

MAY 21, 2019

Review of High-Speed Rail 2019 Project Update Report

PRESENTED TO: Assembly Committee on Transportation,
Hon. Jim Frazier, Chair



LEGISLATIVE ANALYST'S OFFICE

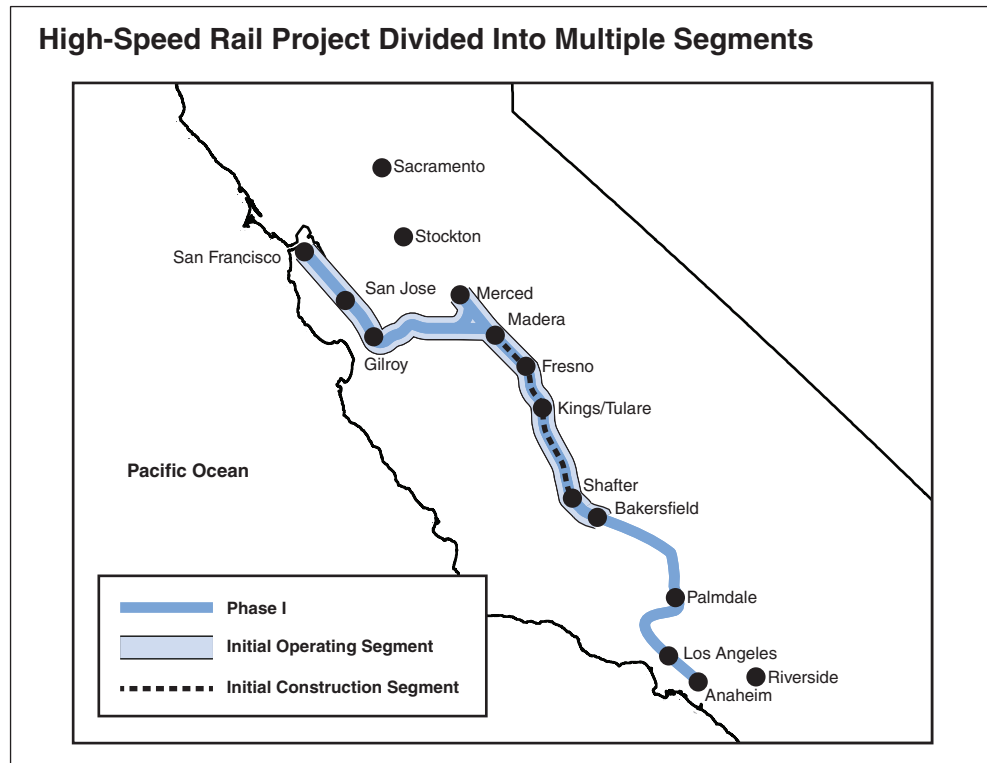
Introduction

- ***Statutory Reporting Requirements.*** State law requires the High-Speed Rail Authority (HSRA) to prepare a business plan every even year that provides certain key information about the planned high-speed rail system. State law also requires HSRA to prepare a project update report (PUR) every odd year that provides certain updated information, such as on costs and schedule. HSRA released its most recent PUR on May 1, 2019.
- ***Overview of Handout.*** This handout (1) provides background information on the planned high-speed rail system, (2) describes the major features of the 2019 PUR, and (3) identifies some preliminary issues for legislative consideration.



Project Delivery Plan

- **Project Divided Into Multiple Segments.** Phase I would provide service for about 500 miles from San Francisco to Anaheim. Phase II would connect the system to Sacramento in the north and San Diego in the south. As shown in the figure, delivery of Phase 1 is divided into segments, including an initial operating segment (IOS)—commonly referred to as the Valley-to-Valley line. The IOS is itself divided into multiple segments, beginning with the initial construction segment (ICS), which extends for 119 miles through the Central Valley from Madera (about 25 miles north of Fresno) to Poplar Avenue in Shafter (about 20 miles north of Bakersfield).



Project Delivery Plan

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- ***Bookend and Connectivity Projects.*** HSRA has partnered with local authorities to initiate a variety of bookend and connectivity projects on commuter rail lines in the Bay Area and Southern California that will facilitate high-speed rail, as well as provide benefits to existing rail and transit systems.



