



May 1, 2024

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California

Dear Governor and Legislative Leaders:

This letter summarizes a review conducted by the Office of the Inspector General, High-Speed Rail (OIG-HSR) of the California High-Speed Rail Authority's (Authority) May 2024 Business Plan (business plan). In accordance with Public Utility Code 187038 (a), the OIG-HSR provides this letter report summarizing its findings and recommendations regarding the Authority's business plan, which state law requires the Authority to publish on May 1 of every even numbered calendar year. As described below, we reviewed a draft of the business plan and, during March 2024 legislative hearings, shared our initial concerns regarding certain weaknesses we observed in the draft. Since that time, we have completed our review of the business plan and determined that the Authority resolved many of our initial concerns but did not fully resolve others. We also found additional areas in which the Authority's annual reports could be improved. Finally, based on additional information provided by the Authority in its business plan and our review of the Authority's underlying support, we highlight some critical aspects of the Merced-to-Bakersfield segment, including the project schedule for completing the segment, that require strategic focus from the Authority and state lawmakers.

The OIG-HSR Completed Reviews of the Authority's Annual Reports and Shared Its Concerns with the Authority and State Lawmakers

In 2023, following a process established in state law, the Legislature and Governor's Office appointed California's first Inspector General for High-Speed Rail. The stated purpose of establishing the OIG-HSR, which began its operations on September 1, 2023, is to better ensure the success of the high-speed rail project (project) and meet the expectations of taxpayers by ensuring that information state decisionmakers have about the project is accurate, current, and impartial.

In January 2024, our office issued a letter summarizing our review of the Authority's 2023 Project Update Report and began reviewing the Authority's draft business plan. Based on these reviews, we shared some initial concerns about the draft plan in meetings with the Authority and in legislative hearings. In doing so, we highlighted the need for the Authority to do the following:

- Publish a more detailed funding plan for the Merced-to-Bakersfield segment.
- Formally establish a policy on when it will update project costs.
- More clearly address each statutorily required reporting element.
- Better describe its progress in establishing needed operating agreements, as well as the implementation of management controls designed to mitigate key project risks.

Through April 2024, we followed up on these and other concerns and continued reviewing the business plan—including the revised version of the plan the Authority subsequently released—as well as the Authority's underlying support. In the sections that follow, we describe the concerns that the Authority addressed with revisions to its business plan, as well as those concerns that were not fully resolved. We also highlight additional improvements the Authority should make to its annual reports going forward and some critical areas in need of strategic focus by the Authority and state lawmakers.

The Authority Resolved Many of the Concerns We Expressed Regarding Its Draft Business Plan

We are pleased to report that the Authority made progress in addressing the initial concerns we raised regarding the draft business plan, some of which extend back to the Authority's 2023 Project Update Report. Specifically, the Authority completed the following:

- On April 11, at the same meeting during which the Authority's board approved the revised business plan, the Authority proposed and its board adopted a policy outlining the circumstances under which the Authority will update capital cost estimates for the Merced-to-Bakersfield segment as well as the remainder of Phase 1. In implementing our recommendation from the 2023 Project Update Report, the new policy sets minimum criteria defining the circumstances under which stakeholders can expect to see such cost updates in subsequent annual reports.

- The Authority made improvements to the revised business plan by including elements that are required by state law but that were missing from the draft plan. Examples of these now-present elements include the following:
 - Specific costs related to the acquisition of right-of-way for the Merced and Bakersfield extensions.
 - Actual capital expenditures to date for various cost elements of the project.
 - The Authority’s level of confidence for the prospective sources of funding it has identified.
- The Authority worked proactively with our office to address concerns we raised about the completeness and transparency of the draft business plan’s discussion of risks to the project and actions the Authority is taking in response. As a result, the revised plan includes a more complete discussion of the project’s top risks and gives stakeholders valuable information about the status of the Authority’s efforts to respond.
- The Authority increased the precision of the revised business plan’s appendix, which identifies the location of statutorily required information throughout the document.

