

**The Dumbarton Corridor:
An Analysis of Stakeholders, Challenges, and Potential Benefits**

Presented to
The Faculty of the Department of
Urban and Regional Planning
San José State University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Urban Planning

By
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May 2023

Acknowledgments

To **Karine Tokatlian** for telling me I would be an excellent master's candidate and planting the idea of getting a master's degree in my head.

To **Cassandra Narburg, Patti Allen, and Jessie Sharp** for suggesting I jump into the deep end and go for a master's degree along with the certificates. Your encouragement and praise motivated me even more. I was hoping you would be around to see your idea of pursuing a master's degree come full circle, but your passing has left a big void in my life that will never be filled.

To **Lisa Palmateer** for scolding me when I ignored homework and got subpar grades. You encouraged me to work harder and apply myself better. You are one of my dearest friends; thank you for your love, friendship, and encouragement. Your friendship has meant the world to me.

To **Rick Friend** for managing my investments. Without decades of your work managing investments, I might not have had the money I needed to graduate school.

To **Dr. Beliz, Professor Ferraro, and Curt Hoppins** for crafting letters of recommendation at the last minute. Your letters of recommendation got me accepted to the Urban Planning Master's Program.

To **Professor Kos** for accepting my graduate application to the Urban and Regional Planning Department. Also, for being an excellent sounding board for my planning report providing valuable input and suggestions.

To **Professor Douglas** for agreeing to be my advisor and providing valuable feedback on my report.

To the **Silicon Valley Bike Coalition, Emma Shlaes, Sandhya Laddha, and Adina Levine**, for providing me with a place to get my volunteer hours done and being a great source of information about the Dumbarton Bridge.

To **Melissa DuMond** for answering a ton of questions that I had when I was getting this topic developed.

To **Patti Herbst and Crystal Young** for proofreading my papers since I started undergrad at San Jose State. Your help has been immensely valuable over the last ten years.

To **Brad Fick** for providing all of the pictures used in this report, as it was impossible to get out there in person (due to private property and trespassing issues).

To **Grandma, Uncle Bill, and My Dad**, you are deeply missed, and I know you would have been proud of me completing graduate school.

To **My Mom** for her love and support during my extended education.

To **Ann Lucero** for copy editing my paper. Thank you so much for your help.

To everyone named and unnamed, thank you for all your help and assistance over the last four years with the master's program and my planning report. All of your help has been immensely invaluable!

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Executive Summary

The Dumbarton Corridor is a rail line linking the East Bay to the Peninsula Region of the San Francisco Bay Area. Attempts have been made over the last thirty years to restore passenger service, but all attempts have failed. This report is not intended to be a new way to look at the Dumbarton Corridor but rather to compile and present various Dumbarton-related information in one quick, easy-to-read document. Anyone from a busy planner to someone who just moved to the area could pick it up and understand who's involved, how they are involved, and the significant hurdles SamTrans faces, such as applying for resource permits and Environmental Assessments. The most important information comes from the 2019/2020 Dumbarton Presentation and meeting notes, which have been removed from the SamTrans Website as of 2022. This document listed most stakeholders, permits, resource agencies, environmental assessment, and project timelines but has since been pulled from their website. This report would have been much harder to write without this document.

Stakeholders and resource agencies had easy-to-access websites, but the permits required more complex Google searches. One example is the Joint Aquatic Resources Permit, a google search of this permit revealed multiple different versions of this permit. Tracking down the Bay Area-specific, one took more work than looking up the Nationwide 14 permit. Some information, such as the stakeholders' concerns with the project and why they are involved, is unavailable on their websites. The only way to discover this information is through the stakeholders themselves. Most of the information was acquired from various official sources: government websites, stakeholder websites, and scholarly websites such as PLoS One. A few stakeholders did answer the questions that were sent to them. None of the 1990 Dumbarton Studies were used for this report as that information is highly outdated, and the Dumbarton Corridor project has changed over the last 30 years. Much of the information about the Dumbarton Corridor and Crossbay Transit Partners has since been removed from the internet.

In 1868, the Central Pacific Railroad purchased the Southern Pacific Railroad (who had bought out the San Francisco and San Jose Railroad, and they opted to keep the name Southern Pacific Railroad. To handle the increase in freight, Southern Pacific Railroad built new rail infrastructure, including the Dumbarton Bridge, in the early 1900s. The Dumbarton Rail Corridor provided the Southern Pacific Railroad with a shortcut from the East Bay to the Peninsula (regions of the San Francisco Bay Area). Southern Pacific would operate passenger service and freight service along the Peninsula and the Dumbarton Corridor until the early 1980s when Caltrans would take over Peninsula Passenger Operations. Freight in San Francisco began to dry up after the port operations moved to Oakland. Southern Pacific Railroad stopped using the Dumbarton Corridor, opting to sell it to SamTrans in 1994. SamTrans bought it to rebuild the corridor for passenger service. The project was 91% funded by the 2000s, and the Metropolitan Transportation Commission transferred much of the Dumbarton funding to BART's Warm Spring expansion. Several attempts at new sales taxes and other funding measures were attempted, but the Dumbarton Project would not get rolling again until 2016, when Facebook got involved. Facebook's involvement results from its location along the Highway 84 Corridor and the rail line. They felt that their employees were drastically adding to the traffic congestion and wanted to provide them with an alternate form of transportation. Their

involvement would only last until 2020 when the Covid-19 pandemic led to shelter-in-place orders. As a result, Facebook shifted to a work-from-home model and decided they did not need to be involved in the Dumbarton Project. Facebook reportedly offered \$1,000,000,000 for the Assessment Process and construction. Once Facebook pulled out, SamTrans lost enough funding that they had to start re-evaluating the project.

The Dumbarton Corridor could be seen as a cautionary tale of how infrastructure projects can be affected when money is stripped away or transferred to another project. Had the money stayed with the Dumbarton, it would have been operational. In the same 30-year period, over twenty other commuter services have become operational, including Sonoma-Marín Area Rail Transit (S.M.A.R.T) and Los Angeles Metro Link. These systems did not have their funding stripped from them. The Dumbarton Corridor now costs more than a billion dollars, more money than any local municipality can afford. This amount of money requires state and federal involvement. Funding is only the first problem that SamTrans and the project partners need to overcome. Five other major go/no-go milestones that must be overcome are spread out throughout the different stages of the Dumbarton Project. One of these go/no-go milestones is the Record of Decision. A record of decision is when the lead agency signals they are prepared to move forward with the Dumbarton Project. A second milestone is the feasibility study, where SamTrans and its project partners look at the Dumbarton Project and decide if it's feasible.

Chapter 1: Introduction

Overview

The Dumbarton Rail Corridor is an 18-mile-long rail line linking San Mateo and Alameda Counties (Redwood City to Newark). The Southern Pacific Railroad originally used the Dumbarton Corridor for freight and passenger service, but it has sat dormant since the 1980s. The Dumbarton Rail Corridor project is a complex project that involves groups from local, state, and federal levels. Several questions arise:

1. Who are all stakeholders involved in this project before and after the passenger service starts?
2. How are they involved in the project? Are they a resource agency that issues permits, politicians who work on securing state and federal funding, or a regulatory agency that oversees and inspects railroads?
3. What resource permits must be applied for, and what are the Environmental Impact Assessments?
4. How can this project improve the lives of the Bay Area residents?

The chapters of this report are organized in such a way as to tell the story of the Dumbarton Corridor, starting with the formation of the Union Pacific and Central Railroads and ending with the final stage of the Dumbarton Project (stage 7). It is important to note that these stages could change as the Dumbarton Rail Corridor Project evolves. Chapter 2 focuses on the Union Pacific and Central Pacific Railroads formations, emphasizing why President Lincoln signed the Pacific Railroad Act. In addition, this chapter looks at the history of the rail line linking San Francisco and San Jose, specifically how the rail line ended up being owned by the Central Pacific (before being renamed as Southern Pacific) and why the Dumbarton Corridor was built in 1907. The chapter then continues with the history of the Dumbarton Rail Corridor, with a significant emphasis on the modern history of the Dumbarton Corridor starting when it was sold to SamTrans up to the COVID-19 Pandemic. Appendix B: Timeline indicates, in red, the pre-pandemic planned timeline for the Dumbarton Project.

Chapter 3 lists the stakeholders involved in the project. This chapter will provide biographical and background information on each of the stakeholders. The stakeholder list will be divided into several groups: a project group, a technical advisory group, a stakeholder advisory group, resource agencies, and an “others” group. The latter group comprises stakeholders that do not necessarily advise on the project but ultimately exert some influence.

Chapter 4 guides the reader through the different phases of the Dumbarton Corridor Project. The chapter starts with defining an Exclusive Negotiating Agreement (stage 1) before proceeding to all the resource permits that need to be applied. This chapter then explores the Environmental Assessment phases and the follow-up stages, such as design and financial assessments. Each stage has to end with a “go,” or that stage will be re-evaluated before the project moves forward.

Chapters 5 and 6 serve as the conclusions of the report. Chapter 5 explores how the Dumbarton Corridor Project is connected to Urban Planning, focusing on the Transportation and

Environmental Planning Fields. The Environmental Planning section focuses on environmental impacts such as sea level rise and habitat destruction and why the Environmental Assessment and Permitting phases can mitigate these impacts. The Transportation Planning section of this chapter focuses on how the Dumbarton Rail Corridor can be combined with other forms of transportation to reduce traffic and provide healthy alternatives to Bay Area Residents. Chapter 6 focuses on how and why the Dumbarton Project has failed while other transit systems have come on line. Three Appendixes provide some additional information that did not fit into the report. Appendix A provides the design specifications of the Dumbarton Bridge, while Appendix B provides a brief timeline that summarizes this report's history section. Some dates and events are provided in red, indicating the original timeline, which was expected to happen before the COVID-19 pandemic. These events will likely occur when the Dumbarton Project moves forward, but the specific details could change. Appendix C provides various pictures of the Dumbarton Bridge, all supplied by Brad Fick.

Study Methodology

The motivation behind this report is to compile all the pertinent information regarding the Dumbarton Corridor into one document. This way, anyone from a busy urban planner to a new resident could pick up the document and easily make sense of the information. Before the pandemic, a document on the SamTrans and Cross Bay Transit Partners websites called “Dumbarton Meeting Notes, 2019/2020” listed stakeholders, permits, and resource agencies. This document has since been removed from the web, potentially because the project is changing. Furthermore, these documents do not define terms such as “Nationwide 14 Permit” or include information on stakeholders' involvement. For example, the meeting notes list Menlo Park Fire Department as an advisory group but does not explain how they are involved. This lack of information is possibly due to a limited meeting time and a large volume of data to cover. Knowing about the stakeholders, resource agencies, and permits requires visiting dozens of websites.

Discovering how and why the stakeholder organizations are involved comes from talking to people affiliated with each stakeholder group. Stakeholders were sent a questionnaire with questions such as: “How is your organization involved in the Dumbarton Project,” “Why did you get involved” and “What concerns does your organization have”? However, this only works if people respond to the questions. A few stakeholders did reply to the questionnaires, including Silicon Valley Bike Coalition, Kimley-Horn, the City of Fremont, Don Edwards National Wildlife Refuge, and the Coast Guard. The information they provided is not readily available on their websites, especially after the pandemic forced SamTrans to re-evaluate the project. Contact information for each stakeholder was obtained by looking up contact information on their websites. Scholarly articles explain the importance of Environmental Impact Assessments and support the Silicon Valley Bike Coalition’s plans for a pedestrian-use bike path that could be built as part of the Dumbarton Rail Bridge. It opens up alternative modes of transportation to and from the stations and all places the pedestrian-use trail connects to.

Chapter 2: History

Formation of Union Pacific, Central Pacific, and Southern Pacific Railroads.

The first railroads in America were operating by 1825, but it was not until 1862 that American railroading got a big boost from the federal government. In 1862 Congress passed the Pacific Railroads Act, which authorized two railroads, the Union Pacific and the Central Pacific, to build a rail line to link the eastern and western United States.¹ Lincoln believed that having a railroad and telegraph line connecting the United States would help to prevent states from defecting to the South as the Civil War was being fought.² He also thought the rail line could transport mail and goods and travel across the country faster than the stagecoach. During the civil war, Union troops could travel faster by train than their Confederate counterparts, who relied more on walking. The Pacific Railroads Act gave government bonds and land to the Union Pacific (building west from Council Bluffs, Iowa) and the Central Pacific Railroads (building east from Sacramento, California).³ As added encouragement, the railroads were granted 100 feet of land on either side of the railroad tracks, and for every mile of track they built, they were given 10 square miles of land on alternating sides of the tracks in allotments of five square miles each.⁴

The Central Pacific Railroad was incorporated in 1861, planned by Theodore Judah, and involved “The Big Four”: Leland Stanford, Collis Huntington, Charlie Crocker, and Mark Hopkins.⁵ Central Pacific Railroad laid its first rails in 1863, while the Union Pacific Railroad, incorporated on July 1, 1862, laid its first rails on July 10, 1865. The Central Pacific employed over 12,000 Chinese laborers, while the Union Pacific employed Irish workers. The two railroads met at Promontory Point, Utah, on May 10, 1869.⁶

As the Union Pacific started to lay their first rails, another railroad - the Southern Pacific - was formed in San Francisco, led by Timothy Phelps.⁷ The Southern Pacific was intended to link San Francisco and San Diego. It was purchased by the Big Four in September 1868 and was downgraded to branch line status. On February 17, 1885, a holding company called The Southern Pacific was formed to combine the Southern Pacific and the Central Pacific Railroads. A few months later, on April 1, 1885, the Southern Pacific Railroad completely took over the Central Pacific Railroad, a process that would not be formalized until 1959.⁸ In 1901, the Union Pacific Railroad began to acquire the Southern Pacific Railroad, and this acquisition process would not be complete until 1998, when the Southern Pacific would formally cease to exist.

San Francisco and San Jose Railroad

The idea of a railroad linking San Francisco and San Jose started in the early 1840s and was called the Pacific and Atlantic Railroad. Public support and funding would not materialize, and

¹ *Report of the Select Committee on the Pacific Railroad and Telegraph, 1856.* (n.d.-b). Central Pacific Railroad Photographic History Museum. Retrieved September 3, 2022, from http://cpr.org/Museum/HR_Report_358_1856.html

² Ibid.

³ IBID.

⁴ IBID.

⁵ *Pacific Railroad Act - Transcontinental Railroad and Land Grants.* (n.d.). Pacific Railroad Act. Retrieved September 3, 2022, from http://cpr.org/Museum/Pacific_Railroad_Acts.html#1862-03

⁶ Ibid.

⁷ Yenne, B. (1996). *The History of the Southern Pacific.* Smithmark Publishing.

⁸ *Daily Alta California 17 January 1864* — *California Digital Newspaper Collection.* (1864, January 17). California Digital Newspaper Collection. Retrieved September 3, 2022

the idea of a railroad would fade away for almost 20 years. The railroad concept resurfaced in 1857 when a new company called the San Francisco and San Jose Railroad was formed to build the rail line. Again, the public was against the idea of a railroad linking the Peninsula. The San Francisco and San Jose railroad decided to try to raise public funds by putting a referendum before the voters of the San Francisco, San Mateo, and Santa Clara counties, asking them to buy stock in the company.⁹ The referendum was expected to generate over 9 million dollars. Unfortunately, the referendum failed, with some voters feeling fraud was being perpetrated, and the company dissolved.¹⁰

Another attempt to restart the railroad occurred in 1860 with industrialist Peter Donahue and his friends Judge Timothy Dame and Henry Newhall. They ultimately founded the rail line linking San Francisco to San Jose.¹¹ They paid the contractors, Houston and McLaughlin, 2 million dollars, and it was divided up four ways (\$500,000 each) between cash, county-issued bonds, mortgage bonds, and company stock. The 2 million dollars for the construction came from stock that San Francisco and San Jose Railroad issued and was owned mainly by the following stakeholders:¹²

1. \$300,000, San Francisco County
2. \$100,000, San Mateo County
3. \$200,000, Santa Clara County
4. \$500,000, A.H Houston and C. McLaughlin (contractors)
5. \$285,3000, other shareholders
6. \$500,000, retained by San Francisco and San Jose Railroad.

Construction started July 15, 1861, and the railroad opened for limited service on October 17, 1863, to the end of the line in Mayfield (near Palo Alto), nine months before the first rails were laid by Central Pacific Railroad in Sacramento. A few months later, on January 16, 1864, the rest of the rail line opened, and passenger service to San Jose began.¹³ The railroad ran four trains a day, and the ride took 2 hours and 30 minutes, much quicker than the 8-hour stagecoach ride.¹⁴ Completing the rail line also opened up new economic means to transport goods, such as agricultural products, faster than before. Freight trains could go from San Jose to San Francisco in under 3 hours. The San Francisco and San Jose Railroad ran from San Jose to San Bruno before running west around San Bruno Mountain to Colma and northward into San Francisco before terminating near Fourth and King Streets. BART currently runs along this portion of the right of way (for more information, see the BART section in Chapter 3).

⁹ *Daily Alta California 17 January 1864* — *California Digital Newspaper Collection*. (1864, January 17). California Digital Newspaper Collection. Retrieved September 3, 2022.

¹⁰ Dunscomb, G. L. (1984). *A Century of Southern Pacific Steam Locomotives, 1862–1962* (3rd ed.).

¹¹ *Daily Alta California 17 January 1864* — *California Digital Newspaper Collection*. (1864, January 17). California Digital Newspaper Collection. Retrieved September 3, 2022, from <https://cdnc.ucr.edu/cgi-bin/cdnc?a=d&d=DAC18640117.2.7&e=-----en--20--1--txt-txIN----->

¹² *Daily Alta California 18 October 1863* — *California Digital Newspaper Collection*. (1863, October 18). California Digital Newspaper Collection. <https://cdnc.ucr.edu/cgi-bin/cdnc?a=d&d=DAC18631018.2.3&e=-----en--20--1--txt-txIN-----1>

¹³ Interview with Cris Heart, 2019

¹⁴ *Ibid.*

History of the Dumbarton Rail Corridor

The Southern Pacific Railroad eventually purchased the San Francisco and San Jose Railroad to access San Francisco ports. The Central Pacific Railroad would buy the Southern Pacific Railroad a few months later, opting to keep the name, Southern Pacific.¹⁵ The San Francisco ports would generate enough business and freight that the Southern Pacific Railroad would need to find ways to increase capacity along the line. Some of the strategies included:¹⁶

1. Southern Pacific Railroad would reroute the rail line east around San Bruno Mountain (Caltrain's current route. This new route, called the Bayshore Cut-off, would be constructed by creating a strip of land within San Francisco Bay, resulting in part of San Francisco Bay becoming a large lake. In addition to rerouting the rail line, Southern Pacific also double-tracked the rail line so trains could run in both directions simultaneously.
2. The lake was later filled in to construct a major freight yard called the Bayshore Yard. Southern Pacific abandoned the yard in the 1960s when freight traffic shifted to Oakland. A few remnants can still be found on the site, such as the Roundhouse, building foundations, a small powerhouse, and a buried trestle. Universal Paragon Corporation bought the Bayshore yard in the 1980s, and it is still waiting to be developed 30 years later.
3. Mayfield Cutoff, linking Palo Alto to the Southern Pacific's rail line in Los Gatos.
4. Southern Pacific also built the Dumbarton Cutoff. The Dumbarton Rail Corridor was operational in 1910, allowing freight trains to travel to and from the Peninsula and the East Bay without spending extra time going to Santa Clara before heading north. As a result, the Dumbarton shaved two hours from a crew's workday.

In the 1960s, most rail and port operations shifted from San Francisco to Oakland. Oakland had a natural deep-water port connected to the railroad mainline that connects Sacramento to Los. This caused freight in San Francisco and the Peninsula to dry up, making the Dumbarton Rail Bridge an unnecessary expense because freight traffic did not generate enough revenue to justify maintaining the bridge. The last freight train crossed the bridge in 1982, ending a century of service.

In 1988, the San Mateo County Transit Authority (SMCTA) was created to administer a half-cent sales tax that would generate \$14,000,000 to purchase the western portion of the rail line along with the Dumbarton Rail Bridge. The Rail Bridge was eventually purchased for \$6,000,000 in 1994.¹⁷ It was estimated to cost \$130,000,000 to rebuild the line and restart the passenger rail service. In 1994, with a loan from Caltrans, the SMCTA purchased the Dumbarton Rail Corridor, but progress has been slow, and funding for the infrastructure project

¹⁵ Interview with Walter Boland, 2019.

¹⁶ Ibid.

¹⁷ *Dumbarton rail service chugs forward*. (n.d.). www.paloaltoonline.com.
https://www.paloaltoonline.com/weekly/morgue/news/1998_Dec_9.BRIDGE.html

is still an ongoing issue.¹⁸ In the early 2000s, Santa Clara County passed Measure A, a half-cent sales tax, which would generate funds for the Dumbarton Rail Corridor. State Senator Jackie Spear was responsible for sponsoring a U.S. Senate bill that earmarked \$90,000,000 for the Dumbarton Corridor; the idea was to give the Altamont Commuter Express (ACE) trains (Stockton to San Jose) a way to connect to Redwood City and San Jose. Still, ACE was not interested in this proposal because they felt no money was generated to buy rolling stock and operating costs.¹⁹ In 2004, Regional Measure 2 was passed to increase the bridge tolls by one dollar and generate \$135,000,000, which was supposed to re-fund the Dumbarton Rail Corridor.

