SB concerns owned and controlled by socially and economically disadvantaged individuals;
- Provide maximum practicable opportunities for SBs, including veteran owned small businesses and service-disabled veteran small businesses;
- Ensure best practices are implemented, consistent with our nation's Civil Rights and Equal Opportunity laws that ensure all individuals regardless of race, gender, age, disability and national origin benefit from activities funded by Federal financial assistance;
- Meet construction employment goals for minorities and women;
- Ensure nondiscrimination in the award and administration of all contracts inclusive of DOT – assisted contracts;
- Create a level playing field in which SBs can compete fairly for all CHSRA contracts and subcontracts;
- Ensure that the SB Program is implemented in accordance with applicable State and Federal laws and regulations;

- Ensure that only firms that fully meet Government Code 14837, Military and Veterans Code 999 and 49 CFR Part 26 eligibility standards are permitted to be counted towards meeting the overall SB goal;
- Help remove barriers for the participation of SBs;
- Assist in the development of existing SB firms--enabling the firms to compete successfully in the market place;
- Ensure Contractors meet the established SB goals, including developing a SB Performance Plan (SB Utilization Plan);
- Ensure subcontract solicitation and subcontract documents include the SB Program plan and goal requirements;
- Ensure the SB Program is flexible, attainable, efficient and credible; and
- Ensure a workforce on the construction of the project to be reflective of the diversity of California.

The CHSRA's Chief Executive Officer (CEO) has lead responsibility for the development and implementation of the CHSRA's SB Program. The CEO will designate a SB Liaison Officer (SBLO). In this capacity, the SBLO is responsible for implementing and ensuring compliance by all parties with respect to all components of the program. Implementation of the SB Program is bestowed the same priority as compliance with all other legal obligations incurred by the CHSRA in its financial assistance agreements with the State of California and FRA.

As permitted and authorized in State and Federal laws and regulations, the CHSRA will administer the SB Program in accordance with the spirit and intent of the Governor's Executive Order and US Department of Transportation Federal financial assistance agreements until all funds are expended.

The CHSRA will disseminate this SB Program plan to the California High Speed Rail Board and circulate to all components of the CHSRA. In addition, the CHSRA will distribute this SB Program to SBs and non-SBs business communities. Distribution will be accomplished through posting on the CHSRA's and California Department of General Services (DGS) websites; and through electronic notification to SBs on the DGS and California Department of Transportation SB directories and referenced in the CHSRA's contract solicitation documents.

November 3, 2011

Roelof van Ark
Chief Executive Officer

Date

"The California High Speed Rail Authority is committed to making small business participation a top priority in all contracting phases of this historic infrastructure project…this commitment and partnership will serve to inspire business growth, job creation and workforce development opportunities while building the vitality of California's high speed rail program."--Roelof van Ark, CEO California High Speed Rail Authority

CHSRA ensures Equal Opportunity to all people and businesses, regardless of race, color, or national origin.