Project Funding and Expenditures

► Proposition 1A Bonds

- Proposition 1A (2008) authorized the state to sell about \$10 billion in general obligation bonds—\$9 billion for the high-speed rail system itself, with the remainder to support the connectivity projects. (Of this \$9 billion, HSRA has set aside \$1.1 billion as contributions to locally administered bookend projects.) Proposition 1A specified certain conditions that the system must ultimately achieve, including that the train service provided by HSRA or pursuant to its authority not require an operating subsidy.
- The Legislature has appropriated \$5.5 billion from Proposition 1A, and about \$2.8 billion has been spent—\$2.1 billion on the high-speed rail project and about \$700 million on connectivity projects.

► Federal Funds

- The federal government has awarded HSRA a total of \$3.5 billion. First, the state received \$2.6 billion in American Recovery and Reinvestment Act (ARRA) funds in 2009. HSRA fully expended the ARRA funds and expects to complete a required state match requirement sometime before December 2022.
- Second, the state received a \$929 million grant from the federal High-Speed Intercity Passenger Rail program in 2010 (FY10 Federal Grant), which expires at the end of 2022. The state must meet certain conditions under this grant agreement, including (1) completing its match to the ARRA grant before spending these funds, (2) using the funds to support intercity passenger rail infrastructure, and (3) completing all environmental reviews for Phase I by 2022. The agreement allows the federal government to terminate the grant under certain conditions, such as if the state fails to make reasonable progress on the project. On February 19, 2019, the federal government notified the state of its intention to terminate the FY10 Federal Grant under this provision. HSRA responded to the federal government on March 4, 2019. On May 16, 2019, the federal government confirmed its termination of the FY10 Federal Grant.



Project Funding and Expenditures

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▶ **Cap-and-Trade Auction Revenues**

- In 2014, the state began providing cap-and-trade auction proceeds for the high-speed rail project. This includes \$650 million in one-time cap-and-trade revenues, as well as the continuous appropriation of 25 percent of cap-and-trade revenues, beginning in 2015-16.
- To date, the project has received about \$2.4 billion in cap-and-trade revenues and spent about \$600 million of these funds.



Project Status

- Environmental Reviews.** The California Environmental Quality Act and the National Environmental Policy Act require HSRA to assess the extent to which the project could cause significant environmental impacts. As shown in the figure, HSRA has completed the environmental reviews for the Merced-to-Fresno and Fresno-to-Bakersfield sections and is in the process of completing the remaining reviews for Phase I.

Anticipated Schedule for Completing Environmental Reviews of High-Speed Rail Project	
Project Section	Date
Phase I	
San Francisco to San Jose	March 2021
San Jose to Merced	November 2020
Merced to Fresno	Completed
Portion requiring separate review: Central Valley Wye	2020
Fresno to Bakersfield	Completed
Portion requiring separate review: locally generated alternative	2019
Bakersfield to Palmdale	June 2020
Palmdale to Burbank	January 2021
Burbank to Los Angeles	June 2021
Los Angeles to Anaheim	March 2021
Phase II	
Los Angeles to San Diego	To Be Determined
Merced to Sacramento	To Be Determined

- Right-of-Way Acquisition.** HSRA has identified 1,796 parcels of land necessary for construction of the ICS and has acquired 1,471 of them.
- Project Construction.** In 2015, HSRA initiated construction on the ICS. To date, HSRA has spent about \$3.9 billion on construction of the ICS. This includes the completion of major structures, such as the construction of the Fresno River Bridge and Tuolumne Street Bridge, and the realignment of a portion of State Route 99. HSRA currently estimates it will complete the ICS by 2022.



Major Features Of The 2019 PUR

■ Changes Focus of Project to Merced-to-Bakersfield Segment

- The 2019 PUR proposes to focus the state’s efforts on constructing the segment between Merced and Bakersfield, rather than the ICS (as was proposed in the 2018 business plan). The HSRA proposes to launch interim services on the Merced-to-Bakersfield segment by 2028. (Previously, HSRA proposed operating early, interim services on the ICS and San Francisco-to-Gilroy segment by 2027.)
- HSRA expects this service to require an operational subsidy, and be provided by an interim passenger train operator in order to facilitate compliance with the requirements under Proposition 1A.

