



# **REPORT OF RESPONSES TO THE REQUEST FOR EXPRESSIONS OF INTEREST**

**FOR**

## **PRIVATE PARTICIPATION IN THE DEVELOPMENT OF A HIGH-SPEED TRAIN SYSTEM IN CALIFORNIA**



**IN PARTNERSHIP  
WITH**

**BARCLAYS CAPITAL  
SPERRY CAPITAL  
JACK FAUCETT ASSOCIATES  
CDS CONSULTING  
DUTCH VENTURES LTD**

**Date: October 2008**





## TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION</b>	<b>1</b>
	RFEI Goals	1
	RFEI Process	1
	RFEI Structure	2
	RFEI Report	2
	RFEI Respondents	2
<b>II.</b>	<b>SURVEY SECTION RESPONSES</b>	<b>4</b>
	Overview	4
	Construction Firms	5
	Systems & Equipment Providers	6
	Financial Institutions	6
	Operators	7
<b>III.</b>	<b>NARRATIVE SECTION RESPONSES</b>	<b>7</b>
	Overview	7
	Project Approach	8
	Segmentation Issues	8
	Project Delivery	9
	Equity Investment	11
	Ridership Risk	12
	Availability Payments	13
	Procurement Process	13
	Legislative Requirements	15
	Performance Bonding	15
	Public Funding	16
<b>IV.</b>	<b>CONCLUSIONS</b>	<b>17</b>





## I. INTRODUCTION

### RFEI Goals

The California High-Speed Rail Authority (“HSRA” or “The Authority”) retains responsibility for developing a high-speed train system in the State of California, and is tasked with preparing a plan and design for the construction and operation of this new high-speed passenger network. As the Authority continues to develop a high-speed train in California, a refined financial plan is being developed. Key engineering, operating and revenue forecast assumptions are being updated and assumptions related to funding and financing the system are also being examined to understand what refinements may be necessary. The Authority’s Request for Expressions of Interest (RFEI) was intended to assist the Authority in these efforts as they relate to the availability, magnitude, and timing of private funds, and the public-private partnership (P3) structure and project delivery mechanisms that the Authority should consider.

The Authority’s preliminary financial plan and other documents indicated that the California High-Speed Train Project (“HST,” “The Project” or “HST Project”) could benefit considerably from private sector participation in a number of ways. While the main focus of the RFEI was to better understand how the private sector could assist in developing and financing all or portion(s) of the Project, the Authority also wanted to ensure that it can benefit from this partnership in other ways, including incorporating technical and operational innovations and transferring risk. The Authority hoped, in particular, to receive responses from parties that have had experience as part of a P3 approach for HST development and/or other large infrastructure projects in the U.S. or internationally.

Prior to issuance of the RFEI, the Authority held informal conversations with private entities about their interest in participating in the Project. These conversations indicated a high level of interest in the Project and all parties expressed a desire to continue a dialogue with the Authority. This continued dialogue is also of considerable importance to the Authority as these parties provided useful perspectives on risk allocation and deal structure. The RFEI served as a structured mechanism to receive private sector comment in order to inform the Authority’s public policy decisions and to indicate the level of interest of private firms to enter into contracts under a P3 arrangement.

### RFEI Process

The RFEI process formally began on March 6, 2008, when the RFEI and its accompanying exhibits were made available to interested firms and the general public. On March 27, 2008, an information meeting was held in Sacramento for all interested firms, with approximately 70 attendees. Executive Director of the HSRA, Medhi Morshed, presented those who attended this event with an overview of the Authority. Presentations on Project engineering and a preliminary financial model were also given. April 3, 2008, was the deadline for questions on the HST Project from interested parties. The Authority received 39 questions from various firms on a variety of technical, financial and other related topics. Many questions referred to potential risks, public funding, and pre-developed agreements. Responses to written questions were posted on the Authority’s Web site on April 14, 2008<sup>1</sup>. The process concluded with the RFEI submission deadline on May 1, 2008.

---

<sup>1</sup> These responses are included in the appendix of this report.



Following the submission deadline, a team composed of finance consultants from Infrastructure Management Group and Lehman Brothers compiled, reviewed and analyzed responses from RFEI participants. A presentation summarizing the results of the RFEI was made before the Authority Board of Directors on June 11, 2008.

## **RFEI Structure**

The RFEI document consisted of two sections; the first contained survey questions and the second a narrative response section. The survey section was designed to collect information, including firm contact information, firm descriptions, areas of interest, requirements for participation pertaining to the Project and extent of P3 experience. Survey responses were tabulated and summarized by firm type. This summary focuses on areas of interest, requirements for participation and respondent experience. The narrative response provided a forum for respondents to address specific questions raised in the RFEI. These open-ended questions focused on one of five areas: project segmentation, project delivery mechanisms, project financing, procurement process and additional comments. Respondents were asked to limit survey responses to the space provided them, which totaled approximately five pages, and provide a maximum narrative response of 15 pages.

