MARCH 8, 2022

High-Speed Rail Draft 2022 Business Plan

PRESENTED TO:

Senate Transportation Committee
Hon. Lena Gonzalez, Chair
and
Senate Budget Subcommittee No. 5 on Corrections, Public Safety, Judiciary, Labor and Transportation
Hon. María Elena Durazo, Chair

LEGISLATIVE ANALYST'S OFFICE

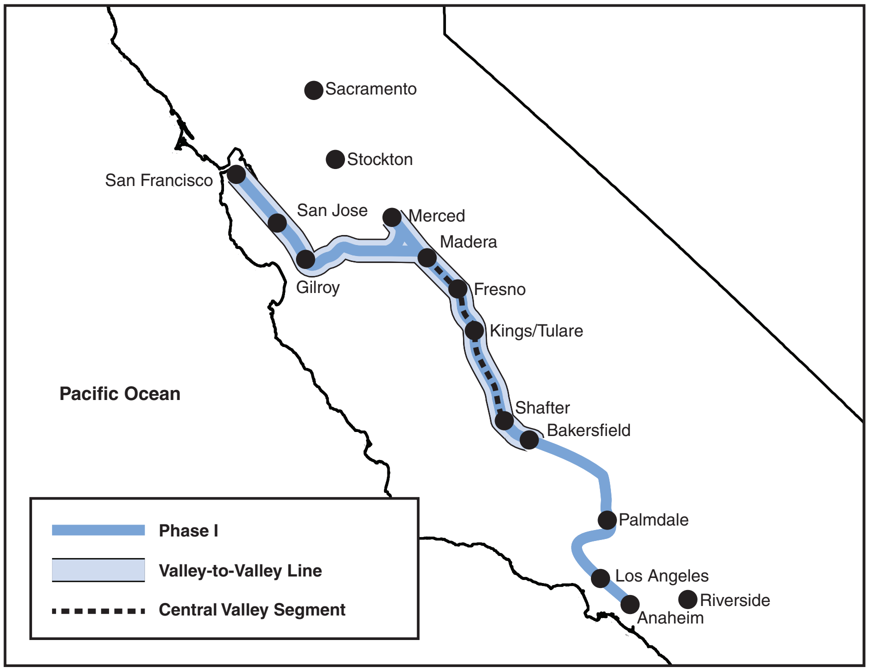
Introduction

Statutory Requirements for Business Plan. 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. On February 8, 2022, the HSRA released a draft of its 2022 business plan. The authority must adopt a final business plan by May 1, 2022, following public review and comment on the draft plan.

Overview of Handout. This handout (1) provides background information on the planned high-speed rail system, (2) describes the major features of the draft 2022 business plan, (3) identifies some preliminary issues for legislative consideration, and (4) discusses key decisions facing the Legislature.

Project Delivery Plan

High-Speed Rail Project Divided Into Multiple Segments



Phase I Consists of Multiple Segments. Phase I would provide service for about 500 miles from San Francisco to Anaheim. As shown in the figure, delivery of Phase I is divided into segments, including an initial operating segment—commonly referred to as the Valley-to-Valley line. The Valley-to-Valley line is itself divided into multiple segments, beginning with the Central Valley Segment (CVS), 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).

Bookend and Connectivity Projects. In addition, HSRA has initiated a variety of projects on commuter rail lines. These include "bookend projects" along the proposed high-speed rail alignment in the San Francisco Bay Area and Southern California. For example, a significant bookend project is the planned electrification of the Caltrain Corridor in the San Francisco Bay Area. Additionally, they include "connectivity projects," which provide benefits to existing commuter rail systems that connect to the high-speed rail system.

Project Funding and Expenditures to Date

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.)
- The Legislature has appropriated $5.6 billion from Proposition 1A, and about $4.6 billion has been spent—$3.9 billion on the high-speed rail project and about $780 million on connectivity projects.
- The Governor's 2022-23 budget requests $4.2 billion in Proposition 1A funds for high-speed rail—$4.1 billion for construction work on the CVS and $100 million for planning activities—which represents nearly all of the remaining unappropriated funds. According to the administration, this request should be considered as a package along with $4.9 billion General Fund proposed for transportation infrastructure. We note that the $4.2 billion was initially requested as part of the 2021-22 budget, but was not ultimately acted upon by the Legislature.

