

VISION FOR THE E-LINE



So much is already in place for an extended E-line: track, streetcars, storage and maintenance facilities, even the destination signs!

In the last 20 years, San Francisco's waterfront has been transformed from a derelict anachronism into one of the most vibrant spots in the world.

Today, our waterfront features many individual pearls: maritime, cultural, culinary, historical, and recreational. In coming years, more pearls will be added: world-class museums, conference facilities, parks, business complexes, arts venues, a new cruise ship terminal, perhaps even a sports arena. Yet there is no single transit line that connects all these world-class destinations.

The good news is that Muni has already made almost all the investment needed to string those pearls together with a type of transit service that has already proven its popularity beyond all expectations.

This is Market Street Railway's vision for that string of pearls: an extended, enhanced E-Embarcadero vintage streetcar line, stretching five and a half miles from Fort Mason all the way to Pier 70.

LONGTIME DREAM

The idea of serving the waterfront with vintage streetcars dates back 40 years. Muni soon adopted that idea in its 1979 long-range plan, dubbing it the ‘E-Embarcadero’ line, to run from Fort Mason to the Caltrain Depot.

Built out to the ultimate vision described here, the E-line would provide: unmatched connectivity to regional transit services; access to two National Park units; daily transit service to residents of several neighborhoods, both emerging and established; and a wide variety of shopping, dining, business, cultural, and recreational destinations. Historic streetcars, as currently used on the wildly popular F-line, would create a visible colorful connection among these destinations—a connection already proven to attract people out of their automobiles and onto transit, something buses simply do not do.

The ‘rider magnet’ provided by the historic streetcars has already driven up the value of both public and private property along the F-line route. For example, F-line service was a key factor in supporting the move of the Exploratorium from its longtime home to new quarters at Pier 15, where it is expected to draw up to 1.5 million visitors in its first year.

Muni has already committed to the first phase of an E-Embarcadero line, which will share the current F-line tracks from the existing Fisherman’s Wharf terminal at Beach & Jones Streets to the Ferry Building. Where the F-line turns west to head up Market Street, the E-line will continue south on the Embarcadero, following already-built tracks three blocks to Folsom Street and then joining the N- and T-line tracks where they leave the subway.

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From Folsom, the E-line will share those N- and T-line tracks past AT&T Park to the Caltrain Peninsula commuter depot at Fourth & King Streets. Separate low-level boarding platforms and accessibility ramps have already been built for the E-line cars at the four stations south of the Ferry Building.

So, all the track, wiring, and stations for this first phase of the E-line are already in place. Muni has operated successful E-line demonstration service several times, most recently for America’s Cup World Series weekends in August and October 2012. The E-line vintage streetcars were packed throughout the weekend service and mixed easily with both modern N- and T-line trains and the vintage F-line streetcars in their respective segments of the route.

LONGER MAKES IT STRONGER

Muni’s current plan is to operate the E-line on a demonstration basis again in the summer of 2013 for the America’s Cup races, with possible permanent operation as soon as the summer of 2014, when Muni’s next operating budget cycle begins. Market Street Railway supports this plan.

We also believe that extensions at both ends of the line would greatly enhance the value of the E-line to businesses, neighborhoods, public institutions, and our waterfront’s economic activity, all at modest cost.

An extended E-line would offer direct connections to more regional transit



E-LINE CONNECTION—Tracks for the E-line are already in place to connect from the T- and N-line tracks (here at Folsom Street and The Embarcadero) to the F-line tracks just north of Mission Street. This is New Orleans “Desire” streetcar No. 952 carrying passengers during E-line demonstration service.



TAKE ME OUT—In its first phase, the E-line will serve AT&T Park and Caltrain, as it did during this August 2012 demonstration service. A southerly extension along the T-line tracks on Third Street would serve Mission Bay, the new UCSF campus and hospitals, Pier 70, and Dogpatch.

operations than any other single Bay Area transit line: BART, Caltrain, SamTrans, Golden Gate Transit, Amtrak buses, and ferries to the East Bay and Marin. It would also connect to Muni Metro, the Central Subway, Van Ness BRT (bus rapid transit) and trunk Muni crosstown lines such as the 14-Mission and 28-19th Avenue, both ultimately reaching Daly City.

