Bay Area Rapid Transit: An Alternate History

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Map Key

- Line & Station
- Destination
- Transfer Point

Connect to:

- Light Rail
- Commuter/Intercity Rail
- Ferries
- Airport
- Connection Nearby

BART: An Alternate History

There are plenty of "fantasy" or "crayon" Bay Area rail maps on the Internet. You can find subways all over San Francisco; you can find urban rail in the rural North Bay (BART to Napa!). This map tries to be a bit more realistic. Don't get me wrong — it imagines a different postwar political and cultural reality. But its starting point is a realistic scenario, a potential turning point: What if Contra Costa County, like San Mateo County before it, had opted out of the BART District before the vote that created it? What if BART planners had gone back to the drawing board, and sketched out a new proposal focused on the densely populated core of San Francisco and Alameda counties? What if that proposal had won? And what if BART had expanded over the years by investing less in suburban park-and-rides, and more in urban neighborhoods? What if, in other words, today's BART looked more like another Great Society subway, the Washington, D.C. Metro? There are 40 Metro stations in the District of Columbia, which has a population of about 700,000 (and, granted, armies of federal employees — or at least it did). This map has 56 stations (vs. 19 today) in San Francisco, Oakland and Berkeley, which have a combined population of around 1.4 million (60 stations if you include Caltrain, as the map does — with, to be clear, existing Caltrain and not BART trains and tracks). That doesn't tell the whole story; in the world of this map, most of the Muni Metro still exists. But the point is this: Isn't

this the sort of metro system the urban Bay Area should have, and could have, even given its location within California and America?

If you've made it this far and are still interested, scroll down for more details.

What about places that have BART now, but wouldn't?

Yes, central Costa Costa County, at least (and western Contra Costa, which is included here — BART has always continued into neighboring counties), deserves quality transit. So do other parts of the BART system not included in this map, arguably, although central Contra Costa has really grown up around BART (and indeed, the Yellow Line is BART's busiest). In this world, I imagine the BART Express buses that connected outlying areas to BART stations until the '90s would've served central Central Costa, and would've continued through today. Could there be rail? A Berkeley Hills tunnel and a route through North Oakland would've been required (State Route 24 was built alongside BART, and the old Sacramento Northern ran on city streets, then climbed the Oakland Hills). Interstate 580, though, would've been better off without BART, as standard-gauge tracks could've been built in its median instead, giving Central Valley trains a direct route to the central Bay Area (California High-Speed Rail, perhaps?). In Santa Clara County, this map assumes an upgraded Caltrain (see below). As for the Peninsula: This map

envisions a Caltrain station connected to the SFO people mover west of Highway 101, as was once planned. Since most domestic fliers already take the people mover to BART in the International Terminal; given the Downtown San Francisco Caltrain extension and higher service levels described below; and since Caltrain to Downtown would be faster than BART, this wouldn't amount to much if any reduction in service.

What about Caltrain?

Ironically, in this world, Caltrain looks a lot like it does today — with the obvious exceptions that stations have been added at SFO and in the Bayview, and the extension to Downtown San Francisco, a short walk from BART, has been completed. I've included Caltrain in this map not because I think the infrastructure, including the new electric trains, should be different — no BART around the Bay! — but because I think Bay Area Rapid Transit should be a single system, consisting of different modes, but with unified governance, fares, schedules and branding. I would also like to think it would be more frequent ... see below. (And for more on Caltrain, see "So, about those lines ..." and "Final Notes" below.)

What about the Muni Metro?

Fun fact: The upper platforms in BART's Market Street stations weren't originally intended for Muni. No — they were meant for BART's Geary/Marin line. When the dream of trains on the

Golden Gate Bridge died, that level became part of an express route downtown for Muni's remaining streetcar lines, and the streetcars were replaced with modern light rail vehicles in the process. Thus the Muni Metro was born, piggybacked into existence by BART. It could've been something else, though: Not long after BART was approved, voters rejected a "Muni Rapid" system (of trains — not to be confused with today's rapid buses) that would've included parts of the remaining streetcar lines as well as a Geary line, and would've been a sort of mini-BART. Anyway, you might think of this map as a hybrid of both. It includes rapid transit lines — BART lines — out Geary, on the N Judah to 19th Avenue, and on the M Ocean View by Stonestown Galleria and S.F. State University; it also assumes most of of the existing Muni Metro system, including the Market Street subway (although the N west of 19th probably would've become a bus route connecting to BART, and the J probably would've had to turn around at Duboce to make way for BART). In this world, the T Third Street extension to North Beach and Fisherman's Wharf might even exist.

