

Exploring the Dumbarton bridges 2018



A wave of curiosity spread over me on my way back from work a couple months ago while I was crossing the Dumbarton bridge. I don't often go that way home, but during a slow week at work I took a detour to walk a couple of the trails by the bay during a beautiful spring evening. I had been in the Bay Area almost 20 years now, and I've always seen the old bridges just south of the Dumbarton bridge, but only recently had I become intrigued. It turns out the current Dumbarton bridge is just 1 of 4 bridges that spanned the bay - the others have long been abandoned.

When I see an aspect of daily life that is often taken for granted, I am fascinated with its history and how it has evolved through the decades. The first Dumbarton bridge was a rail bridge, opened in 1910. Construction started in 1907, just a year after the devastating earthquake and fire in San Francisco. It was at the time the most expensive bridge built in California, and it served rail traffic until 1982 until it was abandoned. It is hard to imagine in our current car-centric culture a primary mode of transportation being rail, but 100 years ago before cars were prevalent, society functioned very differently.

The second bridge was a pipeline bridge dating to 1925, to carry water from the Hetch Hetchy valley in Yosemite across the bay up toward San Francisco. Just two years later in 1927, the first automobile bridge to cross the bay was built. The current Dumbarton bridge was built in 1984, replacing the former bridge.

Once I learned of this gold mine of history, I set out on a methodical quest to see what I still could of these relics of the past.

My exploration of the Dumbarton bridges came in 3 phases. My first visit was unplanned - I had originally planned a short walk along some of the trails of the verdant Coyote Hills north of Fremont. However, while stuck in traffic waiting to cross the bridge, I noticed there was a wildlife refuge along the bay that I had never been to. Nisha and I liked to walk the trails of the Don Edwards NWR near where we loved to check out the birds and salt ponds. Pulling out of traffic to have a look (and a break for my tired brake-pedal foot), I came across a sign about the park, indicating it was also part of the Don Edwards NWR!

I initially just walked a short way to see some of the birds - the old bridges hadn't entered my mind at the time. However, some signboards along the trail gave some of the history of the building of the rail bridge and pipeline. I didn't realize it at the time, but these sites piqued a curiosity that stuck with me for the next couple weeks, prompting another visit later on.

This curiosity reminded me of a chapter of exploration I made around a decade ago. Back in 2008, I came across a series of abandoned railroad tunnels in the Santa Cruz mountains after a chance encounter with a local historian. Built in 1909, these tunnels had allowed trains to pass through the rugged mountains for decades before being closed permanently around WWII. When Highway 17 was built, rail slowly went into disuse, and maintenance of the tunnels and rail lines was not worth the cost. The steel of the rails was used in the war, and after the war when cars became part of the American dream, there wasn't much incentive to rebuild the lines. During that chapter of exploration, my mind had felt very much alive, racing through thoughts. I relished the thought of a similar quest with exploring the Dumbarton history.

Back in the car, I managed to inch my way across the bridge, climbing the span and catching a better view of the rail and pipeline bridges. Traversing one of the 4 bridges spanning the bay would be easy - just driving across the bridge! (though there is a bike trail across the bridge that I might have to do sometime). The others would be more interesting. Coming down the span on the far side, I noticed an old fishing pier parallel to the bridge. Some fishermen were out with their rods. I was just on my way home from work, and I didn't have anything

immediate I needed to be at, so I took a detour to check out the fishing pier. Although the road to the pier was just across a barrier from the main Hwy 84, it required nearly a 5-mile detour to get to it!

Parking at the end of the road by the pier, I enjoyed the beautiful late afternoon sunshine walking the length of the pier. The span of the modern Dumbarton bridge soared high overhead. Thousands of drivers (including me for almost 20 years) had no idea this piece of history was right there. I hadn't realized that the pier was part of the old bridge built in 1927. That bridge was the first vehicle bridge across the bay (not the Bay Bridge or Golden Gate Bridge!) Built with a vertical lift-span to allow tall boats through, the bridge accommodated traffic until 1982, when the current Dumbarton bridge opened. The center span of the original bridge was demolished in 1984.