The E-line would serve as a waterfront circulator for regional and local passengers using all these services, completing their trip on an attractive vehicle that also spares them the hassle and expense of parking in the increasingly congested waterfront. This offers a real opportunity to divert more regional shopping and recreational trips from automobiles to transit, reducing congestion and air pollution.

Beyond its regional connectivity, the value of efficient, attractive streetcar service along the waterfront is self-evident. The crowds of riders going to and from the Ferry Building Farmer's Markets, the Wharf, and other attractions make that clear every day. It is obvious to F-line operators and observers that many of these folks don't otherwise ride transit.

We've also learned that just as the presence of vintage streetcars is a plus for businesses and attractions, their absence can be a minus. We at Market Street Railway believe that the current F-line terminal just halfway through

Fisherman's Wharf has contributed to the atrophy of some famous properties beyond the terminal, such as Ghirardelli Square and The Cannery.

WEST TO FORT MASON

Extending the E-line westward from the current Fisherman's Wharf terminal addresses both these circumstances.

First, it increases streetcar service along the northern Embarcadero, which today is the most heavily ridden portion of the F-line. This is essential to meet the growing demand in this corridor, which will accelerate with the opening of the Exploratorium and the new Cruise Ship terminal at Pier 27.

Second, it brings the attractive vintage streetcars along Beach Street from Jones westward to serve the remainder of the Wharf, plus two National Park units: San Francisco Maritime National Historical Park, with its fabulous historic ship collection at the Hyde Street Pier, plus the Maritime Museum at Aquatic Park; and Fort Mason, part of the Golden Gate National Recreation Area.

Specifically, the streetcar extension would use the edge of Aquatic Park and a historic 1914 railroad tunnel, which runs westward for three blocks from the foot of Van Ness Avenue, to reach Fort

An extended E-line would offer direct connections to more regional transit operations than any other single Bay Area transit line...

Mason Center. This is a National Historic District that was once the Army's port of embarkation for the Pacific and is now a vibrant arts and cultural center attracting more than 1.6 million visitors a year, despite very poor transit connections and the lack of a visual connection to the Wharf (it is hidden by high bluffs).

While this end of the E-line would terminate inside the gates of Fort Mason Center, residents of the northeastern Marina District could easily reach it by foot to enjoy direct service to the Ferry Building and beyond, along almost totally reserved right-of-way. Streetcar riders coming to Fort Mason will find Marina Green and the shops and restaurants of Chestnut Street just a short stroll away. Crissy Field and the Presidio Main Post would be a pleasant recreational walk. Muni's 28-line takes people directly from Fort Mason to the Golden Gate Bridge



HISTORIC TUNNEL—The E-line would reach Fort Mason Center through this historic 1914 railroad tunnel that runs three blocks west from the foot of Van Ness Avenue. While only wide enough for a single track, streetcars could pass through in little more than a minute, providing enough capacity to be used, with safety features, in both directions. *Photo composite.*



NEW OUTLOOK—Fort Mason Center and the National Park Service have developed exciting new ideas for the National Historic Landmark District that served as the embarkation point for soldiers headed to the Pacific. Possibilities include an 'arts hotel' or additional exhibition space on Pier 1 with its stunning views (pictured), markets, shoreline access, and recreational opportunities. Whichever direction is chosen, visitation is likely to grow, served by E-line streetcars.

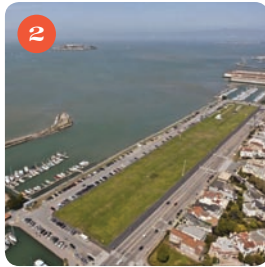


MARKET STREET RAILWAY'S VISION FOR THE E-LINE



THE PRESIDIO

While the E-line would terminate at Fort Mason, existing shuttle buses and Muni routes would offer easy connections to Presidio destinations.



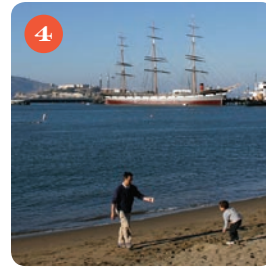
MARINA DISTRICT

The northeast Marina District and Marina Green will be just a short walk from the E-line's Fort Mason terminal, serving both residents and visitors.



FORT MASON CENTER

The E-line's terminal would directly serve the already busy Fort Mason Center, slated for restoration of additional historic pier space for public use.