How would all this work, exactly?

Don't ask too many engineering-y questions! But I have given some thought to necessities. First, how much of this would have to be in subways? The existing elevated segment in West Oakland, which bulldozed historic Seventh Street, certainly would be. Elsewhere? Some of the new alignments are along

wide roads where viaducts would have less of an impact, although some of those, like Hegenberger Road and 73rd Avenue east of the Oakland Coliseum, weren't widened until after BART was built. Geary Boulevard was famously built earlier, although more recently, neighbors spent years fighting bus lanes. Second, all of these lines except the new Yellow Line has direct access to an existing yard. As for the Yellow Line? There's still space at Alameda Point. Would this segment have been built before Naval Air Station Alameda was closed? Probably not, but if some version of the Oakland Wye under Downtown Oakland (allowing access to Daly City or Hayward yards) were too expensive, connecting tracks could've been built near West Berkeley (allowing access to Richmond) instead.

Are stations closer together?

Global best practice for metro systems is stations every one kilometer to one mile, or about a 12- to 20-minute-walk, apart. Your mileage will vary, of course, depending on context. But distances between existing stations on BART, which really was designed for suburban commuters, can be up to almost three miles even in dense urban areas — most notably in East Oakland, a historically disadvantaged community. This map adds infill stations in existing segments, at locations previously identified by BART, and on new lines, it mostly adheres to the above standard.

What would service look like?

One (mostly) good thing about the existing system is its extensive interlining, which provides more service to inner than outer stations by design. People like to talk about BART's 20-minute frequencies, but that's limited to a small number of stations (the Yellow Line runs every 10 minutes on average). Where lines overlap, combined headways are as frequent as every four minutes. This system would have less interlining, which means more resiliency (problems on one line would be less likely to impact others). But even if headways on most lines were 10 minutes or better, making this a proper "metro" and not an American S-Bahn, San Francisco's Mission stations, for example, would see service greatly reduced. One solution would be short lines, say between 24th Mission and Coliseum (there's an existing crossover just south of 24th that BART has occasionally been used to turn around trains, although it's not really designed for that). With enough turnbacks built into the system, BART could more cost-effectively run as much service in the core of the system, where demand would be higher, as signaling and funding would allow. The Red (Caltrain) Line, with its length and different service patterns, might be every 20 minutes for all-stop service; today, it's every 30 (itself a major improvement over the previous hourly headways).

So, about those lines ...

Blue Line

Starting in Richmond, this is the existing Orange and Red lines. (There are Blue and Yellow lines near Cal Berkeley, and red by Stanford — get it?) South of the Ohlone Greenway, however, it transitions to San Pablo Avenue, one of the Bay Area's busiest bus corridors. This is one of two north-south lines in North Oakland and Berkeley (see the Yellow Line below), and it provides higher-quality transit to historically disenfranchised West Berkeley. It also allows for two stations on the eastern edge of Emeryville, much closer than today's MacArthur Station (although Emery Go Round circulator shuttles would likely still exist). The Transbay Tube would be unchanged. In San Francisco, this is the white whale of Bay Area transit, San Francisco's very own Second Avenue Subway, the Geary line — but not turning south toward 19th Avenue as under current plans, but continuing west almost to the Cliff House, or at least a point near the VA Medical Center. (Not to get too engineer-y, but the junction under Downtown San Francisco — and under the Muni Metro tunnels above — would be challenging.)

Yellow Line

The Yellow Line is a mostly new route along University Avenue and Telegraph Avenue in Berkeley and North Oakland, Broadway in Downtown Oakland, and under the Oakland Estuary to the West End of Alameda. While it doesn't offer one-seat rides to San Francisco, it connects to all three East Bay lines that do. (I will admit that one advantage of the current system is that every East Bay station has a direct connection to San Francisco.) Along

with the Blue Line, the Yellow Line is one of two north-south corridors in North Oakland and Berkeley — along San Pablo and Telegraph, instead of Adeline Street and Shattuck Avenue (although there is still a Downtown Berkeley Station in much the same location). This allows more direct access to the University of California campus, via a station at the foot of "The Ave," near Sather Gate. The details of my alternate history get a bit hazy here: the Navy base, site of the line's Alameda Point terminus, wasn't closed until 1997, and large-scale redevelopment didn't occur until recently. The line might have originally ended at College of Alameda, allowing West End and mid-island commuters to avoid the Posey and Webster Tubes. (An earlier version of this line extended to the East End and South Shore, but that side of the island has always had decent access to BART via Fruitvale just across the Oakland Estuary.)