I was puzzled why having a lift span to accommodate boats was so important - what kind of boats would be tall enough to require a lift span drawbridge? It turns out there were many. Back at the turn of the century, the small town of Alviso used to be a major port. In fact, there is a yacht club (which we would visit later) that once served large vessels - even yachts - would you believe! The yacht club opened in 1896, before any bridges crossed the bay. The Alviso cannery used to preserve produce from the Valley of Heart's Delight where it would be shipped around the country. (In fact, an old painting depicting the nearby town of Drawbridge - now abandoned - graces the side of the old cannery building. The name was no coincidence.)

The fishing pier extended several thousand feet into the bay - it was one of the last piers reaching that distance, allowing for some decent catches. Walking to the end of the fishing pier, I arrived just in time to meet a couple fishermen who had just made a catch on one of their lines. I watched a man and his son excitedly reel in the catch - it was a big one. I turned just in time to watch a giant fish shooting out of the water. The father and son had a trophy catch - a beautiful 3-ft leopard shark!

Interestingly, the San Mateo bridge has a similar history to the Dumbarton - there used to be an old drawbridge parallel to the current bridge. In fact, the original San Mateo bridge built in 1929 used to also have a lift section similar to the Dumbarton to allow tall boats through. The Werder Pier is the remains of the old bridge - sadly it has been closed since 1997, since it

also provided wonderful fishing. People used to catch sharks, rays, and sturgeon back in the 1970's after the current San Mateo bridge opened. I'm glad they have preserved a bit of history with the Dumbarton pier - I hope it stays open.

When I got home, I realized I was obsessed. After studying a bunch of the satellite views around the Dumbarton bridge on Google Maps, I saw more paths that extended by the old Hetch Hetchy pipeline and the old Dumbarton rail bridge. As I was randomly browsing some posts on reddit that afternoon, I came across some intriguing photos that somebody had posted that day on *abandonedporn* and cross-posted on *rustyrails* - this was a sign. Two days later, I set out again.

My second trip started in Newark, to follow the tracks of the Dumbarton rail line on the east side of the bay. It turns out there was a second swinging drawbridge to the east of the main one. This drawbridge was to allow trains to cross the Newark Slough. I've always envisioned the sloughs being mostly for recreation - like the Elkhorn slough near Moss Landing, famous for wildlife. But the Newark Slough was a major navigable commercial waterway, requiring boats to be able to pass through.



The old tracks pass behind the Humane Society in Newark - the rusty rails were still in decent shape, although the last trains passed through back in the 1980's. The old signaling stations were still standing, and several switches were still in place. The electronics of a Union Switch & Signal DN-11 relay were still housed in one of the electric boxes. The tracks of one of

the abandoned sidings disappeared in a sea of grass, poppies and mustard bushes. Old power lines connected to the original glass insulators were still in place. Occasionally a power line was dangling, or an insulator was missing, but most of them were still in place. One pole, however, was completely snapped, leaving just the top bar dangling from the lines in mid-air.

It was a straightforward path to find the old swinging drawbridge - just follow the rails, straight as an arrow. About 40 minutes of walking took me to the end of the line - where the rails suddenly ended on a trestle about 12 feet above the water. An enormous drawbridge span 182 feet long, swung open at about a 60-degree angle, hung in place lost in time. The Baltimore-through truss span was topped with a tender house, where a worker would signal to an oncoming train and any boats nearby to close the span and let the train pass. A large bell on the roof would be rung to alert the boats and the train.



Some old graffiti littered parts of the span and tender house. A visit to the span would now require a kayak and probably some climbing gear. The ladder was long gone. An old rope hung down on one side, but I couldn't imagine anyone trusting its integrity anymore. The door of the tender house was open, guarded by a large painted one-eyed red alien wearing a wizard hat. A gear shaft stuck out of the house (there would have been a diesel engine inside to power the shaft), and the engine would have turned the entire span on a large gear. The machinery appeared to still be intact after so many years.

The rail line was parallel to two of the Hetch Hetchy pipelines. A demolition crew was busy nearby, perhaps to dig up some of the abandoned pipelines. Seismic retrofitting has been going on for years now to keep the aging pipelines in working order. The old

pipelines (Hetch Hetchy #1, 60" in diameter and #2, 66") were built in 1925 and 1936, and now have been replaced with a 9-foot diameter pipeline passing through a trans-bay tunnel 100 feet below the bay, opening in the fall of 2014. The original pipelines #1 and #2 cross an old steel bridge which I would explore later.