The Metropolitan Transportation Commission (MTC) took \$91,000,000 from the Regional Measure 2 funds and shifted them to the BART extension. The BART to SFO extension was not generating the revenue (\$145,000,000) needed to fund the BART to Warm Springs extension. MTC justified this by saying BART was a shovel-ready project while Dumbarton was not and that the money would be lost if not used by a specific date. This left the Dumbarton Rail Corridor with only \$44,000,000. Redistribution of other Regional Measure 2 monies eventually left the Dumbarton Rail Corridor without funding. Alameda County tried to pass Measure B in 2012, which would have generated over \$100,000,000 for the Dumbarton Rail Corridor, but it failed to get voter approval.

In 2016, Facebook decided to get involved with the Dumbarton Rail Corridor Project and was willing to spend over \$1,000,000,000.²⁰ They believed their employees contributed to traffic congestion along Highway 84, and they hoped a railroad, with a station incorporated into their Menlo Park headquarters, would help reduce this traffic congestion. The Covid-19 pandemic of 2020 and the resulting shelter-in-place drastically reduced mass transit ridership nationwide, and as people started working from home, Facebook withdrew its support for the Dumbarton Project.²¹ As a result of Facebook's withdrawal from the Dumbarton Rail project, SamTrans was forced to re-evaluate the Dumbarton Project. SamTrans is still committed to using the Dumbarton Corridor for transportation. They need to decide what this future service will look like.

¹⁸ Cabanatuan, M. (2000, March 28). *ACE Train's Board Wary of Expansion Plans / Rep. Speier's proposal lacks money, critics say*. SFGATE. <https://www.sfgate.com/bayarea/article/ACE-Train-s-Board-Wary-of-Expansion-Plans-Rep-2766853.php>

¹⁹ Ibid.

²⁰ Interview with Emma Shales, 2021.

²¹ Ibid..

Chapter 3: Stakeholders

The stakeholders in this chapter follow the stakeholder list presented in the Dumbarton 2019/2020 Meeting notes are no longer available on SamTrans' website. These stakeholders are divided into separate sections based on their project roles: stakeholder advisory groups, technical advisory groups, political groups, resource agencies, and an "others" group. This list reflects stakeholders who were involved pre-pandemic. As the Dumbarton Project progresses, this list may change, stakeholders will leave, and new stakeholders will come online.

Project Team

A Project Team is a group of organizations, people, or groups that work together to reach a common goal. These groups and people have various backgrounds and skill sets to help achieve the project goals.

SamTrans

SamTrans is governed by nine appointed members, two county supervisors, three city council members, three private citizens appointed by the other board members, and one transportation expert. SamTrans was established in 1976 to consolidate the 11 existing bus systems into a single bus agency called SamTrans. It has approximately 22,600 riders daily, mainly on the eastern side of the Santa Cruz Mountains. While the coastal regions of San Mateo do have service, it is intermittent. SamTrans also participates directly in the operations of Caltrain and, along with contractor Transit America Services, provides crews for Caltrain. SamTrans offers administrative support for the San Mateo County Transit Authority, whose job is to oversee sales taxes to improve highways and transit projects. The San Mateo County Transit Authority was created by 1998's Measure A, a half-cent sales tax that would generate approximately \$14 million to buy the Dumbarton Corridor. Eventually, SamTrans would buy the corridor for almost seven million dollars with Caltrans's help. SamTrans, the lead agency tasked with overseeing the day-to-day activity of the project, is re-evaluating the project due to Facebook pulling out of the project. They are still interested in moving forward with the project.²²

Plenary Group and Cross Bay Transit Partners

Cross Bay Transit Partners was a development company formed between Facebook and the Plenary group to work with SamTrans on the Dumbarton Project before the pandemic. The Plenary group said they are still committed to the project, but there is currently no information on the status of Cross Bay Transit Partners as a development company.²³

Plenary Group's Headquarters is located in Melbourne, Australia, serving Australia, Canada, the United States, and Asia. Plenary Group is an infrastructure investment firm that specializes in public-private partnerships. A Public Private Partnership is when private sector institutions help finance, build, and operate projects such as rail lines, highways, and parks, allowing these projects to be accomplished quicker than normal. Plenary Group was founded in 2005 by several members of ABN Ambro, the third-largest bank in the Netherlands. They have a wide

²² Interview with Melkissa Dumonde, 2022 (check name spelling)

²³ Interview with Emma Shales, 2019.

variety of expertise they can bring to any project, such as bidding, financial, and infrastructure management. Plenary Group has won over 120 projects, corporations, and developers awards. Plenary Group accomplishes its goals by developing client and partner relationships. Plenary Group also has teams specializing in procuring and maintaining Public Private Partnerships and Asset delivery teams that oversee project construction and long-term maintenance.²⁴ They have been involved in over 81 different projects, including:

1. Hospitals: Corner Brook Acute Care Hospital (Newfoundland, Canada)
2. Transportation: Belle Chasse Bridge and Tunnel Replacement (Plaquemines Parish, Louisiana)
3. Transportation: Metrolink East Maintenance Facility (Toronto, Canada)
4. Transportation: Highway 36 (Denver, Colorado)
5. Education: The University of California at Merced (Merced, California)

Kimley Horn

Kimley Horn is a planning, surveying, engineering, and design consulting company founded in Raleigh, North Carolina, in 1967 by three transportation engineers; Bob Kimley, Bill Horne, and Ed Vick. They have 5 Bay Area offices, and they specialize in projects such as:²⁵

1. Urban Design
2. Transportation Planning
3. Federal/Military
4. Parking
5. Community Planning
6. Forensic Engineering
7. Mechanical, Engineering, Plumbing

Circle Point

Circle Point was founded in 1987 by Kay Wilson to provide integrated environmental and communication services. They provide this service through advice and services targeting specific communities, government agencies, and businesses. Circle Point is highly skilled at environmental consulting, and their Oakland and San Francisco offices are often involved with the Dumbarton Corridor Project's environmental assessment phases. Circle Point has extensive technical experience, along with highly skilled public communication and engagement, that has come about as a result of hundreds of environmental assessments. Circle Point is successful because of their highly trained employees with extensive backgrounds in environmental planning, social media, web design, marketing, and public communication skills.²⁶

Fehr-Peers

Fehr-Peers, headquartered in Walnut Creek, has been in the transportation and engineering sector since 1985. They are committed to being the best by employing a talented and skilled workforce, having robust research and development programs, and focusing on the local

²⁴ Infrastructure investor, developer & manager | Plenary Group. (n.d.). Plenary.com. Retrieved March 4, 2023, from <https://plenary.com/>

²⁵ Planning & Engineering Services. (n.d.). Kimley-Horn. Retrieved March 4, 2023, from <https://www.kimley-horn.com/services/>

²⁶ Home. (n.d.). Circle point. Retrieved March 3, 2023, from <https://www.circlepoint.com/>

community. They look for people with diverse backgrounds and highly motivated individuals who have different perspectives and can work well with local communities. Fehr-Peers fund their own research and development, which allows them to develop new methods and analytics to accomplish their objectives. They also tailor their solutions to align with the needs and values of the community they are working in to provide everyone with a bright transportation future.²⁷

Howard, Needles, Tammen & Bergendoff (HNTB)

HNTB, founded in 1915, is a highly respected infrastructure design firm.²⁸ HNTB believes that teams are more robust than individuals and have several philosophies, including:

1. Take personal responsibility for making success happen
2. Expect more of yourself
3. Discover what is essential to any situation
4. Collaboration benefits everyone
5. Collaboration is crucial to build relationships.

HNTB specializes in and has been a part of a variety of different projects:²⁹

1. Sporting Facilities: Levi's Stadium (Santa Clara-49'ers) and Allegiant Stadium (Las Vegas-Raiders)
2. Transportation: Airports (Los Angeles International Airport), Bridges, and Roadways (Sixth Street Viaduct-Los Angeles and the Governor Cuomo Bridge replacement – New York).
3. Education: College of William and Mary in Virginia and University of Southern California

HNTB has over 3000 employees scattered around 79 offices throughout the world. In California, their offices are in the Los Angeles and San Francisco Bay Areas: Oakland, San Jose, and San Francisco. HNTB is also involved in aviation, construction management, design and building, environmental planning, program management, tunnels, and transit/railroad projects.

MC2

MC2 Public Affairs Group is a small company headquartered in San Francisco that specializes in public and government affairs and community outreach consulting. They have experience in helping to establish lines of communication between the developers, lead agencies, and other entities with the community and community groups. They work with business and community leaders and other clients to better understand all the different phases of the project. In addition, MC2 Public Affairs Group also consults on the land use and development process, helping build support for projects that will help local communities. They also assist with media outreach by handling and assisting with community outreach and media relations.³⁰

²⁷ Home. (n.d.). Fehr & Peers. Retrieved March 3, 2023, from <https://www.fehrandpeers.com/>

²⁸ Home. (2019, September 26). HNTB. <https://www.hntb.com/>

²⁹ Expertise. (2019, September 24). HNTB. <https://www.hntb.com/expertise/>

³⁰ (n.d.). MC2 Bay Area Public Affairs & Government Consulting [LinkedIn]. Retrieved March 4, 2023, from <https://www.linkedin.com/company/mc2-bay-area-public-affairs-&-government-consulting>

Technical Advisory Group

A technical Advisory group is a group of experts who provide technical advice to the Project Group.

Warren Slocum

See Elected Officials Section.

Santa Clara Valley Transit Authority

The Santa Clara Valley Transit Authority is a transportation district responsible for public transit services, congestion management, highway improvement projects, county transportation planning, and Caltrain management and oversight. In 1969, Santa Clara had three bus companies facing financial difficulties: Peninsula Transit, San Jose City Lines, and Peerless Stages. As a result of these financial failures, the California State Legislature passed the Santa Clara County Transit District Act.³¹ This act allowed Santa Clara County to add a “Creation of Santa Clara County Transit District” measure on the ballot. This initiative was rejected in 1969 and 1970 but passed in 1973, leading to the Creation of the Santa Clara County Transit District.³² The District took over all transit operations, including all the bus routes in the city. A ½ cent sales tax in 1976 went to Support the District, allowing them to build new maintenance facilities and upgrade their bus fleets. January 1st, 1995, saw the county’s Congestion Management Agency merger with the Transit District to become Santa Clara Valley Transit Authority. VTA has a yearly ridership of over fourteen million people across 43 bus routes and three light rail lines.³³ They are also responsible for building their BART San Jose Extension.

SamTrans

See Project Team Section

City of Fremont

Fremont, located in Alameda County, sits at the eastern end of the Dumbarton Rail Corridor. SamTrans owns the tracks up to the city limits of Fremont, where Union Pacific ownership takes over. Fremont has an area of 88 square miles, 78.31 miles of land, and 10.31 miles of water. 1797 Mission San Jose was built, and now the town of Fremont sprung up around it. The Spanish constructed Mission San Jose in an Ohlone village in an attempt to convert the Ohlone Indians to Christianity. The Spanish offered tools, metals, wood, pigs, cattle, and sheep to the Ohlone, attempting to transition them from a hunting community to a farming community.

Fremont was incorporated on January 23, 1956, when the towns of Mission San Jose, Centerville, Niles, Warm Springs, and Irvington were unified into one city. The city was named after General John C Fremont, who had a hand in capturing California from the Mexican Government during the Mexican-American war. Some of Fremont's top employers today are Tesla, Kaiser, Western Digital, and Seagate. BART, ACE, and Amtrack provide transit services

³¹ STATUTES AND AMENDMENTS TO THE CODES 1969 | clerk.assembly.ca.gov. (n.d.). Clerk.assembly.ca.gov. Retrieved March 12, 2023, from https://clerk.assembly.ca.gov/content/statutes-and-amendments-codes-1969?archive_type=statutes

³² McCaleb, Charles S. (1994). *Rails, Roads & Runways: The 20-Year Saga of Santa Clara County's Transportation Agency*. San Jose, CA: Santa Clara County Transportation Agency.

³³ PUBLIC TRANSPORTATION RIDERSHIP REPORT. (n.d.). <https://www.apta.com/wp-content/uploads/2021-Q4-Ridership-APTA.pdf>

to Fremont, potentially connecting with Caltrain at some point in the future. The population of Fremont is 230,504, the 2nd most popular city in Alameda (16th in the United States).³⁴

City of Newark

Newark is located in Alameda County, at the eastern end of Highway 84 and the Dumbarton Corridor. The City of Newark is approximately 13.9 square miles of land with .02 square miles of water. Newark has an elevation of 20 feet with a population of 47,529.³⁵ Newark has a similar history to other Bay Area cities. It was home to the Ohlone Indians before Spanish missionaries arrived and started building missions there. The City of Newark was formed in 1878 when the Pacific Land Investment Company purchased land belonging to Washington Township and started the city's development. Newark was formally incorporated on September 1955. AC Transit serves Newark and could be home to a Caltrain Station and a maintenance facility along the rail line should rail service come to fruition. Newark would like to be able to coordinate some of their planned projects with SamTrans and the rail service.

Metropolitan Transportation Commission

See Transportation Public Sector Section

Alameda Metropolitan Transportation Commission

See Transportation Public Sector Section

Menlo Park

In 1769, the Portola expedition arrived in the now Menlo Park area and started seizing land that belonged to the Ohlone Indians for their settlements.³⁶ Approximately a century later, in 1851, two Irish immigrants, Dennis J. Oliver and his brother-in-law, D.C. McGlynn, purchased a large tract of land and named it Menlo Park, after their birthplace of Menlough, Ireland. San Francisco and San Jose Railroad's rail line initially terminated near the Menlo Park area, and today the Menlo Park Station is the oldest continuously operated train station in California. Menlo Park grew and expanded around the train station. In World War 1, Menlo Park was home to a training camp that trained 27,000 men. The Army paved the streets and installed gas and water lines.³⁷ The U.S. government purchased the estate of Timothy Hopkins and formed the Palo Alto General Hospital but sold the rest of the land to Menlo Park and Stanford University. Timothy Hopkins was the adopted son of Mark and Mary Hopkins and a good friend of Leland Stanford. Today, Menlo Park, bordered by San Francisco Bay, East Palo Alto, Atherton, Redwood City, and North Fair Oaks, has a population of 33,780.³⁸ Menlo Park is home to Facebook's Headquarters and the city where Google was founded. The Dumbarton Corridor cuts through Menlo Park, and Menlo Park will have a station, potentially near the Facebook

³⁴ U.S. Census Bureau QuickFacts: Fremont city, California. (n.d.). [Www.census.gov. https://www.census.gov/quickfacts/fremontcitycalifornia](https://www.census.gov/quickfacts/fremontcitycalifornia)

³⁵ U.S. Census Bureau QuickFacts: Newark city, California. (n.d.). [Www.census.gov. https://www.census.gov/quickfacts/newarkcitycalifornia](https://www.census.gov/quickfacts/newarkcitycalifornia)

³⁶ CHL # 2 Portolá Journey's End San Mateo. (n.d.). [Www.californiahistoricalandmarks.com](https://www.californiahistoricalandmarks.com). Retrieved March 10, 2023, from <https://www.californiahistoricalandmarks.com/landmarks/chl-2>

³⁷ (2023). [Archive.org. https://web.archive.org/web/20170525001652/https://www.paloaltoonline.com/news_features/centennial/1906B.php](https://web.archive.org/web/20170525001652/https://www.paloaltoonline.com/news_features/centennial/1906B.php)

³⁸ U.S. Census Bureau QuickFacts: Menlo Park city, California. (n.d.). [Www.census.gov. https://www.census.gov/quickfacts/menloparkcitycalifornia](https://www.census.gov/quickfacts/menloparkcitycalifornia)

headquarters. Menlo Park is home to several significant roadways, Willow Road and Marsh Road, that cross the railroad and are possibly interested in a grade separation project.

San Mateo County

San Mateo County has a population of 764,442 and is part of the San Francisco-Oakland-Berkley metropolitan statistics area. In 1856, the California State government decided that San Francisco County needed to be broken up, believing it was too large of a county. They drew a straight line just north of San Bruno Mountain, with everything south of the line being San Mateo County and everything north remaining San Francisco County.³⁹ In 1857 it was decided that the southern Boundary would be San Francisquito Creek, with the county seat in Redwood City. In 1868, San Mateo annexed the areas of Pescadero and Pidgeon Point from the county of Santa Cruz. In 1850, many people moving to San Mateo County were male students of Japanese Descent looking to learn English and other skills with the long-term goal of returning to Japan. San Mateo County comprises 744 square miles, with 448 square miles being land with the remaining 293 square miles of water.⁴⁰

San Mateo County is home to Facebook's headquarters, which made San Mateo a top wage-earning county in 2012. In addition, San Mateo County is home to several other high-tech companies, such as Visa, Sony, YouTube, GoPro, and Gilead Sciences. SamTrans, BART, Caltrain, and ferry service at Oyster Point in Brisbane provide transportation in San Mateo County. San Mateo Counties' involvement comes from much of the Dumbarton Corridor running through San Mateo County, along with Caltrain and SamTrans's headquarters in San Mateo County. Redwood City and Menlo Park are two cities in San Mateo County directly involved in the project.

Caltrain

See Transportation Public Sector.

Menlo Park Fire

Menlo Park Fire Department's first office or department was located at Merrill Street, with 17 volunteers. The fire vehicles were horse-drawn wagons. On September 16th, 1915, the San Mateo County Board of Supervisors formed the Menlo Park Fire Prevention District at the behest of the community residents. Today the Menlo Park Fire Prevention District protects 17 square miles of land and 12 miles of marshland. There are seven fire stations, one next to the Dumbarton Corridor, Station 77. Station 77 has a rail spur with four boxcars for storage.⁴¹ The Fire Department's advisory role in the Dumbarton Project comes from their need to access the bridge in an emergency. In the 1990s fire, they had to load their firefighting equipment on special railroad vehicles to reach the site. Should the Dumbarton be rebuilt, they could advocate for fire roads or having special railroad equipment stored on a nearby railroad spur.

³⁹ San Mateo County QuickFacts from the US Census Bureau. (2011, August 1). Web.archive.org. <https://web.archive.org/web/20110801001836/http://quickfacts.census.gov/qfd/states/06/06081.html>

⁴⁰ Explore Census Data. (n.d.). Data.census.gov. Retrieved March 3, 2023, from <https://data.census.gov/profile?g=0500000US06081>

⁴¹ Menlo Park Fire District - District History. (n.d.). EvoGov Demo Website. Retrieved March 3, 2023, from <https://www.menlofire.org/district-history>

Stakeholder Group

The Stakeholder group comprises organizations whose decisions could affect the project.

Friends of Caltrain

Friends of Caltrain is a non-profit advocacy group supporting stable funding, modernization, and expanding Caltrain service. They work with environmental and sustainable transportation groups (Sierra Club), cities, and local businesses. They aim to see Caltrain become a financially stable, electrified rail system with frequent service and accessible bike access.⁴²

Stanford University

Stanford was started on November 11th, 1885, by Leland Stanford, one of the men behind the Central Pacific Railroad and governor of California from 1862-1863. The University sits on 8,180 acres and currently has 17,000 students. Leland Stanford formed Stanford University to honor his son, Leland Stanford Jr, who died of typhoid at the age of 15.⁴³ Stanford University opened its doors on October 1st, 1891, and had an uncertain future after Leland Stanford died in 1893. The 1906 earthquake that destroyed much of San Francisco also destroyed much of the campus. Stanford University has a budget of 7.4 billion. While the main campus is primarily located on land in unincorporated Santa Clara County, university-owned land can also be found in Palo Alto, Menlo Park, Woodside, and Portola Valley. Stanford University operates Jasper Ridge Biological Preserver and the Stanford Linear Accelerator National Accelerator Laboratory. Stanford University also rents land to Stanford Shopping Center and the Palo Alto Unified School District. They are in the process of buying the struggling Notre Dame de Namur University in Belmont.⁴⁴ In addition to the Dumbarton Project, Stanford University is involved in the Dumbarton Forward Initiative, a set of short-term transportation strategies that could improve traffic and reduce delays on the Dumbarton Bridge (highway 84).⁴⁵

San Mateo County Economic Development Alliance

Formed in 1953, the Economic Development Alliance looks to promote business and business issues that help to enhance the prosperity of the San Mateo County Region. They believe that “Business is good. Business brings opportunity”. The Development Alliance offers various benefits, such as direct access to top federal, state, and local political leaders, strong connections to chambers of commerce, and relationships with multiple entities such as SPUR. They have an expansive focus area, for example:⁴⁶

1. Economic development: Supporting CEQA reform to speed up and streamline the process for housing, specifically Transit Oriented Development
2. Transportation: Support Caltrain electrification, increased capacity efforts, and expanded service (such as the Dumbarton Route)
3. Housing: Investing in Transit-Oriented Developments

⁴² alevin. (2013, September 16). About. Green Caltrain. <https://www.greencaltrain.com/about/>

⁴³ A History of Stanford. (2015). Stanford University; Stanford University. <https://www.stanford.edu/about/history/>

⁴⁴ Stanford Lands - Facts. (n.d.). Retrieved March 8, 2023, from <https://facts.stanford.edu/about/lands/>

⁴⁵ Dumbarton Forward | Metropolitan Transportation Commission. (2021, March 17). Mtc.ca.gov. <https://mtc.ca.gov/operations/programs-projects/forward-commute-initiatives/dumbarton-forward>

⁴⁶ San Mateo County Economic Development Association - Business | Economy | Policy | SAMCEDA. (n.d.). www.samceda.org. Retrieved March 8, 2023, from <https://www.samceda.org/>

4. Education: Working with businesses to identify areas for skills development (such as needing construction training)
5. Information: Produce and publish information about the economy, business environment, and public policy.