Cap-and-Trade Auction Revenues

- In 2014, the state began providing cap-and-trade auction proceeds for the high-speed rail project. Beginning in 2015-16, the project has received a continuous appropriation of 25 percent of cap-and-trade revenues. Currently, cap-and-trade is authorized through 2030.
- Through October 2021, the project has received about $4.5 billion in cap-and-trade revenues and spent about $2.5 billion of these funds.

Project Funding and Expenditures to Date

(Continued)

Federal Funds

- The federal government has awarded HSRA two major grants totaling $3.5 billion. First, the state received $2.6 billion in American Recovery and Reinvestment Act (ARRA) funds in 2009. HSRA has fully expended the ARRA funds. Second, the state received a $929 million grant from the federal High-Speed Passenger Rail program in 2010 (FY 10 Federal Grant). The federal grant agreements included certain conditions, including that the state (1) use the funds to support the construction of a segment useable for intercity passenger rail and (2) complete all environmental reviews for Phase I.
- In May 2019, the federal government terminated the FY 10 Federal Grant. However, the state challenged this decision in court. In June 2021, the federal government announced that it had reached a settlement with the state to restore this funding. As part of this settlement, HSRA entered into a revised agreement with the federal government, which includes certain modified conditions. Notably, the revised agreement specifies that HSRA is to install electrified track on the CVS by December 2026.

Project Status

Anticipated Schedule for Completing Environmental Reviews of High-Speed Rail Project

Project Section	Date
San Francisco to San Jose	Quarter 2 2022
San Jose to Carlucci Road	Quarter 1 2022
Central Valley Wye Balance	Complete
Merced to Bakersfield	Complete
Bakersfield to Palmdale	Complete
Palmdale to Burbank	Quarter 1 2023
Burbank to Los Angeles	Complete
Los Angeles to Anaheim	Quarter 4 2023

- ***Environmental Reviews.*** HSRA has completed the environmental reviews for roughly 300 miles of the project alignment in the Central Valley and Southern California.
- ***Right-of-Way Acquisitions.*** HSRA has acquired about 90 percent of the parcels necessary for construction of the CVS (2,067 of 2,286 parcels as of February 2022).
- ***Project Construction.*** In 2015, HSRA initiated construction on the CVS. (The CVS is divided into four construction packages.) To date, HSRA has completed several major structures, such as overpasses, the Garces Highway Viaduct, as well as the realignment of a portion of State Route 99. HSRA estimates it will complete the civil works for the CVS by the end of 2023.
- ***Track and Systems Contract.*** HSRA is currently in the process of selecting a contractor to complete this contract on the Valley-to-Valley line, which would include the construction of track and associated systems (such as electric catenary systems and signal systems), as well as 30 years of maintenance on the infrastructure. The contract would be broken into geographic segments—starting with the CVS—and the contractor could not begin with each one until it receives a notice to proceed from HSRA. The bids are anticipated to be received in July 2022 and the contract is anticipated to be awarded sometime in the third quarter of 2022.

