



California High-Speed Rail **BRIEFING: February 29, 2024 Board Meeting** **Agenda Item #5**

TO: Chairman Richard and Board Members

FROM: Margaret Cederoth, Director of Planning and Sustainability

DATE: February 19, 2024

RE: Information Item: Station Design Progress

Summary

The Authority has been advancing design work for the 4 Central Valley High-Speed Rail Stations since execution of Design Services for Central Valley Stations (HSR 21-07) in March 2023. This contract with Foster+Partners / Arup (F+P Arup JV) is for design services for the four Central Valley stations on the Merced to Bakersfield operating segment.

The F+P Arup JV completed pre-design and concept design work (Activities 1 and 2: Contract Administration and Pre-Design Services) for the 4 stations and submitted a package of deliverables to the Authority in November 2023. Since then, the Authority completed technical review of the submittals, value analysis and value engineering as well as stakeholder consultation and has incorporated a range of technical feedback into a single concept layout for each station that the design team will advance through schematic design. Schematic design is the first stage of Activity 3, Design Services; this stage is scheduled for completion in Fall 2024.

Background

Stations have been included in the business model for the high-speed rail system since its inception. Stations are the access point for customers to the high-speed rail system. Requirements as to number and provisions regarding station locations are specified in the Streets and Highways Code [Division 3, Chapter 20, 2704.09]. The Federal Grant Agreement (California High-Speed Train Program ARRA Grant) also includes the provision that the Authority should treat stations “as a new city gateway – consider the station’s form and spaces, both primary and secondary (backside, underside); the station’s place-making effects and iconic and readily identifiable design.”

Prior Board Action

On April 27, 2022, the Board approved the issuance of a Request for Qualifications (RFQ) for design services for the Central Valley stations to procure an architectural and engineering (A&E) design services contract valued up to \$35.3 million on or after September 2022, through Resolution #[HSRA 22-08].

Both the 2020 Business Plan and 2022 Business Plan state that advancing design on the Central Valley Stations is a key activity to advancing toward electrified high-speed rail passenger service by the end of the decade. The 2020 Business Plan was adopted by the Authority Board of Directors on Thursday, March 25, 2021, and submitted to the state legislature on Monday, April 12, 2021. This proposed station procurement is consistent with the 2020 Business Plan priority of expanding the 119-mile segment in the Central Valley to develop 171 miles of electrified high-speed rail service by advancing design of the four stations. The 2022 Business Plan includes the same priority and notes: “Advancing station designs will clarify a number of issues with local stakeholders including station site boundaries and station access projects across all modes—bikes, pedestrian and transit.”

On October 19, 2022 the Board authorized staff to enter into negotiations with the F+P / Arup JV.

Discussion

Stations are a critical element of the high-speed rail system, enabling passenger access to the system. The Authority has long-established performance criteria for the passenger stations, including that they be:

- durable;
- easy to maintain;
- universally accessible;
- seamlessly integrate a range of transportation modes (including buses, bicycles, pedestrian pathways, other rail systems, and automobiles); and
- feature design characteristics that make them readily identifiable as high-speed rail stations.

Their sustainability performance is a requirement and critical to minimizing operations costs through design that maximizes natural ventilation, achieves zero-net energy performance through onsite energy generation, and maximizes the efficient use and reuse of water resources.

The first section of the station delivery contract (NTP 1) comprises the design work necessary to confirm the existing configuration footprint for each station site and complete 30% design drawings for all station and station site elements necessary for passenger service. The configuration footprint comprises the physical extent of the station footprint to serve as a baseline for any right-of-way acquisition beyond the footprint identified in the Record of Decision (ROD), as well as utility requirements and relocation, the selection and refinement of materials for station components, and additional work on select components.

Executing NTP 2, scheduled for Winter 2024, will require additional funding and Board approval; NTP 2 comprises the remaining design services through post-occupancy commissioning.

The Authority determined a design-bid-build (DBB) delivery method for the Central Valley stations. The DBB method was selected because it provides the Authority with a process and tools to directly manage design quality and certainty, cost control, stakeholder relationships, and mitigate cost uncertainty.

Pre-Design and Concept Design Work

The F+P Arup JV has collected and analyzed information about the four station sites and reviewed the space program and station information requirements to understand the site, room,

and space requirements of the passenger facilities to understand all existing site conditions and how they affect station operations and the layout of the station facilities. The F+P Arup JV have also completed planning studies and engaged in regular coordination with associated design and construction projects to understand the facility needs over time and what critical interfaces are required to be incorporated into the design.

The outcome of this work has been a set of deliverables including drawings, reports, renderings, and illustrations that provide clarity on the scale, arrangement, massing, relationships, adjacencies and space requirements for the station facilities. In November 2023, the F+P Arup JV submitted drawings, analysis, plans, and renderings comprising the deliverables for Activity 2, Pre-Design and Planning services.

Throughout the pre-design and concept development phase, the Authority, in coordination with the F+P Arup JV consulted with stakeholders in each of the four station communities. This included discussions with local and regional transit providers, city and county staff, elected officials, Caltrans, regional planning bodies, and community-based organizations.

Building out the stations in a phased manner

The concept drawings and deliverables illustrate the components of the station required for it to function as part of the high-speed rail system. The Authority is focused on building out the stations in a phased manner, referred to as Building Blocks.

Station Building Blocks are scaled to system phases (Initial Operating Segment, Valley to Valley, Phase 1) and comprise the physical scope required for passenger facilities in a given station to accommodate that operating phase. Building Block 1 includes those elements required for the Initial Operating Segment, both landside and trackside, and represents the minimum necessary for a functional passenger station.

The FP+Arup JV has completed the concept design work for the first building block of the stations. Given that some components of the stations must be scaled to accommodate future ridership levels, the design team has also advanced analysis on Building Blocks 2 and 3 for the purposes of future proofing the Building Block 1 final design. The objective is to avoid rework, throw-away costs and to further inform cost estimates.

Building Blocks

Building Block 1 Elements required for safe, comfortable passenger service that present risk if built later	Building Block 2 Additional elements to accommodate ridership increases with Valley to Valley	Building Block 3 Any additional space
<ol style="list-style-type: none"> 1. Platforms 2. Canopies 3. Vertical Circulation & Concourse 4. Functional and operations spaces, including crew space 5. Site: Parking (ADA, Bike, Automobile) 6. Site: Transit facilities (bus stops) 7. Site: Pick-up and drop-off 8. Station access, particularly roadways 	<ol style="list-style-type: none"> 1. Station Headhouse 2. Functional spaces (crew space, other) 3. Structured parking 4. Transit facilities 5. Additional roadway access 	<p>Additional spaces to accommodate Phase 1 ridership</p>

Legal Approval

This is an information item for the Board, and by itself, does not raise any legal concerns.

Budget and Fiscal Impact

This is an information item for the Board, and by itself, does not have a budget or fiscal impact.

REVIEWER INFORMATION	SIGNATURE
Reviewer Name and Title: Brian Annis Chief Financial Officer	Signature verifying budget analysis: Signed 2/22/2024
Reviewer Name and Title: Alicia Fowler Chief Counsel	Signature verifying legal analysis: Signed 2/22/2024

Recommendations

This is an information item.

Attachments

- Central Valley Stations Board Presentation, February 2024.