The old rails and swinging drawbridge were fantastic - history frozen in time. But they would turn out to be just precursors to a greater discovery. Heading back up to the old Dumbarton pier where I was on the first trip, I discovered there was an old levee trail heading south toward a pipeline pump station and another section of the old railroad. From the Google satellite view, the path appeared to be intact, though with a couple possibly sketchy parts to cross some of the saltwater marsh to reach the tracks.

Walking south from the entrance of the pier, I soon came up to the old pump station. Flanked by boardwalks to allow one to cross the muddy marshlands, the pump house accommodated two of the Hetch Hetchy pipelines - the same ones I had seen earlier by Newark. Graffiti-laden pipelines #1 and #2 carried water from the east across the marshlands, and the pipelines continued to the west, diving under the bay just past the boardwalk. Many of the graffiti tags were new - this section of the pipeline was only abandoned a few years ago. A small fishing boat pattered in the water a little ways in the bay.



The boardwalk continued past the pipelines to the south, reaching to the trestle of the Dumbarton rail line. The trestle was about 12 feet high here, mounted on wooden pylons at periodic intervals. The boardwalk led right to some old stairs reaching to the track level - I was excited as it looked like an easy jaunt to the abandoned rails. Upon further inspection however, I noticed the stairs to be in rather sorry shape - in fact, only the top 4 steps were still in place and the supports

looked like they were ready to collapse at any moment - bummer.

Not to be thwarted by this disappointment, I wandered around under the trestle and came to a fortuitously placed log crossing a small slough in the marshlands. A use trail continued past the log, reaching to the side of the tracks and climbing up the causeway straight to the tracks - the ground was a little soggy but not too bad. A short trek through the pickle grass and weeds, and I was up on the tracks - nice!

Looking to the east, the grass-covered tracks extended just a short ways before ending straight in a solid wall of brush. Examining the bushes, I saw the tracks continued straight through. I could just barely glimpse the swing bridge of the Newark slough in the distance, several miles away. Looking to the west, the trestle continued straight as a rail (pun intended) right to the Pratt-trussed steel spans. The trestle was in overall good shape - the wood still felt quite solid. The rails were rusty but in overall good condition. Some of the ties underneath were a bit soft but the creosote treatment has stood the test of time better than I expected.

I hadn't expected to be able to go very far - a chain-link fence blocked much progress any further on the trestle. The trusses felt like a hallowed historical ground that I felt privileged to find and actually visit. I have been humbled many times by great works of historical engineering. I did some volunteer work on the battleship USS Iowa (BB-61) back in 2012 while it was docked in Richmond before being sent to LA as a museum ship. The great ship with its magnificent 16-inch guns had sat in moth-ball for decades in Suisun bay before being awoken from its slumber. Just being on the ship before it was officially opened humbled me profoundly. I had felt like an impostor and that I deserved to have to pay some kind of penance to experience it properly. Working on replacing part of the teakwood deck and sealing some leaky caulking, followed by touring the machine room, engine room and numerous hallways was an experience that haunted me for months afterward, but also left me with an intense satisfaction and appreciation of the engineering masterpiece.

Coming up to the chain-link fence, I had a perfect view looking down the tracks and where they entered the trusses straight ahead. The track appeared off-center, shifted to the right, but I then realized the trusses had originally been designed for a double-track bridge, and this track was the only one built. I already felt like I had gone further than I expected to be able

to reach, when I looked back and saw that part of the fence was broken with a dug-out tunnel that proceeded underneath, so there was a path through! I wished there was a "proper" way to explore this bridge - even if I had to pay a fee - there is a peace in obedience and following a sanctioned route. A knot developed in my stomach as I realized I was past the point of no return - there was no choice but to continue forward.

The bridge consists of three 180-foot long Pratt-through truss spans on one side of a 310-foot swinging Petit-through truss span drawbridge, and three similar truss spans on the other side of the drawbridge. The drawbridge is now currently permanently welded open, perpendicular to the rest of the bridge. It looked like it would be possible to walk to the end where the swing span would have connected the bridge.