Sierra Club

John Muir created the Sierra Club in the 1890s to preserve and protect the environment. Their goals included the creation of Glacier and Mount Rainier national parks, having Yosemite Park transferred from California State to the Federal Government, and preserving the redwood forests in California. Early members included William Keith, Willis Linn Jepson, and Willard Drake Johnson, amongst other people. John Muir was president until he died in 1914. The Sierra Club has offices (or chapters) in all 50 states, with their California Headquarters in Oakland. They are a 501c3 Social Welfare Organization whose goals are to:⁴⁷

1. Protect the wild places of the earth for the public's enjoyment and exploration
2. To practice and promote responsible use of earth ecosystems and resources
3. Educate the public on ways to protect and restore the natural environment
4. Use all legal means to accomplish these objectives.

The Sierra Club opposes all forms of nuclear power and wants to see coal plants shut down in favor of cleaner, renewable energy sources. The 2020 George Floyd Protests revealed that the Sierra Club had a racist history of excluding people of color from their ranks and catering specifically to white people. Muir and several of his closest associates were tied to the eugenics movement and believed in improving the genetic quality of the human race, where many poor, disabled, mentally ill, and people of color were sterilized against their will.⁴⁸ The Sierra Club has acknowledged that its past had ties with racism. The Sierra Club is also involved in lobbying, and they have their own Super Political Action Committee and always donate to Democratic candidates. In the San Francisco Bay Area, they support the Dumbarton Rail Corridor project and Santa Cruz County's attempts to start passenger service. In California, their main activities are to promote and guide outdoor activities while promoting environmental causes and environmental protection. The Sierra Club has been described as the leading environmental organization.⁴⁹

San Francisco Bay Area Planning and Urban Research Association

San Francisco Bay Area Planning and Urban Research Association, SPUR for short, is a non-profit think tank public policy organization that works with many people to develop solutions to Bay Area Cities' problems.⁵⁰ Their seven areas of interest are Planning, Housing, Transportation, Sustainability and resilience, Economic Justice, Good Government, and Food/Agriculture.

⁴⁷ Policies. (2014, July 8). Sierra Club. <https://www.sierraclub.org/policy>

⁴⁸ Brune, M. (2020, July 22). Pulling Down Our Monuments. Sierra Club. <https://www.sierraclub.org/michael-brune/2020/07/john-muir-early-history-sierra-club>

⁴⁹ Skinner, R. M. (2007). More Than Money: Interest Group Action in Congressional Elections. Rowman & Littlefield.

⁵⁰ Our Mission. (2013, August 20). SPUR. <https://www.spur.org/about/our-mission-and-history>

SPUR was formed in the early 1900s when San Francisco City leaders came together to improve housing quality after the 1906 earthquake. They helped start the San Francisco Housing Association. In the 1930s, they became the San Francisco Planning and Housing Association when a group from U.C. Berkeley joined their ranks.⁵¹ Eventually, their success led to the formation of San Francisco's Department of City Planning. In 1959, they formally became the San Francisco Bay Area Planning and Urban Research Association and played significant roles in creating BART. In 2012, SPUR opened an office in San Jose, with their Oakland office following three years later. SPUR has three core values: equity, environmental sustainability, and economic prosperity. They focus on analyzing a variety of subjects, such as sea-level rise, renewable energy, bicycle lanes, and equity in transportation.⁵²

Silicon Valley Bicycle Coalition

The Silicon Valley Bike Coalition's mission is to "create a healthy community, environment, and economy through bicycling for people who live, work, and play in San Mateo and Santa Clara Counties."⁵³ They would like to see 10% of every trip made be taken by bike by 2025 through several initiatives:

1. Making people feel safe on bikes
2. Making bike riding a regular part of everyday life
3. Making bike riding accessible and convenient
4. Providing bike education to youths.

Due to high transportation costs, rising housing costs, climate issues, and a lack of physical activity leading to a health crisis, the Silicon Valley Bike Coalition's primary goal is to get a pedestrian-use bicycle path included in the Dumbarton Bridge Designs. This bike path would be built as part of the Railroad Bridge and link the East Bay (Newark, Fremont) to The Peninsula (Redwood City, Palo Alto, East Palo Alto, and Menlo Park). It would connect to each of the stations, residential areas, parks, shopping areas, and places of employment.⁵⁴ They believe a bike path that includes water stations, shade, rest areas, bike repair facilities, and bike repair facilities can further encourage people to get away from their cars and into a healthier mode of transportation.

Citizens Committee to Complete the Refuge

Formed in 1965 to protect Don Edwards National Wildlife Refuge from development, they work to protect wetlands of all forms and the headwaters that flow into San Francisco Bay.⁵⁵ The Citizens Committee also monitors changes to the regulations that help protect endangered wetlands and species.⁵⁶ The Citizen's Committee is involved in the Dumbarton Project to protect the wetlands against damage and sea level rise.⁵⁷ As stakeholders, they aim to ensure that rare and sensitive natural resources are protected, and sea level rise mitigation is included in any

⁵¹ Our Mission. (2013, August 20). SPUR. <https://www.spur.org/about/our-mission-and-history>.

⁵² Ibid.

⁵³ About SVBC. (n.d.). Silicon Valley Bicycle Coalition. Retrieved March 3, 2023, from <https://bikesiliconvalley.org/about>

⁵⁴ Interview with Sandhya Laddha, 2022.

⁵⁵ Home. (n.d.). www.bayrefuge.org. Retrieved November 29, 2022, from <https://www.bayrefuge.org/>

⁵⁶ Home. (n.d.). www.bayrefuge.org. Retrieved November 29, 2022, from <https://www.bayrefuge.org/>

⁵⁷ Interview with Eileen McLaughen, 2022.

concept plans. These issues are factors in redeveloping the Dumbarton Bridge. The Bay Wetlands on each side of the bridge are a critical habitat for the survival of endangered species such as the Salt Marsh Harvest Mouse and the California Clapper Rail. If this habitat is destroyed, these and many other species will die. These wetlands are also high-functioning, high-capacity carbon exchange and significant nature-based mitigation areas for the rising seas. They do have a couple of concerns with how SamTrans has potentially handled the project so far:⁵⁸

- According to the CCCR, SamTrans has not considered sea level rise and underestimated the project's costs.
- SamTrans has presented the project as a cross-bay transit connection but retained all decision-making powers rather than a joint project with Alameda County. East Bay voters do not have representation

Chamber of Commerce

The Chambers of Commerce in the Dumbarton Project are San Mateo County, Newark, Fremont, Redwood City, and Melo Park. They are an association of businesses and people that work together to promote and protect shared interests. The Chambers of Commerce do not have any role in creating laws, but they can lobby and influence politicians that support their common interests.⁵⁹ In the case of the Dumbarton, the Chamber of Commerce could attempt to influence politicians to work on getting the state and federal government to pass funding bills for the Dumbarton Project.

Menlo Spark

Menlo Spark is an independent non-profit organization that helps the City of Menlo Park adopt various measures necessary to reach a zero-carbon emission rate by 2030. Menlo Spark also seeks to advance the economic viability and community health of Menlo Park.⁶⁰ They apply proven sustainability methods to Menlo Park through community engagement and collaboration with governments, businesses, residents, and experts that support increased safety and ease of walking and biking. Menlo Spark hopes to reduce greenhouse gas emissions and road congestion by providing more mass transit choices and encouraging clean-air vehicles.⁶¹

Peninsula Open Space Trust

Peninsula Open Space Trust is a land trust non-profit organization in Palo Alto. POST was created five years after Mid-Peninsula Regional Open Space District in 1977 as a non-profit specializing in private land sales and protective easements. They aim to protect open space land in the Peninsula and the South Bay.⁶²

Mid-Peninsula Regional Open Space District

The Mid-Peninsula, Open Space District protects ecologically sensitive land for public enjoyment. Their mission is to acquire and preserve open space lands and to protect and restore

⁵⁸ Ibid.

⁵⁹ Merriam-Webster Dictionary. (2023). Merriam-Webster.com. <https://www.merriam-webster.com/dictionary/chamber%20of%20commerce>

⁶⁰ Who We Are. (n.d.). Menlo Spark. Retrieved December 2, 2022, from <https://menlospark.org/who-we-are/>

⁶¹ Who We Are. (n.d.). Menlo Spark. Retrieved December 2, 2022, from <https://menlospark.org/who-we-are/>

⁶² Ibid.

the natural environment for general entertainment and education.⁶³ The Mid-Peninsula, Open Space District, has preserved 63,500 acres of open space (mountains, foothills, and bay), comprising 26 open space preserves linked to many parklands in Santa Clara, San Mateo, and Santa Cruz Counties. Ravenswood Open Space Preserve, one of the preserves managed by the Mid-Peninsula Regional Open Space District, parallels the Dumbarton Corridor in East Palo Alto.

East Bay Development Alliance

The mission of the East Bay Development Alliance is to establish the East Bay Region (Alameda and Contra Costa counties) as a world-recognized location to grow businesses, attract capital, and create jobs. The East Bay Development Alliance accomplishes this by supporting and developing new city and county economic developments, including implementing (or improving) new city and county comprehensive programs/services.⁶⁴ The Dumbarton Corridor project fits its mission statement as it will create jobs in the construction and steelworking industry and help stimulate the local economy as money is spent on local businesses.

Redwood City

In 1835, the Mexican government gave some of the Rancho de Las Pulgas lands to the Arguello family. When the United States took California from the Mexican government, they kept the land and sold some of it to local squatters. Other portions of their land were donated for open space, such as Mezes Park (which still exists today). Formed in 1856, Redwood City was incorporated as a city in 1867. Redwood City is located 27 miles south of San Francisco and 24 miles north of San Jose and is the county seat of San Mateo County.⁶⁵ Redwood City is 34.7 square miles, with 19.4 comprised of land and 15.2 making of water (Redwood Creek is a significant waterway), and has a population of 81,292.⁶⁶ Redwood City is surrounded by Highway 101 (west), Highway 84 (east), San Carlos (North), and Menlo Park (South). In the United States House of Representatives, Redwood City is represented by Eric Swalwell. The top employers in Redwood City are Oracle, Stanford University, Permanente Medical Group., GoFundMe and Electronic Arts.

Caltrain has its Redwood City Station at Sequoia Station, and SamTrans provides a bus service. The new station, if it is needed, could be shifted one block north, and Redwood City is coordinating station design with Caltrain's business plan and potential local development. Like Newark, Redwood City plans to coordinate long-term development projects with Caltrain, potential rail stations, and high-speed rail. How this shapes up will depend entirely on how the Dumbarton Corridor Project moves forward.

⁶³ Midpeninsula Regional Open Space District | Nature is Essential. (n.d.). [Www.openspace.org](http://www.openspace.org). Retrieved March 9, 2023, from <https://www.openspace.org/>

⁶⁴ About Us - East Bay Economic Development Alliance - Boards & Commissions - Alameda County. (n.d.). [Acgov.org](http://acgov.org). Retrieved March 8, 2023, from <https://acgov.org/bc/ebeda/>

⁶⁵ History | City of Redwood City. (n.d.). [Www.redwoodcity.org](http://www.redwoodcity.org). Retrieved March 10, 2023, from <https://www.redwoodcity.org/about-the-city/history>

⁶⁶ U.S. Census Bureau QuickFacts: Redwood City city, California. (n.d.). [Www.census.gov](http://www.census.gov). Retrieved March 10, 2023, from <https://www.census.gov/quickfacts/fact/table/redwoodcitycitycalifornia/PST045222>

North Fair Oaks

North Fair Oaks is a small unincorporated area of San Mateo County, bordering Redwood City and Menlo Park. It has a population of 14,027 and a total square mile area of 1.200, all of it land.⁶⁷ In 1923, Menlo Park tried to incorporate the residential area of Fair Oaks, but in the end, a portion of Fair Oaks decided to join the nearby town of Atherton. The remaining portion of Fair Oaks remained as North Fair Oaks and is now an unincorporated community. A Caltrain station will likely be added in this area, as the Dumbarton Corridor runs through the area.

Alameda County

Alameda County was founded in March of 1835 from parts of Contra Costa and Santa Clara Counties, with the county seat located in Alvarado (Union City). While the county center was in San Leandro, it was destroyed by a massive earthquake in 1868. As a result of the earthquake, the town center was moved to Brooklyn in 1872. In 1873, Oakland annexed Brooklyn, becoming the county seat of Alameda County. Alameda County's past closely follows much of the history of the other counties and cities. The original inhabitants were Ohlone Indians who saw their tribal lands taken away by the Spanish and Mexican ranchers and explorers. Today, Alameda is part of the San Francisco-Oakland-Berkeley Metropolitan Statistical Area and the San Francisco-San Jose-Oakland California Combined Statistics Area. Alameda County has a population of over one and a half million. The Dumbarton Corridor's eastern end is located in Alameda County.

Transportation Public Sector

These transportation agencies have the experience and knowledge needed to advise the project partners on the transportation-related aspects of the project.

Caltrain

Caltrain, headquartered in San Carlos and owned by the Peninsula Corridor Joint Power Board (JPBX), is a commuter service train that Operates between San Francisco and San Jose. Service along the Peninsula dates back to the 1890s and the San Francisco-San Jose Railroad. Due to competition from the car and declining ridership, in 1977, the Southern Pacific Railroad petitioned the California Public Utility Service to allow the abandonment of passenger service. In 1977 Assembly Bill 1853 authorized the California Department of Transportation (Caltrans) to subsidize passenger service operations calling the new passenger service Caltrain.⁶⁸ In 1987, the Peninsula Corridor Joint Powers Board was formed, and in 1991 they bought the rail line from Southern Pacific Railroad. The Powers Board took over passenger operations from Caltrans, adopting the name of Caltrain. Caltrain provides the trains and maintains the infrastructure, while the crews come from an outside agency (originally Amtrak, now Transit Services America).⁶⁹ Funding for Caltrain comes from the agencies that sit on the powers board: VTA, MUNI, and SamTrans. If these agencies face financial shortfalls, they cannot give Caltrain as much funding. Caltrain often has to resort to service cuts, price increases, and sales

⁶⁷ Wayback Machine. (2011, February 20). Web.archive.org.

https://web.archive.org/web/20110220065340/http://www.census.gov/geo/www/gazetteer/files/Gaz_places_national.txt

⁶⁸ Interview with Curt Hoppins, 2020.

⁶⁹ Interview with Curt Hoppins, 2020.

taxes to deal with the financial shortfalls they continually face. The pandemic hit Caltrain especially hard, dropping their ridership numbers by 95%, translating into a monthly loss of nine million dollars. Sale taxes and taxes were floated to help keep Caltrain in operation, along with significant service cuts: baby bullet trains were discontinued, and they dropped daily service from 90 trains a day to 42. 65,000 people a day riding Caltrain dropped to 12,200.⁷⁰ By the end of 2021, Caltrain increased the number of trains to a record high of 104 trains a day. Caltrain is also in the process of a system-wide and region-wide long-term plans:

1. Electrification from San Jose to San Francisco (in progress)
2. Potential Rail Service provider for service to Salinas. Amtrak has also been in the running for this role. Currently, Caltrain is favored as the service provider (in progress).
3. Dumbarton Corridor Service (planned and delayed)
4. Service linking their San Francisco 4th and King stations to the Sales Force Tower (planned)

Altamont Corridor Express

Altamont Corridor Express (ACE) was created in 1995 by San Joaquin County and several other cities to form the San Joaquin Regional Rail Commission to oversee rail service.⁷¹ The Altamont Corridor Express, Joint Powers Board, governs ACE. The Joint Powers Board was created by the following agencies in 1997: San Joaquin Regional Rail Authority, Santa Clara Valley Transit Authority, and Alameda County Congestion Management. ACE is funded by state and federal money, sales tax revenue collected from all three counties, and transit ticket sales. They currently pay Union Pacific Railroad approximately 1.5 million dollars annually to operate on their tracks.

Service began on October 19th, 1998, and in 2023, ACE now has 4 trains that run from Stockton to San Jose in the mornings, with reverse service in the evenings.⁷² July 1st, 2015, the San Joaquin Joint Powers Authority took over operations of the Amtrak San Joaquin trains from Caltrans. Altamont Commuter Expresses long-term plans to extend to Modesto, Merced, Sacramento, and electrification. They also plan on a BART connection in Union City, which could connect to future Caltrain service, should the Dumbarton Corridor be rebuilt.

Amtrak

Amtrak (America Trak), or National Railroad Passenger Corporation, provides long-hail intercity railroad service in the United States and parts of Canada (Vancouver, Ontario, Quebec).⁷³ Before Amtrak's founding in 1971, passenger service was provided by various railroads, including the freight railroads: Southern Pacific, Union Pacific, and Burlington Northern Santa Fe. However, the freight companies wanted out of passenger service, as it was not making them enough revenue, and they were facing stiff competition from busses, cars, and planes.⁷⁴ Amtrak was created to take over passenger operations. In October 1970, Congress and President Nixon passed the Rail Passenger Service Act, which made the National Railroad Passenger

⁷⁰ Interview with Adine Levin, 2020.

⁷¹ ACE – BayRail Alliance. (n.d.). Retrieved March 12, 2023, from https://www.bayrailalliance.org/altamont_commuter_express_ace/

⁷² Ibid.

⁷³ Routes. (2017, October 11). Amtrak Guide. <https://amtrakguide.com/routes/>

⁷⁴ Solomon, B. (2004). Amtrak. Mbi.

Corporation. Before operations began, the operating name was changed to Amtrak. Amtrak has over 500 destinations, in 46 states, with more than 300 trains a day. They operate on over 21,400 miles of track, mostly owned by private railroad companies. Amtrak owns approximately 650 miles of track. The Capital Corridor, for example, operates between Auburn and San Jose on Union Pacific-owned track. Amtrak and its Capital Corridor service would connect to Dumbarton Service in Fremont or Newark. Capital Corridor is operated by the Capital Corridor Joint Powers Authority (comprised of 2 elected representatives from the eight counties they serve). Its day-to-day management falls to the Bay Area Rapid Transit District.

Bay Area Rapid Transit

In 1950 traffic studies showed that a high-speed rail system linking most of the San Francisco Bay Area would greatly help to alleviate traffic, and in 1957, The Bay Area Rapid Transit district was formed. In 1962, San Mateo County pulled out of the BART district because they did not want to pay taxes to support a system that would benefit Santa Clara more than San Mateo. San Mateo County also felt that BART service would be too expensive to acquire and would conflict with the rail service already provided by Southern Pacific Railroad. This pull-out weakened the BART District's Tax base, and Marin could no longer afford their share of the new projected costs, so they were removed from the BART District.⁷⁵ The BART San Francisco International Airport (SFO) extension opened in 2003, Warm Springs opened on March 25th, 2015, and the Berryessa extension began operations on June 13th, 2020. The BART Warm Springs extension experienced a significant funding shortfall when the SFO Extension did not generate the hundreds of millions needed to keep the extension going. The Metropolitan Transportation Commission redirected hundreds of millions of dollars from the Dumbarton Project to the BART Warm Spring Extension. BART currently has 108,000 riders daily and approximately 26 million riders annually. These numbers reflect pandemic ridership numbers and will likely slowly grow in the coming years.

Bay Area Rapid Transit (BART) operates six routes on 131 miles of track on the right of way of former railroads:⁷⁶

1. The Orange Line: Berryessa to Richmond.
2. The Blue Line: Dublin to Daily City.
3. The Yellow Line: Antioch to Millbrae (light rail diesel trains from Pittsburg/Baypoint to Antioch) & SFO.
4. Beige: Oakland Coliseum to Oakland Airport
5. The Red line: Richmond to Millbrae & SFO.
6. The Green Line: Berryessa to Daily City.

The Orange and Green lines partly operate on the Western Pacific right of way between Oakland and Berryessa. The Yellow operates on Sacramento Northern's right of way between Rockridge and Pittsburg/Bay Point. Between Oakland and Millbrae, BART (Blue, Yellow, Red, and Green lines) operate along the Southern Pacific's right of way with the Daly City-Millbrae portion of

⁷⁵ BART announces service start date for long-awaited Milpitas, San Jose Berryessa stations. (2020, May 19). ABC7 San Francisco. <https://abc7news.com/bart-south-bay-stations-silicon-valley-station-milpitas/6196112/>

⁷⁶ System Facts | bart.gov. (n.d.). Wwww.bart.gov. <https://www.bart.gov/about/history/facts>

the right of way originally belonging to the San Francisco-San Jose Railroad (before the Southern Pacific bought them out. The Orange and Red lines, between MacArthur and Richmond, operate on Santa Fe's right of way.