Finally, the Authority took important steps in its revised business plan toward implementing the second of our two Project Update Report recommendations—improving the usefulness of the Merced-to-Bakersfield funding plan. Although we do not believe our recommendation is fully implemented, which we explain in detail below, the business plan now includes a table identifying federal grant funding opportunities for unfunded elements of the Merced-to-Bakersfield segment. The table also identifies the latest dates the Authority can secure that funding and still complete the segment inside the schedule “envelope” of 2030-2033 that it introduced in the 2023 Project Update Report. This improvement in the funding plan and the other improvements to the revised business plan described above represent progress towards increased clarity and transparency in the Authority’s report to state lawmakers and other stakeholders. Even so, as we describe below and in the following sections, there still existed areas for improvement in the funding plan and other parts of the Authority’s annual reports.

For example, following the adoption of the revised business plan on April 11, 2024, we determined that several issues with the plan’s clarity and completeness remained. In response to our ongoing concerns, the Authority made further revisions to the plan, which included the following:

- Adding two statutorily required elements that the revised plan did not contain—right-of-way costs for the 119-mile Central Valley portion of the Merced-to-Bakersfield segment and the expected schedule for completion of right-of-way acquisition for the segment. With respect to the latter, the Authority added text about its progress and planning for right-of-way acquisition; because of the amount of detail in this new text, we were unable to verify its accuracy. However, we noted that the newly provided date of right-of-way completion—fiscal year 2026-27— is less specific than and may or may not be consistent with the acquisition completion dates for the extensions in the Authority’s approved Merced-to-Bakersfield schedule, which are June and November 2026.¹
- Providing additional context about the planned Merced-to-Bakersfield operating agreements to update stakeholders about the apparent lack of progress in that area between the 2023 Project Update Report and the 2024 draft and revised business plans.²
- Adding detail to its discussion of operations and maintenance cost estimates that explains why, despite the described increase in overall costs, some of the business plan’s estimates are lower than previous estimates. To provide additional clarification for readers of the plan, we also note here that this newly added context applies specifically to the Phase 1 cost estimates.

The Authority’s Funding Plan Needs Further Development

Although the Authority’s revised Merced-to-Bakersfield funding plan is an improvement on past funding plans, it does not completely implement our recommendation and stops short of fully informing project stakeholders on the likelihood of receiving federal grant funding in time to keep the Merced-to-Bakersfield segment on schedule. In its revised business plan, the Authority provided Table 3.3. That version of the table focused solely on approximately \$7 billion in

¹ We discuss the schedule for the segment in more detail in the final section of this letter.

² The business plan’s discussion of this issue now indicates the agreements will be reached in order to meet a “timeline for revenue service by [the Authority’s] 2030 to 2033 schedule window.” However, Exhibit 2.7 still reflects a completion date of 2030 for the final operating agreements. As such, there continues to be a degree of uncertainty about the most likely timing of the agreements.

federal grant opportunities and did not provide a clear breakdown of the funding gap for the segment. After we expressed concern with this focus, the Authority added the “Total Scope” and “State Match” columns shown in Table 3.3 of the final business plan. Although they represent an improvement in terms of the plan’s detail, we did not have time to validate the newly provided totals or the Authority’s explanation of those totals. We will do so in our review of subsequent annual reports. This improvement notwithstanding, we remain concerned with the following aspects of the funding plan:

- The revised funding plan does not provide dates to keep the segment on the Authority’s current schedule. The range of dates included in the funding plan spans from an optimal date of securing funding of “now” to the last possible time at which to secure funding and still complete the segment by 2033. This presentation does not tell stakeholders when funding would need to be secured to have the segment completed by the end of 2030—the official completion date in the Authority’s project schedule. Although providing the later date that would make 2033 achievable is of value, presenting stakeholders with an ideal date of “now” is unrealistic and therefore unhelpful. A better approach would be to provide stakeholders a range of dates that aligns with both ends of the segment completion window.
- The revised funding plan lists federal grants that the Authority considers a best fit for each unfunded component of the Merced-to-Bakersfield segment, but it does not provide any further analysis of the relative prospects of securing those funds by the dates listed. Table 3.2 of the business plan provides a description of, and the total amount appropriated for, the federal grant programs in question. However, the plan contains no further analysis of how much of that appropriated funding remains or how much the Authority might reasonably expect to obtain from these sources. Indeed, although the Authority separately states that its confidence level in continued federal funding is high should the current federal administration continue past 2024, it is not clear from the funding plan itself or any underlying support we have reviewed why the Authority would have a high level of confidence in receiving the necessary funding from the federal grants listed in Table 3.3, particularly in time to keep the Merced-to-Bakersfield segment on schedule.