## **RFEI Report**

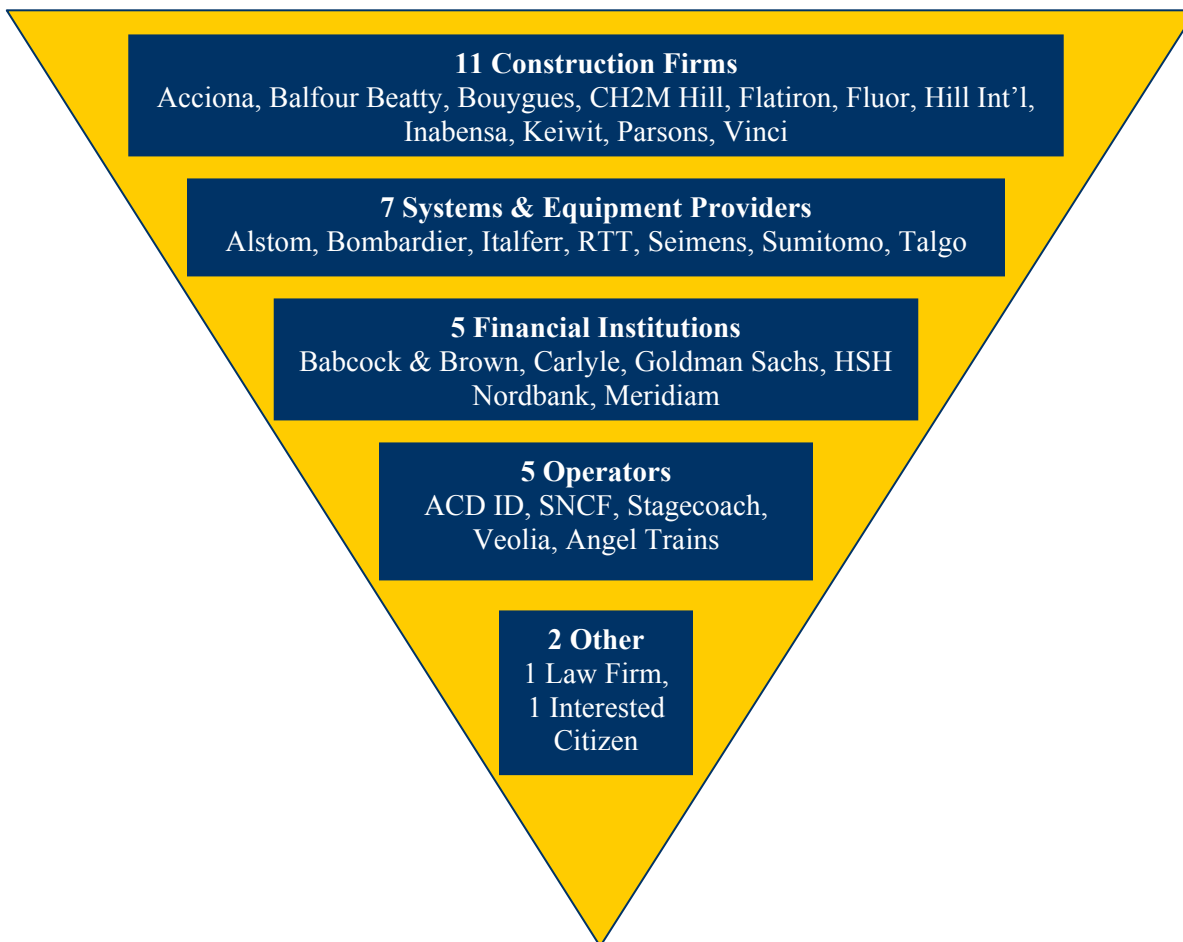
This RFEI report is intended to summarize the responses the Authority received to its Request for Expressions of Interest. The report provides a framework for understanding the myriad issues addressed by respondents with varying interests in the HST Project. Where possible, responses were grouped by firm type or subject area to provide context for a firm's response. Special attention was paid to common themes in responses. Response excerpts are included in order to provide examples of trends or notable exceptions. The RFEI report mirrors the RFEI itself in first presenting survey section results followed by a discussion of narrative responses.

## **RFEI Respondents**

At the submission deadline of May 1, 2008, the Authority had received 30 responses. Firms who responded consisted of construction firms, systems and equipment providers, financial institutions and operators<sup>2</sup>. These respondents included the following:

---

<sup>2</sup> Responses from the law firm and interested citizen are not incorporated into the analysis that follows. These respondents did not submit responses to the survey or narrative response sections.



It is important to note that participation in the RFEI process was strictly voluntary and did not represent the commencement of any procurement process under State of California law. Firms who chose not to participate in the RFEI are not precluded from participating in the development of HST when the Authority formally begins the procurement process. Answers submitted were for informational purpose only and not taken as a solicitation or procurement document for development of the Project.

Responses received achieved the Authority's goals of further engaging the private sector in the development of the Project. By beginning a dialog with key players in the appropriate industries, the Authority has acquired information pertaining to private sector participation and P3 arrangements relating to California's high-speed train.



## II. SURVEY SECTION RESPONSES

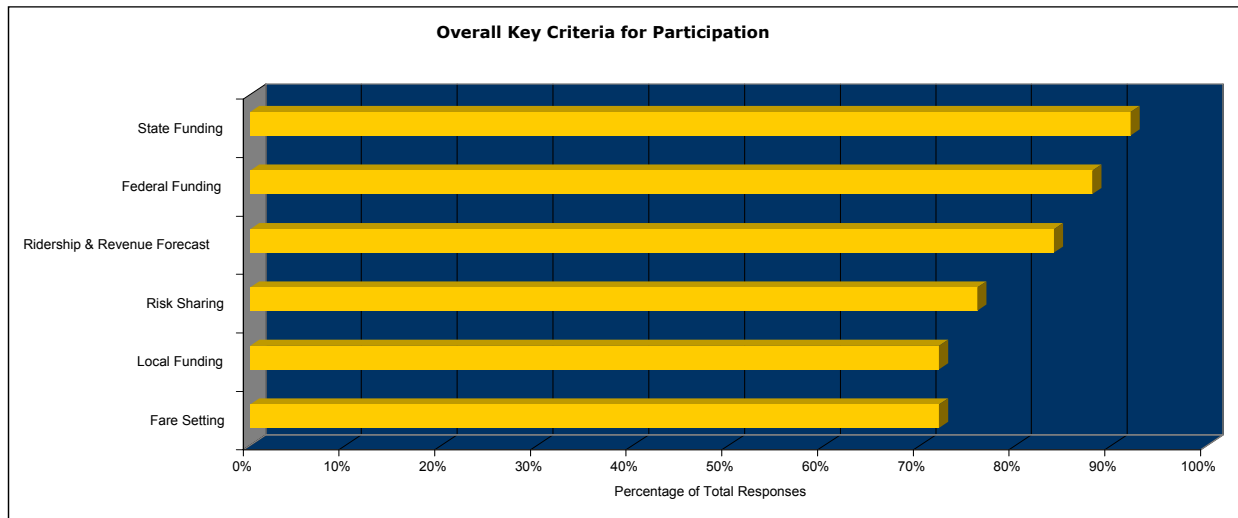
### Overview

The survey section of the RFEI provided a standardized format for the Authority to compile basic information about respondents. Interested parties were asked to provide information on their previous rail and transportation experience, primary areas of interest in the HST Project, and key criteria for their participation. The survey section provided specific categories for firms to select in responding to questions and allowed for a brief explanation if necessary.

