

From Thriving to Reviving: how zero-emission energy may be the necessary lifeboat for the survival of the ferry industry

Robbie Dean has spent the last 4 ½ years traveling across the San Francisco Bay each morning to Alameda and back to San Francisco at night. Unlike many commuters who face a rush hour nightmare while commuting across the Bay Bridge, traffic is one of many concerns Dean said he avoids.

Instead, the vice president of operations at a startup company called Saildrone Inc. said he spends his 20-minute commute enjoying views of the fading San Francisco skyline while riding on the lower back deck of the Alameda Seaplane.

As the ferry pulls up to the Alameda ferry station, marking the end of Dean's morning journey, Robert Miller locks up his bike and prepares to board for the ride back to San Francisco.

Miller has spent the last 25 years moving around the country and as far as Japan to do the job he loves: teaching English to international students.

But Miller said one of the best parts of his job resulted from his move to the Bay Area.

For 12 years, he has enjoyed the ferry commute to San Francisco and back where he is greeted by a cool bay breeze, sunset views, and like Dean, no rush-hour traffic.

"It takes about an hour, and I enjoy every minute," Miller said.

Yet, what was once a booming and beloved experience among commuters in the Bay area, transformed into what riders described as empty and depressing in the wake of the COVID-19 pandemic.

Now, the transition to a new normal has left the San Francisco Water Emergency Transportation Agency working to revive ridership to levels recorded prior to the pandemic; efforts have proven moderately successful.

WETA, which previously operated 15 high-speed passenger ferries, operated one or two boats and three terminals during the height of the pandemic (Oakland, Alameda and Richmond), said Kevin Connolly, manager of planning and development.

"We shrunk down to almost nothing," Connolly said. "Our ridership was in the single digits during the prime of the pandemic, and it was like 'What's the point?' But, we wanted to run it."

WETA's [pandemic recovery program](#), which included decreased fare prices and expanded ferry schedules, has assisted in ridership reaching 70% of what it was prior to the pandemic, Connolly said.

“We seem to be stubbornly stuck at 70% which is better than others,” Connolly said.

But the question became how ferries could survive with only 70% of the ridership they once carried.

The solution: converting ferries to operate on zero-emission energy.

The process, which has proven successful in [other countries](#), is estimated to result in a 20% reduction in WETA’s operating expenses, decrease the emission of fossil fuels and pollutants such as [PM 2.5](#), and reduce the noise and black smoke that puffs out of diesel engines that currently operate most ferries.

WETA spokesperson Thomas Hall said that by 2035, the hope is for half of the ferries operated under WETA to become zero-emission.

“We are working on plans to electrify our Downtown San Francisco ferry terminal and terminals in the East Bay to provide trans-bay electric ferry service,” Hall said. “We’re doing that as a way to accelerate the decarbonization of our fleet and really push the industry forward.”

Environmental stewardship is one of [six focus areas](#) in the first phase of the [Bay Ferry 2050 Plan](#). Michael Gougherty, principal planner at WETA, said the plan was initially developed to broaden the range of stakeholders the agency engaged with.

“Then one of the first steps of the larger effort was to go to that broader range of stakeholders and do kind of a discovery process,” Gougherty said.

Based on the feedback, creating environmentally sustainable transportation became a highlighted issue.

“What we heard was ‘Hey, we’re having conversations at the state level about greenhouse gas emissions, and we’re trying to reduce the potential impact of climate change, so we want to see the ferries do their part,’” Gougherty said.

Gougherty said WETA’s board of directors has taken little formal action to implement policy changes that signal to the staff and stakeholders that the agency is transitioning toward electrification.

“So we see this project as an opportunity to do that,” he said. “It will ultimately memorialize and reinforce the commitments that we all agree we’ve made, but they need to be somewhere on paper.”

Challenges the agency is looking to overcome include the reduced speed and size of existing vessels that run on zero-emission energy or batteries.

“They make trade-offs that we can’t really make while we’re carrying millions of people a year across the bay,” Hall said.

In March, a fully hydrogen-powered ferry known as the [Sea Change](#) made its arrival in the Bay Area for operational sea trials. Connolly said hydrogen power isn’t currently in WETA’s plans but could be a solution for powering longer-distance, high-speed ferries such as the 40-mile route to Vallejo.

Environmental sustainability measures are projected to play a significant role in the revival of the ferry industry. However, commuters like Miller hope to one day see a social climate like that of the ferries before the pandemic.

“We had a very big social network at that time,” Miller said. “Everybody would sit together every morning and afternoon and you’d see the same people so it became like hanging out with friends.”

Miller said he played golf and had dinners at the homes of people he met through his commute. But, his favorite tradition was Faction Friday, during which he and his ferry friends spent one Friday of each month enjoying their after-work hours at the Faction Brewery.

Since returning to work in the summer of 2021, Miller said the separation of the Oakland and Alameda commuter routes to expand ferry schedules and fewer people working in person, has diminished the social experience.

“There are influences from the pandemic and post-pandemic that can never really be reversed,” Miller said. “I think especially with the degree that people have been able to work remotely, it’s never really going to change again.”