Union Pacific Railroad

Union Pacific's Rail (see Chapter 2: History for UPRRR's incorporation) line started in Council Bluffs, Iowa, and connected to the Central Pacific Railroad in Promontory Point, Utah. Much of the railroad was built with the help of Irish laborers, and construction was finished after the Civil War ended. The Union Pacific Railroad grew by buying out smaller railroads and building spurs to logging camps and mining towns. Today, the Union Pacific Railroad has 32,200 miles of track in 23 western states and is one of two railroads to serve the entire western USA, the other being the Burlington Northern Santa Fe Railroad.⁷⁷ Union Pacific operates freight along the Peninsula Corridor between South San Francisco and Santa Clara. They will have the final say on any Caltrain service between Newark Junction and Hayward.

Metropolitan Transportation Commission

The California State Legislature created the Metropolitan Transportation Commission in 1970 to provide and plan a cohesive San Francisco Bay Area transportation system. Today, they are also involved in housing and development. San Francisco has 101 Cities and nine counties, each with unique transportation and housing needs.⁷⁸ The MTC provides planning, funding, coordination, and tech assistance to cities, counties, and planning agencies. They aim to provide everyone with an equitable transportation system to improve our lives. They have distributed over one billion dollars a year to transit agencies. In the early 2000s, they redirected much of the Dumbarton Funds to BART Warm Springs, setting the project back decades. The MTC also oversees the Bay Area Toll Authority, which oversees the seven state-owned bridges.

Alameda County Transportation Commission

The Alameda Metropolitan Transportation Commission is a joint powers authority that plans, funds, and delivers transportation programs and projects that expand access and improve mobility in Alameda County. A Joint Powers Authority is an entity where two or more public authorities, such as transportation districts and local governments, combine their powers and resources to work on common problems, such as the administration of a transportation network. Alameda Metropolitan Transportation Commission is overseen by 22 elected officials representing each of the 14 cities in Alameda County, five county boards of supervisors, one person from AC Transit, and one from Bart. The job of the MTC is to represent the interests of the people in Alameda in transportation-related topics, such as expanded rail access or improved bus service.⁷⁹

California Department of Transportation

Caltrans is part of the California State Transportation Agency (CSTA). The CSTA is a cabinet-level agency that oversees transportation-related development. They were created when the

⁷⁷ Union Pacific. (2018). Company Overview. Up.com. https://www.up.com/aboutup/corporate_info/uprover/index.htm

⁷⁸ Metropolitan Transportation Commission | MTC is the transportation planning, financing and coordinating agency for the nine-county San Francisco Bay Area. (n.d.). Mtc.ca.gov. <https://mtc.ca.gov/>

⁷⁹ Home page. (n.d.). Alameda CTC. Retrieved March 9, 2023, from <https://www.alamedactc.org/>

Housing, Transportation, and Business Department underwent a massive overhaul ordered by then-Governor Jerry Brown in 2013. They are made up of several agencies:⁸⁰

1. Board of Pilots commissioners
2. California Highway Patrol
3. California Transportation Commission
4. Department of Motor Vehicles
5. Department of Transportation (Caltrans)
6. California Highspeed Rail Authority
7. New Motor Vehicle Board
8. Office of Traffic Safety

Caltrans was formed in 1895 when Governor James Budd signed a law that created the Bureau of Highways. There were no highways in 1864, and roads were left to the local municipalities to deal with. California found that this system could not keep up with the growing population. In 1896, the Department of Highways replaced the Bureau of Highways. In the 1980s, Caltrans started subsidizing Southern Pacific's Commuter Service until the Joint Peninsula Powers Board (Caltrain) was created to take over operations of the commuter service.⁸¹ The Department of Transportation (Caltrans) is an executive department of the California State Government that manages the state's highway system and helps to support public transportation systems. They provide funding and oversight for Amtraks California's routes: Capital Corridor, Pacific Surfliners, and San Joaquin.

Elected Officials

Elected officials are politicians that are elected to the state or government. They are responsible for attempting to get legislation approved to fund the Dumbarton Corridor or getting voter support for a sales tax measure that would help fund the Dumbarton Corridor. These politicians were or are currently representing areas of the San Francisco Bay Area that the Dumbarton Rail Corridor runs through.

San Mateo County Executive's Office

Mike Callagy heads the San Mateo County Executive's Office. They are responsible for the day-to-day operations of the San Mateo County Government and carry out the vision and policies of the San Mateo County Board of Supervisors. The Executives Office completes its mission through several divisions:⁸²

- Clerk of the Board: Publishishes the Board of Supervisors Agenda
- Budget, Policy, and Performance: Aims to ensure the financial success of the county by leading the budgetary process and guiding the county's goals and policies

⁸⁰ About Us - State California Technology Agency. (2014, May 14). Web.archive.org. https://web.archive.org/web/20140514122525/http://www.calsta.ca.gov/About_Us.htm

⁸¹ STATUTES AND AMENDMENTS TO THE CODES 1977 | clerk.assembly.ca.gov. (n.d.). Clerk.assembly.ca.gov. Retrieved March 11, 2023, from https://clerk.assembly.ca.gov/content/statutes-and-amendments-codes-1977?archive_type=statutes

⁸² County Executive's Office | County of San Mateo, CA. (n.d.). Wwww.smcgov.org. Retrieved December 10, 2022, from <https://www.smcgov.org/ceo>

- Community Affairs: Connects the Community to the County Departments.
- Intergovernmental and Public Affairs: Manages the Sacramento and Washington, D.C. legislative programs.
- Project Development: Provides construction services for new capital construction projects
- News and Public Information: Delivers information and news to the public and the media.
- Arts and Culture: They oversee the County’s Strategic Arts and Culture Plans
- Real Estate and Property: They Manage the County’s Leased Space.

Carole Groom

Carole Groom is the District 2 Board of Supervisors representative. She was elected to the Board in June 2010 and served as the Board President in 2011 and 2015.⁸³ Carole Groom served a year on the San Mateo City Council, with two terms as mayor and on the San Mateo Planning and Public Works. 2012 California State Assembly Speaker John Perez appointed Carole Groom to the California Coastal Commission. Her priorities range from expanded access to preschools, expanded healthcare, economic growth, environmental preservation, and the protection/expansion of County Parks.⁸⁴

Warren Slocum

Warren Slocum, elected in 2013, is the District 4 Supervisor for the County of San Mateo. District 4 covers Redwood City, East Palo Alto, Menlo Park, Bell Haven, and Northern Fair Oaks.⁸⁵ These are all cities involved in the Dumbarton Project. His priorities are to work with people from every part of the community: faith-based businesses, youth, renters and homeowners, schools, and non-profit agencies. He focuses on equity, social progress, affordable housing, eliminating homelessness, and reducing traffic congestion.⁸⁶

Mark Berman

Mark Berman is the 24th Assembly District representative that includes areas of the counties of San Mateo (East Palo Alto and Menlo Park) and Santa Clara (Palo Alto). He worked for Anna Eshoo’s office as an analyst for the U.S. Department of Judicial Civil Rights. Before his appointment to the California Assembly, he was on the City Council of Palo Alto. Some of his experience involves work with Violence Against Women and asylum seekers from the Republic of the Congo.⁸⁷ Many cities and counties he represents include parts of the Dumbarton Rail Corridor.

⁸³ Carole Groom | County of San Mateo, CA. (n.d.). [www.smcgov.org](https://www.smcgov.org/district-2-carole-groom/profile/carole-groom). Retrieved November 29, 2022, from <https://www.smcgov.org/district-2-carole-groom/profile/carole-groom>

⁸⁴ Carole Groom | County of San Mateo, CA. (n.d.). [www.smcgov.org](https://www.smcgov.org/district-2-carole-groom/profile/carole-groom). Retrieved November 29, 2022, from <https://www.smcgov.org/district-2-carole-groom/profile/carole-groom>

⁸⁵ Warren Slocum | County of San Mateo, CA. (n.d.). [www.smcgov.org](https://www.smcgov.org/district-4-warren-slocum/profile/warren-slocum). Retrieved December 1, 2022, from <https://www.smcgov.org/district-4-warren-slocum/profile/warren-slocum>

⁸⁶ Ibid.

⁸⁷ Marc Berman. (n.d.). Ballotpedia. Retrieved December 2, 2022, from https://ballotpedia.org/Marc_Berman

Kevin Mullen

Kevin Mullen served San Mateo County for over a decade as a South San Francisco City Council Member and in the state assembly. He represented the 22nd District (California State Assembly), encompassing the San Francisco Peninsula area. Since 2013 he has had over 60 bills turned into law, including a vote by mail. Now, Kevin Mullen serves in the United States House of Representatives as a representative of the 15th District of California. The 15th district encompasses parts of the East Bay, including Newark and Fremont. One of his goals is to ensure public transportation is given a chance to electrify, similar to Caltrain's electrification.⁸⁸

Anna Eshoo

In 1988, while Anna Eshoo served on the San Mateo County Board of Supervisors, she ran as the 12th district representative in Congress but lost to Tom Cambell. Four years later, Tom Cambell ran for senate, and Anna Eshoo won the election to replace Tom Cambell as the 12th District Representative. The 12th District would eventually become the 14th District before becoming the 18th in 2013. She is the only Assyrian American and one of two Armenian Americans in the House of Representatives.⁸⁹ She supported Biden's American Job Plan that could create millions of jobs, fund numerous infrastructure projects, and revitalize urban infrastructure.⁹⁰ The 18th district comprises Santa Cruz, Santa Clara, and San Mateo Counties.

Jackie Speier

Jackie Speier is an American lawyer and Democratic politician who represented the 22nd District when she was in the U.S. House of Representatives.⁹¹ The 22nd District was the northern two-thirds of San Mateo County and a small portion of San Francisco. In 1978, she was Leo Ryan's aide when he was assassinated during the Jonestown Massacre, where she was shot. Ms. Speier ran and was elected to the San Mateo County Board of Supervisors in the 1980s. However, she was not eligible to run again after her fourth election. Instead, she ran for California State Assembly. While in the state assembly, she secured over 125 million dollars for Caltrain's Baby Bullet expansion. In February 2000, she introduced a bill that would have helped to generate over 96 million dollars for the Dumbarton Bridge and given ACE access to the Peninsula.⁹² However, ACE did not back her legislation as they did not feel it provided them with money for operations and rolling stock. In 2008 she took over Representative Tom Lantos's position during a special election.⁹³ On January 3rd, 2023, Kevin Mullen will officially replace Jackie Speier in the U.S. House of Representatives when the 118th Congress is sworn in.⁹⁴

Resource Agency

A resource agency is a state or federal agency that has an administrative role over areas such as navigation (United States Coast Guard), flood control (Army Corps of Engineers), fish and

⁸⁸ IBID

⁸⁹ Biography. (2019, December 13). Congresswoman Anna Eshoo. <https://eshoo.house.gov/about-anna/biography>

⁹⁰ Ibid.

⁹¹ Bioguide Search. (n.d.). Bioguide.congress.gov. <https://bioguide.congress.gov/search/bio/S001175>

⁹² Ross, Phillip Matier, Andrew. "Speier's Train Bill Would Add Rail Service to Silicon Valley." SFGATE, 25 Feb. 2000. www.sfgate.com/bayarea/matier-ross/article/Speier-s-Train-Bill-Would-Add-Rail-Service-to-3328549.php. Accessed 21 Nov. 2022.

⁹³ Bioguide Search. (n.d.). Bioguide.congress.gov. <https://bioguide.congress.gov/search/bio/S001175>

⁹⁴ Ibid.

wildlife (Fish and Wildlife Service), water resources (Water Resource Control Board), or cultural/historical maintenance, and preservation (State Office of Historic Preservation).⁹⁵

National Marine Fisheries Service (NOAA Fisheries)

The National Marine Fisheries Service (NMFS) started in 1871 as the “United States Fish Commission when President Grant named zoologist Spencer Baird, National Museum Director, as the first commissioner.” NMFS is the oldest conservation and environmental research agency in the United States.⁹⁶ The Commission had three research categories: 1) studying the waters, fish, and biological problems, 2) studying past and present fishing methods, and 3) trade statistics and the propagation of food fishes throughout the nation.⁹⁷ In 1903, U.S. Fish Customs became the Bureau of Fisheries, and in 1939 it was transferred to the Department of the Interior. One year later, the Bureau of Fisheries merged with the Bureau of Biological Surveys to become the Fish and Wildlife Service.⁹⁸ 1956 brought on the department's current name, the United States Fish and Wildlife Service. This reorganization split the service into two components: the Bureau of Commercial Fisheries and the Bureau of Sports Fisheries and Wildlife. The Department of Commercial Fisheries focuses on commercial fisheries, whales, sea lions, and seals. The Bureau of Sports Fisheries dealt with migratory birds, wildlife refuge, game management, and sports fishing.⁹⁹

President Nixon would transfer the Commercial Fisheries branch from the Fish and Wildlife Service to the Department of Commerce, which would then be renamed the National Marine Fisheries Service. It is under the control of the National Oceanic and Atmospheric Administration (NOAA), also part of the Department of Commerce known as NOAA Fisheries. They aim to protect national marine resources by conserving and managing fisheries to promote sustainability and prevent lost economic potential associated with overfishing and habitat degradation. They do this by working with government agencies in the USA and foreign governments to address illegal and unregulated fishing. Any fishing vessels caught illegally fishing could lose access to U.S. ports. NMFS also inspects and certifies seafood for domestic consumption and exportation.¹⁰⁰ NMFS’s regulation is one of the largest in the United States. Hundreds of regulations are enacted yearly and can target anything from fishery conservation, marine mammal protection, habitat protection, endangered species, and fisheries. These regulations are published in the Federal Register. The National Marine Fisheries Service’s involvement in the Dumbarton Project comes in the form of a resource agency. They have several permits that need to be applied, such as the Endangered Species Act – Biological Opinion, Section 7 consultation, Essential Fish Habitat Consent, Incident Harassment Authorization, or Letter of Authorization.

⁹⁵ Resource agency Definition. (n.d.). Law Insider. <https://www.lawinsider.com/dictionary/resource-agency>

⁹⁶ Hobart, W.L..(1995). Baird’s Legacy: The History and Accomplishments of NOAA’s National Marine Fisheries Service, 1871 - 1996. Smithsonian Institution Archives. https://siarchives.si.edu/collections/siris_sic_3671

⁹⁷ Ibid.

⁹⁸ United States Code. United States, The Office, 1953.

⁹⁹ United States Code. United States, The Office, 1953.

¹⁰⁰ Illegal, Unreported, and Unregulated Fishing. (n.d.). United States Department of State. <https://www.state.gov/key-topics-office-of-marine-conservation/illegal-unreported-and-unregulated-fishing/>

U.S. Army Corps of Engineers

The Army Corps of Engineers was formed on June 16th 1775, by the Continental Congress, with Colonel Richard Gridley as the first chief engineer.¹⁰¹ Their primary mission during the Revolutionary War was to build fortifications around Boston and Bunker Hill. King Louis XVI secretly sent engineering officers to advise the engineering corps on engineering and building techniques. The original Corps was disbanded in 1783 but was reconstituted by President Washington.

President Thomas Jefferson established the modern-day Corps of Engineers on March 16th, 1802, through the Military Peace Establishment Act. He wanted the Corps to be stationed at West Point, a military academy with the superintendent being an engineering officer from the Corps of Engineers.¹⁰² In 1824, the Corps of Engineers' mission would begin to change with the General Survey Act, which allowed the Corps to survey roads and canal routes and keep the Ohio and Mississippi Rivers clear of navigational hazards such as sand bars. The Corps of Engineers would again, on July 4th, 1838, evolve into a new entity when the Topographical Engineering Corps was merged into the Corps of Engineers. The Topographical Engineering Corps designed, mapped, and constructed Federal Civil Works Projects. In the 1920s, the Corps of Engineers Became the lead agency for navigational and flood control projects. As a result of the 1927 Mississippi Floods, the Corp's role in natural disasters grew, and in the 1960's they added environmental preservation and restoration to their mission set.¹⁰³

Several of their most notable projects are:

- Washington Monument (1884)
- Panama Canal (1914)
- Manhattan Project (1942-1946)¹⁰⁴
- The Pentagon (1943)
- King Khalid Military City (1973-1987)¹⁰⁵

The Corps of Engineers is Headquartered in Washington, D.C., and comprises several permanent and provisional divisions. Each is composed of multiple districts. The boundaries for these districts are watersheds for civil projects and political boundaries for military projects. The San Francisco Bay Estuary falls within the South Pacific Division, headquartered in San Francisco.¹⁰⁶

¹⁰¹ U.S. Army Corps of Engineers Headquarters > About > History > Brief History of the Corps > Beginnings. (n.d.). [Www.usace.army.mil. https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Beginnings/](https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Beginnings/)

¹⁰² U.S. Army Corps of Engineers Headquarters > About > History > Brief History of the Corps > Beginnings. (n.d.). [Www.usace.army.mil. https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Beginnings/](https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Beginnings/)

¹⁰³ U.S. Army Corps of Engineers Headquarters > About > History > Brief History of the Corps > Environmental Activities. (n.d.). [Www.usace.army.mil. Retrieved November 26, 2022, from https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Environmental-Activities/](https://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Environmental-Activities/)

¹⁰⁴ U.S. Army Corps of Engineers Headquarters > About > History > Historical Vignettes > Military Construction Combat. (n.d.). [Www.usace.army.mil. Retrieved November 26, 2022, from https://www.usace.army.mil/About/History/Historical-Vignettes/Military-Construction-Combat/113AtomicBomb/](https://www.usace.army.mil/About/History/Historical-Vignettes/Military-Construction-Combat/113AtomicBomb/)

¹⁰⁵ massachusetts instute of tech cambridge dept of civil engineering. Mega-Project Construction Management: The Corps of Engineers and Bechtel Group in Saudi Arabia. (n.d.). [Apps.dtic.mil. Retrieved November 26, 2022, from https://apps.dtic.mil/docs/citations/ADA231228](https://apps.dtic.mil/docs/citations/ADA231228)

¹⁰⁶ massachusetts instute of tech cambridge dept of civil engineering. Mega-Project Construction Management: The Corps of Engineers and Bechtel Group in Saudi Arabia. (n.d.). [Apps.dtic.mil. Retrieved November 26, 2022, from https://apps.dtic.mil/docs/citations/ADA231228](https://apps.dtic.mil/docs/citations/ADA231228)

The United States Army Corps of Engineers is the Engineering Component of the United States Army. They have three core missions: Engineering Projects, Military Regiment, and Civil Works projects, and are overseen by the Commanding General or Chief of Engineers. The Chief of Engineers commands the engineer's regiment, composed of several specialty units such as combat engineers, rescue teams, and construction and dive units.¹⁰⁷ Civil Works projects fall under the command of the Commanding General and the Assistant Secretary of the Army. These civil works projects fall under three categories: navigation, flood and storm damage prevention, and aquatic ecosystem restoration.¹⁰⁸ The Corps of Engineers has 37,000 civilian and military personnel, making it the largest of all agencies that deal with public engineering, construction management, and design.¹⁰⁹ Their role in the Dumbarton Project is as a resource agency that will approve or deny various permits such as the Joint Aquatic Resources Permit, the Nationwide Section 14 permit, and the Section 10 permits.¹¹⁰

Coast Guard

On August 4th, 1790, Alexander Hamilton (Secretary of Treasury) and Congress created the Revenue Cutter Service, whose job was to collect customs duties at all United States Ports. The Revenue Cutter Service was under the control of the Department of Treasury. On January 28th, 1915, the Revenue Cutter Service merged with the United States Life Saving Service to become the United States Coast Guard. In 1939, the United States Lighthouse Service and the Bureau of Marine Inspection and Navigation merged with the United States Coast Guard. In 1967, the Coast Guard was transferred to the Department of Transportation, where it would remain until 2002. When they moved to the Department of Transportation, they assumed the responsibilities of Section 9 permits from the United States Army Corps of Engineers. On November 25th, 2002, President Bush signed the Homeland Security Act, which placed the Coast Guard under the administrative control of the newly created Department of Homeland Security.

The United States Navy assumes administrative control when Congress authorizes a declaration of war or under the direction of the President. While the Coast Guard is a law enforcement agency with the power to arrest people, they also have been deployed in every major conflict the United States has been involved in, dating back to the 1790s. The Coast Guard is one of the six armed services and one of eight uniformed services. There are 44,500 active duty and 700 reserve Coast Guardsmen in the Coast Guard, with 8,577 civilian employees. The Coast Guard also has 250 cutters, patrol ships, buoy tenders, ice breakers, 2000 small boats, and 2000 aircraft and helicopters.¹¹¹

The Coast Guard has several non-homeland security missions:¹¹²

1. Fisheries Law Enforcement

¹⁰⁷ . Headquarters U.S. Army Corps of Engineers. (2014). Army.mil. <https://www.usace.army.mil/>

¹⁰⁸ Ibid.

¹⁰⁹ About -- Headquarters U.S. Army Corps of Engineers. (n.d.). [Www.usace.army.mil](https://www.usace.army.mil/About.aspx). Retrieved November 26, 2022, from <https://www.usace.army.mil/About.aspx>

¹¹⁰ Dumbarton Meeting notes 2019/2020

¹¹¹ 6 U.S. Code § 468 - Preserving Coast Guard mission performance. (n.d.). LII / Legal Information Institute. <https://www.law.cornell.edu/uscode/text/6/468>

¹¹² 6 U.S. Code § 468 - Preserving Coast Guard mission performance. (n.d.). LII / Legal Information Institute. <https://www.law.cornell.edu/uscode/text/6/468>.