All but three firms elected to answer the survey section of the RFEI; one systems and equipment provider and two construction firms. Two of these firms did submit background information on their company, relaying their experience relevant to the HST Project. The third company opted only to respond to the narrative response section of the RFEI.

Of the firms that responded, many indicated previous experience in areas important to the development of high-speed train projects. Most respondents have significant experience in transportation and rail specifically. While many described their U.S. experience, several firms also indicated that they have had substantial experience with rail and/or transit internationally. Many have also participated in some form of public-private partnership, including Design-Build (“DB”), Design-Build-Operate-Maintain (“DBOM”), and Design-Build-Finance-Operate-Maintain (“DBFOM”) contracts (see p.13-14 for term definitions).

In terms of criteria for participation, many respondents expressed similar views. The majority of participating firms stressed that they would only be an active participant in the Project after public funds were committed. This was particularly true for state and federal funds. Ridership and revenue forecasts, along with risk sharing and fare setting, were of importance to respondents in evaluating their future participation in the Project (see chart below). Additionally, the importance of a legislative and political commitment for the HST Project was a common theme among firms’ comments in reference to their selected criteria.

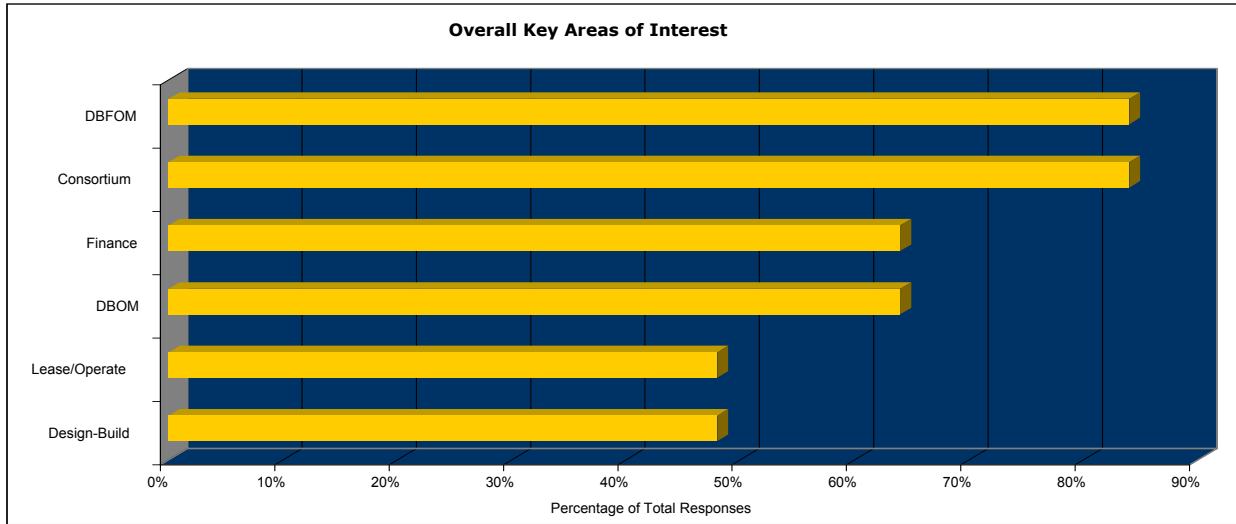


Despite different areas of expertise, firms indicated that they were willing to participate in areas of the HST Project beyond their typical service offerings. Participating in DBFOM contracts and assisting in the development and/or support of a consortium proposal were the most frequently selected areas of interest due to the interest of all categories of respondents. Financing the Project and participating in DBOM





contracts were also frequently selected. Additionally, nearly half of all respondents indicated an interest in leasing and/or operating components of the Project and DB contracts.



### Construction Firms

Nine of the 11 construction firms that participated in the RFEI responded to the survey section. Construction firms indicated that they had substantial experience with international rail, DBFOM and DBOM arrangements, DB contracts and developing consortia. Responses additionally conveyed firms' experience in financing projects as well as participation in leasing and operational components.

In general, construction firms focused on strong financial support from the public sector for the HST Project as their primary criteria for participation. Funding from state and federal sources and environmental clearance were noted as the most important criteria by over 90 percent of contractors. As a result of possible future payment risks, construction firms are also likely to pay close attention to ridership and revenue forecasts and risk sharing arrangements; three-fourths of respondents indicated these criteria as key factors for participation.

Participating in potential DBFOM arrangements is of interest for each of the construction firms that answered the survey. DBOM contracts, DB contracts and assisting in the development and/or support of a consortium are also areas that were specified by eight out of nine construction firms. In addition to providing civil works, six out of the nine contractors indicated that they would be interested in financing a portion of the Project. Four contractors also stepped outside traditional boundaries and expressed interest in participating in leasing and operational components.

### Systems and Equipment Providers

Six of the seven contributing systems and equipment providers submitted answers to the RFEI survey questions. Five of the six respondents have prior experience with DBOM and DBFOM engagements, while four out of the six have experience with DB contracts. Half of the six participants have been members of consortia, either as the lead firm or in a supporting role. Two respondents also relayed experienced in project financing.



Echoing the sentiments of construction firms, systems and equipment providers also identified a strong financial commitment from the public sector as their most important criteria for participation. Funding from state and federal sources was identified by all equipment providers as important to their involvement in the Project. Environmental clearance and local funding were also selected as key criteria by all but one of the firms that responded to the survey section. The ability for design/control input, fare-setting capability and concession terms were additional criteria identified by more than half of respondents.

Prior experience generally served as a guide for the interests of systems and equipment providers in the HST Project. All survey section participants cited DBFOM, DBOM and developing and/or supporting a consortium as key areas of interest. Two-thirds of systems and equipment providers indicated interest in participating in DB contracts. Three providers were additionally interested in participating in leasing and operations, and two of these firms further expressed interest in providing financing for a portion of the Project.

## **Financial Institutions**

Each of the five financial institutions that participated in the RFEI process responded to the survey section. Beyond project financing, all five firms indicated experience with transportation. Four out of the five participants have rail experience both in the U.S. and internationally. Four financiers have also lead a consortia, and two of these firms have previously participated in a pre-development agreement.