The Authority and state lawmakers have acknowledged that achieving the vision of a revenue-generating initial operating run between Merced and Bakersfield that also links to conventional rail lines to the Bay Area and Sacramento is critical to the ultimate success of the project. To

realize this vision, the Authority must establish and work towards a realistically achievable project schedule; to accomplish that aim, in turn, the Authority and state lawmakers need a realistically achievable funding plan. Viewing the revised funding plan in its totality, we are concerned that the information provided by the Authority could give stakeholders more comfort about the prospect of receiving federal funds in time to keep the Merced-to-Bakersfield segment on schedule than is warranted by the underlying conditions and analytical support. Thus, although we acknowledge the progress the Authority has made, we conclude that the revised funding plan stops short of fully implementing our recommendation because it does not provide project stakeholders with sufficient clarity to make critical decisions.

Recommendations

To provide state lawmakers and other project stakeholders with the information they need to make key decisions, the Authority should continue to refine its published funding plan and the underlying analytical support for that funding plan to accomplish the following:

- For each unfunded component, provide a range of dates by which funding must be identified and secured that aligns with both ends of the segment's schedule envelope.
- Analyze the relative prospects of receiving federal funds from the named programs in time to keep the Merced-to-Bakersfield segment on schedule and summarize this analysis in its annual reports.
- Provide state lawmakers with clear information on whether and when additional funds, beyond those that can be reasonably expected to be obtained from federal sources, must be identified in order to keep the Merced-to-Bakersfield segment on schedule.

Authority Response

The Authority agrees with the general recommendation to continue to refine information on program funding, including the status and outlook for federal grant awards. The 2025 Project Update Report will include further updates. Below, the Authority comments on each of the specific three bullets:

- Exhibit 3.3 was added between the 2024 Draft Business Plan and the 2024 Revised Business Plan as a result of discussions and a recommendation from the OIG that requested target dates for securing funds to complete unfunded elements of the Merced to Bakersfield segment. Consistent with the recommendation, the Revised Draft 2024 Business Plan included new narrative discussing the funding situation and the introduction of Exhibit 3.3, which together provide a range of time for funding targets. In addition, the Exhibit 3.3 provides a range of time for funding between an ideal scenario to a critical date to maintain the schedule window. The Authority affirms that now is ideal, which is supported by numerous letters from the California High-Speed Rail Authority Peer Review Group since 2022 and that the three-year window is appropriate at this point in time given there is nearly \$7 billion in unfunded scope for the Merced to Bakersfield project remaining. In addition, the Authority will be updating the schedule for the Merced to Bakersfield project in the 2025 Project Update Report now that significant federal funding was received, designs have advanced for the Merced and Bakersfield Extensions, and the rail delivery strategy has been solidified.
- The 2025 Project Update Report will include an update of any newly awarded federal grants and assess the prospects for future grant awards. In terms of the *relative* prospects of receiving federal funds from the named programs, the Authority has confidence in all grants it applies for and believes it would be counterproductive to produce a comparison showing by grant program where confidence is relatively higher or relatively lower on a pending grant application.
- The Authority agrees with this recommendation to provide additional information on when funds beyond federal funds may be needed to stay on schedule. However, we note the uncertainty that comes with forecasting future federal grant awards. The Authority has added a statement to Page 62 of the 2024 Final Business Plan to partially address this issue by stating the desirability of stabilizing state funding in the 2025-26 session.

OIG-HSR Comment on Authority Response to Recommendations

The Authority appears to be focused on a particular word—*ideal*—that is not included in the recommendation above. Indeed, because of the way the Authority has interpreted that word, which originally appeared in our review of the 2023 Project Update Report, we felt the need to be more specific in the recommendation resulting from our current review. As indicated above, we believe the Authority should replace its unrealistic “now” narrative with an assessment of when funding would have to be secured to keep the project on target for the beginning of its

project schedule window, which currently is the end of 2030. The Authority did not specifically respond to this element of the recommendation.