2. Ice Operations and Internal Ice Patrol
3. Marine Environmental Protection
4. Marine Safety
5. Navigational Aid (such as taking care of the navigational buoys)
6. Search and Rescue

They also have several homeland security missions:¹¹³

1. Defense Readiness
2. Maritime Law Enforcement
3. Migrant Interdiction
4. Coastal Security (including ports, harbors, and waterways)
5. Drug Interdiction

The Dumbarton Bridge falls under the United States Coast Guard's 11th District in Alameda at Coast Guard Island. The location serves California, Nevada, Utah, and Arizona. The Coast Guard issues Section 9 Permits, and they assist in the design of the bridges. South of the Dumbarton Bridge, they might need to assist vessels, perform maritime inspections, tend to navigational buoys, or conduct search and rescue. Coast Guard law enforcement teams could need to travel south of the bridge to deal with law enforcement matters, such as drug smugglers. If the situation is extremely dangerous, the Coast Guard could send their Special Operations Law Enforcement Units: the Maritime Security Response Team and Maritime Safety and Security Team, to deal with the issues.¹¹⁴ The Coast Guard has bridge design requirements that ensure adequate clearance for vessels traveling north or south of the bridge safely. The Coast Guard wants to ensure bridge removal or construction does not block, hinder, or create navigational hazards for ships.

San Francisco Bay Conservation and Development Commission

By the 1960s, the San Francisco Bay had decreased from 600 square miles to 400 square miles, and the water was contaminated.¹¹⁵ People were becoming outraged with the losses of the San Francisco Bay wetlands through filling, landfills, and pollution. Due to public outrage, the San Francisco Bay Conservation and Development Commission began as a temporary state agency involved in planning long-term uses of the San Francisco Bay on September 17th, 1965.¹¹⁶ The Bay Conservation and Development Commission became a permanent state agency in 1969. The California Natural Resources Agency oversees the San Francisco Bay Conservation and Development Commission. The San Francisco Bay, Conservation and Development Commission issued the 401 Water Quality Certification Permit.

¹¹³ 6 U.S. Code § 468 - Preserving Coast Guard mission performance. (n.d.). LII / Legal Information Institute. <https://www.law.cornell.edu/uscode/text/6/468>.

¹¹⁴ Interview with Drew Smith, 2019.

¹¹⁵ BCDC - The McAteer-Petris Act. (n.d.). Bcdc.ca.gov. Retrieved February 19, 2023, from https://bcdc.ca.gov/plans/mcateer_petris.html

¹¹⁶ Ibid.

San Francisco Regional Water Quality Control Board

The San Regional Water Quality Control Board is one of the regional offices of the California State Water Resources Control Board. Also, they are one of six branches of the California Environmental Protection Agency. They were established in the 1950s as the State Water Pollution Control Board through the Dickey Water Pollution Act. In 1963 they changed their name to the State Water Quality Control Board. In 1967 they again were renamed the State Water Rights Board. 1969's Porter-Cologne Water Quality Control Act gave the Water Boards broad duties and enforcement powers to protect California's Waterways. The Porter-Cologne Act was the basis for the Federal Clean Water Act. The State Water Board has regulatory authority over 1,600,000 acres of lakes, 1,300,000 acres of Bay and Estuary, 211,000 rivers and streams, and 1,100 coastlines. The State Water Board allocates the state's water for various uses, such as agriculture, hydroelectric dams, and water supplies. The Water Board also helps with financial assistance for the building and rebuilding of water treatment plants and fixing underground tanks. They also help monitor, protect, and restore wetlands when needed. The San Francisco Regional Water Quality Control Board's jurisdiction stretches from Tomales Bay to Pescadero Creek, including all rivers that drain into San Francisco Bay except the Sacramento and San Joaquin Rivers. They issue the 401 Water Quality Certification Permits.

State Historic Preservation Office

The State Office of Historic Preservation was formed in 1953 as the Historical Section of the Division of Beaches and Parks, now known as the California State Parks Department. The Office of Historic Preservation's mission is to provide leadership and promote preserving California's Historical and Cultural heritage. To do this, the preservation office partners with local, state, federal, and tribal agencies to protect resources and carry out mandated public and administrative e programs under state and federal historic preservation laws. The Office of Historical Preservation has several responsibilities, including identifying and evaluating historic properties to ensure compliance with federal and state laws such as CEQA and NEPA through a section 106 Review of the National Historic Preservation Act.¹¹⁷

Environmental Protection Agency

President Nixon, on July 9th, 1970, proposed an independent government agency tasked with protecting the environment, consolidating all governmental environmental responsibilities. The Environmental Protection Agency became operational on December 2nd, 1970. The Environmental Protection Agency has many enforcement powers, such as issuing fines and citations. Headquartered in Washington, DC, the EPA has 14,581 employees from over ten regional offices and 27 laboratories.¹¹⁸ The EPA conducts environmental assessments, research, and education and is responsible for maintaining and enforcing national standards under various federal environmental laws. While they have many responsibilities regarding the Dumbarton Corridor, they oversee anything relating to the Clean Water Act and the Clean Air Act Section 309 Consultation; they review all Environmental Impact Statements.

¹¹⁷ About the Office of Historic Preservation. (n.d.). CA State Parks. Retrieved February 20, 2023, from https://ohp.parks.ca.gov/?page_id=27961

¹¹⁸ EPA Regional Laboratories Unique Analytical Capabilities and Services by Region | Scientific Analysis and Documentation Provided by EPA Regional Labs | US EPA. (2018, April 4). Web.archive.org. <https://web.archive.org/web/20180404073655/https://www.epa.gov/regionallabs/epa-regional-laboratories-unique-analytical-capabilities-and-services-region>

State Lands Commission

The State Lands Commission was established in 1948 to manage over 4 million tidal lands, along with the beds of rivers, lakes, bays, estuaries, straights, and streams. The commission issues a lease for use or development on or near these lands, ensuring that these lands stay protected along with providing safe public access. The State Lands Commission also protects state waters from invasive species.¹¹⁹

United States Fish and Wildlife Service

The original Fish and Wildlife Commission was started in 1871 by Congress, called The United States Commission on Fish and Fisheries (United States Fish Commission), to protect against the decline in fish food stocks.¹²⁰ In 1903, the commission became the Bureau of Fisheries under the Department of Commerce and Labor administration. The Bureau of Fisheries remained with the Department of Commerce when, in 1913, the Department of Commerce and Labor split up. The Bureau of Fisheries focused on fishery science but would gain other roles, such as enforcing regulations for seal hunting.¹²¹ In 1940, the Bureau of Fisheries merged with the Bureau of Biological Surveys (formerly the Division of Economic Ornithology and Mammology) to become the Fish and Wildlife Service. The Fish and Wildlife Service split its operations into the Bureau of Sports Fisheries and Wildlife and the Bureau of Commercial Fisheries. Commercial Fisheries merged the Sport Fisheries and Wildlife saltwater laboratories to become the National Marine Fisheries Service, a component of NOAA. The remaining Bureau of Sports Fisheries and Wildlife departments continued as the Fish and Wildlife Service.

The United States Fish and Wildlife Service is part of the Department of the Interior and manages fishes, wildlife, and natural habitats. Their mission is to work with others to conserve, protect, and enhance fish, wildlife, plants, and habitats for the benefit of the public.¹²² Fish and Wildlife does this by enforcing federal wildlife laws, protecting endangered species, managing migratory bird species, restoring fisheries, and restoring and conserving wildlife habitats. The Headquarters of the Fish and Wildlife Service is in Falls Church, Virginia, with eight regional offices and over 700 field offices. The Fish and Wildlife Service manages approximately 560 refuge systems, including Don Edwards. These refuge systems include all kinds of habitats: wetlands, prairies, coastal and marine areas, tundra, and boreal forests.

Don Edwards National Wildlife Refuge

Don Edwards National Wildlife Refuge, headquartered in Fremont, is under the administrative control of the United States Fish and Wildlife. It was established in 1974 as the first urban wildlife refuge to protect and preserve wildlife, habitat, migratory birds, and endangered species while providing recreational activity and biodiversity education space.¹²³ Much of the complex stretches from Dumbarton (north) to Alviso (south) in Alameda County, but there is a small part

¹¹⁹About the California State Lands Commission | CA State Lands Commission. (n.d.). Retrieved February 19, 2023, from <https://slc.ca.gov/about/>

¹²⁰ United States. Bureau of Fisheries, & MBLWHOI Library. (1962). Fishery circular. In Internet Archive. [Washington] : The Bureau. <https://archive.org/details/fisherycircular145unit/page/n3/mode/2up>

¹²¹ Fisheries, N. (2021, September 7). Alaska | NOAA Fisheries. NOAA. <https://www.fisheries.noaa.gov/region/alaska#science>

¹²² About Us | U.S. Fish & Wildlife Service. (n.d.). www.fws.gov. <https://www.fws.gov/about>

¹²³ Wayback Machine. (2013, August 23). <http://web.archive.org/web/20130823181455/http://library.fws.gov/refuges/DEsanfran.pdf>

of the Refuge in San Mateo County at Bair Island. As of 2004, the refuge has over 30,000 acres of various habitats, such as salt ponds, marshes, and vernal pools.

Cargill Salt manages nine thousand acres of land for salt-making purposes.¹²⁴ These salt ponds concentrate the brine required for their salt making, eventually used for food, industrial and medicinal uses. Don Edwards National Wildlife Refuge is an essential stop on the Pacific Flyway, providing habitat for millions of birds. The Refuge also provides critical habitat for animals such as the Salt Marsh Harvest Mouse and the California Clapper Rail.¹²⁵ Don Edwards fully supports rebuilding a Dumbarton Rail line and is even interested in seeing a pedestrian-use bike bath built as part of a bridge that links to all their trails. Since the rail corridor is on and near land owned by Don Edwards, they are responsible for issuing encroachment permits.¹²⁶

Other

These stakeholders were not listed under a specific group in the Dumbarton Meeting Notes, so they were placed under the “Other Category.” They might have had a role in the project before leaving (Facebook) or have regulatory/administrative functions such as the California Public Utility Commission and the Federal Railroad Administration.

Facebook

Facebook initially started as Face Mash on October 28th, 2003. Six months later, on February 4th, 2004, they changed their name to Facebook. The original founding members were Mark Zuckerberg and other Harvard students, Eduardo Saverin, Andrew McCollum, Chris Hughes, and Dustin Moskovitz.¹²⁷ When Facebook started, it was limited to just Harvard students, but by 2006, anyone over 13 years old with a valid email could sign up for an account. By 2011, Facebook had over 600 million users; as of 2023, there are almost 3 billion users. In 2011, Facebook moved its Headquarters to Menlo Park. Facebook has two sets of buildings, one located on the bay side of Highway 84 and a second, newer building next to the Dumbarton Rail Line. Facebook employees who traveled along the 84 corridors would often get stuck in commute traffic even with Facebook’s employee bus program. Eventually, in 2016, Facebook decided they wanted to look at revitalizing the Dumbarton Rail Line to provide better transportation options. They were offering approximately one billion dollars for the review and construction phases of the project. Facebook partnered with Plenary Group to form a Cross Bay Transit Partners development company. When the COVID-19 pandemic led to emergency shelter-in-place orders being issued, Facebook moved to a work-from-home model. These two things led to a dramatic drop in transit ridership numbers and low commute traffic, so Facebook decided to pull out of the project.

¹²⁴ Interview with Genie Moore, 2020.

¹²⁵ Ibid.

¹²⁶ Interview with Matt Brown, 2019.

¹²⁷ Meta Reports First Quarter 2022 Results. (n.d.). Investor.fb.com. <https://investor.fb.com/investor-news/press-release-details/2022/Meta-Reports-First-Quarter-2022-Results/default.aspx>

Santa Clara County

Santa Clara is California's 6th most populated county, with a population of nearly two million.¹²⁸ Home to Silicon Valley, Santa Clara has the world's third-highest gross domestic product (GDP) and is now the most affluent county in the United States. Santa Clara was named after Mission Santa Clara, established by the Spanish and European Explorers that took over the land from the Ohlone Indians. Formed in 1850, when California became a state, Santa Clara is one of the oldest counties. Several technology companies are headquartered in Santa Clara: AMD, Nvidia, Cisco, Apple, eBay, Google, and Yahoo. Santa Clara County is served by VTA light rail and busses, along with Caltrain (partly funded by VTA, BART, and Muni), Amtrak, and ACE at the Santa Clara station, with a BART connection possible in the future (the Berryessa to Santa Clara Extension).¹²⁹

Union City

Incorporated in 1959, Union City combined the communities of Alvarado and Decoto and has 70,000 residents.¹³⁰ Along with Fremont and Newark, Union City makes up the Tri-Cities area in Alameda County. The area's first inhabitants were called the "Costanoans" by the Spanish Explorers and missionaries.¹³¹ Burial Sites and archeological artifacts can still be found in Union City. Along with Fremont and Newark, Union City was home to the original transcontinental rail line. Union City is served by AC Transit and Dumbarton Express (a bus route linking the Peninsula to the East Bay), BART, and Union City Transit (a bus that links Union City and Hayward). Union City is in the position to see an intermodal transit station connecting Bart and Caltrain, should Caltrain get trackage rights from Union Pacific Railroad. Union City is interested in joining transit services and planning developments around transit stations.

Hayward

Hayward has a population of 162,954 and is the third largest city in Alameda (34th largest in California).¹³² Hayward is 64 square miles, with 45.77 square miles of land and 18.29 square miles of water.¹³³ Similar to the history of the San Francisco Bay Area, the Ohlone Indians inhabited the areas of Hayward before the 19th Century. In 1841, Guillermo Castro acquired a large plot of land where Hayward is now located, and once the gold rush started, William Dutton Hayward bought a portion of that land and started a hotel. Hayward became a major agricultural town served by the South Pacific Coast Railroad, a narrow-gauge railroad from Oakland to Santa Cruz, producing tomatoes, potatoes, peaches, and cherries. The South Pacific Coast Railroad was formed to quickly transport the growers' produce to the markets as an alternative to the Southern Pacific Railroad. Today Hayward, Ca, is served by BART, Amtrak, and AC Transit.

¹²⁸ US Census Bureau. (2021, August 12). 2020 Population and Housing State Data. The United States Census Bureau. <https://www.census.gov/library/visualizations/interactive/2020-population-and-housing-state-data.html>

¹²⁹ Council, B. A. (2019, August 30). Federal Grant a Boon for BART to San Jose Extension. Bay Area Council. <https://www.bayareacouncil.org/transportation/federal-grant-a-boon-for-bart-to-san-jose-extension/>

¹³⁰ About Union City | Union City, CA. (n.d.). www.unioncity.org. Retrieved March 12, 2023, from <https://www.unioncity.org/150/About-Union-City>

¹³¹ John Starbird Sandoval. (1985). The History of Washington Township.

¹³² U.S. Census Bureau QuickFacts: Hayward city, California. (n.d.). www.census.gov. <https://www.census.gov/quickfacts/haywardcitycalifornia>

¹³³ (2011). https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2019_Gazetteer/2019_gaz_place_06.txt

Should Caltrain successfully negotiate trackage rights on Union Pacific's railroad tracks from Fremont, Hayward could be the final stop on Caltrain's east bay route.

California Public Utility Commission

The California Office of the transportation commissioner created the first version of the California Public Utilities Commission on April 1st, 1878, to regulate railroad prices.¹³⁴ At the time, the Southern Pacific Railroad was becoming extremely powerful, and the public was concerned. The Southern Pacific eventually used the commission to its advantage because they dominated local and state politics. The public was quickly outraged at this leading to the creation of the Board of Railroad Commissioners through the California Constitution. Other utilities would slowly be placed under the jurisdiction of the Commission. In 1945, the California Legislature amended the Constitution to turn the Board of Railroad Commissioners into the California Public Utility Commission.¹³⁵ The Public Utility Code is the highest law in the state, and the Public Utility Commission has unlimited authority to regulate any public utility. The Public Utility Commission regulates privately owned public utilities such as electrical power, natural gas, and telecommunication. They also regulate common carriers such as household goods movers, passenger transportation, and rail crossing safety. The CPUC is not involved in the construction of the rail line; instead, they get involved after passenger service begins. The CPUC's responsibilities include the following:¹³⁶

1. Rail Crossing Safety: CPUC has exclusive jurisdiction over all rail crossings in California. The CPUC inspects existing crossings (sometimes with the Federal Railroad Administration) and reviews proposed intersections.
2. Railroad Safety: The CPUC's federally certified inspectors ensure railroads comply with all laws and safety regulations.

East Palo Alto

East Palo Alto has a population of 30,000 people, and an area of 2.64 square miles, .12 of that area is water.¹³⁷ It sits halfway between San Jose and San Francisco, in San Mateo County, and was incorporated in July 1983. East Palo Alto sits North of the City of Palo Alto and is often thought to be part of Palo Alto, even though it is a different city. East Palo Alto has several major employers, such as Amazon, Ikea, Target, and the 4 Seasons Hotel. These significant employers have started to eliminate the economic disparities that have and continue to plague East Palo Alto. They were started in the 1950s due to discriminatory planning practices such as redlining and deed restrictions based on race¹³⁸. Redlining was when planners drew red lines around areas of a city they felt should not be focused on. These areas of color were often

¹³⁴ PUC History & Structure. (2007, July 15). Web.archive.org. <https://web.archive.org/web/20070715101910/http://www.cpuc.ca.gov/static/aboutcpuc/puhistory.htm>

¹³⁵ California Constitution :: Article XII - Public Utilities :: Section 5. (n.d.). Justia Law. Retrieved March 12, 2023, from <https://law.justia.com/constitution/california/article-xii/section-5/>

¹³⁶ Rail Safety Division. (n.d.). Ww.cpac.ca.gov. Retrieved March 12, 2023, from <https://www.cpac.ca.gov/about-cpac/divisions/rail-safety-division>

¹³⁷ U.S. Census Bureau QuickFacts: East Palo Alto city, California. (n.d.). Ww.census.gov. Retrieved March 9, 2023, from <https://www.census.gov/quickfacts/fact/table/eastpaloaltocitycalifornia/PST045221>

¹³⁸ Russo, C. (n.d.). Un-forgetting the segregationist history of Palo Alto (and Daly City, and San Francisco, and...). Ww.paloaltoonline.com. Retrieved March 9, 2023, from <https://www.paloaltoonline.com/news/2020/06/28/un-forgetting-the-segregationist-history-of-palo-alto-and-daly-city-and-san-francisco-and>

marginalized, ignored, or not invested in. The Dumbarton Corridor rail line sits just outside East Palo Alto's city limits, but they want to see a station built near University Avenue.

Federal Railroad Administration

The Headquarters of the FRA is in Washington DC, and the San Francisco Bay Area's field office is in Sacramento.¹³⁹ They were formed on April 1st, 1967, by the Department of Transportation Act of 1966. The Federal Railroad Administration enforces railroad-related regulations, assists, and conducts research and development for railroad safety.¹⁴⁰ The FRA oversees freight and passenger rail connected to the nationwide rail network, such as Caltrain and Amtrak. The FRA does not regulate closed rail systems like VTA and Bart. The Federal Railroad Administration has its fleet of rail vehicles, such as the: DOTX-18 Gage Restraint Measurement Vehicle and the DOTX-220 Track Geometry car that inspects railroad tracks.

¹³⁹ Interview with Curt Hoppinis, 2020.

¹⁴⁰ About FRA | FRA. (n.d.). Railroads.dot.gov. <https://railroads.dot.gov/about-fra/about-fra>

Chapter 4: The Stages of the Dumbarton Project

Stage 1: Exclusive Negotiating Agreement with the Developer

An Exclusive negotiating agreement is an agreement between two organizations that will only negotiate together for a project. A successful negotiating agreement is the first go/no milestone. Originally, SamTrans had an Exclusive Negotiating Agreement with Cross Bay Transit Partners. Cross Bay Transit Partners was the developer before the pandemic started, and once the project moves forward again, a new developer might need to be selected. It is unclear,

Stage 2: Resource Permits

The following permits may be needed before work can begin on the Dumbarton Corridor. Each permit will be studied to see if it applies to the Dumbarton Corridor. Each permit needs to be approved by the appropriate resource agency before construction can begin.