In contrast to equipment providers and contractors, financial institutions focused on concession terms and risk sharing arrangements as their most important criteria for participation in the Project. Four out of five firms selected project cost, fare-setting capability, contractual concerns, concession terms and risk sharing as vital criteria for participation. Public funding was identified by three out of the five participants as important to their participation.

All five financiers expressed interest in providing financing for the HST Project, primarily through a DBFOM approach. Each firm was also interested in developing and/or supporting a consortium. Beyond finance, financial companies also showed interest in the leasing or operations of the Project and working with a Pre-Developed Agreement ("PDA").

## **Operators**

All of the system operations firms which participated in the RFEI submitted responses to the survey section. Each of these five operators has significant experience with international rail projects, and three have been involved in DBFOM arrangements. Two of these firms have also assisted in financing a project, while two others have engaged in DBOM contracts, and another in a lease/operate contract.

Public funding requirements from both state and federal sources and potential concession terms were of equal importance to all system operators. The five operators were also in agreement as they each cited risk-sharing arrangements, fare-setting capability, and ridership and revenue forecasts as vital criteria for participation. They were also in unanimous agreement of the top six participation requirements stated previously: state funding, federal funding, ridership and revenue forecasts, risk sharing, local funding and fare setting. These firms were also strong advocates of local funding and environmental clearance.

System operators were most interested in those tasks with an operational component, including DBOM, DBFOM and participating in consortia. Involvement in leasing and operations was specified by half of these firms. In addition, one system operator expressed interest in finance, while another cited interest in a PDA. The range of areas of interest for operating firms was more narrowly focused than other firm types.



### III.

## NARRATIVE SECTION RESPONSES

### Overview

The narrative response section within the RFEI created an opportunity for firms to respond to specific questions concerning project segmentation, project delivery mechanisms, project financing and the future procurement process. The goal of this section was to garner specific information from firms in areas where the private sector's previous experience would be particularly relevant to developing the HST Project.

Functional tasks and geographic segments were both discussed in the questions presented. Functional tasks referred to particular tasks required for the development of the system. These included civil works, systems and equipment provision, operations, maintenance and financing of the system. Geographic segments are specific areas of the HST system or city pairs (e.g., from City A to City B).

Respondents were asked to answer those questions where they had expertise or knowledge that the Authority should consider. Although several respondents addressed only a few questions at length, their responses often dealt with many aspects of the development of the HST Project. The sections below represent the main topics raised by respondents. They included project approach, project structuring, project delivery, ridership risk, availability payments, equity investment, the procurement process, performance bonding, P3 legislation requirements and public funding. Similar to the survey section, responses were grouped by respondent category where possible.

### Project Approach

In the narrative section of the RFEI, participants were asked to comment on both the best approach the Authority should take in delivering the HST Project as well as issues regarding geographic and functional segmentation of the HST. On balance, RFEI respondents welcomed a concession approach due to the need to align the private sector's long-term interests with the Authority's. Traditional public agency procurement of private sector services generally consists of discrete, isolated task orders divided among independent enterprises. In contrast, concession arrangements result in a long-term agreement between private participants and a contracting agency such as the Authority. Such arrangements empower private partners with greater control and responsibilities that often extend across multiple phases of the project. Beyond specific responsibilities associated with the delivery of project tasks, P3 partners generally assume a financial risk in some form through an equity investment, liability for indebtedness, fixed priced contract or a combination thereof.

A concession approach could serve to provide some degree of cost certainty to the Authority as well as performance incentives to private participants with long-term investments in the Project's success, be it through a financial investment or performance guarantees. Depending on the approach taken, a concession could encourage cooperation of private participants with the Authority and each other.

"Concessions are not a panacea for an under-funded and/or unfeasible project. The project and/or the asset need to be able to support a business case for private investment."

Although a concession approach offers substantial benefits, several respondents cautioned that a concession approach alone would not solve problems with an underlying project. As a result, the Authority will need to address planning and feasibility issues before proceeding with any concession plan. RFEI respondents were in general agreement that some manner of concession should be employed in the construction of California's HST; however, concession structures vary significantly according to the



scope of responsibility and degree of risk assumed by the private partner. RFEI participants cited a range of interests in the Project, and the participation of many firms will likely be based on the eventual segmentation and contracting method undertaken by the Authority.

## Segmentation Issues

RFEI participants noted that clear benefits would accrue to both the Authority and the private sector as a result of high levels of integration across functional areas of the Project. One respondent commented, "Contracting with multiple parties will lead to the integration risk for the Authority, and avoiding this risk is one of the primary benefits of a P3 approach." The seamless integration of operations was echoed throughout the RFEI responses and will be discussed in more detail in the following section. Despite the benefits of integration, RFEI respondents recognized that the HST Project would need to be broken down into manageable pieces due to its size.

RFEI participants generally agreed that splitting most functional areas, with the exception of civil works, by geographic segment made little sense and could create problems with system operations. Respondents were in agreement that future HST system operations should not be split geographically. There were no participants who advocated for the segmentation of operations and several who strongly

"From an operational perspective, the project is clearly one system, and needs to be operated and coordinated as such for maximum efficiency."

opposed such an arrangement. Firms also agreed that equipment and systems should not be split across geographic segments. Doing so, they argued, could create serious problems in future system operations if the same equipment was not used system-wide. One respondent cited the compatibility requirements between power supply and delivery, communications systems and operating equipment as the impetus for combining these areas. In general, firms advocated for as many tasks related to future operations to be as integrated as possible in order to achieve high levels of cooperation amongst participants in the Project, and to ensure that the system would run smoothly in the future.

Civil works was the one functional area where respondents noted that geographic segmentation could be feasible without potential harm to future system operations. Several respondents advocated for a "civil carve out" approach, where the civil works component of the HST would be separated from the other functional tasks. A consortium might include all or most of the other components related to operations, maintenance and financing, but leave civil works to be bid as its own contract or contracts. Several responses specified that the merits of a "civil carve out" approach are related to the idea that fixed assets have very different development and operating risks and that different parties are better positioned to handle these risks when separated.