Stepping carefully on every 2nd railroad tie, I made quick progress to reach the first truss span. It felt strange to have nothing between the wooden ties and the water about 20 feet below. It was a bit unnerving to learn that some of the original support columns had washed out in a receding tide while the bridge was being built back in 1907. And some of the ties looked a bit charred in places, as if there had been a fire. I just kept my focus and continued forward. An old wood plank sidewalk had been built parallel to the tracks, but it was easier to just stay on the tracks instead of weaving back and forth on the rotted sidewalk, dodging the missing boards. I remember some old video games of my childhood - dodging the missing planks in a high bridge in the Commodore 64 classic "Aztec Challenge", and the Apple II game "Minit Man" where you had to assemble a truss bridge by delivering beams and connecting them via a helicopter as fast as you can before a train crosses, all while being shot at from multiple cannons.

I noticed the rhythm of my steps suddenly changing a few minutes into the crossing - a series of 4 ties were attached together at the junction of the first and second trusses. Phew - I realized I was already a 1/3 of the way across. Although each truss span was just 180 feet long, the distance felt magnified, and time felt like it was standing still. I tried to capture the moment on camera, but it was an experience that photos could not do justice. I was saddened at witnessing this decaying marvel of engineering, but also hopeful that maybe it might be brought back to life as the USS Iowa had been several years ago.

Crossing the second and the third span, I could finally see the full span of the Petit-through truss drawbridge front and

center. Similar to the Newark slough bridge, this bridge span was also topped with a tender house where a mechanic would signal boats and trains to coordinate traffic, opening and closing the span accordingly. A similar style of gearing connected a motor in the tender house with the mechanism below to rotate the entire span. The last time the span had been closed was in 1982, over 35 years ago. Looking up at the end of one of the truss spans, I noticed a date stamped into the sheet metal - the date of the construction of the bridge. It was a familiar date, from my exploration of the Santa Cruz railroad tunnels - 1909.



Although I was right smack in the middle of the modern Bay Area, I felt in a parallel universe, completely out of place with the world all around. But yet, this bridge felt more real than everything else I've done in the Silicon Valley. The software I work on day in and day out is steeped in abstractions. At its core, it is based on microscopic circuits on pieces of silicon and signals passed through countless routers and switches,

representing binary 0's and 1's of information. Instead of swinging hammers and operating cranes and maintaining engines, I am merely sitting at my desk typing on my keyboard and clicking the mouse, developing and testing software. It was near the end of a calendar quarter at work, and my inbox was constantly getting swamped with a bunch of "we are the greatest" and "congratulations" emails from sales and business consulting folks patting themselves on the back in a big circle-jerk fashion - like drinking Victory coffee in an Orwellian dystopia - the reality is abstracted away, hidden behind many opaque barriers.

Sitting at the end of the track, facing the sun and studying the geometric pattern of steel supports of the swinging drawbridge, so many different thoughts came to mind. I remember participating in several balsa-wood bridge-building competitions in high school. One year I built a similar-styled bridge, soaking the wood so I could flex it and glue the triangular-shaped supports together. The bridge won the design contest that year - it had the best strength-to-weight ratio.

Seeing the steel structure also reminded me of a barbershop convention in Pittsburgh in my home state, where steel bridges cross the Ohio, Allegheny and Monongahela rivers. A wave of nostalgia hit me. I remember crossing the spans of the Walnut St bridge on City Island in PA while going to a Senators game. I felt a sense of escapism letting my mind wander, sitting on the abandoned rail bridge. Housing has gotten so expensive lately, people are enduring increasingly longer and stressful commutes, and people have gotten lonelier than ever, obsessed with social media after working long hours at the office. The old railroads harken back to a simpler day. My dad and I had some model train kits when I was a kid - a set of Lionel (O-gauge) trains from my grandfather, and a bunch of smaller HO-gauge trains - working on the model trains put us back in time. Of course, there might be some survivorship bias where the best memories are the ones that survive, but I feel in many ways the glory days of old have been lost. I have been contemplating moving back to the east coast for several years now - maybe I am entering some sort of mid-life crisis, or realizing how much I miss my family, especially as my parents are getting older. This quest to explore the railroad bridge turned out to be much more than just exploring the history - it turned out to be an exploration in the depths of myself. Maybe I'll get back into model trains or become a curator at a railroad museum someday.