San Francisco Bay Conservation and Development Commission

401 Water Quality Certification

Section 401 of the Water Quality Act regulates wastewater discharge into state waterways and is issued to any applicant whose activities could result in the discharge into state waters. The discharge could be wastewater or water containing dredged materials such as dirt, sand, or debris from construction projects.¹⁴¹

United States Army Corps of Engineers

Nationwide 14 Permit

The Nationwide 14 Permit is required for any construction, expansion, modification, or improvement projects that cross waterways. This includes roadways, highways, railroad lines, trails, and airport runways. The Nationwide 14 Permit also allows for temporary structures or any work needed for these projects. However, all appropriate measures must be taken to ensure that the water flow is not affected and that issues such as flooding and erosion are mitigated. Once construction is completed, all temporary structures must be removed, and the affected areas must be returned to their preconstruction states.¹⁴²

Section 10 Permit of the Rivers and Harbors Act of 1899

The Rivers and Harbors Act is one of the oldest environmental laws in the United States. The Rivers and Harbor Act states that discharging any refuse material into any navigable waterway without a permit is a misdemeanor. This particular portion of the act is called the Refuse Act.¹⁴³ The Rivers and Harbor Act also makes it illegal to excavate, fill or alter the conditions or capacity of any waterway, harbor, or port in any areas covered by the Rivers and Harbors Act.¹⁴⁴ Section 10 of the Rivers and Harbor Act prohibits the construction of any structure over a

¹⁴¹ 401 Water Quality Certification and Wetlands Program | California State Water Resources Control Board. (n.d.). www.waterboards.ca.gov. https://www.waterboards.ca.gov/water_issues/programs/cwa401/

¹⁴² Nationwide Permit Information. (n.d.). www.usace.army.mil. <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/>

¹⁴³ Los Angeles District > Missions > Regulatory > Jurisdictional Determination > Section 10 of the Rivers & Harbors Act. (n.d.). www.spl.usace.army.mil. Retrieved February 14, 2023, from <https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Section-10-of-the-Rivers-Harbors-Act/>

¹⁴⁴ Ibid.

navigable waterway. Section 10 also prohibits the excavation, dredging, or depositing of any material in these waterways.¹⁴⁵ SamTrans cannot alter the flow of the San Francisco Bay in any way, shape, or form without the approval of the Corps of Engineers.

Joint Aquatic Resources Permit

The Joint Aquatic Resource Permit is one permit application that includes multiple applications for multiple agencies. The general purpose of JARPA is to help speed up the permitting process by allowing SamTrans to file one application for multiple permits. Once submitted, the permit application gets sent to all of the agencies included in the application. Included in the JARPA application are the following¹⁴⁶:

- San Francisco Bay Regional Water Quality Control Board: Clean Water Act Section 401.
- United States Army Corps of Engineers: Section 10 Permit
- United States Environmental Protection Agency: Clean Water Act Section 404
- National Marine Fisheries Service: Section 7 Consultation
- United States Fish and Wildlife Service: Section 7 Consultation
- United States Coast Guard: Section 9 Bridge Permits

National Marine Fisheries Service (NOAA Fisheries)

Endangered Species Act: Section 7 Consultation/Biological Option

The Endangered Species Act is the United States' primary law that protects endangered or critically imperiled species from extinction. The Endangered Species Act was needed to ensure the safety and protection of endangered animals that could be affected by economic growth. The Fish and Wildlife Service and NOAA Fisheries administer the Endangered Species Act.¹⁴⁷ The Fish and Wildlife Service deals with land-based animals and freshwater fish species, while NOAA Fisheries' responsibility is marine species. The need for a conservation law arose due to the near extinction of the bison, the Passenger Pidgeon (which went extinct in 1914), and the whooping crane.¹⁴⁸ The first version of this federal law was called the Lacy Act, which regulated commercial animal markets. In 1966 Congress passed the Endangered Species Preservation Act to give the Fish and Wildlife Service the power to start conservation and protection measures. The 93rd United States Congress repealed and replaced the Endangered Species Preservation Act with the Endangered Species Act, which President Nixon signed on December 28th, 1973. The Endangered Species Act comprises multiple sections, with Section 7: Consultation and Biological Option pertaining to the Dumbarton Corridor.

Section 7.1 requires lead agencies, federal agencies, and developers to work together to conserve endangered species. Section 7.2 requires the lead agency to consult with the Fish and Wildlife

¹⁴⁵ Los Angeles District > Missions > Regulatory > Jurisdictional Determination > Section 10 of the Rivers & Harbors Act. (n.d.). www.spl.usace.army.mil. Retrieved February 14, 2023, from <https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Section-10-of-the-Rivers-Harbors-Act/>

¹⁴⁶ SAN FRANCISCO BAY AREA. (n.d.). Retrieved February 12, 2023, from <https://www.spn.usace.army.mil/Portals/68/docs/regulatory/resources/JARPA.pdf>

¹⁴⁷ ESA Section 7 Consultation | U.S. Fish & Wildlife Service. (n.d.). FWS.gov. <https://www.fws.gov/service/esa-section-7-consultation>

¹⁴⁸ Ibid.

Service and NOAA Fisheries if an endangered species exist within the project area.¹⁴⁹ If it is deemed that there are little to no impacts, then the project moves forward. If it is deemed that there is a significant impact on endangered species, then a biological assessment must be prepared. The Biological review outlines the potential effects, the species, and conservation measures. Usually, the US FWS or NOAA Fisheries will visit the site to study which endangered species are present. The Biological Assessment ends with one of three options:

1. No Effect: no adverse effects on the endangered species or their habitat. The Assessment is closed, and the project continues.
2. Likely no effects: Negligible effects on the endangered species. The Biological assessment is concluded, and the project continues.
3. Adverse effects: There could be harmful effects on the endangered species or their habitats. Adverse Effects trigger a formal consultation. A formal consultation is triggered when the lead agency or developer and either of the two federal agencies disagrees with the Biological Assessment findings.

A formal consultation is a more detailed study of the project's effects on the listed species. It will focus on how the project could reduce the species' survivability and recovery.¹⁵⁰ NOAA Fisheries and United States Fish and Wildlife Service look at information such as population sizer, critical habitat, threats the species faces, project effects, why the species was listed on the endangered species list, and current conditions of the species. The formal consultation process can take up to 90 days before a new biological opinion is released. The biological option will say whether the action will likely have minimal effects on the habitat and endangered species or if there are significant effects, what conservation and mitigation measures are needed to minimize these effects. The biological option has to be written within 45 days of the initiation of the formal consultation process.¹⁵¹

Essential Fish Habitat Consent

Any projects that affect essential fish habitats require consultation with National Oceanic Atmospheric Administration Fisheries will need to be consulted. Consultations will be necessary if any federal agency is involved in the project. This could come from funding, authorizing any part of the project, or issuing permits. Consultations with NOAA Fisheries are also required if there will be any adverse effects or alterations on essential fish habitats such as the waters, habitats, fish species, their habitats, or other parts of their ecosystem.¹⁵²

Incidental Hazard Authorization or Letter of Authorization

Incidental Hazard Authorization (IHA) and Letter of Authorization (LOA) are the two kinds of Incidental Take Authorizations that the National Marine Fisheries Services issues if the project could result in the "taking" of marine mammals. Taking is defined by the National Oceanic Atmospheric Administration as "to harass, hunt, capture, kill, harm, pursue, shoot, wound, trap, capture or to engage in such behavior of any marine mammals." This includes the collection of

¹⁴⁹ ESA Section 7 Consultation | U.S. Fish & Wildlife Service. (n.d.). FWS.gov. <https://www.fws.gov/service/esa-section-7-consultation>.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

¹⁵² Fisheries, N. (2022, April 29). Consultations for Essential Fish Habitat | NOAA Fisheries. NOAA. <https://www.fisheries.noaa.gov/national/habitat-conservation/consultations-essential-fish-habitat>

dead animals, detention, tagging, disturbing, molesting, or even the feeding of marine mammals. Incident Hazard Authorization (IHA) is effective for one year and will only result in harassment or potential injury or disturbance of mammals. A Letter of Authorization is required if harassment or severe injury of marine mammals is likely and is effective for up to 5 years.¹⁵³

San Francisco Regional Water Quality Control Board

Section 401 of the Water Quality Act

See the above 401 Water Quality Control Act (San Francisco Bay Conservation and Development Commission) for the definition.

State Historic Preservation Office

National Historic Preservation Act

The National Historic Preservation Act is a federal law enacted by the 89th Congress and became law on October 15th 1966. The National Historic Preservation Act aims to protect historical and archaeological sites in the United States.¹⁵⁴ The National Historic Preservation Act also led to the creation of the National Register of Historic Places, a list of National Historic Landmarks, and created the State Historic Preservation Office. The National Historic Preservation Act requires federal agencies to evaluate any impacts of federally funded or permitted projects on historical land or properties. This evaluation process is known as a Section 106 Consultation.

Section 106 Consultation

Section 106 Consultation requires the lead agency to seek ways to avoid, mitigate, or minimize adverse effects on historical items, property, or land. The Consultation process is accomplished in 4 steps:

1. Imitation of the Section 106 Review
2. Identification of Historic Property
3. Assessment of Adverse Effects
4. Resolution of adverse effects.

If it is deemed that there are no adverse effects or no historic property, then the Section 106 consultation is closed. If it is thought there are adverse effects on the historic property. The lead agency, SamTrans, or consulting agency needs to work with the State Historic Preservation Office to find ways to mitigate or avert the adverse effects.¹⁵⁵

¹⁵³ Fisheries, N. (2022, November 30). Incidental Take Authorizations Under the Marine Mammal Protection Act | NOAA Fisheries. NOAA. <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>

¹⁵⁴ National Historic Preservation Act of 1966 - Archeology (U.S. National Park Service). (n.d.). www.nps.gov. <https://www.nps.gov/subjects/archeology/national-historic-preservation-act.htm>

¹⁵⁵ An Introduction to Section 106 | Advisory Council on Historic Preservation. (2019). [achp.gov](http://www.achp.gov). <https://www.achp.gov/protecting-historic-properties/section-106-process/introduction-section-106>

State Lands Commission

State Lands Lease Agreement

A Lands Lease Agreement would allow SamTrans and the developers to rent vacant land from the state for any purposes.¹⁵⁶ Some land use examples are storing construction material, equipment, temporary rail spurs, permanent railroad tracks, and rail maintenance facilities.

United States Environmental Protection Agency

Clean Water Act

Water Conservation laws started in 1948 with the Federal Water Pollution Control Act but were revised in 1972 by the Federal Water Pollution Control Act Amendment to become the Clean Water Act¹⁵⁷. President Nixon vetoed the Clean Water Act, but Congress overruled that veto. The Clean Water Act is administered by the Environmental Protection Agency, which works with state governments to implement various regulations regarding clean water. The United States Army Corps of Engineers oversees the rules relating to dredging and filling. Clean Water Act is the United States' primary law that deals with water pollution. Since the start of 1972, over one trillion dollars has been invested in pollution abatement programs to restore and maintain the chemical, physical and biological components of our waterways and water supplies.¹⁵⁸ Polluted waters can cause various health issues such as constipation, colon cancer, male fertility, and Parkinson's. The Clean Water Act was ambitious for its time, attempting to make all waters both fishable and swimmable by 1983, and It went on to try to reduce all pollution discharge to zero by 1985. The Clean Water Act covers all navigable waterways, and as the waters surrounding the Dumbarton are considered navigable, the project falls under the clean water act.¹⁵⁹

Clean Air Act: Section 309 Consultation

The Clean Air Act is the United States' primary Air Quality Law intended to reduce and control air pollution and is administered by the United States Environmental Protection Agency. Since the industrial revolutions, the world has seen increasing air pollution due to factories and coal burning in the United States and Europe.¹⁶⁰ Smog sent thousands of people to the hospital with respiratory diseases, and the death rate increased. In 1948, smog killed 20 people and caused respiratory issues for 6,000 in Donora, Pennsylvania. These issues eventually led to the British Clean air act in 1956 and the United States Pollution Control Act of 1955.¹⁶¹ States started passing air quality laws, and Congress began looking at potential legislation that could be passed. At the time, the United States Bureau of Mining began to look at smoke abatement for coal burning, while the Bureau of Public Health became increasingly concerned with lung

¹⁵⁶ CA State Lands Commission Leases - California Open Data. (2023). Ca.gov. <https://data.ca.gov/dataset/ca-state-lands-commission-leases>

¹⁵⁷ David A Keiser, Joseph S Shapiro, Consequences of the Clean Water Act and the Demand for Water Quality, *The Quarterly Journal of Economics*, Volume 134, Issue 1, February 2019, Pages 349–396, <https://doi.org/10.1093/qje/qjy019>

¹⁵⁸ US EPA,OW. (2019, April 18). The Effects: Human Health | US EPA. US EPA. <https://www.epa.gov/nutrientpollution/effects-human-health>

¹⁵⁹ David A Keiser, Joseph S Shapiro, Consequences of the Clean Water Act and the Demand for Water Quality, *The Quarterly Journal of Economics*, Volume 134, Issue 1, February 2019, Pages 349–396, <https://doi.org/10.1093/qje/qjy019>

¹⁶⁰ Greenbaum, D. S. (2018). The Clean Air Act: Substantial Success and the Challenges Ahead. *Annals of the American Thoracic Society*, 15(3), 296–297. <https://doi.org/10.1513/annalsats.201710-763ps>

¹⁶¹ Greenbaum, D. S. (2018). The Clean Air Act: Substantial Success and the Challenges Ahead. *Annals of the American Thoracic Society*, 15(3), 296–297. <https://doi.org/10.1513/annalsats.201710-763ps>

problems.¹⁶² Congress passed the Air pollution control act, giving over three million dollars yearly, for five years, to the Public Health Service for air pollution research programs. Congress, in 1963, expanded the air pollution control laws to the entire United States. The hopes were that this would speed up the elimination of air pollution.¹⁶³ In 1970, anti-pollution programs got transferred from the Public Health Service to the Environmental Protection Agency. The Clean Air Act was the first federal legislation that allowed the United States Government to take direct action to try to control climate change and has led to a 73% decrease in particulate matter, nitrogen oxide, carbon monoxide, sulfur oxides, and lead. This has been accomplished while the United States has seen a 250% increase in gross domestic product. Part of the Clean Air Act is a Section 309 consultation. Section 309 requires the Environmental Protection Agency to review all draft Environmental Impact Statements. The Environmental Protection Agency also is required to make these reviews public.¹⁶⁴

United States Coast Guard

Section 9 Permit of the Rivers and Harbors Act of 1899.

Section 9 is part of the Rivers and Harbor Act, which states that no bridge construction or modification over navigable waterways in the United States can occur without the United States Coast Guard's approval. In the Case of the Dumbarton Bridge, SamTrans needs to get the support of the Coast Guard before they remove the old Dumbarton Rail Bridge and install a new bridge. Section 9 was originally under the jurisdiction of the United States Army Corps of Engineers, but the Department of Transportation Act of 1966 transferred jurisdiction to the Coast Guard.¹⁶⁵ The reasoning behind this jurisdictional transfer was that the Corps of Engineers owns many bridges and might have conflicts of interest regarding bridge repairs. Since the United States Coast Guard did not own the bridges, the federal government felt they could be impartial when issuing permits.

United States Fish and Wildlife Service

Endangered Species Act: Section 7 Consultation/Biological Option

See National Marine Fisheries Service Endangered Species Act Section 7 consultation for this definition.

Encroachment Permit

The Fish and Wildlife Service and Don Edwards National wildlife refuge issue an encroachment permit. This permit authorizes the lead agency (SamTrans) to conduct construction,

¹⁶² Orford, A. (2021). The Clean Air Act of 1963: Postwar Environmental Politics and The Clean Air Act of 1963: Postwar Environmental Politics and the Debate Over Federal Power Debate Over Federal Power. *Hastings Environmental Law Journal* Hastings Environmental Law Journal, 27. https://repository.uchastings.edu/cgi/viewcontent.cgi?article=1598&context=hastings_environmental_law_journal

¹⁶³ US EPA, O. (2015, January 30). EPA Review Process under Section 309 of the Clean Air Act. *Www.epa.gov*. <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>

¹⁶⁴ US EPA, O. (2015, January 30). EPA Review Process under Section 309 of the Clean Air Act. *Www.epa.gov*. <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>

¹⁶⁵ COAST GUARD BRIDGE PERMITTING General Information A. Who Must Apply for a Bridge Permit? (n.d.). Retrieved February 14, 2023, from https://www.dco.uscg.mil/Portals/9/COAST%20GUARD%20BRIDGE%20PERMITTING_Sep2019.pdf

maintenance, or any other construction work on any linear, fixed, or temporary structure in or near either agency's land.¹⁶⁶

Depredation Permit.

The Fish and Wildlife Service and Don Edwards National Wildlife Refuge also issue a depredation permit. According to various local, state, and federal regulations, a Depredation Permit allows killing of certain birds and animals to protect crops, livestock, and domestic animals. In this case, SamTrans would need to either apply for the permit outright or conduct a study to see if applying for the permit would be warranted. A few examples of a depredation permit are:

1. The Federal Government allows farmers to shoot migratory birds on farmland.¹⁶⁷
2. California allows farmers to shoot bears, bobcats, and beavers.
3. National Oceanic and Atmospheric Administration allowed 400 Stellar and California sea lions to be killed in Oregon because they decimated the fish population.¹⁶⁸

Don Edwards National Wildlife Refuge

Encroachment Permit

Don Edwards National Wildlife Refuge is governed by the United States Fish and Wildlife Service and the owner of lands within 300 feet of the Dumbarton rail line. As a result, they need to approve the encroachment permits (see the definition under United States Fish and Wildlife Service).

Stage 3: SamTrans Leads, Developer/Cross Bay Transit Partners support)

A California Environmental Quality Act review will be required since a public agency, SamTrans, is leading the project. A National Environmental Policy Act Review will be required if federal funds or agencies are involved in the Dumbarton Project. NEPA requires that all federal agencies evaluate the environmental impacts of their projects, regardless of their role. They could be helping to fund the project, federal lands are involved, or federal agencies such as the Fish and Wildlife Service are issuing permits.¹⁶⁹ An Environmental Impact Report is required if a CEQA review reveals significant impacts from the project. The same thing applies to NEPA.¹⁷⁰ An Environmental Impact Statement is required if NEPA reveals a significant or adverse impact. As they are similar, they will be grouped as Environmental Impact Assessments

¹⁶⁶ Encroachment Permit Sample Clauses. (n.d.). Law Insider. Retrieved February 9, 2023, from <https://www.lawinsider.com/clause/encroachment-permit>

¹⁶⁷ (n.d.). WHAT YOU SHOULD KNOW ABOUT A FEDERAL DEPREDAATION PERMIT; United States Fish and Wildlife Service. Retrieved February 8, 2022, from <https://www.reginfo.gov/public/do/DownloadDocument?objectID=71313200>

¹⁶⁸ Bulletin, C. B. (n.d.). NOAA Fisheries makes plans for sea lion control. Chinook Observer. Retrieved February 9, 2023, from https://www.chinookobserver.com/news/northwest/noaa-fisheries-makes-plans-for-sea-lion-control/article_174df960-d0e4-11e9-a128-871cbd86e3ca.html

¹⁶⁹ Mandelker, D. (n.d.). The National Environmental Policy Act: A Review of Its Experience and Problems and Problems. https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1082&context=law_journal_law_policy

¹⁷⁰ California Environmental Quality Act (CEQA). (n.d.). Planning and Conservation League. Retrieved February 18, 2023, from <https://www.pcl.org/campaigns/ceqa/>

for this report. Specific Impacts to the land surrounding the Dumbarton Bridge will be revealed should there be a Review Process.

Notice of Participation/Notice of Intent

The first step is a Notice of Intent, which states the lead agencies desire to start the Environmental Review process. A notice of participation and a notice of intent includes a description of the project, potential impacts, and a map showing the project's location.¹⁷¹ Once a notice of participation/intent is complete, it gets sent to the government office of planning and research before being sent to the state clearing house, where it is given a reference number that is used for all other documents related to the project. A 30-day review process starts where anyone can comment on the Notice of Participation.

Draft Environmental Impact Assessment

The Draft Environmental Impact Assessment starts with an Environmental Assessment, which aims to determine if an Environmental Impact Assessment is required. If the Environmental Assessment reveals no significant impacts, then there is the finding of no significant impact, and no EIA is required, and the project continues. An EIA is required before the project continues if there is a finding of potential or significant impacts. The Draft Environmental Impact Assessment (EIA) simultaneously assesses the potential and existing environmental risks, encouraging all stakeholders to communicate promptly. The Draft Environmental Report is composed of multiple sections:¹⁷²

1. Introduction and a Purpose and Need Statement. A Purpose and Need statement describe the project's purpose and why it is needed.
2. Description of the Surrounding environment.
3. Range of Alternatives to the Project. Alternatives for a project like the Dumbarton would be a bus rapid transit line or a pedestrian bike bridge rather than building a new rail corridor.
4. An analysis of the environmental impacts of each alternative.

Once the Draft Environmental Impact Assessment has been completed, it goes out for public review and comment. The public can leave comments and feedback through writing or public hearings.¹⁷³ Once the comment period closes, work on the Final Environmental Impact Assessment begins.

Final Environmental Impact Assessment

The Final EIR is an updated version of the draft eir. It incorporates any newly discovered information, such as new impacts, new mitigation measures, all public comments, and the lead agency/developers' responses to the public remarks. The final report's release is the second

¹⁷¹ Notices of Preparation. (n.d.). Wwww.aqmd.gov. Retrieved February 19, 2023, from <http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-preparation>

¹⁷² Middleton, T. (2018). What is an Environmental Impact Statement? Americanbar.org. https://www.americanbar.org/groups/public_education/publications/teaching-legal-docs/teaching-legal-docs--what-is-an-environmental-impact-statement-/

¹⁷³ Ibid.

go/no-go milestone. There is no public comment period for the final EIA, but the public can protest to the lead agency, which could lead to potential revisions to the final EIA.

