

## Why GAO Did This Study

The planned 520-mile California high-speed rail project, which would link San Francisco to Los Angeles, would be designed to operate at speeds up to 220 miles per hour. At an estimated cost of \$68.4 billion (in year-of-expenditure dollars), it is expected to be one of the most expensive transportation projects undertaken in the United States. The Authority is responsible for implementing the project and federal funding is being provided from the FRA's High-Speed Intercity Passenger Rail program. GAO reviewed (1) the reliability of project cost estimates, (2) the reasonableness of revenue and passenger rail ridership forecasts, (3) the risks attendant with the project's funding plan, and (4) the comprehensiveness with which the project's economic impacts were identified.

GAO obtained documents from and conducted interviews with federal officials and officials from the Authority related to cost, financing, ridership and revenue modeling and estimation, and business plans and analyses related to potential economic impacts. GAO also interviewed state and local officials as well as the project's peer review group members.

## What GAO Recommends

To produce reliable cost estimates, FRA should improve its guidance so it is in line with the best practices in GAO's *Cost Guide*. The Department of Transportation did not agree or disagree with the recommendation but said, with further analysis, applying the *Cost Guide* would be feasible. The Authority said it will incorporate many of the report's findings into future cost and ridership estimates.

View [GAO-13-304](#). For more information, contact Susan Fleming at (202) 512-2834 or [flemings@gao.gov](mailto:flemings@gao.gov)

# CALIFORNIA HIGH-SPEED PASSENGER RAIL

## Project Estimates Could Be Improved to Better Inform Future Decisions

### What GAO Found

The California High-Speed Rail Authority (Authority) met some, but not all of the best practices in GAO's *Cost Estimating and Assessment Guide (Cost Guide)* for producing cost estimates that are *accurate, comprehensive, well documented, and credible*. By not following all best practices, there is increased risk of such things as cost overruns, missed deadlines, and unmet performance targets. The Authority substantially met the criteria for the *accurate* characteristic by, for example, the cost estimate's reflecting the current scope of the project. However, the Authority partially met the criteria for the other three characteristics since the operating costs were not sufficiently detailed (*comprehensive*), the development of some cost elements were not sufficiently explained (*well documented*), and because no systematic assessment of risk was performed (*credible*). The Federal Railroad Administration (FRA) issued limited guidance for preparing cost estimates, and this guidance did not reflect best practices in the *Cost Guide*. The Authority plans to improve its cost estimates.

GAO found the Authority's ridership and revenue forecasts to be reasonable; however, additional updates are necessary to refine the ridership and revenue model for the 2014 business plan. GAO also found the travel-demand-modeling process used to generate these forecasts followed generally accepted travel-demand-modeling practices. For example, the Authority revised several assumptions, such as gasoline price forecasts, to reflect changes in current and anticipated future conditions. However, additional updates, such as the development of a new travel survey, will be necessary to further refine these forecasts and improve the model's utility to make future decisions. External peer review groups have also recommended additional updates.

The project's funding, which relies on both public and private sources, faces uncertainty, especially in a tight federal and state budget environment. Obtaining \$38.7 billion in federal funding over the construction period is one of the biggest challenges to completing this project. In the latter stages, the Authority will also rely on \$13.1 billion in private-sector financing, but will require more reliable operating cost estimates and revenue forecasts to determine whether, or the extent to which, the system will be profitable. The Authority's plan recognizes the uncertainty of the current funding environment and is building the project in phases. The Authority has also identified an alternative funding source. However, that funding source is also uncertain.

The Authority did a comprehensive job in identifying the potential economic impacts of the high-speed rail project. This includes identification of user impacts, such as effects on travel time reliability, and non-user impacts, such as effects on highway congestion. However, the nature of specific economic impacts will depend on a number of factors, including future project decisions. GAO also found limitations in the Authority's benefit-cost analysis of the project that could limit its usefulness to decision makers. Finally, GAO found that construction of the high-speed rail project will not eliminate the need for additional improvements to meet future statewide-travel demand, but current statewide-transportation assessments and planning have given little consideration to this issue.