Regarding the need for the Authority to analyze the relative prospects of receiving federal funds from specific federal programs, our recommendation is clear that the details of this analysis could be contained in within the underlying support for its annual reports and that annual reports could then summarize the results of those efforts. As a means of establishing realistic prospects for specific sources and timing of project funds, performing this type of underlying analysis would not be *counterproductive*; rather, it is *necessary*. Therefore, we stand by our recommendation that the Authority do so.

Our Review Identified Areas of the Business Plan Needing Additional Information to Ensure a Balanced Picture for Stakeholders

In addition to the issues discussed above, we identified two areas of the business plan that, although not factually inaccurate or incomplete from a statutory perspective, required additional context to provide stakeholders with a complete and balanced understanding of project conditions. Those two areas involve the Authority's construction quality assurance processes and the plan's Phase 1 travel time comparison between high-speed trains and other modes of travel. In response to our concerns, the Authority added new text to the revised plan's discussion of these areas, and in the case of the travel time comparison, ultimately resolved our concern with an explanatory footnote.

First, the plan accurately describes positive feedback received from an independent review of the Authority's quality assurance and quality control processes. In doing so, the plan provides the scores that the independent review assigned to a selection of completed project bridges using a specified federal inspection standard. However, the draft business plan did not make clear that, in addition to providing those scores, the independent reviewer also provided a series of recommendations to address quality concerns that the reviewer identified in some of the Authority's processes and structures. As of the business plan's adoption, the Authority had not demonstrated its progress in implementing the review's recommendations, and so we could not determine the extent of any such progress. Changes to the revised business plan better convey that the Authority's construction quality efforts are ongoing and that its capacity to implement the recommendations depends in part on additional state resources it has requested. Nonetheless, the plan stops short of explaining where in those efforts the Authority currently finds itself or the most pressing concerns it plans to address on the way to achieving its quality goals.

Second, we had concerns about the appropriateness of the business plan’s travel time comparison among different modes of transportation. We reviewed support the Authority provided for the travel times between San Francisco and Los Angeles in Exhibit 0.0 and determined that the reported high-speed rail travel time of 2 hours and 40 minutes represents the travel time that the high-speed rail system is technically capable of achieving per the Authority’s trip modeling. However, that published travel time is not representative of what passengers are likely to experience.

According to a separate technical report that the Authority issued in support of the business plan, the fastest high-speed rail travel time for a scheduled trip is 3 hours and 5 minutes—about half an hour longer than Exhibit 0.0 indicates. In contrast, the published travel times by car, plane, and existing rail each had a basis in actual trips, such as typical car trip time generated from Google Maps data and scheduled rail trips posted by Amtrak. Therefore, although the exhibit’s overall message that high-speed rail will be more time-efficient than certain other modes of travel is credible, the presentation had indicated time savings greater than those likely to occur under an operational Phase 1. In response to this concern, the Authority ultimately added a footnote to Exhibit 0.0 explaining that the travel time presented for high-speed rail is its designed time and providing an estimate of the scheduled travel time between San Francisco and Los Angeles.

Recommendations

To ensure that its 2025 Progress Update Report provides state lawmakers and project stakeholders with complete, balanced, and fairly presented information, the Authority should provide information on the implementation status of recommendations stemming from the independent review of its construction quality assurance and quality control processes.

Authority Response

The Authority agrees with the recommendation and will include the identified information in the 2025 Project Update Report.

Some Critical Components of the Project Need Further Strategic Development by the Authority and Continued Focus from Project Stakeholders

In its 2023 Project Update report, the Authority laid out what it characterized as “an aggressive goal to initiate service” on the Merced-to-Bakersfield segment by the end of 2030, with a risk-based “schedule envelope” of 2033. In its 2024 business plan, the Authority retained this

schedule for the segment, along with estimated capital costs for completing it. In so doing, the Authority also carried over ridership estimates for the broader Central Valley service of which the segment will be part. For the following reasons, we believe the Authority needs to reassess and provide stakeholders with updates to its Merced-to Bakersfield schedule, cost projections, and ridership estimates:

- Recent developments to design and procurement activities raise risks to the feasibility of completing the Merced-to-Bakersfield segment by 2030.
- Substantial delays to the construction of the segment would likely carry significant cost impacts—calling into further question the prospects for securing sufficient funding for completing the segment under such a scenario.
- Additional information, particularly revised estimates for Central Valley ridership, is needed for stakeholders, and state policymakers in particular, to assess the financial implications of operating the segment once completed.