Major Features of Draft Plan—Project Delivery

Major Elements of the Draft Plan Similar to 2020 Business Plan

- **Continues Plan to Extend CVS to Merced and Bakersfield**
  - The draft plan continues the approach first presented in 2019 of focusing the state's efforts on construction of a segment from Merced to Bakersfield. This includes construction of the CVS—which is currently underway—as well as extensions to Merced and Bakersfield.
  - HSRA proposes to launch interim high-speed passenger service on the Merced-to-Bakersfield segment by the end of the decade. HSRA does not anticipate being the operator of the interim service. Instead, it expects to lease the right to use its track to the San Joaquin Joint Powers Authority, which currently oversees the Altamont Corridor Express (ACE) and San Joaquins services.
  - The interim service would connect to ACE and the San Joaquins services in Merced. Currently, the planned high-speed rail station in Merced is not in the same location as the existing station served by the San Joaquins service or the new station planned to serve ACE (when ACE is extended to Merced). The draft plan identifies the goal of establishing a single station in Merced that serves all three rail lines, but additional investments would need to be made to provide this connectivity.
- **Continues to Plan for Other Segments of Phase I**
  - HSRA continues to work towards completing the environmental reviews for the remainder of Phase I, consistent with the federal grant requirement. According to HSRA, it intends to advance design for each section of Phase I as it is environmentally cleared, in order to improve its understanding of potential engineering and construction issues, as well as potential risks and costs.
  - The draft plan continues to envision the Valley-to-Valley line being completed after the CVS, followed by the Southern California segments.

Major Features of Draft Plan—Project Delivery

(Continued)

- **Single and Double Track Included as Options Depending on Funding Availability**
  - The draft plan continues to anticipate that HSRA will ask the bidders on the track and systems contract to include bids for both single and double track options. The plan envisions that two tracks would be constructed if funding is available.
  - If not, a single track along the CVS would initially be constructed, and then the Merced and Bakersfield extensions. Under this scenario, HSRA would use the single track for interim service on the Merced to Bakersfield segment, and work towards adding a second track in a future phase.

Major Features of Draft Plan—Schedule Projections

- ***Reflects Delays in a Few Activities Compared to 2020 Plan.*** The draft plan identifies delays in some near-term activities. For example, under the plan, (1) the track and systems contract is anticipated to be awarded in the 3rd quarter of 2022 (rather than August 2021 under the 2020 plan), (2) the environmental reviews for Phase I are anticipated to be completed sometime in 4th quarter 2023 (rather than June 2023 under the 2020 plan), and (3) CVS right-of-way acquisitions are anticipated to be completed by the end of 2023 (rather than the end of 2022 under the 2020 plan).
- ***Does Not Revise Schedule Beyond CVS.*** The draft plan still assumes interim service between Merced and Bakersfield will launch by the end of the decade, Valley-to-Valley will be completed by 2031, and Phase I will be completed by 2033. According to HSRA, these dates assume full funding for Phase I.

Major Features of Draft Plan—Cost Projections

Base Capital Cost Estimates for Phase I

(In Billions)

Segment/Activity	2020 Business Plan	2022 Draft Business Plan	Change from 2020 to 2022
Merced to Bakersfield	**$22.4 - $23.9**	**$22.5 - $23.9**	**$0.1**
Central Valley Segment	13.8	13.9	0.1
Other program baseline costs	4.5	4.5	—
Merced and Bakersfeld extensions	3.1 – 4.5	3.1 – 4.5	—
Merced to Bakersfeld (second track)	1.1	1.1	—
Northern California	**$17.7**	**$17.7**	**—**
San Francisco to San José	1.6	1.6	—
San José to Gilroy	3.2	3.2	—
Gilroy to Carlucci Road	10.4	10.4	—
Central Valley Wye Balance	2.2	2.2	—
Advance Design Costs	0.2	0.2	—
Southern California	**$37.1**	**$41.4**	**$4.3**
Bakersfeld to Palmdale	15.7	18.4	2.7
Palmdale to Burbank	16.8	16.8	—
Burbank to Los Angeles	1.4	2.9	1.6
Los Angeles to Anaheim	2.9	2.9	—
Advance Design Costs	0.4	0.4	—
Other System Costs	**$5.1**	**$5.1**	**—**
Heavy Maintenance Facility balance	0.5	0.5	—
Trainset balance	4.6	4.6	—
Total Costs	**$82.4 - $83.8**	**$86.7 - $88.2**	**$4.3**

- ***Draft Plan Estimates $4.3 Billion in Higher Costs, Even With Only Partial Update.*** The draft plan estimates total estimated base costs to complete Phase I at between $86.7 billion and $88.2 billion, an increase of about $4.3 billion over the 2020 business plan. However, as discussed below, and shown in the figure, this only reflects a partial update of cost estimates.