Record of Decision

Finally, the lead agency releases a record of the decision, which states the lead agency's decision to move forward with the project or not. The Environmental Impact Assessment and Record of Decision are the third go/no go milestones and are generally the final step before the project begins. If any unexpected changes to the EIA or too much time has passed, the EIA needs to re-evaluate. This evaluation process reviews the new changes and what effects they might have. There are three potential outcomes of the review process:¹⁷⁴

1. No significant changes and the project can continue
2. Significant Impacts are possible with the changes but can adequately be mitigated with a supplemental EIA
3. The proposed changes changed the project's scope, and a new EIA is needed.

The Supplemental EIA is prepared after the Final EIA or Record of Decision has been released and usually contains new environmental impacts that were not discovered, included in, or considered for the original EIA. New alternatives and potential mitigation measures are written up for the Supplemental EIA.¹⁷⁵

Stage 4: Memorandum of Understanding

The third go/no-go milestone is the Memorandum of Understanding. A memorandum of Understanding is a written agreement between two parties and is the starting point for negotiations and defines the scope and needs of what will be negotiated. One example would be SamTrans and Caltrain signing a Memorandum of understanding with Union Pacific Railroad before negotiations about trackage rights to Hayward begin. Long-term plans indicate SamTrans and Caltrain would like to have passenger service to Hayward.

Stage 5: Tech Feasibility (Developer leads, SamTrans Supports)

Preliminary engineering involves bridge design for the Newark Slough Bridge and Dumbarton Bridge, grade crossing designs, station design and placement, maintenance facilities, etc. The Technical feasibility Phase is where the developer and SamTrans select and negotiate with designers, contractors, and builders or vendors. Vendors can bid on various project phases: steelwork, electrical, bridge design and construction, and paving, for example. Those vendors that provide the best solutions, plan, and work for the best prices get selected. Cross Bay Transit Partners (with SamTrans playing a supporting role) will need to estimate how much capital they will need for passenger operations and maintenance of the Dumbarton Corridor. According to the Dumbarton 2019 meeting notes, ridership numbers were estimated at 25,000 people a day. However, the pandemic and the 2020 shelter-in-place orders likely shifted these numbers, so new ridership studies must be undertaken. Finally, Cross Bay Transit Partners and SamTrans will

¹⁷⁴ Middleton, T. (2018). What is an Environmental Impact Statement? Americanbar.org. https://www.americanbar.org/groups/public_education/publications/teaching-legal-docs/teaching-legal-docs--what-is-an-environmental-impact-atement-/

¹⁷⁵ Ibid.

need to negotiate with and select the designers of the corridor and the builders. The fourth go/no-go milestone is the tech feasibility study. If the project is technologically feasible, CrossBay Transit Partners and SamTrans move on to the 5th go/no go milestone, the Financial Analysis.

Stage 6: Financial Analysis (Developer leads, SamTrans Support)

Cross Bay transit partners will lead a financial analysis examining passenger service's cost and revenue benefits. Will there be enough riders to generate enough revenue to more than cover the costs of running passenger service? Costs can include money needed to maintain the line, rolling stock, and paying employees. Is this going to be profitable, in the long term, for Caltrain, SamTrans, and the project partners? Confirmation of the Financial feasibility of the Dumbarton Project is the 5th Go/No-Go milestone. If it's deemed not financially feasible, a review of the finances will occur to make the project feasible.

Stage 7: Implementation (Developer leads, SamTrans Support)

All contracts are finalized with the various stakeholders and vendors, and all finances are disclosed to the stakeholders and the public. This is the project's construction phase, and after construction of the rail corridor finishes, SamTrans and Caltrain will start to test trains and get crews certified on the Dumbarton Corridor. Regardless of the railroad, all crews must be approved before operating passenger and freight trains.

Chapter 5: Potential Benefits of the Dumbarton Project.

Urban Planning is a technical and political process focusing on development, land use, and the environment. It includes air, water, infrastructure, transportation, communication, and environmental protection. Transportation planning looks at the future needs of communities and the best ways to transport people and goods. The primary goal of environmental planning is to create sustainable communities and to help protect undeveloped land.¹⁷⁶ Environmental planning involves land use, transportation, economics, housing, air pollution, wetlands, endangered species and their habitats, sea level rise, flood zones, and erosion. It also involves Environmental Assessments (EIR/EIS). An Environmental Impact Report is a state-level review conducted under CEQA (California Environmental Quality Act). In contrast, an Environmental Impact Statement is a federal-level environmental review triggered by the National Environmental Policy Act.¹⁷⁷ This environmental planning process is necessary because it aims to make the San Francisco Bay more sustainable while helping protect the San Francisco Bay Estuary, a significant carbon sink and one of the largest estuaries along the Pacific Coast.¹⁷⁸

Wetlands are highly productive ecosystems associated with our society's environmental, social, and economic well-being. It is estimated that the annual value of global wetlands is approximately 4.8 billion dollars.¹⁷⁹ Not only do wetlands provide habitat for animal species, but they also provide a livelihood, food source, and recreational areas for the people living there. The San Francisco Bay Estuary provides jobs such as fishing, crabbing, salt harvesting, boat operations, and salt point restoration (South Bay Salt Pond Restoration Project). It is estimated that wetlands only make up 3 percent of the land surface in the western hemisphere, so it is crucial to protect them. The San Francisco Bay Estuary is the largest estuary on the west coast of the United States and drains approximately 40 percent of the waters in California. Only 21 percent of the estuary is estimated to remain, while over 90 percent of the San Francisco Bay Estuary has already been destroyed.¹⁸⁰ The remaining marshland has been fragmented due to roads, railroads, levees, and urban development.

Sea level rise is also a significant threat to the Dumbarton Project and the surrounding wetlands that comprise the northern portion of Don Edwards National Wildlife Refuge. The San Francisco Bay could see a 30 to 90-centimeter rise in sea level by the end of the 21st century.¹⁸¹ Short-term effects include higher-than-normal tides, severe storm surges, and even flooding of the tidal marshlands along the Dumbarton Rail Corridor.¹⁸² Human activity has altered the marsh's capacity to handle sea level rise, so more catastrophic results from these short-term impacts will be likely. The marshlands and salt marshes will face increased degradation and damage, putting the endangered species that rely on them at further risk. The salt marshes and

¹⁷⁶ Beatley, T. (1995). Planning and Sustainability: The Elements of a New (Improved?) Paradigm. *Journal of Planning Literature: Incorporating The CPL Bibliographies*, 9(4), 383-395.

¹⁷⁷ Pinkerton, L.F. (1985). Conflicting Statutes in No-Growth Environments: CEQA and the PSA. *UCLA Journal of Environmental Law and Policy*, 4.

¹⁷⁸ Takekawa, J. Y., Woo, I., Spautz, H. (2006). Environmental threats to tidal-marsh vertebrates of the San Francisco Bay estuary. In R. Greenberg, J. Maldonado, S. Droege, & V. McDonald (Eds.), *Terrestrial Vertebrates of Tidal Marshes: Evolution, Ecology, and Conservation* (32 ed., pp. 176-197). (Studies in Avian Biology; No. 32).

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Priestley RK, Heine Z, Milfont TL (2021) Public understanding of climate change-related sea-level rise. *PLOS ONE* 16(7)

¹⁸² Ibid.

cord grasses are critical habitats to endemic and endangered species such as the Salt Pond Harvest Mouse and the California Clapper Rail.¹⁸³ The Salt Marsh Harvest Mouse, on the endangered species list since 1970, only lives in the salt marshes of San Francisco Bay.¹⁸⁴ The California Clapper (Ridgeway's Rail) is on the near-threatened list and shares the same salt marsh habitats as the mouse and Salt Marsh Harvest Mouse. The Clapper Rail heavily relies on the cord grasses, providing them shade, food, and protection from predators, and throwing off this balance could result in their endangerment and extinction. Saltwater intrusion from sea level rise will increase salinity, significantly altering their habitats. Globally, the sea level has risen approximately 20 centimeters due to ice loss in Greenland and Antarctica since the 1900s.¹⁸⁵ Over 1 billion people worldwide are at risk of sea level rise and coastal flooding. SamTrans must consider these issues as they move forward with the Dumbarton Project.

Rising sea levels and coastal flooding can also negatively impact human life. Roads will become impassible, rail lines will be inoperable, agricultural lands will be destroyed, and basic infrastructure like water treatment plants will be unusable.¹⁸⁶ Specific effects and mitigations will be revealed when the Environmental Impact Assessments are completed. The permitting and Environmental Assessment phases help to ensure that we protect the environment as much as possible. Environmental laws like CEQA and NEPA provide hurdles that the developers and lead agencies need to overcome. Almost every large development project in California requires some CEQA review, and the Dumbarton Corridor project is no exception. However, the review processes have not started yet, as SamTrans is in a re-evaluation phase. If the project moves forward, an EIA will be conducted to determine the exact environmental impacts and suggested mitigation actions. Mitigation actions will be essential to reduce potential harm to the salt marsh habitats and cord grasses that endemic animal call home.

Transportation Planning involves identifying and improving mobility for the community and the movement of people and goods from one destination to another. It is a collaborative process involving numerous local, state, and federal stakeholders, including government agencies, the public, and various businesses that the chamber of commerce could represent. Transportation planners design and assess transportation methods such as roadways and public transportation (railroads, bus routes, and bike lanes). The Dumbarton Rail Corridor fits this category neatly, involving multiple stakeholders, government agencies, state agencies, and grass-root organizations trying to bring new regional rail connections to the San Francisco Bay Area.

It is not enough to simply build the rail corridor; more work needs to go into expanding access to these transit stations from the surrounding communities and finding more ways to move people throughout the region quicker. Connecting Redwood City's Caltrain Station to Fremont and Newark would give people in the East Bay a more direct connection to the Peninsula. If Caltrain can get trackage rights to Hayward, then Caltrain could enhance this connection by connecting to

¹⁸³ Swanson, K. M., Drexler, J. Z., Schoellhamer, D. H. (2014). Wetland Accretion Rate Model of Ecosystem Resilience (WARMER) and Its Application to Habitat Sustainability for Endangered Species in the San Francisco Estuary. *Estuaries and Coasts*, 37(2), 476-492.

¹⁸⁴ Smith, Katie & Riley, Melissa & Barthman-Thompson, Lauren & Woo, Isa & Statham, Mark & Estrella, Sarah & Kelt, Douglas. (2018). Towards Salt Marsh Harvest Mouse Recovery: A Review. *Journal of San Francisco Estuary and Watershed Science*. 16(2)

¹⁸⁵ Ruckert KL, Oddo PC, Keller K. Impacts of representing sea-level rise uncertainty on future flood risks: An example from San Francisco Bay. *PLoS One*. 2017 Mar 28;12(3).

¹⁸⁶ Ibid.

BART, Altamont Commuter Express, and Amtrak. Providing more regional links and expanded transit options would help to reduce traffic congestion. Reducing traffic congestion can, in turn, reduce air pollution, the time we sit in traffic, and even reduce the number of vehicle collisions.¹⁸⁷

Since the 1940s, American society has been built around making private automobile mobility more accessible. However, the increase in the use of cars and the limits of road capacity means that traffic congestion has sharply increased. If traffic congestion is not mitigated, there will be an increase in air pollution, traffic jams, and fuel consumption. Major cities in China, for example, have seen persistent hazes that can last for days, caused by air pollution and traffic jams lasting for days.¹⁸⁸ While not on this scale (or even the Carmageddon scale in Los Angeles), high traffic levels can be experienced in the Bay Area. The only way to combat this is to encourage alternative forms of transportation, like rail and bike riding.

In the San Francisco Bay Area, the Silicon Valley Bicycle Coalition is trying to promote bike use by advocating for a recreational bike trail to be built in conjunction with the future Dumbarton Bridge. The bike path would connect Fremont and Newark to Menlo Park and Redwood City, including watering stations, rest stops, and secure bike storage. However, each city and county will need more to expand safe streets and bike programs. If bike riding is to become a more accepted mobility method, then each city needs to make it more accessible and desirable. Studies have shown that cities with higher rates of bike usage attribute it to having better bike infrastructure and bike programs. In contrast, cities with low bike rates have not invested as much in bike programs and related infrastructure.¹⁸⁹

Encouraging more and more people to make the change from cars to bike riding, walking, or other forms of other nonmotorized transport can lead to several improvements:

1. Health Improvements
2. Air Pollution Reduction
3. Carbon Emission Reductions
4. Traffic Congestion reduction
5. Vehicle collision reduction

Using cars to get around while making travel more convenient has led to a sedentary lifestyle.¹⁹⁰ Our cities have been developed around using cars and making travel easy, even though bike riding is healthy for us. Changes in transit access have a relationship to physical activity and obesity levels, with obesity rates rising sharply over the last 50 years. Obesity often leads to other medical problems, such as diabetes, high blood pressure, cancer, asthma, and depression.¹⁹¹ Three-fourths of Americans are estimated to be overweight, leading to ~~millions of health issues~~ and increasing healthcare costs. However, obesity can quickly be dealt with by changing our

¹⁸⁷ Wang J, Mao Y, Li J, Xiong Z, Wang W-X (2015) Predictability of Road Traffic and Congestion in Urban Areas. PLoS ONE 10(4)

¹⁸⁸ Ibid.

¹⁸⁹ Frank, L.D., Kuntz, J.L., Chapman, J.E. *et al.* The Health and economic effects of light rail lines: design, methods, and protocol for a natural experiment. *BMC Public Health* 19, 200 (2019)

¹⁹⁰ Pucher, John & Dill, Jennifer & Handy, Susan. (2009). Infrastructure, Programs, and Policies to Increase Bicycling: An International Review. *Preventive medicine*. 50 Suppl 1. S106-25

¹⁹¹ *ibid*

lifestyles. Regular physical activity, such as riding a bike or a scooter, or walking to a train station, can help reduce health risks and obesity.

Health impacts can also come from breathing particulate matter from air pollution. Long-term exposure to greenhouse gas pollution can lead to respiratory diseases, cardiovascular disease, damage to the central nervous system, reproductive issues, cancer, poisoning, blood issues, asthma, and even chronic obstructive pulmonary disease.¹⁹² Particulate matter can also get into the food we eat and the water we drink. Much of the greenhouse gases we breathe in are released on a large scale through industrial operations, oil refinement, vehicle use, and forest fires. In New York City, it is estimated that 260 people die yearly or have extended emergency room visits due to illnesses caused by exposure to particulate matter (pollution). One hundred seventy deaths per year are related to car, bus, and particulate truck emissions.¹⁹³

Not only does greenhouse gas emission and pollution affect our health, but they can also negatively affect the environment. Acid rain contains high levels of nitric and sulfuric acids and can damage buildings and kill plants, animals, and people. As mentioned, a greyish haze can often be seen over large cities, resulting in smog and other greenhouse gas emissions settling in the lower atmosphere and making the air harmful. The cumulative effect is global climate change caused by pollution and other greenhouse gas emissions trapping sunlight. Usually, the sunlight reflects off the earth's surface and back into space. Particulate matter from pollution interrupts this process by reflecting the sunlight toward the earth's surface and heating the atmosphere. Global warming causes many other climate and health impacts, such as more prolonged droughts, more severe storms heat strokes, storm-related deaths, and deaths caused by longer and more intense wildfire seasons.¹⁹⁴ One example is the devastating Camp Fire, which erupted on November 8th, 2018, due to PG&E transmission line issues. As a result of high winds and drought, the Camp Fire burned so hot and fast that it killed 85 people and destroyed most of the town of Paradise, California, by November 10th, 2018.¹⁹⁵

Rebuilding the Dumbarton Corridor will help to mitigate some of these effects by reducing the number of cars on the road if the transit stations are easily accessible without the need for a car. Improving public transportation and expanding access to public transit will mitigate traffic congestion.¹⁹⁶ This will help lower death rates, reduce traffic levels, lower greenhouse gas emissions, and improve our overall quality of life. As a result of the pandemic, new ridership studies will need to be conducted to see the number of riders that could be expected for Dumbarton passenger service.

¹⁹² Manisalidis I, Stavropoulou E, Stavropoulos A, Bezirtzoglou E. Environmental and Health Impacts of Air Pollution: A Review. *Front Public Health*. 2020 Feb 20;8:14.

¹⁹³ Kheirbek, I., Haney, J., Douglas, S. *et al*. The contribution of motor vehicle emissions to ambient fine particulate matter public health impacts in New York City: a health burden assessment. *Environ Health* **15**, 89 (2016).

¹⁹⁴ Manisalidis I, Stavropoulou E, Stavropoulos A, Bezirtzoglou E. Environmental and Health Impacts of Air Pollution: A Review. *Front Public Health*. 2020 Feb 20;8:14.

¹⁹⁵ Skiba, K. (n.d.). Paradise Camp Fire Survivors Remember the Wildfire. AARP. Retrieved March 1, 2023, from <https://www.aarp.org/politics-society/history/info-2019/paradise-camp-fire-anniversary.html?intcmp=AE-POL-TOENG-TOGL>

¹⁹⁶ Verbavatz V, Barthelemy M. Critical factors for mitigating car traffic in cities. *Plos one*. 2019;14(7):

Chapter 6: Conclusion

The Dumbarton Corridor has been a fixture in Bay Area railroad history for over a century but has had a troubled existence in the last 30 years. The Dumbarton Corridor was 91% funded in the early 2000s, and almost all funding was stripped. At the time, BART hoped to support their Warm Springs Expansion with money generated from their San Francisco Airport Extension. This did not happen, and BART had a significant funding issue that was ultimately solved when the Metropolitan Transportation Commission decided to transfer the Dumbarton Funds to BART. As a result of losing this funding, the Dumbarton Project was set back by decades. Then, in 2016 Facebook decided to get involved in the Dumbarton Project and offered up to one billion dollars for the assessment and construction phases. Facebook was highly interested in the project because its headquarters, both the old buildings and the newer ones they constructed, sits adjacent to the rail line. In 2020, the COVID-19 pandemic caused a shelter-in-place emergency order, resulting in most people working from home. As a result, Facebook decided it no longer wanted or needed to be involved in the Dumbarton Project. This resulted in most of the funding for the Dumbarton project being pulled, setting the project back a second time. Working from home helped to decrease vehicle traffic dramatically. Still, it also significantly affected transit ridership numbers, with Caltrain seeing a 91% drop in ridership and San Francisco Municipal Transportation Agency dipping by 70%.

The openness of the United States rail system and the unpredictability of terrorist attacks and unruly passengers shows a security issue with all the railroads in the United States, including the Dumbarton Corridor.¹⁹⁷ The need for heightened security is seen more often in major transit systems, such as the New York metro system, but bridges are potential targets of attacks. There has not been a successful attack on any United States rail infrastructure, with the FBI foiling several attempted attacks on the New York subway system. The same is not valid for international transit systems with more successful attacks. Three examples are:¹⁹⁸

1. October 29th, 2005, Sixty-six people died in a bombing in New Dehli, where a transit center was targeted.
2. 39 people died in a London Metro bombing in 2005
3. March 11th, 2004, simultaneous bombings occurred on the Madrid Cercanias Commuter system that killed Madrid train bombings (also killed 193 people and injured 2000).

The United States Coast Guard's Maritime Security Teams: the Maritime Security Response Teams and Maritime Safety and Security Teams are involved in preventing any attacks on the water and pursuing drug smugglers. The Dumbarton Corridor will see other security measures to ensure passenger service is safe for everyone involved, passengers, crew, vehicles, and pedestrians. Caltrain, in 2020 saw approximately ten fatalities and installed security fencing along their entire right of way to prevent trespassing.¹⁹⁹ Caltrain even had security at some of their crossings to monitor pedestrians. It is likely, but at this time speculative, that this same

¹⁹⁷ Wilson, Jeremy M., Brian A. Jackson, Mel Eisman, Paul S. Steinberg, and K. Jack Riley, *Securing America's Passenger-Rail Systems*. Santa Monica, CA: RAND Corporation, 2007. <https://www.rand.org/pubs/monographs/MG705.html>. Also available in print form.

¹⁹⁸ *Ibid.*

¹⁹⁹ News • •, B. C. (n.d.). Person Struck and Killed by a Caltrain. NBC Bay Area. Retrieved February 13, 2023, from <https://www.nbcbayarea.com/news/local/san-francisco/person-killed-san-francisco-caltrain/3088477/>

security fencing will be installed along the Dumbarton Corridor, especially if the pedestrian use corridor gets built along the right of way.

Another safety measure will come with the input of the Menlo Park Fire Department. In 1998, the western timber trestle of the Dumbarton burned down because no natural causes were found during the fire investigation; it was ruled as arson. Special rail equipment was needed to transport the Menlo Park Fire Department to the Dumbarton Bridge to extinguish the fire (see appendix c: photos), wasting valuable firefighting time and allowing the fire to spread. Menlo Park will likely insist on access roads to the bridge so they can get there more quickly should another fire or emergency occur.

Melissa DuMond, a senior planner with Kimley-Horne, believed that the Dumbarton Project would eventually happen. Still, it could take a while because the lack of population density in the areas surrounding Dumbarton is not high enough to drive the project forward. She believed that Bart's Second Transbay tube, used for both Conventional rail and BART tracks, would more than likely move forward first because the population density in San Francisco and Oakland makes it a critical infrastructure project. The second transbay tube would allow Amtrak to access the Transbay Terminal directly. Unless a way is found to make the Dumbarton a Critical Infrastructure Project, it would likely need to be included in an infrastructure funding bill.

