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Imagine paying \$20 and sitting down inside a Space Age capsule in Los Angeles. About half an hour later, you're in sight of the Golden Gate Bridge.

Los Angeles billionaire Elon Musk, the man who made electric vehicles sexy, revolutionized the online payment business and transformed spaceflight missions for NASA, is now taking on California's public transportation system.

On Monday, to international fanfare, Musk unveiled the design of his Hyperloop, a \$6-billion high-speed transit system powered by solar energy. The line would travel along interstates 5 and 580 at speeds of up to 760 miles per hour and have the feel of an airliner, Musk said. Capsules would hold 28 people each.

California hasn't asked for his help, and Musk's dream exists only on paper.

But the state is in the middle of trying to build its own bullet train, a \$68-billion project that has grown in cost and fallen behind schedule. Musk, 42, contends his system is superior — and cheaper — and that he wanted to get it into the public discussion before the state wastes more time and money on what he sees as a failed system.

"How could it be that the home of Silicon Valley and JPL ... would build a bullet train that is both one of the most expensive per mile and one of the slowest in the world?" he said. "It would be great to have an alternative to flying or driving, but obviously only if it is actually better than flying or driving."

Musk said the answer is the Hyperloop. He might first build a prototype to prove the concept, but the plan has been published as an open-source document — ready for

anyone to pick up the idea and improve it.

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personal fortune and a Rolodex full of Silicon Valley venture capitalists, Musk started the rocket company SpaceX, or Space Exploration Technologies Corp., and co-founded electric car giant Tesla Motors Inc. in Palo Alto.

Now he's declared the dawning of a fifth mode of transportation after rail, road, water and air. This one operates somewhat like pneumatic delivery systems that have been used at neighborhood banks, sending packages through pressurized air tubes.

"Normally I would think this idea is borderline crackpot, but this guy has a track record," said Michio Kaku, a physicist who hosts television shows about futurist technologies. "You have to take him seriously. The guy is a doer."

According to Musk's design, the Hyperloop's capsules would be transported at speeds of 300 to 760 mph through a steel tube kept at low pressure. The capsules would shoot through the tube on a cushion of air (like a puck gliding on an air hockey table), accelerated by a magnetic system at points along the way.

Musk said that "by placing solar panels on top of the tube, the Hyperloop can generate far in excess of the energy needed to operate."

It would be an express trip across the 382 miles, connecting two stations. More stations could be added later. Musk said the system could transport 7.4 million people a year, shooting capsules as frequently as every 30 seconds.

By contrast, the California bullet train system envisions a much bigger annual ridership: about 20 million at minimum. The plan, however, has been sharply disputed by outside experts who doubt that large numbers of drivers or airline passengers will be attracted to the bullet train.

The Hyperloop's 57-page "alpha" design is still in its infancy — it was put together by about a dozen engineers from SpaceX and Tesla. The version released Monday was

produced after an all-night Sunday session, Musk said.

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The plan already has drawn criticism targeting its novel design, lack of details and absence of outside review. Bill Ibbs, a UC Berkeley civil engineering professor, said Musk's idea comes up short on the economics.

"There's a reference to

7.4 million riders per year on this system, but there's no background, no explanation of where he comes up with that figure," he said.

The California bullet train is a politically engineered system, with a route that doglegs to medium-size cities on its way to San Francisco. But the circuitous path added to the cost and resulted in slower projected trip times.

It's unclear whether Musk could get the support needed to build a system that would bypass many of the cities on the bullet train's planned path. Transportation experts warned that Musk's proposal, even if technically sound, would still have to operate in California's byzantine political system.

"Musk has been able to get away with what he has done because he does it with his own money," said Lou Thompson, a transportation expert and head of a peer review panel that oversees the bullet train project. "You get into the public arena and that is a different game."

But Musk has built a career around making fools of naysayers.

He started SpaceX in 2002 after investing \$100 million of his own fortune with limited knowledge of the rocket business. He came to find that the industry was difficult to enter and littered with failed projects.

The Hawthorne company's first rocket, the single-engine Falcon 1, failed three times before it successfully carried a satellite into space in 2008. That same year, NASA

awarded SpaceX a \$1.6-billion contract to transport cargo in 12 flights to the

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than 335%, to \$147.38.

“Let’s not forget that a company like Tesla and Elon’s other business ventures need to stand the proof of time,” said Thilo Koslowski, an analyst at Gartner Inc., “and that’s not easy.”

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Technology

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