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February 26, 2013

Oversight of High-Speed Rail Project

LEGISLATIVE ANALYST'S OFFICE

Presented to:

Senate Transportation and Housing Committee
Hon. Mark DeSaulnier, Chair
and
Senate Budget and Fiscal Review Subcommittee No. 2
On Resources, Environmental Protection, Energy and Transportation
Hon. Jim Beall, Chair

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Overview of Project Delivery Plan

☑ ***Five Construction Packages.*** The California High-Speed Rail Authority (HSRA) is tasked with constructing approximately 130 miles of rail line in the Central Valley that will be capable of high-speed passenger rail service. The procurement for this project is divided into four geographically distinct "construction packages." A fifth construction package will complete the track work over the entire length of the corridor.

☑ ***Procurement Process.*** The HSRA is using a design-build procurement process in which a consortium of engineering services and construction firms (referred to as the "design-builder") will be selected for each construction package to complete the final engineering design and to provide all construction services. Bids have been received for the first construction package and HSRA expects to select a design-builder and sign the final contract this summer.

☑ ***Project Management.*** The HSRA is expected to employ up to 30 state engineers to manage and oversee project delivery. In addition, the HSRA has retained a project and construction management (PCM) consultant to act as the representative of the HSRA to oversee, review, and inspect the work of the design-builder. The HSRA may also perform any additional inspections or tests they deem necessary at any time.

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What Is Design-Build?

- Design-build is a project delivery method in which the project owner contracts with a private general contractor to both design and build the project. Unlike a design-bid-build approach, the project owner does not separately contract with an architect/ engineer for design.

- A potential benefit of design-build is that construction may be completed more quickly because construction can begin on one part of the project before the design of other parts has been finalized. Other benefits could include the use of innovative engineering solutions and the transfer of various risks from the state to the design-builder.

- We note, however, that there are trade-offs using a design-build approach. For example, the state must cede some amount of control over how the project is delivered. It is unclear how design-build affects the cost of the finished project.

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Design-Builder Responsible for Demonstrating Quality of Work

☑ ***Quality Program.*** To help ensure the project is designed and constructed in compliance with the contractual requirements, the design-builder will prepare a comprehensive quality control and quality assurance program describing how they will inspect and evaluate their own work. This plan will be approved by the HSRA before work begins.

☑ ***Verification, Validation, and Self-Certification.*** The design-builder is required to be able to demonstrate and certify that all work products are complete and comply with the contractual requirements. In addition, as shown in the figure on the following page, HSRA requires the design-builder to retain other firms to independently evaluate the design-builder's work and to certify—directly to the HSRA—that it is complete and complies with the contractual requirements.

☑ ***Risk Transfer.*** Ultimately, the design-builder is responsible for delivering a project designed and constructed to the state's specifications at a mutually agreed to and legally enforceable schedule and price. The design-builder is responsible for correcting any flawed work at its own cost.

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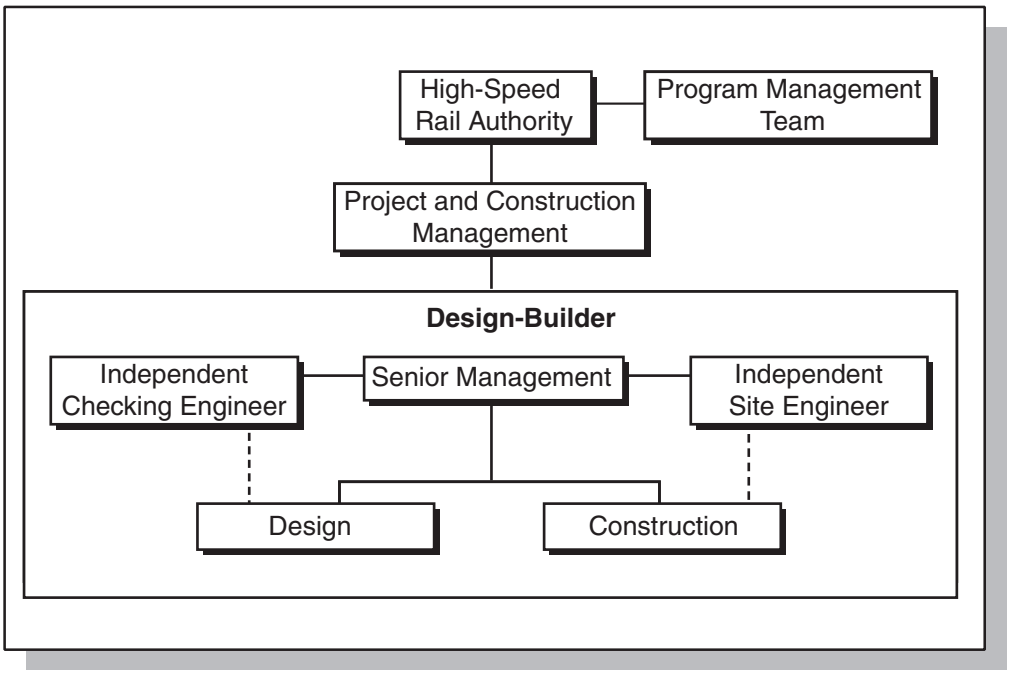

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Issues for Legislative Consideration

☑ It appears that the project delivery process proposed by the HSRA is consistent with best practices. Additionally, because HSRA lacks experience with using a design-build approach, it is appropriate that a greater number of consultants would be used to oversee the project.

☑ We would note, however, that based on our discussions with experienced public and private engineers, there are several issues that could affect the level of success with a design-build project delivery approach. In order to address such issues, the Legislature may wish to ask the HSRA the following questions:

- Will HSRA retain the ability to independently *inspect* construction in the manner of its choosing?
- How will HSRA assure the quality of materials used in construction?
- Will the HSRA or PCM be present for each and every test and inspection conducted by the design-builder?
- How will HSRA staff evaluate the relevant experience and potential conflicts of interest of the firms and key staff on the bidding teams and, later, other subcontractors?
- How will the HSRA keep the right-of-way and utility relocation plans on schedule to avoid costly work delays?