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The cost of high-speed rail in California might surprise you

It's been 15 years since California's voted for \$10 billion to fund a line from San Francisco to Anaheim



COURTESY OF THE HIGH-SPEED RAIL AUTHORITY

When complete, the Cedar Viaduct will span nearly 3,700 feet long and will carry high-speed trains over State Route 99, North and Cedar avenues.

By **KURT SNIBBE** | Southern California News Group

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Here's a look at the latest cost and time estimates for the completion of California's high-speed rail.

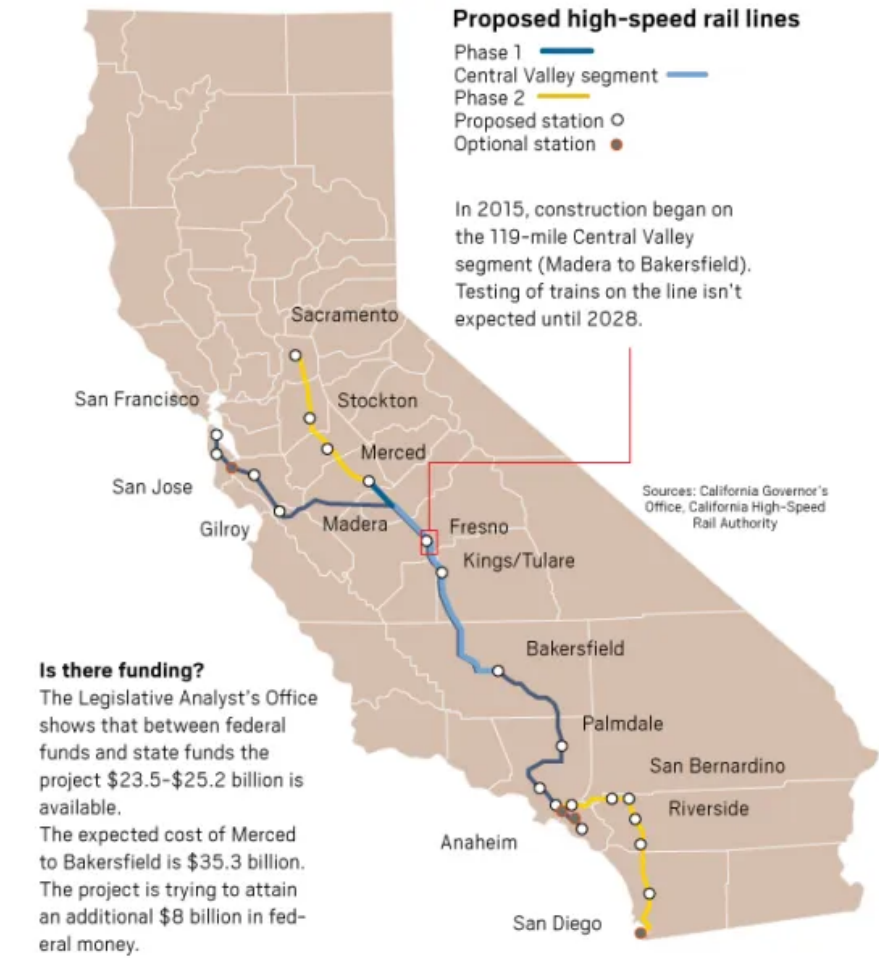
In 2015, construction began on a viaduct in Madera County, the first visible sign of the high-speed rail project. The cost estimate was about \$68 billion for the project then. The 119-mile Central Valley segment (Merced to Bakersfield) is still under construction and not expected to have passenger service until between 2030 and 2033.

The state requires the [High-Speed Rail Authority](#) to prepare a project update every odd year and in its 2023 report, it said that, "the biggest risk we face is full funding – over which we have very little control."

The original goal of the project was to go from San Francisco to Anaheim, with another phase connecting Sacramento and San Diego. In 2019, Gov. Gavin Newsom announced in his State of the State address that the length of the high-speed rail line under construction in the Central Valley will be shorter, instead between Madera and Bakersfield.

Phase 1 of the project consists of multiple segments. The first is the Central Valley segment, which is 119 miles. The second segment extends north to Merced. The third segment would be extending it to San Francisco and then to Anaheim on what will be called the Valley-to-Valley segment.

In 2023, 171 miles are environmentally cleared and 119 miles are under construction, with 52 miles in advanced design. The HSR Authority has environmentally cleared 422 miles of the Phase 1 section. Here's a look at the progress and the [Legislative Analyst's Office](#) assessment for 2023:



Base capital cost estimates for Phase 1				
In billions	2022 Business plan	2023 update	Change from 2022 to 2023	Percent change
Merced to Bakersfield	\$23.9	\$35.3	\$11.4	48%
Central Valley segment	14.5	18.3	3.8	26
Merced extension	2.4	4.5	2.1	86
Bakersfield extension	1.2	3.3	2.0	164
Solar and utility interconnection	0.0	0.2	0.2	N/A
Trains	0.7	0.6	-0.1	-17
Maintenance facility and simulator	0.02	0.4	0.4	2,222
Bookend commitments	1.3	1.3	—	—
Other	3.8	6.8	3.0	79
Other Northern California	\$23.8	\$27.1	\$3.3	14%
San Francisco to San Jose	1.7	5.0	3.3	201
San Jose to Gilroy	6.0	6.0	—	—
Gilroy to Carlucci Road	13.6	13.6	—	—
Central Valley Wye balance	2.2	2.2	—	—
Advance design costs	0.2	0.2	—	—

Other System Costs	\$5.1	\$5.1	—	—
Solar power generation balance	0.0	0.2	\$0.2	N/A
Heavy maintenance facility balance	0.5	0.3	-0.2	-43%
Trains balance	4.6	4.6	—	—
Total costs	\$94.2	\$107.6	\$13.4	14%

In 2015, construction began on the 119-mile Central Valley segment (Madera to Bakersfield). Testing of trains on the line isn't expected until 2028.