Major Features of Draft Plan—Cost Projections

(Continued)

- ***Reflects Higher Cost Estimates for Constructing Two Southern California Segments.*** The draft plan updates the cost estimates for two Southern California segments that were environmentally cleared recently. Specifically, the cost estimate for (1) the Bakersfield-to-Palmdale segment increases by $2.7 billion (17 percent) and (2) the Burbank-to-Los Angeles segment increases by $1.6 billion (116 percent). These revised estimates include costs of additional work that HSRA anticipates completing to address community concerns, such as related to project noise, visual impacts, and connectivity to the Burbank Airport.
- ***Makes Minor Adjustments to CVS Cost Estimate.*** The draft plan increases the estimated cost for the CVS by roughly $76 million to reflect costs of work to address community concerns in the City of Wasco and an updated risk assessment for one of the CVS construction packages. The draft plan does not revise the estimate of the cost of the CVS to incorporate other factors, such as the settlement of outstanding contractor claims for change orders.
- ***Does Not Revise Other Cost Estimates.*** The draft plan does not make any adjustments to the cost estimates for the other segments of Phase I—such as from San Francisco to Merced—to account for factors such as cost escalation.

Major Features of Draft Plan—Funding Sources

Estimated Funding Available and Merced-to-Bakersfield Costs
(In Billions)

	Amount
Projected Funding	
Federal Funds	
ARRA	$2.6
FY 10 federal grant	0.9
RAISE	—[a]
Subtotal, federal funds	($3.5)
State Funds	
Proposition 1A	$8.5
Cap-and-trade received through October 2021	4.5
Future cap-and-trade	4.5 - 8.7
Subtotal, state funds	($17.5 - $21.7)
Total Funding Available	**$21.0 - $25.2**
Merced-to-Bakersfield Costs	
Central Valley Segment	$13.9
Other program baseline costs[b]	4.5
Merced and Bakersfeld extensions	3.1 – 4.5
Merced to Bakersfeld (second track)	1.1
Total Costs	**$22.5 - $23.9**

[a] In November 2021, the High-Speed Rail Authority received a $24 million grant from the federal government for additional project scope in Wasco.

[b] Includes bookends, program support, and environmental work.

RAISE = Rebuilding American Infrastructure with Sustainability and Equity; ARRA = American Recovery and Reinvestment Act; and FY = fiscal year.

- ***Continues to Identify Funding From Various Sources.*** HSRA estimates that available funding sources will provide a total of between $21 billion and $25.2 billion, depending on future cap-and-trade auction revenues. These estimates are somewhat higher than the range assumed in the 2020 business plan ($20.6 billion to $23.1 billion). HSRA estimates this funding will be roughly sufficient to cover the estimated $22.5 billion to $23.9 billion in costs to complete Merced to Bakersfield and meet existing commitments to state and local partners, such as for bookend projects.

Major Features of Draft Plan—Funding Sources

(Continued)

- ***Assumes Higher Cap-and-Trade Revenues.*** The main difference is that the 2022 draft plan assumes more funding will be available from cap-and-trade than was assumed in the 2020 business plan. This is because the draft plan reflects higher than anticipated cap-and-trade revenues in recent auctions, and also includes a scenario in which those higher revenues continue through 2030.
- ***Does Not Identify Specific Funding for Remainder of Phase I.*** The draft plan continues to suggest that the state's goal is to complete Phase I. However, it does not identify specific funding to construct the rest of Phase I (beyond the Merced-to-Bakersfield segment).