Several other relevant comments were made pertaining to civil works for the HST. The following list includes many of these remarks:

- Several respondents commented that there is an expectation for civil works components of the Project to be paid largely from public funds.
- One firm noted that in general, firms who provide an operational component of the Project might not want to take risks associated with capital components, and vice versa.
- Several respondents argued that due to the complex nature of the Project, a civil works contractor should have experience specifically with high-speed trains.
- One respondent commented that the Authority should consider creating a separate bid for "high-risk" or "specialty" sections of the civil works component such as tunneling.



## Project Delivery

As discussed in the survey response section and in section 3.2, RFEI respondents strongly endorse a concession approach for the HST. In implementing a concession approach for the HST system, respondents indicated that they could foresee a combination of delivery mechanisms being employed in the development of the HST Project. One financier commented, “A project of this size could be implemented via a combination of delivery mechanisms.”

Respondents were in agreement that the use of design-build contracts was preferred rather than the more traditional Design-Bid-Build method for capital components. One contractor responded, “We recommend the Design-Build delivery model for the capital construction portion of the Project regardless of geographic or functional grouping.”

Design-Bid-Build (“DBB”) is the traditional form of project delivery in which the design and construction of the facility are conducted by different entities. As a result, the DBB process is divided into two separate phases for design and construction. In the design phase, the project sponsor,<sup>3</sup> such as the Authority, either performs the work in-house or contracts with an engineering and design firm to prepare the preliminary engineering plans and environmental clearance, which typically results in a project plan at the 30 percent completion stage, and the final drawings and specifications for the project. Once the design phase is complete, the project sponsor separately contracts with a private construction firm through a competitive bidding process. Under a DBB delivery approach, the project sponsor, not the construction contractor, is solely responsible for the financing, operation and maintenance of the facility, and assumes the risk that the drawings and specifications are complete and free from error. The DBB selection process is based on negotiated terms with the most qualified firm for the design phase; while the award of the construction contract typically is based on the lowest responsible bid price. The majority of surface transportation projects in the U.S., including most transit capital projects, currently use the DBB approach.

The following paragraphs summarize the key characteristics of several alternatives to the DBB approach, including Design-Build contracts, on which RFEI respondents were asked to comment.

### Design-Build

Unlike DBB, where the design and construction phases of a project are procured using two separate contracts with little or no overlap in the respective project work phases, the Design-Build delivery approach combines the design and construction phases into one, fixed-fee contract. Under a DB contract, the design-builder, not the project sponsor, assumes the risk that the drawings and specifications are free from error. While the design and construction phases are performed under one contract, it is important to note that the design-builder may be one company or a team of companies working together. The DB selection process may be based on a negotiation with one or more contractors or a competitive process based on some combination of price, duration and qualifications. Increasingly, DB contracts are being awarded on the basis of best value, considering each of these factors.

The DB delivery approach is a relatively new process for the transportation industry in the U.S., particularly for transit. Since its introduction in the early 1990s, DB has become a successful, well-established process for delivering major capital projects by the private sector. As other sectors experience success with DB delivery, transportation agencies are increasingly interested in the potential to apply DB as a means to improve the cost-effectiveness (time, cost and quality) of traditional contracting practices.

---

<sup>3</sup> The California High-Speed Rail Authority.



## **Design-Build-Operate-Maintain and Build-Operate-Transfer**

Under a Design-Build-Operate-Maintain (“DBOM”) or Build-Operate-Transfer (“BOT”) delivery approach, the selected contractor is responsible for the design, construction, operation and maintenance of the facility for a specified time. The contractor must meet all agreed-upon performance standards relating to physical condition, capacity, congestion and/or ride quality. The potential advantages of the DBOM or BOT approach are the increased incentives for the delivery of a higher quality plan and project because the private partner is responsible for the performance of the facility and for maintaining the project in its complete and fully operational state for a specified period of time after construction. Since 2000, three transit projects in the U.S. have been procured as DBOMs: NJ Transit Hudson-Bergen LRT MOS-1 and MOS-2, and JFK Airtrain.

## **Design-Build-Finance-Operate**

The Design-Build-Finance-Operate (“DBFO”) delivery approach is a variation of the DBO approach. The major difference is that in addition to the design, construction and operation of the project, the contractor is also responsible for some portion of the project’s financing. The potential advantages of the DBFO approach are the same as those under the DBOM approach but also include the transfer of the financial risks to the private partner during the contract period. While the project sponsor retains ownership of the facility, the DBFO approach attracts private financing for the project that can be repaid with revenues generated during the facility’s operation. In addition, revenue generated by the public sector through taxes or other public sources can also be used to repay the private financing. Utilizing long-term public sources of revenue to pay down privately financed projects allows the public sector to enjoy the benefits associated with a leveraged project without issuing bonds or otherwise incurring debt on its balance sheet.

## **Design-Build-Finance-Operate-Maintain**

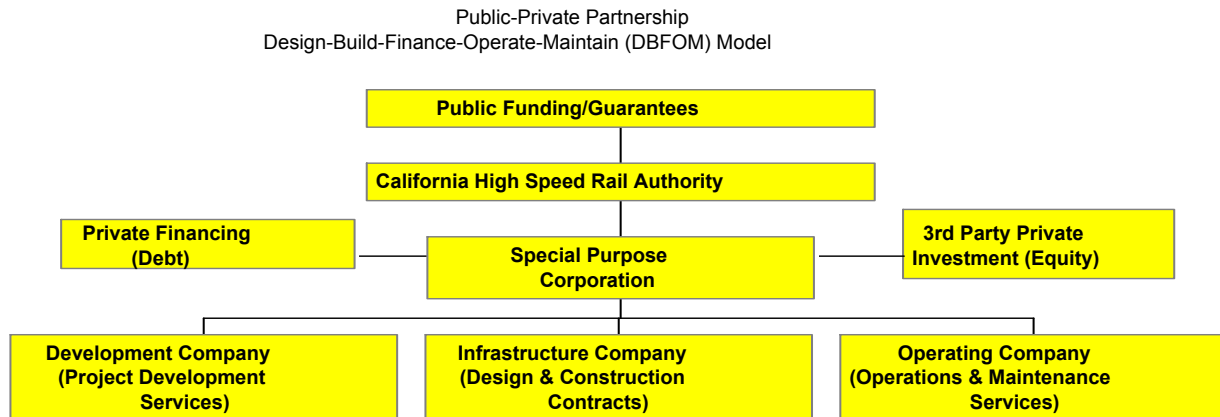
Design-Build-Finance-Operate-Maintain (“DBFOM”) features all the components of a DBFO approach with the addition of an ongoing maintenance responsibility assumed by the private partner.