Traveling by rail, I feel people are more connected to the land

and people around them. The seats on many passenger trains face each other. Flying is faster, but results in more disconnection to the world around you. I really enjoyed a trip to Japan last summer, where rail was a priority in the layout of the cities. A shinkansen ride from Tokyo to Kyoto was barely 2.5 hours, and once you reached a city, you could navigate almost anywhere else around on local trains. Nisha and I made a trip to Germany and Switzerland back in 2014 and spent a month riding the rails to about a dozen cities. I was encouraged to see that the old Amtrak Crescent train has been romanticized lately in a major news article - maybe we can take it to New Orleans someday.

I enjoyed a visit to Sacramento last year, also for a barbershop convention. After our main performance, we had some free time in the afternoon to wander about downtown Sacramento. While wandering outside the railroad history museum next to the Sacramento River, I heard a whining noise in the distance. Looking over the railing by the river, I saw a small gathering of people arriving just in time to witness the double-decker I St bridge drawbridge span rotating to let some boats through (auto on top, rail on the bottom). It had been an unusually wet winter, with the river running just a few feet under the bridge, requiring the drawbridge to rotate often, even for small boats.

The railroad museum in Sacramento was fascinating in that it also explored the efforts required in connecting the railroads through the Sierra mountains, humanizing the workers and validating their achievements. Chinese immigrant laborers had come and risked life and limb doing dangerous work blasting the tunnels and setting the rails in place. The Dumbarton rail bridge was a massive work of engineering, and I wonder the amount of labor that it required. Was it built by immigrant laborers as well? Where did they live and how were they treated? I think their work often goes much under-appreciated.

Coming back to reality after having my fill of letting my mind wander for a bit, it was time to head back. The walk back along the truss sections and trestle was uneventful and I soon found myself back at the chain-link fence with the hole. When I first saw the fence, I had felt immediately compelled to see what was on the other side. The more obvious the obstacle, the more interesting and worthwhile the conquering of that obstacle often is. Like in a video game, if there is a boss to be fought, the bigger the boss, the bigger the reward. I was not disappointed in conquering this obstacle in real life.

Traversing back the route I came, I crossed over the log over

the slough, then the boardwalk around the abandoned pump station, then the levee trail back to the entrance of the Dumbarton pier, where the whole adventure started. I needed a little time to process and unwind from the escapade, so I made a walk on the Shoreline trail north of the bridge. Sections of an old pipeline littered one side of the trail, making for a bit of jungle gym you could climb around in. I could have walked the Shoreline trail up to where it continues on the Alameda Creek trail all the way up to Quarry Lakes if I wanted, but I would save that for another day.

I thought I had a good fill of history through these last two outings, but alas, as soon as I got home, I found more to be discovered. On my very first walk, I had walked a bit of the trail in Don Edwards, thinking it didn't go very far, but after checking the Google satellite maps, I saw the trail did indeed continue straight to the Hetch Hetchy pipeline bridge and the Dumbarton rail bridge on the west shore of the bay! I also realized there was an old bridge where the Dumbarton rail corridor crossed over Hwy 101. Graffiti covered part of the bridge - an obvious sign that it had fallen into disuse. Hence it piqued my interest. I used to cross under that bridge every day when I commuted to Redwood City, but never thought much of the bridge itself at the time, but now it became a new challenge in my history quest. So about a week later, I launched out on a 3rd visit to the area.

I came to the Hwy 101 rail bridge first, so decided to check it out on my way to Don Edwards NWR. Just off Marsh Road behind some warehouse buildings lay the abandoned tracks. There was a fence around the tracks, but it wasn't continuous, allowing for an easy visit to the rusty tracks. Walking the tracks just behind some busy E*Trade offices and some other companies, I felt like I was in a small slice of nature on an "in-between" dimension of society, surrounded by turmoil. Platform 9 3/4 in London is where young wizards can take the magical Hogwarts train, but you have to know exactly how to find it. Here I was on a real-life magical train ride back in time.

Poppies and grass covered the abandoned tracks, which soon led straight to busy highway 101 below. The freeway dropped about 15 feet in elevation and rose again on the other side, indicating that the tracks came first and the freeway was built later, graded downward to pass under the tracks. The walls of the bridge were higher than I expected, about 6-7 feet high, dampening the roar of the traffic directly below. The bridge felt like a respite of calm amidst the hectic Silicon Valley

lifestyle, a relic of the peaceful past, when the Bay Area was redwood logging and apricot orchards. A colorful array of graffiti tags littered both sides of the bridge in a variety of art styles, from basic signatures to orange-eyed skulls and everything in between.