At this point, the Dumbarton Project will likely cost over a billion dollars; this level of funding is not something local municipalities can handle alone. Funding a project that costs billions of dollars will need state and federal help. The federal government has invested billions in Amtrak and even helped to subsidize the first transcontinental railroad. Without these large federal subsidies, the transcontinental railroad would likely not have been completed.²⁰⁰ Federal Involvement, especially in terms of financial help, would go a long way to helping get the Dumbarton Corridor off the ground.

It has been thirty years since the Dumbarton Corridor was purchased to rebuild it for passenger service. In that same 30 years, at least 20 other transit systems across the United States have gone from an idea to operational.²⁰¹ One example is Los Angeles MetroLink. Los Angeles had a small inter-city rail system in the 1970s, and in 1983 Caltrain (no relation to San Francisco Bay Area's Caltrain) started commuter service in Ventura County.²⁰² Caltrain only lasted several months before service was terminated. In May of 1990, the California State Senate passed Senate Bill 1402 that directed Southern California to establish a transit authority by the end of 1990 called the Southern California Regional Rail Authority (SCRRA). Twelve years later, the California State Legislature would again authorize the creation of a transit district in Sonoma and Marin Counties. The SCRRA was formed in October 1990, and it purchased 175 miles of

²⁰⁰ Duran, X. (2013). The First U.S. Transcontinental Railroad: Expected Profits and Government Intervention. *The Journal of Economic History*, 73(1), 177-200. doi:10.1017/S0022050713000065

²⁰¹ PUBLIC TRANSPORTATION RIDERSHIP REPORT. (n.d.). Retrieved February 13, 2023, from <https://www.apta.com/wp-content/uploads/2022-Q3-Ridership-APTA.pdf>

²⁰² History of Metrolink | Metrolink. (n.d.). www.metrolinktrains.com. Retrieved February 13, 2023, from <https://metrolinktrains.com/about/agency/history-of-metrolink/>

Southern Pacific's infrastructure for approximately 450 million dollars. Officially known as Metrolink, they operate seven rail lines and 67 stations and have 14,300 riders daily²⁰³.

Another example is the Sonoma Marin Area Rail Transit (SMART) system. The Northwestern Pacific Railroad built and operated a rail line from Marin County to Arcata, California. The Southern Pacific eventually bought them out and operated freight service until the mid-1950s. They sold this rail line in 1981, approximately ten years before they sold the Dumbarton Corridor. Sonoma and Marin Counties started rebuilding stations in the mid-1990s while they were waiting for the SMART district to be established (in 2002) by the California Legislature. SMART Funding comes from federal, state, and regional taxes (Measure R in 2006, Measure Q in 2008) dedicated specifically to SMART and a portion of bridge fare. The district opted to build the project in phases as money became available, and they have plans to extend to Cloverdale.

The Dumbarton Corridor can be rebuilt but it will take a long time. It's not a question of "if" but when because Metrolink and SMART (along with 20 other transit systems) have shown it can be done. These are full-on complete regional transit systems, not one rail corridor. The only difference is that Dumbarton had its funding stripped twice while the other Transit Agencies did not. Had the funding not been stripped, it is highly likely; the Dumbarton Corridor would have been operational by now. Funding a billion-dollar infrastructure project will have to come from multiple sources: sales taxes, government loans, and even grants will be needed. Sales taxes are not guaranteed as they need voter support, which is not always easy to secure. The voters passed Measures R and Q, used to fund SMART, while the 2020 SMART Measure I failed.²⁰⁴

Rail is vital to the United States economy, as it moves people and goods quickly around the country. A 2012 report showed that Amtrak ridership numbers jumped by 72% between the years 1995 to 2008, with 29 new light rail stations being built and over 20 different transit systems coming online. These numbers might have increased as this study is 13 years old.²⁰⁵ The Federal Government invested billions in locomotive cars, stations, rail infrastructure repair, and high-speed rail projects to help alleviate local municipalities' costs.²⁰⁶ Funding for rail projects is an ongoing issue because money is finite and is simultaneously needed for other critical infrastructure projects. Federal involvement is often necessary to move these transit projects along.

In the 20th Century, the United States was the global leader in passenger service, passenger cars, rail technology, and speed. This started to change after World War II when America became a car-centric society; today, trains travel slower than they did one hundred years ago. America focused on the car, and Europe and Japan focused on the railroad. Japan's bullet train (between Osaka and Tokyo) opened in 1964, while Europe is connected by high-speed trains, like the

²⁰³ History of Metrolink | Metrolink. (n.d.). www.metrolinktrains.com. Retrieved February 13, 2023, from <https://metrolinktrains.com/about/agency/history-of-metrolink/>

²⁰⁴ Swan, R. (2020, March 4). Marin, Sonoma county voters say no to SMART train tax measure. San Francisco Chronicle. <https://www.sfchronicle.com/bayarea/article/Marin-Sonoma-voters-rejecting-SMART-train-tax-15103457.php>

²⁰⁵ Weatherford, Brian A., Henry H. Willis, and David S. Ortiz, The State of U.S. Railroads: A Review of Capacity and Performance Data. Santa Monica, CA: RAND Corporation, 2008. https://www.rand.org/pubs/technical_reports/TR603.html. Also available in print form.

²⁰⁶ Weatherford, Brian A., Henry H. Willis, and David S. Ortiz, The State of U.S. Railroads: A Review of Capacity and Performance Data. Santa Monica, CA: RAND Corporation, 2008. https://www.rand.org/pubs/technical_reports/TR603.html. Also available in print form.

TGV in France. Nowadays, major rail manufacturers are not even located in America: Alstrom is a French company, Siemens is a German Company, and Bombardier is a Canadian Company. Germany's approach was to tax crude oil and use some of that tax to fund investments in rail.

The Dumbarton Project will not be a quick or easy process, as several obstacles other than funding need to be overcome. Most stages and permits listed in Chapters 3 and 4 can be worked on simultaneously to speed up the process. For example, the notice of participation/intent could coincide with the technological review. Preliminary Engineering and Concept development was set to appear in the third and fourth quarters of 2019 (Appendix A, Timeline). Resource Agencies have recognized the need for ways to speed up the Permitting process, so they created the Joint Aquatic Resources Permit. JARPA allows Samtrans, or the lead agency, to quickly apply for multiple permits with multiple agencies by filing only one application. The Environmental Assessment phase is lengthy, but it is necessary to ensure the well-being, safety, and protection of the surrounding plants, environment, and animals. The Dumbarton will be a lengthy project, but it can be accomplished.

The Dumbarton Corridor (from Redwood City to Newark) would allow Caltrain to have more regional transit connections: Altamont Commuter Express and Amtrak in Fremont and BART in Fremont, Union City, or Hayward. However, SamTrans must negotiate with Union Pacific for trackage rights for passenger service from Fremont to Hayward. Connecting Redwood City, Newark, and Hayward would give people direct access to the Peninsula. People heading to the Peninsula must go through San Francisco (BART) or San Jose (Caltrain).

The Dumbarton Corridor project can be used in other methods, along with railroad service. The first method could be Transit Oriented Development. Stations could be built in Redwood City, Menlo Park, East Palo Alto, and Newark. The land surrounding these stations could be used as transit-oriented developments, encouraging people to travel without using cars.

The next step toward creating an equitable, regional transit system would be to promote bike riding or other modes of transportation to the rail stations. San Mateo, Santa Clara, and Alameda Counties, where Redwood City, Redwood City, Newark, and Fremont would need to invest in bike programs and new bike infrastructure, such as safe streets, separated bike lanes, and bike locations all over the cities. The Dumbarton Corridor is a project that can be and needs to be completed so cities and counties can start planning how best to use the corridor to benefit everyone. Twenty-eight other transit systems have proven this is an achievable goal; all it takes is multiple sources of funding that remain with the project.

Appendix A: Bridge Specifications

Design: Pratt-through truss with a central swing. Pennsylvania through truss span with timber trestle (east and west spans)

Length: 8,058 feet (Dumbarton Bridge). 1,390 feet (Newark Slough Bridge)

Designer: William Hood

Start: 1907

End: June 1910

Cost: \$3,500,000 (\$101, 800,000 2021)

Closed: 1982

Burned Down: 1998 (Dumbarton Bridge, Suspected Arson). 2019 (Newark Slough Bridge, suspected arson)

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Appendix B: Timeline

An easy-to-read reference timeline. All dates in red represent the pre-pandemic timeline. As of yet, there is no start date for the project.

| | |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1840 | The Pacific and Atlantic Railroad was formed to build a railroad linking San Francisco and San Jose and ultimately failed. |
| 1857 | A second attempt at a railroad linking San Francisco and San Jose was called the San Francisco and San Jose Railroad (again rejected by the public). |
| 1864, December 11 th | Central Pacific Railroad reaches the Sierra Nevada. |
| 1860 | Judge Timothy Dame and Henry Newhall formed a railroad company called the San Francisco and San Jose Railroad. |
| 1861, June 28 th . | Central Pacific Railroad was Incorporated. |
| 1861, July 15 th | Construction on the San Francisco and San Jose railroad begins. |
| 1862, July 1 st | Union Pacific Railroad incorporated. |
| 1862, July 1 st | President Lincoln signs the Pacific Railroad Act. |
| 1863, October 17 th | San Francisco and San Jose Railroad began limited service to Palo Alto. |
| 1863, October 26 th | Central Pacific lays their first rails in Sacramento. |
| 1864, January 16 th | San Francisco and San Jose Railroad begin service to San Jose. |
| 1865 | Southern Pacific Formed. |
| 1865, July 10 th | Union Pacific Railroad lays its first rails near Council Bluffs, Iowa. |
| 1869, May 10 th | Central Pacific and Union Pacific meet at Promontory Point, Utah. |
| 1869, September 6 th | First, trains reach Alameda, Ca. |
| 1870 | Southern Pacific Railroad begins Peninsula Commute. |
| 1885, February 17 th | The new company formed “The Southern Pacific” to oversee the Southern Pacific and Central Pacific Railroads. |
| 1988 | San Mateo County Transit Agency was formed by Measure A to manage a 1/2 cent sales tax that was used to purchase the rail corridor. |
| 1907 | Southern Pacific began construction on Dumbarton Bridge using a subsidiary company called the Central California Railway. |
| 1910 | Dumbarton Bridge opens for service. |
| 1959, June 30 th | Central Pacific Railroad formally ceases to exist as a company. |
| 1977 | Southern Pacific talks to California Public Utility Commission about stopping commuter service due to financial issues. |
| 1980 | Caltrans agrees to subsidize commuter service. |
| 1982 | Last trains over Dumbarton Corridor. |
| 1985 | Caltrans buys a new fleet of passenger cars and locomotives. |
| 1987 | Peninsula Commute Joint Powers Board (JPBX) was formed. |
| 1991 | JPBX buys the rail line and right of way between San Francisco and San Jose. SP was given freight rights along the line (UP took over freight operations in 1998). |
| 1991 | Dumbarton Corridor Feasibility Study (Parson Brinkerhoff). |
| 1992 | Amtrak was selected as the company to provide crews to Caltrain. |
| 1994 | Dumbarton Bridge was sold to SamTrans. |
| 1996 | Dumbarton Corridor Rehabilitation Study (Morrison Knudsen). |
| 1997 | Dumbarton Rail Corridor Study (Parson Brinkerhoff). |

| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1998 | Western timber trestle of the Dumbarton burns down due to suspected arson. |
| 1998 | Union Pacific absorbed the Southern Pacific, a process they began a century ago. |
| 1998 | Dumbarton Corridor Transit Plan. |
| 1999 | Dumbarton Rail Corridor Study. |
| 2000 | The Dumbarton Corridor project was 91% funded, and MTC listed it as one of the 19 most essential projects in the Bay Area. |
| 2002 | Jackie Speir introduced a bill to set aside \$40 million for the Dumbarton Rail Corridor. |
| 2003 | Dumbarton Project Study Report. |
| 2004 | MTC Draft Transportation 2030 Plan included a fully funded Dumbarton Rail Corridor. |
| 2004 | Facebook incorporated. |
| 2004 | Regional Measure 2 generates \$135,000,000 from tolls. |
| 2006 | Dumbarton is estimated to cost \$313,000,000. |
| 2006 | Cost increases and inflation raise the cost of the DRC to over 600 million dollars. |
| 2008 | Bart Warm Springs experienced financial issues (Bart SFO did not generate the expected money needed to fund Bart Warm Springs), so the MTC redirected Dumbarton Money to support Bart Warm Springs Extension. |
| 2010 | The rest of the Dumbarton funds were redirected to other projects. |
| 2011 | Facebook moves to Menlo Park. |
| 2012 | Transit America Services took over Amtrak's role in operating the commuter trains. |
| 2012 | Alameda County tried to pass measure B (1/2 cent sales tax) to fund the Dumbarton, but it did not get voter support. |
| 2016 | Facebook offers money to SamTrans to study ways to improve traffic. |
| 2019 Quarter 2 | Notice of Preparation/Notice of Intent (Environmental Phase). |
| 2019 Quarter 2 | Technological Review (Engineering Tech phase). |
| 2019 Quarter 3 | Preliminary Engineering. |
| 2019 Quarter 3 and 4 | Concept Development. |
| 2019 Quarter 4 | Scope and Technological Discussion. |
| 2019 | Newark Slough Bridge burns down due to suspected arson |
| 2019, December | Covid-19 Pandemic Begins. |
| 2020 Quarter 2 – 3 | Draft Environmental Impact Report. |
| 2020, March 20th | Shelter In place orders is issued, resulting in a work-at-home model. Facebook starts to re-evaluate its role in the project, eventually pulling out. As a result, the project is on hold while SamTrans re-evaluates. |
| 2021 Quarter 1 | Final EIR. |
| 2021 Quarter 2 | Record of Decision. |
| 2021 Quarter 4 | Contractor Selection (Design/Construction Phase). |
| 2022 Quarter 2 | Request for Quote released. |
| 2022 Quarter 3 | Request for proposal released. |
| 2022 Quarter 4 | Request for proposal and selection confirmed. |
| 2030 | Service starts. |

Appendix C: Photographs

Figure 1: Ariel View of the Dumbarton Bridge.



Source: Brad Fick.

Figure 2: Newark Slough Bridge.



Source: Brad Fick

Figure 3: Dumbarton Bridge Operators House.



Source: Brad Fick

Figure 4: View looking toward the West.



Source: Brad Fick

Figure 5: View looking East, toward Newark Slough Bridge.



Source: Brad Fick

Figure 6: Dumbarton Bridge.



Source: Brad Fick

Figure 7: East Bay Approach to the Dumbarton Bridge.



Source: Brad Fick

Figure 8: Western Approach to the Dumbarton Bridge.



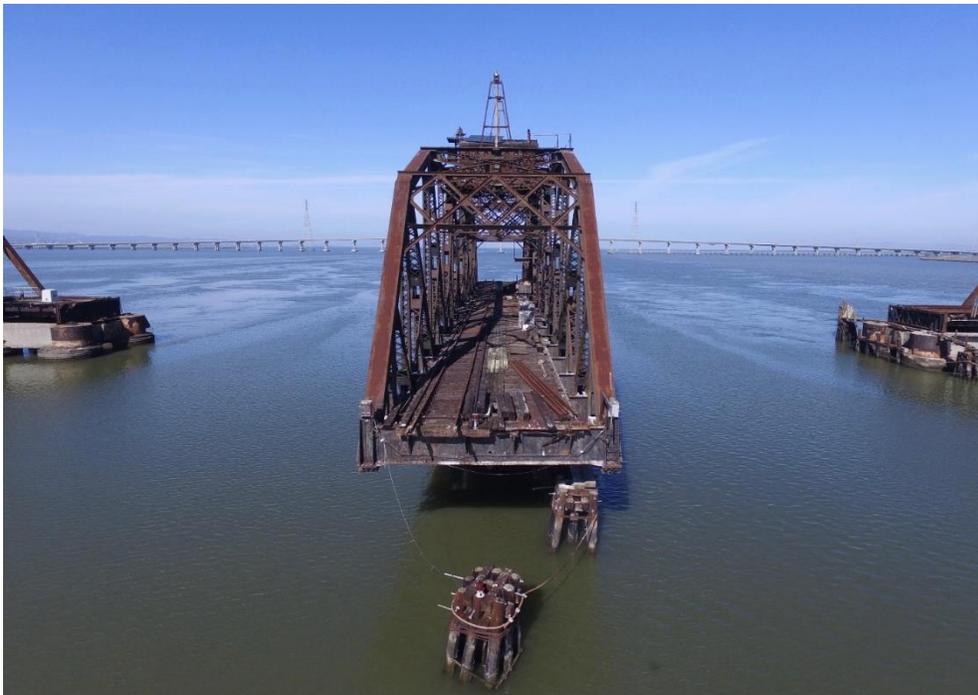
Source: Brad Fick

Figure 9: Western Portion of the Dumbarton Bridge, showing the burned-down portion.



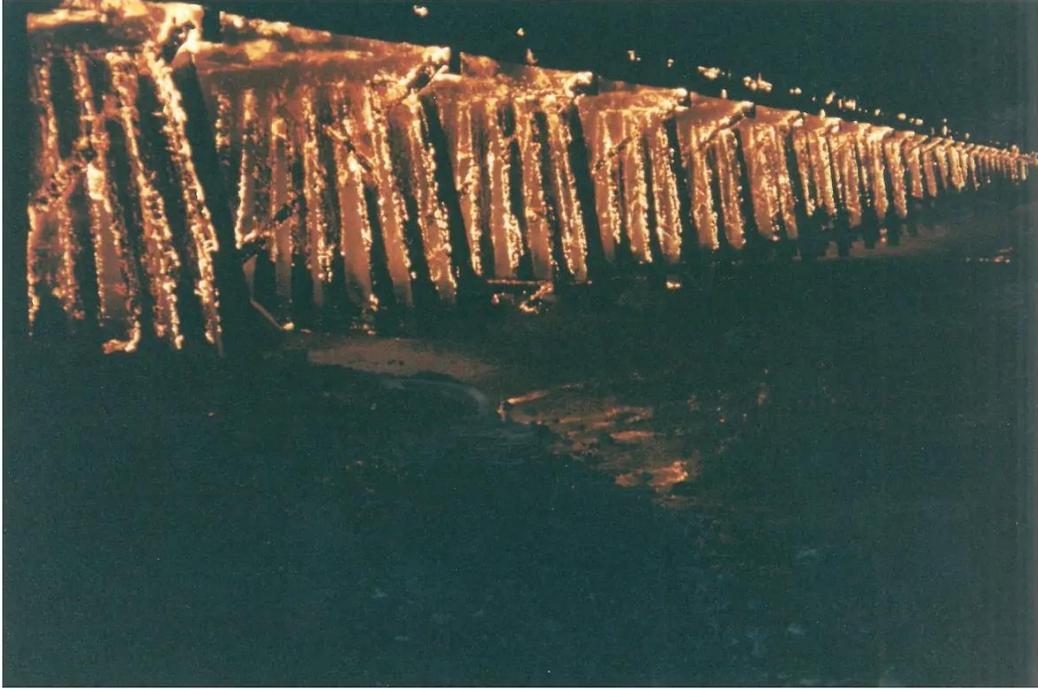
Source: Brad Fick

Figure 10: Drone view of the Dumbarton Bridge. It was left open to provide boat access south of the bridge.



Source: Brad Fick

Figure 11: Timber Trestle on Fire. 1998.



Source: 25 Never Seen Photos of Infamous Dumbarton Rail Bridge Fire. (2017, December 30). Menlo Park-Atherton, ca Patch. <https://patch.com/california/menlopark-atherton/25-never-seen-photos-infamous-dumbarton-rail-bridge-fire>

Figure 12: Fire truck loaded up on special rail equipment on the way to the Dumbarton Fire.



Source: 25 Never Seen Photos of Infamous Dumbarton Rail Bridge Fire. (2017, December 30). Menlo Park-Atherton, ca Patch. <https://patch.com/california/menlopark-atherton/25-never-seen-photos-infamous-dumbarton-rail-bridge-fire>

Figure 13: Fighting the Dumbarton Fire.



Source: 25 Never Seen Photos of Infamous Dumbarton Rail Bridge Fire. (2017, December 30). Menlo Park-Atherton, ca Patch. <https://patch.com/california/menlopark-atherton/25-never-seen-photos-infamous-dumbarton-rail-bridge-fire>

Figure 14: Loading up the Fire Truck. Chilco Street or University Avenue.



Source: 25 Never Seen Photos of Infamous Dumbarton Rail Bridge Fire. (2017, December 30). Menlo Park-Atherton, ca Patch. <https://patch.com/california/menlopark-atherton/25-never-seen-photos-infamous-dumbarton-rail-bridge-fire>

Figure 15: Burned down Trestle.



25 Never Seen Photos of Infamous Dumbarton Rail Bridge Fire. (2017, December 30). Menlo Park-Atherton, ca Patch. <https://patch.com/california/menlopark-atherton/25-never-seen-photos-infamous-dumbarton-rail-bridge-fire>

Figure 16: Green Caltrain's proposed service map, showing the Dumbarton Corridor.



Source: alevin. (2021, January 4). Dumbarton Corridor Next Steps. Green Caltrain. <https://www.greencaltrain.com/2021/01/dumbarton-corridor-next-steps/>

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