Green Line

Like Geary in the city, the MacArthur Freeway corridor east of Lake Merritt is the East Bay's missing link. Yes, there's a freeway; but there are also walkable neighborhoods that have somehow not just survived but thrived. The freeway would get in the way: At Grand Lake, for example, the station would probably be under Eastshore Park, so you'd have to walk under the overpass to reach the Grand or Lakeshore Avenue commercial cores. At Mills College, the line would head toward the Eastmont Transit Center, the transit hub of East Oakland, and from there it's a straight shot to Oakland International Airport. The line would replace the

Oakland Airport people mover, stopping on Hegenberger along the way, and it would serve the heart of Deep East. It would also have a station in the heart of West Oakland. In San Francisco, it would replace most of the N Judah, historically one of Muni's top three corridors (along with Geary and Mission), and it would continue down 19th Avenue (as is currently planned for the future Geary line; Muni's 28 and 28R buses would continue to connect the Sunset to the Richmond). Along with the Blue Line, it would dramatically improve transit access to the west side of San Francisco.

Orange Line

The Orange Line is basically today's route between Daly City and Fremont, only with infill stations and a connection to Oakland City Center. Why Fremont? If Alameda County had remained part of the district, it probably would've been necessary. Ideally, rail service farther from the core than, say, Hayward, would consist of regional rail, in this case an upgraded Amtrak Capitol Corridor (possibly with an infill station in Union City) or even a branch of California High-Speed Rail (see below).

Red Line

This map begs a couple of questions re: Caltrain. One, governance? Count me among those who think BART and Caltrain should be merged in this world, for several reasons, but most importantly to stabilize Caltrain funding (not that BART funding is exactly stable these days). How? There are options,

although San Mateo and Santa Clara counties opting into the district would be simplest. Question #2: Why stop at Transbay? What about Link 21? Twenty years ago on an older website, I imagined a sort of Bay Area RER with Caltrain continuing north of Market. This map assumes the currently planned extension to the Transbay Transit Center (aka Salesforce Transit Center), pointed east, with connections to BART at Market Street a block away. I imagine that a future connection to intercity rail in the East Bay would be planned — although not just to an electrified Capitol Corridor, but to California High-Speed Rail (you thought I was kidding, didn't you?). To be clear: Caltrain would still be electrified. But current CAHSR plans would effectively bypass millions of people in the East Bay, and San Jose could be on a branch. Yes, I am talking about a version of the old Altamont alignment. (One real-world problem: Rumor has it that extending tracks east from Transbay would require demolition of *highrises*.)

So, would this have been better?

Putting aside the obvious benefits of easier access to high-quality transit for more people — yes, certainly in terms of land use. As resistant to new development as the Bay Area has been since the '60s, even around BART stations, it's hard to believe this wouldn't have resulted in more infill, and today, there would be many more station areas available for transit-oriented development. Plans for Alameda Point, for one, might have been different and denser if there were some way off the west end of

the island other than congested tunnels and infrequent ferries. There is one caveat to this: Downtown San Francisco. BART basically enabled the modern Financial District, effectively doubling the number of people who could access it from the East Bay during rush hours and allowing it to expand accordingly. This system is less concerned with suburban commuters, and pre-pandemic, that might've been a bit of a liability — although it would've been better positioned for today's work-from-home world. This would be a more flexible and adaptable system, not the glorified commuter rail network BART's critics have always accused it of being. But would it have been worth the cost? As noted above, much of the system would likely be in subways, and there would be more stations (69 not including Caltrain, compared to 50 today). One cost-saving measure consistent with more frequent service would be shorter trains; the ten-car trains BART used to run, and that its stations were built for, are 700 feet long. Reducing this by even 20 percent, to eight cars, would've greatly lowered station costs. Building standard- rather than broad-gauge tracks could've further reduced the amount of space required. Of course, both of these would've further reduced capacity; maybe in this world, BART's antiquated signaling system, which limited capacity in the Transbay Tube pre-COVID, would've been replaced when it should've been, years ago.

