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# Explained: Why do cost and completion estimates fluctuate so wildly for high-speed rail?

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Nothing has bothered Californians — who voted for \$9 billion in construction bonds for high-speed rail in 2008 — and troubled the state's high-speed rail authority so much as the increase in cost estimates for the system.

That cost has risen — and in the last four years fallen — by significant amounts as exactly what will be built and when has fluctuated.

Here's a quick digest and update to our FAQ (this story appears in that FAQ as Question 10) of what the **California High-Speed Rail Authority's** six draft or adopted business plans have done since



KEN JAMES

An artist's rendering of a high-speed rail train at Sacramento, which along with San Diego was planned to be one of the system's terminals when the California High-Speed Rail Authority put out its first business plan in 2000. By the time the system finally got to voters in 2008, the Sacramento and San Diego legs from the system's Central Valley spine had been pushed off indefinitely in a "phase 2" of the system. Phase 1 is San Francisco to

Length: 520 miles, all high-speed rail.

Completion: 2033 (Merced-San Fernando Valley initial operating segment (IOS) begins 2021).

Cost: \$98.1 billion.

### **2012 adopted business plan(published April 2012)**

Length: 520 miles of which 410 miles would be high-speed rail and 110 miles would be on rails shared with conventional trains – the “blended system” at a 79 mph top speed.

Completion: 2029 (Merced-San Fernando Valley IOS begins 2022).

Cost: \$68.4 billion.

### **2014 business plan**

Length: 520 miles, 422 miles on high-speed rail (San Fernando Valley-Los Angeles segment upgraded from blended) and 98 miles of blended section.

Completion: 2028 (Merced-San Fernando Valley IOS begins 2022).

Cost: \$67.6 billion.

### **2016 draft business plan(published Feb. 18)**

Length: 520 miles, 410 miles on high-speed rail, 110 miles of blended system.

Completion: 2028 (San Jose-Shafter-Bakersfield IOS begins 2025).

Cost: \$64.2 billion.

Here’s what happened in more detail.

The law that created Prop 1A authorized \$9.95 billion in bonds. Of that, \$9 billion was for high-speed rail and \$950 million for rail improvements on passenger lines connecting to the high-speed system.

But that was not the full cost of the system. The money “would be available in conjunction with any available federal funds for planning and construction of a high-speed train system,” stated Assembly Bill

Blending the system cut the cost to between \$54.9 billion and \$66.3 billion, but the plan still called for high-speed tracks being built in the bookends. It calculated 2030 as the date a Phase 1 blended system would begin and set 2033 for the opening of “Phase 1 Full HSR.” Stretching the ultimate completion of Phase 1 drove up the final cost estimate to \$98.1 billion to account for inflation over the extended time.

This was the high point of estimates.

The final 2012 business plan adopted in April trimmed back those numbers considerably. It omitted an ultimate extension of high-speed tracks through the bookends from Phase 1, leaving them for possible construction in the future. That and an accelerated construction schedule to minimize the impact of inflation whacked the cost estimate to \$68.4 billion and completion to 2029. Quite an improvement for six months of number crunching.

The 2014 plan was a relatively minor tweaking of the 2012 document. It cut \$800 million from the price and speeded up completion by one year.

This year’s draft plan was notable for the change in construction timing — the high-speed rail authority opted to change the IOS from Bakersfield to San Fernando Valley to San Jose to near Bakersfield — and a cost reduction of \$3.4 billion based largely on experience gained from design refinements and construction now underway in the San Joaquin Valley.

Although service over the full Phase 1 route is still supposed to start in 2028, the new IOS segment is to begin a year sooner than it would have under the 2014 plan.

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