AQUATIC PARK

The E-line would run on Beach Street, serving Aquatic Park, the Maritime Museum, historic ships, and Ghirardelli Square, revitalizing the western Wharf area.



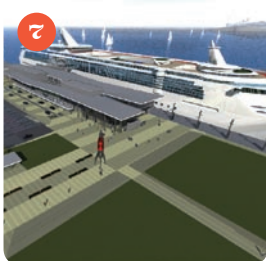
FISHERMAN'S WHARF

The E-line will provide badly needed additional streetcar service to Restaurant Row, the historic fishing fleet, Pier 39, and other current Wharf attractions.



ALCATRAZ

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NEW CRUISE SHIP TERMINAL

Cruise ship traffic is expected to increase, bringing many more visitors through the new terminal at Pier 27. The E-line will distribute them to many waterfront destinations.



EXPLORATORIUM

The world-famous science museum will draw up to 1.5 million annual visitors to its new home on Pier 15. The E-line is critical to the Exploratorium's success.



PIERS 7 AND 14

The Bay is more accessible to people than ever before, thanks to pedestrian piers such as Pier 7 (at Broadway) and 14 (at Mission). The E-line connects them.



FERRY BUILDING

Now a world-class food marketplace, the Ferry Building is a symbol of the city's transformed waterfront. It will also be a transfer point between the E- and F-lines.



PIERS 30-32

Currently proposed as the site of a new arena for the Warriors and other uses, this South Beach landmark will be connected to other waterfront destinations by the E-line.



GIANTS DEVELOPMENT

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CALTRAIN

Train ridership is surging on Caltrain and will grow even further when the line to San Jose is electrified. The E-line will effectively distribute riders along the waterfront.



GIANTS DEVELOPMENT

The Giants are developing their parking lots into residential, office, and recreational space, including restoration of historic Pier 48 for Anchor Brewing Co. The E-line will directly serve it.



UCSF MISSION BAY

The Univ. of California has built an entire new medical campus, including two hospitals, in Mission Bay. Surrounded by new offices and residences, the E-line will serve it all.



CRANE COVE PARK

A spectacular new park will be built at 18th and Illinois Streets, interpreting the city's maritime history right next to an active shipyard—and right at the E-line terminal.



PIER 70

This historic shipbuilding complex is moving rapidly toward rebirth as a vibrant mixed use area, bringing thousands of new residents and workers to be served by the E-line.



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ALCATRAZ FERRY

Additional service provided by the E-line will better serve more than one million annual visitors to Alcatraz and use the current Pier 33 ferry terminal.

SFPD'S BALLPARK

The E-line would directly connect the capacity crowds from T&T Park to restaurants and other attractions the length of the waterfront.

DOGPATCH

This historic working-class neighborhood in the Central waterfront, Dogpatch is rapidly adding residences and is within walking distance of Pier 70 E-line terminal.

UNMATCHED REGIONAL CONNECTIVITY

Market Street Railway's vision for the E-line would provide more regional transit connections than any transit line in California, including the following transfer points.

- THIRD & 20TH STREETS**
 - Muni hub will include bus lines serving Potrero Hill, Caltrain 22nd St. station, and 16th and 24th St. BART stations.
- CALTRAIN DEPOT**
 - Caltrain heavy rail serving the Peninsula, San Jose, and Gilroy
- FERRY TERMINAL**
 - Multiple ferry lines serving the East, North, & South Bays
 - BART trains serving SFO airport, the northern Peninsula, and the East Bay
 - SamTrans buses serving the Peninsula
 - Muni Metro subway lines serving western and southern San Francisco
 - Connecting bus to Amtrak Oakland Station
- NORTH POINT**
 - Golden Gate Transit buses serving cities in Marin and Sonoma Counties
- PIER 41**
 - Commuter ferries
 - Angel Island ferry
 - Midday ferries to Tiburon and Sausalito
- VAN NESS/MUNICIPAL PIER**
 - Muni trunk north-south bus lines serving the Mission District
 - Muni Van Ness Bus Rapid Transit serving the Mission District and 16th Street BART
- FORT MASON CENTER**
 - Current 28-line serving Golden Gate Bridge, 19th Ave. and Daly City BART
 - Future extended 43-line serving Presidio, UCSF Parnassus Medical Center and Balboa Park BART

and its 43-line is scheduled to connect Fort Mason to the Presidio in the future. Fort Mason Center has plans to create a bicycle rental station at the terminal.

