

## Modernization: How Caltrain Will Meet Growing Demand

BY LEAH HARNACK ON JUN 4, 2018



San Francisco is the most densely populated county in California and serves as the region's largest job center, bringing in 150,000 employees each day, according to the Metropolitan Transportation Commission. According to a survey of 1,360 cities in 38 countries released earlier this year by Inrix, San Francisco came in as the fifth-most congested city in the world.

The commuter rail line connecting San Francisco to the Silicon Valley is Caltrain, a joint powers authority put together by three counties: San Mateo, Santa Clara and San Francisco. Caltrain runs along the San Francisco Peninsula, through the South Bay to San Jose and Gilroy.

The passenger rail service started when Abraham Lincoln was in office and while it certainly has changed over time, Caltrain Executive Director Jim Hartnett joked it has been put together with Band-Aids to keep it together.

### **The creation of Caltrain**

The San Francisco and San Jose Railroad Company began passenger rail service on the Peninsula in 1863. In the 1990s, San Mateo County, San Francisco County and Santa Clara County came together to talk about acquiring the right-of-way from Southern Pacific to preserve the rail service, which goes through the three counties.

There was a joint powers agreement that established the basic rules of the road, Hartnett explained. It was determined at that time, the rail service shouldn't have its own separate bureaucracy, that it would be managed by another agency. "The agency that was chosen was the San Mateo County Transit District.

"Again, it was so there are not separate bureaucracies, you can leverage people resources and all the other resources necessary to do the business," he explained.

While all the counties worked together to get state monetary support to buy the right-of-way, the three counties together had to make up the difference to purchase it and he said San Mateo County was the only one that came up with its share.

"Had the purchase of the right-of-way not occurred, there wouldn't be any reason for the joint powers agreement and the joint powers authority because we wouldn't have rail service anymore," Hartnett said.

The Caltrain system as it's known today, started in 1992 when the Peninsula Corridor Joint Powers Board took over operation of the train.

Caltrain contracts with the San Mateo County Transit District to manage the commuter rail service. And, the San Mateo County Transit District contracts with a private company, TOSI, Transit America, to do the day-to-day operations and maintenance of the rail line. Caltrain does not have any of its own employees.

While Hartnett is executive director of the Caltrain commuter rail service, he is employed by the San Mateo County Transit District as its chief executive officer, general manager.

## **At capacity**

In the congested Silicon Valley, Caltrain ridership has been on the rise. "For us, it's a continual demand for more service," Hartnett said. "At commuter hours, we're standing room only. People would like more capacity to not have to stand."

That change is coming with the Caltrain Modernization (CalMod) Program, a major investment by the Peninsula Corridor Joint Powers Board consisting of three major elements: an advanced signal system that includes positive train control, conversion of the propulsion power system from diesel to electric, and the procurement of new electric multiple unit rail vehicles.

Hartnett said electrification could not come at a better time for them. They were going to need a new fleet anyways with the aging of the fleet and it's better for the environment from them to have an electric fleet.

A key challenge is doing a major \$2 billion upgrade while maintaining existing revenue service, explained John Funghi Executive Officer of the Caltrain Modernization Program (electrification). "Basically we try to minimize impact of the riding public for the 65,000 riders that ride the system every day.

“Most of the work is done during off-peak times, with the bulk of the work being done between 8 at night and 5:30 in the morning. We also do some temporary shutdowns at the weekends.”

Some of the challenges in coordination are things like holding back on a concrete pour or accelerating something else, so that the work can be accomplished within the window.

“It’s fairly complex and involves a lot of folks, a lot of advanced coordination,” he explained. “Track allocation is a big deal for us in order to maintain the overall schedule.”

At one time, Caltrain ran through a bit of a greenfield, but there’s been major development up to the rail line, so oftentimes they’re right in people’s backyards, he explained.

Director of Government & Community Affairs Casey Fromson said that as this project goes along 51 miles with a couple dozen communities, it’s required a very strong outreach process to ensure people know about the work and know about it in advance.

“There’s a lot of coordination with the community about how we’re actually building the infrastructure, in addition to the riders who are very interested in what the experience will be and the service changes that will come with the modernization project,” she said.

They’ve worked closely with community leaders and elected officials through standing community groups that they meet on a monthly basis to provide updates and they have both physical notices and electronic updates for residents.

Fromson said being committed to an inclusive outreach process has meant investing the time and resources to be where the people are to get good feedback on the project.

Key to this communication is keeping people informed of what they’re doing, why there’s doing it and what it’s going to look like after it’s done. Funghi said, “I think communication is a big challenge and if we do it well, it will help with the construction and acceptance of the overall line.”

## **By the Numbers: CalMod Program Cost**

Electrification: \$1.98 billion

Advanced Signal System: \$231 million

Total: \$2.21 billion

## **Electrifying benefits**

At the end of April of this year, the California State Transportation Agency announced a \$164.5 million investment from the Transit and Intercity Rail Capital Program, which will support the replacement of Caltrain’s diesel fleet, the addition of Wi-Fi onboard the new electric fleet and enhanced bicycle facilities at the Caltrain stations.