Key Issues for Legislative Consideration

Recent HSRA Agreement Complicates Legislative Choices

- ***Agreement With Federal Government Commits to Electrifying CVS.*** As mentioned previously, in June 2021, HSRA entered into a revised grant agreement with the federal government as part of the settlement of FY 10 Federal Grant litigation. Unlike prior grant agreements with the federal government, this revised agreement specifically identifies electrification of the CVS as a task that will be completed with the grant funds. This commits the state to electrifying the CVS, unless it is able to renegotiate the agreement or potentially put the FY 10 Federal Grant funds at risk.
- ***Electrified CVS Likely to Have Limited Stand-Alone Value.*** Unless connected to a larger system, an electrified CVS would be of minimal value because it likely would be impractical to run electrified service only on a 119-mile segment between Madera and Shafter.
  - Should HSRA electrify the CVS, it would likely make sense to extend the CVS to more logical transportation connection points, such as in Merced and Bakersfield. An electrified 171-mile segment between Merced and Bakersfield would likely have more stand-alone utility than an electrified CVS.
  - However, the utility of this segment would depend heavily on whether future transportation investments are made, such as how well the Merced-to-Bakersfield line was connected to and synchronized with existing rail services, such as those provided by ACE and the San Joaquins.

Key Issues for Legislative Consideration

(Continued)

Unclear if Sufficient Funding to Complete Merced-to-Bakersfield Segment

- ***Costs Could Increase, Particularly Since Draft Plan Does Not Fully Update Cost Estimates.*** The project has a history of cost increases, and there is inherent cost risks associated with large and complex construction projects. Furthermore, the draft plan does not make any significant revisions to the cost estimates for the Merced-to-Bakersfield segment. This absence of current information makes it very difficult for the Legislature to make informed decisions, such as on the proposed appropriation of Proposition 1A funds.
  - If the costs of the Merced-to-Bakersfield segment had been fully updated, they would likely be markedly higher than those presented in this draft plan. This is in part because the draft plan does not fully incorporate outstanding claims made by CVS contractors, which could be substantial.
  - Additionally, the state has experienced high levels of construction cost increases over the past year, which we would expect to increase the estimated costs of the project, including the Merced and Bakersfield extensions and the track and systems procurement. We note that the California Construction Cost Index increased by 13.4 percent in 2021.
- ***Some Expected Funding May Not Materialize.*** For example, the funding plan includes a scenario that assumes that higher cap-and-trade revenues continue through 2030. Specifically, HSRA assumes that our office's recent projections of such revenues for 2021-22 and 2022-23 continue through 2030. We caution, however, that there is uncertainty regarding cap-and-trade revenues, and that this uncertainty grows substantially the further into the future they are projected. Accordingly, the project could receive a smaller amount of cap-and-trade revenues than is assumed in the draft plan.

Key Issues for Legislative Consideration

(Continued)

No Funding Plan Beyond Merced to Bakersfield

- HSRA's current estimate is that the additional costs to complete Phase I would be about $65 billion, and it appears that over $17 billion of these costs would be needed to complete Valley to Valley. However, these estimates are subject to substantial uncertainty, particularly given the state has experienced significant construction cost escalation since they were last comprehensively updated. Additionally, the costs for some of these segments are subject to considerable uncertainty given that they are in the early planning stages and involve relatively complex and unpredictable work.
- At this time, HSRA has not identified how the construction costs for the portions of Phase I beyond the Merced-to-Bakersfield segment would be funded. HSRA has raised the possibility of using some of the funding in the Governor's proposed transportation package (such as funding for grade separations); extending cap-and-trade through 2050 and securitizing HSRA's continuous appropriation; and seeking additional federal funding, including from various competitive grant programs authorized as part of the federal Infrastructure Investment and Jobs Act. However, these funding sources are subject to substantial uncertainty and appear unlikely to be sufficient to fully fund Phase I.

Key Issues for Legislative Consideration

(Continued)

Future HSRA Actions Could Constrain Alternatives

- ***Awarding Track and Systems Contract.*** HSRA indicates that it plans to award a contract for track and systems later in 2022. Such a contract is anticipated to include electrification, which would further commit the state to that approach.
- ***Undertaking Activities Beyond Merced to Bakersfield.*** Despite the lack of funding to complete anything beyond the Merced-to-Bakersfield segment, HSRA plans to start undertaking additional activities outside of this segment. Specifically, HSRA indicates it plans to begin advancing design on other segments starting as soon as they are environmentally cleared. This advance design work is expected to identify parcels for future purchase, among other things.
- ***Potential Additional Requirements From Possible Federal Funding.*** HSRA indicates that it expects to seek federal funds—such as from the federal Infrastructure Investment and Jobs Act—to help support the project. This could include funding to support the advance design work discussed above or other work in both the Merced and Bakersfield extensions, as well as in other portions of Phase I. It will be important to ensure that the requirements of future federal grant agreements align with legislative priorities and expectations.