Within the RFEI narrative response section, participants were asked to comment on the project delivery mechanisms, including those explained above, for the HST Project. Although a number of respondents recognized that several project delivery methods are likely to be combined in the delivery of HST, a DBFOM model proved to be the most popular among RFEI respondents. Financiers were the biggest proponents of such an approach, but non-financial firms also supported DBFOM as a delivery mechanism.

“It is in the High-Speed Rail Authority’s best interest to have a single point of responsibility for the finance, development, construction, and operation of the entire system”

Those in favor of a DBFOM approach cited its ability to minimize integration risk by providing a single point of responsibility for all aspects of the HST system. One financier championed the benefits of a DBFOM which, the respondent argued, would minimize integration risk and force the concessionaire to take a “maintenance mentality.”





Support for a DBFOM approach was by no means unconditional. Although three out of the five participating operators supported the concept through their responses, this group had the most objections to a DBFOM approach. One operator commented that with a focus on early system development, operators can be “squeezed out” in a DBFOM approach. Equipment manufacturers were most interested in a Design-Build-Maintain approach (“DBM”), but indicated a willingness to accept a delivery mechanism with operations and/or financing included. Construction firms extolled the benefits offered by a Design-Build approach, but often declined to comment on whether finance, operations or maintenance should be included. One contractor stated Design-Build was “a more efficient and cost effective method for delivering large, complex projects.”

## Equity Investment

RFEI participants were asked to provide input on their likelihood of investing equity in the HST Project and requirements for doing so. In general, respondents indicated interest in investing some form of equity in the HST Project, either through a direct investment in some portion of the Project or through participation in a consortium that would build, finance, maintain and/or operate the HST system. Many equipment manufacturers and construction firms expressed an interest in making a minority equity investment as a partner in such a bidding consortium. Operators and financiers were the parties most interested in leading consortia responsible for operations of the HST system.

“Typically, concessionaires invest equity in their projects ranging from 10 to 20% of the total investment and similar figures could be expected in this project.”

Many respondents tempered their interest in equity investment by citing the need for more information before an educated decision could be made. Some went further, indicating that they were unlikely to invest equity in projects with a high degree of uncertainty until after construction. It became clear through RFEI responses that the timing of any required equity investment is extremely important to the investment decision.

An over-arching theme among RFEI respondents is that firms are willing to accept risk in exchange for reward and some modicum of control. Respondents are more willing to subject future payment to their own performance than they are to factors beyond their control. Increasing the amount of control given to a concessionaire, such as the ability to set fares or schedules, is seen as necessary by some in order to consider an equity investment in the HST. Other respondents argued that interest in equity investment



would increase if the risk to the concessionaire were decreased, perhaps through some form of revenue guarantee.

Equity investment in the HST Project is likely to be shaped by the repayment source for the investment and its perceived risk by equity participants. It is possible that a system operator, financier or members of consortia could invest in the Project and receive repayment based on future system revenues. Due to the absence of proven high-speed train service in the U.S., RFEI respondents viewed this type of repayment source as risky, due to the lack of information on ridership and fare levels. A consortium or firm might also invest equity subject to repayment from public funds. In general, firms seem more comfortable with an investment subject to repayment from state or federal funds, although the perceived risk of not receiving an appropriation or payment subject to performance is still of concern.

Several respondents elected to keep required equity returns confidential, and those who did provide a range indicated that investments subject to repayment from public dollars are seen as substantially less risky than those subject to ridership risk. RFEI participants cited required returns on equity ranging from 10 to 15 percent for repayment with public funds, and 15 to 25 percent for ridership-based compensation. Both types of investment will be discussed in greater detail in the following sections.

## Ridership Risk

RFEI respondents offered differing opinions on the issue of ridership risk. Overall, about half of those firms that responded to the narrative response section commented that they would accept at least some ridership-based compensation, with the other half unlikely to accept any form of payment based on future ridership.

Civil works contractors and equipment providers proved to be the least interested in accepting ridership-based compensation. These firms stressed the unproven nature of high-speed trains in the U.S. They maintain that the Authority will need to greatly reduce, or even eliminate, ridership risk in order to attract private investment subject to future system revenues. These firms stressed that too much risk beyond their control would serve to prevent their investment in the HST Project. In contrast, financiers and operators responded that they would be willing to accept ridership risk under specific circumstances. Firms were in agreement that ridership-based compensation cannot be the sole source of compensation. Timing of private investment, more developed Project information, including traffic studies, and the amount of control over system operations, will influence the level of ridership risk the private sector will bear.

Several firms stressed that an investment-grade revenue study would be a prerequisite for any ridership-based investment. Respondents also argued that while they might be unlikely to invest subject to ridership risk during construction, there may be greater potential for this type of investment after the system is complete and ridership is proven during a ramp-up period. A revenue guarantee for a portion of anticipated ridership revenues was also cited as a way to encourage participants to take ridership risk. One important policy decision the Authority will have to weigh will be the sharing of fare-setting control with participants that accept ridership risk. Several firms cited the need for the ability to set fares before they would consider investing subject to ridership revenues. One system operator stated, "Having the opportunity to implement a fare policy that would optimize revenue generation, within a regulatory framework determined by the Authority, is really key in our view." Another operator maintained that repayment subject to ridership risk would need to include some minimum fixed payment or guaranteed revenues. Two other firms stated that they would consider an investment subject to ridership risk, but only at the margins of total compensation.

"We are willing to consider providing support for the HST under a defined ridership risk model if such a model is supported by an investment-grade revenue study that details revenue coverage capable of meeting the operating requirements of the system."





## Availability Payments

"We believe that availability payments create an opportunity to utilize higher levels of debt financing, as these payments are generally more stable than other sources such as fare box revenues."

Although almost half of RFEI respondents expressed little desire to accept compensation based on future HST ridership, as discussed in Section 3.6, a majority of respondents communicated that they would be willing to subject a portion of their payment to performance guarantees. One mechanism that can be used to accomplish performance-based

compensation would be an availability payment structure. Availability payments have become increasingly common in public-private partnerships, both internationally and, more recently, in the U.S.