I wonder what commonplace part of life today will become abandoned in the upcoming decades? Maybe roads and freeways will be abandoned when everybody is getting around in flying cars, leaving wheeled cars behind to a niche group of history enthusiasts? Would Highway 101 become like the "graffiti highway" in Centralia, PA which was abandoned after being damaged over the last several decades due to the coal seam fires? Maybe more cities will become carless like Zermatt in Switzerland, only reachable by train? Seeing a bunch of donuts recently left from several sideshow acts on highway 880 on my way back from work makes me long for the past. I feel we are entering a Mad Max-style post-apocalyptic world with icons of culture and innocence of our childhood being left to decay, like in the dystopian works of Simon Stålenhag or Phillip Hodas. Will the frivolity of pop culture be lost to time? What will truly survive? Jesus said in Matthew 24:35 "Heaven and earth will pass away, but my words will never pass away." This exploration was surprisingly cathartic and made this scripture become more real than ever.

Halfway along the bridge was a railing and a big step down to a lower tier, part of where a second bridge would have been installed on the same foundation. I had remembered the rail bridge across the bay was designed for double-track service, though only one track was installed. The same was true over highway 101. It was a bit unnerving watching traffic whizzing by at 70 mph just 12 feet below me - I wonder if anybody noticed the top of my head peering over the railing as people drove by. I paused for a moment, wondering what the implications would be if I got caught - I wonder if I would be perceived as a homeless vagabond wandering the tracks.

After this small jaunt to the highway 101 bridge, I headed back to Don Edwards NWR to check out the abandoned pipeline bridge and west side of the Dumbarton rail bridge. A sign near the beginning said it was a 20-minute walk or a 30-minute swim to get to the rail bridge. I forgot to bring my swim trunks this time, so I hoofed it instead. The first part of the trail was familiar as I watched the bright white egrets gracing the marshlands. I waved to a park ranger just checking on the trails - they have done a good job keeping them nice. Just past an observation platform I noticed a small path off to the left that headed toward the pipeline - I had missed this path earlier.

The path went by an old section of fence with part of it missing, leading up to some old wooden steps by the pipeline. The pipeline again was actually two separate pipes (#1, 60" diameter and #2, 66" diameter) running parallel to each other. Climbing the steps to a catwalk between the pipes, I came to the beginning of the old steel trestle bridge where the pipes crossed. The trestle section was guarded by a chain-link fence - this one didn't have a hole or easy way to cross. The integrity of the catwalk across the bridge looked questionable so I wasn't particularly interested in exploring too much further, though some people had clearly hopped the fence before - the first part of the pipeline was littered with several tags.



A short ways past the pipeline bridge I came to the abandoned train tracks, again overgrown with poppies and willows. I was

hoping to be able to walk some of the trestle on this side of the bay, but unfortunately, the trestle was completely gone, with just a few burned-out stubs of the pylons remaining - bummer. Apparently, a suspected arson fire back in 1998 burned about 1500 feet of the trestle, starting right at the shore. Or maybe a homeless person had a campfire at his camp under the bridge and caught the creosote-lined wood pilings on fire by accident? It remains a mystery.



Looking down the row of burned pilings, you can see all 4 Dumbarton bridges. Straight in front was the rail bridge, starting with the 1500 feet of burned-out pilings, followed by about 2500 feet of trestle, then 540 feet of trusses up to the swinging middle section. Just to the left was the pipeline bridge. In the distance far to the left was the current-day Dumbarton road bridge, and far in the distance was the fishing pier finishing the quartet of structures spanning the bay, all visible at the same time. Maybe the next bridge to be built might be for a high-speed mag-lev train like those in "Black Panther"? I still hope rail will experience a renaissance and the old steel bridge will get to relive its glory days. Rail is in many ways an equalizer - both rich and poor and young and old can travel together, maybe even sitting across from each other where they could have face-to-face interaction? If people could save the Blue Water Line by giving their quarters and dimes, and people got tired enough commuting across the bay to Facebook and Google, I think we could easily revive the old bridge. Time will tell.