The extension would give Fort Mason Center the transportation capacity to help it preserve its existing historic campus and restore the currently vacant Pier 1, which could provide wonderful conference and exhibition space with jaw-dropping views of the Golden Gate. Just steps away from the streetcar terminal, this space, like the existing facilities at Fort Mason Center, would be directly connected to the hotels and restaurants of Fisherman's Wharf, benefitting both places. (Muni will ultimately decide whether the E- or F-line uses the Fort Mason extension.

As we have seen on the northern Embarcadero, the attractive vintage streetcars attract riders that other forms of transit don't.

We believe the E-line is a better fit for several reasons, primary among them that it's projected to run somewhat less frequently than the F-line, and is thus a better match for the Fort Mason tunnel capacity.)

SOUTH THROUGH MISSION BAY

Market Street Railway also believes that the other end of the E-line would be stronger if it were extended, in this case southward for a mile on the T-line tracks to a terminal at Pier 70.

As we have seen on the northern Embarcadero, the attractive vintage streetcars attract riders that other forms of transit don't. The E-line would provide residents and workers in the rapidly growing Dogpatch and Mission Bay neighborhoods with single-seat rides on the colorful streetcars to AT&T Park, the Brannan Street Wharf, potentially the Warriors arena on Piers 30-32, the Ferry Building, and waterfront points north. This direct E-line service will become even more important when the Central Subway opens and diverts the current T-line trains off the southern Embarcadero.

E-line service would provide a specific stimulus to two major development projects south of China Basin now moving towards construction. Both are on public land owned by the Port of San Francisco.

One is Seawall Lot 337, across McCovey Cove from AT&T Park. The Giants are proposing an entertainment, recreational, residential, and office complex that would cover twelve new street blocks, replacing the current surface parking lot. A high-rise parking structure would be located at the northeast corner of Third & Mission Rock Sts., right at the T- and E-line stop. This new parking structure, and the existing UCSF parking structures further south, could be used by weekend and evening visitors on non-game days, leaving their autos behind for an E-line ride to the Ferry Building or Wharf or a T-line ride to Union Square or Chinatown on the Central Subway. This development would also restore historic Pier 48 for a showcase expansion of the city's iconic Anchor Brewing Co., drawing even more people to the area.

The other major new development on Port land is the Pier 70 complex, a sprawling array of historic shipyard structures dating back up to 125 years. Muni has already started a track loop that would terminate at the proposed pedestrian entry to the complex, next to a planned open space called Crane Cove Park.



COMING ATTRACTION—Channel Street, onto which No. 162 has just turned from Third Street, will be extended all the way east to the bay, across what is currently the Giants' vast parking lot. Plans are advancing for a new neighborhood on the site, with 12 blocks of apartments and condominiums, offices, and retail, plus a new facility for Anchor Brewing Company on historic Pier 48, and a major new park on McCovey Cove.



STUNNING SETTING—A major new park on the south shore of McCovey Cove is included in the Giants' proposal for the area south of AT&T Park, with the possibility (weather permitting) of nighttime use as well as day use. *Rendering courtesy Giants Enterprises.*

Unlike large capital projects required for other new Muni rail service, the extended E-line is almost paid for already.

The Pier 70 complex is slated to have a variety of uses. The historic shipyard buildings lining 20th Street may host local arts and crafts related businesses, restaurants, and office space. The larger waterfront space beyond will likely be aimed at tech firms and other businesses attracting younger knowledge workers—exactly the kind of people who love and use the vintage streetcars.

Also along the one-mile extension from Caltrain to Pier 70, the huge UCSF campus continues to grow, including two new hospitals coming on line soon. And residential buildings—lofts, condos, and apartments, are springing up all along the extension.

The E-line would connect these thousands of new residents and employees directly with the panoply of restaurants and other attractions along the waterfront, reducing their desire to own and use automobiles.