More specifically, an availability payment structure would require private firms to accept risk related to the ongoing performance in the design, construction, operations and maintenance of the HST Project. Concessionaires would be given periodic payments based solely on the condition and/or performance of the facility. A portion of future payments to concessionaires would be withheld if agreed-upon levels of performance are not met. In addition, incentive payments associated with higher levels of service can be a component of the payment. Accordingly, this payment structure provides a strong incentive to the private sector to perform at or above specified standards.

According to RFEI responses, availability payments are seen as a crucial financing mechanism that should be utilized in the construction of the HST Project. Respondents were in agreement in viewing availability payments as substantially less risky than payment dependent on ridership revenues. One RFEI participant suggested an alternate compensation structure in which the Authority compensates a concessionaire via availability payments, appropriated from state funds. For budgeting purposes, the Authority would structure the payments to match expected ridership revenues, thus allowing the state to appropriate funds only in the event ridership did not materialize.

While respondents seemed receptive to an availability payment structure, several cited the need for the clear delineation of responsibilities and penalty clauses before a concession could be negotiated. Although the tolerance for availability payments is greater than that for payment subject to ridership risk, firms still communicated that there must be a limit to the portion of their payment that is uncertain. One respondent suggested that there be an availability payment with two components, where compensation for capital investment would be a fixed payment, while compensation for operational performance could be variable based on the performance of the concessionaire.

## Procurement Process

An efficient and competitive procurement process will be vital to the High-Speed Rail Authority in obtaining the best value from private sector participation. While RFEI respondents did not cite specific legal or statutory issues in the procurement process, nearly all respondents stressed the need for clear legal authority and public funding support for the Project before initiating procurement. RFEI participants communicated that without a clear mandate for the HST Project, firms would be unlikely to commit the resources necessary to complete what will be a complex proposal process for a project as large as California's HST.

RFEI participants also provided input on the payment of a stipend for those firms that engage in the proposal process. A stipend is a payment to firms participating in a procurement process in order to help offset a portion of the costs associated with the complex analysis required in formulating a proposal. This form of payment is common in complex technical procurements. Stipends are intended to help create an intense completion for a request for proposal process ("RFP") by encouraging

"Given the size of resources and time that will be required by this particular project, we strongly recommend the payment of a stipend."



firms to participate by compensating those that participate for at least a portion of their proposal development costs.

While payment of a stipend was not cited as the most important factor in a firm's decision to participate in the proposal process, several firms argued that they would use the payment of a stipend as a way to gauge the seriousness of the public sector and the need to complete the HST Project. One respondent firm stated, "Potential proposers will evaluate the size of the stipend in light of their anticipated bid costs (money and time invested) as well as the likelihood of project success (both the competitive situation and regulatory/process uncertainty)."

In terms of the level of stipend necessary, the general consensus of system operators and those who expressed an interest in leading a consortium was that a stipend would need to be between 0.5 and 1 percent of the cost of the capital components included in the procurement. One system operator stated, "A stipend should cover the entire proposal development cost, or a significant portion thereof." Contractors wrote that only a small stipend was necessary. One construction firm expressed that stipends for engineering RFPs typically cover "approximately 30 percent of the bid costs" of a major proposal. Financial institutions generally declined to respond on this topic, or said that stipends should be "directed at contractors and engineers."

In addition to the payment of a stipend during the procurement process, RFEI respondents were asked their opinions on the appropriate length of time needed to respond to a request for qualifications. Two respondents commented generally that the length of time needed for the procurement process will depend on the amount of information available to prospective bidders as well as the level of detail expected in proposals. In terms of more detailed comments on the timing of a procurement process, two respondents commented that a request for qualification process ("RFQ") could be completed in approximately two months, while two other firms suggested four months to complete the RFQ process. Firms agreed that the RFP process would take significantly longer, with two firms suggesting 10 months for firms to submit responses, and one respondent advocating for 12 to 18 months.

One potential procurement method that RFEI respondents were asked to comment on was a Pre-Development Agreement. Under a PDA approach, the Authority would engage the private sector early on to assist with the continued planning and development efforts for the HST system. RFEI respondents were divided on the merits of a PDA for California's HST. Several firms were strongly in favor of a PDA procurement approach. Those that advocated for the use of a PDA cited the complexity of the Project as well as the need to engage the private sector early in the development process. One respondent argued that the use of a PDA would "push" the Project to success and communicate that the High-Speed Rail Authority was serious about completing the Project. Additionally, it would allow private participants to get an early start on the complex analysis required for their long-term participation in the HST Project.

Although several firms were proponents of a PDA, others were lukewarm about such an arrangement. Two respondents expressed a need for caution when considering a PDA procurement approach. These participants argued that because PDA procurement is executed before assumptions have been completed concerning the final design, engineering and financing, the project developer and concessionaire are given a first-right-of-refusal to negotiate a long-term concession agreement. This could create less than desirable competition, resulting in sub-optimal concession terms for the Authority. The public sponsor must make certain that the entire PDA solicitation process is transparent, or else risk losing interest from firms not selected during the pre-development stage. One respondent expressed concern that a PDA can be perceived as a tool to pass the risk associated with environmental clearance and right-of way acquisition on to the private sector, risks that were assumed to be best borne by the public sector.



## Legislative Requirements

In the RFEI's discussion of a future procurement process, respondents were also asked to submit additional comments pertaining to any legal or regulatory issues that they felt the Authority should

"The cleaner and simpler you make the terms of the agreement, the less costly the financing will be. Any overlaying issues will increase risk or obligations and therefore project costs. The more aligned the project performance is to project goals, the better."

consider in relation to the procurements of public-private partnerships, either under a PDA or a traditional approach. Respondents maintained that clearly defined P3 legislation specific to building a high-speed train system in California is a vital component of the success of the Project. Of the 21 firms that submitted comments for the narrative response section, 12 of these issued responses regarding legislation

requirements. Each of these responses indicated that the appropriate legislation must be in place before a formal procurement is undertaken.

One respondent noted the potential challenge of securing potential P3 legislation as they wrote, "Most public procurement codes focus on low-bid awards for commodities and are not appropriate for the evaluation, award and administration of very complex, long-duration P3 projects." Whether a PDA or a traditional approach is taken, participants want to see a strong and reliable legal framework before dedicating time and financial resources to the HST Project.