Emerging Concerns About the Merced-to-Bakersfield Schedule

In our office’s review of the 2023 Project Update Report, conducted in late 2023 and published in January 2024, we concluded that the Authority had a generally reasonable basis for its cost and schedule estimates. However, we also noted that the Authority’s scheduling documentation supporting the prospective components of its 2030 timeframe is subject to more uncertainty than work already underway. Because these components, namely the Merced and Bakersfield extensions’ civil construction, track and systems, and trainsets, are also logically sequenced to be completed later in the 2030 timeframe than the civil work packages currently in construction, any delays to those components carry more risk to the overall segment schedule. Through an analysis of key schedule elements and with the benefit of the several months that have transpired since our previous review, our updated conclusion is that although there is no decisive evidence that the December 2030 operating date is not achievable, there is increasing risk to the feasibility of that schedule.

One key area in which we identified emerging risks to the segment schedule relates to the design of the segment extensions. Although the business plan notes that the extensions have achieved 30 percent draft design, key work still needs to occur before design can progress overall and allow for subsequent activities like construction. However, when reviewing detailed

schedule documentation for the design of the Merced extension, we found that the projected dates for the key activity of completing designs for utility relocations have fallen behind the original schedule by several months, from late 2024 to May 2025. The Authority does not yet have an official timeframe from its contractor for reaching 100 percent completion of the extension design, and although Authority staff described efforts to mitigate the utility delays by accelerating other elements of the design, there is also risk of this key activity falling further behind.

Utility relocation design is an important precursor to planning and construction activities that follow. For example, although the Authority's right-of-way acquisition plan indicates that it can proceed with acquiring certain required properties in advance of completed design, identifying and acquiring other property types will depend on having reliable information on how and where needed utility relocations will take place. Notably, although the Authority's current master schedule for the Merced-to-Bakersfield extension shows that the Authority planned to begin acquiring right-of-way for the extensions in August of 2023, the revised business plan now indicates that the Authority will "commence [the] right-of-way process" on the extensions sometime in the second half of 2024. Importantly, citing previous delays and cost overruns in the ongoing Central Valley construction projects, Authority leadership has recently and publicly committed to waiting to begin construction on the Merced and Bakersfield extensions until right-of way acquisition and utility relocation have been completed. Although it represents a responsible and measured approach given what the Authority cites as "lessons learned" from previous construction contracts, this commitment to careful sequencing also underscores the importance of detecting and mitigating schedule delays to early works like design and utility relocation.

Additionally, our review indicates that some key procurements necessary for completing the Merced-to-Bakersfield extension have experienced delays when compared to the schedule the Authority had in place roughly one year ago. For example, a July 2023 presentation to the Authority's board included a planned release of a procurement for track and overhead systems construction by the end of 2023. The revised business plan now identifies August 2025 as the timeframe for releasing that procurement. The July 2023 presentation also identified the end of that year as the target for releasing the Authority's procurement for signaling, traction power, and related systems; the business plan now indicates the procurement will go out at some point in calendar year 2024. Several of these delays appear modest thus far, and the Authority's board approved releasing the request for proposals for the crucial trainsets procurement at its recent April 11 meeting. Despite these mitigating factors, because the majority of these

contracting activities are still pending there remains a risk of further delays before the Authority is prepared to release the procurements. Any such additional delays that do occur could, in turn, be compounded by the need to extend bidding periods after a procurement has been released—which the Authority recently did for the statement of qualifications related to the track and overhead systems’ design.

Notably, the Authority’s revised funding plan itself casts doubt on the current feasibility of commencing Merced-to-Bakersfield revenue operations by the end of 2030. As we discuss above, the plan does not provide a date by which funding, if received, would facilitate a 2030 completion schedule. However, the dates the plan does provide for completion by 2033 are noteworthy. For example, the plan indicates that roughly \$3 billion in new federal funding for civil construction to Merced would need to be committed by the first quarter of 2026 to allow for a 2033 completion window. The Authority confirmed for us that each of these individual scopes and dates is critical to meeting the 2033 timeline; as such, the plan raises questions about how 2030 is possible given that the needed funding date for 2033 (three years later) is less than two years from today.