The initial Peninsula Corridor Electrification Project had the funds to replace 75 percent of the fleet with electric trains. This funding will allow Caltrain to fully electrify its mainline service between San Francisco and San Jose.

The grant will also provide for the lengthening of boarding platforms at some stations, to accommodate longer, 8-car electric trains.

Once fully electrified, Hartnett said they will have better operating characteristics to stop more, to have longer trainsets and to have more trains.

“Because of the number of stops that we have, it was important to us to have the operating characteristics that we do so that we could run our same routes more quickly,” he said. “It gives us the opportunity to have the combination of running the same schedule in terms of number of stops, but it doesn’t take you as long, so you can still have some quick service with more stops or you can have the same service, just going more quickly.

“It gives us the opportunity to get people to where they want to go more quickly. It also gives us the opportunity to stop more often so people can get on and off at more places.”

The contract for the EMUs is a design-build contract. Hartnett said, “It was a process in terms of here’s what we need in terms of characteristics; it’s up to them to design it and then build it. “

They’re going through the design process right now. They did a strong wave of outreach to get feedback from riders on the design elements, gathering more than 15,000 comments over the last couple years.

While the board was making decisions on larger areas of the trains, such as how many bathrooms there would be on board or what the configuration was going to look like, there was rider involvement for many of the design elements.

“It takes time for these projects to come to full fruition. It’s our job to bring them along,” Fromson said, but she added, to also temper expectations.

With e-newsletters and a website specific to the CalMod project, people can see the progress that is being made. Fromson said, “They can see the point we’re going to be painting the trains in the design that they helped pick.” She continued, “They will see it throughout the process over the year it will take to get the trains here, where their decision helped influence our final product.”

The public role of the design is largely complete; they’ve gotten the feedback they needed. Catering to the high-tech riders in the Silicon Valley, later this year Caltrain will roll out a virtual reality simulation of what the trains are going to look like.

“We’ll be at stations with cardboard virtual reality headsets,” explained Fromson. “People will be able to walk through the train and get the experience that way.

“Frankly, it’s a cost-efficient way to getting to a broad group of people and let them experience it, without necessarily spending all the resources on a physical structure.”

She added, “We thought it was an exciting way to give people a feel of what the new trains are going to look like.”

## **Dedicated funding**

Caltrain does not have its own taxing authority or any dedicated taxes that went into it, so since that time, Hartnett said it has had to be innovative in terms of how it has funded itself. “Over time we have had to have contributions to subsidize the service from each of the three counties as required under the joint powers agreement, and to seek grants ... for capital and other needs.”

Over the years, he said the counties have been constrained on what they can contribute on an annual basis, so it’s been difficult to keep up on the state of good repair side of things.

“We’ve had the good fortune on ... how we reinvented ourselves in the early 2000s to restructure the service with the Baby Bullet service, which became much more attractive to the riders,” Hartnett said. Since 2004, the ridership has more than doubled without fundamentally changing the service since then.

“We basically have a Baby Bullet service plus some local and limited service,” he said. “We haven’t dramatically changed the number of trains we run, we’re just able to fill people’s needs by how we structure our service ... it’s a service people find reliable, generally speaking economical, and it gets them to where they want to go in a much more timely manner than if they were driving or a much more enjoyable manner than if they were driving. For most, it’s a lot less costly than if they were driving.”

While the farebox recovery is a consistent, dependable revenue source, it’s not enough to cover the full operations and maintenance. The farebox recovery rate is over 70 percent and then with advertising and property they lease along the right of way, he said that gets them to over 75 percent.

“We’re very proud of our farebox recovery but it’s a question of how far you can go in funding your services and the state of good repair from the farebox,” he explained. “We’re going through our budget process again, as we do every year, and we’re looking at whether or not we need to raise fares again.”

The state legislature passed a law in 2017 that would allow the Caltrain joint powers agency board to put a measure on the ballot for a sales tax to support Caltrain. “As is typical in California, because it’s not a general tax, it has to get two thirds support collectively in the three counties,” said Hartnett. “There are actually seven agencies that would have to approve us putting it on the ballot.

“It’s somewhat of an elongated process to get something on the ballot. It requires the three boards of supervisors – that is the Santa Clara County, San Mateo County and San Francisco County to approve – and it requires the three member transit agencies to approve it as well: the Santa Clara County VTA, in San Mateo County it’s the San Mateo Transit District and Muni in San Francisco. Each of their boards would have to approve as well that it’s going on the ballot.

## **Looking to the future**

Caltrain has a business plan underway that is an operational business case study for what they expect by 2040 to be the actual demand, what it would take operationally to meet that demand and what it would take in terms of capital investment to meet that demand. It will also look at what policy decisions would have to be made in order to get there.

“It’s a multi-million dollar study that is a real-world one,” Hartnett explained. “We have regional support for this to take a really good deep dive into both a technical and practical perspective.”

They’re scheduled to have that plan completed by the end of the year and that will set the stage for a regional conversation about what Caltrain will look like. It also will set the stage for a good narrative to support a sales tax on the ballot in 2020.

“The discussions have been oriented to a 2020 ballot for that sales tax,” Hartnett said. “It would be an incredible thing for Caltrain.”

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