Legislature Faces Key Decisions

Central Choice Facing Legislature Is Commitment to Providing Additional Funding

- A fundamental choice facing the Legislature is its level of commitment to fully funding the project—not just the Merced-to-Bakersfield segment, but also future project segments.
- Depending on the scope it is committed to funding, the Legislature will want to take different actions with regard to funding, as well as providing statutory direction. It will be important for the Legislature to make decisions about its preferred approach soon given that HSRA is likely to continue to take actions to advance its plan to complete an electrified Merced-to-Bakersfield segment and make progress toward other segments of Phase I, as discussed above.

If Committed to Merced to Bakersfield and Beyond, Approve Proposition 1A Request

- If the Legislature is comfortable with HSRA's proposed approach and is committed to fully funding not only the Merced-to-Bakersfield segment, but the full Phase I, it makes sense to appropriate the Proposition 1A funding as requested.
- We note that there would be risk that the state would need to identify additional funding in future years to complete the current Merced-to-Bakersfield scope, if there are additional cost increases and/or some expected funding does not materialize. Additionally, substantially more state funding would likely be required to complete Phase I, likely from the General Fund. (We note that if the Legislature were to choose to dedicate General Fund to construction of the high-speed rail project, those expenditures would likely be excludable from the state appropriations limit.)

Legislature Faces Key Decisions

(Continued)

If Legislature Would Like to Preserve Its Flexibility, May Want to Consider Other Actions

- If the Legislature would like to preserve flexibility to pursue other approaches than the one planned by HSRA, we recommend it consider making (1) budget decisions that preserve natural decision points and fiscal control and (2) statutory changes to preserve its choices.
  - ***Preserving Natural Decision Points and Fiscal Control.*** One important aspect to preserving the Legislature's flexibility would be to ensure that the Legislature retains some natural decision-making points through the budget process. For example, the Legislature could consider:
    - ***Delaying Action on Some or All of Requested Proposition 1A Funds.*** This would allow the Legislature to retain a natural decision-making point, since HSRA would have to return at a future date to request the remaining funds.
    - ***Modifying Continuous Cap-and-Trade Appropriation for Project.*** For example, the Legislature could allocate a specific annual amount to the project as part of the annual budget process, rather than continuously appropriating a set percentage of auction revenue. The Legislature could set this specific amount to more closely match the projected cash flow needs of the project than the continuous appropriation. This approach would have the advantage of increasing the Legislature's natural decision-making points and also increasing accountability, since HSRA would have to request funds annually from the Legislature.

Legislature Faces Key Decisions

(Continued)

- ***Statutory Changes to Preserve Choices.*** Another important element of preserving the Legislature's flexibility would be to ensure that HSRA is held accountable and does not make commitments that limit future legislative choices. For example, the Legislature could consider:
  - ***Limiting Use of Funds.*** The Legislature could adopt budget trailer language that limits or prevents HSRA from expending funds beyond whatever scope the Legislature is committed to funding, except as required under existing federal grant agreements. Such language could be important because, absent such limitations, HSRA could use its cap-and-trade funds beyond the Central Valley—potentially resulting in stranded assets should the Legislature ultimately decide not to fully fund a larger segment and exacerbating a potential funding gap to the extent HSRA diverts funds from Merced to Bakersfield to other areas.
  - ***Limiting Ability to Commit State.*** The Legislature could adopt budget trailer language limiting or preventing HSRA from committing the state—such as through terms of grant agreements—to undertaking work beyond what the Legislature is comfortable committing to funding, as specified in statute. This could be important given that HSRA has entered into past grant agreements that have constrained legislative choices.