Is there funding?

The Legislative Analyst's Office shows that between federal funds and state funds, \$23.5 billion to \$25.2 billion is available for the project. The expected cost of Merced to Bakersfield is \$35.3 billion.

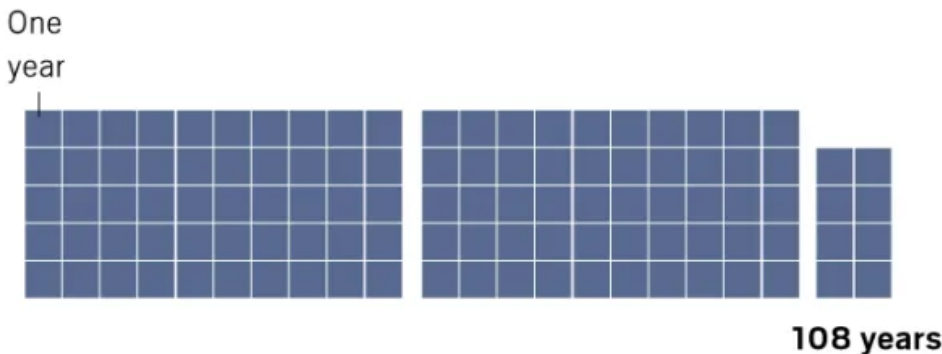
The project is trying to attain an additional \$8 billion in federal money.

Ridership estimates

The LAO's 2023 report revised the high-speed rail ridership estimate for the first time since 2020. It now estimates the Valley-to-Valley (San Francisco to Anaheim) segment will have a ridership of 11.5 million annual passengers by 2040, down 39% from the previous estimate of 18.4 million passengers per year.

The 2023 HSRA report projects the full 500-mile system will have 31.3 million riders a year by 2040.

If the high-speed rail system averaged 11.5 million people a year paying \$86 for a ticket, it would take this many years to break even:



11.5 million people a year is an average of about 31,000 per day. The Pacific Surfliner trains averaged about 7,300 people per day before the pandemic.

It would take more than 1.25 billion people paying that \$86 a ticket for the estimated \$107.6 billion high-speed rail system to break even. That is the



- The \$86 ticket is an estimate from 2015.
- The drive from Los Angeles is about 6 1/2 hours with one 15-minute stop.
- A flight, not including security wait times, is a little more than an hour.
- The high-speed rail is expected to be a little more than three hours.

In the news

On Monday, a bipartisan congressional group from Nevada and California asked the Biden administration to fast-track federal funds for a private company to build a 218-mile high-speed rail line between Las Vegas and Rancho Cucamonga.

All six of Nevada's elected federal lawmakers and four House members from California sent the letter to U.S. Transportation Secretary Pete Buttigieg. They said they're on board with a proposal from [Brightline West](#) to spend more than \$10 billion to lay tracks along the Interstate 15 corridor.

A draft environmental assessment of the Nevada-California project was made public in October and the Federal Railroad Administration is expected to finalize permits in July. The company said about 70% of funding will be private, using a combination of debt and equity.

Amtrak passenger service to Las Vegas ended in 1997 with the demise of a train called the Desert Wind. The concept of building a bullet train through the Mojave Desert dates back to at least 2005 under various names. It has seen starts and

Speeding bullets

The high-speed rail under construction in California would be the first in the nation and is expected to have top operating speeds similar to commuter trains in China and Europe at or about 220 mph.

The fastest steel-wheels train was in France in 2007

352 mph

Fastest scheduled train is on China's Beijing to Shanghai line.

217 mph

Trains cover the roughly 639 miles between Beijing and Shanghai in 193 minutes at an average speed of 198 mph.

Construction began on April 18, 2008, and passengers were riding it in June 2011. More than 130,000 construction workers and engineers were at work at the peak of the construction phase. The line has 244 bridges and 22 tunnels. The estimated cost of the project is about \$34.7 billion.

High-speed rail around the world

According to the International Union of Railways, China leads the world in high-speed railways and plans to double its miles of track.

China	25,149 miles of high-speed rail
Spain	2,274
Japan	1,914
France	1,699
Germany	976
Finland	695
Turkey	653
Italy	572

China had 1.5 billion passengers in 2020, Japan was second with 154 million.

Sources: California High-Speed Rail Authority, The Legislative Analyst's Office, International Union of Railways, National Transportation and Safety Administration, U.S. High-Speed Rail Association, American Public Transportation Association, The Associated Press

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