■ Incorporates Feedback From Early Train Operator (ETO)

- The proposal to focus on the segment from Merced to Bakersfield is informed by the results of a study by an ETO. HSRA retained this ETO to evaluate options for providing interim passenger rail service, focusing on the San Francisco-to-Gilroy and the Merced-to-Bakersfield segments.
- The ETO made various assumptions, such as the completion of certain other transportation-related capital projects, the establishment of highly integrated rail and bus service connections to the interim high-speed rail service, and the termination of existing San Joaquin service south of Merced. Given these assumptions, the ETO concluded that the Merced-to-Bakersfield segment is the preferred option for launching early interim high-speed rail service.

■ Reflects Higher Cost Estimates for Constructing ICS

- The HSRA’s proposed approach is also informed by its revised cost estimates. Specifically, the 2019 PUR estimates the baseline cost of constructing the ICS at \$12.4 billion, which is \$1.8 billion higher than the 2018 business plan estimate. HSRA indicates that this difference primarily reflects the inclusion of a larger contingency as part of its baseline budget for the ICS. (The



Major Features Of The 2019 PUR

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baseline budget includes a contingency amount to account for unanticipated costs that may arise.)

- Specifically, HSRA is now setting its contingency such that it estimates there is a 70 percent chance that the segment will stay within its baseline budget, consistent with industry best practices. Previously, HSRA had set its contingency such that, based on its models, there was only a 10 percent chance costs would stay within the baseline budget. According to HSRA, cost increases due to delays and other factors as well as scope changes account for the remainder of the increased ICS cost.
- **Does Not Revise Cost Estimates for Constructing Remainder of Project**
 - The 2019 PUR does not reevaluate the cost estimates for the full Phase I of the project to reflect its revised approach to setting contingencies or other factors such as potential escalation costs due to possible schedule changes.
- **Identifies Funding From Various Sources**
 - As shown in the figure on the next page, HSRA identifies funding from various sources —including Proposition 1A bond funds, federal grants, and cap-and-trade revenues through 2030—will generate a total of between \$20.5 billion and \$23.5 billion.
 - HSRA estimates this funding will be sufficient to cover the estimated \$20.4 billion costs to (1) construct the Merced-to-Bakersfield segment (\$16.3 billion) and (2) purchase trains, conduct environmental work for the balance of Phase I, fund bookend projects, and complete other associated work (\$4.1 billion).



Major Features Of The 2019 PUR

(Continued)

HSRA's Estimated Funding Available and Costs	
<i>(Dollars in Billions)</i>	
Funding	Amount
Federal Funds	
ARRA	\$2.6
FY10	0.9
Subtotal	(\$3.5)
State Funds	
Proposition 1A (non-bookends)	\$7.5
Proposition 1A (bookends)	1.1
Cap-and-trade received through December 2018	2.4
Future cap-and-trade ^a	6.0 - 9.0
Subtotal	(\$17.0 - \$20.0)
Total Funding Available	\$20.5 - \$23.5
Costs	Amount
Merced to Bakersfield construction	
Initial Construction Segment	\$12.4
Merced extension	2.5
Bakersfield extension	1.4
Subtotal, Merced to Bakersfield construction	(\$16.3)
Bookends	1.3
Phase 1 environmental balance	0.8
Trains	0.7
Other costs	1.3
Total Cost	\$20.4

^a Assumes between \$500 and \$750 million in annual cap-and-trade revenues to HSRA through 2030.
 HSRA = High-Speed Rail Authority; ARRA = American Recovery and Reinvestment Act; and FY10 = 2010 High-Speed Intercity Passenger Rail grant.

- **Assumes Availability of Additional Funding for Remainder of Phase I**
 - The 2019 PUR continues to suggest that the state's goal is to complete Phase I. However, the 2019 PUR does not identify funding sources to construct the rest of Phase I (beyond the Merced-to-Bakersfield segment).