Final notes

- Where possible, I've named stations after neighborhoods or nearby landmarks, rather than streets. A few thoughts on stations ...
    - Berkeley Marina would actually be at Fourth Street, east of I-80.
    - Ashby on the Blue Line is, of course, not today's Ashby, which is at Adeline and not San Pablo. South Berkeley on the Yellow Line is on Telegraph between Ashby and Alcatraz avenues, a few blocks from existing Ashby.
    - MacArthur is replaced by Temescal, at 45th Avenue, Shattuck and Telegraph, a few blocks northeast.
    - Bella Vista is centered on MacArthur Boulevard and 13th Avenue, midway between Oakland High School and Wilma Chan Highland Hospital.
    - Melrose is on the existing southeast-of-Downtown Oakland segment (the "A-Line," in BART lingo) at 50th Avenue.
    - I'm going to link to the San Antonio Station Alliance just because having worked on an analysis of potential infill station locations for BART, this is easily the most promising. Also, I live nearby.
    - Oakland Museum is today's Lake Merritt, possibly a block north, next to the museum (so the path to Oakland City Center would be more direct). Grand Lake would actually be closer to the lake. And yes, I know there's a movement

to rename Lake Merritt Oakland Chinatown, but most of Chinatown is actually closer to the existing 12th Street/Oakland City Center. Yes, I'm that pedantic.

- College of Alameda is at Webster Street and Ralph Appezzato Memorial Parkway, in the southeast corner of campus. This would put it within walking distance of the West End commercial corridor on Webster, although the more recent retail at Alameda Landing would be a less pleasant walk. This is one location where a large parking garage probably would've been built, as while it's on the AC Transit 20 and 51A bus routes (at least in this world), Alameda is the city that almost completely banned apartment buildings in the '70s — then voted to keep that ban in 2020. So yeah, you'd probably need to provide access for drivers.
- Don't ask me where Alameda Point is — it would've depended on what the redevelopment plan had looked like if there had been a BART station to build around.
- Mandela — today's West Oakland, although underground and a bit farther west, so the Blue and Green lines under Mandela Parkway could meet up with the Orange Line there — would be an exception to the naming rule. This is because there would be two stations in West Oakland.
- Financial District is today's Montgomery, and Union Square South is today's Powell.

- Transbay is, of course, today's Salesforce Transit Center. By the way, the East Cut organizers missed a golden opportunity to name their new neighborhood for the historic transit hub.
- China Basin is today's 4th and King (or as Caltrain likes to call it, "San Francisco"), and Potrero/Dogpatch is today's 22nd Street.
- Lands End, as noted above, is somewhere near the VA, not all the way out by the Cliff House. UCSF/Inner Sunset would probably be around Irving Street and Fifth Avenue.
- SF State is near near the existing 19th & Holloway Muni station, a bit of a walk from Stonestown Galleria but accessible to Park Merced, which might already have been redeveloped if there were a BART station there.
- A few station names have been changed for reasons of consistency or clarity: for example, Downtown Richmond, so there would be less confusion on the Richmond (city)-to-Richmond (neighborhood) Blue Line.
- Oakland City Center and Uptown Oakland (today's 12th Street/Oakland City Center and 19th St/Oakland) would look very different from their current versions. They would be transfer points more like 7th Street/Metro Center in Los Angeles or Metro Center in Washington, with lines crossing at right angles. The Yellow Line platforms would be in much the same locations as today, while the Green Line would be under 20th Street (at the

north end of the station) and the Orange Line would be below 11th Street (at the south end). And yeah, they could've looked more like this.

- Caltrain skip-stop patterns aren't shown here, but would still exist. Nor is the rush hour-only shuttle service from San Jose Diridon to Gilroy, which could be part of the system, but probably should be part of the Capitol Corridor. Stations served only a couple of times a day (College Park, which exists solely to serve Bellarmine College Preparatory) or only during special events (Stanford, which serves Stanford Stadium — Palo Alto is the main campus stop) aren't shown, either. Burlingame's Broadway is, however, despite currently being served only on weekends. That's because full service will be restored if Broadway itself, which limits station capacity, is ever grade-separated, as is planned.
- BART trains are famously wide and long for a metro (although again, BART is only sort of, kind of a metro). Above, I suggested that making them somewhat smaller could've cut capital costs. BART's large trains have also given its planners an excuse to run them less often, which historically contributed to its relatively high cost-effectiveness — but at the cost of ridership. Most metro systems run shorter trains more often. As for Caltrain: The current Stadler EMUs are perfect. Just imagine them in BART blue.
- As for future plans: I mentioned before that a second Transbay Tube connecting Caltrain (the Red Line) to main lines in the

East Bay should still be planned. So should Caltrain level boarding, whether or not high-speed rail on the Peninsula is planned (if a second Tube were built, high-speed trains could continue onto the Caltrain line, potentially to SFO, providing an express connection from Downtown San Francisco). Beyond that? How about a BART line to central Contra Costa?