Delays that push completion of construction past 2030 would carry significant cost implications. Notwithstanding its contingencies, the Authority’s current capital cost estimates for the Merced-to-Bakersfield segment are based on the 2030 completion date. Even under such a schedule, the Authority’s cost estimate documentation for the Merced extension, for example, attributes approximately \$366 million of the \$2.82 billion total cost for the extension’s design and civil construction to the effects of inflation. Given inflation’s considerable anticipated impact under the current schedule and its compounding effects on total cost, any substantial delays to the completion of the segment’s construction would likely include significant cost increases beyond the Authority’s current year-of-expenditure estimates. Because the identified funding gap and associated strategy described in the business plan are based on the current schedule, any such delays would therefore also affect the additional funds needed to be secured.

These risks warrant intensive and ongoing attention to the current feasibility of the Merced-to-Bakersfield segment schedule and the individual risks associated with it. In conducting our review of the business plan and the schedule contained therein, we did not attempt to verify the specific causes of the schedule shifts discussed above or evaluate the Authority’s efforts to prevent or mitigate them. We see a role in performing that work as our office becomes fully staffed in the coming year. Similarly, nothing discussed above should be interpreted as a conclusion by the OIG-HSR that 2030 is not possible or that it is not appropriate for the

Authority to have identified a schedule envelope for contingency purposes. However, our review argues for vigilance by the Authority in both reevaluating its current schedule and determining what can be done to meet it, including by seeking to mitigate any incremental delays it has encountered thus far or that it expects may emerge in the future. In its final revisions to the board-adopted business plan, the Authority acknowledged the need to perform these analyses.

Need for Increased Clarity Regarding Merced-to-Bakersfield Operating Projections

The business plan is missing complete, updated information in another key area. In its draft plan, the Authority republished ridership numbers from the 2023 Project Update Report but indicated it would provide additional information about the service model and its likely outcomes in the final published plan. However, the revised plan further delays the release of this information to the 2025 Project Update Report.

The Authority explained to us that it, along with the other agencies involved in operating the future service, is continuing the work of verifying data and did not want to prematurely include updated ridership numbers in the business plan. According to the Authority, waiting until 2025 will provide more time to further analyze data and reach agreement on ridership, operations and maintenance costs, and fares.

Notwithstanding the stated need for further analysis, greater certainty about the ridership and revenue assumptions underlying the system is important for helping plan a successful Central Valley operation, including by determining the likely financial scenario it will present. It is reasonable that the Authority would want to reach consensus on the key elements of an operating service and would seek to publish the most realistic ridership and cost information possible. However, in addition to carrying forward previous ridership estimates, the adopted business plan does not contain projected operations and maintenance costs for the Merced-to-Bakersfield segment or the Central Valley service model as a whole. As such, although the plan's financial analysis of the eventual Valley-to-Valley operation and full Phase 1 system indicate those segments would likely be financially self-sustaining, the Central Valley discussion leaves open the question of whether and how much public funding this initial service will need to operate. Although state law does not specifically require the business plan to include that information for this segment, we conclude that because no alternative model currently exists for operating Merced-to-Bakersfield, such information would nonetheless be of use to policymakers.

Recommendations

To provide stakeholders updated and necessary information on key strategic concerns related to the completion and operation of the Merced-to-Bakersfield segment, the Authority should take the following actions and publish the results in its 2025 Project Update Report:

- Review and, to the extent necessary, revise its schedule for completion and operation of the segment.
- In so doing, review and revise the associated schedule envelope, identifying and documenting opportunities to mitigate delays that have already occurred and prevent future delays.
- Working with its partners for the Central Valley service, fulfill its commitment to refining and publishing the results of its ridership model, along with the other information necessary to provide the most reliable data possible about the likely need for operating subsidies for the service.

Authority Response

The Authority agrees with the recommendation and has already begun the analysis and work efforts to update its schedule for the Merced to Bakersfield project, including revised completion dates and analysis of actual performance for impacts to the schedule envelope. The results of which will be provided in the in the 2025 Project Update Report.

Respectfully submitted,



Benjamin M. Belnap, CIA
Inspector General, High-Speed Rail