Several firms addressed more specific legislative areas of concern within their responses. The following bullet points summarize the most common concerns held by participating firms:

- Legislation may be enacted with complex legal requirements, which could complicate delivery and increase the cost of financing the Project.
- Clear safety regulations, right-of-way and track provisions are vital for Project success.
- Assessment of the local political climate is important in developing a project delivery approach, as segments with more political support often precede others.
- The use of PDAs should not preclude bidders from taking part in future bids for equipment and/or service related to the Project.

## Performance Bonding

Typically, public-private partnership construction/operations contracts are structured on a fixed-price, fixed-term basis. The private contractor is required to deliver and/or operate the project by or through a specific date for a specific price, absorbing any cost overruns. If the contractor fails to deliver the project or violates a performance-related term of the contract (i.e., excessive noise, non-permitted facility outages), the contractor will be liable for a predetermined set of liquidated damages. These damages are often capped at some percentage of the total contract value.

In a "traditional" procurement, the project is financed with public cash and/or broad-based public sector borrowings. The public sponsor will typically require that the private contractor secure a performance bond sufficiently large to guarantee the project (or a portion of it if used in conjunction with other types of security). In the event of a contractor default, the public sector can submit a claim against the bond and be compensated for damages or non-performance. Performance bonds behave like insurance policies—i.e., in order to be compensated for a project default, the public sector would need to submit a claim, prove that the claim is covered under the bond and justify the size of the claim.



RFEI participants were asked to comment on the concept of performance bonding and performance guarantees as they relate to the HST Project. In their responses, participants commented that the size of the Project makes it extremely difficult for the market to follow traditional practice and provide bonding at or close to 100 percent of Project costs. Two firms suggested lowering the requirements for performance bonding to something less than full costs (one suggested 50 percent). Nearly all others who elected to discuss the topic argued that 100 percent performance bonding was unrealistic for the HST Project and the use of alternatives would be vital to proving the security of the Project. As a result, it will be necessary for the Authority to work with private participants to develop alternatives to traditional performance bonding.

“Given the size of this particular undertaking, substantial up-front work would need to be done jointly with the Authority and with the insurance companies to lower bonding requirements in this particular project.”

In order to overcome concerns with traditional performance bonding, RFEI respondents cited two potential alternatives to traditional performance bonding: letters of credit and parent company guarantees. Under a letter of credit structure, a private contractor would place a secure letter of credit from a creditworthy bank. The facility could be immediately drawn by the public sector in the event of a default, and the contractor would be required to repay the bank away from the deal. A parent company guarantee would most likely consist of a monetary pledge from a contractor’s global company, as opposed to a U.S.-based subsidiary or project company formed specifically for purposes of the HST Project. In this scenario, the constructor guarantees the project with its corporate credit, promising to pay any default compensation with corporate-level resources. The strength of this guarantee is derived from the company’s corporate credit rating as well as its reputation. One systems and equipment provider commented that under this approach, such parent company guarantees should require payment, rather than performance to avoid international performance obligations. In general, respondents saw the need for alternatives to traditional performance bonding and they indicated that alternatives existed that should assuage the public sector’s need for security.

For segments or functional areas of the HST Project that are privately financed, two financiers pointed out that lenders will require their own form of liquid security and, therefore, performance bonding would not be necessary. These financings are typically structured as non-recourse project credits, with project revenues as the lender’s sole security. Lenders are rarely willing to fully absorb the construction risk inherent in a project financing, since the project will not generate any revenues for repayment of debt unless construction is completed. As a result, in order to secure financing, the private developer will require its construction subcontractor to provide a construction security package or arrange one itself, passing some (if not all) costs down to the subcontractor. The security package may include one or more of the instruments described above, effectively insulating lenders from cost or schedule over-runs on the project and ultimately improving the credit quality of the project debt during construction. Additionally, although not technically a form of performance security, constructor equity contributions are typically viewed by lenders as an indirect form of security insofar as the constructor has some of its own capital at risk. RFEI respondents argued the Authority must take these considerations into account so that traditional security requirements do not become “duplicative.”

## Public Funding

Over 90 percent of RFEI respondents cited a strong commitment of public funds from federal, state and/or local sources as a prerequisite for their participation and continued interest in the HST Project. Nearly all RFEI respondents noted that they would be unlikely to commit the resources necessary to participate in a procurement of this magnitude until after strong financial backing for the Project was provided by the public sector. The following statistics represent the information gathered from the survey portion of the RFEI pertaining to public funding as key criteria for participation.



Federal funding required:

- 100% of Equipment Manufacturers
- 100% of Operators
- 75% of Financial Institutions
- 89% of Construction Firms.

State funding required:

- 100% of Equipment Manufacturers
- 100% of Operators
- 75% of Financial Institutions
- 100% of Construction Firms.

“Securing these public funds will be the most serious sign of commitment the Authority can make to all the Project’s stakeholders.”

Respondents also commented on the overall level of public funding needed. Several RFEI respondents communicated that public funding on the order of 60 to 70 percent of total Project costs would be expected for the HST Project. One respondent cited an expectation that was slightly higher, at 80 to 85 percent. Several respondents advocated for public moneies paying for much of the up front, civil works expenditures, with private money to follow later in the Project. It was clear from RFEI responses that only after a strong commitment of public dollars to ensure Project viability would there be serious interest in private investment in the HST Project.

## IV. CONCLUSIONS

The RFEI process has demonstrated that there is substantial interest in the HST Project from the private sector. The 30 respondents to the RFEI had varying interests that went well beyond their typical areas of expertise. Despite the strong turnout for the RFEI, it is apparent from the RFEI responses that continued interest from private firms is contingent on the HST Project obtaining a strong mandate from its public sector sponsors. This mandate will need to include clear legal and political support for the Project and the preferred methods of delivery as well as a strong commitment of public funds. It is clear that intense cooperation will be necessary between the private participants and the Authority, and state, federal and local governments as well as amongst private participants in different aspects of the Project. Significant time and financial resources are necessary in order for private firms to remain committed to participation in the Project, and these resources are unlikely to materialize without a strong message from the public sector that the HST Project will receive the support necessary from the public sector to make the Project a reality.