Key Issues For Legislative Consideration

- **Success of Interim Service Depends on Various Factors.** As previously indicated, the ETO’s analysis was based on various assumptions about the completion of other transportation capital projects and the operation of other rail and bus services. Should these assumptions not materialize, interim high-speed rail service likely would not be able to generate the ridership benefits, and associated operational revenues, estimated by the ETO.
- **Actual Project Costs Could Be Even Higher.** The cost estimates reflected in the 2019 PUR are subject to substantial uncertainty, and there is significant risk that the cost estimates for the project—particularly the portions beyond the ICS—could continue to grow. This is in part because there is inherent uncertainty regarding the cost of a project of this scale and complexity, particularly for portions of the project in the early planning stages. Additionally, the 2019 PUR only applies the revised, less aggressive approach to setting a contingency level to a portion of the project. If HSRA applied this revised approach to the full Phase I of the project, we would expect that the estimated baseline budget would be higher than \$79.1 billion.
- **Unclear if Funding Sufficient to Complete Merced to Bakersfield.** While HSRA estimates it will have sufficient funding to construct the Merced-to-Bakersfield segment and other work required to launch interim service and meet commitments to local and federal partners, its funding plan relies on funding sources that are subject to substantial uncertainty. For example, it assumes that the state will retain the \$3.5 billion of federal grants that the federal government may rescind. Additionally, the funding plan relies on estimates of cap-and-trade revenues, which, while reasonable, are subject to uncertainty. To the extent that the state has to return some or all of the federal grant awards, the level of auction revenues assumed in the plan do not materialize, or the project’s costs are significantly higher than estimated, the state would need to identify other funds sources to help pay for the Merced-to-Bakersfield segment and other related state funding commitments—likely the General Fund.



Key Issues For Legislative Consideration

(Continued)

- **No Funding Plan Beyond Merced to Bakersfield.** At this time, HSRA has not specifically identified how the over \$60 billion in estimated construction costs for the portions of Phase I beyond the Merced-to-Bakersfield segment would be funded. Thus, there is significant risk that the state would have to cover the large majority of any funding gap. Additionally, if project costs are ultimately higher than anticipated, this funding gap would be even greater.
- **Legislature Has Other Options for Moving Forward.** Given the shift in the focus of the project reflected in the 2019 PUR and the significant funding gap for the completion of Phase I, it is a good opportunity for the Legislature to evaluate how it would like to move forward. Completing the Merced-to-Bakersfield segment, as proposed, is one option available to the Legislature. However, it is not the only viable option. For example, the Legislature could fund a shorter or longer segment than is currently proposed. Additionally, the Legislature could consider whether to pursue electrified non-high speed service or conventional diesel service rather than the electrified high-speed service that is proposed. The 2019 PUR does not identify or evaluate this full range of options. Accordingly, the Legislature may wish to seek additional information on possible options from HSRA.



Key Issues For Legislative Consideration

(Continued)

- **Some Key Considerations for Evaluating Options.** Once the full range of options has been identified, there are a variety of considerations that the Legislature may wish to weigh as it evaluates them, including:
 - **Costs.** What are the costs associated with the options? For example, based on information in the 2019 PUR, the construction of the ICS is anticipated to cost \$12.4 billion. The addition of the Merced and Bakersfield extensions are estimated to add \$2.5 billion and \$1.4 billion to the costs, respectively.
 - **Transportation Benefits.** What are the accessibility and mobility benefits of the options? How do they compare to the accessibility and mobility benefits of other possible uses of capital and operating funds? For example, the ETO finds that the Merced-to-Bakersfield segment should improve travel times and increase ridership compared to shorter segments terminating at Madera or Poplar Avenue. However, the Legislature will want to weigh whether these benefits outweigh the expenditure of nearly \$4 billion combined on these extensions.
 - **Effects on Local Communities.** What are the effects of the options on local communities and how do they compare to other possible uses of the funds? For example, depending on where construction activities take place, the options may result in different levels and distributions of economic benefits to various local communities.
 - **Major Risks and Uncertainties.** What are the major risks and uncertainties associated with various options and what is the Legislature’s tolerance for these risks? For example, some risks include those related to possible construction cost increases, coordination with other rail and transit providers, and potential lack of compliance with Proposition 1A or federal funding requirements.