Existing residents in surrounding neighborhoods would benefit, too. For example, changes to bus routes proposed in Muni's Transit Effectiveness Project (TEP) would connect the E-line directly to the 22-Fillmore (slated to be rerouted over 16th Street to Third), the 33-Stanyan (which will pick up the 22-line's routing across Potrero Hill on 18th Street, and a new 58-line motor coach which would serve Noe Valley, the Mission, and Potrero Hill, terminating at 20th and Illinois Streets. The E-line connection will offer residents of eastern neighborhoods served by these important crosstown lines easy transfers to attractive streetcars serving the entire central and northeast waterfront areas.

RIDING HISTORY TO SEE HISTORY

To the best of our knowledge, no other transit line in America would connect as many National Park units, National Historic Landmarks, National Historic Districts, and National Register properties as would the extended E-line. The interior panels of the E-line

streetcars could be fitted with panels to educate riders about these historic landmarks, many of which relate to San Francisco's rich maritime history.

While any of the current F-line streetcars, including the PCCs and Milan trams, could operate on the E-line (once a loop is built at the ultimate southern terminal), some of the historic streetcars that represent great port cities or maritime nations would be particularly appropriate for this service, including: Hamburg, Germany; Porto, Portugal; Blackpool, England; Osaka, Japan; and Melbourne, Australia.

READY TO GO!

Unlike large capital projects required for other new Muni rail service, the extended E-line is almost paid for already. The first phase infrastructure is fully complete. The southern extension to Pier 70 needs only the completion of a track loop at 18th and Illinois Streets (already partially funded), the lengthening of low-level boarding islands at three existing stations on Third Street (no change required to the street itself), construction of one new E-line station in the King Street median east of Fourth, and completion of a terminal at the southern end of the line.



LOOKS RIGHT AT HOME—The E-line can use existing T-line stations through Mission Bay, simply by lengthening the low level platforms at the end of the current stations. Here, PCC No. 1008 is stopped at the existing short low-level platform of the UCSF Mission Bay Station. The high level platform would be used by E-line streetcars to board wheelchairs. *Kevin Sheridan photo.*



BACK TO THE FUTURE—Muni has already built most of a terminal track loop that could be used by E-line streetcars. Here, No. 162 is on 19th Street, with what will become a major new recreational facility, Crane Cove Park, behind it. Some early Muni streetcars similar to No. 162 were built right at this shipyard! *Jeremy Whiteman photo.*

AN EXTENDED E-LINE OFFERS SAN FRANCISCO:

- Unmatched regional transit connectivity
- Much needed additional Embarcadero Muni capacity
- Increased value for key publicly owned development sites
- Better transit for residents of the northeast Marina, Golden Gateway, South Beach, Rincon Hill, Mission Bay, Potrero Hill, and Dogpatch
- Proven ability to attract people out of their automobiles and into transit
- Improved mobility leading to more economic activity on the waterfront, benefitting sales tax revenues
- More value from investments in existing rail infrastructure
- Low cost to implement extensions



HISTORIC LINKS—Just as the Bay Bridge links the two sides of San Francisco Bay, the E-line can become an enduring link of all of San Francisco's major waterfront attractions. *Kevin Sheridan photo.*



learn more at streetcar.org

Muni has already installed the switches and some track for a terminal loop that would use 18th Street, Illinois Street, and 19th Street and has obtained federal funding to complete it. This is intended for short-turn T-line trains using the Central Subway, but since that facility will not open until at least 2019, E-line streetcars could use it until then. Another possibility, which Market Street Railway is discussing with Muni planners and community groups, is a second loop using 20th Street, with a terminal on Illinois Street at the entrance to Pier 70, returning on the existing 19th Street track. Either of these options would be cost effective.

The westward extension from Fisherman's Wharf to Fort Mason is estimated at a capital cost of around \$40 million, of which \$5 million was earmarked in the passage of Proposition K by San Francisco voters. Market Street Railway is currently working with Muni to seek funding to begin the design and engineering of this extension.

There are even storage and maintenance facilities for the E-line at hand. Muni's huge Metro East facility at 26th and Illinois Streets has plenty of room to accommodate the historic streetcar fleet. In fact, the ten Milan trams are already housed there. If covered storage were constructed to protect the historic fleet when streetcars are out of service, operating costs could be lowered by moving all the E-line and F-line streetcars here.

As the five and a half mile long 'string' connecting the historic and modern 'pearls' of one of the world's great waterfronts, an extended E-line would be one of the best public transportation investments San Francisco has ever made.

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